



EUROPEAN
COMMISSION

volume II: COMPANY DATA

Monitoring industrial
research:

**the 2004 EU industrial
R&D investment
scoreboard**

Directorate General Joint Research Centre
Directorate General Research



European Commission

Directorate General Joint Research Centre (DG JRC),
<http://www.jrc.cec.eu.int/>

Institute for Prospective Technological Studies (IPTS)
Directorate General Research
<http://europa.eu.int/comm/dgs/research/>

Legal notice

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the following information.

Technical Report EUR 21399 EN

© European Communities, 2004

Reproduction is authorised provided the source is acknowledged.

Printed in Spain

EUROPEAN COMMISSION

volume II: COMPANY DATA

Monitoring industrial
research:

**the 2004 EU industrial
R&D investment
scoreboard**

Directorate General Joint Research Centre
Directorate General Research

Table of contents

II.1. TABLES on Company R&D-Related Data	4
EU Listings	4
II.1.1. Ranking of the Top 500 EU companies by R&D investment in financial year 2003	4
II.1.2. Ranking of the Top 500 EU companies by R&D investment in financial year 2003, within Member States	24
II.1.3. Ranking of the Top 500 EU companies by R&D investment in financial year 2003, within sectors (of declared main activity)	46
II.1.4. Ranking of Top 10 companies by R&D investment in financial year 2003, within selected EU Member States (not fully represented elsewhere in the Scoreboard)	70
Non-EU Listings	72
II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in financial year 2003	72
II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in financial year 2003, within countries	90
II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in financial year 2003, within sectors (of declared main activity)	114
II.2. Notes on Scope, Definitions, Sources, Interpretation and Limitations	138

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				<i>units</i>	€m	%	%	%	€m
Top 500 companies				100 790	-2.0	-1.4	7.2	3 139 330	-0.6
<i>number of companies for calculation</i>				<i>500</i>	<i>493</i>	<i>471</i>	<i>433</i>	<i>497</i>	<i>492</i>
1	DaimlerChrysler	Automobiles & parts (31)	Germany	5 571	-8.2	2.3	-6.4	136 437	-8.8
2	Siemens	Electronic & electrical (25)	Germany	5 511	-5.3	-14.2	21.3	74 233	-11.6
3	Volkswagen	Automobiles & parts (31)	Germany	4 140	-5.3	21.9	-13.3	88 414	-1.8
4	Nokia	IT hardware (93)	Finland	3 978	14.6	1.6	14.7	29 455	-1.9
5	GlaxoSmithKline	Pharma & biotech (48)	UK	3 961	-4.9	10.8	4.9	30 429	1.1
6	Ericsson	IT hardware (93)	Sweden	3 229	-0.1	-37.1	11.3	12 973	-19.2
7	Aventis	Pharma & biotech (48)	France	2 924	-14.5	-1.8	0.1	17 815	-13.6
8	AstraZeneca	Pharma & biotech (48)	UK	2 736	12.4	10.7	-4.1	14 944	5.7
9	Robert Bosch	Automobiles & parts (31)	Germany	2 650	6.6	9.4	12.0	36 357	3.9
10	Philips Electronics	Electronic & electrical (25)	The Netherlands	2 617	-14.0	-8.1	19.7	29 037	-8.7
11	BMW	Automobiles & parts (31)	Germany	2 559	9.7	23.8	..	41 525	-1.8
12	Bayer	Chemicals (11)	Germany	2 414	-4.7	1.8	4.5	28 567	-3.6
13	EADS	Aerospace & defence (21)	The Netherlands	2 193	4.6	2.4	90.0	30 133	0.8
14	Peugeot (PSA)	Automobiles & parts (31)	France	2 098	12.5	7.6	6.6	54 238	-0.4
15	Istituto Finanziario Industriale	Automobiles & parts (31)	Italy	1 763	0.1	-4.7	7.2	53 509	-12.0
16	Renault	Automobiles & parts (31)	France	1 737	-2.4	-8.0	-5.5	37 525	3.3
17	Alcatel	IT hardware (93)	France	1 593	-32.8	-23.5	1.8	12 513	-24.4
18	BAE Systems	Aerospace & defence (21)	UK	1 560	22.2	-9.6	0.7	11 903	3.9
19	Sanofi-Synthelabo (now Sanofi-Aventis)	Pharma & biotech (48)	France	1 316	8.1	18.1	9.1	8 048	8.1
20	Finmeccanica	Aerospace & defence (21)	Italy	1 227	24.1	14.4	8.0	7 497	8.3
21	Boehringer Ingelheim	Pharma & biotech (48)	Germany	1 176	-9.8	28.0	5.3	7 382	-2.6
22	BASF	Chemicals (11)	Germany	1 105	-2.7	-9.0	-18.3	33 361	3.6
23	Infineon Technologies	IT hardware (93)	Germany	1 083	12.3	..	..	6 152	18.1
24	Unilever	Food producers (43)	UK	1 065	-8.7	-1.0	-0.8	42 693	-11.6
25	SAP	Software & computer services (97)	Germany	996	9.5	1.2	-7.3	7 025	-5.2
26	Schering	Pharma & biotech (48)	Germany	947	-2.4	12.3	4.9	4 828	-3.9
27	STMicroelectronics	IT hardware (93)	France	921	22.8	-3.3	-0.6	5 735	15.4
28	Deutsche Telekom	Telecommunication services (67)	Germany	900	0.0	0.0	28.6	55 838	4.0
29	AKZO Nobel	Chemicals (11)	The Netherlands	892	-2.2	7.7	7.2	13 051	-6.8
30	Volvo	Engineering & machinery (26)	Sweden	865	4.2	1.4	52.4	20 195	-1.6
31	Michelin	Automobiles & parts (31)	France	711	0.9	0.3	8.8	15 370	-0.3
32	Total	Oil & gas (07)	France	667	0.8	-4.7	1.3	104 652	2.1
33	Snecma	Aerospace & defence (21)	France	624	0.3	28.5	50.8	6 431	1.3
34	Merck	Pharma & biotech (48)	Germany	605	1.6	4.9	3.9	7 202	-3.6
35	Valeo	Automobiles & parts (31)	France	564	-2.3	-6.8	8.0	9 234	-5.8
36	Novo Nordisk	Pharma & biotech (48)	Denmark	563	1.3	4.3	17.1	3 564	5.4
37	ZF	Automobiles & parts (31)	Germany	524	-3.3	59.9	18.5	8 928	-2.6
38	Continental	Automobiles & parts (31)	Germany	498	1.4	6.9	9.8	11 534	1.1
39	Schneider	Electronic & electrical (25)	France	494	4.5	-7.8	8.1	8 780	-3.1
40	L'Oreal	Personal care & household (47)	France	480	2.6	8.3	12.8	14 029	-0.3
41	France Telecom	Telecommunication services (67)	France	478	-17.0	1.6	26.3	46 121	-1.1
42	BT	Telecommunication services (67)	UK	474	-12.1	5.0	-0.6	26 282	-1.1
43	ALSTOM	Electronic & electrical (25)	France	473	-24.0	8.1	-8.5	16 688	-21.8
44	Shell	Oil & gas (07)	UK	463	23.7	22.0	-0.5	159 931	12.4
45	RWE	Utilities - other (73, 78)	Germany	436	0.2	-33.1	20.4	42 771	-1.6
46	Solvay	Chemicals (11)	Belgium	420	2.4	14.5	-0.6	7 557	-4.6
47	Altana	Pharma & biotech (48)	Germany	412	11.6	29.7	29.8	2 735	4.8
48	MAN	Engineering & machinery (26)	Germany	407	-3.8	0.5	1.7	15 021	-6.4
49	Rolls-Royce	Aerospace & defence (21)	UK	399	-5.4	-17.0	-3.5	8 011	-2.5
50	Electricite de France	Electricity (72)	France	381	-11.8	3.4	..	44 919	0.6

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-1.0	4.4	11 995 890	-3.4	3.2	3.3	7.1	8.4	8.4	2.6	2 607 158	8.7	-0.4
489	472	497	492	497	491	499	497	493	-	431	232	-
-2.2	-5.9	370 684	0.0	4.1	4.1	1.1	15.0	16.4	2.2	35 972	11.9	-3.0
-3.4	11.0	419 300	-5.8	7.4	6.9	4.0	13.1	13.1	0.4	50 031	14.6	9.2
1.7	3.5	314 709	2.7	4.7	4.9	2.6	13.2	14.3	-0.9	12 612	-13.1	3.8
-3.8	2.7	51 605	-2.1	13.5	11.6	16.8	77.1	65.8	15.0	42 344	-32.2	-14.5
3.5	13.3	103 166	-2.8	13.0	13.8	30.2	38.4	39.2	5.0	93 633	-9.4	-19.4
-37.1	-15.3	57 182	-22.1	24.9	20.1	-9.2	56.5	44.0	7.5	34 015	93.8	6.9
-10.1	2.9	75 567	-3.2	16.4	16.6	14.0	38.7	43.8	4.5	49 865	35.1	2.2
8.3	-9.0	60 400	5.0	18.3	17.2	21.8	45.3	42.3	4.0	58 407	-3.6	-11.7
2.8	7.8	229 439	1.6	7.3	7.1	4.6	11.6	11.0	3.9	..	..	..
-1.6	-14.6	147 427	-11.5	9.0	9.6	3.4	17.8	18.3	14.1	25 252	7.1	-1.8
9.9	8.8	102 076	3.7	6.2	5.5	8.3	25.1	23.7	..	23 155	3.1	..
-2.2	-2.2	118 280	-5.1	8.5	8.5	-6.6	20.4	20.3	0.6	15 433	9.0	-10.7
-2.9	58.5	109 135	5.0	7.3	7.0	1.2	20.1	20.2	18.4	17 611	76.1	14.2
5.4	16.9	199 900	0.7	3.9	3.4	3.7	10.5	9.4	3.6	11 106	-0.1	3.6
-3.8	-0.2	192 550	-7.7	3.3	2.9	-3.6	9.2	8.4	8.6	633	-56.5	..
-0.0	-9.5	131 344	-0.8	4.6	4.9	7.9	13.2	13.5	2.4	17 795	25.4	26.5
-34.7	-19.3	60 486	-20.4	12.7	14.3	-13.3	26.3	31.2	4.5	12 702	23.5	-6.5
-10.7	-6.3	68 900	-0.7	13.1	11.1	5.1	22.6	18.4	11.1	9 797	44.7	-14.8
14.8	8.8	33 086	2.0	16.4	16.4	36.8	39.8	37.6	7.1	38 655	2.1	2.4
4.8	6.2	44 958	9.1	16.4	14.3	5.6	27.3	24.0	10.4	4 705	-5.6	-6.7
13.2	8.2	33 981	6.7	15.9	17.2	12.2	34.6	41.0	-0.8	..	..	..
-0.9	-9.6	87 144	-3.1	3.3	3.5	7.2	12.7	12.6	-4.7	24 074	4.5	7.2
..	..	31 523	4.5	17.6	18.5	-4.8	34.4	31.9	..	6 412	-16.5	..
-6.3	8.3	240 000	-7.0	2.5	2.4	12.0	4.4	4.5	-0.8	47 503	-5.3	25.3
1.0	17.2	29 098	-1.7	14.2	12.3	24.3	34.2	30.7	-6.3	40 226	26.1	6.1
3.7	7.8	26 561	1.2	19.6	19.3	14.6	35.7	37.0	0.9	8 722	9.6	2.5
-0.5	-18.8	45 700	5.9	16.1	15.1	4.1	20.2	17.4	3.6	13 202	-22.4	-14.5
11.1	18.0	251 263	-1.8	1.6	1.7	7.6	3.6	3.5	1.6	57 546	2.0	-8.8
-0.8	0.8	66 400	-0.9	6.8	6.5	8.0	13.4	13.6	5.1	7 475	0.4	-6.3
-1.6	45.5	73 156	3.7	4.3	4.1	1.8	11.8	11.8	6.1	12 415	46.5	33.0
-2.3	2.5	127 210	0.7	4.6	4.6	5.3	5.6	5.6	3.5	6 312	44.0	23.8
-2.6	-8.1	110 783	-8.8	0.6	0.6	12.5	6.0	5.5	2.7	99 373	13.7	7.2
-7.9	22.1	39 700	1.8	9.7	9.8	6.0	15.7	15.9	21.5	4 219	..	..
-0.7	11.7	34 206	-0.9	8.4	8.0	7.3	17.7	17.3	2.8	2 316	86.9	22.2
-4.2	12.2	68 200	-1.3	6.1	5.9	3.1	8.3	8.4	2.8	2 640	-0.3	-0.7
6.0	14.2	18 381	7.7	15.8	16.4	24.2	30.6	32.6	-5.1	11 929	41.5	2.3
35.6	10.6	53 487	0.4	5.9	5.9	-0.1	9.8	10.2	3.0	..	..	..
1.6	11.1	66 473	2.1	4.3	4.3	7.3	7.5	7.5	4.4	5 427	103.9	56.3
-7.8	1.4	74 276	-0.7	5.6	5.2	7.2	6.7	6.3	0.4	11 673	12.3	22.1
3.8	7.0	50 500	0.0	3.4	3.3	15.9	9.5	9.3	6.2	38 140	-2.6	1.6
8.4	27.8	221 657	-7.7	1.0	1.2	23.6	2.2	2.4	-3.2	47 679	-2.3	6.4
-8.9	0.6	103 100	-4.0	1.8	2.0	15.2	4.6	5.0	5.9	22 967	-9.6	-26.7
-9.0	-4.5	76 811	-30.0	2.8	2.9	-5.0	6.2	5.7	11.9	556	-21.7	-51.5
32.7	-9.3	119 000	7.2	0.3	0.3	11.3	3.9	3.4	6.2	112 124	-17.5	11.4
-27.6	5.8	139 535	5.2	1.0	1.0	6.5	3.1	3.3	-1.8	21 479	22.4	4.7
-9.3	-1.6	30 139	26.3	5.6	5.2	9.1	13.9	17.2	1.6	5 603	13.6	19.2
13.0	19.3	10 073	3.7	15.1	14.1	20.8	40.9	38.0	16.9	6 061	-22.2	15.8
-1.6	8.3	72 455	-5.1	2.7	2.6	3.0	5.6	5.5	1.3	4 302	71.8	32.3
-8.5	7.9	36 100	-7.9	5.0	5.1	4.4	11.1	10.8	-0.7	5 583	70.2	1.8
17.0	10.8	167 308	-2.7	0.8	1.0	4.7	2.3	2.5	..	..	..	..

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				units	€m	%	%	%	€m
51	Thales	Aerospace & defence (21)	France	381	-11.5	-0.5	8.9	10 569	-4.8
52	Heidelberger Druckmaschinen	Engineering & machinery (26)	Germany	365	-6.6	-15.2	22.9	3 661	-11.4
53	Degussa	Chemicals (11)	Germany	355	..	..	..	11 427	..
54	Groupe Lagardere	Diversified industrials (24)	France	330	3.8	2.6	33.6	12 454	-5.8
55	Saint-Gobain	Construction & building (13)	France	306	-1.9	-2.5	6.7	29 590	-2.3
56	Thomson	Electronic & electrical (25)	France	295	-21.1	1.6	4.8	8 459	-17.0
57	ASML	IT hardware (93)	The Netherlands	287	-3.9	-26.9	88.0	1 543	-21.2
58	AREVA	Electricity (72)	France	285	-14.2	-11.9	-4.3	8 255	-0.1
59	TeliaSonera	Telecommunication services (67)	Sweden	280	117.9	-10.4	-16.7	9 082	38.6
60	Marconi	IT hardware (93)	UK	280	-39.8	-47.9	-6.1	2 211	-22.2
61	BP	Oil & gas (07)	UK	277	-6.4	-3.1	-11.3	184 383	30.1
62	DSM	Chemicals (11)	The Netherlands	268	-1.1	-9.1	12.9	6 050	-9.2
63	Amersham (now part of General Electric, USA)	Health (44)	UK	258	-1.2	6.0	16.6	2 228	2.1
64	Henkel	Personal care & household (47)	Germany	257	-0.8	-24.5	7.2	9 436	-2.3
65	Lundbeck	Pharma & biotech (48)	Denmark	246	25.1	2.1	1.3	1 335	4.8
66	Reuters	Media & entertainment (54)	UK	243	-14.5	-32.0	-9.0	4 537	-10.6
67	Vodafone	Telecommunication services (67)	UK	243	4.3	49.1	52.8	47 627	10.5
68	Autoliv	Automobiles & parts (31)	Sweden	242	32.9	14.4	2.6	4 203	19.3
69	ENI	Oil & gas (07)	Italy	238	36.0	-13.8	-13.2	51 487	7.4
70	Scania	Engineering & machinery (26)	Sweden	237	4.2	5.7	20.6	5 613	7.0
71	Invensys	Electronic & electrical (25)	UK	234	-25.7	-16.2	-6.4	5 522	-22.5
72	Agfa-Gevaert	Health (44)	Belgium	233	-6.1	7.4	3.1	4 215	-10.0
73	ICI	Chemicals (11)	UK	221	5.4	-3.3	-13.1	8 301	-4.5
74	UCB	Pharma & biotech (48)	Belgium	216	0.5	19.0	-0.9	2 966	18.0
75	Dassault Systemes	Software & computer services (97)	France	216	-3.3	6.6	23.2	755	-2.5
76	Oce	IT hardware (93)	The Netherlands	208	-2.1	6.6	5.0	2 769	-12.8
77	Pirelli	Diversified industrials (24)	Italy	204	-6.9	-7.6	11.3	6 671	5.7
78	Rhodia	Chemicals (11)	France	203	1.0	2.0	1.5	5 453	-17.6
79	Elan	Pharma & biotech (48)	Ireland	202	-20.1	-20.8	31.6	604	-42.9
80	Carl-Zeiss	Health (44)	Germany	190	2.2	27.4	-43.6	2 029	-10.1
81	Rheinmetall	Engineering & machinery (26)	Germany	189	-9.1	5.6	-6.9	4 248	-7.1
82	Sandvik	Engineering & machinery (26)	Sweden	185	10.5	15.0	13.9	5 378	0.2
83	Smiths	Aerospace & defence (21)	UK	184	11.3	6.4	73.0	4 337	-5.2
84	Behr	Automobiles & parts (31)	Germany	184	5.1	12.9	7.1	3 005	6.8
85	Electrolux	Household goods & textiles (34)	Sweden	184	-8.3	1.3	36.8	13 671	-6.8
86	Thyssen Krupp	Engineering & machinery (26)	Germany	183	-4.2	6.1	55.2	36 137	-1.5
87	Shire Pharmaceuticals	Pharma & biotech (48)	UK	182	7.6	20.0	109.5	1 080	6.8
88	Linde	Chemicals (11)	Germany	179	4.1	2.2	-7.5	8 992	3.1
89	Vivendi Universal	Media & entertainment (54)	France	170	45.3	-50.6	32.4	25 482	-56.2
90	Hella	Automobiles & parts (31)	Germany	168	11.6	11.8	..	3 028	2.9
91	Diehl Stiftung	Diversified industrials (24)	Germany	161	-9.6	2.5	-0.1	1 433	-2.5
92	Deutsche Post	Support services (58)	Germany	156	-35.8	73.6	-45.1	40 017	1.9
93	Wacker-Chemie	Chemicals (11)	Germany	152	-3.8	3.7	-2.1	2 468	-7.8
94	Celltech (now part of UCB, Belgium)	Pharma & biotech (48)	UK	151	10.9	7.1	19.5	501	7.1
95	UBI Soft Entertainment	Software & computer services (97)	France	147	118.9	-14.4	26.2	449	21.7
96	Amadeus Global Travel	Leisure & hotels (53)	Spain	145	15.5	-3.1	135.2	1 929	3.9
97	Schwarz Pharma	Pharma & biotech (48)	Germany	144	15.9	16.1	16.9	1 496	55.2
98	Freudenberg	Diversified industrials (24)	Germany	140	40.1	..	..	3 867	-1.3
99	Telecom Italia	Telecommunication services (67)	Italy	139	..	..	..	30 850	-1.8
100	Ipsen	Pharma & biotech (48)	Luxembourg	136	4.1	13.8	..	737	2.6

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
8.2	19.7	57 439	-5.3	3.6	3.9	2.4	6.6	7.1	-1.5	4 737	4.2	0.7
-17.3	-5.9	23 490	-4.7	10.0	9.5	-8.8	15.6	15.9	1.6	2 120	-3.2	-9.9
..	..	46 997	..	3.1	..	2.6	7.6	..	..	5 446	..	..
-0.6	9.1	43 009	-6.1	2.7	2.4	3.7	7.7	6.9	13.2	6 748	24.6	..
-0.4	5.5	169 797	0.1	1.0	1.0	7.8	1.8	1.8	0.2	13 354	16.6	11.2
-2.9	15.4	58 399	-10.3	3.5	3.7	2.2	5.1	5.7	-4.6	4 138	8.4	-13.6
6.2	-15.6	5 323	-5.6	18.6	15.2	-13.9	53.9	52.9	2.8	5 469	2.3	-11.4
-7.2	-1.5	48 011	-4.3	3.5	4.0	2.7	5.9	6.6	-7.9	334	44.6	..
4.0	5.8	26 188	51.6	3.1	2.0	16.7	10.7	7.4	23.5	16 257	0.5	12.5
-53.6	-35.2	15 000	-28.6	12.6	16.3	-16.4	18.6	22.1	0.7	1 778	75.2	-25.9
3.6	16.5	108 150	-7.0	0.2	0.2	7.0	2.6	2.5	-10.0	159 534	21.8	-4.5
-16.4	-1.5	20 516	5.2	4.4	4.1	1.8	13.1	13.9	2.1	4 011	-1.1	12.9
1.5	18.1	10 312	2.6	11.6	12.0	13.1	25.1	26.0	1.2	..	..	..
-26.1	2.2	48 328	2.4	2.7	2.7	6.4	5.3	5.5	0.2	8 053	5.3	41.0
23.9	36.2	5 223	1.8	18.4	15.4	21.4	47.1	38.3	-9.4	3 688	-7.5	-12.5
-8.0	8.2	17 134	-6.5	5.3	5.6	2.5	14.2	15.5	-19.4	6 621	41.6	-27.3
33.0	52.3	60 109	-9.8	0.5	0.5	-13.3	4.0	3.5	28.2	112 930	-1.7	-9.3
11.3	-3.0	32 100	6.6	5.8	5.2	8.3	7.5	6.1	10.8	3 130	26.9	26.7
-2.1	2.1	76 521	-5.1	0.5	0.4	17.6	3.1	2.2	-2.4	64 667	22.9	19.9
-10.3	-1.4	27 667	6.5	4.2	4.3	9.9	8.6	8.8	6.9	5 277	26.8	26.3
-28.0	-11.3	43 602	-31.2	4.2	4.4	-6.0	5.4	5.0	7.7	1 291	-2.8	-38.9
-4.6	-6.6	18 608	-8.0	5.5	5.3	8.2	12.5	12.3	6.7	2 442	..	..
-4.7	-17.1	36 210	-4.8	2.7	2.4	2.4	6.1	5.5	4.0	3 838	71.7	-4.4
1.6	12.3	12 092	17.5	7.3	8.5	15.8	17.8	20.9	-2.1	5 411	56.4	8.1
3.8	18.0	4 088	3.1	28.6	28.8	28.2	52.7	56.2	-0.2	4 019	15.6	8.2
-1.8	0.3	22 346	-0.6	7.5	6.7	4.5	9.3	9.5	2.6	1 041	18.7	16.2
-16.0	0.4	36 558	-3.1	3.1	3.5	2.8	5.6	5.8	2.2	2 699	-33.4	-13.2
-9.1	-1.9	23 059	-6.0	3.7	3.0	-16.0	8.8	8.2	10.1	670	-30.6	-24.1
-23.4	33.7	2 688	-38.6	33.4	23.9	-139.6	75.0	57.7	1.2	6 289	356.7	-25.9
-43.6	3.9	14 164	-0.5	9.4	8.2	1.9	13.4	13.1	18.8	..	..	..
-0.7	2.5	25 200	-9.1	4.5	4.6	3.7	7.5	7.5	3.0	1 110	63.2	47.5
-0.4	11.8	37 137	2.8	3.4	3.1	10.5	5.0	4.6	10.2	7 179	12.4	21.2
-35.0	238.6	31 410	-3.4	4.2	3.6	12.4	5.9	5.1	0.4	5 814	-0.3	-1.8
25.2	5.9	16 085	-0.5	6.1	6.2	3.4	11.4	10.8	1.3	..	..	..
-2.0	9.1	77 140	-5.9	1.3	1.4	5.8	2.4	2.4	12.8	4 277	-22.5	2.8
-3.4	2.1	188 561	-1.4	0.5	0.5	2.7	1.0	1.0	16.4	7 264	21.6	9.7
22.7	68.9	1 905	5.5	16.9	16.8	-40.1	95.6	93.8	11.2	3 302	4.0	-27.2
-3.9	7.4	46 278	1.8	2.0	2.0	5.1	3.9	3.8	-0.5	5 628	29.1	14.2
1.4	38.0	49 617	..	0.7	0.2	1.0	3.4	..	69.2	21 014	23.5	..
3.1	..	21 545	-6.9	5.5	5.1	0.0	7.8	6.5	..	..	..	..
-9.2	0.4	9 862	-8.9	11.2	12.1	4.7	16.3	16.5	4.7	..	..	..
17.6	2.1	375 096	-0.2	0.4	0.6	6.3	0.4	0.6	-19.5	8 707	..	..
-5.2	-7.6	16 168	-3.9	6.1	5.9	-2.4	9.4	9.4	1.9	..	..	..
8.8	28.7	1 939	-4.8	30.1	29.0	-20.0	77.7	66.7	9.7	..	..	..
41.9	39.0	1 990	4.7	32.7	18.2	5.6	73.8	35.3	26.2	295	..	..
4.0	14.1	5 130	25.5	7.5	6.8	15.6	28.3	30.7	17.7	3 012	-10.4	..
25.5	4.3	3 853	3.1	9.6	12.9	18.5	37.4	33.2	9.7	1 226	-30.7	..
-2.2	-3.6	28 416	2.5	3.6	2.5	5.6	4.9	3.6	..	..	..	..
-1.9	6.3	95 804	-10.5	0.5	0.0	18.6	1.5	0.0	..	34 219	..	..
2.0	7.8	3 769	4.3	18.5	18.2	21.2	36.2	36.2	..	..	..	..

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units	€m	%	%	%	€m	%
101	JM Voith	Diversified industrials (24)	Germany	135	-2.9	0.7	3.8	3 109	-5.5	
102	Repsol YPF	Oil & gas (07)	Spain	134	2.3	4.0	30.3	36 069	1.4	
103	BioMerieux	Health (44)	France	131	10.8	23.2	32.6	915	-3.1	
104	Danone	Food producers (43)	France	130	-2.3	5.6	0.8	13 131	-3.1	
105	Phoenix Venture	Automobiles & parts (31)	UK	128	98.9	135.7	..	2 470	2.5	
106	Atlas Copco	Engineering & machinery (26)	Sweden	128	-3.9	9.5	14.2	4 916	-6.2	
107	Metso	Engineering & machinery (26)	Finland	126	-13.7	6.6	11.4	4 250	-9.4	
108	Misys	Software & computer services (97)	UK	126	-2.2	7.0	5.2	1 277	-11.2	
109	Fresenius	Health (44)	Germany	121	-12.3	12.2	7.9	7 064	-5.9	
110	Knorr-Bremse	Engineering & machinery (26)	Germany	120	0.8	12.3	-2.2	2 206	4.5	
111	SNPE	Chemicals (11)	France	115	7.5	..	..	784	-2.1
112	GKN	Automobiles & parts (31)	UK	115	-1.2	-16.3	11.4	4 732	0.9	
113	Merial	Pharma & biotech (48)	UK	106	2.1	1.6	-9.0	1 368	4.0	
114	B Braun Melsungen	Health (44)	Germany	105	2.7	34.0	-17.3	2 647	-3.6	
115	Essilor International	Health (44)	France	104	19.5	8.8	..	2 116	0.6	
116	BAT	Tobacco (49)	UK	104	17.7	5.1	0.0	15 001	-0.3	
117	Novozymes	Chemicals (11)	Denmark	101	5.0	5.2	5.1	779	2.8	
118	Beiersdorf	Personal care & household (47)	Germany	100	7.5	1.1	4.5	4 673	-1.5	
119	Dragerwerk	Health (44)	Germany	97	24.9	6.8	1.1	1 413	6.0	
120	Smith & Nephew	Health (44)	UK	95	5.5	23.4	10.6	1 673	6.2	
121	Amdocs	Software & computer services (97)	UK	95	-3.9	17.3	41.4	1 176	-8.1	
122	L'Air Liquide	Chemicals (11)	France	94	2.4	2.2	-5.5	8 394	6.3	
123	Spirent	IT hardware (93)	UK	94	-15.1	-19.0	59.0	662	-16.5	
124	MG Technologies	Engineering & machinery (26)	Germany	94	2.9	-16.3	-19.0	8 157	0.3	
125	GUS	General retailers (52)	UK	92	-4.4	-4.4	-17.6	10 712	5.6	
126	HVB	Banks (81)	Germany	91	-37.7	4.3	105.9	7 183	13.6	
127	SAAB	Aerospace & defence (21)	Sweden	89	-1.1	13.8	-16.5	1 901	4.3	
128	Stora Enso	Forestry & paper (15)	Finland	89	-22.5	24.2	-2.3	12 172	-4.8	
129	Trumpf	Diversified industrials (24)	Germany	89	76.5	1.4	14.9	1 193	44.1	
130	Kone	Engineering & machinery (26)	Finland	88	39.7	54.4	10.8	5 344	23.1	
131	Kerry	Food producers (43)	Ireland	88	12.6	33.8	11.9	3 693	-1.7	
132	Corus	Steel & other metals (18)	UK	88	-4.6	8.3	-29.2	11 287	10.6	
133	Adidas-Salomon	Household goods & textiles (34)	Germany	86	1.2	-1.2	-5.5	6 267	-3.9	
134	Orion	Health (44)	Finland	86	-21.6	30.5	21.9	2 262	38.9	
135	Bouygues	Construction & building (13)	France	85	-73.4	66.1	63.6	21 822	0.3	
136	British Nuclear Fuels	Electricity (72)	UK	84	-11.9	24.1	-1.8	3 295	4.6	
137	Tomkins	Engineering & machinery (26)	UK	83	13.9	-4.9	121.7	4 471	0.1	
138	SKF	Engineering & machinery (26)	Sweden	83	-2.2	-11.9	22.7	4 559	-2.5	
139	Sage	Software & computer services (97)	UK	82	0.3	15.5	28.8	795	1.5	
140	Avecia	Chemicals (11)	UK	82	-1.9	-2.8	9.8	689	-15.7	
141	LogicaCMG	Software & computer services (97)	UK	82	-10.2	-22.4	105.2	2 422	-3.3	
142	Reckitt Benckiser	Personal care & household (47)	UK	81	5.5	8.0	8.7	5 269	5.1	
143	ASM International	IT hardware (93)	The Netherlands	79	-10.5	10.9	7.9	582	12.1	
144	Celanese	Chemicals (11)	Germany	79	6.8	-22.1	1.1	4 075	-5.8	
145	Suez	Utilities - other (73, 78)	France	79	-37.3	-49.6	25.0	39 622	-12.4	
146	Danfoss	Engineering & machinery (26)	Denmark	78	20.1	14.5	..	2 073	3.4	
147	Johnson Matthey	Chemicals (11)	UK	77	12.6	8.5	11.8	6 376	3.9	
148	Business Objects	Software & computer services (97)	France	76	27.2	35.7	35.6	445	23.3	
149	Cadbury Schweppes	Food producers (43)	UK	75	65.6	10.3	16.0	9 141	21.6	
150	Stork	Engineering & machinery (26)	The Netherlands	74	131.3	28.0	-58.2	1 946	-6.4	

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-1.0	31.0	24 687	-1.0	4.3	4.2	5.1	5.5	5.6	-11.1	..	..	..
-18.6	-0.9	30 644	-6.0	0.4	0.4	10.0	4.4	4.0	16.2	21 316	23.6	12.3
18.1	32.9	5 477	1.1	14.3	12.5	10.5	23.9	21.8	8.4	1 118	..	..
-6.3	1.3	88 607	-3.9	1.0	1.0	12.0	1.5	1.4	0.6	17 494	6.6	4.0
76.5	..	6 600	-1.4	5.2	2.7	-5.0	19.5	9.6	..	..	..	..
-7.0	9.9	25 707	-0.3	2.6	2.5	11.8	5.0	5.2	7.3	5 800	20.7	23.2
8.0	11.6	27 400	-6.4	3.0	3.1	-5.7	4.6	5.0	-5.8	1 399	20.0	8.1
-2.2	20.8	6 443	-2.3	9.8	8.9	2.7	19.5	19.5	0.4	1 384	-34.5	-27.6
2.6	20.0	65 243	3.4	1.7	1.8	11.2	1.9	2.2	-8.0	7 341	20.4	49.9
28.2	10.3	10 858	-1.0	5.4	5.6	7.9	11.1	10.8	-3.8	..	..	..
..	..	5 312	-4.7	14.7	13.4	-6.9	21.7	19.2	..	..	..	..
-3.7	-16.8	35 484	-1.6	2.4	2.5	5.2	3.2	3.2	3.7	2 397	-4.0	-30.1
3.2	-4.3	6 368	2.9	7.7	7.9	12.9	16.6	16.8	-1.7	..	..	..
30.1	-11.4	29 235	1.6	4.0	3.7	6.0	3.6	3.6	1.7	..	..	..
3.6	2.6	21 713	-2.6	4.9	4.1	15.1	4.8	3.9	..	5 036	38.2	..
-6.8	-2.1	60 915	0.1	0.7	0.6	17.5	1.7	1.4	20.8	25 682	28.3	14.5
7.1	4.7	3 814	5.1	12.9	12.6	16.9	26.4	26.4	-0.8	..	..	..
4.4	10.4	18 249	0.4	2.1	2.0	10.4	5.5	5.1	1.1	7 650	-18.3	2.7
6.1	10.6	10 334	4.8	6.9	5.8	4.3	9.4	7.9	6.9	266	25.5	..
2.6	-4.7	7 451	-0.7	5.7	5.7	17.3	12.7	12.0	26.3	7 366	53.9	15.9
5.2	37.1	10 200	8.5	8.0	7.7	14.2	9.3	10.5	9.5	3 717	-4.7	-20.6
-5.1	2.8	31 885	3.5	1.1	1.2	14.2	3.0	3.0	-2.0	13 986	6.3	11.0
-30.3	15.1	4 498	-13.2	14.2	13.9	5.0	20.8	21.3	19.1	745	82.2	-32.6
-7.8	0.2	31 118	-4.8	1.1	1.1	-1.5	3.0	2.8	-5.1	1 928	10.8	20.9
10.7	6.9	76 263	2.4	0.9	1.0	9.1	1.2	1.3	-11.7	12 432	17.5	11.2
-27.5	25.8	63 526	-5.1	1.3	2.3	-37.1	1.4	2.2	15.4	9 398	..	..
5.4	-12.1	13 127	-2.4	4.7	4.9	7.1	6.8	6.7	3.2	1 418	41.9	26.1
-5.4	3.8	44 264	0.9	0.7	0.9	4.3	2.0	2.6	-3.9	9 200	-3.2	14.3
-3.9	8.3	5 726	2.7	7.4	6.1	8.4	15.5	9.0	19.0	..	..	..
54.2	8.2	34 489	17.3	1.7	1.5	6.3	2.6	2.2	16.5	2 513	21.8	..
25.0	14.5	18 869	1.4	2.4	2.1	7.0	4.7	4.2	6.2	3 040	29.1	..
-6.6	-17.7	50 300	-2.5	0.8	0.9	-2.6	1.8	1.8	-2.0	2 863	162.9	1.8
6.7	4.7	15 411	6.6	1.4	1.3	7.8	5.6	5.9	-6.9	4 712	45.7	26.5
67.8	2.4	5 573	-0.9	3.8	6.7	3.9	15.4	19.5	6.2	1 376	52.2	..
8.6	5.1	127 923	-0.3	0.4	1.5	5.3	0.7	2.5	-12.4	8 865	13.8	2.2
-1.9	5.4	23 149	0.8	2.5	3.0	-12.3	3.6	4.1	1.1	..	..	..
-6.7	-17.8	39 328	-0.7	1.9	1.6	7.1	2.1	1.8	47.7	2 765	-1.1	8.9
-2.2	8.8	37 632	-2.5	1.8	1.8	7.8	2.2	2.2	3.6	3 427	22.1	34.6
14.0	17.4	5 805	3.0	10.4	10.5	27.9	14.2	14.6	6.1	3 139	-3.5	-9.0
-28.3	1.7	3 101	-9.9	11.9	10.2	-16.4	26.4	24.3	18.4	..	..	..
-12.1	77.3	21 131	-10.4	3.4	3.6	-1.2	3.9	3.9	-11.9	1 751	2.3	-25.5
2.7	7.4	20 400	-8.5	1.5	1.5	18.3	4.0	3.4	4.7	15 817	28.4	21.4
-7.5	-40.0	6 998	14.6	13.6	17.0	2.4	11.3	14.5	-0.2	656	-12.4	-3.9
-15.1	-2.1	10 000	-6.8	1.9	1.7	3.8	7.9	6.9	3.5	2 323	85.1	..
6.8	22.4	173 368	-12.8	0.2	0.3	6.5	0.5	0.6	-26.7	15 569	12.3	..
3.7	-2.2	17 485	3.0	3.8	3.2	4.7	4.4	3.8	..	..	..	..
-10.5	-18.2	7 439	0.9	1.2	1.1	4.2	10.4	9.3	5.7	2 837	2.5	-6.2
9.4	19.1	3 924	81.5	17.0	16.5	8.3	19.3	27.5	4.1	1 520	14.8	..
-4.0	20.6	55 799	31.9	0.8	0.6	11.4	1.3	1.1	11.5	13 224	24.9	-1.2
-5.3	-14.8	14 476	-12.1	3.8	1.5	4.5	5.1	1.9	18.0	560	..	..

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units €m	%	%	%	€m	%	
151	Telefonica	Telecommunication services (67)	Spain	73	-22.3	-44.7	61.3	28 400	1.4	
152	Gemplus International	Electronic & electrical (25)	Luxembourg	72	-31.4	-8.7	17.8	749	-4.8	
153	Gambro	Health (44)	Sweden	71	19.9	26.2	-20.6	2 879	-5.2	
154	Wartsila	Engineering & machinery (26)	Finland	70	-19.9	9.8	0.3	2 358	-6.4	
155	Barco	Electronic & electrical (25)	Belgium	70	-36.5	3.8	382.3	629	-6.0	
156	EPCOS	Electronic & electrical (25)	Germany	69	-26.2	0.4	14.6	1 272	-3.1	
157	Svenska Cellulosa	Forestry & paper (15)	Sweden	69	-29.2	7.2	12.8	9 403	-3.1	
158	Infogrames Entertainment	Software & computer services (97)	France	69	-38.0	10.2	47.6	661	-14.2	
159	E.ON	Utilities - other (73, 78)	Germany	69	-81.8	-25.5	-10.8	42 541	17.8	
160	ARM	IT hardware (93)	UK	68	-3.7	28.5	41.5	182	-15.0	
161	Danisco	Food producers (43)	Denmark	68	-1.9	11.2	5.7	2 202	-0.9	
162	Chr Hansen	Pharma & biotech (48)	Denmark	67	16.9	31.4	18.6	582	-7.0	
163	<i>Claas</i>	Engineering & machinery (26)	Germany	67	6.6	30.0	4.2	1 496	18.3	
164	<i>Cognis Deutschland</i>	Chemicals (11)	Germany	65	-14.5	4.1	9.0	2 950	-5.6	
165	Cambridge Antibody	Pharma & biotech (48)	UK	64	43.7	46.3	36.0	12	-7.7	
166	Belgacom	Telecommunication services (67)	Belgium	63	43.2	-10.2	..	5 377	-16.3	
167	<i>Grundfos</i>	Engineering & machinery (26)	Denmark	62	2.1	-0.9	20.7	1 498	4.2	
168	Wavecom	IT hardware (93)	France	62	-3.1	96.4	102.3	276	-49.9	
169	<i>Eberspaecher</i>	Automobiles & parts (31)	Germany	61	-5.4	..	..	1 336	-5.5
170	Bull	IT hardware (93)	France	60	-17.8	-40.7	-23.1	1 265	-16.4	
171	IWKA	Engineering & machinery (26)	Germany	60	-1.0	6.4	..	2 287	-1.1	
172	Software	Software & computer services (97)	Germany	58	-9.3	-2.4	14.6	422	-11.2	
173	VA Technologie	Engineering & machinery (26)	Austria	58	-8.0	-33.8	-2.9	3 923	1.3	
174	Koenig & Bauer	Engineering & machinery (26)	Germany	58	16.6	34.6	..	1 232	-9.0	
175	Salzgitter	Steel & other metals (18)	Germany	58	22.3	-2.1	200.0	4 842	2.1	
176	Cobham	Aerospace & defence (21)	UK	57	27.8	12.1	30.5	1 182	13.3	
177	BOC	Chemicals (11)	UK	57	-15.1	-21.7	1.3	5 277	1.7	
178	Lafarge	Construction & building (13)	France	56	1.8	3.8	-47.0	13 658	-6.5	
179	<i>NEG MICON (now part of Vestas Wind Systems)</i>	Engineering & machinery (26)	Denmark	55	39.2	50.0	27.4	707	-15.8	
180	Deutz	Automobiles & parts (31)	Germany	55	16.6	-2.5	-10.7	1 173	1.0	
181	Deutsche Borse	Speciality & other finance (87)	Germany	55	-37.8	-16.6	54.8	1 650	49.3	
182	Intracom	IT hardware (93)	Greece	54	-16.9	-11.0	34.3	641	-20.0	
183	Trelleborg	Automobiles & parts (31)	Sweden	53	3.2	-5.0	86.8	1 979	1.9	
184	Vattenfall	Electricity (72)	Sweden	53	-1.6	-21.1	7.3	12 333	16.6	
185	Voest-Alpine	Steel & other metals (18)	Austria	52	12.2	27.8	12.5	4 646	6.0	
186	Zeltia	Pharma & biotech (48)	Spain	51	14.9	38.8	59.8	74	17.5	
187	<i>Arla Foods</i>	Food producers (43)	Denmark	51	..	..	..	5 459	3.1
188	Bookham Technology	IT hardware (93)	UK	51	-10.1	4.3	119.7	127	159.2	
189	Intenia International	Software & computer services (97)	Sweden	51	-14.7	18.9	2.0	323	-18.4	
190	SNIA	Health (44)	Italy	50	11.3	20.3	-5.1	881	-7.9	
191	Eircom	Telecommunication services (67)	Ireland	50	-67.5	..	..	1 628	-3.2
192	Assa Abloy	Engineering & machinery (26)	Sweden	49	4.2	16.9	57.3	2 653	-5.2	
193	Spectris	Electronic & electrical (25)	UK	48	15.2	-2.0	17.4	806	15.8	
194	UPM-Kymmene	Forestry & paper (15)	Finland	48	4.3	2.2	2.3	9 948	-5.0	
195	Outokumpu	Steel & other metals (18)	Finland	48	2.1	14.6	17.1	5 921	6.5	
196	Bang & Olufsen	Electronic & electrical (25)	Denmark	48	6.8	-3.8	12.3	534	-5.7	
197	Kemira	Chemicals (11)	Finland	48	3.7	17.9	-18.8	2 738	4.8	
198	Nexans	Electronic & electrical (25)	France	47	-2.1	-4.0	31.6	4 046	-6.0	
199	<i>Symbian</i>	Software & computer services (97)	UK	47	3.6	15.8	57.8	42	68.0	
200	Genmab	Pharma & biotech (48)	Denmark	47	-12.7	101.2	221.7	9	..	

Sales		Employees		- R&D/Sales ratio -		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-8.1	6.9	149 465	-5.1	0.3	0.3	10.8	0.5	0.6	-12.3	56 389	13.2	10.2
-23.1	-15.1	5 037	-11.3	9.6	13.3	-18.7	14.3	18.5	4.8	966	42.1	..
3.2	20.1	21 273	2.3	2.5	1.9	5.9	3.3	2.8	0.5	2 852	57.1	..
6.8	-12.9	12 293	-1.0	3.0	3.5	-1.8	5.7	7.1	-2.8	1 083	63.8	7.2
-15.5	5.5	4 022	-1.6	11.1	16.4	9.2	17.3	26.9	54.8	845	29.4	..
-31.1	116.5	13 283	1.6	5.5	7.2	0.9	5.2	7.2	-5.4	1 001	22.7	-25.1
6.9	22.7	41 627	-4.0	0.7	1.0	8.8	1.7	2.3	-8.1	6 903	5.9	29.5
14.2	29.1	1 846	-6.8	10.5	14.5	-5.7	37.5	56.4	5.5	159	-67.1	..
-48.2	-5.8	67 230	-35.6	0.2	1.1	8.8	1.0	3.6	-31.0	39 438	24.0	6.3
2.9	45.5	730	-2.5	37.5	33.2	14.3	93.6	94.7	8.0	1 528	31.6	-21.5
-6.5	-24.8	8 440	1.0	3.1	3.1	10.8	8.1	8.3	26.1	2 056	9.4	6.8
0.3	8.0	3 561	4.0	11.6	9.2	5.3	18.9	16.8	21.7	456	39.0	..
10.2	6.9	7 292	27.8	4.5	5.0	3.1	9.2	11.1	3.9	..	..	..
-0.2	-1.7	8 660	-5.2	2.2	2.4	0.7	7.5	8.3	0.8	..	..	..
30.0	-28.6	296	8.0	532.0	341.8	-541.7	215.7	162.2	15.9	288	34.6	-33.3
17.5	..	17 541	-7.7	1.2	0.7	9.3	3.6	2.3	..	9 500	..	..
4.7	7.3	11 675	2.7	4.2	4.2	9.7	5.3	5.4	3.5	..	..	..
70.6	389.4	692	3.9	22.5	11.6	-11.2	89.8	96.2	7.8	43	..	..
..	..	5 119	-1.5	4.6	4.6	0.2	12.0	12.5	..	..	..	..
-40.5	-21.6	7 793	-6.7	4.7	4.8	4.1	7.7	8.7	-6.1	255	116.1	0.5
1.3	2.8	13 002	-2.0	2.6	2.6	3.4	4.6	4.5	..	470	64.3	..
-19.2	41.0	2 844	-8.8	13.8	13.5	-0.7	20.5	20.6	0.0	715	114.1	..
-3.2	0.4	17 478	-1.4	1.5	1.6	1.5	3.3	3.5	-9.2	1 211	240.2	..
5.0	18.7	7 266	-3.6	4.7	3.7	-4.0	7.9	6.6	..	204	..	..
3.2	12.7	18 154	-3.8	1.2	1.0	1.4	3.2	2.5	50.1	603	..	..
1.9	26.9	8 990	13.6	4.9	4.3	15.4	6.4	5.7	13.1	2 177	26.1	10.8
-3.1	5.4	45 462	0.5	1.1	1.3	11.3	1.2	1.5	-14.3	6 673	10.4	-2.4
6.7	12.1	75 338	-2.8	0.4	0.4	12.1	0.7	0.7	-21.2	11 582	22.0	8.7
17.5	32.2	2 601	19.3	7.8	4.7	-7.1	21.1	18.1	14.1	..	..	..
-2.0	-7.8	5 514	-1.7	4.7	4.1	2.6	10.0	8.4	7.1	285	..	..
45.4	8.3	3 243	40.9	3.3	8.0	27.2	16.9	38.3	-38.2	4 261	-20.9	..
-16.7	15.8	..	..	8.4	8.1	8.0	..	9.3	..	429	..	..
-6.1	37.4	15 855	6.5	2.7	2.7	6.8	3.4	3.5	12.7	1 055	..	..
39.2	117.7	35 296	3.1	0.4	0.5	13.7	1.5	1.6	-32.3	4 926	..	..
30.7	5.9	23 583	8.5	1.1	1.1	5.3	2.2	2.1	3.1	1 487	..	..
3.3	-21.8	590	8.5	69.2	70.7	-32.4	86.8	81.9	15.9	1 016	..	..
3.4	118.5	17 791	-0.4	0.9	0.0	3.0	2.9	0.0	..	..	..	..
58.1	-16.2	1 784	69.7	39.9	115.2	-97.6	28.4	53.7	-10.8	241	9.5	-6.0
-9.2	16.6	3 103	-7.9	15.7	15.0	-8.4	16.3	17.6	4.1	140	89.2	..
-24.2	10.9	5 369	-3.1	5.7	4.7	-2.4	9.4	8.1	23.7	48	..	..
-5.8	-17.3	8 306	-9.0	3.1	9.2	6.9	6.0	16.9	..	1 011	..	..
12.8	56.4	28 708	-0.2	1.9	1.7	4.5	1.7	1.6	4.1	3 262	..	..
-9.7	17.0	5 696	1.7	6.0	6.0	8.3	8.5	7.5	1.3	724	-2.0	2.3
5.6	3.5	35 751	-3.0	0.5	0.4	5.9	1.3	1.2	-0.1	7 993	..	..
4.4	44.2	19 359	-4.1	0.8	0.8	1.0	2.5	2.3	-4.8	2 245	..	..
10.5	2.4	2 803	-3.6	8.9	7.9	7.5	17.1	15.4	4.6	526	..	..
6.4	-1.3	10 536	1.5	1.7	1.8	4.7	4.5	4.4	-3.1	1 271	..	..
-9.9	-0.1	17 068	-0.4	1.2	1.1	0.7	2.8	2.8	9.6	597	..	..
25.0	81.8	653	1.2	111.9	181.4	-135.7	71.9	70.3	-0.6	..	..	..
..	..	199	26.8	516.3	..	-522.2	233.5	338.9	-23.1	325	..	..

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units €m	%	%	%	€m	%	
201	Eidos	Software & computer services (97)	UK	46	-16.1	-8.4	-10.1	215	47.3	
202	Cookson	Engineering & machinery (26)	UK	46	-2.1	-18.7	-1.2	2 328	-5.1	
203	Vernalis	Pharma & biotech (48)	UK	44	33.3	10.4	-4.0	18	38.5	
204	Heraeus	Steel & other metals (18)	Germany	44	..	..	..	7 412	15.5
205	Draka	Electronic & electrical (25)	The Netherlands	44	-3.0	-21.8	..	1 420	-5.3	
206	Phoenix	Automobiles & parts (31)	Germany	44	-9.9	-3.2	-13.8	1 153	1.9	
207	Borealis	Chemicals (11)	Denmark	43	4.9	-2.4	7.7	3 673	4.5	
208	HeidelbergCement	Construction & building (13)	Germany	43	-2.3	-6.4	422.2	6 372	-2.5	
209	Telekom Austria	Telecommunication services (67)	Austria	43	40.9	39.1	-61.3	3 970	27.7	
210	Novar	Construction & building (13)	UK	42	15.4	-4.1	-0.7	2 030	-1.2	
211	Enel	Electricity (72)	Italy	42	-58.0	0.0	-19.3	28 937	-3.5	
212	Umicore	Steel & other metals (18)	Belgium	42	4 783.7	..	..	4 677	47.4
213	Gildemeister	Engineering & machinery (26)	Germany	42	-12.7	-4.5	45.6	978	-5.2	
214	Pilkington	Construction & building (13)	UK	41	-3.3	-6.2	10.3	3 463	1.1	
215	Burelle	Automobiles & parts (31)	France	41	9.1	31.5	-0.3	1 951	5.2	
216	Christian Dior	Household goods & textiles (34)	France	41	-12.8	-26.6	4.9	12 466	-5.3	
217	Gamesa	Engineering & machinery (26)	Spain	41	21.6	-31.0	32.1	1 572	44.1	
218	Groupe SEB	Household goods & textiles (34)	France	41	8.8	28.6	-13.4	2 348	-5.9	
219	Alfa Laval	Engineering & machinery (26)	Sweden	41	3.6	4.0	-22.6	1 533	-4.7	
220	Filtronic	IT hardware (93)	UK	40	-11.8	0.5	21.4	342	-14.1	
221	CSM	Food producers (43)	The Netherlands	40	14.3	..	..	3 517	2.9
222	GN Store Nord	IT hardware (93)	Denmark	40	-50.3	-11.4	28.2	637	-13.9	
223	IMI	Engineering & machinery (26)	UK	40	0.0	17.6	22.1	2 232	-2.4	
224	William Demant	Health (44)	Denmark	40	8.3	7.6	28.0	520	-1.3	
225	Sidel	Engineering & machinery (26)	France	40	5.1	-10.1	6.4	981	5.1	
226	Industria de Turbo Propulsores	Aerospace & defence (21)	Spain	39	2.6	10.4	..	405	4.4	
227	Pace Micro Technology	Household goods & textiles (34)	UK	38	-26.5	9.3	51.1	236	-52.7	
228	e Biscom	Telecommunication services (67)	Italy	38	-32.1	73.3	21.9	529	64.8	
229	Aegis	Media & entertainment (54)	UK	37	5.3	5.6	3.6	921	9.6	
230	Leoni	Electronic & electrical (25)	Germany	37	12.3	..	..	1 080	-3.1
231	Gedeon Richter	Pharma & biotech (48)	Hungary	36	15.9	23.8	..	555	21.2	
232	Bekaert	Engineering & machinery (26)	Belgium	36	-13.6	24.0	-1.8	1 797	-3.5	
233	Metsaliitto	Forestry & paper (15)	Finland	36	12.5	6.7	-16.7	8 318	-6.2	
234	SkyePharma	Pharma & biotech (48)	UK	36	66.4	30.1	-11.7	75	-24.2	
235	Fortum	Oil & gas (07)	Finland	35	-7.9	-28.3	-8.6	11 392	2.2	
236	GPC Biotech	Pharma & biotech (48)	Germany	35	-10.2	14.7	67.1	21	-4.5	
237	Ingenico	Electronic & electrical (25)	France	34	-20.2	57.4	66.0	356	-16.2	
238	Barilla	Food producers (43)	Italy	34	..	-100.0	..	3 436	44.2	
239	Technip-Coflexip (now Technip)	Engineering & machinery (26)	France	33	-11.0	104.4	..	4 711	5.8	
240	Jungheinrich	Engineering & machinery (26)	Germany	33	11.0	4.3	0.4	1 471	-0.3	
241	Duerr	Engineering & machinery (26)	Germany	33	-6.4	-3.2	37.9	2 265	8.8	
242	Ahlstrom	Chemicals (11)	Finland	33	18.8	-52.6	..	1 556	-12.5	
243	Micronic Laser Systems	IT hardware (93)	Sweden	33	-5.4	46.6	12.7	47	-14.5	
244	Neopost	Electronic & electrical (25)	France	33	-1.8	1.8	6.1	751	-1.3	
245	Recordati	Pharma & biotech (48)	Italy	33	-6.7	13.5	-16.1	488	-1.0	
246	Haldex	Automobiles & parts (31)	Sweden	33	2.1	-3.3	6.4	665	-5.9	
247	Zambon	Pharma & biotech (48)	Italy	32	1.6	..	..	459	4.8
248	TTP Communications	IT hardware (93)	UK	32	4.8	2.6	15.4	70	0.0	
249	IBS	Software & computer services (97)	Sweden	32	-7.6	11.3	14.2	265	-4.3	
250	BHP Billiton	Mining (04)	UK	32	0.0	..	..	12 374	-12.2

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-28.4	-26.1	536	-0.6	21.5	37.8	8.8	86.3	102.3	-9.1	194	-21.1	-27.3
-14.3	-18.7	16 472	-5.6	2.0	1.9	0.4	2.8	2.7	0.3	948	48.8	-12.2
550.0	0.0	211	..	246.6	256.2	-388.9	210.4	..	6.8	155	158.3	-8.6
-6.2	-14.7	9 332	2.6	0.6	0.0	1.7	4.7	0.0	..	..	..	..
-21.8	10.8	7 631	-9.5	3.1	3.0	3.0	5.7	5.3	..	370	..	..
-0.2	16.8	9 722	-1.5	3.8	4.3	2.8	4.5	4.9	-8.6	266	..	..
-5.2	-1.3	5 034	-2.6	1.2	1.2	1.9	8.5	7.9	5.1	..	..	..
-2.3	-1.8	37 774	2.8	0.7	0.7	7.3	1.1	1.2	66.5	3 431	..	..
16.9	-52.7	14 657	-6.7	1.1	1.0	9.6	2.9	1.9	-1.3	6 140	..	..
-2.3	-15.1	13 472	-3.6	2.1	1.8	-1.7	3.2	2.6	11.2	900	-8.6	-8.5
26.5	-3.6	67 203	-5.6	0.1	0.3	13.7	0.6	1.4	-27.4	38 286	10.4	8.9
-9.7	-10.1	9 640	15.6	0.9	0.0	2.2	4.4	0.1	..	1 295	..	..
-9.8	23.9	5 048	-1.2	4.2	4.6	3.6	8.2	9.3	-0.5	263	..	..
-2.3	-1.4	24 700	-3.5	1.2	1.2	8.2	1.7	1.7	3.8	1 737	24.2	-0.9
3.2	38.8	8 459	-20.7	2.1	2.0	3.5	4.9	3.5	7.1	..	..	..
4.8	5.9	56 815	-1.3	0.3	0.4	13.4	0.7	0.8	-16.9	8 743	27.0	..
47.8	1.8	6 164	24.7	2.6	3.1	15.0	6.6	6.8	-13.6	2 707	..	..
34.6	1.6	14 662	-5.4	1.7	1.5	8.3	2.8	2.4	0.7	1 512	..	..
-7.8	5.4	9 194	-1.1	2.6	2.4	8.2	4.4	4.2	-0.1	1 427	..	..
-5.7	34.0	2 893	-7.9	11.8	11.5	2.9	13.9	14.5	2.5	186	51.2	12.4
-5.6	32.8	13 715	6.0	1.1	1.0	6.9	2.9	2.7	..	1 478	..	..
-24.7	4.5	4 343	-20.7	6.2	10.8	1.9	9.2	14.6	-12.5	1 451	92.7	5.4
-1.8	1.6	16 795	-4.3	1.8	1.7	8.2	2.4	2.3	17.9	1 814	11.4	13.0
11.9	18.6	4 272	1.5	7.6	6.9	22.1	9.3	8.7	5.1	1 922	..	..
-9.0	16.7	4 461	-0.4	4.0	4.0	4.5	8.9	8.4	-3.0	..	..	..
4.6	..	2 203	0.1	9.6	9.8	6.9	17.6	17.2	..	..	..	..
-32.8	38.6	762	-30.5	16.3	10.5	-29.7	50.4	47.7	20.8	192	34.3	-45.8
107.1	297.4	1 470	..	7.3	17.6	-69.2	26.1	..	-25.2	..	..	..
11.9	11.9	8 436	14.1	4.0	4.1	8.1	4.3	4.7	-9.5	1 323	-4.2	-3.8
1.5	14.1	19 805	10.1	3.4	2.9	5.3	1.8	1.8	..	409	..	..
13.6	..	..	..	6.5	6.8	22.2	..	..	..	1 460	..	..
3.7	2.3	11 204	9.3	2.0	2.2	7.7	3.2	4.1	-1.1	1 054	..	..
1.1	16.8	30 065	-3.0	0.4	0.4	1.4	1.2	1.0	-8.9	..	..	..
52.3	91.2	476	-3.3	47.4	21.6	-74.7	74.7	43.5	14.4	494	-12.7	-5.7
7.1	-5.6	13 343	-5.1	0.3	0.3	11.8	2.6	2.7	-9.8	9 357	..	..
83.3	9.1	181	-12.1	166.0	176.5	-128.6	192.6	188.4	12.1	276	..	..
9.5	66.5	1 765	-0.6	9.6	10.1	-7.0	19.4	24.2	-0.0	454	..	..
13.2	1.7	13 481	61.9	1.0	0.0	2.9	2.5	0.0	..	..	..	..
25.6	19.3	19 000	0.0	0.7	0.8	2.3	1.8	2.0	..	2 749	..	..
-4.8	2.4	9 184	-0.5	2.3	2.0	5.2	3.6	3.2	4.8	277	..	..
-5.4	7.8	12 957	2.7	1.5	1.7	0.7	2.6	2.8	2.0	239	..	..
-4.2	-12.2	6 536	-3.3	2.1	1.6	2.8	5.0	4.1	..	..	..	..
-28.6	-1.3	312	4.3	69.8	63.1	-44.7	105.2	116.0	6.3	220	..	..
32.3	11.9	4 536	-8.1	4.4	4.4	20.1	7.2	6.8	-4.6	1 394	..	..
13.9	21.6	2 159	2.7	6.7	7.1	9.2	15.2	16.7	-9.8	790	..	..
3.1	0.6	4 018	-0.1	4.9	4.5	2.9	8.1	7.9	3.2	254	..	..
..	..	2 423	-2.8	7.0	7.2	9.6	13.2	12.7	..	..	..	..
22.8	11.8	492	21.8	45.5	43.5	-7.1	64.8	75.3	-21.8	180	-21.1	-29.8
-4.2	17.0	1 963	-9.5	12.0	12.4	1.1	16.2	15.9	12.0	76	..	..
-0.1	256.4	34 801	-30.7	0.3	0.2	20.5	0.9	0.6	..	17 548	..	..

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units €m	%	%	%	€m	%	
251	AP Moller-Maersk	Transport (59)	Denmark	32	58.8	..	..	21 100	3.7
252	Jenoptik	Engineering & machinery (26)	Germany	31	6.3	4.8	25.1	1 982	25.1	
253	Active Biotech	Pharma & biotech (48)	Sweden	31	1.0	4.6	-17.2	..	..
254	lastminute.com	General retailers (52)	UK	31	82.2	-16.7	-38.2	267	434.0	
255	Krka	Pharma & biotech (48)	Slovenia	31	13.4	14.2	..	408	9.4	
256	Anglo American	Mining (04)	UK	31	34.5	-3.3	-11.8	14 776	23.1	
257	AMER	Household goods & textiles (34)	Finland	31	28.5	4.8	7.0	1 104	0.2	
258	Dialog Semiconductor	IT hardware (93)	UK	31	-2.4	12.0	41.7	93	34.8	
259	Boots	General retailers (52)	UK	30	-17.1	-6.2	7.5	7 557	-0.0	
260	De La Rue	Support services (58)	UK	30	-17.1	4.9	54.1	969	17.2	
261	Societe BIC	Household goods & textiles (34)	France	30	-17.5	-20.4	2 585.4	1 360	-8.8	
262	PUMA	Household goods & textiles (34)	Germany	30	23.6	21.7	9.4	1 274	40.0	
263	BBC	Media & entertainment (54)	UK	30	22.9	11.9	-13.7	5 259	4.9	
264	Industrial & Financial Systems	Support services (58)	Sweden	30	17.5	11.4	1.1	257	-14.3	
265	Beru	Automobiles & parts (31)	Germany	30	69.0	-26.2	7.2	354	16.8	
266	Sud-Chemie	Chemicals (11)	Germany	29	2.7	-7.1	12.9	763	0.9	
267	Sopra	Software & computer services (97)	France	29	10.8	4.0	..	521	3.2	
268	Getinge	Health (44)	Sweden	28	3.9	14.2	114.2	1 009	6.0	
269	Meggitt	Aerospace & defence (21)	UK	28	-13.1	-10.3	11.7	571	-0.4	
270	Acambis	Pharma & biotech (48)	UK	28	22.1	-7.7	38.9	240	112.4	
271	Vestas Wind Systems	Electronic & electrical (25)	Denmark	28	38.3	..	..	1 653	18.5
272	Coloplast	Health (44)	Denmark	28	..	..	..	761	0.8
273	Tessenderlo	Chemicals (11)	Belgium	27	5.4	4.0	904.0	1 972	2.0	
274	NKT	Electronic & electrical (25)	Denmark	27	-15.1	11.2	27.2	782	-1.1	
275	BTG	Support services (58)	UK	27	23.2	14.4	272.1	69	53.3	
276	Nolato	Chemicals (11)	Sweden	27	3.8	-30.3	..	294	38.0	
277	M-real	Media & entertainment (54)	Finland	27	3.8	-3.7	-18.2	6 044	-7.9	
278	Compagnie Generale de Geophysique	Oil & gas (07)	France	27	-0.7	-23.2	31.2	612	-12.7	
279	Campina	Food producers (43)	The Netherlands	27	10.8	-2.0	2.1	3 655	-1.4	
280	Kidde	Engineering & machinery (26)	UK	27	1.6	-11.1	-62.5	1 331	6.7	
281	Kontron	IT hardware (93)	Germany	26	1.3	46.7	105.5	229	6.5	
282	Sudzucker	Food producers (43)	Germany	26	2.0	11.8	8.6	4 575	4.4	
283	Henlys	Engineering & machinery (26)	UK	26	12.5	164.7	-25.9	445	-34.4	
284	Andritz	Engineering & machinery (26)	Austria	26	-15.5	63.5	3.2	1 225	10.4	
285	Innogenetics	Pharma & biotech (48)	Belgium	25	17.0	19.5	2.8	65	18.2	
286	Merant (now part of Serena Software, USA)	Software & computer services (97)	UK	25	-24.7	-38.3	19.2	112	-33.3	
287	Dunlop Standard Aerospace	Aerospace & defence (21)	UK	25	20.2	34.5	122.3	648	1.1	
288	JCB Service	Engineering & machinery (26)	UK	24	-11.2	-9.1	-9.9	1 159	5.7	
289	Tate & Lyle	Food producers (43)	UK	24	-5.6	5.9	30.8	4 079	0.9	
290	Nutreco	Food producers (43)	The Netherlands	24	12.1	3.9	15.0	3 674	-3.6	
291	KSB	Engineering & machinery (26)	Germany	24	2.5	-5.6	-10.1	1 178	-0.2	
292	Guerbet	Pharma & biotech (48)	France	24	33.3	-10.0	11.1	225	4.2	
293	Elisa Communications	Telecommunication services (67)	Finland	24	-33.3	0.0	56.5	1 538	-1.6	
294	Qiagen	Pharma & biotech (48)	The Netherlands	23	8.0	8.4	20.2	279	17.7	
295	Telelogic	Software & computer services (97)	Sweden	23	-17.2	-1.6	52.1	103	-16.9	
296	KPN	Telecommunication services (67)	The Netherlands	23	-28.1	-30.4	-19.3	11 870	0.7	
297	Auriga Industries	Chemicals (11)	Denmark	23	-9.2	-3.6	16.8	600	4.7	
298	Imagination Technologies	IT hardware (93)	UK	23	24.8	17.8	36.9	44	57.1	
299	Galen (now Warner Chilcott)	Pharma & biotech (48)	UK	23	15.1	50.5	15.1	343	19.9	
300	OMV	Oil & gas (07)	Austria	23	-0.4	10.9	2.2	7 644	8.0	

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
..	..	63 161	3.1	0.2	0.1	15.8	0.5	0.3	..	23 921	..	..
-20.8	27.3	10 065	14.6	1.6	1.9	-0.6	3.1	3.4	-7.8	349	..	..
..	-64.5	179	-2.2	..	..	..	174.7	169.2	18.1	134	..	..
92.3	225.0	1 224	64.1	11.7	34.2	-25.5	25.5	22.9	-38.3	626	-28.7	..
10.7	19.1	4 424	-2.2	7.6	7.3	15.0	7.0	6.0	..	1 023	..	..
2.4	-0.3	193 000	9.0	0.2	0.2	13.5	0.2	0.1	14.0	31 195	39.7	12.1
0.2	1.2	4 089	6.8	2.8	2.2	9.0	7.5	6.2	15.6	1 011	..	..
-22.5	-51.9	273	-3.9	32.9	45.4	-31.2	112.1	110.3	9.1	126	106.6	..
-0.1	2.1	68 910	-8.6	0.4	0.5	10.3	0.4	0.5	0.4	7 353	-4.5	-2.0
-10.5	24.0	6 841	0.8	3.1	4.4	3.4	4.4	5.4	6.7	847	23.1	-13.7
-2.7	0.3	8 706	-3.4	2.2	2.4	12.9	3.5	4.1	170.2	1 817	..	..
52.2	29.4	2 826	28.9	2.3	2.7	20.7	10.6	11.0	-3.9	3 119	..	..
4.4	6.9	27 632	1.8	0.6	0.5	-10.4	1.1	0.9	1.2	..	..	..
-13.5	34.0	2 846	-10.5	11.5	8.4	-0.8	10.4	7.9	17.4	78	..	..
0.0	9.4	2 694	29.1	8.3	5.8	15.3	11.0	8.4	-1.7	533	..	..
-3.8	-4.3	4 948	23.0	3.8	3.7	5.8	5.9	7.0	-1.2	327	..	..
26.6	..	6 000	0.0	5.5	5.1	6.5	4.8	4.3	..	373	..	..
6.0	55.1	6 060	10.4	2.8	2.9	13.7	4.7	5.0	18.0	1 724	..	..
-7.1	12.6	3 482	-6.4	5.0	5.7	15.8	8.1	8.8	2.1	918	0.9	-4.4
769.2	44.4	310	28.1	11.8	20.5	22.1	91.1	95.6	-18.8	514	2.6	44.6
8.9	47.9	6 394	7.0	1.7	1.4	4.6	4.3	3.4	..	1 771	..	..
38.3	12.8	5 774	9.3	3.6	0.0	16.4	4.8	0.0	..	1 693	..	..
2.3	4.0	8 161	2.8	1.4	1.3	4.6	3.4	3.3	112.2	756	..	..
-8.3	-1.3	4 932	-9.1	3.5	4.1	1.5	5.5	5.9	14.8	441	..	..
2.3	-17.0	162	-17.8	39.3	48.9	-56.5	167.4	111.7	82.9	221	-9.4	-46.9
-18.1	-28.6	2 353	18.1	9.2	12.3	2.0	11.5	13.1	..	122	..	..
-5.2	17.4	20 372	-3.3	0.4	0.4	0.8	1.3	1.2	-11.2	1 002	..	..
-12.7	15.5	3 185	-7.4	4.4	3.9	0.7	8.4	7.9	1.0	491	..	..
-5.2	0.4	6 940	1.0	0.7	0.6	0.9	3.8	3.5	6.7	..	..	..
-2.4	-59.5	7 758	6.7	2.0	2.1	11.7	3.4	3.6	-25.0	1 421	36.6	11.6
13.8	50.0	1 534	13.3	11.5	12.1	-10.9	17.2	19.2	0.7	273	..	..
-8.2	2.4	17 973	21.0	0.6	0.6	9.7	1.4	1.7	25.1	2 734	..	..
4.1	-32.5	2 864	-3.4	5.8	3.4	-7.9	9.0	7.8	57.3	..	..	..
-15.8	40.8	4 597	-0.1	2.1	2.7	3.9	5.5	6.6	9.6	497	..	..
3.8	26.2	591	-1.3	39.1	39.5	-26.2	43.0	36.3	11.3	343	..	..
-45.1	-5.3	604	-36.7	22.5	19.9	-17.9	41.8	35.1	22.0	..	..	..
1.6	15.8	3 962	-0.1	3.8	3.2	12.8	6.2	5.1	52.3	..	..	..
-9.6	6.0	4 146	3.9	2.1	2.5	2.2	5.9	6.9	-12.3	..	..	..
-21.2	-5.5	6 646	-5.3	0.6	0.6	8.8	3.6	3.6	50.9	2 248	-3.6	8.0
-0.7	22.7	13 183	-0.4	0.7	0.6	-2.6	1.8	1.6	-0.8	817	..	..
2.3	5.1	12 277	2.2	2.0	2.0	3.3	2.0	2.0	-4.0	248	..	..
3.4	5.6	1 121	1.7	10.7	8.3	10.2	21.4	16.3	7.3	163	..	..
8.6	15.7	7 172	-11.6	1.6	2.3	-2.2	3.3	4.4	-3.6	1 406	..	..
13.4	29.0	1 600	-3.1	8.4	9.2	20.1	14.7	13.1	..	1 142	..	..
-24.8	70.1	682	-24.9	22.7	22.8	1.0	34.3	31.2	14.9	300	..	..
0.5	11.2	31 267	-22.2	0.2	0.3	26.6	0.7	0.8	-18.8	14 445	..	..
-0.2	14.6	2 996	-1.0	3.8	4.4	6.0	7.7	8.3	-0.8	155	..	..
47.4	-26.9	273	16.2	51.9	65.4	-13.6	83.7	77.9	7.2	166	16.1	-7.5
10.4	112.3	1 045	-33.9	6.6	6.9	28.6	21.8	12.5	31.8	1 612	-1.8	-2.5
-8.5	3.8	6 091	6.0	0.3	0.3	8.8	3.7	4.0	2.2	4 770	..	..

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units	€m	%	%	%	€m	%
301	Rexam	Support services (58)	UK	23	-20.0	-28.6	12.0	4 417	0.8	
302	Fuchs Petrolub	Chemicals (11)	Germany	23	-4.4	24.0	1.1	1 041	-1.7	
303	Seco Tools	Engineering & machinery (26)	Sweden	23	13.9	42.9	8.6	432	-2.9	
304	Radiometer	Health (44)	Denmark	22	-8.9	5.4	1.4	241	0.0	
305	Morgan Crucible	Engineering & machinery (26)	UK	22	-21.5	5.2	12.5	1 206	-3.4	
306	Unit 4 Agresso	Software & computer services (97)	The Netherlands	22	-3.1	4.2	70.9	219	1.9	
307	IONA Technologies	Software & computer services (97)	Ireland	22	-31.1	-1.5	49.6	59	-39.8	
308	Euronext	Speciality & other finance (87)	The Netherlands	21	20.6	..	-100.0	975	0.3	
309	Xenova	Pharma & biotech (48)	UK	21	-14.6	14.8	107.2	11	-35.3	
310	Rockwool International	Construction & building (13)	Denmark	21	7.5	0.7	11.1	1 103	3.7	
311	Diageo	Beverages (41)	UK	21	-46.4	-60.6	2.9	13 397	-16.3	
312	Karstadt Quelle	General retailers (52)	Germany	21	27.6	-16.9	..	15 270	-3.3	
313	Vaisala	Electronic & electrical (25)	Finland	21	-4.5	16.7	9.9	189	-3.6	
314	Raisio	Food producers (43)	Finland	21	3.9	10.9	1.7	861	2.1	
315	Aviagen	Food producers (43)	UK	21	-13.1	-8.8	154.9	225	4.2	
316	SGL Carbon	Electronic & electrical (25)	Germany	21	-17.7	-18.3	6.5	1 046	-5.9	
317	TUI	Leisure & hotels (53)	Germany	21	-22.0	..	..	19 215	-5.4
318	NSB	Software & computer services (97)	UK	21	-15.1	-11.6	129.5	91	-12.5	
319	Elektro	Health (44)	Sweden	21	31.2	13.4	-1.5	306	1.3	
320	Stada Arzneimittel	Pharma & biotech (48)	Germany	21	28.8	-66.3	189.1	745	17.5	
321	MGI Coutier	Automobiles & parts (31)	France	21	-5.5	..	..	489	0.4
322	ELMOS Semiconductor	IT hardware (93)	Germany	20	-8.9	31.7	23.1	121	10.0	
323	LGP ALLGON <i>(now part of Powerwave Technologies, USA)</i>	IT hardware (93)	Sweden	20	115.8	-2.3	36.5	233	53.3	
324	Medigene	Pharma & biotech (48)	Germany	20	-36.7	42.6	109.1	2	-33.3	
325	Renishaw	Electronic & electrical (25)	UK	20	2.3	14.8	30.8	157	6.1	
326	Charter	Engineering & machinery (26)	UK	20	3.7	7.9	67.0	1 236	-3.3	
327	Clarins	Personal care & household (47)	France	20	19.6	24.2	16.0	889	-2.7	
328	Crucell	Pharma & biotech (48)	The Netherlands	20	-9.3	36.7	156.0	5	-28.6	
329	Abengoa	Diversified industrials (24)	Spain	20	102.7	-72.2	..	1 635	7.4	
330	International Power	Electricity (72)	UK	20	..	..	-100.0	1 209	18.8
331	British Energy	Electricity (72)	UK	20	-6.7	-6.3	-5.9	2 152	-20.3	
332	Anoto	IT hardware (93)	Sweden	19	-31.5	11.9	149.9	21	-12.5	
333	iXOS Software	Software & computer services (97)	Germany	19	20.9	0.0	-18.3	127	3.3	
334	Ureco	Support services (58)	UK	19	22.1	-11.4	35.7	632	15.3	
335	Egis Pharmaceuticals	Pharma & biotech (48)	Hungary	19	30.4	10.1	-3.2	307	6.2	
336	Enodis	Engineering & machinery (26)	UK	19	-1.5	-2.9	1.5	964	-13.3	
337	Antisoma	Pharma & biotech (48)	UK	19	9.5	29.1	42.3	17	466.7	
338	Union Electrica Fenosa	Electricity (72)	Spain	19	-81.2	-25.7	63.1	5 509	-4.3	
339	IMERYS	Construction & building (13)	France	18	-25.8	..	..	2 729	-4.7
340	Biotest	Pharma & biotech (48)	Germany	18	-1.6	3.6	2.9	222	-14.0	
341	Recticel	Chemicals (11)	Belgium	18	18.6	22.5	21.0	1 238	5.2	
342	Ion Beam Applications	Health (44)	Belgium	18	47.7	-36.4	-6.4	234	-11.4	
343	Axis-Shield	Pharma & biotech (48)	UK	18	30.1	48.5	23.3	71	6.0	
344	Rio Tinto	Mining (04)	UK	18	-8.0	-35.9	0.0	7 316	9.3	
345	ISOFT	Software & computer services (97)	UK	18	60.7	49.9	86.1	212	63.1	
346	Compagnie Industriali Riunite	Diversified industrials (24)	Italy	18	11.1	58.8	-53.1	2 839	10.0	
347	GW Pharmaceuticals	Pharma & biotech (48)	UK	18	18.0	61.7	230.9	7	..	
348	Ultra Electronics	Aerospace & defence (21)	UK	18	18.5	6.7	4.9	404	9.5	
349	Oxford Instruments	Electronic & electrical (25)	UK	18	-4.2	21.9	-6.3	266	-12.2	
350	Psion	IT hardware (93)	UK	18	0.1	-35.6	20.5	183	-6.6	

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-8.9	24.1	21 800	5.8	0.5	0.6	6.9	1.0	1.4	-11.3	3 494	26.6	22.1
12.7	4.2	4 188	3.2	2.2	2.2	6.7	5.4	5.8	3.7	449	..	..
-5.7	12.9	3 936	0.0	5.2	4.5	17.4	5.7	5.0	22.0	586	..	..
7.1	9.2	1 697	-2.5	9.3	10.2	17.0	13.2	14.1	-1.0	485	..	..
-14.1	-2.5	14 018	-5.7	1.8	2.3	-3.8	1.6	1.9	2.3	539	59.0	-19.1
3.4	71.9	1 410	4.2	9.9	10.4	8.7	15.4	16.6	2.0	262	..	..
-31.5	18.2	353	-43.8	36.7	32.1	-59.3	61.4	50.1	25.7	77	..	..
42.3	40.2	2 726	0.1	2.2	1.8	19.3	7.9	6.5	35.4	2 512	..	..
466.7	..	105	-27.6	194.5	147.4	-218.2	203.7	172.8	3.3	57	83.9	-14.8
0.0	4.0	7 293	1.7	1.9	1.9	6.4	2.9	2.8	7.2	767	..	..
-12.0	8.0	38 955	-37.3	0.2	0.2	23.8	0.5	0.6	-26.1	29 566	6.2	-6.6
-1.8	5.4	80 046	-4.6	0.1	0.1	2.3	0.3	0.2	..	1 908	..	..
6.5	2.2	1 141	-5.5	11.2	11.3	13.2	18.5	18.3	2.9	254	..	..
2.4	2.9	2 822	6.3	2.5	2.4	-1.6	7.5	7.6	4.9	281	..	..
6.9	83.6	1 494	-0.9	9.4	11.2	16.9	14.1	16.1	34.1	..	..	..
-9.2	-3.1	7 077	-8.1	2.0	2.3	0.5	3.0	3.3	-5.7	476	..	..
-9.4	9.8	67 585	-2.0	0.1	0.1	2.1	0.3	0.4	..	2 795	..	..
-21.8	129.3	957	-16.6	22.9	23.6	-44.0	21.8	21.4	-8.1	126	133.3	3.1
26.9	20.8	1 011	9.7	6.8	5.3	12.1	20.6	17.2	4.8	553	..	..
17.8	15.2	2 465	15.7	2.8	2.5	11.4	8.4	7.6	-7.8	843	..	..
..	..	2 864	-30.7	4.2	4.5	1.8	7.2	5.3	..	71	..	..
2.8	0.9	874	5.3	16.8	20.3	17.4	23.3	27.0	-4.6	220	..	..
21.6	-12.6	1 298	54.0	8.7	6.2	-5.2	15.6	11.1	19.3	262	..	..
-57.1	133.3	124	-29.5	1 013.0	1 067.3	-1 600.0	163.4	181.9	5.4	85	..	..
-16.9	18.7	1 575	-0.7	12.9	13.4	14.0	12.8	12.5	7.9	562	9.1	1.0
-6.4	2.9	9 705	-7.3	1.6	1.5	3.2	2.1	1.9	27.6	332	260.9	7.1
7.4	3.8	5 251	-2.2	2.3	1.8	10.7	3.8	3.1	15.2	1 504	..	..
-12.5	14.3	182	-0.5	401.2	316.0	-580.0	110.2	120.9	24.3	218	..	..
10.3	..	8 826	4.7	1.2	0.7	5.4	2.3	1.2	..	621	..	..
28.9	-77.9	2 416	13.7	1.6	0.0	-13.6	8.2	0.0	15.4	2 306	..	-21.9
-7.1	-3.5	5 165	-34.6	0.9	0.8	23.9	3.8	2.7	-5.4	196	460.0	-56.1
41.2	88.9	182	-41.3	91.4	116.8	-181.0	105.4	90.4	4.0	152	..	..
5.1	8.3	852	12.8	14.9	12.7	-3.2	22.2	20.8	3.9	181	..	..
-16.5	55.5	1 795	2.3	3.0	2.8	27.2	10.5	8.8	10.4	..	..	..
7.8	7.2	4 696	..	6.1	5.0	7.5	4.0	..	..	261	..	..
-27.5	-8.4	6 073	-12.9	1.9	1.7	5.1	3.1	2.7	22.2	518	78.6	2.7
-40.0	150.0	45	15.4	108.8	563.0	-47.1	411.1	433.1	7.8	53	-57.9	-21.4
5.7	36.6	21 269	-11.1	0.3	1.7	10.3	0.9	4.1	-42.2	5 332	23.6	..
-1.2	3.3	13 802	-5.4	0.7	0.9	11.0	1.3	1.7	..	3 150	..	..
2.8	5.9	1 088	-14.8	8.3	7.2	2.7	16.9	14.6	3.9	56	..	..
1.9	7.9	7 969	-2.7	1.5	1.3	0.7	2.3	1.9	25.5	175	..	..
2.3	9.3	1 719	9.8	7.8	4.7	-43.6	10.6	7.9	-14.2	143	..	..
9.8	22.0	455	4.1	25.7	21.0	-19.7	40.2	32.2	29.9	122	-5.4	-15.5
3.6	3.5	29 040	-18.9	0.3	0.3	24.0	0.6	0.6	-16.9	32 044	8.7	18.5
52.9	93.2	1 338	130.7	8.5	8.6	13.7	13.5	19.3	-5.5	1 182	100.7	38.7
25.0	-17.3	10 371	-7.8	0.6	0.6	8.2	1.7	1.4	-0.7	1 128	..	..
..	..	118	15.7	257.0	..	-214.3	152.5	149.5	-9.2	187	-35.1	..
8.5	5.6	2 505	4.6	4.5	4.1	11.4	7.2	6.3	6.8	585	20.1	14.3
15.2	15.4	1 674	-5.6	6.8	6.2	2.6	10.7	10.6	1.9	131	7.4	0.0
-23.7	-17.6	955	-9.4	9.8	9.2	-16.9	18.8	17.0	-5.6	360	-14.1	-9.5

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				units	€m	%	%	%	€m
351	<i>London Bridge Software (now part of Fair Isaac, USA)</i>	Software & computer services (97)	UK	18	-6.8	-5.2	40.8	83	-5.7
352	Transgene	Pharma & biotech (48)	France	18	1.6	-11.7	-1.2	3	50.0
353	Spector Photo	Media & entertainment (54)	Belgium	18	-3.1	11.1	15.9	377	-1.1
354	ARC International	IT hardware (93)	UK	18	-4.7	-1.8	42.9	15	-11.8
355	Oberthur Card Systems	Electronic & electrical (25)	France	18	-12.2	-12.2	7.2	430	-2.3
356	Hunter Douglas	Household goods & textiles (34)	The Netherlands	17	-19.1	..	..	1 655	-2.2
357	Rautaruukki	Steel & other metals (18)	Finland	17	0.0	-10.5	-5.0	2 953	2.4
358	Q-Med	Pharma & biotech (48)	Sweden	17	3.3	23.5	113.4	67	17.5
359	<i>Delft Instruments</i>	Engineering & machinery (26)	The Netherlands	17	-1.8	33.8	-52.9	237	22.2
360	<i>Dyson Technology</i>	Household goods & textiles (34)	UK	17	48.1	-20.4	..	333	-1.2
361	RM	Software & computer services (97)	UK	17	-15.2	18.8	58.2	306	6.6
362	Singulus Technologies	Engineering & machinery (26)	Germany	16	0.8	94.5	-7.8	363	24.7
363	SSL International	Health (44)	UK	16	-12.3	12.1	24.7	855	-3.4
364	Alizyme	Pharma & biotech (48)	UK	16	17.6	25.2	48.9	2	0.0
365	Flamel Technologies	Pharma & biotech (48)	France	16	65.3	14.8	8.9	20	33.3
366	Yule Catto	Chemicals (11)	UK	16	-8.1	12.6	0.5	766	5.7
367	<i>Aliaxis</i>	Construction & building (13)	Belgium	16	-28.4	-3.2	53.5	1 612	-52.3
368	Sanitec	Construction & building (13)	Finland	16	-19.2	-0.5	19.8	951	-3.5
369	Uponor	Engineering & machinery (26)	Finland	16	0.0	-5.3	-39.0	1 021	-10.2
370	Halma	Engineering & machinery (26)	UK	16	16.8	17.3	2.6	415	9.5
371	Exact	Software & computer services (97)	The Netherlands	16	-15.6	4.8	..	206	-3.7
372	FKI	Engineering & machinery (26)	UK	16	43.6	8.3	-10.0	1 909	-7.4
373	Wagon	Automobiles & parts (31)	UK	16	-22.9	69.5	2.4	691	9.9
374	Systems Union	Software & computer services (97)	UK	16	3.6	-12.5	-3.7	111	4.7
375	ML Laboratories	Pharma & biotech (48)	UK	16	0.7	-1.0	18.1	9	-52.6
376	Evotec OAI	Pharma & biotech (48)	Germany	16	-32.8	0.0	24.5	77	10.0
377	Hexagon	Engineering & machinery (26)	Sweden	15	26.2	70.8	144.4	783	1.6
378	Bohler-Uddeholm	Steel & other metals (18)	Austria	15	-8.6	5.0	2.6	1 500	4.1
379	Oxford Biomedica	Pharma & biotech (48)	UK	15	-0.5	26.4	70.3	1	..
380	<i>Lenzing</i>	Chemicals (11)	Austria	15	13.1	-1.2	2.4	622	-0.6
381	NicOx	Pharma & biotech (48)	France	15	7.0	15.9	462.8	1	-80.0
382	Hoganas	Mining (04)	Sweden	15	3.1	15.6	25.0	413	15.4
383	FLS Industries	Engineering & machinery (26)	Denmark	15	-26.3	-16.0	15.3	2 003	-9.3
384	Dynaction	Chemicals (11)	France	15	-10.4	25.0	-7.6	257	-2.7
385	Provimi	Food producers (43)	France	15	40.2	-28.7	-66.1	1 545	1.2
386	Saipem	Oil & gas (07)	Italy	15	7.1	55.6	800.0	4 105	29.6
387	Ilog	Software & computer services (97)	France	15	23.4	3.2	-3.8	73	10.6
388	Cardo	Engineering & machinery (26)	Sweden	15	-42.5	..	..	847	-25.9
389	<i>Microscience</i>	Pharma & biotech (48)	UK	15	-5.3	92.2	64.2	..	..
390	Anite	Software & computer services (97)	UK	15	64.5	25.9	133.8	307	7.0
391	Lectra	Software & computer services (97)	France	14	4.7	-14.4	-3.8	185	0.0
392	Intec Telecom Systems	Software & computer services (97)	UK	14	25.5	36.7	191.3	72	7.5
393	Aixtron	IT hardware (93)	Germany	14	17.6	-8.1	37.6	91	-39.7
394	Balfour Beatty	Construction & building (13)	UK	14	-16.7	-7.7	62.6	4 486	2.0
395	mm02	Telecommunication services (67)	UK	14	11.1	12.5	..	8 081	16.8
396	National Grid Transco	Utilities - other (73, 78)	UK	14	-44.5	12.5	97.5	12 820	-3.9
397	Interbrew	Beverages (41)	Belgium	14	-6.7	50.0	..	7 044	0.7
398	Huhtamaki	Support services (58)	Finland	14	16.7	-6.3	28.0	2 108	-5.9
399	PPL Therapeutics	Pharma & biotech (48)	UK	14	-13.4	19.6	-29.4	..	..
400	WEB DE	Software & computer services (97)	Germany	14	16.9	-0.6	11.9	33	37.5

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-16.2	31.3	737	-6.9	21.5	21.8	1.2	24.2	24.2	-4.2	..	..	..
100.0	-50.0	166	0.6	592.0	874.0	-733.3	107.0	105.9	1.7	68	..	..
-26.0	-32.2	1 627	-4.6	4.7	4.8	4.5	10.9	10.7	54.0	60	..	..
6.3	6.7	199	-5.2	117.7	108.9	-266.7	88.7	88.2	6.3	51	-42.1	-36.5
-8.1	6.2	2 885	-6.3	4.1	4.6	6.5	6.1	6.5	-3.6	427	..	..
-2.2	1.9	15 913	8.2	1.0	1.2	10.9	1.1	1.4	..	1 520	..	..
-0.8	7.3	12 782	-4.1	0.6	0.6	4.3	1.3	1.3	-4.3	975	..	..
35.7	61.5	419	23.6	25.1	28.6	-3.0	40.2	48.1	0.9	105	..	..
3.2	7.4	1 136	15.4	7.1	8.8	8.0	14.8	17.4	-19.9	..	..	..
5.0	15.5	1 673	-14.2	5.0	3.4	7.8	10.0	5.8	..	..	..	..
-16.3	16.3	1 545	-2.8	5.4	6.8	2.3	10.8	12.4	17.4	153	8.5	-38.8
28.8	-39.9	599	19.3	4.5	5.6	16.5	27.2	32.2	-1.3	488	..	..
5.2	-8.7	6 436	-7.1	1.9	2.1	5.6	2.5	2.7	14.5	799	-8.8	-16.2
0.0	214.0	15	-6.3	809.0	..	-800.0	1 078.7	860.0	20.6	322	232.0	50.7
50.0	11.1	174	16.0	80.2	64.7	-20.0	92.1	64.7	17.6	320	..	..
15.1	-5.5	3 519	2.2	2.1	2.4	10.7	4.6	5.1	4.1	579	-23.6	13.4
-8.4	30.0	12 049	-53.2	1.0	0.7	8.6	1.3	0.9	29.9	..	..	..
-1.0	13.5	7 877	-5.1	1.7	2.0	-5.3	2.0	2.4	0.5	..	..	..
-4.6	-12.1	4 962	-8.0	1.6	1.4	2.4	3.2	3.0	-11.8	1 003	..	..
-0.3	0.0	2 925	4.7	3.8	3.6	15.7	5.5	4.9	13.7	782	10.0	-2.6
3.9	25.6	2 025	-1.4	7.7	8.8	20.4	7.9	9.2	..	496	..	..
-9.8	-7.6	14 122	-7.4	0.8	0.5	2.6	1.1	0.7	19.5	999	26.5	-23.8
-13.2	4.0	5 322	-5.6	2.3	3.3	2.8	3.0	3.6	19.2	167	20.1	-4.5
-4.5	46.1	850	10.5	14.0	14.1	6.3	18.2	19.5	-12.5	131	17.0	..
46.2	-23.5	155	-32.6	172.1	81.0	-133.3	99.9	66.9	13.0	55	3.8	-29.4
11.1	125.0	646	4.4	20.1	32.9	-19.5	23.9	37.2	-26.4	100	..	..
12.7	21.7	5 401	-0.5	2.0	1.6	5.7	2.9	2.3	58.4	467	..	..
-4.5	1.8	10 156	5.7	1.0	1.2	7.5	1.5	1.7	-3.8	697	..	..
-100.0	0.0	72	-15.3	1 529.0	..	-1 900.0	212.4	180.8	13.4	85	4.9	-12.3
0.5	-6.2	2 931	-12.9	2.5	2.2	11.7	5.2	4.0	7.2	..	..	..
..	-100.0	60	-3.2	1 522.0	284.4	-2 000.0	253.7	229.4	56.6	68	..	..
0.0	5.9	1 649	15.6	3.7	4.1	14.5	9.2	10.3	7.4	619	..	..
-13.1	-1.4	10 234	-24.4	0.8	0.9	-21.3	1.5	1.5	0.7	573	..	..
-6.7	-13.5	1 895	-1.2	5.8	6.3	2.3	7.9	8.7	10.7	48	..	..
1.7	-84.7	8 024	-1.0	1.0	0.7	5.8	1.9	1.3	-0.6	373	..	..
62.4	42.3	23 196	-2.9	0.4	0.4	10.7	0.6	0.6	84.8	3 323	..	..
4.8	-11.3	602	0.0	20.5	18.4	2.7	24.8	20.1	1.8	147	..	..
-3.7	10.1	6 203	-21.0	1.7	2.2	5.8	2.4	3.3	..	599	..	..
..	..	72	5.9	..	..	..	203.8	227.8	14.3	..	..	..
5.1	20.8	2 121	-3.1	4.7	3.1	-43.6	6.8	4.0	48.7	247	17.6	-20.5
-4.6	-15.3	1 295	-4.5	7.8	7.4	4.9	11.1	10.1	0.3	239	..	..
19.6	93.1	529	15.0	19.9	17.0	-4.2	27.0	24.8	18.5	182	91.6	..
-37.1	51.9	410	-19.8	15.6	8.0	-31.9	34.7	23.7	5.1	272	..	..
13.4	16.7	27 828	2.1	0.3	0.4	3.7	0.5	0.6	2.5	1 861	37.3	10.3
14.0	..	12 347	-3.4	0.2	0.2	2.9	1.2	1.0	..	11 019	67.4	..
24.4	98.8	25 658	-11.3	0.1	0.2	23.1	0.6	0.9	-28.7	19 074	11.3	20.1
-4.3	-10.6	38 224	9.1	0.2	0.2	11.6	0.4	0.4	..	10 329	..	..
-6.0	-28.0	15 857	-2.5	0.7	0.5	4.7	0.9	0.7	26.8	1 069	..	..
..	..	203	4.1	..	1 593.0	..	67.9	81.7	-8.6	11	10.0	-44.7
41.2	41.7	329	15.0	41.6	49.0	-9.1	41.7	41.1	11.9	267	..	..

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units €m	%	%	%	€m	%	
401	Axis	IT hardware (93)	Sweden	14	5.4	-21.9	-24.3	69	-6.8	
402	Empire Interactive	Software & computer services (97)	UK	14	-11.2	118.6	18.3	43	19.4	
403	Biacore International	Health (44)	Sweden	14	18.3	-0.3	43.8	57	-16.2	
404	AMS	Aerospace & defence (21)	UK	13	-7.2	46.3	11.2	698	14.8	
405	BBA	Transport (59)	UK	13	-7.9	-19.0	-33.7	1 888	-3.7	
406	Intercell	Pharma & biotech (48)	Austria	13	35.1	68.7	..	1	..	
407	BE Semiconductor Industries	IT hardware (93)	The Netherlands	13	6.3	-19.3	35.1	86	3.6	
408	K+S	Chemicals (11)	Germany	13	-0.5	-3.0	-8.0	2 288	1.4	
409	Cambridge Silicon Radio (now CSR)	Electronic & electrical (25)	UK	13	31.6	-12.5	-13.2	54	145.5	
410	Gardena	Household goods & textiles (34)	Germany	13	-5.5	-46.4	..	398	2.8	
411	Edison	Utilities - other (73, 78)	Italy	13	-74.0	-45.7	9.5	5 426	-55.4	
412	Augusta Technologie	IT hardware (93)	Germany	13	-13.9	20.2	75.0	236	-9.9	
413	SAES Getters	Electronic & electrical (25)	Italy	13	-6.0	10.7	16.5	126	-10.6	
414	Lucite International	Chemicals (11)	UK	13	-10.0	11.1	-25.0	985	19.3	
415	AGBAR	Utilities - other (73, 78)	Spain	13	-39.2	31.8	..	2 677	4.7	
416	Simcorp	Software & computer services (97)	Denmark	13	-15.7	28.8	30.0	67	-1.5	
417	Villeroy & Boch	Household goods & textiles (34)	Germany	13	-5.4	-5.4	3.7	949	-2.9	
418	LION Bioscience	Software & computer services (97)	Germany	13	-63.5	4.5	99.9	20	-33.3	
419	Radiall	IT hardware (93)	France	13	3.3	-17.1	12.3	145	-6.5	
420	Vitec	Engineering & machinery (26)	UK	13	11.4	3.9	1.4	274	5.8	
421	Telemetrix (now Zetex)	IT hardware (93)	UK	12	17.1	-11.2	9.6	130	5.7	
422	ADVA	Software & computer services (97)	Germany	12	7.1	55.9	-57.7	90	2.3	
423	Pharmexa	Pharma & biotech (48)	Denmark	12	-28.5	25.2	70.5	3	-25.0	
424	TT Electronics	Electronic & electrical (25)	UK	12	6.2	-15.6	..	758	2.7	
425	Bacou-Dalloz	Household goods & textiles (34)	France	12	-3.9	398.0	-28.4	796	-9.3	
426	Funkwerk	Support services (58)	Germany	12	41.1	64.1	65.4	179	64.2	
427	Domino Printing Sciences	Electronic & electrical (25)	UK	12	2.8	-4.6	4.9	233	1.7	
428	Danieli	Engineering & machinery (26)	Italy	12	-25.0	-52.0	-9.2	987	68.1	
429	Plasmon	IT hardware (93)	UK	12	-16.7	-11.1	32.9	71	-16.5	
430	Melexis	IT hardware (93)	Belgium	12	20.4	169.8	-42.9	134	13.6	
431	Cerep	Pharma & biotech (48)	France	12	8.2	-4.3	10.1	34	0.0	
432	Dyckerhoff (now part of Buzzi Unicem, Italy)	Construction & building (13)	Germany	12	-26.9	-28.6	-3.0	1 320	-14.0	
433	Autonomy	Software & computer services (97)	UK	12	34.8	5.2	38.6	47	-2.1	
434	XRT	Software & computer services (97)	France	12	12.9	-4.0	-30.5	39	-2.5	
435	Brembo	Automobiles & parts (31)	Italy	11	25.4	..	..	634	12.0
436	Roxboro	Electronic & electrical (25)	UK	11	-15.1	-4.3	20.4	194	-12.2	
437	Genus	Support services (58)	UK	11	-6.6	-2.2	131.2	245	7.5	
438	Beta Systems Software	Software & computer services (97)	Germany	11	28.9	16.0	-5.1	56	24.4	
439	LISI	Aerospace & defence (21)	France	11	-17.4	2.2	0.8	506	-0.4	
440	Muhlbauer	Engineering & machinery (26)	Germany	11	5.9	5.1	4.0	95	4.4	
441	Rational	Engineering & machinery (26)	Germany	11	12.1	40.1	15.9	187	5.7	
442	First Technology	Electronic & electrical (25)	UK	11	-2.5	100.0	-23.5	181	-6.7	
443	BG	Oil & gas (07)	UK	11	-27.3	-15.4	-61.8	5 091	37.4	
444	Pharmagene	Pharma & biotech (48)	UK	11	-7.8	85.0	70.1	7	75.0	
445	Holmen	Forestry & paper (15)	Sweden	11	9.9	..	..	1 743	-1.6
446	Eniro	Media & entertainment (54)	Sweden	11	2.0	63.4	93.3	540	3.4	
447	Swedish Match	Tobacco (49)	Sweden	11	1.0	-1.0	-4.8	1 436	-4.5	
448	Sygen International	Food producers (43)	UK	11	11.6	25.4	2.0	188	-19.7	
449	Tarkett Sommer (now Tarkett)	Household goods & textiles (34)	Germany	11	-3.5	-19.3	28.4	1 349	-6.1	
450	Photo-Me	Media & entertainment (54)	UK	11	54.7	12.3	-6.7	312	17.3	

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-3.9	-6.1	356	6.6	19.8	17.6	0.0	38.5	38.9	-1.9	100	..	..
125.0	6.7	158	-1.3	31.8	42.8	2.3	86.6	96.3	12.1	9	50.0	..
13.3	25.0	336	5.3	23.9	16.9	7.0	40.5	36.1	2.3	109	..	..
2.5	-2.5	4 369	-3.8	1.9	2.4	6.7	3.1	3.2	8.1	..	..	..
1.0	-12.6	12 672	-1.9	0.7	0.7	6.3	1.1	1.1	-19.1	1 800	12.9	2.7
..	..	120	26.3	1 333.0	..	-1 600.0	111.1	103.9	..	..	..	..
-44.7	-24.2	694	3.1	15.4	15.0	-23.3	19.1	18.5	11.7	137	..	..
3.6	4.4	10 610	0.9	0.6	0.6	5.1	1.2	1.3	-6.7	1 245	..	..
22.2	350.0	186	6.3	24.4	45.4	-3.7	70.7	57.1	-28.9	582	..	..
-48.8	..	3 047	4.8	3.3	3.6	0.8	4.3	4.7	..	..	..	..
-22.3	14.6	4 513	-84.0	0.2	0.4	8.3	2.9	1.8	2.0	5 535	..	13.6
-5.4	35.8	1 044	-1.3	5.4	5.7	-0.8	12.3	14.1	4.2	9	..	..
-11.9	-7.0	1 064	-2.7	10.2	9.7	-4.0	12.0	12.5	11.0	87	..	..
0.9	-14.9	1 982	-0.9	1.3	1.7	10.0	6.4	7.1	-10.4	..	..	..
2.5	17.1	19 799	-45.8	0.5	0.8	6.2	0.6	0.6	..	2 080	..	..
11.5	13.0	526	-4.9	19.0	22.2	9.0	24.1	27.3	6.9	158	..	..
0.2	3.7	10 812	-1.1	1.3	1.4	4.6	1.2	1.2	-3.3	119	..	..
-25.0	73.9	177	-47.5	62.6	114.1	-115.0	70.7	101.6	23.9	9	..	..
-32.0	-10.2	1 566	-9.1	8.6	7.8	-2.1	8.0	7.0	7.4	129	..	..
-4.1	-4.9	1 624	12.3	4.6	4.3	5.8	7.7	7.8	3.9	190	-13.2	-6.7
-6.1	-9.7	1 077	-4.6	9.5	8.6	-10.8	11.5	9.4	6.0	219	123.5	20.2
-2.2	50.0	399	2.3	13.7	13.1	4.4	30.9	29.5	-19.6	170	..	..
33.3	50.0	106	-25.9	411.0	431.3	-533.3	116.3	120.6	-2.2	36	..	..
-21.0	-11.8	8 091	-2.5	1.6	1.6	1.1	1.5	1.4	..	358	27.4	..
86.0	83.7	6 254	-5.1	1.5	1.4	7.5	2.0	1.9	2.1	350	..	..
62.7	76.3	908	31.6	6.8	7.9	9.5	13.4	12.5	6.1	268	..	..
4.1	3.3	1 622	1.0	5.2	5.1	12.4	7.4	7.3	-1.9	328	18.4	17.3
-23.3	-14.9	2 806	-4.7	1.2	2.7	2.6	4.3	5.4	..	231	..	..
-2.3	-11.2	412	-10.0	16.9	16.9	-7.0	29.1	31.4	6.2	169	62.5	61.7
28.3	13.6	550	23.6	8.9	8.4	18.7	21.7	22.2	1.6	379	..	..
21.4	55.6	342	8.6	34.7	32.1	-2.9	34.5	34.6	-13.5	110	..	..
-37.2	-0.2	8 170	-19.5	0.9	1.0	7.1	1.4	1.6	-13.9	959	..	..
-7.7	-17.5	211	1.9	24.8	18.0	2.1	55.3	41.8	15.9	261	-12.1	-23.6
-11.1	7.1	368	3.1	29.4	25.4	0.0	31.2	28.5	1.4	21	..	..
..	..	3 895	12.7	1.8	1.6	8.5	2.9	2.6	..	380	..	..
-10.9	1.6	1 721	-7.2	5.9	6.1	5.2	6.6	7.3	6.3	136	38.8	-10.1
-1.3	21.6	1 352	0.7	4.7	5.4	4.5	8.4	9.1	35.9	106	15.2	35.1
0.0	9.8	368	12.5	20.4	19.7	8.9	31.0	27.1	6.2	63	..	..
-7.6	4.2	4 864	-1.2	2.3	2.7	7.9	2.3	2.8	-3.7	392	..	..
2.2	-19.1	1 262	-0.9	12.0	11.8	8.4	9.0	8.4	3.4	176	..	..
6.0	9.2	679	1.5	6.1	5.7	22.5	16.7	15.1	17.4	547	..	..
-5.8	24.1	1 722	-2.3	6.3	6.0	8.8	6.6	6.6	8.7	321	8.1	-13.0
-2.3	-44.0	4 596	2.3	0.2	0.4	33.7	2.5	3.5	0.4	17 187	26.9	7.2
0.0	300.0	79	-10.2	159.6	303.0	-157.1	141.4	137.7	29.4	35	29.6	-22.1
-3.4	9.9	4 927	-2.9	0.6	0.6	14.7	2.2	2.0	..	1 947	..	..
4.8	159.4	4 595	10.2	2.0	2.1	13.3	2.4	2.6	14.5	1 025	..	..
0.1	18.2	15 115	2.2	0.8	0.7	17.1	0.7	0.7	-4.8	2 726	..	..
-2.9	21.1	1 166	1.6	5.8	4.2	5.9	9.4	8.5	21.2	131	-31.1	-1.2
4.0	-1.7	6 977	-4.1	0.8	0.8	6.7	1.6	1.6	1.1	461	..	..
0.4	-10.5	1 819	5.5	3.5	2.6	10.3	6.0	4.1	20.9	589	15.0	15.7

II.1.1. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units €m	%	%	%	€m	%	
451	Northgate Information Solutions	Software & computer services (97)	UK	11	10.7	-6.2	-2.0	194	60.3	
452	Head	Household goods & textiles (34)	The Netherlands	11	23.6	15.8	4.3	342	11.4	
453	ESI	Software & computer services (97)	France	11	11.1	25.6	..	43	0.0	
454	Skanditek	Electronic & electrical (25)	Sweden	11	16.5	-30.1	-0.2	57	1.8	
455	Energie Baden	Electricity (72)	Germany	11	..	..	..	10 609	22.5
456	Channel Four Television	Media & entertainment (54)	UK	11	5.6	-8.9	11.5	1 092	0.9	
457	Staffware (now part of Tibco Software, USA)	Software & computer services (97)	UK	11	5.7	-5.4	18.3	61	10.9	
458	Biotie Therapies	Pharma & biotech (48)	Finland	11	-50.7	..	..	2	0.0
459	SUSS MicroTec	IT hardware (93)	Germany	11	-16.3	-25.1	61.3	96	-25.0	
460	Thrane & Thrane	Electronic & electrical (25)	Denmark	10	63.3	-39.6	12.1	86	4.9	
461	Miba	Automobiles & parts (31)	Austria	10	-3.7	17.4	..	294	0.0	
462	Mayflower	Automobiles & parts (31)	UK	10	180.8	223.7	..	884	-3.8	
463	DICOM	Software & computer services (97)	UK	10	-2.1	41.2	118.1	222	4.7	
464	Phytopharm	Pharma & biotech (48)	UK	10	20.4	49.0	18.7	3	-25.0	
465	Medisys	Health (44)	UK	10	-51.6	51.7	55.9	56	9.8	
466	Biotage	Pharma & biotech (48)	Sweden	10	-30.0	11.8	109.1	19	72.7	
467	Vectura	Pharma & biotech (48)	UK	10	163.2	148.4	4.1	5	0.0	
468	Hellenic Telecommunications	Telecommunication services (67)	Greece	10	92.7	-34.0	1 109.2	4 270	4.8	
469	Ubizen	Software & computer services (97)	Belgium	10	4.9	-21.5	55.2	72	-40.5	
470	BWT	Engineering & machinery (26)	Austria	10	-21.3	11.5	10.8	416	-3.5	
471	Elektrobit	Support services (58)	Finland	10	0.8	83.3	-5.7	149	41.9	
472	Boliden	Mining (04)	Sweden	10	-6.3	-12.0	4.9	1 052	-0.1	
473	Kyro	Engineering & machinery (26)	Finland	10	48.5	-33.1	-52.1	227	57.6	
474	Coop Norden	Food & drug retailers (63)	Sweden	10	-13.8	..	..	8 736	2.5
475	AVEVA	Software & computer services (97)	UK	10	15.6	2.7	-10.9	54	5.9	
476	Sydsvenska Kemi	Chemicals (11)	Sweden	10	24.0	77.3	..	633	-4.2	
477	Royalblue	Software & computer services (97)	UK	10	12.8	-1.2	0.5	80	-1.2	
478	Croda International	Chemicals (11)	UK	10	11.4	0.0	-15.3	431	-3.1	
479	AEA Technology	Support services (58)	UK	10	-52.1	-22.0	23.8	357	-7.3	
480	Memscap	IT hardware (93)	France	10	70.3	102.2	..	6	-40.0	
481	Epigenomics	Pharma & biotech (48)	Germany	10	0.5	16.8	..	11	450.0	
482	Schouw	Diversified industrials (24)	Denmark	10	12.6	463.8	..	414	4.8	
483	Games Workshop	Household goods & textiles (34)	UK	9	6.1	39.8	51.6	215	17.5	
484	Tecnomen	Software & computer services (97)	Finland	9	-16.1	-28.7	..	45	12.5	
485	Innovation	Software & computer services (97)	UK	9	-18.6	23.0	..	83	-41.6	
486	Baxi	General retailers (52)	UK	9	-5.4	118.5	..	933	-2.3	
487	Gyrus	Health (44)	UK	9	-18.1	10.2	-49.8	111	4.7	
488	NXT	Electronic & electrical (25)	UK	9	2.6	13.9	42.3	11	57.1	
489	Bespak	Health (44)	UK	9	15.4	50.8	47.6	125	-3.1	
490	Karo Bio	Pharma & biotech (48)	Sweden	9	3 654.2	-90.8	-9.7	9	-55.0	
491	Morphosys	Pharma & biotech (48)	Germany	9	-54.1	98.1	20.6	15	-11.8	
492	Vacon	Electronic & electrical (25)	Finland	9	13.5	-12.0	27.0	112	15.5	
493	Baltimore Technologies	Speciality & other finance (87)	UK	9	-43.1	-53.9	64.0	26	-48.0	
494	PSI	Software & computer services (97)	Germany	9	-22.4	3.6	16.4	138	-8.6	
495	Pfeiffer Vacuum Technology	Engineering & machinery (26)	Germany	9	-14.1	29.0	5.6	144	-4.6	
496	F-Secure	Software & computer services (97)	Finland	9	-10.3	-21.6	-2.1	39	0.0	
497	Alvis	Aerospace & defence (21)	UK	9	11.3	11.5	-17.7	495	54.7	
498	Hackman	Household goods & textiles (34)	Finland	9	4.9	..	..	346	16.1
499	Glunz & Jensen	IT hardware (93)	Denmark	9	29.9	-6.3	5.4	92	-1.1	
500	Bavarian Nordic	Pharma & biotech (48)	Denmark	9	4.7	-12.7	12.7	68	325.0	

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€K	%	%
-7.6	-13.8	1 888	84.9	5.6	8.1	-6.2	5.7	9.6	-17.1	393	211.9	30.7
-1.3	-1.6	..	..	3.2	2.8	0.0	..	..	..	94	..	..
4.9	..	369	9.2	25.0	22.5	-2.3	29.1	28.6	..	60	..	..
-56.3	-10.5	342	-7.1	18.8	16.4	-3.5	31.4	25.0	11.3	137	..	..
10.1	34.9	34 719	-9.8	0.1	0.0	-5.2	0.3	0.0	..	2 581	..	..
4.3	2.1	834	-16.4	1.0	0.9	5.9	12.8	10.1	5.0	..	..	..
1.9	0.0	348	2.7	17.3	18.2	6.6	30.4	29.5	3.3	..	..	..
..	152.0	66	-42.6	527.5	..	-700.0	159.8	186.3	..	..	..	..
-42.6	32.0	737	-21.7	10.9	9.8	-17.7	14.2	13.3	-2.0	86	..	..
20.6	3.0	406	13.7	12.2	7.8	14.0	25.7	17.9	-11.8	151	..	..
0.7	..	2 447	-0.6	3.5	3.7	8.2	4.3	4.4	..	36	..	..
9.3	-15.6	5 599	-4.7	1.2	0.4	2.6	1.9	0.6	..	..	..	..
6.5	41.1	826	12.1	4.7	5.0	5.4	12.5	14.3	17.5	228	49.0	35.8
100.0	-33.3	34	-2.9	342.0	213.0	-266.7	301.8	243.4	22.0	91	-35.9	-29.6
21.4	223.1	313	-25.3	17.9	40.7	-12.5	32.1	49.6	-2.6	48	-62.5	-50.3
-8.3	140.0	166	9.9	52.9	130.5	-152.6	60.5	95.1	-14.7	54	..	..
25.0	100.0	98	32.4	200.0	76.0	-200.0	102.0	51.4	16.9	88	..	..
13.3	11.1	17 710	-4.5	0.2	0.1	16.0	0.6	0.3	165.7	4 750	..	..
22.2	30.3	349	-60.5	13.9	7.9	-52.8	28.6	10.8	25.2	82	..	..
2.6	5.3	2 577	3.9	2.4	2.9	2.9	3.9	5.1	-2.2	330	..	..
38.2	-45.7	1 112	-14.1	6.6	9.3	10.7	8.8	7.5	3.8	289	..	..
-6.7	23.3	3 896	0.8	0.9	1.0	3.9	2.5	2.7	..	383	..	..
-2.7	-19.6	1 015	89.4	4.3	4.6	8.8	9.7	12.3	-24.7	284	..	..
..	..	27 087	-3.8	0.1	0.1	0.2	0.4	0.4	..	..	..	..
13.3	12.5	326	-1.2	18.0	16.5	16.7	29.8	25.5	-4.8	165	52.8	13.1
77.7	..	2 184	3.1	1.5	1.2	5.8	4.4	3.7	..	..	..	..
-13.8	16.1	478	-7.4	12.1	10.6	13.8	20.3	16.6	6.3	206	13.2	-12.0
0.5	-14.6	1 691	-10.2	2.2	1.9	14.2	5.7	4.6	9.8	562	7.9	3.8
-18.1	-11.5	3 035	-6.1	2.7	5.2	2.2	3.2	6.2	-11.5	196	-17.3	-20.0
233.3	..	256	89.6	158.3	55.8	-483.3	37.1	41.3	..	28	..	..
..	..	143	10.9	86.3	472.0	-63.6	66.4	73.2	..	..	..	..
34.4	4.6	2 441	10.8	2.3	2.1	1.5	3.9	3.8	..	215	..	..
18.8	17.6	3 177	10.6	4.4	4.9	13.0	3.0	3.1	16.0	304	10.5	20.0
-4.8	..	440	-15.4	20.9	28.0	-15.6	21.4	21.5	..	71	..	..
73.2	485.7	1 004	-13.3	11.1	8.0	-42.2	9.2	9.8	..	150	76.5	..
184.2	..	5 754	-9.9	1.0	1.0	8.4	1.6	1.5	..	..	..	..
49.3	-6.6	641	9.6	8.3	10.6	3.6	14.3	19.2	-39.5	241	-5.5	-8.0
0.0	-61.1	172	-5.0	81.9	125.4	-136.4	52.4	48.5	20.1	70	-45.7	-32.4
15.2	-5.1	826	3.8	7.2	6.1	2.4	10.9	9.8	44.4	184	39.4	-5.6
33.3	36.4	117	-12.0	100.1	1.2	-266.7	77.0	1.8	45.1	24	..	..
6.3	100.0	95	-18.1	60.0	115.2	-20.0	94.7	168.9	3.2	118	..	..
6.6	279.2	437	2.6	8.0	8.2	10.7	20.6	18.6	-4.1	164	..	..
-50.0	-4.8	223	-56.0	34.5	31.6	-96.2	40.3	31.1	14.7	17	-37.0	-57.8
-8.5	12.2	1 221	-8.7	6.5	7.6	0.0	7.3	8.6	-2.4	33	..	..
-11.2	-8.1	777	-4.2	6.2	6.9	13.2	11.5	12.8	6.4	270	..	..
-7.1	2.4	295	-6.4	22.4	25.0	7.7	29.7	31.0	-2.4	225	..	..
50.9	-26.6	2 804	48.9	1.7	2.4	5.3	3.1	4.1	-18.0	501	71.6	34.3
..	..	2 963	12.2	2.5	2.8	6.1	2.9	3.1	..	..	..	..
-14.7	-1.8	389	-6.3	9.3	7.1	-8.7	22.0	15.9	16.4	10	..	..
..	..	82	13.9	12.6	51.0	42.6	104.1	113.3	-7.5	339	..	..

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Top 500 companies				100.790	-2.0	1.2	3 139 330	-0.6	0.9	..
<i>number of companies for calculation</i>				500	493	-	497	492	-	-
Austria				265	3.5	-1.9	24 241	8.5	0.3	..
<i>number of companies for calculation</i>				10	10	-	10	10	-	-
1	VA Technologie	173	Engineering & machinery (26)	58	-8.0	-16.1	3 923	1.3	-0.5	63
2	Voest-Alpine	185	Steel & other metals (18)	52	12.2	17.3	4 646	6.0	13.6	..
3	Telekom Austria	209	Telecommunication services (67)	43	40.9	-8.8	3 970	27.7	-11.0	..
4	Andritz	284	Engineering & machinery (26)	26	-15.5	12.6	1 225	10.4	9.3	53
5	OMV	300	Oil & gas (07)	23	-0.4	4.1	7 644	8.0	0.8	..
6	Bohler-Uddeholm	378	Steel & other metals (18)	15	-8.6	-0.5	1 500	4.1	0.4	..
7	Lenzing	380	Chemicals (11)	15	13.1	4.6	622	-0.6	-2.2	..
8	Intercell	406	Pharma & biotech (48)	13	35.1	..	1	..	..	..
9	Miba	461	Automobiles & parts (31)	10	-3.7	..	294	0.0	..	..
10	BWT	470	Engineering & machinery (26)	10	-21.3	-0.9	416	-3.5	1.4	..
Belgium				1.239	1.6	8.5	39 966	-4.1	-2.7	..
<i>number of companies for calculation</i>				16	16	-	16	16	-	-
1	Solvay	46	Chemicals (11)	420	2.4	5.3	7 557	-4.6	-5.2	62
2	Agfa-Gevaert	72	Health (44)	233	-6.1	1.3	4 215	-10.0	-7.1	51
3	UCB	74	Pharma & biotech (48)	216	0.5	5.8	2 966	18.0	10.4	..
4	Barco	155	Electronic & electrical (25)	70	-36.5	47.0	629	-6.0	-5.7	..
5	Belgacom	166	Telecommunication services (67)	63	43.2	..	5 377	-16.3	..	..
6	Umicore	212	Steel & other metals (18)	42	4 783.7	..	4 677	47.4	6.2	76
7	Bekaert	232	Engineering & machinery (26)	36	-13.6	1.7	1 797	-3.5	0.8	59
8	Tessenderlo	273	Chemicals (11)	27	5.4	122.4	1 972	2.0	2.7	..
9	Innogenetics	285	Pharma & biotech (48)	25	17.0	12.9	65	18.2	15.7	..
10	Recticel	341	Chemicals (11)	18	18.6	20.7	1 238	5.2	5.0	..
11	Ion Beam Applications	342	Health (44)	18	47.7	-4.2	234	-11.4	-0.3	..
12	Spector Photo	353	Media & entertainment (54)	18	-3.1	7.7	377	-1.1	-20.8	99
13	Aliaxis	367	Construction & building (13)	16	-28.4	2.1	1 612	-52.3	-17.2	56
14	Interbrew	397	Beverages (41)	14	-6.7	..	7 044	0.7	-4.8	..
15	Melexis	430	IT hardware (93)	12	20.4	22.8	134	13.6	18.3	..
16	Ubizen	469	Software & computer services (97)	10	4.9	8.6	72	-40.5	-1.8	88
Denmark				1.766	4.1	8.6	52 545	2.6	5.8	..
<i>number of companies for calculation</i>				28	26	-	28	28	-	-
1	Novo Nordisk	36	Pharma & biotech (48)	563	1.3	7.3	3 564	5.4	8.4	..
2	Lundbeck	65	Pharma & biotech (48)	246	25.1	9.0	1 335	4.8	20.9	48
3	Novozymes	117	Chemicals (11)	101	5.0	5.1	779	2.8	4.8	..
4	Danfoss	146	Engineering & machinery (26)	78	20.1	..	2 073	3.4	1.6	74
5	Danisco	161	Food producers (43)	68	-1.9	4.9	2 202	-0.9	-11.4	69
6	Chr Hansen	162	Pharma & biotech (48)	67	16.9	22.1	582	-7.0	0.2	..
7	Grundfos	167	Engineering & machinery (26)	62	2.1	6.9	1 498	4.2	5.4	..
8	NEG Micon (<i>now part of Vestas Wind Systems</i>)	179	Engineering & machinery (26)	55	39.2	38.6	707	-15.8	9.3	..
9	Arla Foods	187	Food producers (43)	51	..	..	5 459	3.1	32.6	85
10	Bang & Olufsen	196	Electronic & electrical (25)	48	6.8	4.9	534	-5.7	2.2	85
11	Genmab	200	Pharma & biotech (48)	47	-12.7	78.1	9	..	..	..
12	Borealis	207	Chemicals (11)	43	4.9	3.3	3 673	4.5	-0.7	..
13	GN Store Nord	222	IT hardware (93)	40	-50.3	-17.4	637	-13.9	-12.2	..
14	William Demant	224	Health (44)	40	8.3	14.3	520	-1.3	9.4	..
15	AP Moller-Maersk	251	Transport (59)	32	58.8	..	21 100	3.7	..	..
16	Vestas Wind Systems	271	Electronic & electrical (25)	28	38.3	..	1 653	18.5	24.1	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	11 995 890	-3.4	-1.3	3.2	3.3	7.1	1.8	8.4	8.4	2 607 158	8.7
-	-	497	492	-	497	491	499	498	497	493	431	232
..	..	84 637	1.3	0.2	1.1	1.1	6.6	5.1	3.1	3.1	15 168	..
-	-	10	10	-	10	10	10	10	10	10	8	-
10	27	17 478	-1.4	-7.6	1.5	1.6	1.5	-0.1	3.3	3.5	1 211	240.2
..	..	23 583	8.5	13.7	1.1	1.1	5.3	3.8	2.2	2.1	1 487	..
..	..	14 657	-6.7	-7.6	1.1	14.3	9.6	7.2	2.9	1.9	6 140	..
21	26	4 597	-0.1	2.7	2.1	2.7	3.9	4.1	5.5	6.6	497	..
..	..	6 091	6.0	1.9	0.3	0.3	8.8	6.7	3.7	4.0	4 770	..
..	..	10 156	5.7	3.4	1.0	1.2	7.5	7.5	1.5	1.7	697	..
..	..	2 931	-12.9	-2.4	2.5	2.2	11.7	12.5	5.2	4.0	..	..
..	..	120	26.3	..	1 333.0	..	-1 600.0	..	111.1	103.9	..	..
..	..	2 447	-0.6	..	3.5	3.7	8.2	10.2	4.3	4.4	36	..
..	..	2 577	3.9	1.3	2.4	2.9	2.9	5.3	3.9	5.1	330	..
..	..	174 485	-2.1	-2.0	3.1	2.9	8.1	9.8	7.1	6.8	38 417	..
-	-	16	16	-	16	16	16	16	16	16	15	-
25	13	30 139	26.3	3.6	5.6	5.2	9.1	6.4	13.9	17.2	5 603	13.6
26	23	18 608	-8.0	-5.1	5.5	5.3	8.2	7.7	12.5	12.3	2 442	..
..	..	12 092	17.5	8.1	7.3	8.5	15.8	18.9	17.8	20.9	5 411	56.4
..	..	4 022	-1.6	-5.0	11.1	16.4	9.2	7.9	17.3	26.9	845	29.4
..	..	17 541	-7.7	..	1.2	0.7	9.3	22.5	3.6	2.3	9 500	..
10	14	9 640	15.6	7.4	0.9	0.0	2.2	2.3	4.4	0.1	1 295	..
27	15	11 204	9.3	2.9	2.0	2.2	7.7	-0.8	3.2	4.1	1 054	..
..	..	8 161	2.8	4.8	1.4	1.3	4.6	6.2	3.4	3.3	756	..
..	..	591	-1.3	1.4	39.1	39.5	-26.2	-32.7	43.0	36.3	343	..
..	..	7 969	-2.7	-3.8	1.5	1.3	0.7	2.4	2.3	1.9	175	..
..	..	1 719	9.8	11.7	7.8	4.7	-43.6	-1.5	10.6	7.9	143	..
0	1	1 627	-4.6	-30.1	4.7	4.8	4.5	2.9	10.9	10.7	60	..
31	13	12 049	-53.2	-21.5	1.0	0.7	8.6	8.0	1.3	0.9	..	..
..	..	38 224	9.1	3.8	0.2	0.2	11.6	11.3	0.4	0.4	10 329	..
..	..	550	23.6	20.9	8.9	8.4	18.7	19.5	21.7	22.2	379	..
12	0	349	-60.5	-13.3	13.9	7.9	-52.8	-22.3	28.6	10.8	82	..
..	..	212 053	0.4	1.5	3.4	3.6	10.3	9.0	8.3	8.6	53 068	..
-	-	28	28	-	28	26	28	28	28	26	22	-
..	..	18 381	7.7	13.1	15.8	16.4	24.2	23.7	30.6	32.6	11 929	41.5
37	14	5 223	1.8	20.3	18.4	15.4	21.4	23.2	47.1	38.3	3 688	-7.5
..	..	3 814	5.1	6.0	12.9	12.6	16.9	16.4	26.4	26.4	..	..
7	19	17 485	3.0	1.6	3.8	3.2	4.7	4.8	4.4	3.8	..	..
13	18	8 440	1.0	-16.8	3.1	3.1	10.8	11.7	8.1	8.3	2 056	9.4
..	..	3 561	4.0	0.3	11.6	9.2	5.3	6.6	18.9	16.8	456	39.0
..	..	11 675	2.7	3.2	4.2	4.2	9.7	8.4	5.3	5.4	..	..
..	..	2 601	19.3	21.4	7.8	4.7	-7.1	4.6	21.1	18.1	..	..
3	13	17 791	-0.4	-1.5	0.9	0.0	3.0	3.6	2.9	0.0	..	..
8	7	2 803	-3.6	0.2	8.9	7.9	7.5	6.2	17.1	15.4	526	..
..	..	199	26.8	131.7	516.3	..	-522.2	..	233.5	338.9	325	..
..	..	5 034	-2.6	-1.7	1.2	1.2	1.9	2.3	8.5	7.9	..	..
..	..	4 343	-20.7	-5.6	6.2	10.8	1.9	-86.1	9.2	14.6	1 451	92.7
..	..	4 272	1.5	8.7	7.6	6.9	22.1	20.7	9.3	8.7	1 922	..
..	..	63 161	3.1	..	0.2	0.1	15.8	14.6	0.5	0.3	23 921	..
..	..	6 394	7.0	24.9	1.7	1.4	4.6	5.3	4.3	3.4	1 771	..

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Denmark continued										
17	Coloplast	272	Health (44)	28	..	..	761	0.8	16.3	..
18	NKT	274	Electronic & electrical (25)	27	-15.1	6.3	782	-1.1	-3.6	..
19	Auriga Industries	297	Chemicals (11)	23	-9.2	0.7	600	4.7	6.2	37
20	Radiometer	304	Health (44)	22	-8.9	-0.9	241	0.0	5.4	46
21	Rockwool International	310	Construction & building (13)	21	7.5	6.4	1 103	3.7	2.5	..
22	FLS Industries	383	Engineering & machinery (26)	15	-26.3	-10.7	2 003	-9.3	-8.1	54
23	Simcorp	416	Software & computer services (97)	13	-15.7	12.2	67	-1.5	7.5	..
24	Pharmexa	423	Pharma & biotech (48)	12	-28.5	15.1	3	-25.0	14.5	100
25	Thrane & Thrane	460	Electronic & electrical (25)	10	63.3	3.4	86	4.9	9.2	61
26	Schouw	482	Diversified industrials (24)	10	12.6	..	414	4.8	13.8	..
27	Glunz & Jensen	499	IT hardware (93)	9	29.9	8.7	92	-1.1	-6.1	45
28	Bavarian Nordic	500	Pharma & biotech (48)	9	4.7	1.0	68	325.0	..	..
Finland				4.938	9.8	7.9	113 403	-1.1	1.6	..
<i>number of companies for calculation</i>				<i>28</i>	<i>28</i>	<i>-</i>	<i>28</i>	<i>28</i>	<i>-</i>	<i>-</i>
1	Nokia	4	IT hardware (93)	3.978	14.6	10.1	29 455	-1.9	-1.0	..
2	Metso	107	Engineering & machinery (26)	126	-13.7	0.8	4 250	-9.4	3.0	46
3	Stora Enso	128	Forestry & paper (15)	89	-22.5	-2.1	12 172	-4.8	-2.2	..
4	Kone	130	Engineering & machinery (26)	88	39.7	33.7	5 344	23.1	27.1	..
5	Orion	134	Health (44)	86	-21.6	7.7	2 262	38.9	33.6	95
6	Wartsila	154	Engineering & machinery (26)	70	-19.9	-4.1	2 358	-6.4	-4.5	50
7	UPM-Kymmene	194	Forestry & paper (15)	48	4.3	2.9	9 948	-5.0	1.3	75
8	Outokumpu	195	Steel & other metals (18)	48	2.1	11.1	5 921	6.5	17.0	62
9	Kemira	197	Chemicals (11)	48	3.7	-0.2	2 738	4.8	3.3	..
10	Metsaliitto	233	Forestry & paper (15)	36	12.5	0.0	8 318	-6.2	3.5	..
11	Fortum	235	Oil & gas (07)	35	-7.9	-15.5	11 392	2.2	1.1	78
12	Ahlstrom	242	Chemicals (11)	33	18.8	..	1 556	-12.5	-9.7	..
13	AMER	257	Household goods & textiles (34)	31	28.5	13.0	1 104	0.2	0.5	37
14	M-real	277	Media & entertainment (54)	27	3.8	-6.5	6 044	-7.9	0.8	..
15	Elisa Communications	293	Telecommunication services (67)	24	-33.3	1.4	1 538	-1.6	7.3	99
16	Vaisala	313	Electronic & electrical (25)	21	-4.5	7.0	189	-3.6	1.6	32
17	Raisio	314	Food producers (43)	21	3.9	5.4	861	2.1	2.5	..
18	Rautaruukki	357	Steel & other metals (18)	17	0.0	-5.3	2 953	2.4	2.9	..
19	Sanitec	368	Construction & building (13)	16	-19.2	-1.2	951	-3.5	2.7	..
20	Uponor	369	Engineering & machinery (26)	16	0.0	-16.7	1 021	-10.2	-9.0	..
21	Huhtamaki	398	Support services (58)	14	16.7	11.9	2 108	-5.9	-13.9	..
22	Biotie Therapies	458	Pharma & biotech (48)	11	-50.7	..	2	..	..	..
23	Elektrobit	471	Support services (58)	10	0.8	20.3	149	41.9	2.1	..
24	Kyro	473	Engineering & machinery (26)	10	48.5	-21.9	227	57.6	7.3	..
25	Tecnomen	484	Software & computer services (97)	9	-16.1	..	45	12.5	..	..
26	Vacon	492	Electronic & electrical (25)	9	13.5	8.2	112	15.5	67.1	70
27	F-Secure	496	Software & computer services (97)	9	-10.3	-11.7	39	0.0	-1.7	68
28	Hackman	498	Household goods & textiles (34)	9	4.9	..	346	16.1	..	..
France				19.538	-6.7	-1.6	645 171	-7.7	-1.1	..
<i>number of companies for calculation</i>				<i>66</i>	<i>66</i>	<i>-</i>	<i>66</i>	<i>66</i>	<i>-</i>	<i>-</i>
1	Aventis	7	Pharma & biotech (48)	2.924	-14.5	-5.6	17 815	-13.6	-7.2	..
2	Peugeot (PSA)	14	Automobiles & parts (31)	2.098	12.5	8.9	54 238	-0.4	7.1	..
3	Renault	16	Automobiles & parts (31)	1.737	-2.4	-5.3	37 525	3.3	-2.2	..
4	Alcatel	17	IT hardware (93)	1.593	-32.8	-19.4	12 513	-24.4	-26.4	50

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	5 774	9.3	15.2	3.6	0.0	16.4	15.8	4.8	0.0	1 693	..
..	..	4 932	-9.1	-7.4	3.5	4.1	1.5	-15.7	5.5	5.9	441	..
27	37	2 996	-1.0	1.6	3.8	4.4	6.0	3.7	7.7	8.3	155	..
24	30	1 697	-2.5	0.1	9.3	10.2	17.0	12.0	13.2	14.1	485	..
..	..	7 293	1.7	-0.7	1.9	1.9	6.4	3.9	2.9	2.8	767	..
14	32	10 234	-24.4	-11.3	0.8	0.9	-21.3	-3.6	1.5	1.5	573	..
..	..	526	-4.9	5.0	19.0	22.2	9.0	4.4	24.1	27.3	158	..
0	0	106	-25.9	17.7	411.0	431.3	-533.3	-500.0	116.3	120.6	36	..
22	17	406	13.7	17.2	12.2	7.8	14.0	13.4	25.7	17.9	151	..
..	..	2 441	10.8	13.1	2.3	2.1	1.5	19.2	3.9	3.8	215	..
39	16	389	-6.3	-6.6	9.3	7.1	-8.7	5.4	22.0	15.9	10	..
..	..	82	13.9	9.2	12.6	51.0	42.6	-25.0	104.1	113.3	339	..
..	..	374 616	-1.0	1.8	4.4	3.9	7.3	6.9	13.2	11.9	86 815	..
-	-	28	28	-	28	28	28	28	28	28	23	-
..	..	51 605	-2.1	-4.2	13.5	11.6	16.8	15.9	77.1	65.8	42 344	-32.2
23	31	27 400	-6.4	7.0	3.0	3.1	-5.7	-4.5	4.6	5.0	1 399	20.0
..	..	44 264	0.9	1.9	0.7	0.9	4.3	-2.0	2.0	2.6	9 200	-3.2
..	..	34 489	17.3	14.8	1.7	1.5	6.3	6.5	2.6	2.2	2 513	21.8
4	1	5 573	-0.9	1.4	3.8	6.7	3.9	6.1	15.4	19.5	1 376	52.2
6	44	12 293	-1.0	-1.3	3.0	3.5	-1.8	2.9	5.7	7.1	1 083	63.8
14	11	35 751	-3.0	3.1	0.5	0.4	5.9	8.9	1.3	1.2	7 993	..
16	22	19 359	-4.1	16.7	0.8	0.8	1.0	4.1	2.5	2.3	2 245	..
..	..	10 536	1.5	3.0	1.7	1.8	4.7	1.6	4.5	4.4	1 271	..
..	..	30 065	-3.0	9.8	0.4	0.4	1.4	4.4	1.2	1.0	..	..
13	9	13 343	-5.1	-6.3	0.3	0.3	11.8	8.5	2.6	2.7	9 357	..
..	..	6 536	-3.3	-12.6	2.1	1.6	2.8	5.1	5.0	4.1	..	..
51	12	4 089	6.8	-2.3	2.8	2.2	9.0	9.3	7.5	6.2	1 011	..
..	..	20 372	-3.3	5.4	0.4	0.4	0.8	4.7	1.3	1.2	1 002	..
1	0	7 172	-11.6	5.2	1.6	2.3	-2.2	-7.9	3.3	4.4	1 406	..
35	33	1 141	-5.5	3.9	11.2	11.3	13.2	11.7	18.5	18.3	254	..
..	..	2 822	6.3	0.6	2.5	2.4	-1.6	2.5	7.5	7.6	281	..
..	..	12 782	-4.1	-1.0	0.6	0.6	4.3	-0.1	1.3	1.3	975	..
..	..	7 877	-5.1	-1.7	1.7	2.0	-5.3	-4.9	2.0	2.4	..	..
..	..	4 962	-8.0	-5.6	1.6	1.4	2.4	6.9	3.2	3.0	1 003	..
..	..	15 857	-2.5	-11.8	0.7	0.5	4.7	7.8	0.9	0.7	1 069	..
..	..	66	-42.6	..	527.5	..	-700.0	..	159.8	186.3	..	..
..	..	1 112	-14.1	15.9	6.6	9.3	10.7	-6.7	8.8	7.5	289	..
..	..	1 015	89.4	3.6	4.3	4.6	8.8	12.5	9.7	12.3	284	..
..	..	440	-15.4	..	20.9	28.0	-15.6	-35.0	21.4	21.5	71	..
15	15	437	2.6	12.9	8.0	8.2	10.7	10.3	20.6	18.6	164	..
21	11	295	-6.4	-9.6	22.4	25.0	7.7	-5.1	29.7	31.0	225	..
..	..	2 963	12.2	..	2.5	2.8	6.1	2.3	2.9	3.1	..	..
..	..	2 678 630	-4.9	0.2	3.0	3.0	8.2	0.0	7.3	7.5	510 651	..
-	-	66	65	-	66	66	66	66	66	65	62	-
..	..	75 567	-3.2	-9.7	16.4	16.6	14.0	10.1	38.7	43.8	49 865	35.1
..	..	199 900	0.7	5.1	3.9	3.4	3.7	4.4	10.5	9.4	11 106	-0.1
..	..	131 344	-0.8	-7.5	4.6	4.9	7.9	7.1	13.2	13.5	17 795	25.4
15	34	60 486	-20.4	-22.8	12.7	14.3	-13.3	-28.3	26.3	31.2	12 702	23.5

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	€m	%	%	%
France continued										
5	Sanofi-Synthelabo <i>(now Sanofi-Aventis)</i>	19	Pharma & biotech (48)	1.316	8.1	11.7	8 048	8.1	10.5	..
6	STMicroelectronics	27	IT hardware (93)	921	22.8	5.7	5 735	15.4	-2.3	..
7	Michelin	31	Automobiles & parts (31)	711	0.9	3.3	15 370	-0.3	-0.1	52
8	Total	32	Oil & gas (07)	667	0.8	-0.9	104 652	2.1	-3.0	..
9	Snecma	33	Aerospace & defence (21)	624	0.3	24.8	6 431	1.3	4.4	55
10	Valeo	35	Automobiles & parts (31)	564	-2.3	-0.5	9 234	-5.8	0.4	..
11	Schneider	39	Electronic & electrical (25)	494	4.5	1.4	8 780	-3.1	-3.3	..
12	L'Oreal	40	Personal care & household (47)	480	2.6	7.8	14 029	-0.3	3.5	..
13	France Telecom	41	Telecommunication services (67)	478	-17.0	2.1	46 121	-1.1	11.1	..
14	ALSTOM	43	Electronic & electrical (25)	473	-24.0	-9.1	16 688	-21.8	-12.1	48
15	Electricite de France	50	Electricity (72)	381	-11.8	..	44 919	0.6	9.3	..
16	Thales	51	Aerospace & defence (21)	381	-11.5	-1.4	10 569	-4.8	7.2	58
17	Groupe Lagardere	54	Diversified industrials (24)	330	3.8	12.5	12 454	-5.8	0.7	67
18	Saint-Gobain	55	Construction & building (13)	306	-1.9	0.7	29 590	-2.3	0.9	72
19	Thomson	56	Electronic & electrical (25)	295	-21.1	-5.6	8 459	-17.0	-2.4	..
20	AREVA	58	Electricity (72)	285	-14.2	-10.2	8 255	-0.1	-3.0	61
21	Dassault Systemes	75	Software & computer services (97)	216	-3.3	8.3	755	-2.5	6.1	..
22	Rhodia	78	Chemicals (11)	203	1.0	1.5	5 453	-17.6	-9.8	..
23	Vivendi Universal	89	Media & entertainment (54)	170	45.3	-1.7	25 482	-56.2	-15.1	..
24	UBI Soft Entertainment	95	Software & computer services (97)	147	118.9	33.2	449	21.7	33.9	56
25	BioMerieux	103	Health (44)	131	10.8	21.9	915	-3.1	15.0	56
26	Danone	104	Food producers (43)	130	-2.3	1.3	13 131	-3.1	-2.8	..
27	SNPE	111	Chemicals (11)	115	7.5	..	784	-2.1	..	..
28	Essilor International	115	Health (44)	104	19.5	..	2 116	0.6	2.3	50
29	L'Air Liquide	122	Chemicals (11)	94	2.4	-0.4	8 394	6.3	1.2	..
30	Bouygues	135	Construction & building (13)	85	-73.4	-10.2	21 822	0.3	4.6	85
31	Suez	145	Utilities - other (73, 78)	79	-37.3	-26.6	39 622	-12.4	4.6	80
32	Business Objects	148	Software & computer services (97)	76	27.2	32.8	445	23.3	17.1	..
33	Infogrames Entertainment	158	Software & computer services (97)	69	-38.0	0.3	661	-14.2	8.2	..
34	Wavecom	168	IT hardware (93)	62	-3.1	56.7	276	-49.9	61.1	..
35	Bull	170	IT hardware (93)	60	-17.8	-27.9	1 265	-16.4	-26.9	..
36	Lafarge	178	Construction & building (13)	56	1.8	-17.6	13 658	-6.5	3.8	..
37	Nexans	198	Electronic & electrical (25)	47	-2.1	7.3	4 046	-6.0	-5.4	69
38	Burelle	215	Automobiles & parts (31)	41	9.1	12.6	1 951	5.2	14.6	72
39	Christian Dior	216	Household goods & textiles (34)	41	-12.8	-12.4	12 466	-5.3	1.7	..
40	Groupe SEB	218	Household goods & textiles (34)	41	8.8	6.6	2 348	-5.9	8.8	..
41	Sidel	225	Engineering & machinery (26)	40	5.1	0.2	981	5.1	3.8	39
42	Ingenico	237	Electronic & electrical (25)	34	-20.2	27.7	356	-16.2	15.2	45
43	Technip-Coflexip <i>(now Technip)</i>	239	Engineering & machinery (26)	33	-11.0	..	4 711	5.8	16.6	..
44	Neopost	244	Electronic & electrical (25)	33	-1.8	2.0	751	-1.3	13.5	..
45	Societe BIC	261	Household goods & textiles (34)	30	-17.5	160.2	1 360	-8.8	-3.8	..
46	Sopra	267	Software & computer services (97)	29	10.8	..	521	3.2	..	..
47	Compagnie Generale de Geophysique	278	Oil & gas (07)	27	-0.7	-0.0	612	-12.7	-4.2	..
48	Guerbet	292	Pharma & biotech (48)	24	33.3	10.1	225	4.2	4.4	..
49	MGI Coutier	321	Automobiles & parts (31)	21	-5.5	..	489	0.4	..	..
50	Clarins	327	Personal care & household (47)	20	19.6	19.9	889	-2.7	2.7	..
51	IMERYS	339	Construction & building (13)	18	-25.8	..	2 729	-4.7	-0.9	..
52	Transgene	352	Pharma & biotech (48)	18	1.6	-4.0	3	50.0	14.5	..
53	Oberthur Card Systems	355	Electronic & electrical (25)	18	-12.2	-6.2	430	-2.3	-1.6	..
54	Flamel Technologies	365	Pharma & biotech (48)	16	65.3	27.4	20	33.3	30.5	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	33 086	2.0	4.3	16.4	16.4	36.8	33.5	39.8	37.6	38 655	2.1
..	..	45 700	5.9	2.1	16.1	15.1	4.1	9.4	20.2	17.4	13 202	-22.4
35	13	127 210	0.7	-0.2	4.6	4.6	5.3	7.7	5.6	5.6	6 312	44.0
..	..	110 783	-8.8	-3.5	0.6	0.6	12.5	10.1	6.0	5.5	99 373	13.7
27	18	39 700	1.8	2.7	9.7	9.8	6.0	4.0	15.7	15.9	4 219	..
..	..	68 200	-1.3	-3.2	6.1	5.9	3.1	3.3	8.3	8.4	2 640	-0.3
..	..	74 276	-0.7	1.0	5.6	5.2	7.2	7.7	6.7	6.3	11 673	12.3
..	..	50 500	0.0	1.6	3.4	3.3	15.9	13.8	9.5	9.3	38 140	-2.6
..	..	221 657	-7.7	5.5	1.0	1.2	23.6	-33.1	2.2	2.4	47 679	-2.3
18	34	76 811	-30.0	-18.7	2.8	2.9	-5.0	-4.1	6.2	5.7	556	-21.7
..	..	167 308	-2.7	7.3	0.8	1.0	4.7	9.9	2.3	2.5	..	..
9	34	57 439	-5.3	0.1	3.6	3.9	2.4	2.1	6.6	7.1	4 737	4.2
21	11	43 009	-6.1	-0.7	2.7	2.4	3.7	-0.9	7.7	6.9	6 748	24.6
19	10	169 797	0.1	0.5	1.0	1.0	7.8	7.2	1.8	1.8	13 354	16.6
..	..	58 399	-10.3	-1.1	3.5	3.7	2.2	3.7	5.1	5.7	4 138	8.4
21	18	48 011	-4.3	-2.5	3.5	4.0	2.7	-3.8	5.9	6.6	334	44.6
..	..	4 088	3.1	8.5	28.6	28.8	28.2	26.1	52.7	56.2	4 019	15.6
..	..	23 059	-6.0	-7.8	3.7	3.0	-16.0	3.2	8.8	8.2	670	-30.6
..	..	49 617	..	-41.9	0.7	0.2	1.0	-33.7	3.4	..	21 014	23.5
41	4	1 990	4.7	5.6	32.7	18.2	5.6	5.7	73.8	35.3	295	..
28	16	5 477	1.1	12.4	14.3	12.5	10.5	11.5	23.9	21.8	1 118	..
..	..	88 607	-3.9	0.7	1.0	1.0	12.0	15.2	1.5	1.4	17 494	6.6
..	..	5 312	-4.7	..	14.7	13.4	-6.9	-8.6	21.7	19.2	..	..
41	9	21 713	-2.6	0.4	4.9	4.1	15.1	13.8	4.8	3.9	5 036	38.2
..	..	31 885	3.5	1.7	1.1	1.2	14.2	14.7	3.0	3.0	13 986	6.3
7	8	127 923	-0.3	2.5	0.4	1.5	5.3	5.5	0.7	2.5	8 865	13.8
10	10	173 368	-12.8	0.0	0.2	0.3	6.5	1.1	0.5	0.6	15 569	12.3
..	..	3 924	81.5	27.6	17.0	16.5	8.3	13.0	19.3	27.5	1 520	14.8
..	..	1 846	-6.8	-5.0	10.5	14.5	-5.7	-8.2	37.5	56.4	159	-67.1
..	..	692	3.9	45.4	22.5	11.6	-11.2	10.2	89.8	96.2	43	..
..	..	7 793	-6.7	-23.2	4.7	4.8	4.1	-34.4	7.7	8.7	255	116.1
..	..	75 338	-2.8	4.5	0.4	0.4	12.1	10.1	0.7	0.7	11 582	22.0
18	13	17 068	-0.4	-2.1	1.2	1.1	0.7	-0.9	2.8	2.8	597	..
24	4	8 459	-20.7	5.2	2.1	2.0	3.5	3.2	4.9	3.5	..	..
..	..	56 815	-1.3	5.4	0.3	0.4	13.4	9.5	0.7	0.8	8 743	27.0
..	..	14 662	-5.4	5.8	1.7	1.5	8.3	5.5	2.8	2.4	1 512	..
33	28	4 461	-0.4	3.3	4.0	4.0	4.5	-3.8	8.9	8.4	..	..
35	21	1 765	-0.6	27.8	9.6	10.1	-7.0	2.1	19.4	24.2	454	..
..	..	19 000	0.0	24.7	0.7	0.8	2.3	1.6	1.8	2.0	2 749	..
..	..	4 536	-8.1	6.9	4.4	4.4	20.1	16.8	7.2	6.8	1 394	..
..	..	8 706	-3.4	-3.7	2.2	2.4	12.9	15.3	3.5	4.1	1 817	..
..	..	6 000	0.0	..	5.5	5.1	6.5	7.9	4.8	4.3	373	..
..	..	3 185	-7.4	-1.0	4.4	3.9	0.7	8.0	8.4	7.9	491	..
..	..	1 121	1.7	2.5	10.7	8.3	10.2	8.3	21.4	16.3	163	..
..	..	2 864	-30.7	..	4.2	4.5	1.8	-2.1	7.2	5.3	71	..
..	..	5 251	-2.2	4.1	2.3	1.8	10.7	10.4	3.8	3.1	1 504	..
..	..	13 802	-5.4	-1.8	0.7	0.9	11.0	10.9	1.3	1.7	3 150	..
..	..	166	0.6	-5.5	592.0	874.0	-733.3	-1 000.0	107.0	105.9	68	..
..	..	2 885	-6.3	-2.6	4.1	4.6	6.5	-3.4	6.1	6.5	427	..
..	..	174	16.0	8.3	80.2	64.7	-20.0	13.3	92.1	64.7	320	..

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
France continued										
55	NicOx	381	Pharma & biotech (48)	15	7.0	91.1	1	-80.0	-45.0	..
56	Dynaction	384	Chemicals (11)	15	-10.4	1.1	257	-2.7	-7.7	77
57	Provimi	385	Food producers (43)	15	40.2	-30.2	1 545	1.2	-46.0	77
58	Ilog	387	Software & computer services (97)	15	23.4	7.0	73	10.6	0.9	..
59	Lectra	391	Software & computer services (97)	14	4.7	-4.8	185	0.0	-6.9	51
60	Radiall	419	IT hardware (93)	13	3.3	-1.3	145	-6.5	-17.1	54
61	Bacou-Dalloz	425	Household goods & textiles (34)	12	-3.9	50.8	796	-9.3	45.8	..
62	Cerep	431	Pharma & biotech (48)	12	8.2	4.4	34	0.0	23.6	47
63	XRT	434	Software & computer services (97)	12	12.9	-9.0	39	-2.5	-2.4	..
64	LISI	439	Aerospace & defence (21)	11	-17.4	-5.2	506	-0.4	-1.4	85
65	ESI	453	Software & computer services (97)	11	11.1	..	43	0.0	..	50
66	Memscap	480	IT hardware (93)	10	70.3	..	6	-40.0	..	64
Germany				37.500	-3.1	0.9	936 382	-1.6	-1.2	..
<i>number of companies for calculation</i>				<i>100</i>	<i>97</i>	<i>-</i>	<i>100</i>	<i>99</i>	<i>-</i>	<i>-</i>
1	DaimlerChrysler	1	Automobiles & parts (31)	5.571	-8.2	-4.2	136 437	-8.8	-5.6	35
2	Siemens	2	Electronic & electrical (25)	5.511	-5.3	-0.5	74 233	-11.6	-1.8	57
3	Volkswagen	3	Automobiles & parts (31)	4.140	-5.3	0.0	88 414	-1.8	1.1	70
4	Robert Bosch	9	Automobiles & parts (31)	2.650	6.6	9.3	36 357	3.9	4.8	..
5	BMW	11	Automobiles & parts (31)	2.559	9.7	..	41 525	-1.8	5.5	58
6	Bayer	12	Chemicals (11)	2.414	-4.7	0.4	28 567	-3.6	-2.7	43
7	Boehringer Ingelheim	21	Pharma & biotech (48)	1.176	-9.8	6.7	7 382	-2.6	6.1	33
8	BASF	22	Chemicals (11)	1.105	-2.7	-10.2	33 361	3.6	-2.5	57
9	Infineon Technologies	23	IT hardware (93)	1.083	12.3	..	6 152	18.1	..	43
10	SAP	25	Software & computer services (97)	996	9.5	0.9	7 025	-5.2	3.9	..
11	Schering	26	Pharma & biotech (48)	947	-2.4	4.7	4 828	-3.9	2.4	..
12	Deutsche Telekom	28	Telecommunication services (67)	900	0.0	8.7	55 838	4.0	10.9	86
13	Merck	34	Pharma & biotech (48)	605	1.6	3.5	7 202	-3.6	2.2	42
14	ZF	37	Automobiles & parts (31)	524	-3.3	22.4	8 928	-2.6	13.5	72
15	Continental	38	Automobiles & parts (31)	498	1.4	6.0	11 534	1.1	4.5	67
16	RWE	45	Utilities - other (73, 78)	436	0.2	-6.9	42 771	-1.6	-9.0	..
17	Altana	47	Pharma & biotech (48)	412	11.6	23.4	2 735	4.8	12.2	51
18	MAN	48	Engineering & machinery (26)	407	-3.8	-0.6	15 021	-6.4	-0.1	..
19	Heidelberger Druckmaschinen	52	Engineering & machinery (26)	365	-6.6	-0.9	3 661	-11.4	-11.6	..
20	Degussa	53	Chemicals (11)	355	..	..	11 427	..	..	59
21	Henkel	64	Personal care & household (47)	257	-0.8	-7.1	9 436	-2.3	-9.6	..
22	Carl-Zeiss	80	Health (44)	190	2.2	-9.8	2 029	-10.1	-19.2	60
23	Rheinmetall	81	Engineering & machinery (26)	189	-9.1	-3.7	4 248	-7.1	-1.8	79
24	Behr	84	Automobiles & parts (31)	184	5.1	8.3	3 005	6.8	12.3	68
25	Thyssen Krupp	86	Engineering & machinery (26)	183	-4.2	16.4	36 137	-1.5	-1.0	..
26	Linde	88	Chemicals (11)	179	4.1	-0.6	8 992	3.1	2.1	76
27	Hella	90	Automobiles & parts (31)	168	11.6	..	3 028	2.9	..	..
28	Diehl Stiftung	91	Diversified industrials (24)	161	-9.6	-2.5	1 433	-2.5	-3.8	..
29	Deutsche Post	92	Support services (58)	156	-35.8	-15.1	40 017	1.9	7.0	..
30	Wacker-Chemie	93	Chemicals (11)	152	-3.8	-0.8	2 468	-7.8	-6.9	..
31	Schwarz Pharma	97	Pharma & biotech (48)	144	15.9	16.3	1 496	55.2	26.7	..
32	Freudenberg	98	Diversified industrials (24)	140	40.1	..	3 867	-1.3	-2.4	..
33	JM Voith	101	Diversified industrials (24)	135	-2.9	0.5	3 109	-5.5	7.0	..
34	Fresenius	109	Health (44)	121	-12.3	2.0	7 064	-5.9	5.0	38
35	Knorr-Bremse	110	Engineering & machinery (26)	120	0.8	3.5	2 206	4.5	13.9	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	60	-3.2	22.1	1 522.0	284.4	-2 000.0	-380.0	253.7	229.4	68	..
10	13	1 895	-1.2	-8.7	5.8	6.3	2.3	6.8	7.9	8.7	48	..
11	12	8 024	-1.0	-29.8	1.0	0.7	5.8	5.7	1.9	1.3	373	..
..	..	602	0.0	5.1	20.5	18.4	2.7	1.5	24.8	20.1	147	..
22	27	1 295	-4.5	-5.1	7.8	7.4	4.9	3.2	11.1	10.1	239	..
29	16	1 566	-9.1	-8.1	8.6	7.8	-2.1	-11.6	8.0	7.0	129	..
..	..	6 254	-5.1	47.7	1.5	1.4	7.5	11.8	2.0	1.9	350	..
45	7	342	8.6	20.8	34.7	32.1	-2.9	11.8	34.5	34.6	110	..
..	..	368	3.1	-10.3	29.4	25.4	0.0	20.0	31.2	28.5	21	..
12	2	4 864	-1.2	-1.6	2.3	2.7	7.9	6.5	2.3	2.8	392	..
14	36	369	9.2	..	25.0	22.5	-2.3	0.0	29.1	28.6	60	..
31	5	256	89.6	..	158.3	55.8	-483.3	-30.0	37.1	41.3	28	..
..	..	4 095 072	-1.6	-0.7	4.0	4.1	3.9	1.2	9.2	9.4	461 915	..
-	-	<i>100</i>	<i>99</i>	-	<i>100</i>	<i>97</i>	<i>99</i>	<i>98</i>	<i>100</i>	<i>97</i>	<i>81</i>	-
53	12	370 684	0.0	-6.2	4.1	4.1	1.1	2.4	15.0	16.4	35 972	11.9
21	22	419 300	-5.8	-0.9	7.4	6.9	4.0	0.5	13.1	13.1	50 031	14.6
17	12	314 709	2.7	0.9	4.7	4.9	2.6	4.5	13.2	14.3	12 612	-13.1
..	..	229 439	1.6	5.2	7.3	7.1	4.6	4.0	11.6	11.0	..	..
28	14	102 076	3.7	0.6	6.2	5.5	8.3	7.9	25.1	23.7	23 155	3.1
30	27	118 280	-5.1	-0.2	8.5	8.5	-6.6	1.2	20.4	20.3	15 433	9.0
42	25	33 981	6.7	7.5	15.9	17.2	12.2	14.3	34.6	41.0	..	..
21	21	87 144	-3.1	-5.8	3.3	3.5	7.2	8.9	12.7	12.6	24 074	4.5
23	34	31 523	4.5	..	17.6	18.5	-4.8	-21.9	34.4	31.9	6 412	-16.5
..	..	29 098	-1.7	7.6	14.2	12.3	24.3	14.7	34.2	30.7	40 226	26.1
..	..	26 561	1.2	3.8	19.6	19.3	14.6	9.8	35.7	37.0	8 722	9.6
14	1	251 263	-1.8	7.0	1.6	1.7	7.6	-42.4	3.6	3.5	57 546	2.0
33	25	34 206	-0.9	0.7	8.4	8.0	7.3	5.9	17.7	17.3	2 316	86.9
17	11	53 487	0.4	18.8	5.9	5.9	-0.1	1.9	9.8	10.2	..	..
22	10	66 473	2.1	1.5	4.3	4.3	7.3	5.9	7.5	7.5	5 427	103.9
..	..	139 535	5.2	-5.2	1.0	1.0	6.5	9.7	3.1	3.3	21 479	22.4
31	18	10 073	3.7	5.6	15.1	14.1	20.8	19.7	40.9	38.0	6 061	-22.2
..	..	72 455	-5.1	-1.8	2.7	2.6	3.0	2.2	5.6	5.5	4 302	71.8
..	..	23 490	-4.7	-2.5	10.0	9.5	-8.8	-4.7	15.6	15.9	2 120	-3.2
23	19	46 997	..	..	3.1	..	2.6	..	7.6	..	5 446	..
..	..	48 328	2.4	-7.2	2.7	2.7	6.4	6.5	5.3	5.5	8 053	5.3
26	15	14 164	-0.5	-24.1	9.4	8.2	1.9	6.1	13.4	13.1	..	..
11	10	25 200	-9.1	-6.5	4.5	4.6	3.7	1.3	7.5	7.5	1 110	63.2
24	8	16 085	-0.5	6.9	6.1	6.2	3.4	3.4	11.4	10.8	..	..
..	..	188 561	-1.4	0.0	0.5	0.5	2.7	0.9	1.0	1.0	7 264	21.6
12	12	46 278	1.8	-0.0	2.0	2.0	5.1	4.1	3.9	3.8	5 628	29.1
..	..	21 545	-6.9	..	5.5	5.1	0.0	0.0	7.8	6.5	..	..
..	..	9 862	-8.9	-6.9	11.2	12.1	4.7	4.2	16.3	16.5	..	..
..	..	375 096	-0.2	5.4	0.4	0.6	6.3	1.9	0.4	0.6	8 707	..
..	..	16 168	-3.9	-2.6	6.1	5.9	-2.4	5.2	9.4	9.4	..	..
..	..	3 853	3.1	6.0	9.6	12.9	18.5	9.3	37.4	33.2	1 226	-30.7
..	..	28 416	2.5	-2.0	3.6	2.5	5.6	6.9	4.9	3.6	..	..
..	..	24 687	-1.0	13.0	4.3	4.2	5.1	4.6	5.5	5.6	..	..
49	12	65 243	3.4	10.8	1.7	1.8	11.2	11.2	1.9	2.2	7 341	20.4
..	..	10 858	-1.0	7.5	5.4	5.6	7.9	6.1	11.1	10.8	..	..

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Germany continued										
36	B Braun Melsungen	114	Health (44)	105	2.7	4.4	2 647	-3.6	3.5	..
37	Beiersdorf	118	Personal care & household (47)	100	7.5	4.4	4 673	-1.5	4.3	..
38	Dragerwerk	119	Health (44)	97	24.9	10.5	1 413	6.0	7.5	..
39	MG Technologies	124	Engineering & machinery (26)	94	2.9	-11.3	8 157	0.3	-2.5	67
40	HVB	126	Banks (81)	91	-37.7	10.2	7 183	13.6	1.2	..
41	Trumpf	129	Diversified industrials (24)	89	76.5	27.2	1 193	44.1	14.4	..
42	Adidas-Salomon	133	Household goods & textiles (34)	86	1.2	-1.9	6 267	-3.9	2.4	54
43	Celanese	144	Chemicals (11)	79	6.8	-5.6	4 075	-5.8	-7.8	..
44	EPCOS	156	Electronic & electrical (25)	69	-26.2	-5.3	1 272	-3.1	13.1	63
45	E.ON	159	Utilities - other (73, 78)	69	-81.8	-50.6	42 541	17.8	-16.9	..
46	Claas	163	Engineering & machinery (26)	67	6.6	13.0	1 496	18.3	11.7	..
47	Cognis Deutschland	164	Chemicals (11)	65	-14.5	-1.0	2 950	-5.6	-2.5	51
48	Eberspaecher	169	Automobiles & parts (31)	61	-5.4	..	1 336	-5.5	..	..
49	IWKA	171	Engineering & machinery (26)	60	-1.0	..	2 287	-1.1	1.0	..
50	Software	172	Software & computer services (97)	58	-9.3	0.5	422	-11.2	0.4	..
51	Koenig & Bauer	174	Engineering & machinery (26)	58	16.6	..	1 232	-9.0	4.3	59
52	Salzgitter	175	Steel & other metals (18)	58	22.3	53.2	4 842	2.1	5.9	75
53	Deutz	180	Automobiles & parts (31)	55	16.6	0.5	1 173	1.0	-3.0	63
54	Deutsche Borse	181	Speciality & other finance (87)	55	-37.8	-7.0	1 650	49.3	33.0	..
55	Heraeus	204	Steel & other metals (18)	44	..	..	7 412	15.5	-2.6	..
56	Phoenix	206	Automobiles & parts (31)	44	-9.9	-9.1	1 153	1.9	5.9	..
57	HeidelbergCement	208	Construction & building (13)	43	-2.3	68.4	6 372	-2.5	-2.2	..
58	Gildemeister	213	Engineering & machinery (26)	42	-12.7	6.7	978	-5.2	1.9	..
59	Leoni	230	Electronic & electrical (25)	37	12.3	..	1 080	-3.1	3.9	..
60	GPC Biotech	236	Pharma & biotech (48)	35	-10.2	19.8	21	-4.5	24.1	..
61	Jungheinrich	240	Engineering & machinery (26)	33	11.0	5.1	1 471	-0.3	-1.0	..
62	Duerr	241	Engineering & machinery (26)	33	-6.4	7.7	2 265	8.8	3.5	..
63	Jenoptik	252	Engineering & machinery (26)	31	6.3	11.7	1 982	25.1	8.0	76
64	PUMA	262	Household goods & textiles (34)	30	23.6	18.0	1 274	40.0	40.2	67
65	Beru	265	Automobiles & parts (31)	30	69.0	10.2	354	16.8	8.5	82
66	Sud-Chemie	266	Chemicals (11)	29	2.7	2.5	763	0.9	-2.4	44
67	Kontron	281	IT hardware (93)	26	1.3	45.1	229	6.5	22.0	..
68	Sudzucker	282	Food producers (43)	26	2.0	7.4	4 575	4.4	-0.6	..
69	KSB	291	Engineering & machinery (26)	24	2.5	-4.6	1 178	-0.2	2.4	..
70	Fuchs Petrolub	302	Chemicals (11)	23	-4.4	6.2	1 041	-1.7	4.9	..
71	Karstadt Quelle	312	General retailers (52)	21	27.6	..	15 270	-3.3	0.1	..
72	SGL Carbon	316	Electronic & electrical (25)	21	-17.7	-10.5	1 046	-5.9	-6.1	53
73	TUI	317	Leisure & hotels (53)	21	-22.0	..	19 215	-5.4	-2.0	..
74	Stada Arzneimittel	320	Pharma & biotech (48)	21	28.8	7.8	745	17.5	16.8	91
75	ELMOS Semiconductor	322	IT hardware (93)	20	-8.9	13.9	121	10.0	4.5	..
76	Medigene	324	Pharma & biotech (48)	20	-36.7	23.6	2	-33.3	-12.6	..
77	iXOS Software	333	Software & computer services (97)	19	20.9	-0.4	127	3.3	5.6	..
78	Biotest	340	Pharma & biotech (48)	18	-1.6	1.6	222	-14.0	-2.2	75
79	Singulus Technologies	362	Engineering & machinery (26)	16	0.8	21.8	363	24.7	-1.2	37
80	Evotec OAI	376	Pharma & biotech (48)	16	-32.8	-5.8	77	10.0	40.1	..
81	Aixtron	393	IT hardware (93)	14	17.6	14.2	91	-39.7	-16.8	..
82	WEB DE	400	Software & computer services (97)	14	16.9	9.1	33	37.5	40.1	..
83	K+S	408	Chemicals (11)	13	-0.5	-3.9	2 288	1.4	3.1	..
84	Gardena	410	Household goods & textiles (34)	13	-5.5	..	398	2.8	..	..
85	Augusta Technologie	412	IT hardware (93)	13	-13.9	21.9	236	-9.9	5.0	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	29 235	1.6	2.7	4.0	3.7	6.0	7.3	3.6	3.6	..	..
..	..	18 249	0.4	3.2	2.1	2.0	10.4	10.0	5.5	5.1	7 650	-18.3
..	..	10 334	4.8	3.3	6.9	5.8	4.3	4.7	9.4	7.9	266	25.5
12	21	31 118	-4.8	-6.6	1.1	1.1	-1.5	2.7	3.0	2.8	1 928	10.8
..	..	63 526	-5.1	-4.5	1.3	2.3	-37.1	-14.6	1.4	2.2	9 398	..
..	..	5 726	2.7	6.9	7.4	6.1	8.4	8.3	15.5	9.0	..	..
25	21	15 411	6.6	5.4	1.4	1.3	7.8	7.3	5.6	5.9	4 712	45.7
..	..	10 000	-6.8	-8.8	1.9	1.7	3.8	4.7	7.9	6.9	2 323	85.1
6	31	13 283	1.6	0.1	5.5	7.2	0.9	-5.2	5.2	7.2	1 001	22.7
..	..	67 230	-35.6	-28.4	0.2	1.1	8.8	5.9	1.0	3.6	39 438	24.0
..	..	7 292	27.8	8.8	4.5	5.0	3.1	5.3	9.2	11.1	..	..
24	25	8 660	-5.2	-1.8	2.2	2.4	0.7	4.9	7.5	8.3	..	..
..	..	5 119	-1.5	..	4.6	4.6	0.2	1.7	12.0	12.5	..	..
..	..	13 002	-2.0	-0.3	2.6	2.6	3.4	3.2	4.6	4.5	470	64.3
..	..	2 844	-8.8	0.5	13.8	13.5	-0.7	9.9	20.5	20.6	715	114.1
16	24	7 266	-3.6	2.6	4.7	3.7	-4.0	3.5	7.9	6.6	204	..
3	22	18 154	-3.8	2.0	1.2	1.0	1.4	3.1	3.2	2.5	603	..
13	24	5 514	-1.7	-6.2	4.7	4.1	2.6	3.5	10.0	8.4	285	..
..	..	3 243	40.9	50.5	3.3	8.0	27.2	33.8	16.9	38.3	4 261	-20.9
..	..	9 332	2.6	-3.1	0.6	0.0	1.7	1.7	4.7	0.0	..	..
..	..	9 722	-1.5	-0.5	3.8	4.3	2.8	1.9	4.5	4.9	266	..
..	..	37 774	2.8	1.2	0.7	0.7	7.3	9.3	1.1	1.2	3 431	..
..	..	5 048	-1.2	7.2	4.2	4.6	3.6	1.5	8.2	9.3	263	..
..	..	19 805	10.1	11.8	3.4	2.9	5.3	7.7	1.8	1.8	409	..
..	..	181	-12.1	6.9	166.0	176.5	-128.6	-177.3	192.6	188.4	276	..
..	..	9 184	-0.5	0.3	2.3	2.0	5.2	4.9	3.6	3.2	277	..
..	..	12 957	2.7	5.5	1.5	1.7	0.7	2.3	2.6	2.8	239	..
5	18	10 065	14.6	21.1	1.6	1.9	-0.6	2.1	3.1	3.4	349	..
20	13	2 826	28.9	22.9	2.3	2.7	20.7	13.7	10.6	11.0	3 119	..
8	10	2 694	29.1	12.0	8.3	5.8	15.3	19.1	11.0	8.4	533	..
26	30	4 948	23.0	3.8	3.8	3.7	5.8	4.8	5.9	7.0	327	..
..	..	1 534	13.3	44.1	11.5	12.1	-10.9	-1.9	17.2	19.2	273	..
..	..	17 973	21.0	-14.2	0.6	0.6	9.7	10.1	1.4	1.7	2 734	..
..	..	12 277	2.2	-0.6	2.0	2.0	3.3	3.6	2.0	2.0	248	..
..	..	4 188	3.2	2.4	2.2	2.2	6.7	6.5	5.4	5.8	449	..
..	..	80 046	-4.6	-3.2	0.1	0.1	2.3	3.0	0.3	0.2	1 908	..
25	23	7 077	-8.1	-5.1	2.0	2.3	0.5	-0.5	3.0	3.3	476	..
..	..	67 585	-2.0	-4.2	0.1	0.1	2.1	-0.5	0.3	0.4	2 795	..
7	2	2 465	15.7	17.0	2.8	2.5	11.4	11.7	8.4	7.6	843	..
..	..	874	5.3	19.4	16.8	20.3	17.4	17.3	23.3	27.0	220	..
..	..	124	-29.5	17.2	1 013.0	1 067.3	-1 600.0	-1 333.3	163.4	181.9	85	..
..	..	852	12.8	-4.2	14.9	12.7	-3.2	6.5	22.2	20.8	181	..
6	17	1 088	-14.8	-2.2	8.3	7.2	2.7	-2.7	16.9	14.6	56	..
21	42	599	19.3	23.4	4.5	5.6	16.5	18.2	27.2	32.2	488	..
..	..	646	4.4	28.0	20.1	32.9	-19.5	-192.9	23.9	37.2	100	..
..	..	410	-19.8	8.6	15.6	8.0	-31.9	13.9	34.7	23.7	272	..
..	..	329	15.0	-2.5	41.6	49.0	-9.1	-62.5	41.7	41.1	267	..
..	..	10 610	0.9	3.0	0.6	0.6	5.1	5.0	1.2	1.3	1 245	..
..	..	3 047	4.8	..	3.3	3.6	0.8	3.6	4.3	4.7	..	..
..	..	1 044	-1.3	16.9	5.4	5.7	-0.8	-9.5	12.3	14.1	9	..

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Germany continued										
86	Villeroy & Boch	417	Household goods & textiles (34)	13	-5.4	-2.5	949	-2.9	0.3	..
87	LION Bioscience	418	Software & computer services (97)	13	-63.5	-8.6	20	-33.3	-4.6	..
88	ADVA	422	Software & computer services (97)	12	7.1	-11.0	90	2.3	14.5	..
89	Funkwerk	426	Support services (58)	12	41.1	56.5	179	64.2	67.6	..
90	Dyckerhoff <i>(now part of Buzzi Unicem, Italy)</i>	432	Construction & building (13)	12	-26.9	-20.3	1 320	-14.0	-18.6	..
91	Beta Systems Software	438	Software & computer services (97)	11	28.9	12.4	56	24.4	11.0	..
92	Mühlbauer	440	Engineering & machinery (26)	11	5.9	5.0	95	4.4	-4.8	..
93	Rational	441	Engineering & machinery (26)	11	12.1	22.1	187	5.7	6.9	..
94	Tarkett Sommer <i>(now Tarkett)</i>	449	Household goods & textiles (34)	11	-3.5	0.0	1 349	-6.1	-1.4	..
95	Energie Baden	455	Electricity (72)	11	..	..	10 609	22.5	22.1	100
96	SUSS MicroTec	459	IT hardware (93)	11	-16.3	0.4	96	-25.0	-17.2	..
97	Epigenomics	481	Pharma & biotech (48)	10	0.5	..	11	450.0	..	..
98	Morphosys	491	Pharma & biotech (48)	9	-54.1	3.2	15	-11.8	23.3	..
99	PSI	494	Software & computer services (97)	9	-22.4	-2.2	138	-8.6	-2.1	..
100	Pfeiffer Vacuum Technology	495	Engineering & machinery (26)	9	-14.1	5.4	144	-4.6	-8.0	61
Greece				64	-8.8	5.2	4 911	0.8	6.5	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-
1	Intracom	182	IT hardware (93)	54	-16.9	-0.2	641	-20.0	-8.3	..
2	Hellenic Telecommunications	468	Telecommunication services (67)	10	92.7	148.7	4 270	4.8	9.7	..
Hungary				55	20.5	..	862	15.4	..	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-
1	Gedeon Richter	231	Pharma & biotech (48)	36	15.9	..	555	21.2	..	..
2	Egis Pharmaceuticals	335	Pharma & biotech (48)	19	30.4	11.6	307	6.2	7.1	..
Ireland				362	-29.9	-7.0	5 984	-9.2	0.3	..
<i>number of companies for calculation</i>				4	4	-	4	4	-	-
1	Elan	79	Pharma & biotech (48)	202	-20.1	-5.9	604	-42.9	-16.4	..
2	Kerry	131	Food producers (43)	88	12.6	19.0	3 693	-1.7	12.1	..
3	Eircom	191	Telecommunication services (67)	50	-67.5	..	1 628	-3.2	-9.0	..
4	IONA Technologies	307	Software & computer services (97)	22	-31.1	0.5	59	-39.8	-21.3	..
Italy				3 883	5.0	3.0	198 861	-4.0	-0.7	..
<i>number of companies for calculation</i>				17	15	-	17	17	-	-
1	Istituto Finanziario Industriale	15	Automobiles & parts (31)	1 763	0.1	0.7	53 509	-12.0	-5.5	73
2	Finmeccanica	20	Aerospace & defence (21)	1 227	24.1	15.3	7 497	8.3	6.4	..
3	ENI	69	Oil & gas (07)	238	36.0	0.6	51 487	7.4	2.4	..
4	Pirelli	77	Diversified industrials (24)	204	-6.9	-1.4	6 671	5.7	-3.7	65
5	Telecom Italia	99	Telecommunication services (67)	139	..	..	30 850	-1.8	0.8	..
6	SNIA	190	Health (44)	50	11.3	8.3	881	-7.9	-8.2	67
7	Enel	211	Electricity (72)	42	-58.0	-30.3	28 937	-3.5	5.6	..
8	e Biscom	228	Telecommunication services (67)	38	-32.1	12.8	529	64.8	138.5	..
9	Barilla	238	Food producers (43)	34	..	..	3 436	44.2	18.4	91
10	Recordati	245	Pharma & biotech (48)	33	-6.7	-3.9	488	-1.0	11.1	86
11	Zambon	247	Pharma & biotech (48)	32	1.6	..	459	4.8	..	..
12	Compagnie Industriali Riunite	346	Diversified industrials (24)	18	11.1	-6.1	2 839	10.0	4.4	96
13	Saipem	386	Oil & gas (07)	15	7.1	146.6	4 105	29.6	44.2	..
14	Edison	411	Utilities - other (73, 78)	13	-74.0	-46.3	5 426	-55.4	-26.5	..
15	SAES Getters	413	Electronic & electrical (25)	13	-6.0	6.6	126	-10.6	-9.9	18

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	10 812	-1.1	0.9	1.3	1.4	4.6	2.8	1.2	1.2	119	..
..	..	177	-47.5	-26.2	62.6	114.1	-115.0	-513.3	70.7	101.6	9	..
..	..	399	2.3	10.7	13.7	13.1	4.4	-1.1	30.9	29.5	170	..
..	..	908	31.6	47.5	6.8	7.9	9.5	8.3	13.4	12.5	268	..
..	..	8 170	-19.5	-7.4	0.9	1.0	7.1	-2.9	1.4	1.6	959	..
..	..	368	12.5	5.8	20.4	19.7	8.9	4.4	31.0	27.1	63	..
..	..	1 262	-0.9	1.5	12.0	11.8	8.4	7.7	9.0	8.4	176	..
..	..	679	1.5	4.0	6.1	5.7	22.5	21.5	16.7	15.1	547	..
..	..	6 977	-4.1	-1.1	0.8	0.8	6.7	5.5	1.6	1.6	461	..
0	0	34 719	-9.8	8.3	0.1	0.0	-5.2	6.2	0.3	0.0	2 581	..
..	..	737	-21.7	2.4	10.9	9.8	-17.7	-12.5	14.2	13.3	86	..
..	..	143	10.9	..	86.3	472.0	-63.6	-750.0	66.4	73.2	..	..
..	..	95	-18.1	0.0	60.0	115.2	-20.0	-147.1	94.7	168.9	118	..
..	..	1 221	-8.7	0.2	6.5	7.6	0.0	-11.9	7.3	8.6	33	..
23	17	777	-4.2	-1.0	6.2	6.9	13.2	13.9	11.5	12.8	270	..
..	..	..	..	..	1.3	1.4	15.0	19.1	..	2.7	5 179	..
-	-	-	-	-	2	2	2	2	-	2	2	-
..	..	..	..	..	8.4	8.1	8.0	15.0	..	9.3	429	..
..	..	17 710	-4.5	-6.4	0.2	0.1	16.0	19.9	0.6	0.3	4 750	..
..	..	..	..	..	6.4	6.1	16.9	15.4	..	..	1 721	..
-	-	-	-	-	2	2	2	2	-	-	2	-
..	..	..	..	..	6.5	6.8	22.2	18.3	..	..	1 460	..
..	..	4 696	..	..	6.1	5.0	7.5	10.7	4.0	..	261	..
..	..	30 216	-7.7	-0.4	6.1	7.8	-8.5	-29.7	12.0	15.8	10 417	..
-	-	4	4	-	4	4	4	4	4	4	4	-
..	..	2 688	-38.6	-7.1	33.4	23.9	-139.6	-180.7	75.0	57.7	6 289	356.7
..	..	18 869	1.4	12.1	2.4	2.1	7.0	5.5	4.7	4.2	3 040	29.1
..	..	8 306	-9.0	-14.1	3.1	9.2	6.9	2.4	6.0	16.9	1 011	..
..	..	353	-43.8	-20.0	36.7	32.1	-59.3	-298.0	61.4	50.1	77	..
..	..	584 341	-8.3	-5.0	2.0	2.0	9.3	1.0	6.6	6.7	156 731	..
-	-	17	16	-	17	15	17	17	17	14	14	-
12	13	192 550	-7.7	-7.3	3.3	2.9	-3.6	-7.3	9.2	8.4	633	-56.5
..	..	44 958	9.1	4.4	16.4	14.3	5.6	5.8	27.3	24.0	4 705	-5.6
..	..	76 521	-5.1	3.0	0.5	0.4	17.6	16.9	3.1	2.2	64 667	22.9
9	25	36 558	-3.1	-3.6	3.1	3.5	2.8	-6.3	5.6	5.8	2 699	-33.4
..	..	95 804	-10.5	-10.0	0.5	0.0	18.6	-8.2	1.5	0.0	34 219	..
19	14	5 369	-3.1	-12.4	5.7	4.7	-2.4	-7.4	9.4	8.1	48	..
..	..	67 203	-5.6	-4.0	0.1	0.3	13.7	2.6	0.6	1.4	38 286	10.4
..	..	1 470	..	50.9	7.3	17.6	-69.2	-99.7	26.1	..	..	..
6	3	13 481	61.9	16.7	1.0	0.0	2.9	5.2	2.5	0.0	..	..
4	11	2 159	2.7	6.6	6.7	7.1	9.2	17.6	15.2	16.7	790	..
..	..	2 423	-2.8	..	7.0	7.2	9.6	7.5	13.2	12.7	..	..
1	4	10 371	-7.8	-5.4	0.6	0.6	8.2	9.1	1.7	1.4	1 128	..
..	..	23 196	-2.9	33.4	0.4	0.4	10.7	9.4	0.6	0.6	3 323	..
..	..	4 513	-84.0	-47.4	0.2	0.4	8.3	-1.8	2.9	1.8	5 535	..
22	60	1 064	-2.7	-3.9	10.2	9.7	-4.0	6.4	12.0	12.5	87	..

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Italy continued										
16	Danieli	428	Engineering & machinery (26)	12	-25.0	-31.1	987	68.1	3.2	..
17	Brembo	435	Automobiles & parts (31)	11	25.4	..	634	12.0	..	75
Luxembourg				208	-11.7	..	1 486	-1.3	-7.2	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-
1	Ipsen	100	Pharma & biotech (48)	136	4.1	..	737	2.6	4.1	84
2	Gemplus International	152	Electronic & electrical (25)	72	-31.4	-9.7	749	-4.8	-14.7	..
Slovenia										
<i>number of companies for calculation</i>				..	..	..	..	..	..	..
1	Krka	255	Pharma & biotech (48)	31	13.4	..	408	9.4	13.0	..
Spain				534	-10.3	6.0	78 270	1.9	-1.8	..
<i>number of companies for calculation</i>				9	9	-	9	9	-	-
1	Amadeus Global Travel	96	Leisure & hotels (53)	145	15.5	38.1	1 929	3.9	7.2	67
2	Repsol YPF	102	Oil & gas (07)	134	2.3	11.5	36 069	1.4	-6.4	..
3	Telefonica	151	Telecommunication services (67)	73	-22.3	-11.5	28 400	1.4	-0.1	..
4	Zeltia	186	Pharma & biotech (48)	51	14.9	36.6	74	17.5	-1.7	..
5	Gamesa	217	Engineering & machinery (26)	41	21.6	3.5	1 572	44.1	29.4	..
6	Industria de Turbo Propulsores	226	Aerospace & defence (21)	39	2.6	..	405	4.4	..	..
7	Abengoa	329	Diversified industrials (24)	20	102.7	..	1 635	7.4	..	..
8	Union Electrica Fenosa	338	Electricity (72)	19	-81.2	-38.9	5 509	-4.3	11.4	..
9	AGBAR	415	Utilities - other (73, 78)	13	-39.2	..	2 677	4.7	7.9	..
Sweden				6 410	3.8	-2.7	133 687	-0.1	2.0	..
<i>number of companies for calculation</i>				44	44	-	44	44	-	-
1	Ericsson	6	IT hardware (93)	3 229	-0.1	-11.2	12 973	-19.2	-24.5	35
2	Volvo	30	Engineering & machinery (26)	865	4.2	17.2	20 195	-1.6	12.1	..
3	TeliaSonera	59	Telecommunication services (67)	280	117.9	17.6	9 082	38.6	15.1	..
4	Autoliv	68	Automobiles & parts (31)	242	32.9	16.0	4 203	19.3	8.8	..
5	Scania	70	Engineering & machinery (26)	237	4.2	9.9	5 613	7.0	-1.8	78
6	Sandvik	82	Engineering & machinery (26)	185	10.5	13.1	5 378	0.2	3.7	..
7	Electrolux	85	Household goods & textiles (34)	184	-8.3	8.3	13 671	-6.8	-0.1	48
8	Atlas Copco	106	Engineering & machinery (26)	128	-3.9	6.3	4 916	-6.2	-1.4	35
9	SAAB	127	Aerospace & defence (21)	89	-1.1	-2.1	1 901	4.3	-1.1	..
10	SKF	138	Engineering & machinery (26)	83	-2.2	1.8	4 559	-2.5	1.3	..
11	Gambro	153	Health (44)	71	19.9	6.3	2 879	-5.2	5.5	..
12	Svenska Cellulosa	157	Forestry & paper (15)	69	-29.2	-5.1	9 403	-3.1	8.3	82
13	Trelleborg	183	Automobiles & parts (31)	53	3.2	22.3	1 979	1.9	9.6	..
14	Vattenfall	184	Electricity (72)	53	-1.6	-5.9	12 333	16.6	52.3	100
15	Intenia International	189	Software & computer services (97)	51	-14.7	1.1	323	-18.4	-4.8	90
16	Assa Abloy	192	Engineering & machinery (26)	49	4.2	24.2	2 653	-5.2	18.7	..
17	Alfa Laval	219	Engineering & machinery (26)	41	3.6	-5.9	1 533	-4.7	-2.5	52
18	Micronic Laser Systems	243	IT hardware (93)	33	-5.4	16.1	47	-14.5	-15.5	1
19	Haldex	246	Automobiles & parts (31)	33	2.1	1.6	665	-5.9	-0.8	..
20	IBS	249	Software & computer services (97)	32	-7.6	5.5	265	-4.3	2.4	..
21	Active Biotech	253	Pharma & biotech (48)	31	1.0	-4.4	..	..	..	100
22	Industrial & Financial Systems	264	Support services (58)	30	17.5	9.8	257	-14.3	-0.3	74
23	Getinge	268	Health (44)	28	3.9	36.5	1 009	6.0	20.3	..
24	Nolato	276	Chemicals (11)	27	3.8	..	294	38.0	-6.9	82

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	2 806	-4.7	..	1.2	2.7	2.6	6.3	4.3	5.4	231	..
13	14	3 895	12.7	..	1.8	1.6	8.5	8.3	2.9	2.6	380	..
..	..	8 806	-5.2	-8.0	14.0	15.7	1.1	-8.0	23.6	25.4	..	..
-	-	2	2	-	2	2	2	2	2	2	-	-
4	12	3 769	4.3	3.1	18.5	18.2	21.2	17.7	36.2	36.2	..	..
..	..	5 037	-11.3	-13.8	9.6	13.3	-18.7	-31.4	14.3	18.5	966	42.1
..
-	-	-	-	-	-	-	-	-	-	-	-	-
..	..	4 424	-2.2	10.0	7.6	7.3	15.0	17.2	7.0	6.0	1 023	..
..	..	244 090	-9.9	-0.5	0.7	0.8	10.2	-0.5	2.2	2.2	92 473	..
-	-	9	9	-	9	9	9	9	9	9	8	-
9	23	5 130	25.5	17.3	7.5	6.8	15.6	15.2	28.3	30.7	3 012	-10.4
..	..	30 644	-6.0	-4.1	0.4	0.4	10.0	3.6	4.4	4.0	21 316	23.6
..	..	149 465	-5.1	0.8	0.3	0.3	10.8	-10.1	0.5	0.6	56 389	13.2
..	..	590	8.5	17.9	69.2	70.7	-32.4	0.0	86.8	81.9	1 016	..
..	..	6 164	24.7	19.7	2.6	3.1	15.0	17.6	6.6	6.8	2 707	..
..	..	2 203	0.1	..	9.6	9.8	6.9	4.1	17.6	17.2	..	..
..	..	8 826	4.7	..	1.2	0.7	5.4	4.6	2.3	1.2	621	..
..	..	21 269	-11.1	5.7	0.3	1.7	10.3	9.6	0.9	4.1	5 332	23.6
..	..	19 799	-45.8	..	0.5	0.8	6.2	1.1	0.6	0.6	2 080	..
..	..	659 725	-1.1	0.6	4.8	4.6	6.0	2.5	9.7	9.3	126 516	..
-	-	44	44	-	44	44	44	44	44	44	42	-
15	50	57 182	-22.1	-17.4	24.9	20.1	-9.2	-13.6	56.5	44.0	34 015	93.8
..	..	73 156	3.7	10.5	4.3	4.1	1.8	1.5	11.8	11.8	12 415	46.5
..	..	26 188	51.6	-4.8	3.1	2.0	16.7	-18.5	10.7	7.4	16 257	0.5
..	..	32 100	6.6	4.7	5.8	5.2	8.3	7.6	7.5	6.1	3 130	26.9
8	13	27 667	6.5	2.8	4.2	4.3	9.9	8.1	8.6	8.8	5 277	26.8
..	..	37 137	2.8	2.7	3.4	3.1	10.5	11.9	5.0	4.6	7 179	12.4
40	12	77 140	-5.9	-4.0	1.3	1.4	5.8	4.3	2.4	2.4	4 277	-22.5
42	22	25 707	-0.3	-0.9	2.6	2.5	11.8	-3.9	5.0	5.2	5 800	20.7
..	..	13 127	-2.4	-5.1	4.7	4.9	7.1	7.0	6.8	6.7	1 418	41.9
..	..	37 632	-2.5	-1.7	1.8	1.8	7.8	9.5	2.2	2.2	3 427	22.1
..	..	21 273	2.3	5.7	2.5	1.9	5.9	5.7	3.3	2.8	2 852	57.1
13	6	41 627	-4.0	3.4	0.7	1.0	8.8	10.2	1.7	2.3	6 903	5.9
..	..	15 855	6.5	8.5	2.7	2.7	6.8	4.5	3.4	3.5	1 055	..
0	0	35 296	3.1	39.1	0.4	0.5	13.7	15.6	1.5	1.6	4 926	..
0	11	3 103	-7.9	-2.8	15.7	15.0	-8.4	-3.0	16.3	17.6	140	89.2
..	..	28 708	-0.2	19.4	1.9	1.7	4.5	10.4	1.7	1.6	3 262	..
18	31	9 194	-1.1	-5.8	2.6	2.4	8.2	6.5	4.4	4.2	1 427	..
4	95	312	4.3	9.1	69.8	63.1	-44.7	-18.2	105.2	116.0	220	..
..	..	4 018	-0.1	-1.5	4.9	4.5	2.9	2.7	8.1	7.9	254	..
..	..	1 963	-9.5	-5.8	12.0	12.4	1.1	-7.2	16.2	15.9	76	..
0	0	179	-2.2	-19.0	..	..	..	..	174.7	169.2	134	..
20	6	2 846	-10.5	-6.5	11.5	8.4	-0.8	-25.7	10.4	7.9	78	..
..	..	6 060	10.4	15.7	2.8	2.9	13.7	12.2	4.7	5.0	1 724	..
2	16	2 353	18.1	-4.2	9.2	12.3	2.0	2.3	11.5	13.1	122	..

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Sweden continued										
25	Telelogic	295	Software & computer services (97)	23	-17.2	7.4	103	-16.9	2.0	..
26	Seco Tools	303	Engineering & machinery (26)	23	13.9	20.9	432	-2.9	1.1	..
27	Elekta	319	Health (44)	21	31.2	13.6	306	1.3	15.8	..
28	LGP ALLGON (now part of Powerwave Technologies, USA)	323	IT hardware (93)	20	115.8	42.2	233	53.3	17.7	..
29	Anoto	332	IT hardware (93)	19	-31.5	24.2	21	-12.5	32.6	25
30	Q-Med	358	Pharma & biotech (48)	17	3.3	39.6	67	17.5	37.1	..
31	Hexagon	377	Engineering & machinery (26)	15	26.2	74.0	783	1.6	11.7	80
32	Hoganas	382	Mining (04)	15	3.1	14.2	413	15.4	6.9	..
33	Cardo	388	Engineering & machinery (26)	15	-42.5	..	847	-25.9	-7.7	..
34	Axis	401	IT hardware (93)	14	5.4	-14.6	69	-6.8	-5.6	..
35	Biacore International	403	Health (44)	14	18.3	19.3	57	-16.2	5.9	..
36	Holmen	445	Forestry & paper (15)	11	9.9	..	1 743	-1.6	1.4	..
37	Eniro	446	Media & entertainment (54)	11	2.0	47.7	540	3.4	41.2	100
38	Swedish Match	447	Tobacco (49)	11	1.0	-1.6	1 436	-4.5	4.2	53
39	Skanditek	454	Electronic & electrical (25)	11	16.5	-6.7	57	1.8	-26.4	45
40	Biotage	466	Pharma & biotech (48)	10	-30.0	17.9	19	72.7	56.1	37
41	Boliden	472	Mining (04)	10	-6.3	-4.7	1 052	-0.1	4.7	93
42	Coop Norden	474	Food & drug retailers (63)	10	-13.8	..	8 736	2.5	..	100
43	Sydsvenska Kemi	476	Chemicals (11)	10	24.0	..	633	-4.2	..	60
44	Karo Bio	490	Pharma & biotech (48)	9	3 654.2	45.9	9	-55.0	-6.5	..
The Netherlands				6.936	-4.6	6.6	113 251	-4.2	-0.1	..
<i>number of companies for calculation</i>				<i>22</i>	<i>22</i>	<i>-</i>	<i>22</i>	<i>22</i>	<i>-</i>	<i>-</i>
1	Philips Electronics	10	Electronic & electrical (25)	2.617	-14.0	-1.8	29 037	-8.7	-8.5	..
2	EADS	13	Aerospace & defence (21)	2.193	4.6	26.7	30 133	0.8	15.8	46
3	AKZO Nobel	29	Chemicals (11)	892	-2.2	4.1	13 051	-6.8	-2.3	56
4	ASML	57	IT hardware (93)	287	-3.9	9.7	1 543	-21.2	-11.0	..
5	DSM	62	Chemicals (11)	268	-1.1	0.5	6 050	-9.2	-9.2	54
6	Oce	76	IT hardware (93)	208	-2.1	3.1	2 769	-12.8	-4.9	..
7	ASM International	143	IT hardware (93)	79	-10.5	2.3	582	12.1	-14.6	11
8	Stork	150	Engineering & machinery (26)	74	131.3	7.4	1 946	-6.4	-8.9	..
9	Draka	205	Electronic & electrical (25)	44	-3.0	..	1 420	-5.3	-6.4	73
10	CSM	221	Food producers (43)	40	14.3	..	3 517	2.9	8.9	62
11	Campina	279	Food producers (43)	27	10.8	3.5	3 655	-1.4	-2.1	90
12	Nutreco	290	Food producers (43)	24	12.1	10.2	3 674	-3.6	5.5	..
13	Qiagen	294	Pharma & biotech (48)	23	8.0	12.1	279	17.7	19.9	..
14	KPN	296	Telecommunication services (67)	23	-28.1	-26.1	11 870	0.7	4.0	..
15	Unit 4 Agresso	306	Software & computer services (97)	22	-3.1	19.9	219	1.9	21.9	..
16	Euronext	308	Speciality & other finance (87)	21	20.6	50.5	975	0.3	26.0	..
17	Crucell	328	Pharma & biotech (48)	20	-9.3	47.0	5	-28.6	-10.6	..
18	Hunter Douglas	356	Household goods & textiles (34)	17	-19.1	..	1 655	-2.2	-0.8	..
19	Delft Instruments	359	Engineering & machinery (26)	17	-1.8	-14.8	237	22.2	10.6	..
20	Exact	371	Software & computer services (97)	16	-15.6	..	206	-3.7	7.9	..
21	BE Semiconductor Industries	407	IT hardware (93)	13	6.3	5.0	86	3.6	-24.3	..
22	Head	452	Household goods & textiles (34)	11	23.6	14.3	342	11.4	2.7	..
UK				17.062	0.8	1.4	789 902	8.6	6.2	..
<i>number of companies for calculation</i>				<i>149</i>	<i>149</i>	<i>-</i>	<i>149</i>	<i>149</i>	<i>-</i>	<i>-</i>
1	GlaxoSmithKline	5	Pharma & biotech (48)	3.961	-4.9	3.4	30 429	1.1	5.9	31
2	AstraZeneca	8	Pharma & biotech (48)	2.736	12.4	6.1	14 944	5.7	1.4	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	682	-24.9	-6.5	22.7	22.8	1.0	-5.6	34.3	31.2	300	..
..	..	3 936	0.0	-0.9	5.2	4.5	17.4	17.1	5.7	5.0	586	..
..	..	1 011	9.7	8.4	6.8	5.3	12.1	7.9	20.6	17.2	553	..
..	..	1 298	54.0	19.3	8.7	6.2	-5.2	2.0	15.6	11.1	262	..
6	69	182	-41.3	19.4	91.4	116.8	-181.0	-195.8	105.4	90.4	152	..
..	..	419	23.6	38.4	25.1	28.6	-3.0	1.8	40.2	48.1	105	..
12	8	5 401	-0.5	9.8	2.0	1.6	5.7	5.6	2.9	2.3	467	..
..	..	1 649	15.6	6.3	3.7	4.1	14.5	15.6	9.2	10.3	619	..
..	..	6 203	-21.0	-8.6	1.7	2.2	5.8	5.9	2.4	3.3	599	..
..	..	356	6.6	-13.0	19.8	17.6	0.0	5.4	38.5	38.9	100	..
..	..	336	5.3	16.6	23.9	16.9	7.0	17.6	40.5	36.1	109	..
..	..	4 927	-2.9	-2.3	0.6	0.6	14.7	16.9	2.2	2.0	1 947	..
0	0	4 595	10.2	29.0	2.0	2.1	13.3	-6.9	2.4	2.6	1 025	..
32	15	15 115	2.2	3.4	0.8	0.7	17.1	17.4	0.7	0.7	2 726	..
39	16	342	-7.1	-16.2	18.8	16.4	-3.5	-48.2	31.4	25.0	137	..
54	9	166	9.9	38.1	52.9	130.5	-152.6	-172.7	60.5	95.1	54	..
6	1	3 896	0.8	..	0.9	1.0	3.9	4.4	2.5	2.7	383	..
0	0	27 087	-3.8	..	0.1	0.1	0.2	0.1	0.4	0.4	..	..
17	22	2 184	3.1	..	1.5	1.2	5.8	9.2	4.4	3.7	..	..
..	..	117	-12.0	0.6	100.1	1.2	-266.7	-165.0	77.0	1.8	24	..
..	..	491 043	-4.4	-4.4	6.1	6.2	5.6	-6.3	14.1	14.1	85 566	..
-	-	21	21	-	22	22	22	22	21	21	20	-
..	..	147 427	-11.5	-13.9	9.0	9.6	3.4	-8.7	17.8	18.3	25 252	7.1
27	27	109 135	5.0	7.1	7.3	7.0	1.2	0.3	20.1	20.2	17 611	76.1
23	22	66 400	-0.9	-0.9	6.8	6.5	8.0	9.3	13.4	13.6	7 475	0.4
..	..	5 323	-5.6	6.7	18.6	15.2	-13.9	-14.2	53.9	52.9	5 469	2.3
22	24	20 516	5.2	-1.6	4.4	4.1	1.8	5.7	13.1	13.9	4 011	-1.1
..	..	22 346	-0.6	0.5	7.5	6.7	4.5	7.1	9.3	9.5	1 041	18.7
22	67	6 998	14.6	2.5	13.6	17.0	2.4	-1.2	11.3	14.5	656	-12.4
..	..	14 476	-12.1	-9.0	3.8	1.5	4.5	-2.8	5.1	1.9	560	..
12	15	7 631	-9.5	-1.5	3.1	3.0	3.0	-0.7	5.7	5.3	370	..
33	4	13 715	6.0	9.2	1.1	1.0	6.9	7.9	2.9	2.7	1 478	..
3	7	6 940	1.0	-3.1	0.7	0.6	0.9	0.9	3.8	3.5	..	..
..	..	13 183	-0.4	11.1	0.7	0.6	-2.6	3.3	1.8	1.6	817	..
..	..	1 600	-3.1	..	8.4	9.2	20.1	14.3	14.7	13.1	1 142	..
..	..	31 267	-22.2	-9.0	0.2	0.3	26.6	-61.2	0.7	0.8	14 445	..
..	..	1 410	4.2	17.6	9.9	10.4	8.7	5.6	15.4	16.6	262	..
..	..	2 726	0.1	11.2	2.2	1.8	19.3	18.5	7.9	6.5	2 512	..
..	..	182	-0.5	18.3	401.2	316.0	-580.0	-842.9	110.2	120.9	218	..
..	..	15 913	8.2	2.8	1.0	1.2	10.9	11.3	1.1	1.4	1 520	..
..	..	1 136	15.4	6.3	7.1	8.8	8.0	9.3	14.8	17.4	..	..
..	..	2 025	-1.4	2.3	7.7	8.8	20.4	18.2	7.9	9.2	496	..
..	..	694	3.1	-5.9	15.4	15.0	-23.3	-21.7	19.1	18.5	137	..
..	..	..	..	..	3.2	2.8	0.0	4.2	..	..	94	..
..	..	2 331 346	-4.1	-3.6	2.2	2.3	9.1	4.0	7.3	7.0	960 532	4.7
-	-	149	148	-	149	149	149	149	149	148	126	122
48	21	103 166	-2.8	-1.6	13.0	13.8	30.2	26.5	38.4	39.2	93 633	-9.4
..	..	60 400	5.0	2.0	18.3	17.2	21.8	22.5	45.3	42.3	58 407	-3.6

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
UK continued										
3	BAE Systems	18	Aerospace & defence (21)	1.560	22.2	3.6	11 903	3.9	-4.6	35
4	Unilever	24	Food producers (43)	1.065	-8.7	-3.6	42 693	-11.6	-3.6	43
5	BT	42	Telecommunication services (67)	474	-12.1	-2.8	26 282	-1.1	-3.2	..
6	Shell	44	Oil & gas (07)	463	23.7	14.5	159 931	12.4	10.6	36
7	Rolls-Royce	49	Aerospace & defence (21)	399	-5.4	-8.8	8 011	-2.5	-1.3	34
8	Marconi	60	IT hardware (93)	280	-39.8	-33.5	2 211	-22.2	-38.4	..
9	BP	61	Oil & gas (07)	277	-6.4	-7.0	184 383	30.1	16.2	..
10	Amersham <i>(now part of General Electric, USA)</i>	63	Health (44)	258	-1.2	6.9	2 228	2.1	7.0	..
11	Reuters	66	Media & entertainment (54)	243	-14.5	-19.1	4 537	-10.6	-3.8	..
12	Vodafone	67	Telecommunication services (67)	243	4.3	33.4	47 627	10.5	30.8	70
13	Invensys	71	Electronic & electrical (25)	234	-25.7	-16.5	5 522	-22.5	-20.9	..
14	ICI	73	Chemicals (11)	221	5.4	-3.9	8 301	-4.5	-8.9	..
15	Smiths	83	Aerospace & defence (21)	184	11.3	27.0	4 337	-5.2	27.8	..
16	Shire Pharmaceuticals	87	Pharma & biotech (48)	182	7.6	39.3	1 080	6.8	30.3	..
17	Celltech <i>(now part of UCB, Belgium)</i>	94	Pharma & biotech (48)	151	10.9	12.4	501	7.1	14.5	..
18	Phoenix Venture	105	Automobiles & parts (31)	128	98.9	..	2 470	2.5	..	..
19	Misys	108	Software & computer services (97)	126	-2.2	3.3	1 277	-11.2	1.6	..
20	GKN	112	Automobiles & parts (31)	115	-1.2	-2.7	4 732	0.9	-6.8	..
21	Merial	113	Pharma & biotech (48)	106	2.1	-1.9	1 368	4.0	0.9	33
22	BAT	116	Tobacco (49)	104	17.7	7.4	15 001	-0.3	-3.1	..
23	Smith & Nephew	120	Health (44)	95	5.5	12.9	1 673	6.2	1.3	..
24	Amdocs	121	Software & computer services (97)	95	-3.9	16.8	1 176	-8.1	9.9	30
25	Spirent	123	IT hardware (93)	94	-15.1	3.1	662	-16.5	-12.5	32
26	GUS	125	General retailers (52)	92	-4.4	-9.0	10 712	5.6	7.7	84
27	Corus	132	Steel & other metals (18)	88	-4.6	-9.9	11 287	10.6	-5.3	79
28	British Nuclear Fuels	136	Electricity (72)	84	-11.9	2.4	3 295	4.6	2.7	..
29	Tomkins	137	Engineering & machinery (26)	83	13.9	33.9	4 471	0.1	-8.5	..
30	Sage	139	Software & computer services (97)	82	0.3	14.3	795	1.5	10.8	54
31	Avecia	140	Chemicals (11)	82	-1.9	1.5	689	-15.7	-15.0	..
32	LogicaCMG	141	Software & computer services (97)	82	-10.2	12.7	2 422	-3.3	14.6	..
33	Reckitt Benckiser	142	Personal care & household (47)	81	5.5	7.4	5 269	5.1	5.1	..
34	Johnson Matthey	147	Chemicals (11)	77	12.6	11.0	6 376	3.9	-8.7	45
35	Cadbury Schweppes	149	Food producers (43)	75	65.6	28.5	9 141	21.6	12.1	..
36	ARM	160	IT hardware (93)	68	-3.7	20.5	182	-15.0	8.4	18
37	Cambridge Antibody	165	Pharma & biotech (48)	64	43.7	42.0	12	-7.7	-5.0	..
38	Cobham	176	Aerospace & defence (21)	57	27.8	23.2	1 182	13.3	13.6	41
39	BOC	177	Chemicals (11)	57	-15.1	-12.3	5 277	1.7	1.3	..
40	Bookham Technology	188	IT hardware (93)	51	-10.1	27.2	127	159.2	50.8	26
41	Spectris	193	Electronic & electrical (25)	48	15.2	9.8	806	15.8	6.9	46
42	Symbian	199	Software & computer services (97)	47	3.6	23.7	42	68.0	56.3	..
43	Eidos	201	Software & computer services (97)	46	-16.1	-11.6	215	47.3	-8.0	..
44	Cookson	202	Engineering & machinery (26)	46	-2.1	-7.7	2 328	-5.1	-12.9	..
45	Vernalis	203	Pharma & biotech (48)	44	33.3	12.2	18	38.5	108.0	66
46	Novar	210	Construction & building (13)	42	15.4	3.2	2 030	-1.2	-6.4	35
47	Pilkington	214	Construction & building (13)	41	-3.3	0.0	3 463	1.1	-0.9	62
48	Filtronc	220	IT hardware (93)	40	-11.8	2.4	342	-14.1	2.8	60
49	IMI	223	Engineering & machinery (26)	40	0.0	12.8	2 232	-2.4	-0.9	..
50	Pace Micro Technology	227	Household goods & textiles (34)	38	-26.5	6.7	236	-52.7	-23.9	88
51	Aegis	229	Media & entertainment (54)	37	5.3	4.8	921	9.6	11.1	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
35	30	68 900	-0.7	-6.7	13.1	11.1	5.1	-5.6	22.6	18.4	9 797	44.7
23	34	240 000	-7.0	-2.8	2.5	2.4	12.0	9.9	4.4	4.5	47 503	-5.3
..	..	103 100	-4.0	-8.2	1.8	2.0	15.2	15.4	4.6	5.0	22 967	-9.6
38	27	119 000	7.2	7.8	0.3	0.3	11.3	9.9	3.9	3.4	112 124	-17.5
39	27	36 100	-7.9	-8.2	5.0	5.1	4.4	3.4	11.1	10.8	5 583	70.2
..	..	15 000	-28.6	-33.9	12.6	16.3	-16.4	-55.2	18.6	22.1	1 778	75.2
..	..	108 150	-7.0	3.3	0.2	0.2	7.0	5.9	2.6	2.5	159 534	21.8
..	..	10 312	2.6	5.6	11.6	12.0	13.1	17.7	25.1	26.0	..	..
..	..	17 134	-6.5	0.4	5.3	5.6	2.5	-12.2	14.2	15.5	6 621	41.6
0	30	60 109	-9.8	4.1	0.5	0.5	-13.3	-19.9	4.0	3.5	112 930	-1.7
..	..	43 602	-31.2	-22.5	4.2	4.4	-6.0	-10.5	5.4	5.0	1 291	-2.8
..	..	36 210	-4.8	-7.6	2.7	2.4	2.4	6.8	6.1	5.5	3 838	71.7
..	..	31 410	-3.4	26.5	4.2	3.6	12.4	11.4	5.9	5.1	5 814	-0.3
..	..	1 905	5.5	25.3	16.9	16.8	-40.1	-75.1	95.6	93.8	3 302	4.0
..	..	1 939	-4.8	2.5	30.1	29.0	-20.0	-13.5	77.7	66.7	..	..
..	..	6 600	-1.4	..	5.2	2.7	-5.0	-7.1	19.5	9.6	..	..
..	..	6 443	-2.3	2.9	9.8	8.9	2.7	7.0	19.5	19.5	1 384	-34.5
..	..	35 484	-1.6	-6.2	2.4	2.5	5.2	6.9	3.2	3.2	2 397	-4.0
43	25	6 368	2.9	-0.2	7.7	7.9	12.9	15.5	16.6	16.8	..	..
..	..	60 915	0.1	-11.1	0.7	0.6	17.5	21.7	1.7	1.4	25 682	28.3
..	..	7 451	-0.7	-10.6	5.7	5.7	17.3	15.6	12.7	12.0	7 366	53.9
62	8	10 200	8.5	6.7	8.0	7.7	14.2	3.1	9.3	10.5	3 717	-4.7
49	19	4 498	-13.2	-13.5	14.2	13.9	5.0	-177.7	20.8	21.3	745	82.2
11	5	76 263	2.4	3.0	0.9	1.0	9.1	6.7	1.2	1.3	12 432	17.5
10	11	50 300	-2.5	-8.1	0.8	0.9	-2.6	-5.9	1.8	1.8	2 863	162.9
..	..	23 149	0.8	1.3	2.5	3.0	-12.3	-43.5	3.6	4.1	..	..
..	..	39 328	-0.7	-9.3	1.9	1.6	7.1	6.5	2.1	1.8	2 765	-1.1
44	0	5 805	3.0	7.7	10.4	10.5	27.9	25.0	14.2	14.6	3 139	-3.5
..	..	3 101	-9.9	-14.2	11.9	10.2	-16.4	-2.6	26.4	24.3	..	..
..	..	21 131	-10.4	28.0	3.4	3.6	-1.2	-49.9	3.9	3.9	1 751	2.3
..	..	20 400	-8.5	2.6	1.5	1.5	18.3	15.8	4.0	3.4	15 817	28.4
25	30	7 439	0.9	5.0	1.2	1.1	4.2	4.3	10.4	9.3	2 837	2.5
..	..	55 799	31.9	15.2	0.8	0.6	11.4	17.1	1.3	1.1	13 224	24.9
51	31	730	-2.5	11.6	37.5	33.2	14.3	27.1	93.6	94.7	1 528	31.6
..	..	296	8.0	22.5	532.0	341.8	-541.7	-415.4	215.7	162.2	288	34.6
35	23	8 990	13.6	8.9	4.9	4.3	15.4	14.7	6.4	5.7	2 177	26.1
..	..	45 462	0.5	2.4	1.1	1.3	11.3	10.4	1.2	1.5	6 673	10.4
63	11	1 784	69.7	42.6	39.9	115.2	-97.6	-308.2	28.4	53.7	241	9.5
27	27	5 696	1.7	8.5	6.0	6.0	8.3	8.9	8.5	7.5	724	-2.0
..	..	653	1.2	24.4	111.9	181.4	-135.7	-244.0	71.9	70.3	..	..
..	..	536	-0.6	-2.8	21.5	37.8	8.8	-30.1	86.3	102.3	194	-21.1
..	..	16 472	-5.6	-8.0	2.0	1.9	0.4	-0.7	2.8	2.7	948	48.8
34	0	211	..	5.1	246.6	256.2	-388.9	-384.6	210.4	..	155	158.3
62	3	13 472	-3.6	-7.2	2.1	1.8	-1.7	5.4	3.2	2.6	900	-8.6
23	13	24 700	-3.5	-3.6	1.2	1.2	8.2	7.7	1.7	1.7	1 737	24.2
20	20	2 893	-7.9	-0.1	11.8	11.5	2.9	-4.5	13.9	14.5	186	51.2
..	..	16 795	-4.3	-4.3	1.8	1.7	8.2	4.2	2.4	2.3	1 814	11.4
6	6	762	-30.5	-11.7	16.3	10.5	-29.7	-7.8	50.4	47.7	192	34.3
..	..	8 436	14.1	15.9	4.0	4.1	8.1	6.9	4.3	4.7	1 323	-4.2

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
UK continued										
52	SkyePharma	234	Pharma & biotech (48)	36	66.4	24.1	75	-24.2	30.2	74
53	TTP Communications	248	IT hardware (93)	32	4.8	7.4	70	0.0	11.1	11
54	BHP Billiton	250	Mining (04)	32	0.0	..	12 374	-12.2	46.2	33
55	lastminute.com	254	General retailers (52)	31	82.2	-2.1	267	434.0	222.0	100
56	Anglo American	256	Mining (04)	31	34.5	4.7	14 776	23.1	7.9	52
57	Dialog Semiconductor	258	IT hardware (93)	31	-2.4	15.7	93	34.8	-20.5	..
58	Boots	259	General retailers (52)	30	-17.1	-5.8	7 557	-0.0	0.7	..
59	De La Rue	260	Support services (58)	30	-17.1	10.2	969	17.2	9.2	..
60	BBC	263	Media & entertainment (54)	30	22.9	5.9	5 259	4.9	5.4	..
61	Meggitt	269	Aerospace & defence (21)	28	-13.1	-4.5	571	-0.4	1.4	38
62	Acambis	270	Pharma & biotech (48)	28	22.1	16.1	240	112.4	198.8	8
63	BTG	275	Support services (58)	27	23.2	73.8	69	53.3	9.2	42
64	Kidde	280	Engineering & machinery (26)	27	1.6	-30.3	1 331	6.7	-25.0	39
65	Henlys	283	Engineering & machinery (26)	26	12.5	30.2	445	-34.4	-22.7	0
66	Merant <i>(now part of Serena Software, USA)</i>	286	Software & computer services (97)	25	-24.7	-17.9	112	-33.3	-29.7	..
67	Dunlop Standard Aerospace	287	Aerospace & defence (21)	25	20.2	53.1	648	1.1	5.9	23
68	JCB Service	288	Engineering & machinery (26)	24	-11.2	-10.1	1 159	5.7	0.4	..
69	Tate & Lyle	289	Food producers (43)	24	-5.6	9.4	4 079	0.9	-9.1	..
70	Imagination Technologies	298	IT hardware (93)	23	24.8	26.3	44	57.1	19.2	69
71	Galen <i>(now Warner Chilcott)</i>	299	Pharma & biotech (48)	23	15.1	25.9	343	19.9	41.1	..
72	Rexam	301	Support services (58)	23	-20.0	-13.8	4 417	0.8	4.5	..
73	Morgan Crucible	305	Engineering & machinery (26)	22	-21.5	-2.4	1 206	-3.4	-6.8	..
74	Xenova	309	Pharma & biotech (48)	21	-14.6	26.6	11	-35.3	..	10
75	Diageo	311	Beverages (41)	21	-46.4	-39.9	13 397	-16.3	-7.4	43
76	Aviagen	315	Food producers (43)	21	-13.1	26.4	225	4.2	26.9	19
77	NSB	318	Software & computer services (97)	21	-15.1	19.9	91	-12.5	16.2	36
78	Renishaw	325	Electronic & electrical (25)	20	2.3	15.4	157	6.1	1.5	37
79	Charter	326	Engineering & machinery (26)	20	3.7	23.1	1 236	-3.3	-2.3	..
80	International Power	330	Electricity (72)	20	..	-9.1	1 209	18.8	-30.3	..
81	British Energy	331	Electricity (72)	20	-6.7	-6.3	2 152	-20.3	-10.6	100
82	Ureco	334	Support services (58)	19	22.1	13.6	632	15.3	14.4	..
83	Enodis	336	Engineering & machinery (26)	19	-1.5	-1.0	964	-13.3	-16.8	21
84	Antisoma	337	Pharma & biotech (48)	19	9.5	26.3	17	466.7	104.1	90
85	Axis-Shield	343	Pharma & biotech (48)	18	30.1	33.6	71	6.0	12.4	76
86	Rio Tinto	344	Mining (04)	18	-8.0	-16.1	7 316	9.3	5.4	24
87	ISOFT	345	Software & computer services (97)	18	60.7	64.9	212	63.1	68.9	90
88	GW Pharmaceuticals	347	Pharma & biotech (48)	18	18.0	84.8	7	..	..	..
89	Ultra Electronics	348	Aerospace & defence (21)	18	18.5	9.9	404	9.5	7.9	56
90	Oxford Instruments	349	Electronic & electrical (25)	18	-4.2	3.1	266	-12.2	5.3	33
91	Psion	350	IT hardware (93)	18	0.1	-8.1	183	-6.6	-16.3	..
92	London Bridge Software <i>(now part of Fair Isaac, USA)</i>	351	Software & computer services (97)	18	-6.8	7.5	83	-5.7	1.2	..
93	ARC International	354	IT hardware (93)	18	-4.7	10.2	15	-11.8	0.0	24
94	Dyson Technology	360	Household goods & textiles (34)	17	48.1	..	333	-1.2	6.2	92
95	RM	361	Software & computer services (97)	17	-15.2	16.8	306	6.6	1.2	99
96	SSL International	363	Health (44)	16	-12.3	7.0	855	-3.4	-2.4	..
97	Alizyme	364	Pharma & biotech (48)	16	17.6	29.9	2	..	..	100
98	Yule Catto	366	Chemicals (11)	16	-8.1	1.3	766	5.7	4.7	..
99	Halma	370	Engineering & machinery (26)	16	16.8	12.0	415	9.5	3.0	..
100	FKI	372	Engineering & machinery (26)	16	43.6	11.9	1 909	-7.4	-8.3	35

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
19	7	476	-3.3	8.5	47.4	21.6	-74.7	7.1	74.7	43.5	494	-12.7
21	69	492	21.8	37.3	45.5	43.5	-7.1	10.0	64.8	75.3	180	-21.1
9	58	34 801	-30.7	5.3	0.3	0.2	20.5	17.1	0.9	0.6	17 548	..
0	0	1 224	64.1	58.6	11.7	34.2	-25.5	-112.0	25.5	22.9	626	-28.7
9	39	193 000	9.0	-8.1	0.2	0.2	13.5	20.4	0.2	0.1	31 195	39.7
..	..	273	-3.9	6.0	32.9	45.4	-31.2	-26.1	112.1	110.3	126	106.6
..	..	68 910	-8.6	-6.2	0.4	0.5	10.3	9.6	0.4	0.5	7 353	-4.5
..	..	6 841	0.8	3.3	3.1	4.4	3.4	-0.8	4.4	5.4	847	23.1
..	..	27 632	1.8	4.6	0.6	0.5	-10.4	-11.4	1.1	0.9	..	..
52	10	3 482	-6.4	-6.5	5.0	5.7	15.8	8.4	8.1	8.8	918	0.9
92	0	310	28.1	43.0	11.8	20.5	22.1	12.4	91.1	95.6	514	2.6
54	3	162	-17.8	-5.0	39.3	48.9	-56.5	-124.4	167.4	111.7	221	-9.4
44	17	7 758	6.7	-7.0	2.0	2.1	11.7	10.6	3.4	3.6	1 421	36.6
100	0	2 864	-3.4	-17.2	5.8	3.4	-7.9	1.6	9.0	7.8	..	..
..	..	604	-36.7	-32.7	22.5	19.9	-17.9	-57.7	41.8	35.1	..	..
68	10	3 962	-0.1	0.6	3.8	3.2	12.8	14.5	6.2	5.1	..	..
..	..	4 146	3.9	2.5	2.1	2.5	2.2	2.3	5.9	6.9	..	..
..	..	6 646	-5.3	-27.5	0.6	0.6	8.8	7.0	3.6	3.6	2 248	-3.6
6	25	273	16.2	17.8	51.9	65.4	-13.6	-28.6	83.7	77.9	166	16.1
..	..	1 045	-33.9	-4.5	6.6	6.9	28.6	21.3	21.8	12.5	1 612	-1.8
..	..	21 800	5.8	-2.9	0.5	0.6	6.9	8.2	1.0	1.4	3 494	26.6
..	..	14 018	-5.7	-4.6	1.8	2.3	-3.8	-3.5	1.6	1.9	539	59.0
90	0	105	-27.6	22.6	194.5	147.4	-218.2	-129.4	203.7	172.8	57	83.9
33	24	38 955	-37.3	-18.7	0.2	0.2	23.8	16.6	0.5	0.6	29 566	6.2
47	34	1 494	-0.9	-5.7	9.4	11.2	16.9	15.3	14.1	16.1	..	..
64	0	957	-16.6	30.5	22.9	23.6	-44.0	-266.3	21.8	21.4	126	133.3
27	36	1 575	-0.7	6.9	12.9	13.4	14.0	12.8	12.8	12.5	562	9.1
..	..	9 705	-7.3	-3.5	1.6	1.5	3.2	2.0	2.1	1.9	332	260.9
..	..	2 416	13.7	-21.3	1.6	0.0	-13.6	34.9	8.2	0.0	2 306	..
0	0	5 165	-34.6	-0.9	0.9	0.8	23.9	-178.2	3.8	2.7	196	460.0
..	..	1 795	2.3	3.0	3.0	2.8	27.2	24.1	10.5	8.8	..	..
73	5	6 073	-12.9	-19.0	1.9	1.7	5.1	-2.3	3.1	2.7	518	78.6
10	0	45	15.4	17.1	108.8	563.0	-47.1	-633.3	411.1	433.1	53	-57.9
15	9	455	4.1	2.9	25.7	21.0	-19.7	-6.0	40.2	32.2	122	-5.4
29	47	29 040	-18.9	0.9	0.3	0.3	24.0	18.1	0.6	0.6	32 044	8.7
0	10	1 338	130.7	74.5	8.5	8.6	13.7	23.1	13.5	19.3	1 182	100.7
..	..	118	15.7	103.5	257.0	..	-214.3	..	152.5	149.5	187	-35.1
35	9	2 505	4.6	2.8	4.5	4.1	11.4	11.4	7.2	6.3	585	20.1
42	25	1 674	-5.6	1.1	6.8	6.2	2.6	4.6	10.7	10.6	131	7.4
..	..	955	-9.4	-2.6	9.8	9.2	-16.9	-22.4	18.8	17.0	360	-14.1
..	..	737	-6.9	12.3	21.5	21.8	1.2	-83.0	24.2	24.2	..	..
66	10	199	-5.2	3.6	117.7	108.9	-266.7	-217.6	88.7	88.2	51	-42.1
1	8	1 673	-14.2	5.0	5.0	3.4	7.8	6.8	10.0	5.8	..	..
0	1	1 545	-2.8	-0.6	5.4	6.8	2.3	-3.5	10.8	12.4	153	8.5
..	..	6 436	-7.1	-6.5	1.9	2.1	5.6	9.7	2.5	2.7	799	-8.8
0	0	15	-6.3	7.7	809.0	..	-800.0	..	1 078.7	860.0	322	232.0
..	..	3 519	2.2	-2.7	2.1	2.4	10.7	10.1	4.6	5.1	579	-23.6
..	..	2 925	4.7	-1.5	3.8	3.6	15.7	16.1	5.5	4.9	782	10.0
52	12	14 122	-7.4	-6.4	0.8	0.5	2.6	4.0	1.1	0.7	999	26.5

II.1.2. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within Member States

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
UK continued										
101	Wagon	373	Automobiles & parts (31)	16	-22.9	10.2	691	9.9	-0.3	..
102	Systems Union	374	Software & computer services (97)	16	3.6	-4.4	111	4.7	13.5	..
103	ML Laboratories	375	Pharma & biotech (48)	16	0.7	5.6	9	-52.6	-19.1	68
104	Oxford Biomedica	379	Pharma & biotech (48)	15	-0.5	28.9	1	..	0.0	8
105	Microscience	389	Pharma & biotech (48)	15	-5.3	44.0	..	..	..	..
106	Anite	390	Software & computer services (97)	15	64.5	69.2	307	7.0	10.8	91
107	Intec Telecom Systems	392	Software & computer services (97)	14	25.5	71.0	72	7.5	35.4	38
108	Balfour Beatty	394	Construction & building (13)	14	-16.7	7.7	4 486	2.0	10.5	..
109	mm02	395	Telecommunication services (67)	14	11.1	..	8 081	16.8	..	..
110	National Grid Transco	396	Utilities - other (73, 78)	14	-44.5	7.3	12 820	-3.9	33.5	52
111	PPL Therapeutics	399	Pharma & biotech (48)	14	-13.4	-9.9	..	..	..	43
112	Empire Interactive	402	Software & computer services (97)	14	-11.2	31.9	43	19.4	42.1	54
113	AMS	404	Aerospace & defence (21)	13	-7.2	14.7	698	14.8	4.7	..
114	BBA	405	Transport (59)	13	-7.9	-20.9	1 888	-3.7	-5.2	25
115	Cambridge Silicon Radio <i>(now CSR)</i>	409	Electronic & electrical (25)	13	31.6	-0.0	54	145.5	138.1	2
116	Lucite International	414	Chemicals (11)	13	-10.0	-9.2	985	19.3	0.8	..
117	Vitec	420	Engineering & machinery (26)	13	11.4	5.5	274	5.8	-1.2	..
118	Telemetry <i>(now Zetex)</i>	421	IT hardware (93)	12	17.1	4.5	130	5.7	-3.6	54
119	TT Electronics	424	Electronic & electrical (25)	12	6.2	..	758	2.7	-10.5	69
120	Domino Printing Sciences	427	Electronic & electrical (25)	12	2.8	1.0	233	1.7	3.0	..
121	Plasmon	429	IT hardware (93)	12	-16.7	-0.6	71	-16.5	-10.2	31
122	Autonomy	433	Software & computer services (97)	12	34.8	25.3	47	-2.1	-9.3	..
123	Roxboro	436	Electronic & electrical (25)	11	-15.1	-0.7	194	-12.2	-7.4	..
124	Genus	437	Support services (58)	11	-6.6	28.3	245	7.5	8.8	72
125	First Technology	442	Electronic & electrical (25)	11	-2.5	14.3	181	-6.7	2.9	41
126	BG	443	Oil & gas (07)	11	-27.3	-38.3	5 091	37.4	-9.1	..
127	Pharmagene	444	Pharma & biotech (48)	11	-7.8	42.6	7	75.0	91.3	21
128	Sygen International	448	Food producers (43)	11	11.6	12.6	188	-19.7	-1.9	..
129	Photo-Me	450	Media & entertainment (54)	11	54.7	17.5	312	17.3	1.8	..
130	Northgate Information Solutions	451	Software & computer services (97)	11	10.7	0.6	194	60.3	8.5	98
131	Channel Four Television	456	Media & entertainment (54)	11	5.6	2.3	1 092	0.9	2.4	..
132	Staffware <i>(now part of Tibco Software, USA)</i>	457	Software & computer services (97)	11	5.7	5.8	61	10.9	4.1	..
133	Mayflower	462	Automobiles & parts (31)	10	180.8	..	884	-3.8	-3.9	59
134	DICOM	463	Software & computer services (97)	10	-2.1	44.5	222	4.7	16.3	78
135	Phytopharm	464	Pharma & biotech (48)	10	20.4	28.6	3	-25.0	0.0	0
136	Medisys	465	Health (44)	10	-51.6	4.6	56	9.8	62.7	..
137	Vectura	467	Pharma & biotech (48)	10	163.2	89.5	5	0.0	35.7	99
138	AVEVA	475	Software & computer services (97)	10	15.6	1.9	54	5.9	10.5	..
139	Royalblue	477	Software & computer services (97)	10	12.8	3.9	80	-1.2	-0.4	47
140	Croda International	478	Chemicals (11)	10	11.4	-1.9	431	-3.1	-6.0	..
141	AEA Technology	479	Support services (58)	10	-52.1	-22.7	357	-7.3	-12.4	73
142	Games Workshop	483	Household goods & textiles (34)	9	6.1	31.0	215	17.5	18.0	..
143	Innovation	485	Software & computer services (97)	9	-18.6	..	83	-41.6	81.0	..
144	Baxi	486	General retailers (52)	9	-5.4	..	933	-2.3	..	..
145	Gyrus	487	Health (44)	9	-18.1	-23.2	111	4.7	13.5	25
146	NXT	488	Electronic & electrical (25)	9	2.6	18.5	11	57.1	-15.1	50
147	Bespak	489	Health (44)	9	15.4	36.9	125	-3.1	1.9	56
148	Baltimore Technologies	493	Speciality & other finance (87)	9	-43.1	-24.5	26	-48.0	-37.2	..
149	Alvis	497	Aerospace & defence (21)	9	11.3	0.7	495	54.7	19.6	86

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	5 322	-5.6	-7.6	2.3	3.3	2.8	2.9	3.0	3.6	167	20.1
..	..	850	10.5	9.2	14.0	14.1	6.3	4.7	18.2	19.5	131	17.0
17	15	155	-32.6	-6.6	172.1	81.0	-133.3	-42.1	99.9	66.9	55	3.8
92	0	72	-15.3	13.7	1 529.0	..	-1 900.0	..	212.4	180.8	85	4.9
..	..	72	5.9	26.0	..	..	..	..	203.8	227.8	..	..
4	5	2 121	-3.1	13.8	4.7	3.1	-43.6	2.8	6.8	4.0	247	17.6
31	32	529	15.0	44.3	19.9	17.0	-4.2	-28.4	27.0	24.8	182	91.6
..	..	27 828	2.1	5.1	0.3	0.4	3.7	2.8	0.5	0.6	1 861	37.3
..	..	12 347	-3.4	..	0.2	0.2	2.9	-207.8	1.2	1.0	11 019	67.4
48	0	25 658	-11.3	50.5	0.1	0.2	23.1	16.8	0.6	0.9	19 074	11.3
53	3	203	4.1	-1.4	..	1 593.0	..	-2 000.0	67.9	81.7	11	10.0
45	2	158	-1.3	17.7	31.8	42.8	2.3	-8.3	86.6	96.3	9	50.0
..	..	4 369	-3.8	6.2	1.9	2.4	6.7	2.0	3.1	3.2	..	..
69	6	12 672	-1.9	-2.2	0.7	0.7	6.3	8.5	1.1	1.1	1 800	12.9
12	84	186	6.3	40.5	24.4	45.4	-3.7	-54.5	70.7	57.1	582	..
..	..	1 982	-0.9	1.4	1.3	1.7	10.0	4.6	6.4	7.1	..	..
..	..	1 624	12.3	1.5	4.6	4.3	5.8	8.9	7.7	7.8	190	-13.2
12	33	1 077	-4.6	-1.4	9.5	8.6	-10.8	-3.3	11.5	9.4	219	123.5
19	12	8 091	-2.5	-10.0	1.6	1.6	1.1	1.9	1.5	1.4	358	27.4
..	..	1 622	1.0	2.9	5.2	5.1	12.4	10.5	7.4	7.3	328	18.4
57	11	412	-10.0	-6.3	16.9	16.9	-7.0	-4.7	29.1	31.4	169	62.5
..	..	211	1.9	8.1	24.8	18.0	2.1	0.0	55.3	41.8	261	-12.1
..	..	1 721	-7.2	-6.6	5.9	6.1	5.2	5.0	6.6	7.3	136	38.8
15	13	1 352	0.7	-5.6	4.7	5.4	4.5	3.5	8.4	9.1	106	15.2
49	9	1 722	-2.3	5.1	6.3	6.0	8.8	15.5	6.6	6.6	321	8.1
..	..	4 596	2.3	-38.5	0.2	0.4	33.7	32.8	2.5	3.5	17 187	26.9
55	25	79	-10.2	10.2	159.6	303.0	-157.1	-375.0	141.4	137.7	35	29.6
..	..	1 166	1.6	-7.1	5.8	4.2	5.9	6.4	9.4	8.5	131	-31.1
..	..	1 819	5.5	-2.9	3.5	2.6	10.3	-0.4	6.0	4.1	589	15.0
2	0	1 888	84.9	21.4	5.6	8.1	-6.2	-0.8	5.7	9.6	393	211.9
..	..	834	-16.4	-2.5	1.0	0.9	5.9	2.5	12.8	10.1	..	..
..	..	348	2.7	2.4	17.3	18.2	6.6	5.5	30.4	29.5	..	..
29	11	5 599	-4.7	0.4	1.2	0.4	2.6	1.2	1.9	0.6	..	..
17	4	826	12.1	23.0	4.7	5.0	5.4	2.4	12.5	14.3	228	49.0
17	83	34	-2.9	5.4	342.0	213.0	-266.7	-150.0	301.8	243.4	91	-35.9
..	..	313	-25.3	7.4	17.9	40.7	-12.5	-92.2	32.1	49.6	48	-62.5
1	0	98	32.4	62.1	200.0	76.0	-200.0	-80.0	102.0	51.4	88	..
..	..	326	-1.2	7.0	18.0	16.5	16.7	15.7	29.8	25.5	165	52.8
42	11	478	-7.4	-2.3	12.1	10.6	13.8	14.8	20.3	16.6	206	13.2
..	..	1 691	-10.2	-10.7	2.2	1.9	14.2	12.8	5.7	4.6	562	7.9
22	5	3 035	-6.1	-12.6	2.7	5.2	2.2	-7.8	3.2	6.2	196	-17.3
..	..	3 177	10.6	12.9	4.4	4.9	13.0	13.7	3.0	3.1	304	10.5
..	..	1 004	-13.3	177.5	11.1	8.0	-42.2	-391.6	9.2	9.8	150	76.5
..	..	5 754	-9.9	..	1.0	1.0	8.4	6.0	1.6	1.5	..	..
72	3	641	9.6	27.0	8.3	10.6	3.6	1.9	14.3	19.2	241	-5.5
36	14	172	-5.0	-1.3	81.9	125.4	-136.4	-285.7	52.4	48.5	70	-45.7
35	8	826	3.8	-5.2	7.2	6.1	2.4	15.5	10.9	9.8	184	39.4
..	..	223	-56.0	-34.2	34.5	31.6	-96.2	-166.0	40.3	31.1	17	-37.0
0	14	2 804	48.9	22.9	1.7	2.4	5.3	5.6	3.1	4.1	501	71.6

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units €m	%	%	€m	%	%	%	%	%
Top 500 companies				100 790	-2.0	1.2	3 139 330	-0.6	0.9	..	..	..
<i>number of companies for calculation</i>				500	493	-	497	492	-	-	-	-
Mining (04)				106	6.2	-3.1	35 931	5.0	15.7	..	..	..
<i>number of companies for calculation</i>				5	5	-	5	5	-	-	-	-
1	BHP Billiton	250	UK	32	0.0	..	12 374	-12.2	46.2	33	9	58
2	Anglo American	256	UK	31	34.5	4.7	14 776	23.1	7.9	52	9	39
3	Rio Tinto	344	UK	18	-8.0	-16.1	7 316	9.3	5.4	24	29	47
4	Hoganas	382	Sweden	15	3.1	14.2	413	15.4	6.9	..	..	..
5	Boliden	472	Sweden	10	-6.3	-4.7	1 052	-0.1	4.7	93	6	1
Oil & gas (07)				1 890	7.6	1.2	565 366	14.0	6.4	..	..	..
<i>number of companies for calculation</i>				10	10	-	10	10	-	-	-	-
1	Total	32	France	667	0.8	-0.9	104 652	2.1	-3.0	..	..	..
2	Shell	44	UK	463	23.7	14.5	159 931	12.4	10.6	36	38	27
3	BP	61	UK	277	-6.4	-7.0	184 383	30.1	16.2	..	..	..
4	ENI	69	Italy	238	36.0	0.6	51 487	7.4	2.4	..	..	..
5	Repsol YPF	102	Spain	134	2.3	11.5	36 069	1.4	-6.4	..	..	..
6	Fortum	235	Finland	35	-7.9	-15.5	11 392	2.2	1.1	78	13	9
7	Compagnie Generale de Geophysique	278	France	27	-0.7	-0.0	612	-12.7	-4.2	..	..	..
8	OMV	300	Austria	23	-0.4	4.1	7 644	8.0	0.8	..	..	..
9	Saipem	386	Italy	15	7.1	146.6	4 105	29.6	44.2	..	..	..
10	BG	443	UK	11	-27.3	-38.3	5 091	37.4	-9.1	..	..	..
Chemicals (11)				7 241	-1.8	-1.1	174 408	-1.6	-3.2	..	..	..
<i>number of companies for calculation</i>				34	33	-	34	33	-	-	-	-
1	Bayer	12	Germany	2 414	-4.7	0.4	28 567	-3.6	-2.7	43	30	27
2	BASF	22	Germany	1 105	-2.7	-10.2	33 361	3.6	-2.5	57	21	21
3	AKZO Nobel	29	The Netherlands	892	-2.2	4.1	13 051	-6.8	-2.3	56	23	22
4	Solvay	46	Belgium	420	2.4	5.3	7 557	-4.6	-5.2	62	25	13
5	Degussa	53	Germany	355	..	..	11 427	..	..	59	23	19
6	DSM	62	The Netherlands	268	-1.1	0.5	6 050	-9.2	-9.2	54	22	24
7	ICI	73	UK	221	5.4	-3.9	8 301	-4.5	-8.9	..	..	..
8	Rhodia	78	France	203	1.0	1.5	5 453	-17.6	-9.8	..	..	..
9	Linde	88	Germany	179	4.1	-0.6	8 992	3.1	2.1	76	12	12
10	Wacker-Chemie	93	Germany	152	-3.8	-0.8	2 468	-7.8	-6.9	..	..	..
11	SNPE	111	France	115	7.5	..	784	-2.1	..	..	..	..
12	Novozymes	117	Denmark	101	5.0	5.1	779	2.8	4.8	..	..	..
13	L'Air Liquide	122	France	94	2.4	-0.4	8 394	6.3	1.2	..	..	..
14	Avecia	140	UK	82	-1.9	1.5	689	-15.7	-15.0	..	..	..
15	Celanese	144	Germany	79	6.8	-5.6	4 075	-5.8	-7.8	..	..	..
16	Johnson Matthey	147	UK	77	12.6	11.0	6 376	3.9	-8.7	45	25	30
17	Cognis Deutschland	164	Germany	65	-14.5	-1.0	2 950	-5.6	-2.5	51	24	25
18	BOC	177	UK	57	-15.1	-12.3	5 277	1.7	1.3	..	..	..
19	Kemira	197	Finland	48	3.7	-0.2	2 738	4.8	3.3	..	..	..
20	Borealis	207	Denmark	43	4.9	3.3	3 673	4.5	-0.7	..	..	..
21	Ahlstrom	242	Finland	33	18.8	..	1 556	-12.5	-9.7	..	..	..
22	Sud-Chemie	266	Germany	29	2.7	2.5	763	0.9	-2.4	44	26	30
23	Tessenderlo	273	Belgium	27	5.4	122.4	1 972	2.0	2.7	..	..	..
24	Nolato	276	Sweden	27	3.8	..	294	38.0	-6.9	82	2	16
25	Auriga Industries	297	Denmark	23	-9.2	0.7	600	4.7	6.2	37	27	37
26	Fuchs Petrolub	302	Germany	23	-4.4	6.2	1 041	-1.7	4.9	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
11 995 890	-3.4	-1.3	3.2	3.3	7.1	1.8	8.4	8.4	2 607 158	8.7	6.9	7.2
497	492	-	497	491	499	498	497	493	431	232	494	476
262 386	-2.2	-5.7	0.3	0.3	17.8	18.1	0.4	0.4	81 789	22.1	18.2	15.8
5	5	-	5	5	5	5	5	5	5	2	5	4
34 801	-30.7	5.3	0.3	0.2	20.5	17.1	0.9	0.6	17 548	..	20.4	..
193 000	9.0	-8.1	0.2	0.2	13.5	20.4	0.2	0.1	31 195	39.7	17.7	14.9
29 040	-18.9	0.9	0.3	0.3	24.0	18.1	0.6	0.6	32 044	8.7	17.6	19.2
1 649	15.6	6.3	3.7	4.1	14.5	15.6	9.2	10.3	619	..	13.1	13.7
3 896	0.8	..	0.9	1.0	3.9	4.4	2.5	2.7	383	..	6.4	5.3
495 509	-3.5	1.4	0.3	0.4	10.8	9.1	3.8	3.4	492 142	8.4	7.1	8.6
10	10	-	10	10	10	10	10	10	10	6	9	10
110 783	-8.8	-3.5	0.6	0.6	12.5	10.1	6.0	5.5	99 373	13.7	..	6.8
119 000	7.2	7.8	0.3	0.3	11.3	9.9	3.9	3.4	112 124	-17.5	6.0	6.6
108 150	-7.0	3.3	0.2	0.2	7.0	5.9	2.6	2.5	159 534	21.8	5.7	6.7
76 521	-5.1	3.0	0.5	0.4	17.6	16.9	3.1	2.2	64 667	22.9	15.2	14.3
30 644	-6.0	-4.1	0.4	0.4	10.0	3.6	4.4	4.0	21 316	23.6	6.2	6.3
13 343	-5.1	-6.3	0.3	0.3	11.8	8.5	2.6	2.7	9 357	..	7.1	51.7
3 185	-7.4	-1.0	4.4	3.9	0.7	8.0	8.4	7.9	491	..	5.9	17.4
6 091	6.0	1.9	0.3	0.3	8.8	6.7	3.7	4.0	4 770	..	8.7	8.3
23 196	-2.9	33.4	0.4	0.4	10.7	9.4	0.6	0.6	3 323	..	6.1	6.2
4 596	2.3	-38.5	0.2	0.4	33.7	32.8	2.5	3.5	17 187	26.9	16.9	34.6
684 397	-0.8	-1.9	4.2	4.2	3.2	6.0	10.6	10.9	103 686	9.1	5.9	6.4
34	33	-	34	33	34	33	34	33	24	14	34	33
118 280	-5.1	-0.2	8.5	8.5	-6.6	1.2	20.4	20.3	15 433	9.0	5.1	6.6
87 144	-3.1	-5.8	3.3	3.5	7.2	8.9	12.7	12.6	24 074	4.5	6.9	8.3
66 400	-0.9	-0.9	6.8	6.5	8.0	9.3	13.4	13.6	7 475	0.4	4.5	4.9
30 139	26.3	3.6	5.6	5.2	9.1	6.4	13.9	17.2	5 603	13.6	6.4	6.3
46 997	..	..	3.1	..	2.6	..	7.6	..	5 446	..	6.4	..
20 516	5.2	-1.6	4.4	4.1	1.8	5.7	13.1	13.9	4 011	-1.1	6.7	7.4
36 210	-4.8	-7.6	2.7	2.4	2.4	6.8	6.1	5.5	3 838	71.7	2.6	3.5
23 059	-6.0	-7.8	3.7	3.0	-16.0	3.2	8.8	8.2	670	-30.6	4.0	5.6
46 278	1.8	-0.0	2.0	2.0	5.1	4.1	3.9	3.8	5 628	29.1	8.2	5.7
16 168	-3.9	-2.6	6.1	5.9	-2.4	5.2	9.4	9.4	..	..	12.5	10.1
5 312	-4.7	..	14.7	13.4	-6.9	-8.6	21.7	19.2	..	..	8.3	9.6
3 814	5.1	6.0	12.9	12.6	16.9	16.4	26.4	26.4	..	..	6.8	6.5
31 885	3.5	1.7	1.1	1.2	14.2	14.7	3.0	3.0	13 986	6.3	8.0	7.0
3 101	-9.9	-14.2	11.9	10.2	-16.4	-2.6	26.4	24.3	..	..	10.3	8.0
10 000	-6.8	-8.8	1.9	1.7	3.8	4.7	7.9	6.9	2 323	85.1	7.2	5.0
7 439	0.9	5.0	1.2	1.1	4.2	4.3	10.4	9.3	2 837	2.5	2.5	2.9
8 660	-5.2	-1.8	2.2	2.4	0.7	4.9	7.5	8.3	..	..	3.5	3.1
45 462	0.5	2.4	1.1	1.3	11.3	10.4	1.2	1.5	6 673	10.4	7.6	9.7
10 536	1.5	3.0	1.7	1.8	4.7	1.6	4.5	4.4	1 271	..	5.2	8.2
5 034	-2.6	-1.7	1.2	1.2	1.9	2.3	8.5	7.9	..	..	3.3	4.5
6 536	-3.3	-12.6	2.1	1.6	2.8	5.1	5.0	4.1	..	..	5.7	4.2
4 948	23.0	3.8	3.8	3.7	5.8	4.8	5.9	7.0	327	..	5.5	8.2
8 161	2.8	4.8	1.4	1.3	4.6	6.2	3.4	3.3	756	..	6.0	5.7
2 353	18.1	-4.2	9.2	12.3	2.0	2.3	11.5	13.1	122	..	3.4	7.0
2 996	-1.0	1.6	3.8	4.4	6.0	3.7	7.7	8.3	155	..	3.7	6.5
4 188	3.2	2.4	2.2	2.2	6.7	6.5	5.4	5.8	449	..	1.7	2.6

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Chemicals (11) continued												
27	Recticel	341	Belgium	18	18.6	20.7	1 238	5.2	5.0	..	..	..
28	Yule Catto	366	UK	16	-8.1	1.3	766	5.7	4.7	..	..	..
29	Lenzing	380	Austria	15	13.1	4.6	622	-0.6	-2.2	..	..	..
30	Dynaction	384	France	15	-10.4	1.1	257	-2.7	-7.7	77	10	13
31	K+S	408	Germany	13	-0.5	-3.9	2 288	1.4	3.1	..	..	..
32	Lucite International	414	UK	13	-10.0	-9.2	985	19.3	0.8	..	..	..
33	Sydsvenska Kemi	476	Sweden	10	24.0	..	633	-4.2	..	60	17	22
34	Croda International	478	UK	10	11.4	-1.9	431	-3.1	-6.0	..	..	..
Construction & building (13)				671	-27.8	-1.8	89 136	-4.0	1.1	..	..	..
<i>number of companies for calculation</i>				<i>12</i>	<i>12</i>	<i>-</i>	<i>12</i>	<i>12</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Saint-Gobain	55	France	306	-1.9	0.7	29 590	-2.3	0.9	72	19	10
2	Bouygues	135	France	85	-73.4	-10.2	21 822	0.3	4.6	85	7	8
3	Lafarge	178	France	56	1.8	-17.6	13 658	-6.5	3.8	..	..	..
4	HeidelbergCement	208	Germany	43	-2.3	68.4	6 372	-2.5	-2.2	..	..	..
5	Novar	210	UK	42	15.4	3.2	2 030	-1.2	-6.4	35	62	3
6	Pilkington	214	UK	41	-3.3	0.0	3 463	1.1	-0.9	62	23	13
7	Rockwool International	310	Denmark	21	7.5	6.4	1 103	3.7	2.5	..	..	..
8	IMERYS	339	France	18	-25.8	..	2 729	-4.7	-0.9	..	..	..
9	Aliaxis	367	Belgium	16	-28.4	2.1	1 612	-52.3	-17.2	56	31	13
10	Sanitec	368	Finland	16	-19.2	-1.2	951	-3.5	2.7	..	..	..
11	Balfour Beatty	394	UK	14	-16.7	7.7	4 486	2.0	10.5	..	..	..
12	Dyckerhoff <i>(now part of Buzzi Unicem, Italy)</i>	432	Germany	12	-26.9	-20.3	1 320	-14.0	-18.6	..	..	..
Forestry & paper (15)				253	-15.8	-1.4	41 584	-4.6	2.0	..	..	..
<i>number of companies for calculation</i>				<i>5</i>	<i>5</i>	<i>-</i>	<i>5</i>	<i>5</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Stora Enso	128	Finland	89	-22.5	-2.1	12 172	-4.8	-2.2	..	..	..
2	Svenska Cellulosa	157	Sweden	69	-29.2	-5.1	9 403	-3.1	8.3	82	13	6
3	UPM-Kymmene	194	Finland	48	4.3	2.9	9 948	-5.0	1.3	75	14	11
4	Metsaliitto	233	Finland	36	12.5	0.0	8 318	-6.2	3.5	..	..	..
5	Holmen	445	Sweden	11	9.9	..	1 743	-1.6	1.4	..	..	..
Steel & other metals (18)				364	19.7	10.0	43 238	11.5	2.3	..	..	..
<i>number of companies for calculation</i>				<i>8</i>	<i>7</i>	<i>-</i>	<i>8</i>	<i>8</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Corus	132	UK	88	-4.6	-9.9	11 287	10.6	-5.3	79	10	11
2	Salzgitter	175	Germany	58	22.3	53.2	4 842	2.1	5.9	75	3	22
3	Voest-Alpine	185	Austria	52	12.2	17.3	4 646	6.0	13.6	..	..	..
4	Outokumpu	195	Finland	48	2.1	11.1	5 921	6.5	17.0	62	16	22
5	Heraeus	204	Germany	44	..	..	7 412	15.5	-2.6	..	..	..
6	Umicore	212	Belgium	42	4 783.7	..	4 677	47.4	6.2	76	10	14
7	Rautaruukki	357	Finland	17	0.0	-5.3	2 953	2.4	2.9	..	..	..
8	Bohler-Uddeholm	378	Austria	15	-8.6	-0.5	1 500	4.1	0.4	..	..	..
Aerospace & defence (21)				6 857	9.3	12.2	85 691	1.1	7.1	..	..	..
<i>number of companies for calculation</i>				<i>16</i>	<i>16</i>	<i>-</i>	<i>16</i>	<i>16</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	EADS	13	The Netherlands	2 193	4.6	26.7	30 133	0.8	15.8	46	27	27
2	BAE Systems	18	UK	1 560	22.2	3.6	11 903	3.9	-4.6	35	35	30
3	Finmeccanica	20	Italy	1 227	24.1	15.3	7 497	8.3	6.4	..	..	..
4	Snecma	33	France	624	0.3	24.8	6 431	1.3	4.4	55	27	18
5	Rolls-Royce	49	UK	399	-5.4	-8.8	8 011	-2.5	-1.3	34	39	27

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
7 969	-2.7	-3.8	1.5	1.3	0.7	2.4	2.3	1.9	175	..	7.4	5.2
3 519	2.2	-2.7	2.1	2.4	10.7	10.1	4.6	5.1	579	-23.6	4.4	4.8
2 931	-12.9	-2.4	2.5	2.2	11.7	12.5	5.2	4.0	..	..	18.8	6.6
1 895	-1.2	-8.7	5.8	6.3	2.3	6.8	7.9	8.7	48	..	5.8	6.8
10 610	0.9	3.0	0.6	0.6	5.1	5.0	1.2	1.3	1 245	..	5.2	5.5
1 982	-0.9	1.4	1.3	1.7	10.0	4.6	6.4	7.1	..	..	4.8	3.8
2 184	3.1	..	1.5	1.2	5.8	9.2	4.4	3.7	..	..	5.4	3.2
1 691	-10.2	-10.7	2.2	1.9	14.2	12.8	5.7	4.6	562	7.9	4.2	4.5
526 023	-3.5	0.2	0.8	1.0	7.4	7.0	1.3	1.7	46 606	18.0	4.7	5.4
12	12	-	12	12	12	12	12	12	10	6	11	12
169 797	0.1	0.5	1.0	1.0	7.8	7.2	1.8	1.8	13 354	16.6	4.6	4.7
127 923	-0.3	2.5	0.4	1.5	5.3	5.5	0.7	2.5	8 865	13.8	4.4	5.3
75 338	-2.8	4.5	0.4	0.4	12.1	10.1	0.7	0.7	11 582	22.0	5.8	7.5
37 774	2.8	1.2	0.7	0.7	7.3	9.3	1.1	1.2	3 431	..	6.5	7.1
13 472	-3.6	-7.2	2.1	1.8	-1.7	5.4	3.2	2.6	900	-8.6	2.9	2.9
24 700	-3.5	-3.6	1.2	1.2	8.2	7.7	1.7	1.7	1 737	24.2	6.1	6.8
7 293	1.7	-0.7	1.9	1.9	6.4	3.9	2.9	2.8	767	..	6.6	9.7
13 802	-5.4	-1.8	0.7	0.9	11.0	10.9	1.3	1.7	3 150	..	4.4	4.5
12 049	-53.2	-21.5	1.0	0.7	8.6	8.0	1.3	0.9	..	..	3.5	4.2
7 877	-5.1	-1.7	1.7	2.0	-5.3	-4.9	2.0	2.4	..	..	..	4.1
27 828	2.1	5.1	0.3	0.4	3.7	2.8	0.5	0.6	1 861	37.3	1.6	1.5
8 170	-19.5	-7.4	0.9	1.0	7.1	-2.9	1.4	1.6	959	..	5.0	5.8
156 634	-2.2	0.0	0.6	0.7	5.6	5.4	1.6	1.9	26 043	..	7.5	6.7
5	5	-	5	5	5	5	5	5	4	-	5	5
44 264	0.9	1.9	0.7	0.9	4.3	-2.0	2.0	2.6	9 200	-3.2	10.1	6.7
41 627	-4.0	3.4	0.7	1.0	8.8	10.2	1.7	2.3	6 903	5.9	8.4	7.4
35 751	-3.0	3.1	0.5	0.4	5.9	8.9	1.3	1.2	7 993	..	6.0	5.1
30 065	-3.0	9.8	0.4	0.4	1.4	4.4	1.2	1.0	..	..	4.9	6.3
4 927	-2.9	-2.3	0.6	0.6	14.7	16.9	2.2	2.0	1 947	..	4.8	13.8
153 306	0.4	0.6	0.8	0.8	1.3	0.6	2.4	1.9	10 165	..	4.4	6.1
8	8	-	8	7	8	8	8	7	7	-	8	8
50 300	-2.5	-8.1	0.8	0.9	-2.6	-5.9	1.8	1.8	2 863	162.9	2.1	2.6
18 154	-3.8	2.0	1.2	1.0	1.4	3.1	3.2	2.5	603	..	3.8	5.0
23 583	8.5	13.7	1.1	1.1	5.3	3.8	2.2	2.1	1 487	..	9.2	9.1
19 359	-4.1	16.7	0.8	0.8	1.0	4.1	2.5	2.3	2 245	..	11.3	18.3
9 332	2.6	-3.1	0.6	0.0	1.7	1.7	4.7	0.0	..	..	0.9	1.2
9 640	15.6	7.4	0.9	0.0	2.2	2.3	4.4	0.1	1 295	..	3.0	4.6
12 782	-4.1	-1.0	0.6	0.6	4.3	-0.1	1.3	1.3	975	..	3.3	4.4
10 156	5.7	3.4	1.0	1.2	7.5	7.5	1.5	1.7	697	..	5.2	6.2
433 948	0.7	1.6	8.0	7.4	4.2	2.0	15.8	14.6	58 457	35.2	5.3	5.3
16	16	-	16	16	16	16	16	16	13	11	15	15
109 135	5.0	7.1	7.3	7.0	1.2	0.3	20.1	20.2	17 611	76.1	9.1	7.3
68 900	-0.7	-6.7	13.1	11.1	5.1	-5.6	22.6	18.4	9 797	44.7	2.9	3.4
44 958	9.1	4.4	16.4	14.3	5.6	5.8	27.3	24.0	4 705	-5.6	3.0	3.4
39 700	1.8	2.7	9.7	9.8	6.0	4.0	15.7	15.9	4 219	..	3.5	5.6
36 100	-7.9	-8.2	5.0	5.1	4.4	3.4	11.1	10.8	5 583	70.2	3.3	5.9

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Aerospace & defence (21) continued												
6	Thales	51	France	381	-11.5	-1.4	10 569	-4.8	7.2	58	9	34
7	Smiths	83	UK	184	11.3	27.0	4 337	-5.2	27.8	..	..	..
8	SAAB	127	Sweden	89	-1.1	-2.1	1 901	4.3	-1.1	..	..	..
9	Cobham	176	UK	57	27.8	23.2	1 182	13.3	13.6	41	35	23
10	Industria de Turbo Propulsores	226	Spain	39	2.6	..	405	4.4	..	..	..	..
11	Meggitt	269	UK	28	-13.1	-4.5	571	-0.4	1.4	38	52	10
12	Dunlop Standard Aerospace	287	UK	25	20.2	53.1	648	1.1	5.9	23	68	10
13	Ultra Electronics	348	UK	18	18.5	9.9	404	9.5	7.9	56	35	9
14	AMS	404	UK	13	-7.2	14.7	698	14.8	4.7	..	..	..
15	LISI	439	France	11	-17.4	-5.2	506	-0.4	-1.4	85	12	2
16	Alvis	497	UK	9	11.3	0.7	495	54.7	19.6	86	0	14
Diversified industrials (24)				1 106	6.5	5.6	33 615	0.3	0.8	..	..	..
<i>number of companies for calculation</i>				<i>9</i>	<i>9</i>	<i>-</i>	<i>9</i>	<i>9</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Groupe Lagardere	54	France	330	3.8	12.5	12 454	-5.8	0.7	67	21	11
2	Pirelli	77	Italy	204	-6.9	-1.4	6 671	5.7	-3.7	65	9	25
3	Diehl Stiftung	91	Germany	161	-9.6	-2.5	1 433	-2.5	-3.8	..	..	..
4	Freudenberg	98	Germany	140	40.1	..	3 867	-1.3	-2.4	..	..	..
5	JM Voith	101	Germany	135	-2.9	0.5	3 109	-5.5	7.0	..	..	..
6	Trumpf	129	Germany	89	76.5	27.2	1 193	44.1	14.4	..	..	..
7	Abengoa	329	Spain	20	102.7	..	1 635	7.4	..	..	..	..
8	Compagnie Industriali Riunite	346	Italy	18	11.1	-6.1	2 839	10.0	4.4	96	1	4
9	Schoww	482	Denmark	10	12.6	..	414	4.8	13.8	..	..	..
Electronic & electrical (25)				10 391	-9.7	-1.6	160 697	-11.6	-5.3	..	..	..
<i>number of companies for calculation</i>				<i>33</i>	<i>33</i>	<i>-</i>	<i>33</i>	<i>33</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Siemens	2	Germany	5 511	-5.3	-0.5	74 233	-11.6	-1.8	57	21	22
2	Philips Electronics	10	The Netherlands	2 617	-14.0	-1.8	29 037	-8.7	-8.5	..	..	..
3	Schneider	39	France	494	4.5	1.4	8 780	-3.1	-3.3	..	..	..
4	ALSTOM	43	France	473	-24.0	-9.1	16 688	-21.8	-12.1	48	18	34
5	Thomson	56	France	295	-21.1	-5.6	8 459	-17.0	-2.4	..	..	..
6	Invensys	71	UK	234	-25.7	-16.5	5 522	-22.5	-20.9	..	..	..
7	Gemplus International	152	Luxembourg	72	-31.4	-9.7	749	-4.8	-14.7	..	..	..
8	Barco	155	Belgium	70	-36.5	47.0	629	-6.0	-5.7	..	..	..
9	EPCOS	156	Germany	69	-26.2	-5.3	1 272	-3.1	13.1	63	6	31
10	Spectris	193	UK	48	15.2	9.8	806	15.8	6.9	46	27	27
11	Bang & Olufsen	196	Denmark	48	6.8	4.9	534	-5.7	2.2	85	8	7
12	Nexans	198	France	47	-2.1	7.3	4 046	-6.0	-5.4	69	18	13
13	Draka	205	The Netherlands	44	-3.0	..	1 420	-5.3	-6.4	73	12	15
14	Leoni	230	Germany	37	12.3	..	1 080	-3.1	3.9	..	..	..
15	Ingenico	237	France	34	-20.2	27.7	356	-16.2	15.2	45	35	21
16	Neopost	244	France	33	-1.8	2.0	751	-1.3	13.5	..	..	..
17	Vestas Wind Systems	271	Denmark	28	38.3	..	1 653	18.5	24.1	..	..	..
18	NKT	274	Denmark	27	-15.1	6.3	782	-1.1	-3.6	..	..	..
19	Vaisala	313	Finland	21	-4.5	7.0	189	-3.6	1.6	32	35	33
20	SGL Carbon	316	Germany	21	-17.7	-10.5	1 046	-5.9	-6.1	53	25	23
21	Renishaw	325	UK	20	2.3	15.4	157	6.1	1.5	37	27	36
22	Oxford Instruments	349	UK	18	-4.2	3.1	266	-12.2	5.3	33	42	25
23	Oberthur Card Systems	355	France	18	-12.2	-6.2	430	-2.3	-1.6	..	..	..
24	Cambridge Silicon Radio (now CSR)	409	UK	13	31.6	-0.0	54	145.5	138.1	2	12	84

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
57 439	-5.3	0.1	3.6	3.9	2.4	2.1	6.6	7.1	4 737	4.2	3.6	4.1
31 410	-3.4	26.5	4.2	3.6	12.4	11.4	5.9	5.1	5 814	-0.3	3.1	3.4
13 127	-2.4	-5.1	4.7	4.9	7.1	7.0	6.8	6.7	1 418	41.9	3.3	4.2
8 990	13.6	8.9	4.9	4.3	15.4	14.7	6.4	5.7	2 177	26.1	4.8	4.3
2 203	0.1	..	9.6	9.8	6.9	4.1	17.6	17.2	..	..	..	..
3 482	-6.4	-6.5	5.0	5.7	15.8	8.4	8.1	8.8	918	0.9	2.1	3.1
3 962	-0.1	0.6	3.8	3.2	12.8	14.5	6.2	5.1	..	..	2.5	7.5
2 505	4.6	2.8	4.5	4.1	11.4	11.4	7.2	6.3	585	20.1	2.5	1.4
4 369	-3.8	6.2	1.9	2.4	6.7	2.0	3.1	3.2	..	..	3.6	3.0
4 864	-1.2	-1.6	2.3	2.7	7.9	6.5	2.3	2.8	392	..	4.7	5.1
2 804	48.9	22.9	1.7	2.4	5.3	5.6	3.1	4.1	501	71.6	1.8	2.5
169 896	-2.6	-0.4	3.3	3.1	4.5	1.2	6.5	6.0	11 411	..	4.3	4.2
<i>9</i>	<i>9</i>	<i>-</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>5</i>	<i>-</i>	<i>9</i>	<i>9</i>
43 009	-6.1	-0.7	2.7	2.4	3.7	-0.9	7.7	6.9	6 748	24.6	4.0	3.5
36 558	-3.1	-3.6	3.1	3.5	2.8	-6.3	5.6	5.8	2 699	-33.4	4.1	5.2
9 862	-8.9	-6.9	11.2	12.1	4.7	4.2	16.3	16.5	..	..	4.5	4.0
28 416	2.5	-2.0	3.6	2.5	5.6	6.9	4.9	3.6	..	..	6.2	5.0
24 687	-1.0	13.0	4.3	4.2	5.1	4.6	5.5	5.6	..	..	3.5	3.3
5 726	2.7	6.9	7.4	6.1	8.4	8.3	15.5	9.0	..	..	5.4	5.8
8 826	4.7	..	1.2	0.7	5.4	4.6	2.3	1.2	621	..	2.4	3.3
10 371	-7.8	-5.4	0.6	0.6	8.2	9.1	1.7	1.4	1 128	..	4.7	3.6
2 441	10.8	13.1	2.3	2.1	1.5	19.2	3.9	3.8	215	..	8.0	17.2
942 902	-10.1	-6.5	6.5	6.3	2.6	-1.6	11.0	11.0	106 623	11.7	3.9	3.7
<i>33</i>	<i>33</i>	<i>-</i>	<i>33</i>	<i>33</i>	<i>33</i>	<i>33</i>	<i>33</i>	<i>33</i>	<i>33</i>	<i>17</i>	<i>33</i>	<i>33</i>
419 300	-5.8	-0.9	7.4	6.9	4.0	0.5	13.1	13.1	50 031	14.6	4.6	3.9
147 427	-11.5	-13.9	9.0	9.6	3.4	-8.7	17.8	18.3	25 252	7.1	3.4	3.6
74 276	-0.7	1.0	5.6	5.2	7.2	7.7	6.7	6.3	11 673	12.3	2.9	3.2
76 811	-30.0	-18.7	2.8	2.9	-5.0	-4.1	6.2	5.7	556	-21.7	1.6	1.8
58 399	-10.3	-1.1	3.5	3.7	2.2	3.7	5.1	5.7	4 138	8.4	6.0	6.0
43 602	-31.2	-22.5	4.2	4.4	-6.0	-10.5	5.4	5.0	1 291	-2.8	3.2	2.8
5 037	-11.3	-13.8	9.6	13.3	-18.7	-31.4	14.3	18.5	966	42.1	2.0	4.1
4 022	-1.6	-5.0	11.1	16.4	9.2	7.9	17.3	26.9	845	29.4	3.0	2.5
13 283	1.6	0.1	5.5	7.2	0.9	-5.2	5.2	7.2	1 001	22.7	7.5	8.8
5 696	1.7	8.5	6.0	6.0	8.3	8.9	8.5	7.5	724	-2.0	3.1	4.0
2 803	-3.6	0.2	8.9	7.9	7.5	6.2	17.1	15.4	526	..	3.4	3.5
17 068	-0.4	-2.1	1.2	1.1	0.7	-0.9	2.8	2.8	597	..	1.7	2.2
7 631	-9.5	-1.5	3.1	3.0	3.0	-0.7	5.7	5.3	370	..	1.9	5.5
19 805	10.1	11.8	3.4	2.9	5.3	7.7	1.8	1.8	409	..	8.4	6.9
1 765	-0.6	27.8	9.6	10.1	-7.0	2.1	19.4	24.2	454	..	2.5	1.9
4 536	-8.1	6.9	4.4	4.4	20.1	16.8	7.2	6.8	1 394	..	7.1	6.2
6 394	7.0	24.9	1.7	1.4	4.6	5.3	4.3	3.4	1 771	..	5.1	8.5
4 932	-9.1	-7.4	3.5	4.1	1.5	-15.7	5.5	5.9	441	..	2.8	2.8
1 141	-5.5	3.9	11.2	11.3	13.2	11.7	18.5	18.3	254	..	6.9	9.2
7 077	-8.1	-5.1	2.0	2.3	0.5	-0.5	3.0	3.3	476	..	3.2	3.8
1 575	-0.7	6.9	12.9	13.4	14.0	12.8	12.8	12.5	562	9.1	7.6	8.8
1 674	-5.6	1.1	6.8	6.2	2.6	4.6	10.7	10.6	131	7.4	1.5	2.3
2 885	-6.3	-2.6	4.1	4.6	6.5	-3.4	6.1	6.5	427	..	3.3	2.3
186	6.3	40.5	24.4	45.4	-3.7	-54.5	70.7	57.1	582	..	7.4	4.5

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Electronic & electrical (25) continued												
25	SAES Getters	413	Italy	13	-6.0	6.6	126	-10.6	-9.9	18	22	60
26	TT Electronics	424	UK	12	6.2	..	758	2.7	-10.5	69	19	12
27	Domino Printing Sciences	427	UK	12	2.8	1.0	233	1.7	3.0	..	..	..
28	Roxboro	436	UK	11	-15.1	-0.7	194	-12.2	-7.4	..	..	..
29	First Technology	442	UK	11	-2.5	14.3	181	-6.7	2.9	41	49	9
30	Skanditek	454	Sweden	11	16.5	-6.7	57	1.8	-26.4	45	39	16
31	Thrane & Thrane	460	Denmark	10	63.3	3.4	86	4.9	9.2	61	22	17
32	NXT	488	UK	9	2.6	18.5	11	57.1	-15.1	50	36	14
33	Vacon	492	Finland	9	13.5	8.2	112	15.5	67.1	70	15	15
Engineering & machinery (26)				4 611	0.7	5.2	185 263	-1.0	0.6	..	..	..
<i>number of companies for calculation</i>				<i>59</i>	<i>59</i>	<i>-</i>	<i>59</i>	<i>59</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Volvo	30	Sweden	865	4.2	17.2	20 195	-1.6	12.1	..	..	..
2	MAN	48	Germany	407	-3.8	-0.6	15 021	-6.4	-0.1	..	..	..
3	Heidelberger Druckmaschinen	52	Germany	365	-6.6	-0.9	3 661	-11.4	-11.6	..	..	..
4	Scania	70	Sweden	237	4.2	9.9	5 613	7.0	-1.8	78	8	13
5	Rheinmetall	81	Germany	189	-9.1	-3.7	4 248	-7.1	-1.8	79	11	10
6	Sandvik	82	Sweden	185	10.5	13.1	5 378	0.2	3.7	..	..	..
7	Thyssen Krupp	86	Germany	183	-4.2	16.4	36 137	-1.5	-1.0	..	..	..
8	Atlas Copco	106	Sweden	128	-3.9	6.3	4 916	-6.2	-1.4	35	42	22
9	Metso	107	Finland	126	-13.7	0.8	4 250	-9.4	3.0	46	23	31
10	Knorr-Bremse	110	Germany	120	0.8	3.5	2 206	4.5	13.9	..	..	..
11	MG Technologies	124	Germany	94	2.9	-11.3	8 157	0.3	-2.5	67	12	21
12	Kone	130	Finland	88	39.7	33.7	5 344	23.1	27.1	..	..	..
13	Tomkins	137	UK	83	13.9	33.9	4 471	0.1	-8.5	..	..	..
14	SKF	138	Sweden	83	-2.2	1.8	4 559	-2.5	1.3	..	..	..
15	Danfoss	146	Denmark	78	20.1	..	2 073	3.4	1.6	74	7	19
16	Stork	150	The Netherlands	74	131.3	7.4	1 946	-6.4	-8.9	..	..	..
17	Wartsila	154	Finland	70	-19.9	-4.1	2 358	-6.4	-4.5	50	6	44
18	Claas	163	Germany	67	6.6	13.0	1 496	18.3	11.7	..	..	..
19	Grundfos	167	Denmark	62	2.1	6.9	1 498	4.2	5.4	..	..	..
20	IWKA	171	Germany	60	-1.0	..	2 287	-1.1	1.0	..	..	..
21	VA Technologie	173	Austria	58	-8.0	-16.1	3 923	1.3	-0.5	63	10	27
22	Koenig & Bauer	174	Germany	58	16.6	..	1 232	-9.0	4.3	59	16	24
23	NEG Micon <i>(now part of Vestas Wind Systems)</i>	179	Denmark	55	39.2	38.6	707	-15.8	9.3	..	..	..
24	Assa Abloy	192	Sweden	49	4.2	24.2	2 653	-5.2	18.7	..	..	..
25	Cookson	202	UK	46	-2.1	-7.7	2 328	-5.1	-12.9	..	..	..
26	Gildemeister	213	Germany	42	-12.7	6.7	978	-5.2	1.9	..	..	..
27	Gamesa	217	Spain	41	21.6	3.5	1 572	44.1	29.4	..	..	..
28	Alfa Laval	219	Sweden	41	3.6	-5.9	1 533	-4.7	-2.5	52	18	31
29	IMI	223	UK	40	0.0	12.8	2 232	-2.4	-0.9	..	..	..
30	Sidel	225	France	40	5.1	0.2	981	5.1	3.8	39	33	28
31	Bekaert	232	Belgium	36	-13.6	1.7	1 797	-3.5	0.8	59	27	15
32	Technip-Coflexip <i>(now Technip)</i>	239	France	33	-11.0	..	4 711	5.8	16.6	..	..	..
33	Jungheinrich	240	Germany	33	11.0	5.1	1 471	-0.3	-1.0	..	..	..
34	Duerr	241	Germany	33	-6.4	7.7	2 265	8.8	3.5	..	..	..
35	Jenoptik	252	Germany	31	6.3	11.7	1 982	25.1	8.0	76	5	18
36	Kidde	280	UK	27	1.6	-30.3	1 331	6.7	-25.0	39	44	17
37	Henlys	283	UK	26	12.5	30.2	445	-34.4	-22.7	0	100	0
38	Andritz	284	Austria	26	-15.5	12.6	1 225	10.4	9.3	53	21	26

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
1 064	-2.7	-3.9	10.2	9.7	-4.0	6.4	12.0	12.5	87	..	6.4	10.6
8 091	-2.5	-10.0	1.6	1.6	1.1	1.9	1.5	1.4	358	27.4	4.4	5.2
1 622	1.0	2.9	5.2	5.1	12.4	10.5	7.4	7.3	328	18.4	1.7	2.2
1 721	-7.2	-6.6	5.9	6.1	5.2	5.0	6.6	7.3	136	38.8	1.0	1.4
1 722	-2.3	5.1	6.3	6.0	8.8	15.5	6.6	6.6	321	8.1	3.9	3.1
342	-7.1	-16.2	18.8	16.4	-3.5	-48.2	31.4	25.0	137	..	0.0	0.0
406	13.7	17.2	12.2	7.8	14.0	13.4	25.7	17.9	151	..	2.3	2.4
172	-5.0	-1.3	81.9	125.4	-136.4	-285.7	52.4	48.5	70	-45.7	0.0	14.3
437	2.6	12.9	8.0	8.2	10.7	10.3	20.6	18.6	164	..	2.7	5.2
1 028 714	-1.0	0.2	2.5	2.5	3.2	2.6	4.5	4.4	87 196	29.0	4.0	4.7
59	59	-	59	59	59	59	59	59	50	25	59	59
73 156	3.7	10.5	4.3	4.1	1.8	1.5	11.8	11.8	12 415	46.5	5.7	5.5
72 455	-5.1	-1.8	2.7	2.6	3.0	2.2	5.6	5.5	4 302	71.8	3.9	5.1
23 490	-4.7	-2.5	10.0	9.5	-8.8	-4.7	15.6	15.9	2 120	-3.2	3.0	4.4
27 667	6.5	2.8	4.2	4.3	9.9	8.1	8.6	8.8	5 277	26.8	10.5	14.1
25 200	-9.1	-6.5	4.5	4.6	3.7	1.3	7.5	7.5	1 110	63.2	4.2	5.3
37 137	2.8	2.7	3.4	3.1	10.5	11.9	5.0	4.6	7 179	12.4	5.9	5.6
188 561	-1.4	0.0	0.5	0.5	2.7	0.9	1.0	1.0	7 264	21.6	3.5	4.1
25 707	-0.3	-0.9	2.6	2.5	11.8	-3.9	5.0	5.2	5 800	20.7	7.6	6.5
27 400	-6.4	7.0	3.0	3.1	-5.7	-4.5	4.6	5.0	1 399	20.0	4.2	5.5
10 858	-1.0	7.5	5.4	5.6	7.9	6.1	11.1	10.8	..	..	2.5	7.1
31 118	-4.8	-6.6	1.1	1.1	-1.5	2.7	3.0	2.8	1 928	10.8	3.1	2.8
34 489	17.3	14.8	1.7	1.5	6.3	6.5	2.6	2.2	2 513	21.8	1.4	11.9
39 328	-0.7	-9.3	1.9	1.6	7.1	6.5	2.1	1.8	2 765	-1.1	4.6	5.0
37 632	-2.5	-1.7	1.8	1.8	7.8	9.5	2.2	2.2	3 427	22.1	3.3	3.6
17 485	3.0	1.6	3.8	3.2	4.7	4.8	4.4	3.8	..	..	2.5	5.8
14 476	-12.1	-9.0	3.8	1.5	4.5	-2.8	5.1	1.9	560	..	2.5	2.6
12 293	-1.0	-1.3	3.0	3.5	-1.8	2.9	5.7	7.1	1 083	63.8	2.4	4.6
7 292	27.8	8.8	4.5	5.0	3.1	5.3	9.2	11.1	..	..	3.5	4.0
11 675	2.7	3.2	4.2	4.2	9.7	8.4	5.3	5.4	..	..	9.3	9.5
13 002	-2.0	-0.3	2.6	2.6	3.4	3.2	4.6	4.5	470	64.3	2.4	2.3
17 478	-1.4	-7.6	1.5	1.6	1.5	-0.1	3.3	3.5	1 211	240.2	1.1	1.6
7 266	-3.6	2.6	4.7	3.7	-4.0	3.5	7.9	6.6	204	..	3.3	3.2
2 601	19.3	21.4	7.8	4.7	-7.1	4.6	21.1	18.1	..	..	7.6	5.1
28 708	-0.2	19.4	1.9	1.7	4.5	10.4	1.7	1.6	3 262	..	3.4	3.9
16 472	-5.6	-8.0	2.0	1.9	0.4	-0.7	2.8	2.7	948	48.8	3.0	2.5
5 048	-1.2	7.2	4.2	4.6	3.6	1.5	8.2	9.3	263	..	2.4	4.1
6 164	24.7	19.7	2.6	3.1	15.0	17.6	6.6	6.8	2 707	..	4.6	4.7
9 194	-1.1	-5.8	2.6	2.4	8.2	6.5	4.4	4.2	1 427	..	1.8	1.9
16 795	-4.3	-4.3	1.8	1.7	8.2	4.2	2.4	2.3	1 814	11.4	3.2	3.1
4 461	-0.4	3.3	4.0	4.0	4.5	-3.8	8.9	8.4	..	..	1.8	1.9
11 204	9.3	2.9	2.0	2.2	7.7	-0.8	3.2	4.1	1 054	..	6.1	4.2
19 000	0.0	24.7	0.7	0.8	2.3	1.6	1.8	2.0	2 749	..	2.6	2.8
9 184	-0.5	0.3	2.3	2.0	5.2	4.9	3.6	3.2	277	..	11.4	11.0
12 957	2.7	5.5	1.5	1.7	0.7	2.3	2.6	2.8	239	..	0.8	1.4
10 065	14.6	21.1	1.6	1.9	-0.6	2.1	3.1	3.4	349	..	1.7	2.5
7 758	6.7	-7.0	2.0	2.1	11.7	10.6	3.4	3.6	1 421	36.6	2.0	1.6
2 864	-3.4	-17.2	5.8	3.4	-7.9	1.6	9.0	7.8	..	..	2.2	1.3
4 597	-0.1	2.7	2.1	2.7	3.9	4.1	5.5	6.6	497	..	1.6	1.9

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				<i>units</i>	€m	%	%	€m	%	%	%	%
Engineering & machinery (26) continued												
39	JCB Service	288	UK	24	-11.2	-10.1	1 159	5.7	0.4	..	..	..
40	KSB	291	Germany	24	2.5	-4.6	1 178	-0.2	2.4	..	..	..
41	Seco Tools	303	Sweden	23	13.9	20.9	432	-2.9	1.1	..	..	..
42	Morgan Crucible	305	UK	22	-21.5	-2.4	1 206	-3.4	-6.8	..	..	..
43	Charter	326	UK	20	3.7	23.1	1 236	-3.3	-2.3	..	..	..
44	Enodis	336	UK	19	-1.5	-1.0	964	-13.3	-16.8	21	73	5
45	Delft Instruments	359	The Netherlands	17	-1.8	-14.8	237	22.2	10.6	..	..	..
46	Singulus Technologies	362	Germany	16	0.8	21.8	363	24.7	-1.2	37	21	42
47	Uponor	369	Finland	16	0.0	-16.7	1 021	-10.2	-9.0	..	..	..
48	Halma	370	UK	16	16.8	12.0	415	9.5	3.0	..	..	..
49	FKI	372	UK	16	43.6	11.9	1 909	-7.4	-8.3	35	52	12
50	Hexagon	377	Sweden	15	26.2	74.0	783	1.6	11.7	80	12	8
51	FLS Industries	383	Denmark	15	-26.3	-10.7	2 003	-9.3	-8.1	54	14	32
52	Cardo	388	Sweden	15	-42.5	..	847	-25.9	-7.7	..	..	..
53	Vitec	420	UK	13	11.4	5.5	274	5.8	-1.2	..	..	..
54	Danieli	428	Italy	12	-25.0	-31.1	987	68.1	3.2	..	..	..
55	Muhlbauer	440	Germany	11	5.9	5.0	95	4.4	-4.8	..	..	..
56	Rational	441	Germany	11	12.1	22.1	187	5.7	6.9	..	..	..
57	BWT	470	Austria	10	-21.3	-0.9	416	-3.5	1.4	..	..	..
58	Kyro	473	Finland	10	48.5	-21.9	227	57.6	7.3	..	..	..
59	Pfeiffer Vacuum Technology	495	Germany	9	-14.1	5.4	144	-4.6	-8.0	61	23	17
Automobiles & parts (31)				24 037	0.0	2.0	522 112	-3.7	-0.4	..	..	..
<i>number of companies for calculation</i>				<i>28</i>	<i>28</i>	<i>-</i>	<i>28</i>	<i>28</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	DaimlerChrysler	1	Germany	5 571	-8.2	-4.2	136 437	-8.8	-5.6	35	53	12
2	Volkswagen	3	Germany	4 140	-5.3	0.0	88 414	-1.8	1.1	70	17	12
3	Robert Bosch	9	Germany	2 650	6.6	9.3	36 357	3.9	4.8	..	..	..
4	BMW	11	Germany	2 559	9.7	..	41 525	-1.8	5.5	58	28	14
5	Peugeot (PSA)	14	France	2 098	12.5	8.9	54 238	-0.4	7.1	..	..	..
6	Istituto Finanziario Industriale	15	Italy	1 763	0.1	0.7	53 509	-12.0	-5.5	73	12	13
7	Renault	16	France	1 737	-2.4	-5.3	37 525	3.3	-2.2	..	..	..
8	Michelin	31	France	711	0.9	3.3	15 370	-0.3	-0.1	52	35	13
9	Valeo	35	France	564	-2.3	-0.5	9 234	-5.8	0.4	..	..	..
10	ZF	37	Germany	524	-3.3	22.4	8 928	-2.6	13.5	72	17	11
11	Continental	38	Germany	498	1.4	6.0	11 534	1.1	4.5	67	22	10
12	Autoliv	68	Sweden	242	32.9	16.0	4 203	19.3	8.8	..	..	..
13	Behr	84	Germany	184	5.1	8.3	3 005	6.8	12.3	68	24	8
14	Hella	90	Germany	168	11.6	..	3 028	2.9	..	..	..	..
15	Phoenix Venture	105	UK	128	98.9	..	2 470	2.5	..	..	..	..
16	GKN	112	UK	115	-1.2	-2.7	4 732	0.9	-6.8	..	..	..
17	Eberspaecher	169	Germany	61	-5.4	..	1 336	-5.5	..	..	..	..
18	Deutz	180	Germany	55	16.6	0.5	1 173	1.0	-3.0	63	13	24
19	Trelleborg	183	Sweden	53	3.2	22.3	1 979	1.9	9.6	..	..	..
20	Phoenix	206	Germany	44	-9.9	-9.1	1 153	1.9	5.9	..	..	..
21	Burelle	215	France	41	9.1	12.6	1 951	5.2	14.6	72	24	4
22	Haldex	246	Sweden	33	2.1	1.6	665	-5.9	-0.8	..	..	..
23	Beru	265	Germany	30	69.0	10.2	354	16.8	8.5	82	8	10
24	MGI Coutier	321	France	21	-5.5	..	489	0.4	..	..	..	..
25	Wagon	373	UK	16	-22.9	10.2	691	9.9	-0.3	..	..	..
26	Brembo	435	Italy	11	25.4	..	634	12.0	..	75	13	14

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
4 146	3.9	2.5	2.1	2.5	2.2	2.3	5.9	6.9	..	..	4.8	2.9
12 277	2.2	-0.6	2.0	2.0	3.3	3.6	2.0	2.0	248	..	3.1	2.5
3 936	0.0	-0.9	5.2	4.5	17.4	17.1	5.7	5.0	586	..	4.6	5.4
14 018	-5.7	-4.6	1.8	2.3	-3.8	-3.5	1.6	1.9	539	59.0	3.6	3.7
9 705	-7.3	-3.5	1.6	1.5	3.2	2.0	2.1	1.9	332	260.9	0.8	1.8
6 073	-12.9	-19.0	1.9	1.7	5.1	-2.3	3.1	2.7	518	78.6	1.5	1.4
1 136	15.4	6.3	7.1	8.8	8.0	9.3	14.8	17.4	..	..	3.4	0.0
599	19.3	23.4	4.5	5.6	16.5	18.2	27.2	32.2	488	..	2.2	3.1
4 962	-8.0	-5.6	1.6	1.4	2.4	6.9	3.2	3.0	1 003	..	3.3	3.5
2 925	4.7	-1.5	3.8	3.6	15.7	16.1	5.5	4.9	782	10.0	3.4	4.2
14 122	-7.4	-6.4	0.8	0.5	2.6	4.0	1.1	0.7	999	26.5	1.9	1.4
5 401	-0.5	9.8	2.0	1.6	5.7	5.6	2.9	2.3	467	..	2.3	3.8
10 234	-24.4	-11.3	0.8	0.9	-21.3	-3.6	1.5	1.5	573	..	4.4	3.9
6 203	-21.0	-8.6	1.7	2.2	5.8	5.9	2.4	3.3	599	..	3.2	2.6
1 624	12.3	1.5	4.6	4.3	5.8	8.9	7.7	7.8	190	-13.2	5.1	5.4
2 806	-4.7	..	1.2	2.7	2.6	6.3	4.3	5.4	231	..	0.6	1.4
1 262	-0.9	1.5	12.0	11.8	8.4	7.7	9.0	8.4	176	..	6.3	2.2
679	1.5	4.0	6.1	5.7	22.5	21.5	16.7	15.1	547	..	3.2	2.3
2 577	3.9	1.3	2.4	2.9	2.9	5.3	3.9	5.1	330	..	1.2	1.2
1 015	89.4	3.6	4.3	4.6	8.8	12.5	9.7	12.3	284	..	3.5	1.4
777	-4.2	-1.0	6.2	6.9	13.2	13.9	11.5	12.8	270	..	1.4	2.0
2 039 394	-0.1	-1.2	4.6	4.4	2.9	3.0	11.8	11.8	124 226	..	8.0	5.9
28	28	-	28	28	27	27	28	28	20	-	27	27
370 684	0.0	-6.2	4.1	4.1	1.1	2.4	15.0	16.4	35 972	11.9	4.9	4.8
314 709	2.7	0.9	4.7	4.9	2.6	4.5	13.2	14.3	12 612	-13.1	15.3	7.5
229 439	1.6	5.2	7.3	7.1	4.6	4.0	11.6	11.0	..	..	5.6	5.7
102 076	3.7	0.6	6.2	5.5	8.3	7.9	25.1	23.7	23 155	3.1	17.6	7.4
199 900	0.7	5.1	3.9	3.4	3.7	4.4	10.5	9.4	11 106	-0.1	5.5	5.1
192 550	-7.7	-7.3	3.3	2.9	-3.6	-7.3	9.2	8.4	633	-56.5	4.0	4.8
131 344	-0.8	-7.5	4.6	4.9	7.9	7.1	13.2	13.5	17 795	25.4	7.5	8.3
127 210	0.7	-0.2	4.6	4.6	5.3	7.7	5.6	5.6	6 312	44.0	6.7	5.7
68 200	-1.3	-3.2	6.1	5.9	3.1	3.3	8.3	8.4	2 640	-0.3	4.6	5.6
53 487	0.4	18.8	5.9	5.9	-0.1	1.9	9.8	10.2	..	..	6.9	7.6
66 473	2.1	1.5	4.3	4.3	7.3	5.9	7.5	7.5	5 427	103.9	5.1	5.1
32 100	6.6	4.7	5.8	5.2	8.3	7.6	7.5	6.1	3 130	26.9	4.9	5.1
16 085	-0.5	6.9	6.1	6.2	3.4	3.4	11.4	10.8	..	..	..	4.4
21 545	-6.9	..	5.5	5.1	0.0	0.0	7.8	6.5	..	..	7.4	7.4
6 600	-1.4	..	5.2	2.7	-5.0	-7.1	19.5	9.6	..	..	4.7	2.4
35 484	-1.6	-6.2	2.4	2.5	5.2	6.9	3.2	3.2	2 397	-4.0	4.8	6.4
5 119	-1.5	..	4.6	4.6	0.2	1.7	12.0	12.5	..	..	3.9	..
5 514	-1.7	-6.2	4.7	4.1	2.6	3.5	10.0	8.4	285	..	2.4	2.2
15 855	6.5	8.5	2.7	2.7	6.8	4.5	3.4	3.5	1 055	..	3.2	4.2
9 722	-1.5	-0.5	3.8	4.3	2.8	1.9	4.5	4.9	266	..	5.0	4.2
8 459	-20.7	5.2	2.1	2.0	3.5	3.2	4.9	3.5	..	..	4.5	5.0
4 018	-0.1	-1.5	4.9	4.5	2.9	2.7	8.1	7.9	254	..	3.8	3.3
2 694	29.1	12.0	8.3	5.8	15.3	19.1	11.0	8.4	533	..	10.2	9.9
2 864	-30.7	..	4.2	4.5	1.8	-2.1	7.2	5.3	71	..	1.4	3.1
5 322	-5.6	-7.6	2.3	3.3	2.8	2.9	3.0	3.6	167	20.1	5.4	5.9
3 895	12.7	..	1.8	1.6	8.5	8.3	2.9	2.6	380	..	7.4	7.4

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units €m	%	%	€m	%	%	%	%	%
Automobiles & parts (31) continued												
27	Miba	461	Austria	10	-3.7	..	294	0.0	..	..	..	..
28	Mayflower	462	UK	10	180.8	..	884	-3.8	-3.9	59	29	11
Household goods & textiles (34)				592	-3.9	5.9	45 109	-4.7	1.7	..	..	..
<i>number of companies for calculation</i>				17	17	-	17	17	-	-	-	-
1	Electrolux	85	Sweden	184	-8.3	8.3	13 671	-6.8	-0.1	48	40	12
2	Adidas-Salomon	133	Germany	86	1.2	-1.9	6 267	-3.9	2.4	54	25	21
3	Christian Dior	216	France	41	-12.8	-12.4	12 466	-5.3	1.7	..	..	..
4	Groupe SEB	218	France	41	8.8	6.6	2 348	-5.9	8.8	..	..	..
5	Pace Micro Technology	227	UK	38	-26.5	6.7	236	-52.7	-23.9	88	6	6
6	AMER	257	Finland	31	28.5	13.0	1 104	0.2	0.5	37	51	12
7	Societe BIC	261	France	30	-17.5	160.2	1 360	-8.8	-3.8	..	..	..
8	PUMA	262	Germany	30	23.6	18.0	1 274	40.0	40.2	67	20	13
9	Hunter Douglas	356	The Netherlands	17	-19.1	..	1 655	-2.2	-0.8	..	..	..
10	Dyson Technology	360	UK	17	48.1	..	333	-1.2	6.2	92	1	8
11	Gardena	410	Germany	13	-5.5	..	398	2.8	..	..	..	..
12	Villeroy & Boch	417	Germany	13	-5.4	-2.5	949	-2.9	0.3	..	..	..
13	Bacou-Dalloz	425	France	12	-3.9	50.8	796	-9.3	45.8	..	..	..
14	Tarkett Sommer (now Tarkett)	449	Germany	11	-3.5	0.0	1 349	-6.1	-1.4	..	..	..
15	Head	452	The Netherlands	11	23.6	14.3	342	11.4	2.7	..	..	..
16	Games Workshop	483	UK	9	6.1	31.0	215	17.5	18.0	..	..	..
17	Hackman	498	Finland	9	4.9	..	346	16.1	..	..	..	..
Beverages (41)				35	-35.5	..	20 441	-11.1	-6.5	..	..	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-	-	-
1	Diageo	311	UK	21	-46.4	-39.9	13 397	-16.3	-7.4	43	33	24
2	Interbrew	397	Belgium	14	-6.7	..	7 044	0.7	-4.8	..	..	..
Food producers (43)				1 721	-3.2	-0.4	102 074	-3.0	-2.3	..	..	..
<i>number of companies for calculation</i>				16	14	-	16	16	-	-	-	-
1	Unilever	24	UK	1 065	-8.7	-3.6	42 693	-11.6	-3.6	43	23	34
2	Danone	104	France	130	-2.3	1.3	13 131	-3.1	-2.8	..	..	..
3	Kerry	131	Ireland	88	12.6	19.0	3 693	-1.7	12.1	..	..	..
4	Cadbury Schweppes	149	UK	75	65.6	28.5	9 141	21.6	12.1	..	..	..
5	Danisco	161	Denmark	68	-1.9	4.9	2 202	-0.9	-11.4	69	13	18
6	Arla Foods	187	Denmark	51	..	..	5 459	3.1	32.6	85	3	13
7	CSM	221	The Netherlands	40	14.3	..	3 517	2.9	8.9	62	33	4
8	Barilla	238	Italy	34	..	..	3 436	44.2	18.4	91	6	3
9	Campina	279	The Netherlands	27	10.8	3.5	3 655	-1.4	-2.1	90	3	7
10	Sudzucker	282	Germany	26	2.0	7.4	4 575	4.4	-0.6	..	..	..
11	Tate & Lyle	289	UK	24	-5.6	9.4	4 079	0.9	-9.1	..	..	..
12	Nutreco	290	The Netherlands	24	12.1	10.2	3 674	-3.6	5.5	..	..	..
13	Raisio	314	Finland	21	3.9	5.4	861	2.1	2.5	..	..	..
14	Aviagen	315	UK	21	-13.1	26.4	225	4.2	26.9	19	47	34
15	Provimi	385	France	15	40.2	-30.2	1 545	1.2	-46.0	77	11	12
16	Sygen International	448	UK	11	11.6	12.6	188	-19.7	-1.9	..	..	..
Health (44)				1 756	1.2	4.6	34 597	-1.8	2.1	..	..	..
<i>number of companies for calculation</i>				23	22	-	23	23	-	-	-	-
1	Amersham (now part of General Electric, USA)	63	UK	258	-1.2	6.9	2 228	2.1	7.0	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
2 447	-0.6	..	3.5	3.7	8.2	10.2	4.3	4.4	36	..	8.2	6.1
5 599	-4.7	0.4	1.2	0.4	2.6	1.2	1.9	0.6	..	..	5.7	3.5
231 227	-1.8	1.5	1.3	1.3	9.0	7.2	2.5	2.6	28 231	..	3.4	3.1
16	16	-	17	17	17	17	16	16	14	-	17	16
77 140	-5.9	-4.0	1.3	1.4	5.8	4.3	2.4	2.4	4 277	-22.5	2.8	2.5
15 411	6.6	5.4	1.4	1.3	7.8	7.3	5.6	5.9	4 712	45.7	1.8	1.8
56 815	-1.3	5.4	0.3	0.4	13.4	9.5	0.7	0.8	8 743	27.0	4.5	4.0
14 662	-5.4	5.8	1.7	1.5	8.3	5.5	2.8	2.4	1 512	..	4.1	3.2
762	-30.5	-11.7	16.3	10.5	-29.7	-7.8	50.4	47.7	192	34.3	1.3	2.6
4 089	6.8	-2.3	2.8	2.2	9.0	9.3	7.5	6.2	1 011	..	1.6	2.1
8 706	-3.4	-3.7	2.2	2.4	12.9	15.3	3.5	4.1	1 817	..	4.9	4.0
2 826	28.9	22.9	2.3	2.7	20.7	13.7	10.6	11.0	3 119	..	2.0	2.3
15 913	8.2	2.8	1.0	1.2	10.9	11.3	1.1	1.4	1 520	..	3.3	3.9
1 673	-14.2	5.0	5.0	3.4	7.8	6.8	10.0	5.8	..	..	2.7	6.2
3 047	4.8	..	3.3	3.6	0.8	3.6	4.3	4.7	..	..	4.8	5.2
10 812	-1.1	0.9	1.3	1.4	4.6	2.8	1.2	1.2	119	..	5.6	6.4
6 254	-5.1	47.7	1.5	1.4	7.5	11.8	2.0	1.9	350	..	2.0	1.9
6 977	-4.1	-1.1	0.8	0.8	6.7	5.5	1.6	1.6	461	..	3.5	2.9
..	..	..	3.2	2.8	0.0	4.2	..	..	94	..	3.8	5.2
3 177	10.6	12.9	4.4	4.9	13.0	13.7	3.0	3.1	304	10.5	9.8	6.6
2 963	12.2	..	2.5	2.8	6.1	2.3	2.9	3.1	..	..	5.5	..
77 179	-20.6	-10.2	0.2	0.2	19.6	15.0	0.5	0.6	39 895	..	5.4	5.9
2	2	-	2	2	2	2	2	2	2	-	2	2
38 955	-37.3	-18.7	0.2	0.2	23.8	16.6	0.5	0.6	29 566	6.2	4.2	5.3
38 224	9.1	3.8	0.2	0.2	11.6	11.3	0.4	0.4	10 329	..	7.7	7.4
514 950	0.2	-1.7	1.7	1.7	9.4	9.7	3.3	3.5	91 379	..	3.4	3.5
16	16	-	16	14	16	16	16	14	12	-	16	15
240 000	-7.0	-2.8	2.5	2.4	12.0	9.9	4.4	4.5	47 503	-5.3	2.4	2.7
88 607	-3.9	0.7	1.0	1.0	12.0	15.2	1.5	1.4	17 494	6.6	4.1	4.4
18 869	1.4	12.1	2.4	2.1	7.0	5.5	4.7	4.2	3 040	29.1	2.7	2.5
55 799	31.9	15.2	0.8	0.6	11.4	17.1	1.3	1.1	13 224	24.9	4.7	5.3
8 440	1.0	-16.8	3.1	3.1	10.8	11.7	8.1	8.3	2 056	9.4	5.3	5.1
17 791	-0.4	-1.5	0.9	0.0	3.0	3.6	2.9	0.0	..	..	5.1	4.9
13 715	6.0	9.2	1.1	1.0	6.9	7.9	2.9	2.7	1 478	..	4.0	3.4
13 481	61.9	16.7	1.0	0.0	2.9	5.2	2.5	0.0	..	..	4.6	..
6 940	1.0	-3.1	0.7	0.6	0.9	0.9	3.8	3.5	..	..	3.8	2.6
17 973	21.0	-14.2	0.6	0.6	9.7	10.1	1.4	1.7	2 734	..	5.1	4.6
6 646	-5.3	-27.5	0.6	0.6	8.8	7.0	3.6	3.6	2 248	-3.6	4.1	2.7
13 183	-0.4	11.1	0.7	0.6	-2.6	3.3	1.8	1.6	817	..	2.4	2.5
2 822	6.3	0.6	2.5	2.4	-1.6	2.5	7.5	7.6	281	..	6.9	13.5
1 494	-0.9	-5.7	9.4	11.2	16.9	15.3	14.1	16.1	..	..	3.6	4.2
8 024	-1.0	-29.8	1.0	0.7	5.8	5.7	1.9	1.3	373	..	1.8	2.6
1 166	1.6	-7.1	5.8	4.2	5.9	6.4	9.4	8.5	131	-31.1	3.7	3.0
243 837	0.9	0.7	5.1	5.0	8.8	9.4	7.2	7.2	35 746	..	5.4	5.5
23	23	-	23	22	23	23	23	22	20	-	23	23
10 312	2.6	5.6	11.6	12.0	13.1	17.7	25.1	26.0	..	..	10.6	9.9

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Health (44) continued												
2	Agfa-Gevaert	72	Belgium	233	-6.1	1.3	4 215	-10.0	-7.1	51	26	23
3	Carl-Zeiss	80	Germany	190	2.2	-9.8	2 029	-10.1	-19.2	60	26	15
4	BioMerieux	103	France	131	10.8	21.9	915	-3.1	15.0	56	28	16
5	Fresenius	109	Germany	121	-12.3	2.0	7 064	-5.9	5.0	38	49	12
6	B Braun Melsungen	114	Germany	105	2.7	4.4	2 647	-3.6	3.5	..	..	..
7	Essilor International	115	France	104	19.5	..	2 116	0.6	2.3	50	41	9
8	Drägerwerk	119	Germany	97	24.9	10.5	1 413	6.0	7.5	..	..	..
9	Smith & Nephew	120	UK	95	5.5	12.9	1 673	6.2	1.3	..	..	..
10	Orion	134	Finland	86	-21.6	7.7	2 262	38.9	33.6	95	4	1
11	Gambro	153	Sweden	71	19.9	6.3	2 879	-5.2	5.5	..	..	..
12	SNIA	190	Italy	50	11.3	8.3	881	-7.9	-8.2	67	19	14
13	William Demant	224	Denmark	40	8.3	14.3	520	-1.3	9.4	..	..	..
14	Getinge	268	Sweden	28	3.9	36.5	1 009	6.0	20.3	..	..	..
15	Coloplast	272	Denmark	28	..	..	761	0.8	16.3	..	..	..
16	Radiometer	304	Denmark	22	-8.9	-0.9	241	0.0	5.4	46	24	30
17	Elekta	319	Sweden	21	31.2	13.6	306	1.3	15.8	..	..	..
18	Ion Beam Applications	342	Belgium	18	47.7	-4.2	234	-11.4	-0.3	..	..	..
19	SSL International	363	UK	16	-12.3	7.0	855	-3.4	-2.4	..	..	..
20	Biacore International	403	Sweden	14	18.3	19.3	57	-16.2	5.9	..	..	..
21	Medisys	465	UK	10	-51.6	4.6	56	9.8	62.7	..	..	..
22	Gyrus	487	UK	9	-18.1	-23.2	111	4.7	13.5	25	72	3
23	Bespak	489	UK	9	15.4	36.9	125	-3.1	1.9	56	35	8
Personal care & household (47)				938	2.7	2.6	34 296	-0.3	-0.6	..	..	..
<i>number of companies for calculation</i>				<i>5</i>	<i>5</i>	<i>-</i>	<i>5</i>	<i>5</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	L'Oreal	40	France	480	2.6	7.8	14 029	-0.3	3.5	..	..	..
2	Henkel	64	Germany	257	-0.8	-7.1	9 436	-2.3	-9.6	..	..	..
3	Beiersdorf	118	Germany	100	7.5	4.4	4 673	-1.5	4.3	..	..	..
4	Reckitt Benckiser	142	UK	81	5.5	7.4	5 269	5.1	5.1	..	..	..
5	Clarins	327	France	20	19.6	19.9	889	-2.7	2.7	..	..	..
Pharma & biotech (48)				17 109	-1.6	4.3	112 631	-0.1	3.4	..	..	..
<i>number of companies for calculation</i>				<i>65</i>	<i>65</i>	<i>-</i>	<i>65</i>	<i>65</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	GlaxoSmithKline	5	UK	3 961	-4.9	3.4	30 429	1.1	5.9	31	48	21
2	Aventis	7	France	2 924	-14.5	-5.6	17 815	-13.6	-7.2	..	..	..
3	AstraZeneca	8	UK	2 736	12.4	6.1	14 944	5.7	1.4	..	..	..
4	Sanofi-Synthelabo (now Sanofi-Aventis)	19	France	1 316	8.1	11.7	8 048	8.1	10.5	..	..	..
5	Boehringer Ingelheim	21	Germany	1 176	-9.8	6.7	7 382	-2.6	6.1	33	42	25
6	Schering	26	Germany	947	-2.4	4.7	4 828	-3.9	2.4	..	..	..
7	Merck	34	Germany	605	1.6	3.5	7 202	-3.6	2.2	42	33	25
8	Novo Nordisk	36	Denmark	563	1.3	7.3	3 564	5.4	8.4	..	..	..
9	Altana	47	Germany	412	11.6	23.4	2 735	4.8	12.2	51	31	18
10	Lundbeck	65	Denmark	246	25.1	9.0	1 335	4.8	20.9	48	37	14
11	UCB	74	Belgium	216	0.5	5.8	2 966	18.0	10.4	..	..	..
12	Elan	79	Ireland	202	-20.1	-5.9	604	-42.9	-16.4	..	..	..
13	Shire Pharmaceuticals	87	UK	182	7.6	39.3	1 080	6.8	30.3	..	..	..
14	Celltech (now part of UCB, Belgium)	94	UK	151	10.9	12.4	501	7.1	14.5	..	..	..
15	Schwarz Pharma	97	Germany	144	15.9	16.3	1 496	55.2	26.7	..	..	..
16	Ipsen	100	Luxembourg	136	4.1	..	737	2.6	4.1	84	4	12
17	Merial	113	UK	106	2.1	-1.9	1 368	4.0	0.9	33	43	25

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
18 608	-8.0	-5.1	5.5	5.3	8.2	7.7	12.5	12.3	2 442	..	3.6	2.7
14 164	-0.5	-24.1	9.4	8.2	1.9	6.1	13.4	13.1	..	..	5.2	6.2
5 477	1.1	12.4	14.3	12.5	10.5	11.5	23.9	21.8	1 118	..	8.2	7.8
65 243	3.4	10.8	1.7	1.8	11.2	11.2	1.9	2.2	7 341	20.4	4.4	4.5
29 235	1.6	2.7	4.0	3.7	6.0	7.3	3.6	3.6	..	..	5.9	6.0
21 713	-2.6	0.4	4.9	4.1	15.1	13.8	4.8	3.9	5 036	38.2	6.1	5.7
10 334	4.8	3.3	6.9	5.8	4.3	4.7	9.4	7.9	266	25.5	3.5	3.0
7 451	-0.7	-10.6	5.7	5.7	17.3	15.6	12.7	12.0	7 366	53.9	6.1	7.3
5 573	-0.9	1.4	3.8	6.7	3.9	6.1	15.4	19.5	1 376	52.2	1.4	3.5
21 273	2.3	5.7	2.5	1.9	5.9	5.7	3.3	2.8	2 852	57.1	7.9	9.9
5 369	-3.1	-12.4	5.7	4.7	-2.4	-7.4	9.4	8.1	48	..	6.0	6.1
4 272	1.5	8.7	7.6	6.9	22.1	20.7	9.3	8.7	1 922	..	3.5	3.2
6 060	10.4	15.7	2.8	2.9	13.7	12.2	4.7	5.0	1 724	..	3.5	2.5
5 774	9.3	15.2	3.6	0.0	16.4	15.8	4.8	0.0	1 693	..	10.3	7.9
1 697	-2.5	0.1	9.3	10.2	17.0	12.0	13.2	14.1	485	..	4.6	2.5
1 011	9.7	8.4	6.8	5.3	12.1	7.9	20.6	17.2	553	..	1.3	1.0
1 719	9.8	11.7	7.8	4.7	-43.6	-1.5	10.6	7.9	143	..	13.2	13.3
6 436	-7.1	-6.5	1.9	2.1	5.6	9.7	2.5	2.7	799	-8.8	2.2	2.9
336	5.3	16.6	23.9	16.9	7.0	17.6	40.5	36.1	109	..	3.5	5.9
313	-25.3	7.4	17.9	40.7	-12.5	-92.2	32.1	49.6	48	-62.5	7.1	15.7
641	9.6	27.0	8.3	10.6	3.6	1.9	14.3	19.2	241	-5.5	4.5	9.4
826	3.8	-5.2	7.2	6.1	2.4	15.5	10.9	9.8	184	39.4	17.6	5.4
142 728	-0.6	-1.4	2.7	2.7	12.8	11.4	6.6	6.4	71 164	1.7	3.2	3.3
<i>5</i>	<i>5</i>	<i>-</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>4</i>	<i>5</i>	<i>5</i>
50 500	0.0	1.6	3.4	3.3	15.9	13.8	9.5	9.3	38 140	-2.6	3.5	3.3
48 328	2.4	-7.2	2.7	2.7	6.4	6.5	5.3	5.5	8 053	5.3	3.4	3.2
18 249	0.4	3.2	2.1	2.0	10.4	10.0	5.5	5.1	7 650	-18.3	3.3	4.0
20 400	-8.5	2.6	1.5	1.5	18.3	15.8	4.0	3.4	15 817	28.4	1.9	2.6
5 251	-2.2	4.1	2.3	1.8	10.7	10.4	3.8	3.1	1 504	..	3.7	3.1
465 332	0.5	0.2	15.2	15.4	19.0	15.3	36.7	37.8	303 606	..	5.2	6.3
<i>64</i>	<i>62</i>	<i>-</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>64</i>	<i>62</i>	<i>56</i>	<i>-</i>	<i>63</i>	<i>52</i>
103 166	-2.8	-1.6	13.0	13.8	30.2	26.5	38.4	39.2	93 633	-9.4	4.1	4.8
75 567	-3.2	-9.7	16.4	16.6	14.0	10.1	38.7	43.8	49 865	35.1	4.7	4.9
60 400	5.0	2.0	18.3	17.2	21.8	22.5	45.3	42.3	58 407	-3.6	6.6	7.5
33 086	2.0	4.3	16.4	16.4	36.8	33.5	39.8	37.6	38 655	2.1	4.2	5.7
33 981	6.7	7.5	15.9	17.2	12.2	14.3	34.6	41.0	..	..	7.0	8.4
26 561	1.2	3.8	19.6	19.3	14.6	9.8	35.7	37.0	8 722	9.6	4.8	5.6
34 206	-0.9	0.7	8.4	8.0	7.3	5.9	17.7	17.3	2 316	86.9	3.9	5.1
18 381	7.7	13.1	15.8	16.4	24.2	23.7	30.6	32.6	11 929	41.5	9.4	15.7
10 073	3.7	5.6	15.1	14.1	20.8	19.7	40.9	38.0	6 061	-22.2	6.2	7.1
5 223	1.8	20.3	18.4	15.4	21.4	23.2	47.1	38.3	3 688	-7.5	12.4	17.7
12 092	17.5	8.1	7.3	8.5	15.8	18.9	17.8	20.9	5 411	56.4	5.5	5.9
2 688	-38.6	-7.1	33.4	23.9	-139.6	-180.7	75.0	57.7	6 289	356.7	4.6	13.7
1 905	5.5	25.3	16.9	16.8	-40.1	-75.1	95.6	93.8	3 302	4.0	4.2	2.1
1 939	-4.8	2.5	30.1	29.0	-20.0	-13.5	77.7	66.7	..	..	4.6	3.6
3 853	3.1	6.0	9.6	12.9	18.5	9.3	37.4	33.2	1 226	-30.7	1.7	2.3
3 769	4.3	3.1	18.5	18.2	21.2	17.7	36.2	36.2	..	..	4.2	4.2
6 368	2.9	-0.2	7.7	7.9	12.9	15.5	16.6	16.8	..	..	5.2	5.7

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Pharma & biotech (48) continued												
18	Chr Hansen	162	Denmark	67	16.9	22.1	582	-7.0	0.2	..	..	..
19	Cambridge Antibody	165	UK	64	43.7	42.0	12	-7.7	-5.0	..	..	..
20	Zeltia	186	Spain	51	14.9	36.6	74	17.5	-1.7	..	..	..
21	Genmab	200	Denmark	47	-12.7	78.1	9	..	..	..	..	..
22	Vernalis	203	UK	44	33.3	12.2	18	38.5	108.0	66	34	0
23	Gedeon Richter	231	Hungary	36	15.9	..	555	21.2	..	..	..	..
24	SkyePharma	234	UK	36	66.4	24.1	75	-24.2	30.2	74	19	7
25	GPC Biotech	236	Germany	35	-10.2	19.8	21	-4.5	24.1	..	..	..
26	Recordati	245	Italy	33	-6.7	-3.9	488	-1.0	11.1	86	4	11
27	Zambon	247	Italy	32	1.6	..	459	4.8	..	..	..	..
28	Active Biotech	253	Sweden	31	1.0	-4.4	..	..	..	100	0	0
29	Krka	255	Slovenia	31	13.4	..	408	9.4	13.0	..	..	..
30	Acambis	270	UK	28	22.1	16.1	240	112.4	198.8	8	92	0
31	Innogenetics	285	Belgium	25	17.0	12.9	65	18.2	15.7	..	..	..
32	Guerbet	292	France	24	33.3	10.1	225	4.2	4.4	..	..	..
33	Qiagen	294	The Netherlands	23	8.0	12.1	279	17.7	19.9	..	..	..
34	Galen (now Warner Chilcott)	299	UK	23	15.1	25.9	343	19.9	41.1	..	..	..
35	Xenova	309	UK	21	-14.6	26.6	11	-35.3	..	10	90	0
36	Stada Arzneimittel	320	Germany	21	28.8	7.8	745	17.5	16.8	91	7	2
37	Medigene	324	Germany	20	-36.7	23.6	2	-33.3	-12.6	..	..	..
38	Crucell	328	The Netherlands	20	-9.3	47.0	5	-28.6	-10.6	..	..	..
39	Egis Pharmaceuticals	335	Hungary	19	30.4	11.6	307	6.2	7.1	..	..	..
40	Antisoma	337	UK	19	9.5	26.3	17	466.7	104.1	90	10	0
41	Biotest	340	Germany	18	-1.6	1.6	222	-14.0	-2.2	75	6	17
42	Axis-Shield	343	UK	18	30.1	33.6	71	6.0	12.4	76	15	9
43	GW Pharmaceuticals	347	UK	18	18.0	84.8	7	..	..	..	..	..
44	Transgene	352	France	18	1.6	-4.0	3	50.0	14.5	..	..	..
45	Q-Med	358	Sweden	17	3.3	39.6	67	17.5	37.1	..	..	..
46	Alizyme	364	UK	16	17.6	29.9	2	..	..	100	0	0
47	Flamel Technologies	365	France	16	65.3	27.4	20	33.3	30.5	..	..	..
48	ML Laboratories	375	UK	16	0.7	5.6	9	-52.6	-19.1	68	17	15
49	Evotec OAI	376	Germany	16	-32.8	-5.8	77	10.0	40.1	..	..	..
50	Oxford Biomedica	379	UK	15	-0.5	28.9	1	..	0.0	8	92	0
51	NicOx	381	France	15	7.0	91.1	1	-80.0	-45.0	..	..	..
52	Microscience	389	UK	15	-5.3	44.0	..	..	..	..	..	..
53	PPL Therapeutics	399	UK	14	-13.4	-9.9	..	..	..	43	53	3
54	Intercell	406	Austria	13	35.1	..	1	..	..	..	..	..
55	Pharmexa	423	Denmark	12	-28.5	15.1	3	-25.0	14.5	100	0	0
56	Cerep	431	France	12	8.2	4.4	34	0.0	23.6	47	45	7
57	Pharmagene	444	UK	11	-7.8	42.6	7	75.0	91.3	21	55	25
58	Biotie Therapies	458	Finland	11	-50.7	..	2	..	..	..	..	..
59	Phytopharm	464	UK	10	20.4	28.6	3	-25.0	0.0	0	17	83
60	Biotage	466	Sweden	10	-30.0	17.9	19	72.7	56.1	37	54	9
61	Vectura	467	UK	10	163.2	89.5	5	0.0	35.7	99	1	0
62	Epigenomics	481	Germany	10	0.5	..	11	450.0	..	..	..	..
63	Karo Bio	490	Sweden	9	3 654.2	45.9	9	-55.0	-6.5	..	..	..
64	Morphosys	491	Germany	9	-54.1	3.2	15	-11.8	23.3	..	..	..
65	Bavarian Nordic	500	Denmark	9	4.7	1.0	68	325.0	..	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
3 561	4.0	0.3	11.6	9.2	5.3	6.6	18.9	16.8	456	39.0	10.1	8.5
296	8.0	22.5	532.0	341.8	-541.7	-415.4	215.7	162.2	288	34.6	58.3	92.3
590	8.5	17.9	69.2	70.7	-32.4	0.0	86.8	81.9	1 016	..	13.5	34.9
199	26.8	131.7	516.3	..	-522.2	..	233.5	338.9	325	..	33.3	..
211	..	5.1	246.6	256.2	-388.9	-384.6	210.4	..	155	158.3	5.6	..
0	..	..	6.5	6.8	22.2	18.3	..	..	1 460	..	..	..
476	-3.3	8.5	47.4	21.6	-74.7	7.1	74.7	43.5	494	-12.7	8.0	6.1
181	-12.1	6.9	166.0	176.5	-128.6	-177.3	192.6	188.4	276	..	0.0	9.1
2 159	2.7	6.6	6.7	7.1	9.2	17.6	15.2	16.7	790	..	3.5	5.7
2 423	-2.8	..	7.0	7.2	9.6	7.5	13.2	12.7	..	..	5.4	5.3
179	-2.2	-19.0	..	..	..	..	174.7	169.2	134	..	..	..
4 424	-2.2	10.0	7.6	7.3	15.0	17.2	7.0	6.0	1 023	..	21.1	..
310	28.1	43.0	11.8	20.5	22.1	12.4	91.1	95.6	514	2.6	3.8	13.3
591	-1.3	1.4	39.1	39.5	-26.2	-32.7	43.0	36.3	343	..	4.6	5.5
1 121	1.7	2.5	10.7	8.3	10.2	8.3	21.4	16.3	163	..	5.3	7.4
1 600	-3.1	..	8.4	9.2	20.1	14.3	14.7	13.1	1 142	..	5.7	19.8
1 045	-33.9	-4.5	6.6	6.9	28.6	21.3	21.8	12.5	1 612	-1.8	1.5	5.6
105	-27.6	22.6	194.5	147.4	-218.2	-129.4	203.7	172.8	57	83.9	9.1	5.9
2 465	15.7	17.0	2.8	2.5	11.4	11.7	8.4	7.6	843	..	1.5	3.2
124	-29.5	17.2	1 013.0	1 067.3	-1 600.0	-1 333.3	163.4	181.9	85	..	0.0	33.3
182	-0.5	18.3	401.2	316.0	-580.0	-842.9	110.2	120.9	218	..	60.0	42.9
4 696	..	..	6.1	5.0	7.5	10.7	4.0	..	261	..	..	..
45	15.4	17.1	108.8	563.0	-47.1	-633.3	411.1	433.1	53	-57.9	0.0	0.0
1 088	-14.8	-2.2	8.3	7.2	2.7	-2.7	16.9	14.6	56	..	8.6	11.6
455	4.1	2.9	25.7	21.0	-19.7	-6.0	40.2	32.2	122	-5.4	7.0	3.0
118	15.7	103.5	257.0	..	-214.3	..	152.5	149.5	187	-35.1	0.0	..
166	0.6	-5.5	592.0	874.0	-733.3	-1 000.0	107.0	105.9	68	..	33.3	150.0
419	23.6	38.4	25.1	28.6	-3.0	1.8	40.2	48.1	105	..	16.4	21.1
15	-6.3	7.7	809.0	..	-800.0	..	1 078.7	860.0	322	232.0	0.0	..
174	16.0	8.3	80.2	64.7	-20.0	13.3	92.1	64.7	320	..	10.0	6.7
155	-32.6	-6.6	172.1	81.0	-133.3	-42.1	99.9	66.9	55	3.8	11.1	21.1
646	4.4	28.0	20.1	32.9	-19.5	-192.9	23.9	37.2	100	..	18.2	12.9
72	-15.3	13.7	1 529.0	..	-1 900.0	..	212.4	180.8	85	4.9	0.0	..
60	-3.2	22.1	1 522.0	284.4	-2 000.0	-380.0	253.7	229.4	68	..	0.0	20.0
72	5.9	26.0	..	..	..	..	203.8	227.8	..	..	..	..
203	4.1	-1.4	..	1 593.0	..	-2 000.0	67.9	81.7	11	10.0	..	100.0
120	26.3	..	1 333.0	..	-1 600.0	..	111.1	103.9	..	..	0.0	..
106	-25.9	17.7	411.0	431.3	-533.3	-500.0	116.3	120.6	36	..	33.3	75.0
342	8.6	20.8	34.7	32.1	-2.9	11.8	34.5	34.6	110	..	11.8	14.7
79	-10.2	10.2	159.6	303.0	-157.1	-375.0	141.4	137.7	35	29.6	0.0	25.0
66	-42.6	..	527.5	..	-700.0	..	159.8	186.3	..	..	0.0	..
34	-2.9	5.4	342.0	213.0	-266.7	-150.0	301.8	243.4	91	-35.9	0.0	0.0
166	9.9	38.1	52.9	130.5	-152.6	-172.7	60.5	95.1	54	..	0.0	9.1
98	32.4	62.1	200.0	76.0	-200.0	-80.0	102.0	51.4	88	..	100.0	20.0
143	10.9	..	86.3	472.0	-63.6	-750.0	66.4	73.2	..	..	9.1	50.0
117	-12.0	0.6	100.1	1.2	-266.7	-165.0	77.0	1.8	24	..	11.1	5.0
95	-18.1	0.0	60.0	115.2	-20.0	-147.1	94.7	168.9	118	..	6.7	5.9
82	13.9	9.2	12.6	51.0	42.6	-25.0	104.1	113.3	339	..	5.9	6.3

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units €m	%	%	€m	%	%	%	%	%
Tobacco (49)				115	15.9	6.3	16 437	-0.7	-2.5	..	..	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-	-	-
1	BAT	116	UK	104	17.7	7.4	15 001	-0.3	-3.1	..	..	..
2	Swedish Match	447	Sweden	11	1.0	-1.6	1 436	-4.5	4.2	53	32	15
General retailers (52)				184	4.3	-5.9	34 739	0.7	3.3	..	..	..
<i>number of companies for calculation</i>				5	5	-	5	5	-	-	-	-
1	GUS	125	UK	92	-4.4	-9.0	10 712	5.6	7.7	84	11	5
2	lastminute.com	254	UK	31	82.2	-2.1	267	434.0	222.0	100	0	0
3	Boots	259	UK	30	-17.1	-5.8	7 557	-0.0	0.7	..	..	..
4	Karstadt Quelle	312	Germany	21	27.6	..	15 270	-3.3	0.1	..	..	..
5	Baxi	486	UK	9	-5.4	..	933	-2.3	..	..	..	..
Leisure & hotels (53)				166	8.9	..	21 144	-4.6	-1.3	..	..	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-	-	-
1	Amadeus Global Travel	96	Spain	145	15.5	38.1	1 929	3.9	7.2	67	9	23
2	TUI	317	Germany	21	-22.0	..	19 215	-5.4	-2.0	..	..	..
Media & entertainment (54)				556	4.6	-9.9	44 564	-42.8	-9.4	..	..	..
<i>number of companies for calculation</i>				9	9	-	9	9	-	-	-	-
1	Reuters	66	UK	243	-14.5	-19.1	4 537	-10.6	-3.8	..	..	..
2	Vivendi Universal	89	France	170	45.3	-1.7	25 482	-56.2	-15.1	..	..	..
3	Aegis	229	UK	37	5.3	4.8	921	9.6	11.1	..	..	..
4	BBC	263	UK	30	22.9	5.9	5 259	4.9	5.4	..	..	..
5	M-real	277	Finland	27	3.8	-6.5	6 044	-7.9	0.8	..	..	..
6	Spector Photo	353	Belgium	18	-3.1	7.7	377	-1.1	-20.8	99	0	1
7	Eniro	446	Sweden	11	2.0	47.7	540	3.4	41.2	100	0	0
8	Photo-Me	450	UK	11	54.7	17.5	312	17.3	1.8	..	..	..
9	Channel Four Television	456	UK	11	5.6	2.3	1 092	0.9	2.4	..	..	..
Support services (58)				342	-21.1	-5.0	49 399	2.0	5.3	..	..	..
<i>number of companies for calculation</i>				11	11	-	11	11	-	-	-	-
1	Deutsche Post	92	Germany	156	-35.8	-15.1	40 017	1.9	7.0	..	..	..
2	De La Rue	260	UK	30	-17.1	10.2	969	17.2	9.2	..	..	..
3	Industrial & Financial Systems	264	Sweden	30	17.5	9.8	257	-14.3	-0.3	74	20	6
4	BTG	275	UK	27	23.2	73.8	69	53.3	9.2	42	54	3
5	Rexam	301	UK	23	-20.0	-13.8	4 417	0.8	4.5	..	..	..
6	Ureco	334	UK	19	22.1	13.6	632	15.3	14.4	..	..	..
7	Huhtamaki	398	Finland	14	16.7	11.9	2 108	-5.9	-13.9	..	..	..
8	Funkwerk	426	Germany	12	41.1	56.5	179	64.2	67.6	..	..	..
9	Genus	437	UK	11	-6.6	28.3	245	7.5	8.8	72	15	13
10	Elektrobit	471	Finland	10	0.8	20.3	149	41.9	2.1	..	..	..
11	AEA Technology	479	UK	10	-52.1	-22.7	357	-7.3	-12.4	73	22	5
Transport (59)				45	30.7	..	22 988	3.0	..	..	..	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-	-	-
1	AP Moller-Maersk	251	Denmark	32	58.8	..	21 100	3.7	..	..	..	..
2	BBA	405	UK	13	-7.9	-20.9	1 888	-3.7	-5.2	25	69	6

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
76 030	0.5	-8.9	0.7	0.6	17.4	21.3	1.5	1.3	28 408	..	4.1	4.5
2	2	-	2	2	2	2	2	2	2	-	2	2
60 915	0.1	-11.1	0.7	0.6	17.5	21.7	1.7	1.4	25 682	28.3	4.0	4.4
15 115	2.2	3.4	0.8	0.7	17.1	17.4	0.7	0.7	2 726	..	4.2	5.5
232 197	-3.6	-2.3	0.5	0.5	6.1	5.4	0.8	0.7	22 319	6.5	2.8	2.7
5	5	-	5	5	5	5	5	5	4	3	5	5
76 263	2.4	3.0	0.9	1.0	9.1	6.7	1.2	1.3	12 432	17.5	3.4	4.0
1 224	64.1	58.6	11.7	34.2	-25.5	-112.0	25.5	22.9	626	-28.7	9.4	20.0
68 910	-8.6	-6.2	0.4	0.5	10.3	9.6	0.4	0.5	7 353	-4.5	4.0	2.8
80 046	-4.6	-3.2	0.1	0.1	2.3	3.0	0.3	0.2	1 908	..	1.7	1.8
5 754	-9.9	..	1.0	1.0	8.4	6.0	1.6	1.5	..	..	3.6	3.0
72 715	-0.4	-3.2	0.8	0.7	3.3	0.8	2.3	2.1	5 807	..	2.8	3.2
2	2	-	2	2	2	2	2	2	2	-	2	2
5 130	25.5	17.3	7.5	6.8	15.6	15.2	28.3	30.7	3 012	-10.4	2.8	4.3
67 585	-2.0	-4.2	0.1	0.1	2.1	-0.5	0.3	0.4	2 795	..	2.8	3.1
132 066	-0.1	12.8	1.2	0.7	0.3	-26.2	4.2	5.0	31 634	..	4.5	5.9
9	8	-	9	9	9	9	9	8	7	-	9	9
17 134	-6.5	0.4	5.3	5.6	2.5	-12.2	14.2	15.5	6 621	41.6	4.1	4.3
49 617	..	-41.9	0.7	0.2	1.0	-33.7	3.4	..	21 014	23.5	4.1	6.2
8 436	14.1	15.9	4.0	4.1	8.1	6.9	4.3	4.7	1 323	-4.2	3.1	2.6
27 632	1.8	4.6	0.6	0.5	-10.4	-11.4	1.1	0.9	..	..	6.5	5.9
20 372	-3.3	5.4	0.4	0.4	0.8	4.7	1.3	1.2	1 002	..	5.7	6.7
1 627	-4.6	-30.1	4.7	4.8	4.5	2.9	10.9	10.7	60	..	2.1	2.1
4 595	10.2	29.0	2.0	2.1	13.3	-6.9	2.4	2.6	1 025	..	2.4	1.3
1 819	5.5	-2.9	3.5	2.6	10.3	-0.4	6.0	4.1	589	15.0	6.4	8.6
834	-16.4	-2.5	1.0	0.9	5.9	2.5	12.8	10.1	..	..	0.5	0.4
430 804	-0.1	3.8	0.7	0.9	6.4	2.6	0.8	1.0	15 275	..	3.6	4.2
11	11	-	11	11	11	11	11	11	10	-	11	11
375 096	-0.2	5.4	0.4	0.6	6.3	1.9	0.4	0.6	8 707	..	2.8	3.6
6 841	0.8	3.3	3.1	4.4	3.4	-0.8	4.4	5.4	847	23.1	5.1	3.6
2 846	-10.5	-6.5	11.5	8.4	-0.8	-25.7	10.4	7.9	78	..	1.9	2.0
162	-17.8	-5.0	39.3	48.9	-56.5	-124.4	167.4	111.7	221	-9.4	11.6	6.7
21 800	5.8	-2.9	0.5	0.6	6.9	8.2	1.0	1.4	3 494	26.6	5.4	5.2
1 795	2.3	3.0	3.0	2.8	27.2	24.1	10.5	8.8	..	..	36.2	33.6
15 857	-2.5	-11.8	0.7	0.5	4.7	7.8	0.9	0.7	1 069	..	5.5	6.2
908	31.6	47.5	6.8	7.9	9.5	8.3	13.4	12.5	268	..	3.9	4.6
1 352	0.7	-5.6	4.7	5.4	4.5	3.5	8.4	9.1	106	15.2	3.7	2.2
1 112	-14.1	15.9	6.6	9.3	10.7	-6.7	8.8	7.5	289	..	0.7	28.6
3 035	-6.1	-12.6	2.7	5.2	2.2	-7.8	3.2	6.2	196	-17.3	2.8	3.9
75 833	2.2	..	0.2	0.2	15.0	14.1	0.6	0.5	25 721	..	11.5	14.4
2	2	-	2	2	2	2	2	2	2	-	2	2
63 161	3.1	..	0.2	0.1	15.8	14.6	0.5	0.3	23 921	..	12.1	15.2
12 672	-1.9	-2.2	0.7	0.7	6.3	8.5	1.1	1.1	1 800	12.9	5.1	6.5

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units €m	%	%	€m	%	%	%	%	%
Food & drug retailers (63)				..	..	..	..	..	..	..	..	..
<i>number of companies for calculation</i>				-	-	-	-	-	-	-	-	-
1	Coop Norden	474	Sweden	10	-13.8	..	8 736	2.5	..	100	0	0
Telecommunication services (67)				2 853	-4.5	4.3	281 463	3.5	8.2	..	..	..
<i>number of companies for calculation</i>				15	14	-	15	15	-	-	-	-
1	Deutsche Telekom	28	Germany	900	0.0	8.7	55 838	4.0	10.9	86	14	1
2	France Telecom	41	France	478	-17.0	2.1	46 121	-1.1	11.1	..	..	..
3	BT	42	UK	474	-12.1	-2.8	26 282	-1.1	-3.2	..	..	..
4	TeliaSonera	59	Sweden	280	117.9	17.6	9 082	38.6	15.1	..	..	..
5	Vodafone	67	UK	243	4.3	33.4	47 627	10.5	30.8	70	0	30
6	Telecom Italia	99	Italy	139	..	..	30 850	-1.8	0.8	..	..	..
7	Telefonica	151	Spain	73	-22.3	-11.5	28 400	1.4	-0.1	..	..	..
8	Belgacom	166	Belgium	63	43.2	..	5 377	-16.3	..	..	..	..
9	Eircom	191	Ireland	50	-67.5	..	1 628	-3.2	-9.0	..	..	..
10	Telekom Austria	209	Austria	43	40.9	-8.8	3 970	27.7	-11.0	..	..	..
11	e Biscom	228	Italy	38	-32.1	12.8	529	64.8	138.5	..	..	..
12	Elisa Communications	293	Finland	24	-33.3	1.4	1 538	-1.6	7.3	99	1	0
13	KPN	296	The Netherlands	23	-28.1	-26.1	11 870	0.7	4.0	..	..	..
14	mm02	395	UK	14	11.1	..	8 081	16.8	..	..	..	..
15	Hellenic Telecommunications	468	Greece	10	92.7	148.7	4 270	4.8	9.7	..	..	..
Electricity (72)				913	-20.3	-9.5	117 218	2.2	8.8	..	..	..
<i>number of companies for calculation</i>				9	8	-	9	9	-	-	-	-
1	Electricite de France	50	France	381	-11.8	..	44 919	0.6	9.3	..	..	..
2	AREVA	58	France	285	-14.2	-10.2	8 255	-0.1	-3.0	61	21	18
3	British Nuclear Fuels	136	UK	84	-11.9	2.4	3 295	4.6	2.7	..	..	..
4	Vattenfall	184	Sweden	53	-1.6	-5.9	12 333	16.6	52.3	100	0	0
5	Enel	211	Italy	42	-58.0	-30.3	28 937	-3.5	5.6	..	..	..
6	International Power	330	UK	20	..	-9.1	1 209	18.8	-30.3	..	..	..
7	British Energy	331	UK	20	-6.7	-6.3	2 152	-20.3	-10.6	100	0	0
8	Union Electrica Fenosa	338	Spain	19	-81.2	-38.9	5 509	-4.3	11.4	..	..	..
9	Energie Baden	455	Germany	11	..	..	10 609	22.5	22.1	100	0	0
Utilities - other (73, 78)				624	-39.9	-24.0	145 857	-4.6	-7.9	..	..	..
<i>number of companies for calculation</i>				6	6	-	6	6	-	-	-	-
1	RWE	45	Germany	436	0.2	-6.9	42 771	-1.6	-9.0	..	..	..
2	Suez	145	France	79	-37.3	-26.6	39 622	-12.4	4.6	80	10	10
3	E.ON	159	Germany	69	-81.8	-50.6	42 541	17.8	-16.9	..	..	..
4	National Grid Transco	396	UK	14	-44.5	7.3	12 820	-3.9	33.5	52	48	0
5	Edison	411	Italy	13	-74.0	-46.3	5 426	-55.4	-26.5	..	..	..
6	AGBAR	415	Spain	13	-39.2	..	2 677	4.7	7.9	..	..	..
Banks (81)				..	..	..	..	..	..	..	..	..
<i>number of companies for calculation</i>				-	-	-	-	-	-	-	-	-
1	HVB	126	Germany	91	-37.7	10.2	7 183	13.6	1.2	..	..	..
Speciality & other finance (87)				85	-29.9	-3.7	2 651	24.6	27.0	..	..	..
<i>number of companies for calculation</i>				3	3	-	3	3	-	-	-	-
1	Deutsche Borse	181	Germany	55	-37.8	-7.0	1 650	49.3	33.0	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
..
-	-	-	-	-	-	-	-	-	-	-	-	-
27 087	-3.8	..	0.1	0.1	0.2	0.1	0.4	0.4	..	..	1.0	2.1
1 018 056	-5.5	-0.2	1.0	1.2	9.9	-25.3	2.8	2.9	396 258	..	12.1	15.0
15	14	-	15	14	15	15	15	13	14	-	15	14
251 263	-1.8	7.0	1.6	1.7	7.6	-42.4	3.6	3.5	57 546	2.0	9.9	13.1
221 657	-7.7	5.5	1.0	1.2	23.6	-33.1	2.2	2.4	47 679	-2.3	10.9	15.9
103 100	-4.0	-8.2	1.8	2.0	15.2	15.4	4.6	5.0	22 967	-9.6	14.3	13.1
26 188	51.6	-4.8	3.1	2.0	16.7	-18.5	10.7	7.4	16 257	0.5	10.3	15.5
60 109	-9.8	4.1	0.5	0.5	-13.3	-19.9	4.0	3.5	112 930	-1.7	14.2	15.8
95 804	-10.5	-10.0	0.5	0.0	18.6	-8.2	1.5	0.0	34 219	..	10.1	10.5
149 465	-5.1	0.8	0.3	0.3	10.8	-10.1	0.5	0.6	56 389	13.2	10.4	10.1
17 541	-7.7	..	1.2	0.7	9.3	22.5	3.6	2.3	9 500	..	7.4	57.0
8 306	-9.0	-14.1	3.1	9.2	6.9	2.4	6.0	16.9	1 011	..	12.7	..
14 657	-6.7	-7.6	1.1	1.0	9.6	7.2	2.9	1.9	6 140	..	15.1	18.1
1 470	..	50.9	7.3	17.6	-69.2	-99.7	26.1	..	..	..	75.4	175.4
7 172	-11.6	5.2	1.6	2.3	-2.2	-7.9	3.3	4.4	1 406	..	11.0	15.0
31 267	-22.2	-9.0	0.2	0.3	26.6	-61.2	0.7	0.8	14 445	..	12.6	9.6
12 347	-3.4	..	0.2	0.2	2.9	-207.8	1.2	1.0	11 019	67.4	19.9	16.6
17 710	-4.5	-6.4	0.2	0.1	16.0	19.9	0.6	0.3	4 750	..	26.1	33.4
404 536	-4.4	4.5	0.8	1.1	6.8	1.6	2.3	2.9	53 981	..	11.7	15.7
9	9	-	9	8	9	9	9	8	7	-	9	9
167 308	-2.7	7.3	0.8	1.0	4.7	9.9	2.3	2.5	..	..	13.1	12.7
48 011	-4.3	-2.5	3.5	4.0	2.7	-3.8	5.9	6.6	334	44.6	4.0	4.8
23 149	0.8	1.3	2.5	3.0	-12.3	-43.5	3.6	4.1	..	..	21.8	42.3
35 296	3.1	39.1	0.4	0.5	13.7	15.6	1.5	1.6	4 926	..	7.9	8.4
67 203	-5.6	-4.0	0.1	0.3	13.7	2.6	0.6	1.4	38 286	10.4	12.6	17.0
2 416	13.7	-21.3	1.6	0.0	-13.6	34.9	8.2	0.0	2 306	..	14.1	24.4
5 165	-34.6	-0.9	0.9	0.8	23.9	-178.2	3.8	2.7	196	460.0	0.0	15.4
21 269	-11.1	5.7	0.3	1.7	10.3	9.6	0.9	4.1	5 332	23.6	26.7	37.9
34 719	-9.8	8.3	0.1	0.0	-5.2	6.2	0.3	0.0	2 581	..	4.7	20.0
430 103	-18.8	-10.2	0.4	0.7	8.7	5.8	1.5	2.0	103 175	19.0	8.4	9.4
6	6	-	6	6	6	6	6	6	6	4	6	6
139 535	5.2	-5.2	1.0	1.0	6.5	9.7	3.1	3.3	21 479	22.4	9.5	8.5
173 368	-12.8	0.0	0.2	0.3	6.5	1.1	0.5	0.6	15 569	12.3	6.5	8.5
67 230	-35.6	-28.4	0.2	1.1	8.8	5.9	1.0	3.6	39 438	24.0	6.9	9.4
25 658	-11.3	50.5	0.1	0.2	23.1	16.8	0.6	0.9	19 074	11.3	16.4	16.2
4 513	-84.0	-47.4	0.2	0.4	8.3	-1.8	2.9	1.8	5 535	..	6.5	7.7
19 799	-45.8	..	0.5	0.8	6.2	1.1	0.6	0.6	2 080	..	7.0	11.7
..
-	-	-	-	-	-	-	-	-	-	-	-	-
63 526	-5.1	-4.5	1.3	2.3	-37.1	-14.6	1.4	2.2	9 398	..	3.6	..
6 192	11.9	18.5	3.2	5.7	23.1	22.1	13.8	22.0	6 790	-21.0	5.1	..
3	3	-	3	3	3	3	3	3	3	2	3	-
3 243	40.9	50.5	3.3	8.0	27.2	33.8	16.9	38.3	4 261	-20.9	6.2	..

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				<i>units</i>	€m	%	%	€m	%	%	%	%
Speciality & other finance (87) continued												
2	Euronext	308	The Netherlands	21	20.6	50.5	975	0.3	26.0	..	..	..
3	Baltimore Technologies	493	UK	9	-43.1	-24.5	26	-48.0	-37.2	..	..	..
IT hardware (93)				12 498	-2.2	-5.3	80 277	-9.4	-15.0	..	..	..
<i>number of companies for calculation</i>				<i>38</i>	<i>38</i>	<i>-</i>	<i>38</i>	<i>38</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Nokia	4	Finland	3 978	14.6	10.1	29 455	-1.9	-1.0	..	..	..
2	Ericsson	6	Sweden	3 229	-0.1	-11.2	12 973	-19.2	-24.5	35	15	50
3	Alcatel	17	France	1 593	-32.8	-19.4	12 513	-24.4	-26.4	50	15	34
4	Infineon Technologies	23	Germany	1 083	12.3	..	6 152	18.1	..	43	23	34
5	STMicroelectronics	27	France	921	22.8	5.7	5 735	15.4	-2.3	..	..	..
6	ASML	57	The Netherlands	287	-3.9	9.7	1 543	-21.2	-11.0	..	..	..
7	Marconi	60	UK	280	-39.8	-33.5	2 211	-22.2	-38.4	..	..	..
8	Oce	76	The Netherlands	208	-2.1	3.1	2 769	-12.8	-4.9	..	..	..
9	Spirent	123	UK	94	-15.1	3.1	662	-16.5	-12.5	32	49	19
10	ASM International	143	The Netherlands	79	-10.5	2.3	582	12.1	-14.6	11	22	67
11	ARM	160	UK	68	-3.7	20.5	182	-15.0	8.4	18	51	31
12	Wavecom	168	France	62	-3.1	56.7	276	-49.9	61.1	..	..	..
13	Bull	170	France	60	-17.8	-27.9	1 265	-16.4	-26.9	..	..	..
14	Intracom	182	Greece	54	-16.9	-0.2	641	-20.0	-8.3	..	..	..
15	Bookham Technology	188	UK	51	-10.1	27.2	127	159.2	50.8	26	63	11
16	Filtronic	220	UK	40	-11.8	2.4	342	-14.1	2.8	60	20	20
17	GN Store Nord	222	Denmark	40	-50.3	-17.4	637	-13.9	-12.2	..	..	..
18	Micronic Laser Systems	243	Sweden	33	-5.4	16.1	47	-14.5	-15.5	1	4	95
19	TTP Communications	248	UK	32	4.8	7.4	70	0.0	11.1	11	21	69
20	Dialog Semiconductor	258	UK	31	-2.4	15.7	93	34.8	-20.5	..	..	..
21	Kontron	281	Germany	26	1.3	45.1	229	6.5	22.0	..	..	..
22	Imagination Technologies	298	UK	23	24.8	26.3	44	57.1	19.2	69	6	25
23	ELMOS Semiconductor	322	Germany	20	-8.9	13.9	121	10.0	4.5	..	..	..
24	LGP ALLGON (now part of Powervave Technologies, USA)	323	Sweden	20	115.8	42.2	233	53.3	17.7	..	..	..
25	Anoto	332	Sweden	19	-31.5	24.2	21	-12.5	32.6	25	6	69
26	Psion	350	UK	18	0.1	-8.1	183	-6.6	-16.3	..	..	..
27	ARC International	354	UK	18	-4.7	10.2	15	-11.8	0.0	24	66	10
28	Aixtron	393	Germany	14	17.6	14.2	91	-39.7	-16.8	..	..	..
29	Axis	401	Sweden	14	5.4	-14.6	69	-6.8	-5.6	..	..	..
30	BE Semiconductor Industries	407	The Netherlands	13	6.3	5.0	86	3.6	-24.3	..	..	..
31	Augusta Technologie	412	Germany	13	-13.9	21.9	236	-9.9	5.0	..	..	..
32	Radiall	419	France	13	3.3	-1.3	145	-6.5	-17.1	54	29	16
33	Telemetrix (now Zetex)	421	UK	12	17.1	4.5	130	5.7	-3.6	54	12	33
34	Plasmon	429	UK	12	-16.7	-0.6	71	-16.5	-10.2	31	57	11
35	Melexis	430	Belgium	12	20.4	22.8	134	13.6	18.3	..	..	..
36	SUSS MicroTec	459	Germany	11	-16.3	0.4	96	-25.0	-17.2	..	..	..
37	Memscap	480	France	10	70.3	..	6	-40.0	..	64	31	5
38	Glunz & Jensen	499	Denmark	9	29.9	8.7	92	-1.1	-6.1	45	39	16
Software & computer services (97)				2 632	2.5	5.3	20 485	-3.4	6.4	..	..	..
<i>number of companies for calculation</i>				<i>49</i>	<i>49</i>	<i>-</i>	<i>49</i>	<i>49</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	SAP	25	Germany	996	9.5	0.9	7 025	-5.2	3.9	..	..	..
2	Dassault Systemes	75	France	216	-3.3	8.3	755	-2.5	6.1	..	..	..
3	UBI Soft Entertainment	95	France	147	118.9	33.2	449	21.7	33.9	56	41	4
4	Misys	108	UK	126	-2.2	3.3	1 277	-11.2	1.6	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
2 726	0.1	11.2	2.2	1.8	19.3	18.5	7.9	6.5	2 512	..	3.2	..
223	-56.0	-34.2	34.5	31.6	-96.2	-166.0	40.3	31.1	17	-37.0	0.0	2.0
332 779	-9.8	-12.8	15.6	14.4	1.6	-8.0	37.4	34.0	126 045	-2.8	4.2	3.7
37	37	-	38	38	38	38	37	38	38	22	38	37
51 605	-2.1	-4.2	13.5	11.6	16.8	15.9	77.1	65.8	42 344	-32.2	1.3	1.3
57 182	-22.1	-17.4	24.9	20.1	-9.2	-13.6	56.5	44.0	34 015	93.8	3.0	1.9
60 486	-20.4	-22.8	12.7	14.3	-13.3	-28.3	26.3	31.2	12 702	23.5	1.1	2.1
31 523	4.5	..	17.6	18.5	-4.8	-21.9	34.4	31.9	6 412	-16.5	14.2	12.3
45 700	5.9	2.1	16.1	15.1	4.1	9.4	20.2	17.4	13 202	-22.4	16.9	15.9
5 323	-5.6	6.7	18.6	15.2	-13.9	-14.2	53.9	52.9	5 469	2.3	4.6	7.1
15 000	-28.6	-33.9	12.6	16.3	-16.4	-55.2	18.6	22.1	1 778	75.2	2.1	2.1
22 346	-0.6	0.5	7.5	6.7	4.5	7.1	9.3	9.5	1 041	18.7	6.5	7.0
4 498	-13.2	-13.5	14.2	13.9	5.0	-177.7	20.8	21.3	745	82.2	3.6	4.9
6 998	14.6	2.5	13.6	17.0	2.4	-1.2	11.3	14.5	656	-12.4	5.2	6.4
730	-2.5	11.6	37.5	33.2	14.3	27.1	93.6	94.7	1 528	31.6	2.7	10.3
692	3.9	45.4	22.5	11.6	-11.2	10.2	89.8	96.2	43	..	4.0	4.9
7 793	-6.7	-23.2	4.7	4.8	4.1	-34.4	7.7	8.7	255	116.1	0.7	1.1
0	-100.0	-100.0	8.4	8.1	8.0	15.0	..	9.3	429	..	1.9	..
1 784	69.7	42.6	39.9	115.2	-97.6	-308.2	28.4	53.7	241	9.5	13.4	34.7
2 893	-7.9	-0.1	11.8	11.5	2.9	-4.5	13.9	14.5	186	51.2	3.5	4.0
4 343	-20.7	-5.6	6.2	10.8	1.9	-86.1	9.2	14.6	1 451	92.7	3.1	3.5
312	4.3	9.1	69.8	63.1	-44.7	-18.2	105.2	116.0	220	..	12.8	7.3
492	21.8	37.3	45.5	43.5	-7.1	10.0	64.8	75.3	180	-21.1	4.3	11.4
273	-3.9	6.0	32.9	45.4	-31.2	-26.1	112.1	110.3	126	106.6	6.5	5.8
1 534	13.3	44.1	11.5	12.1	-10.9	-1.9	17.2	19.2	273	..	2.6	0.9
273	16.2	17.8	51.9	65.4	-13.6	-28.6	83.7	77.9	166	16.1	6.8	3.6
874	5.3	19.4	16.8	20.3	17.4	17.3	23.3	27.0	220	..	16.5	22.7
1 298	54.0	19.3	8.7	6.2	-5.2	2.0	15.6	11.1	262	..	2.1	3.3
182	-41.3	19.4	91.4	116.8	-181.0	-195.8	105.4	90.4	152	..	0.0	4.2
955	-9.4	-2.6	9.8	9.2	-16.9	-22.4	18.8	17.0	360	-14.1	2.7	2.0
199	-5.2	3.6	117.7	108.9	-266.7	-217.6	88.7	88.2	51	-42.1	26.7	29.4
410	-19.8	8.6	15.6	8.0	-31.9	13.9	34.7	23.7	272	..	4.4	8.6
356	6.6	-13.0	19.8	17.6	0.0	5.4	38.5	38.9	100	..	0.0	1.4
694	3.1	-5.9	15.4	15.0	-23.3	-21.7	19.1	18.5	137	..	14.0	6.0
1 044	-1.3	16.9	5.4	5.7	-0.8	-9.5	12.3	14.1	9	..	1.3	1.5
1 566	-9.1	-8.1	8.6	7.8	-2.1	-11.6	8.0	7.0	129	..	2.8	1.9
1 077	-4.6	-1.4	9.5	8.6	-10.8	-3.3	11.5	9.4	219	123.5	5.4	3.3
412	-10.0	-6.3	16.9	16.9	-7.0	-4.7	29.1	31.4	169	62.5	9.9	10.6
550	23.6	20.9	8.9	8.4	18.7	19.5	21.7	22.2	379	..	8.2	11.0
737	-21.7	2.4	10.9	9.8	-17.7	-12.5	14.2	13.3	86	..	1.0	3.1
256	89.6	..	158.3	55.8	-483.3	-30.0	37.1	41.3	28	..	583.3	360.0
389	-6.3	-6.6	9.3	7.1	-8.7	5.4	22.0	15.9	10	..	2.2	2.2
125 604	-1.0	8.9	12.8	12.1	10.4	-5.1	21.0	20.2	64 002	..	2.8	2.6
49	49	-	49	49	49	49	49	49	45	-	49	49
29 098	-1.7	7.6	14.2	12.3	24.3	14.7	34.2	30.7	40 226	26.1	2.9	3.5
4 088	3.1	8.5	28.6	28.8	28.2	26.1	52.7	56.2	4 019	15.6	2.1	2.3
1 990	4.7	5.6	32.7	18.2	5.6	5.7	73.8	35.3	295	..	1.8	2.4
6 443	-2.3	2.9	9.8	8.9	2.7	7.0	19.5	19.5	1 384	-34.5	4.8	0.9

II.1.3. Ranking of the Top 500 EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Software & computer services (97) continued												
5	Amdocs	121	UK	95	-3.9	16.8	1 176	-8.1	9.9	30	62	8
6	Sage	139	UK	82	0.3	14.3	795	1.5	10.8	54	44	0
7	LogicaCMG	141	UK	82	-10.2	12.7	2 422	-3.3	14.6	..	..	..
8	Business Objects	148	France	76	27.2	32.8	445	23.3	17.1	..	..	..
9	Infogrames Entertainment	158	France	69	-38.0	0.3	661	-14.2	8.2	..	..	..
10	Software	172	Germany	58	-9.3	0.5	422	-11.2	0.4	..	..	..
11	Intentia International	189	Sweden	51	-14.7	1.1	323	-18.4	-4.8	90	0	11
12	Symbian	199	UK	47	3.6	23.7	42	68.0	56.3	..	..	..
13	Eidos	201	UK	46	-16.1	-11.6	215	47.3	-8.0	..	..	..
14	IBS	249	Sweden	32	-7.6	5.5	265	-4.3	2.4	..	..	..
15	Sopra	267	France	29	10.8	..	521	3.2	..	..	..	..
16	Merant <i>(now part of Serena Software, USA)</i>	286	UK	25	-24.7	-17.9	112	-33.3	-29.7	..	..	..
17	Telelogic	295	Sweden	23	-17.2	7.4	103	-16.9	2.0	..	..	..
18	Unit 4 Agresso	306	The Netherlands	22	-3.1	19.9	219	1.9	21.9	..	..	..
19	IONA Technologies	307	Ireland	22	-31.1	0.5	59	-39.8	-21.3	..	..	..
20	NSB	318	UK	21	-15.1	19.9	91	-12.5	16.2	36	64	0
21	iXOS Software	333	Germany	19	20.9	-0.4	127	3.3	5.6	..	..	..
22	ISOFT	345	UK	18	60.7	64.9	212	63.1	68.9	90	0	10
23	London Bridge Software <i>(now part of Fair Isaac, USA)</i>	351	UK	18	-6.8	7.5	83	-5.7	1.2	..	..	..
24	RM	361	UK	17	-15.2	16.8	306	6.6	1.2	99	0	1
25	Exact	371	The Netherlands	16	-15.6	..	206	-3.7	7.9	..	..	..
26	Systems Union	374	UK	16	3.6	-4.4	111	4.7	13.5	..	..	..
27	Ilog	387	France	15	23.4	7.0	73	10.6	0.9	..	..	..
28	Anite	390	UK	15	64.5	69.2	307	7.0	10.8	91	4	5
29	Lectra	391	France	14	4.7	-4.8	185	0.0	-6.9	51	22	27
30	Intec Telecom Systems	392	UK	14	25.5	71.0	72	7.5	35.4	38	31	32
31	WEB DE	400	Germany	14	16.9	9.1	33	37.5	40.1	..	..	..
32	Empire Interactive	402	UK	14	-11.2	31.9	43	19.4	42.1	54	45	2
33	Simcorp	416	Denmark	13	-15.7	12.2	67	-1.5	7.5	..	..	..
34	LION Bioscience	418	Germany	13	-63.5	-8.6	20	-33.3	-4.6	..	..	..
35	ADVA	422	Germany	12	7.1	-11.0	90	2.3	14.5	..	..	..
36	Autonomy	433	UK	12	34.8	25.3	47	-2.1	-9.3	..	..	..
37	XRT	434	France	12	12.9	-9.0	39	-2.5	-2.4	..	..	..
38	Beta Systems Software	438	Germany	11	28.9	12.4	56	24.4	11.0	..	..	..
39	Northgate Information Solutions	451	UK	11	10.7	0.6	194	60.3	8.5	98	2	0
40	ESI	453	France	11	11.1	..	43	0.0	..	50	14	36
41	Staffware <i>(now part of Tibco Software, USA)</i>	457	UK	11	5.7	5.8	61	10.9	4.1	..	..	..
42	DICOM	463	UK	10	-2.1	44.5	222	4.7	16.3	78	17	4
43	Ubizen	469	Belgium	10	4.9	8.6	72	-40.5	-1.8	88	12	0
44	AVEVA	475	UK	10	15.6	1.9	54	5.9	10.5	..	..	..
45	Royalblue	477	UK	10	12.8	3.9	80	-1.2	-0.4	47	42	11
46	Tecnomen	484	Finland	9	-16.1	..	45	12.5	..	..	..	..
47	Innovation	485	UK	9	-18.6	..	83	-41.6	81.0	..	..	..
48	PSI	494	Germany	9	-22.4	-2.2	138	-8.6	-2.1	..	..	..
49	F-Secure	496	Finland	9	-10.3	-11.7	39	0.0	-1.7	68	21	11

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
10 200	8.5	6.7	8.0	7.7	14.2	3.1	9.3	10.5	3 717	-4.7	4.2	3.6
5 805	3.0	7.7	10.4	10.5	27.9	25.0	14.2	14.6	3 139	-3.5	7.7	3.4
21 131	-10.4	28.0	3.4	3.6	-1.2	-49.9	3.9	3.9	1 751	2.3	1.5	1.3
3 924	81.5	27.6	17.0	16.5	8.3	13.0	19.3	27.5	1 520	14.8	2.2	2.2
1 846	-6.8	-5.0	10.5	14.5	-5.7	-8.2	37.5	56.4	159	-67.1	0.8	1.6
2 844	-8.8	0.5	13.8	13.5	-0.7	9.9	20.5	20.6	715	114.1	1.9	1.3
3 103	-7.9	-2.8	15.7	15.0	-8.4	-3.0	16.3	17.6	140	89.2	0.6	1.0
653	1.2	24.4	111.9	181.4	-135.7	-244.0	71.9	70.3	..	..	9.5	12.0
536	-0.6	-2.8	21.5	37.8	8.8	-30.1	86.3	102.3	194	-21.1	0.9	2.7
1 963	-9.5	-5.8	12.0	12.4	1.1	-7.2	16.2	15.9	76	..	1.1	1.4
6 000	0.0	..	5.5	5.1	6.5	7.9	4.8	4.3	373	..	1.3	1.8
604	-36.7	-32.7	22.5	19.9	-17.9	-57.7	41.8	35.1	..	..	1.8	2.4
682	-24.9	-6.5	22.7	22.8	1.0	-5.6	34.3	31.2	300	..	1.0	0.8
1 410	4.2	17.6	9.9	10.4	8.7	5.6	15.4	16.6	262	..	1.4	1.9
353	-43.8	-20.0	36.7	32.1	-59.3	-298.0	61.4	50.1	77	..	1.7	4.1
957	-16.6	30.5	22.9	23.6	-44.0	-266.3	21.8	21.4	126	133.3	0.0	1.9
852	12.8	-4.2	14.9	12.7	-3.2	6.5	22.2	20.8	181	..	3.2	1.6
1 338	130.7	74.5	8.5	8.6	13.7	23.1	13.5	19.3	1 182	100.7	1.9	0.8
737	-6.9	12.3	21.5	21.8	1.2	-83.0	24.2	24.2	..	..	2.4	2.3
1 545	-2.8	-0.6	5.4	6.8	2.3	-3.5	10.8	12.4	153	8.5	2.3	2.1
2 025	-1.4	2.3	7.7	8.8	20.4	18.2	7.9	9.2	496	..	1.9	6.1
850	10.5	9.2	14.0	14.1	6.3	4.7	18.2	19.5	131	17.0	2.7	0.9
602	0.0	5.1	20.5	18.4	2.7	1.5	24.8	20.1	147	..	1.4	3.0
2 121	-3.1	13.8	4.7	3.1	-43.6	2.8	6.8	4.0	247	17.6	2.6	3.1
1 295	-4.5	-5.1	7.8	7.4	4.9	3.2	11.1	10.1	239	..	1.1	1.1
529	15.0	44.3	19.9	17.0	-4.2	-28.4	27.0	24.8	182	91.6	4.2	3.0
329	15.0	-2.5	41.6	49.0	-9.1	-62.5	41.7	41.1	267	..	9.1	12.5
158	-1.3	17.7	31.8	42.8	2.3	-8.3	86.6	96.3	9	50.0	0.0	0.0
526	-4.9	5.0	19.0	22.2	9.0	4.4	24.1	27.3	158	..	1.5	1.5
177	-47.5	-26.2	62.6	114.1	-115.0	-513.3	70.7	101.6	9	..	5.0	10.0
399	2.3	10.7	13.7	13.1	4.4	-1.1	30.9	29.5	170	..	3.3	2.3
211	1.9	8.1	24.8	18.0	2.1	0.0	55.3	41.8	261	-12.1	2.1	0.0
368	3.1	-10.3	29.4	25.4	0.0	20.0	31.2	28.5	21	..	2.6	2.5
368	12.5	5.8	20.4	19.7	8.9	4.4	31.0	27.1	63	..	3.6	4.4
1 888	84.9	21.4	5.6	8.1	-6.2	-0.8	5.7	9.6	393	211.9	14.9	2.5
369	9.2	..	25.0	22.5	-2.3	0.0	29.1	28.6	60	..	2.3	2.3
348	2.7	2.4	17.3	18.2	6.6	5.5	30.4	29.5	..	..	1.6	3.6
826	12.1	23.0	4.7	5.0	5.4	2.4	12.5	14.3	228	49.0	1.4	1.9
349	-60.5	-13.3	13.9	7.9	-52.8	-22.3	28.6	10.8	82	..	1.4	1.7
326	-1.2	7.0	18.0	16.5	16.7	15.7	29.8	25.5	165	52.8	5.6	5.9
478	-7.4	-2.3	12.1	10.6	13.8	14.8	20.3	16.6	206	13.2	5.0	3.7
440	-15.4	..	20.9	28.0	-15.6	-35.0	21.4	21.5	71	..	0.0	5.0
1 004	-13.3	177.5	11.1	8.0	-42.2	-391.6	9.2	9.8	150	76.5	1.2	4.2
1 221	-8.7	0.2	6.5	7.6	0.0	-11.9	7.3	8.6	33	..	1.5	1.3
295	-6.4	-9.6	22.4	25.0	7.7	-5.1	29.7	31.0	225	..	0.0	0.0

II.1.4. Ranking of Top 10 companies by R&D investment in the 2003 financial year, within selected EU Member States (not fully represented elsewhere in the Scoreboard)

No.	Company	— R&D Investment —			— Net Sales —			— Employees —			R&D/Sales ratio	Operating Profit	R&D per employee	Market Capitalisation
		2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	2003	2003	2003	2003
		units	€m	%	€m	%	%	#	%	%	%	% of Net Sales	€K	€m
Czech Republic														
1	Setuza AS	0.2	..	..	168	..	..	1 332	..	..	0.1	..	0.1	..
Estonia														
1	Norma	1.3	..	..	64	..	..	882	..	..	2.0	12.3	1.4	..
2	Rakvere Lihakombinaat	0.7	..	..	78	..	..	1 267	..	..	0.9	7.1	0.6	..
3	Port of Tallinn	0.5	..	..	61	..	..	701	..	..	0.8	29.1	0.7	..
4	Harju Elekter	0.4	..	..	22	..	..	303	..	..	1.6	49.5	1.1	..
5	Eesti Post	0.1	..	..	40	..	..	4 092	..	..	0.3	2.1	0.0	..
Greece														
1	Intracom	54	-17.0	0.0	641	-20.0	-8.0	..	..	..	8.4	7.9	..	429
2	Hellenic Telecommunications	10	93.0	148.0	4 270	5.0	10.0	17 710	-5.0	-6.0	0.2	16.0	0.6	4 750
3	Delta Singular	4.7	-8.0	51.0	111	-23.0	75.0	1 480	-5.0	47.0	4.3	17.8	3.2	..
4	Gek	3.0	..	..	410	..	..	835	..	..	0.7	12.6	3.6	..
5	Intralot	2.6	89.0	..	319	13.0	..	..	..	..	0.8	22.9	..	..
6	Pouliadis Associates	2.2	..	..	452	..	..	1 136	..	..	0.5	1.6	1.9	..
7	EYDAP Athens Water Supply	1.3	..	..	285	..	..	4 245	..	..	0.4	15.9	0.3	..
8	Delta	0.8	121.0	..	666	7.0	..	6 140	6.0	..	0.1	6.1	0.1	..
9	Public Power	0.7	-74.0	..	3 296	9.0	..	28 795	-2.0	..	0.0	23.4	0.0	..
10	Naoussa Spinning Mills	0.7	..	..	214	..	..	3 552	..	..	0.3	..	0.2	..
Hungary														
1	Gedeon Richter	36	16.0	..	555	21.0	..	..	..	..	6.5	22.2	..	1 460
2	Egis Pharmaceuticals	19	30.0	12.0	307	6.0	7.0	2 696	..	..	6.1	7.5	7.0	261
3	Graphisoft	5.7	..	..	26	..	..	277	..	..	21.6	..	20.4	..
Ireland														
1	Elan	202	-20.0	-6.0	604	-43.0	-16.0	2 688	-39.0	-7.0	33.4	..	75.0	6 289
2	Kerry	88	13.0	19.0	3 693	-2.0	12.0	18 869	1.0	12.0	2.4	7.1	4.7	3 040
3	Eircom	50	-68.0	..	1 628	-3.0	-9.0	8 306	-9.0	-14.0	3.1	6.9	6.0	1 011
4	IONA Technologies	22	-31.0	1.0	59	-40.0	-21.0	353	-44.0	-20.0	36.8	..	61.4	77
5	Greencore	7.4	-5.0	29.0	1 473	-17.0	18.0	11 241	-4.0	45.0	0.5	5.6	0.7	..
6	Trintech	6.6	-20.0	-25.0	34	1.0	-4.0	336	-7.0	-19.0	19.2	..	19.5	..
7	Waterford Wedgwood	5.5	-43.0	-1.0	456	-45.0	-20.0	6 730	-26.0	-10.0	1.2	..	0.8	..
8	Kingspan	5.0	3.0	30.0	784	6.0	6.0	3 180	3.0	4.0	0.6	9.0	1.6	..
9	Glanbia	4.7	-14.0	22.0	2 041	-12.0	-5.0	5 052	-21.0	-12.0	0.2	3.7	0.9	..
10	Independent News & Media	4.7	-25.0	..	1 388	6.0	1.0	11 018	0.0	-1.0	0.3	14.6	0.4	..
Luxembourg														
1	Ipsen	136	4.0	..	737	3.0	4.0	3 769	4.0	3.0	18.5	21.2	36.1	..
2	Gemplus International	72	-31.0	-10.0	749	-5.0	-15.0	5 037	-11.0	-14.0	9.6	..	14.3	966
3	Stolt Offshore	1.2	93.0	..	1 175	3.0	15.0	..	..	..	0.1	..	..	..
4	Millicom International Cellular	0.9	..	-33.0	513	7.0	4.0	1 917	-8.0	-18.0	0.2	24.7	0.5	..

No.	Company	— R&D Investment —			— Net Sales —			— Employees —			R&D/Sales ratio	Operating Profit	R&D per employee	Market Capitalisation
		2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	2003	2003	2003	2003
		units	€m	%	€m	%	%	#	%	%	%	% of Net Sales	€K	€m
Poland														
1	Netia	6.5	-37.0	..	147	15.0	16.0	1 279	-9.0	-8.0	4.4	..	5.0	..
2	Bank Pekao	2.2	..	..	894	-3.0	13.0	18 422	-7.0	..	0.2	27.2	0.1	..
Portugal														
1	Banco BPI	3.9	..	..	760	..	..	7 652	..	..	0.5	25.8	0.5	..
2	Sonae SGPS	1.1	-66.0	-36.0	6 231	-2.0	13.0	51 591	1.0	1.0	0.0	3.2	0.0	..
3	Electricidade de Portugal	1.0	-99.0	-24.0	6 978	10.0	22.0	17 388	1.0	11.0	0.0	11.6	0.1	..
4	Salvador Caetano SS	0.6	..	..	442	..	..	3 295	..	..	0.1	0.6	0.2	..
5	Mota-Engil SGPS	0.5	..	..	876	..	..	8 651	..	..	0.1	6.0	0.1	..
6	Jeronimo Martins	0.4	3.0	4.0	3 417	-12.0	-4.0	28 185	-18.0	-8.0	0.0	4.7	0.0	..
7	Portucel-Empresa Produtora de Pasta	0.3	24.0	..	1 001	-8.0	..	2 270	-4.0	..	0.0	10.3	0.1	..
8	Somague Sgps	0.3	..	..	767	..	..	3 431	..	..	0.0	3.4	0.1	..
9	Banco Comercial Portuges	0.2	..	..	2 225	12.0	22.0	17 606	-1.0	19.0	0.0	17.9	0.0	..
10	INAPA	0.2	..	..	1 070	-8.0	..	1 603	-6.0	..	0.0	1.3	0.1	..
Slovakia														
1	Slovnaft	1.3	..	..	1 635	..	..	5 219	..	..	0.1	4.0	0.3	..
Slovenia														
1	Krka	31	13.0	..	408	10.0	13.0	4 424	-2.0	10.0	7.6	15.0	7.0	1 023
2	Gorenje Gospodinjski Aparati DD	0.1	..	..	828	..	..	9 146	..	..	0.0	2.8	0.0	..
Spain														
1	Amadeus Global Travel	145	15.0	38.0	1 929	4.0	7.0	5 130	25.0	17.0	7.5	15.6	28.3	3 012
2	Repsol YPF	134	2.0	11.0	36 069	1.0	-6.0	30 644	-6.0	-4.0	0.4	10.0	4.4	21 316
3	Telefonica	73	-22.0	-12.0	28 400	1.0	0.0	149 465	-5.0	1.0	0.3	10.8	0.5	56 389
4	Zeltia	51	15.0	37.0	74	17.0	-2.0	590	8.0	18.0	69.3	..	86.8	1 016
5	Gamesa	41	22.0	3.0	1 572	44.0	29.0	6 164	25.0	20.0	2.6	15.0	6.6	2 707
6	Industria de Turbo Propulsores	39	3.0	..	405	4.0	..	2 203	0.0	..	9.6	7.0	17.6	..
7	Abengoa	20	103.0	..	1 635	7.0	..	8 826	5.0	..	1.2	5.4	2.3	621
8	Union Electrica Fenosa	19	-81.0	-39.0	5 509	-4.0	11.0	21 269	-11.0	6.0	0.3	10.3	0.9	5 332
9	AGBAR	13	-39.0	..	2 677	5.0	8.0	19 799	-46.0	..	0.5	6.2	0.6	2 080
10	Iberdrola	7.0	-16.0	0.0	9 452	-1.0	10.0	13 042	-9.0	1.0	0.1	15.5	0.5	..

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				<i>units</i> €m	%	%	%	€m	%
Top 500 companies				195 637	3.9	1.2	6.0	4 342 382	6.8
<i>number of companies for calculation</i>				<i>500</i>	<i>496</i>	<i>485</i>	<i>476</i>	<i>500</i>	<i>499</i>
1	Ford Motor	Automobiles & parts (31)	USA	5 946	-2.6	4.1	8.8	130 865	1.0
2	Pfizer	Pharma & biotech (48)	USA	5 654	37.8	6.8	9.3	35 825	39.6
3	Toyota Motor	Automobiles & parts (31)	Japan	4 945	13.4	23.9	5.4	114 672	8.3
4	General Motors	Automobiles & parts (31)	USA	4 519	-1.7	-6.5	-6.1	147 084	-0.7
5	Matsushita Electric	Electronic & electrical (25)	Japan	4 285	5.1	-2.6	4.0	55 331	1.1
6	IBM	Software & computer services (97)	USA	4 011	6.7	2.7	-5.7	70 663	9.8
7	Johnson & Johnson	Pharma & biotech (48)	USA	3 714	18.4	10.2	22.7	33 188	15.3
8	Microsoft	Software & computer services (97)	USA	3 694	8.2	-1.6	16.0	25 518	13.5
9	Intel	IT hardware (93)	USA	3 457	8.1	6.3	-2.6	23 896	12.6
10	Sony	Electronic & electrical (25)	Japan	3 278	2.3	4.0	5.6	55 286	-1.4
11	Honda Motor	Automobiles & parts (31)	Japan	3 232	10.6	12.0	5.6	58 969	8.3
12	Roche	Pharma & biotech (48)	Switzerland	3 055	12.0	9.4	-1.4	20 012	5.0
13	Motorola	IT hardware (93)	USA	2 990	0.5	-13.1	-2.7	21 452	1.4
14	Novartis	Pharma & biotech (48)	Switzerland	2 978	6.9	3.7	-10.1	19 712	-5.1
15	NTT	Telecommunication services (67)	Japan	2 929	1.3	-3.7	13.5	80 803	-5.3
16	Hewlett-Packard	IT hardware (93)	USA	2 895	10.3	24.1	0.9	57 923	30.2
17	Hitachi	IT hardware (93)	Japan	2 751	-1.4	-9.2	-4.6	63 858	5.4
18	Merck	Pharma & biotech (48)	USA	2 520	18.7	9.0	4.8	17 827	-56.6
19	Toshiba	IT hardware (93)	Japan	2 491	1.6	1.6	-0.5	41 274	-1.3
20	Cisco Systems	IT hardware (93)	USA	2 485	-9.1	-12.1	-3.8	14 967	-0.2
21	Samsung Electronic	Electronic & electrical (25)	South Korea	2 382	17.6	22.9	27.0	43 127	8.8
22	Nissan Motor	Automobiles & parts (31)	Japan	2 222	14.6	13.1	-2.9	50 514	10.2
23	Fujitsu	IT hardware (93)	Japan	2 114	-18.3	-13.3	0.6	34 158	-7.8
24	General Electric	Diversified industrials (24)	USA	2 106	19.9	11.9	6.1	105 356	6.9
25	Canon	Electronic & electrical (25)	Japan	1 917	10.9	6.9	12.4	23 658	8.8
26	NEC	IT hardware (93)	Japan	1 899	-13.4	-11.2	-3.3	36 298	4.5
27	Eli Lilly	Pharma & biotech (48)	USA	1 863	9.3	-3.8	10.7	9 975	13.6
28	Bristol-Myers Squibb	Pharma & biotech (48)	USA	1 807	2.8	1.6	12.6	16 565	15.3
29	Nortel Networks	IT hardware (93)	Canada	1 768	-30.8	-19.5	37.7	8 372	-39.7
30	Wyeth	Pharma & biotech (48)	USA	1 660	0.6	11.3	10.8	12 566	8.7
31	Delphi	Automobiles & parts (31)	USA	1 586	17.6	0.0	0.0	22 275	2.4
32	Sun Microsystems	IT hardware (93)	USA	1 456	0.3	-9.1	23.7	9 065	-8.5
33	Texas Instruments	IT hardware (93)	USA	1 386	8.0	1.3	-8.5	7 796	17.3
34	Abbott Laboratories	Health (44)	USA	1 374	11.0	-1.0	16.8	15 603	11.3
35	Denso	Automobiles & parts (31)	Japan	1 353	-1.5	4.9	10.6	17 256	-2.8
36	Procter & Gamble	Personal care & household (47)	USA	1 320	4.0	-9.5	-6.8	34 389	7.8
37	Amgen	Pharma & biotech (48)	USA	1 312	48.3	29.1	2.4	6 625	51.3
38	Boeing	Aerospace & defence (21)	USA	1 309	0.7	-15.3	34.4	40 025	-6.6
39	Mitsubishi Electric	IT hardware (93)	Japan	1 196	-21.0	4.2	12.9	26 920	-0.3
40	Lucent Technologies	IT hardware (93)	USA	1 180	-35.6	-34.4	-12.4	6 715	-31.3
41	Fuji Photo Film	Media & entertainment (54)	Japan	1 177	8.3	85.6	-3.2	18 536	4.4
42	Schering-Plough	Pharma & biotech (48)	USA	1 165	3.1	8.6	-1.6	6 607	-18.1
43	Sharp	Electronic & electrical (25)	Japan	1 126	20.8	-5.2	7.8	14 819	11.1
44	El du Pont de Nemours	Chemicals (11)	USA	1 070	6.7	-20.4	-10.6	21 403	12.5
45	Oracle	Software & computer services (97)	USA	936	9.7	-5.5	12.7	7 512	-2.1
46	Takeda Chemical	Pharma & biotech (48)	Japan	919	23.9	11.6	16.3	7 738	4.1
47	Sanyo Electric	Electronic & electrical (25)	Japan	894	12.9	-1.7	9.3	16 821	12.3
48	Agilent Technologies	Electronic & electrical (25)	USA	833	-10.1	-13.3	..	4 801	0.8
49	United Technologies	Diversified industrials (24)	USA	814	-13.8	-5.0	-3.7	24 604	10.9
50	Mitsubishi Heavy	Engineering & machinery (26)	Japan	810	-7.7	2.0	-10.4	19 188	-9.4

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
-0.3	2.5	15 639 659	-1.0	4.5	4.7	9.1	12.1	11.6	4.3	5 958 227	12.1	-1.9
491	483	477	465	500	499	500	477	472	-	492	467	-
0.6	-4.5	327 531	-6.5	4.5	4.7	5.9	18.2	17.4	5.2	20 539	34.2	-16.9
0.4	9.1	122 000	24.5	15.8	16.0	7.2	46.3	41.9	5.9	194 795	-5.8	0.5
9.0	3.4	264 096	7.1	4.3	4.1	8.1	18.7	17.7	6.4	113 783	37.0	4.3
5.4	-4.0	326 000	-6.9	3.1	3.1	6.8	13.9	13.1	0.7	19 175	-32.6	-12.6
7.6	-11.7	290 493	0.8	7.7	7.4	2.7	14.8	14.1	2.4	26 127	1.4	1.2
-5.5	-2.9	319 273	1.1	5.7	5.8	10.7	12.6	11.9	3.0	116 340	1.4	-8.0
10.0	13.3	110 600	2.1	11.2	10.9	24.7	33.6	29.0	12.5	130 046	5.8	0.7
12.1	10.2	55 000	8.9	14.5	15.2	40.1	67.2	67.6	-4.3	244 077	6.3	-6.9
0.9	-21.3	79 700	1.3	14.5	15.1	24.2	43.4	40.6	6.5	128 000	-0.5	-7.3
11.0	9.5	161 100	-4.1	5.9	5.7	1.9	20.3	19.1	9.8	25 640	1.1	-15.9
13.9	6.0	126 900	5.2	5.5	5.4	7.7	25.5	24.2	5.0	37 437	8.4	4.4
1.9	1.7	65 357	-6.2	15.3	14.3	17.8	46.7	39.2	6.1	70 331	12.9	10.3
-11.1	-20.2	88 000	-9.3	13.9	14.1	3.8	34.0	30.7	12.4	30 163	79.2	-0.6
1.2	-10.5	78 541	6.1	15.1	30.0	22.6	37.9	37.6	1.8	99 009	12.8	8.6
1.8	9.1	207 400	-2.6	3.6	3.4	12.9	14.1	13.6	6.1	104 554	54.6	13.6
24.1	-7.3	142 000	0.7	5.0	5.9	4.1	20.4	18.6	-4.9	49 245	-4.9	4.7
2.5	-5.0	326 344	-3.9	4.3	4.6	2.2	8.4	8.2	-3.7	16 343	18.0	-10.6
8.5	18.2	63 200	-18.2	14.1	5.2	42.1	39.9	27.5	14.1	80 104	-21.7	-10.6
4.9	-9.4	161 000	-2.9	6.0	5.9	2.6	15.5	14.8	6.2	9 286	-19.6	-9.1
-15.2	17.8	34 000	-5.6	16.6	18.2	23.1	73.1	75.9	-8.4	113 858	7.2	1.7
28.3	6.7	..	..	5.5	5.1	9.8	..	..	..	44 992	-1.1	..
1.8	1.9	127 625	2.0	4.4	4.2	9.7	17.4	15.5	11.8	38 082	-7.3	20.7
-8.7	4.4	157 044	-7.7	6.2	7.0	-2.9	13.5	15.2	-5.2	9 786	19.9	-14.4
-1.1	-2.9	305 000	-3.2	2.0	1.8	20.6	6.9	5.6	13.4	269 214	19.5	-10.3
1.1	4.6	102 567	4.9	8.1	7.9	14.7	18.7	17.7	4.0	34 225	-8.5	10.6
-8.0	-5.7	143 393	-1.7	5.2	6.3	2.8	13.2	15.0	-8.0	9 512	-0.9	-17.8
-4.0	6.3	46 100	5.5	18.7	19.4	25.5	40.4	39.0	-3.4	56 877	-5.2	-5.7
-0.1	-0.4	44 000	0.0	10.9	12.2	23.1	41.1	40.0	5.5	35 300	-12.8	-24.3
-42.2	36.3	52 800	0.4	21.1	18.4	-36.9	33.5	48.6	3.7	12 218	25.8	-17.2
3.2	6.5	52 385	-0.7	13.2	14.3	10.9	31.7	31.3	4.4	37 404	-25.1	-14.8
5.1	-10.5	190 000	-1.0	7.1	6.2	1.7	8.3	7.0	9.3	4 231	11.1	-17.1
-31.5	16.1	36 100	-7.7	16.1	14.7	-24.3	40.3	37.1	4.6	10 469	2.8	-36.3
2.2	-30.9	34 154	-1.3	17.8	19.3	9.2	40.6	37.1	7.6	29 095	11.4	-13.9
8.6	18.5	70 000	-2.5	8.8	8.8	20.1	19.6	17.2	3.5	48 657	-2.3	-7.2
19.2	7.0	89 380	3.2	7.8	7.7	9.8	15.1	15.9	1.1	17 077	31.4	9.0
2.5	-1.8	98 000	-3.9	3.8	4.0	17.8	13.5	12.4	-0.5	108 706	18.3	15.4
37.5	10.7	12 900	27.5	19.8	20.2	37.0	101.7	87.5	3.6	57 146	-18.6	7.5
-7.1	13.4	157 000	-4.8	3.3	3.0	1.6	8.3	7.9	13.1	33 774	62.9	-4.0
-11.6	9.4	110 279	-5.1	4.4	5.6	0.3	10.8	13.0	-0.6	7 808	..	-0.1
-42.1	-37.0	34 500	-26.6	17.6	18.7	-9.4	34.2	39.0	10.6	10 368	80.3	-19.4
66.7	2.7	72 633	0.1	6.4	6.1	5.3	16.2	15.0	-0.1	12 156	-12.5	-10.8
3.9	-0.1	30 500	0.0	17.6	14.0	-0.7	38.2	37.0	0.5	22 507	10.8	-19.3
-10.4	8.5	46 633	0.2	7.6	7.0	3.0	24.1	20.0	9.6	12 739	-8.6	4.2
-2.9	-12.5	81 000	2.5	5.0	5.3	2.2	13.2	12.7	-4.5	33 914	-3.9	-3.4
-10.9	7.2	40 650	-3.2	12.5	11.1	34.9	23.0	20.3	5.9	43 741	-12.9	-20.3
4.3	4.4	14 547	0.2	11.9	10.0	37.2	63.2	51.1	21.6	33 230	18.3	2.0
-6.1	11.2	79 025	-1.8	5.3	5.3	-3.0	11.3	9.8	8.6	5 489	-15.0	-15.1
-28.4	..	29 000	-19.4	17.4	19.5	-15.8	28.7	25.7	..	9 088	11.9	..
1.8	4.9	203 300	31.2	3.3	4.3	11.8	4.0	6.1	-15.8	37 925	34.9	10.8
-5.9	5.9	61 292	-2.3	4.2	4.1	3.8	13.2	14.0	-3.6	6 961	-12.0	-14.1

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				<i>units</i>	€m	%	%	%	€m
51	Dow Chemical	Chemicals (11)	USA	778	-8.0	-0.6	20.2	25 871	18.2
52	Nestle	Food producers (43)	Switzerland	772	-0.2	4.0	11.9	56 396	-1.3
53	Applied Materials	IT hardware (93)	USA	730	-12.5	-12.2	8.2	3 550	-11.5
54	Lockheed Martin	Aerospace & defence (21)	USA	716	8.8	36.7	-6.2	25 230	19.7
55	Visteon	Automobiles & parts (31)	USA	716	0.1	-19.4	..	14 001	-4.0
56	Xerox	IT hardware (93)	USA	688	-5.3	-8.0	-4.5	12 448	-0.9
57	Ricoh	Electronic & electrical (25)	Japan	684	10.7	3.4	3.3	13 169	2.4
58	Advanced Micro Devices	IT hardware (93)	USA	676	4.4	25.4	1.4	2 434	13.8
59	Mitsubishi Chemical	Chemicals (11)	Japan	674	7.6	24.4	2.2	13 963	6.0
60	EMC	IT hardware (93)	USA	660	-8.4	-2.2	4.8	4 945	14.7
61	Mazda Motor	Automobiles & parts (31)	Japan	650	-7.5	13.6	9.8	17 491	12.9
62	Sankyo	Pharma & biotech (48)	Japan	641	6.2	3.6	22.2	4 216	3.8
63	Hyundai Motor	Automobiles & parts (31)	South Korea	638	54.9	-36.7	21.8	30 998	-3.2
64	Eastman Kodak	Media & entertainment (54)	USA	619	2.5	-2.2	-0.6	10 558	3.8
65	Allergan	Pharma & biotech (48)	USA	604	226.9	-7.6	29.0	1 392	26.8
66	Altria	Tobacco (49)	USA	604	11.1	6.0	20.3	64 877	31.6
67	Honeywell	Aerospace & defence (21)	USA	595	-0.8	-9.0	1.7	18 316	3.7
68	Medtronic	Health (44)	USA	594	16.0	11.9	20.4	6 077	19.6
69	3M	Diversified industrials (24)	USA	594	1.5	-0.9	2.5	14 454	11.6
70	Aisin Seiki	Automobiles & parts (31)	Japan	592	18.3	15.0	10.8	10 416	15.2
71	Syngenta	Chemicals (11)	Switzerland	576	4.3	-3.6	34.6	5 215	6.1
72	Computer Associates	Software & computer services (97)	USA	560	0.3	-3.7	5.2	2 597	5.1
73	Sumitomo Chemical	Chemicals (11)	Japan	539	9.2	12.8	-0.4	8 220	9.1
74	LG Electronics	Electronic & electrical (25)	South Korea	532	-13.0	..	..	13 425	8.8
75	Tyco International	Diversified industrials (24)	Bermuda	532	5.9	10.7	8.4	23 330	-17.4
76	Caterpillar	Engineering & machinery (26)	USA	530	2.0	-5.7	7.2	18 047	13.0
77	Bridgestone	Automobiles & parts (31)	Japan	525	4.1	8.6	2.7	17 043	2.5
78	Micron Technology	IT hardware (93)	USA	520	16.9	14.7	14.5	2 451	19.4
79	Broadcom	IT hardware (93)	USA	518	-8.5	59.9	78.2	1 276	48.5
80	Yamanouchi Pharmaceutical	Pharma & biotech (48)	Japan	495	2.6	19.4	-0.5	3 748	5.3
81	Exxon Mobil	Oil & gas (07)	USA	490	-2.1	4.6	6.9	169 025	46.7
82	Asea Brown Boveri	Electronic & electrical (25)	Switzerland	486	11.5	-15.9	-7.0	14 901	2.7
83	BMC Software	Software & computer services (97)	USA	465	19.6	-16.0	68.2	1 125	6.9
84	Fujisawa Pharmaceutical	Pharma & biotech (48)	Japan	462	9.3	9.8	14.2	2 826	11.9
85	Deere	Engineering & machinery (26)	USA	458	9.4	-10.6	8.9	10 583	-2.4
86	Suzuki Motor	Automobiles & parts (31)	Japan	447	34.3	..	..	14 908	20.8
87	Fuji Heavy Industries	Automobiles & parts (31)	Japan	445	9.5	17.8	16.2	10 152	0.7
88	Eisai	Pharma & biotech (48)	Japan	442	8.5	10.9	6.2	3 452	8.1
89	Schlumberger	Oil & gas (07)	USA	441	-14.4	-7.7	30.3	11 014	3.1
90	Baxter International	Health (44)	USA	438	10.4	17.3	12.7	7 069	9.9
91	Qualcomm	IT hardware (93)	USA	415	15.9	8.9	21.8	3 148	30.6
92	Yamaha Motor	Automobiles & parts (31)	Japan	414	14.5	14.1	-5.1	7 495	7.0
93	Guidant	Health (44)	USA	411	18.5	14.7	8.0	2 932	14.2
94	Emerson Electric	Electronic & electrical (25)	USA	408	-3.0	-10.8	0.0	11 066	1.0
95	Electronic Arts	Software & computer services (97)	USA	405	27.4	3.4	-0.3	2 344	19.1
96	ADP	Support services (58)	USA	396	5.1	-7.7	11.7	5 666	13.3
97	Daiichi Pharmaceutical	Pharma & biotech (48)	Japan	395	10.0	21.3	10.4	2 382	-3.3
98	Matsushita Electric Works	Construction & building (13)	Japan	391	-4.4	-1.2	1.9	9 122	4.9
99	Millennium Pharmaceuticals	Pharma & biotech (48)	USA	387	44.8	238.5	29.5	344	22.9
100	Serono	Pharma & biotech (48)	Switzerland	387	36.1	16.1	17.3	1 473	20.1

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
-0.7	20.8	46 400	-7.1	3.0	3.9	7.0	16.8	16.9	-0.2	29 470	18.2	6.4
5.3	4.0	253 000	-0.5	1.4	1.4	10.5	3.1	3.1	1.0	81 638	15.7	7.8
-31.1	-23.2	12 050	-25.1	20.6	20.8	-7.0	60.6	51.9	9.8	22 918	-9.6	-8.4
10.8	-5.3	130 000	4.0	2.8	3.1	6.1	5.5	5.3	11.8	18 789	-0.7	14.1
3.1	..	72 000	-6.5	5.1	4.9	-5.8	9.9	9.3	..	1 055	63.8	..
-6.8	-9.1	61 100	-9.9	5.5	5.8	2.6	11.3	10.7	8.0	8 793	39.4	23.1
3.9	8.7	73 200	-1.9	5.2	4.8	6.3	9.4	8.3	6.2	11 448	3.1	0.4
-30.7	-16.2	14 300	11.4	27.8	30.3	-7.4	47.2	50.4	10.3	3 484	77.5	-12.9
1.9	4.6	37 633	-2.5	4.8	4.8	3.8	17.9	16.2	6.7	4 153	8.4	-0.9
-23.3	-20.1	20 000	14.9	13.3	16.7	6.1	33.0	41.4	4.2	21 033	21.4	-18.4
3.9	-6.8	36 184	-4.3	3.7	4.5	1.8	18.0	18.6	11.8	3 366	30.8	14.9
0.7	-7.6	11 520	-0.9	15.2	14.9	12.8	55.7	51.9	9.8	2 948	-36.9	-23.8
20.8	22.6	..	..	2.1	1.3	6.2	..	..	..	7 532	51.3	..
-3.0	-5.4	63 900	-8.7	5.9	5.9	0.9	9.7	8.6	6.9	6 019	-3.6	-17.0
-20.7	11.7	4 930	0.6	43.4	16.8	-1.4	122.5	37.7	69.7	8 045	-5.3	0.1
-14.8	15.3	165 000	-0.6	0.9	1.1	19.2	3.7	3.3	15.2	77 717	18.1	-0.4
-5.8	-5.5	108 000	0.0	3.3	3.4	8.1	5.5	5.6	2.1	25 619	30.7	3.0
15.5	10.7	26 732	-3.6	9.8	10.1	30.6	22.2	18.5	7.9	47 625	-2.6	2.5
1.6	-3.9	67 072	-2.5	4.1	4.5	19.5	8.9	8.5	4.8	51 167	16.8	13.3
8.3	12.7	44 132	9.7	5.7	5.5	7.5	13.4	12.4	3.9	5 105	34.8	13.1
-2.0	29.7	21 457	-4.1	11.1	11.2	8.3	26.9	24.7	16.3	7 365	53.8	..
5.1	-29.4	15 300	-4.4	21.6	22.6	0.1	36.6	34.9	6.5	11 504	-1.5	-9.5
-2.2	9.6	17 906	5.2	6.6	6.5	6.2	30.1	29.0	6.2	5 489	26.2	-2.6
..	..	27 683	..	4.0	5.0	5.4	19.2	..	..	4 919	..	..
4.7	17.6	258 600	-3.3	2.3	1.8	10.1	2.1	1.9	1.9	49 289	58.0	-13.9
-1.5	1.4	69 169	0.3	2.9	3.3	7.8	7.7	7.5	0.1	19 920	11.7	11.5
5.3	6.3	108 741	1.8	3.1	3.0	7.6	4.8	4.7	2.9	12 281	19.4	..
-34.2	-46.4	16 600	-11.2	21.2	21.7	-37.0	31.4	23.8	20.3	6 476	-8.6	-29.3
12.6	-15.2	2 729	8.8	40.6	65.9	-58.5	189.8	225.8	33.7	7 093	88.1	4.7
5.1	5.5	9 278	1.0	13.2	13.5	19.1	53.3	52.5	5.6	9 878	12.4	9.2
-22.5	-9.0	105 700	14.3	0.3	0.4	14.5	4.6	5.4	1.2	240 064	26.8	0.4
-22.9	3.3	116 464	-16.2	3.3	3.0	-1.2	4.2	3.1	6.4	8 851	116.6	-12.6
2.9	-14.3	6 429	-6.3	41.3	36.9	-2.0	72.3	56.6	24.4	2 717	10.0	-13.1
14.7	2.9	..	..	16.3	16.7	10.5	..	..	..	6 361	11.5	7.4
4.4	17.4	43 221	0.4	4.3	3.9	5.6	10.6	9.7	2.5	12 396	31.0	16.6
4.3	5.2	..	..	3.0	2.7	2.9	..	..	..	7 482	..	..
3.9	-1.4	27 478	3.8	4.4	4.0	4.3	16.2	15.3	13.6	3 353	3.3	-0.5
19.3	19.8	7 433	0.0	12.8	12.8	15.2	59.4	54.8	6.5	6 751	29.6	9.5
-2.0	43.0	77 000	-1.9	4.0	4.8	5.2	5.7	6.6	-7.1	30 043	42.3	9.6
5.8	11.1	53 100	-2.7	6.2	6.2	13.5	8.3	7.3	5.7	14 611	9.2	-13.0
13.4	-16.2	7 400	-8.6	13.2	14.9	29.8	56.1	44.2	9.4	46 619	96.8	6.0
7.1	0.8	32 066	3.5	5.5	5.2	5.8	12.9	11.7	-0.2	3 331	74.5	28.1
19.6	6.2	12 000	9.1	14.0	13.5	10.4	34.3	31.5	4.2	13 757	17.0	24.5
-10.7	-0.4	106 700	-4.3	3.7	3.8	12.2	3.8	3.8	0.0	20 302	15.9	2.1
44.0	30.4	4 800	20.0	17.3	16.2	26.2	84.4	79.5	-1.4	11 767	23.4	23.8
0.7	9.3	41 000	2.5	7.0	7.5	21.0	9.7	9.4	1.9	19 544	11.9	-9.9
4.9	5.3	..	..	16.6	14.6	11.0	..	50.8	..	4 101	19.5	-6.5
-2.0	1.6	47 620	-1.0	4.3	4.7	3.6	8.2	8.5	-4.8	4 823	15.6	-5.4
43.6	25.8	1 530	-26.4	112.6	95.6	-111.6	253.2	128.7	76.7	2 749	-4.7	-20.6
12.4	11.0	4 577	-0.8	26.2	23.2	22.3	84.4	61.5	20.0	5 674	-6.1	-13.6

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				<i>units</i>	€m	%	%	%	€m
101	Raytheon	Aerospace & defence (21)	USA	386	-17.0	23.6	-9.7	14 357	8.1
102	Johnson Controls	Automobiles & parts (31)	USA	384	10.3	28.7	-15.6	17 954	12.7
103	Pioneer	Electronic & electrical (25)	Japan	381	13.4	16.2	5.2	5 185	-1.6
104	Apple Computer	IT hardware (93)	USA	373	5.6	3.7	13.2	4 921	8.1
105	Tokyo Electron	IT hardware (93)	Japan	371	-6.9	1.7	42.5	3 407	10.2
106	Agere Systems	IT hardware (93)	USA	370	-32.6	..	..	1 458	-15.5
107	Asahi Kasei	Chemicals (11)	Japan	365	-0.5	-0.4	30.8	8 830	-0.1
108	Sumitomo Electric	Electronic & electrical (25)	Japan	360	0.4	8.2	6.7	11 014	0.3
109	Boston Scientific	Health (44)	USA	358	31.8	24.7	38.2	2 756	19.1
110	Mitsubishi Pharma	Pharma & biotech (48)	Japan	357	40.7	80.5	-1.7	2 077	22.6
111	Analog Devices	IT hardware (93)	USA	357	6.2	-8.8	16.0	1 623	19.9
112	Telstra	Telecommunication services (67)	Australia	356	7.4	-24.5	21.3	12 242	1.5
113	Kyocera	IT hardware (93)	Japan	350	17.0	15.0	23.9	7 914	3.4
114	National Semiconductor	IT hardware (93)	USA	345	-1.2	1.2	12.8	1 326	11.9
115	Peoplesoft	Software & computer services (97)	USA	343	26.9	14.1	-7.9	1 797	16.3
116	LSI Logic	IT hardware (93)	USA	343	-5.4	-9.1	32.8	1 342	-6.8
117	Japan Tobacco	Tobacco (49)	Japan	329	-15.5	11.9	-1.0	33 231	-1.1
118	Northrop Grumman	Aerospace & defence (21)	USA	317	-1.5	18.7	58.3	20 776	52.3
119	Komatsu	Engineering & machinery (26)	Japan	315	9.2	-11.5	-2.6	8 850	9.8
120	Chiron	Pharma & biotech (48)	USA	310	20.1	-2.8	14.5	1 400	38.3
121	Tokyo Electric Power	Electricity (72)	Japan	298	-15.9	-15.9	-20.2	36 389	-5.8
122	Omron	Electronic & electrical (25)	Japan	298	-2.8	-2.6	16.1	3 958	0.2
123	Taiwan Semiconductor	IT hardware (93)	Taiwan	297	8.4	10.1	107.5	4 840	24.7
124	Avaya	IT hardware (93)	USA	288	-20.9	-14.4	..	3 439	-12.5
125	Kao	Personal care & household (47)	Japan	285	2.1	0.5	1.3	6 677	4.3
126	Maxtor	IT hardware (93)	USA	281	-11.7	-8.0	85.5	3 240	8.1
127	Alps Electric	Electronic & electrical (25)	Japan	280	28.3	11.7	6.8	4 584	3.0
128	Goodyear	Automobiles & parts (31)	USA	278	-7.8	1.2	-11.3	11 986	9.2
129	Mitsui Chemicals	Chemicals (11)	Japan	275	-4.9	6.8	-4.2	7 791	10.6
130	Corning	IT hardware (93)	USA	273	-28.8	-23.5	16.9	2 450	-2.3
131	Cadence Design Systems	Software & computer services (97)	USA	270	4.2	9.8	-7.3	888	-13.4
132	Asahi Glass	Construction & building (13)	Japan	270	18.1	6.6	2.1	12 260	28.0
133	Genzyme	Pharma & biotech (48)	USA	266	14.4	17.7	53.2	1 359	28.9
134	Toray Industries	Chemicals (11)	Japan	264	-4.2	-4.1	0.0	7 641	1.7
135	Dell	IT hardware (93)	USA	262	3.4	-0.6	-11.6	32 857	17.1
136	Whirlpool	Household goods & textiles (34)	USA	258	15.2	22.1	-9.1	9 653	10.5
137	Olympus Optical	Electronic & electrical (25)	Japan	257	14.0	-1.2	-3.5	4 175	6.8
138	Applera	Pharma & biotech (48)	USA	256	-15.3	18.1	17.7	1 409	4.4
139	JFE	Steel & other metals (18)	Japan	245	..	..	..	17 953	..
140	Siebel Systems	Software & computer services (97)	USA	245	-15.7	84.4	36.5	1 074	-17.1
141	Veritas Software	Software & computer services (97)	USA	241	10.9	13.6	37.1	1 385	16.0
142	NCR	IT hardware (93)	USA	240	2.0	1.4	-12.0	4 438	0.2
143	TDK	Electronic & electrical (25)	Japan	236	-17.5	4.5	37.2	4 504	5.9
144	Rohm	IT hardware (93)	Japan	235	48.4	2.9	-8.4	2 591	9.0
145	Murata Manufacturing	IT hardware (93)	Japan	233	-0.5	3.5	5.2	2 922	0.1
146	Shionogi	Pharma & biotech (48)	Japan	231	2.2	4.6	8.2	2 118	-31.9
147	PetroChina	Oil & gas (07)	China	231	33.5	-4.7	8.3	29 039	24.3
148	PPG Industries	Chemicals (11)	USA	230	6.2	-3.5	-6.0	6 942	8.5
149	Kyowa Hakko Kogyo	Pharma & biotech (48)	Japan	229	5.6	1.3	11.7	2 658	-5.1
150	Synopsys	Software & computer services (97)	USA	229	27.0	19.7	-0.9	933	29.8

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
-0.6	-0.2	78 000	2.1	2.7	3.5	6.0	5.0	6.1	3.6	11 206	6.9	15.4
9.1	7.4	118 000	6.3	2.1	2.2	4.9	3.3	3.1	2.2	8 504	23.4	16.2
6.5	6.7	36 360	4.9	7.3	6.4	7.0	10.5	9.7	3.3	3 094	-20.5	-9.1
7.1	-32.8	10 912	6.9	7.6	7.8	0.2	34.2	34.6	-0.9	9 515	51.8	11.4
-42.3	64.2	10 053	-1.2	10.9	12.9	-4.4	36.9	39.1	6.3	6 878	-27.1	-6.1
..	..	6 800	-36.4	25.4	31.8	-14.9	54.4	51.3	..	1 606	-54.7	..
-5.8	6.3	25 730	-1.9	4.1	4.1	-7.3	14.2	14.0	10.2	5 132	29.9	3.8
0.4	13.0	79 197	13.2	3.3	3.3	-0.5	4.5	5.1	-0.7	5 536	13.4	-3.2
9.2	0.3	15 000	7.9	13.0	11.8	19.8	23.9	19.6	27.6	25 271	27.9	64.0
26.2	-8.8	8 733	-3.2	17.2	15.0	3.2	40.9	28.1	6.9	4 184	37.6	23.3
-25.0	-11.7	8 400	-2.3	22.0	24.8	18.2	42.5	39.1	6.8	11 830	7.0	-1.0
8.1	0.4	37 169	-17.4	2.9	2.7	27.0	9.6	7.4	10.3	17 046	-8.0	-14.5
-19.5	58.1	..	..	4.4	3.9	6.1	..	6.8	..	11 583	13.7	-1.7
-29.3	-1.3	9 800	-3.0	26.1	29.5	-2.0	35.2	34.6	6.5	4 878	54.1	8.2
-6.0	19.5	12 163	46.7	19.1	17.5	5.1	28.2	32.6	-4.2	5 097	19.8	-20.7
1.8	-34.8	4 722	-10.6	25.6	25.2	-16.4	72.6	68.7	20.4	1 542	-42.7	-34.5
0.9	3.0	38 628	-1.9	1.0	1.2	3.6	8.5	9.9	-0.2	4 714	-54.3	-25.3
26.9	78.0	122 600	4.5	1.5	2.4	6.0	2.6	2.7	-16.0	14 951	18.4	40.4
5.2	-5.5	31 635	3.2	3.6	3.6	3.0	10.0	9.4	-1.6	4 562	7.2	11.2
65.4	23.1	5 332	31.9	22.2	25.5	16.7	58.2	63.9	-5.0	6 858	0.3	-0.6
-0.7	3.3	52 322	-2.6	0.8	0.9	9.6	5.7	6.6	-19.6	24 449	8.3	-2.9
-10.1	7.0	23 751	-6.5	7.5	7.8	1.1	12.5	12.1	4.9	4 272	-3.3	7.4
29.3	-24.0	16 066	7.6	6.1	7.1	25.5	18.5	18.3	31.2	23 371	-5.7	..
-27.1	..	16 900	-10.1	8.4	9.3	1.6	17.0	19.4	..	5 153	80.0	..
3.1	2.1	19 330	-2.4	4.3	4.4	13.4	14.7	14.1	0.8	11 219	13.9	-2.4
-0.5	40.3	13 554	8.9	8.7	10.6	3.3	20.7	25.5	-1.7	914	-51.8	-6.9
11.4	-5.7	32 586	7.7	6.1	4.9	6.9	8.6	7.2	17.2	1 896	-21.8	12.9
-2.1	-1.9	86 000	-7.3	2.3	2.7	-1.8	3.2	3.2	0.9	1 522	113.5	-25.9
1.4	6.3	12 660	-4.2	3.5	4.1	3.7	21.7	21.8	-3.5	2 785	-7.1	4.8
-49.6	-12.0	20 600	-11.2	11.1	15.3	-13.6	13.2	16.5	7.6	13 446	61.5	7.9
-9.6	11.7	4 800	-7.2	30.4	25.2	-2.8	56.2	50.0	7.7	2 828	0.2	-7.6
2.5	-3.8	55 732	3.7	2.2	2.4	6.6	4.8	4.3	4.0	8 395	17.2	4.5
8.7	35.5	5 625	0.4	19.6	22.1	-2.3	47.3	41.5	17.3	9 154	6.1	..
-5.5	8.6	33 791	-3.2	3.5	3.7	3.8	7.8	7.9	-1.1	5 235	77.8	6.3
13.6	-2.3	46 000	17.6	0.8	0.9	8.5	5.7	6.5	-7.5	70 948	4.4	7.4
6.5	0.2	68 407	0.2	2.7	2.6	6.3	3.8	3.3	4.3	3 415	-3.3	-2.0
13.2	8.8	23 975	15.8	6.2	5.8	8.9	10.7	10.9	-4.9	3 919	-23.9	5.9
3.5	19.9	5 470	-8.1	18.2	22.4	3.3	46.9	50.9	1.6	3 798	-2.0	-13.6
..	..	54 100	..	1.4	..	3.3	4.5	..	..	11 140	..	..
-20.2	14.1	4 972	-15.9	22.8	22.4	-2.8	49.2	49.1	46.7	3 128	-12.5	..
0.9	23.6	6 518	15.4	17.4	18.2	21.6	37.0	38.5	8.2	6 502	-35.7	-26.9
-5.6	-0.7	29 000	-3.7	5.4	5.3	0.6	8.3	7.8	1.1	3 482	63.5	4.3
-16.7	2.4	31 705	-1.7	5.2	6.7	3.1	7.4	8.9	8.6	7 107	8.4	12.3
-21.5	13.7	16 841	12.7	9.1	6.7	27.2	14.0	10.6	4.3	9 966	-22.7	-10.7
-32.4	27.2	26 435	-3.5	8.0	8.0	14.0	8.8	8.5	1.3	9 217	-7.2	-9.4
1.7	3.2	6 149	-32.9	10.9	7.3	3.8	37.6	24.7	22.9	4 814	13.6	-5.5
2.3	-1.3	419 598	0.0	0.8	0.7	33.3	0.6	0.4	13.2	69 262	..	..
-1.2	-5.3	32 900	-3.5	3.3	3.4	10.7	7.0	6.3	1.4	8 028	7.5	3.2
0.8	0.2	6 749	-7.5	8.6	7.7	3.5	33.9	29.7	11.7	2 369	15.2	3.5
33.4	-8.8	4 362	2.5	24.5	25.1	18.3	52.4	42.3	0.3	2 603	-29.3	3.6

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment					Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02	
				units	€m	%	%	%	€m	%
151	Tellabs	IT hardware (93)	USA	227	-14.7	-21.2	2.5	777	-25.6	
152	Ono Pharmaceutical	Pharma & biotech (48)	Japan	225	7.3	23.0	14.5	999	1.3	
153	Konica (now Konica Minolta)	Media & entertainment (54)	Japan	224	3.9	9.4	5.1	4 135	3.6	
154	General Dynamics	Aerospace & defence (21)	USA	224	11.5	24.6	42.0	13 174	20.2	
155	Kimberly-Clark	Personal care & household (47)	USA	223	-2.9	-2.1	6.5	11 375	5.8	
156	Unisys	Software & computer services (97)	USA	222	2.5	-17.6	-0.6	4 686	5.4	
157	Teijin	Chemicals (11)	Japan	221	-6.2	5.2	6.4	6 587	-3.6	
158	Toyota Industries	Automobiles & parts (31)	Japan	220	-0.9	14.5	8.9	7 909	9.1	
159	AT&T	Telecommunication services (67)	USA	220	9.1	-21.8	-19.2	27 375	-8.7	
160	Adobe Systems	Software & computer services (97)	USA	220	12.6	9.8	-6.7	1 026	11.2	
161	Taisho Pharmaceutical	Pharma & biotech (48)	Japan	218	-8.3	-3.6	43.7	2 027	0.9	
162	Maxim Integrated Products	IT hardware (93)	USA	216	-1.2	-1.7	97.0	914	12.4	
163	Nvidia	IT hardware (93)	USA	214	20.1	46.1	78.1	1 445	-4.6	
164	Kla-Tencor	IT hardware (93)	USA	213	-6.7	-19.2	54.5	1 049	-19.2	
165	Lexmark	IT hardware (93)	USA	211	7.2	0.7	13.7	3 770	9.1	
166	Sega	Software & computer services (97)	Japan	205	19.2	2.8	-26.3	1 459	-4.4	
167	Amazon.com	General retailers (52)	USA	204	2.3	4.3	-10.5	4 173	33.8	
168	Nikon	IT hardware (93)	Japan	204	0.7	19.8	28.1	3 469	-2.9	
169	Intuit	Software & computer services (97)	USA	203	13.8	8.6	22.5	1 309	21.5	
170	Textron	Diversified industrials (24)	USA	202	23.2	-43.4	19.2	7 816	-7.5	
171	Teradyne	IT hardware (93)	USA	202	-13.4	1.8	-4.1	1 073	10.7	
172	Kansai Electric Power	Electricity (72)	Japan	202	-10.6	3.8	-13.9	19 345	-1.4	
173	Symantec	Software & computer services (97)	USA	200	27.9	20.3	29.4	1 483	33.0	
174	Dana	Automobiles & parts (31)	USA	200	-12.2	10.4	-9.4	6 314	-16.9	
175	Cypress Semiconductor	IT hardware (93)	USA	199	-12.7	7.6	45.0	663	8.0	
176	Accenture	Support services (58)	Bermuda	199	6.7	-13.4	7.5	10 621	15.7	
177	Fuji Electric	Electronic & electrical (25)	Japan	198	-4.6	3.9	-4.4	6 158	-0.8	
178	Clariant	Chemicals (11)	Switzerland	197	-12.5	-13.9	-1.2	5 459	-8.7	
179	Korea Electric Power	Electricity (72)	South Korea	197	-14.3	-26.6	102.5	14 528	7.0	
180	Atmel	IT hardware (93)	USA	196	-2.2	-5.6	6.4	1 055	11.5	
181	Xilinx	IT hardware (93)	USA	196	11.5	8.5	-4.0	1 108	21.0	
182	Ajinomoto	Food producers (43)	Japan	196	-1.8	2.8	9.0	7 307	4.7	
183	Forest Laboratories	Pharma & biotech (48)	USA	195	20.3	29.8	49.3	2 101	20.1	
184	Shin-Etsu Chemical	Chemicals (11)	Japan	195	-3.5	-3.3	8.7	6 161	4.4	
185	Kirin Brewery	Beverages (41)	Japan	192	12.9	-0.2	7.5	8 624	2.5	
186	Navistar International	Engineering & machinery (26)	USA	192	11.0	2.3	-5.7	5 819	8.5	
187	St Jude Medical	Health (44)	USA	191	20.3	22.1	19.1	1 532	21.5	
188	KT	Telecommunication services (67)	South Korea	190	4.2	-27.5	23.0	7 701	-29.4	
189	Comverse Technology	IT hardware (93)	USA	190	-2.6	-22.2	27.7	607	4.1	
190	Rohm & Haas	Chemicals (11)	USA	189	-8.5	13.0	-11.2	5 091	12.1	
191	ChevronTexaco	Oil & gas (07)	USA	189	7.7	5.7	22.2	80 966	24.5	
192	Halliburton	Oil & gas (07)	USA	189	-2.5	4.7	0.9	12 900	30.2	
193	Yokogawa Electric	Electronic & electrical (25)	Japan	187	31.2	0.3	-0.6	2 432	5.8	
194	Becton Dickinson	Health (44)	USA	186	-22.1	42.4	-5.3	3 590	12.3	
195	Biogen Idec	Pharma & biotech (48)	USA	185	156.9	5.3	25.2	538	68.1	
196	Furukawa Electric	Electronic & electrical (25)	Japan	184	7.5	25.5	11.8	5 257	-7.9	
197	McKesson	Food & drug retailers (63)	USA	183	-30.8	28.0	39.3	55 105	21.7	
198	Tanabe Seiyaku	Pharma & biotech (48)	Japan	182	4.9	12.2	6.0	1 284	-4.7	
199	Novellus Systems	IT hardware (93)	USA	180	2.3	-18.3	52.6	733	10.1	
200	Ciba Specialty Chemicals	Chemicals (11)	Switzerland	180	-4.4	6.5	-5.8	4 260	-6.2	

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
-40.1	-35.1	3 515	-27.2	29.2	25.5	-28.3	64.5	55.0	19.2	2 937	33.1	-18.6
2.0	3.0	..	..	22.5	21.3	35.1	..	..	..	4 567	16.5	14.6
-0.8	-3.1	17 199	-0.7	5.4	5.4	5.9	13.0	12.5	7.4	5 401	32.7	41.6
13.7	17.5	67 600	25.2	1.7	1.8	8.4	3.3	3.7	8.1	15 528	25.9	..
-6.6	3.9	62 000	-3.0	2.0	2.1	16.4	3.6	3.6	2.7	25 826	29.1	3.9
-6.8	-12.6	37 300	2.5	4.7	4.9	7.6	6.0	6.0	-6.0	2 740	-13.9	-7.1
21.3	26.1	23 265	-3.2	3.4	3.5	-1.3	9.5	9.8	-0.3	2 596	34.0	-9.9
27.7	22.6	25 030	8.6	2.8	3.1	3.2	8.8	9.6	-13.5	5 958	31.0	5.6
-28.0	-20.4	61 600	-13.2	0.8	0.7	15.2	3.6	2.8	22.8	9 542	-24.9	-45.3
-5.3	-2.9	3 507	5.0	21.4	21.1	29.4	62.6	58.4	-0.4	8 009	31.3	1.4
-0.9	-0.3	4 806	-1.8	10.8	11.9	20.2	45.4	48.7	9.8	5 492	28.4	2.1
-35.0	82.2	6 202	2.2	23.6	26.9	38.7	34.8	36.0	8.2	12 508	28.0	3.0
39.4	86.3	1 825	20.6	14.8	11.8	5.3	117.3	117.8	10.9	2 026	-24.0	..
-22.2	40.4	4 900	-14.0	20.3	17.6	10.5	43.4	40.0	11.3	6 423	-18.8	-4.7
5.2	8.8	11 800	-2.5	5.6	5.7	12.6	17.9	16.2	10.6	9 116	39.0	14.3
-15.1	-28.4	3 469	-0.1	14.0	11.3	2.1	59.0	49.4	..	1 869	52.2	..
26.0	13.0	7 800	4.0	4.9	6.4	2.7	26.2	26.6	3.3	12 554	-4.1	37.9
-0.2	30.1	13 184	-8.0	5.9	5.7	-3.2	15.4	14.1	11.9	2 788	-7.4	2.2
7.7	15.3	6 700	3.1	15.5	16.6	22.2	30.3	27.4	3.1	5 781	-16.1	-1.8
-13.5	-5.9	43 000	-12.2	2.6	1.9	5.2	4.7	3.4	11.1	6 688	43.2	1.6
-15.1	-52.7	6 100	-15.3	18.8	24.1	-12.9	33.1	32.4	12.3	2 630	3.8	-17.3
0.1	2.3	35 554	-6.2	1.0	1.2	9.1	5.7	6.0	-9.5	14 075	6.2	2.9
31.3	25.4	5 300	23.3	13.5	14.0	28.1	37.7	36.4	12.6	11 478	104.5	565.2
-7.7	-16.6	59 000	-15.8	3.2	3.0	6.0	3.4	3.2	5.7	2 283	23.9	-8.1
-5.4	-36.4	4 033	-1.7	30.1	37.2	-1.1	49.4	55.7	14.4	1 106	-12.5	-22.3
-13.3	15.7	80 700	7.6	1.9	2.0	12.0	2.5	2.5	..	10 984	76.1	..
-5.8	4.6	25 822	5.4	3.2	3.3	1.9	7.7	8.5	0.5	1 429	6.7	-8.6
-5.5	-6.7	27 008	-3.0	3.6	3.8	3.8	7.3	8.1	-4.6	2 456	92.5	-4.2
8.2	5.6	30 829	3.9	1.4	1.7	23.1	6.4	7.8	6.8	8 372	9.7	-0.9
-18.9	-26.9	7 900	4.6	18.6	21.2	-6.0	24.9	26.6	4.2	1 613	37.4	-25.2
13.8	-38.8	2 770	6.1	17.7	19.2	23.4	70.9	67.4	3.9	8 099	17.6	-8.7
3.9	9.6	24 793	1.9	2.7	2.9	6.8	7.9	8.2	-0.2	6 017	9.3	2.8
40.8	33.4	4 967	17.1	9.3	9.3	34.5	39.3	38.3	9.9	14 101	7.1	..
2.9	-4.0	17 384	4.9	3.2	3.4	15.3	11.2	12.2	4.2	11 372	-17.0	0.1
3.3	2.6	22 852	-0.9	2.2	2.0	7.5	8.4	7.4	5.1	7 670	29.8	6.0
0.6	-20.1	14 200	-13.9	3.3	3.2	2.9	13.5	10.5	8.6	1 978	-4.6	9.7
18.1	14.2	7 391	22.3	12.5	12.6	23.6	25.9	26.3	5.4	9 515	26.3	..
2.8	17.8	38 167	-21.5	2.5	1.7	7.8	5.0	3.8	7.9	6 932	-16.3	..
-42.1	3.7	4 663	-2.6	31.3	33.5	-2.8	40.7	40.7	9.7	2 646	19.7	-10.1
1.1	-17.6	17 245	-2.1	3.7	4.5	7.6	10.9	11.7	-0.5	6 966	10.5	4.4
-9.3	78.7	50 582	-4.6	0.2	0.3	13.5	3.7	3.3	-1.6	81 120	31.7	21.3
-3.4	9.1	101 000	21.7	1.5	2.0	-3.0	1.9	2.3	-1.7	11 079	51.5	0.5
-11.8	12.7	18 675	3.2	7.7	6.2	-5.4	10.0	7.9	..	2 307	24.8	12.8
7.4	3.8	24 783	-1.8	5.2	7.5	16.5	7.5	9.5	1.9	9 484	25.6	8.9
48.1	75.6	3 727	274.6	34.4	22.5	-132.5	49.6	72.4	-23.5	15 356	260.7	..
-6.7	18.7	..	..	3.5	3.0	-19.5	..	..	..	2 137	2.1	..
14.2	19.0	24 600	0.4	0.3	0.6	1.4	7.4	10.8	4.9	7 488	-6.7	-3.1
-3.9	-2.2	..	..	14.2	12.9	16.0	..	38.1	..	1 761	4.0	0.2
-37.3	14.1	2 902	-10.1	24.6	26.5	-10.2	62.1	54.6	10.3	3 165	-26.1	-15.5
-3.8	-6.8	18 658	-1.8	4.2	4.2	7.7	9.7	9.9	1.4	3 867	12.4	8.2

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				units	€m	%	%	%	€m
201	Minolta (now part of Konica Minolta)	Electronic & electrical (25)	Japan	180	-16.1	10.3	-14.9	3 907	3.4
202	Dai Nippon Printing	Media & entertainment (54)	Japan	178	3.1	-5.3	25.3	9 683	-0.2
203	Goodrich	Aerospace & defence (21)	USA	177	27.9	17.0	-20.9	3 475	12.1
204	Daikin Industries	Electronic & electrical (25)	Japan	177	2.1	-2.6	12.9	4 237	6.3
205	Eaton	Electronic & electrical (25)	USA	177	9.9	-11.0	-15.2	6 391	11.8
206	Advantest	IT hardware (93)	Japan	175	-11.5	-6.5	23.3	723	2.6
207	Sepracor	Pharma & biotech (48)	USA	175	-9.7	5.4	38.3	273	44.4
208	Sekisui Chemical	Construction & building (13)	Japan	173	3.5	-8.9	-13.7	5 916	-5.4
209	Kubota	Engineering & machinery (26)	Japan	172	-11.9	-12.5	-0.2	6 881	0.4
210	Marvell Technology	IT hardware (93)	Bermuda	172	43.8	..	..	650	62.1
211	Rockwell Collins	Aerospace & defence (21)	USA	171	-14.6	..	..	2 015	2.0
212	POSCO	Steel & other metals (18)	South Korea	170	26.5	-21.2	-15.7	11 836	24.0
213	Teva Pharmaceutical Industries	Pharma & biotech (48)	Israel	169	29.4	53.8	2.6	2 598	30.1
214	ATI Technologies	IT hardware (93)	Canada	169	29.4	10.1	11.2	1 098	35.6
215	Yamaha	Household goods & textiles (34)	Japan	167	0.3	-0.4	6.5	3 991	2.8
216	Autodesk	Software & computer services (97)	USA	166	21.0	2.6	-1.1	754	15.3
217	Calsonic Kansei	Automobiles & parts (31)	Japan	166	8.1	6.7	..	4 032	18.3
218	SunGard Data Systems	Software & computer services (97)	USA	165	19.2	1.1	17.1	2 276	13.5
219	Yahoo!	Software & computer services (97)	USA	164	34.0	22.7	4.4	1 288	70.4
220	Danaher	Engineering & machinery (26)	USA	164	19.0	46.2	-13.8	4 197	15.7
221	IHI	Engineering & machinery (26)	Japan	163	-12.1	10.8	10.5	7 538	-5.9
222	Colgate-Palmolive	Personal care & household (47)	USA	162	4.2	6.3	5.0	7 851	6.5
223	Storage Technology	IT hardware (93)	USA	162	-5.0	-12.1	-5.1	1 730	7.0
224	Ingersoll-Rand	Engineering & machinery (26)	USA	162	1.6	-6.8	14.3	7 830	10.3
225	Gillette	Personal care & household (47)	USA	160	9.2	-1.1	4.5	7 335	9.4
226	Petroleo Brasileiro	Oil & gas (07)	Brazil	159	36.7	11.4	44.6	24 416	38.4
227	Cummins	Engineering & machinery (26)	USA	159	2.6	-4.4	-16.4	4 992	7.6
228	Ciena	IT hardware (93)	USA	158	-21.8	8.3	82.7	224	-21.7
229	Brother Industries	Electronic & electrical (25)	Japan	156	16.3	1.9	8.8	3 023	7.4
230	Beckman Coulter	Health (44)	USA	154	5.7	-3.0	2.5	1 738	6.4
231	AlCoA	Steel & other metals (18)	USA	154	-9.3	5.4	4.6	17 048	6.1
232	Japan Radio	Electronic & electrical (25)	Japan	150	-10.6	1.5	-8.3	1 919	-0.8
233	Toppan Printing	Media & entertainment (54)	Japan	150	5.8	1.6	2.6	9 259	-3.4
234	SK Telecom	Telecommunication services (67)	South Korea	149	15.4	48.7	65.8	6 334	2.1
235	Eastman Chemical	Chemicals (11)	USA	149	6.2	10.6	7.4	4 598	9.0
236	Mentor Graphics	Software & computer services (97)	USA	147	12.5	19.2	9.4	536	13.3
237	Networks Associates	Software & computer services (97)	USA	146	24.1	1.4	-15.4	742	-10.3
238	Novell	Software & computer services (97)	USA	146	8.6	-11.7	-18.3	876	-2.6
239	DST Systems	Software & computer services (97)	USA	146	25.3	-26.9	-1.5	1 916	1.4
240	Human Genome Sciences	Pharma & biotech (48)	USA	145	-9.2	51.2	92.3	6	100.0
241	China Petroleum & Chemical	Oil & gas (07)	China	145	16.5	..	..	31 339	12.1
242	Stryker	Health (44)	USA	143	27.4	-0.5	16.3	2 874	20.4
243	Cerner	Software & computer services (97)	USA	143	20.0	31.7	25.6	666	11.7
244	Altera	IT hardware (93)	USA	142	-2.3	7.0	-0.9	656	16.3
245	Juniper Networks	IT hardware (93)	USA	140	8.8	4.1	77.1	556	28.4
246	Givaudan	Personal care & household (47)	Switzerland	139	5.3	3.0	7.5	1 740	1.5
247	Compuware	Software & computer services (97)	USA	139	13.1	33.8	-0.4	1 003	-8.0
248	Baker Hughes	Oil & gas (07)	USA	137	4.7	27.7	9.8	4 196	5.4
249	Winbond Electronic	IT hardware (93)	Taiwan	137	-25.4	5.5	..	778	37.9
250	EMBRAER	Aerospace & defence (21)	Brazil	137	9.3	59.2	312.9	1 699	-15.1

Sales		Employees		- R&D/Sales ratio -		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
10.0	-3.9	19 682	-10.3	4.6	5.7	4.3	9.1	9.8	-4.5	..	..	..
-2.2	4.3	35 182	0.9	1.8	1.8	3.1	5.1	5.0	7.1	8 511	3.9	7.4
-6.5	-4.1	20 600	-10.0	5.1	4.5	7.1	8.6	6.0	14.8	3 014	40.2	-0.8
1.3	14.9	15 845	3.9	4.2	4.3	7.2	11.2	11.4	0.4	4 965	14.1	6.6
-1.2	-12.1	51 000	0.0	2.8	2.8	9.1	3.5	3.2	-1.3	7 718	53.3	25.1
-65.5	65.6	3 519	-16.8	24.2	28.0	-18.9	49.6	46.7	7.8	4 657	-1.3	-8.4
56.2	83.3	983	20.2	64.0	102.3	-30.4	177.6	236.3	-8.8	3 071	93.3	10.5
-7.5	-0.7	20 500	..	2.9	2.7	2.3	8.4	..	..	3 117	88.1	25.6
-5.1	-1.8	22 198	-2.8	2.5	2.9	3.0	7.8	8.6	-4.2	4 894	44.5	2.9
..	..	1 672	31.4	26.4	29.7	6.9	102.6	93.8	..	4 901	..	..
..	..	14 300	-1.4	8.5	10.2	14.5	12.0	13.8	..	4 811	30.2	..
9.3	-4.8	..	..	1.4	1.4	16.8	..	..	..	9 453	11.8	17.4
21.3	18.7	10 960	14.4	6.5	6.6	27.0	15.4	13.7	17.1	14 480	26.3	31.6
-1.6	-24.4	2 200	5.2	15.4	16.1	3.6	76.8	62.4	12.5	3 054	35.4	22.4
4.1	-2.8	18 842	1.6	4.2	4.3	9.6	8.8	9.0	..	2 428	-7.3	..
-12.9	1.2	3 493	-0.1	22.0	21.0	11.4	47.5	39.2	7.0	3 553	171.8	-39.7
7.1	..	14 806	1.6	4.1	4.5	3.4	11.2	10.5	..	1 245	12.2	..
31.2	16.1	10 000	13.6	7.2	6.9	21.6	16.5	15.7	3.2	5 442	-8.9	-7.2
32.9	-35.3	5 500	52.8	12.8	16.2	20.8	29.9	34.1	0.6	32 479	107.1	59.5
21.0	0.1	30 000	3.4	3.9	3.8	16.0	5.5	4.8	6.3	12 379	43.7	24.2
-2.9	12.1	23 575	..	2.2	2.3	-0.7	6.9	..	..	1 487	..	..
-1.4	0.7	36 600	-2.9	2.1	2.1	21.5	4.4	4.1	6.8	22 523	-5.5	-3.0
-0.3	-0.7	7 100	0.0	9.4	10.5	8.8	22.8	24.0	-5.3	2 225	-1.8	27.6
-7.5	10.1	42 000	-6.7	2.1	2.2	9.4	3.8	3.5	9.4	9 438	29.5	18.5
-5.7	-3.6	29 400	-3.0	2.2	2.2	21.9	5.4	4.8	10.6	30 961	21.3	8.2
-9.4	42.3	48 798	19.5	0.7	0.7	30.6	3.3	2.9	20.6	23 630	127.6	6.7
3.0	-13.9	24 200	2.1	3.2	3.3	3.3	6.6	6.5	-1.8	2 362	59.0	20.6
-77.5	86.6	1 816	-14.3	70.7	70.8	-131.3	87.2	95.6	33.2	1 269	-36.9	-47.7
12.8	8.8	15 412	2.6	5.2	4.8	8.4	10.1	8.9	11.1	1 856	2.4	39.4
3.8	5.1	9 900	-1.0	8.9	8.9	15.4	15.6	14.6	0.9	2 695	30.3	8.1
-11.4	-0.3	120 000	-5.5	0.9	1.1	8.7	1.3	1.3	5.8	22 095	23.3	-8.1
-5.5	0.2	..	..	7.8	8.7	2.2	..	19.1	..	450	17.5	-3.7
0.2	4.6	33 292	5.3	1.6	1.5	4.6	4.5	4.5	3.4	5 598	11.6	0.3
11.4	12.8	4 164	-10.3	2.4	2.1	32.2	35.8	27.9	..	8 967	-17.3	..
-1.2	1.7	15 000	-4.5	3.2	3.3	-4.4	9.9	8.9	7.1	2 742	26.4	-0.2
-0.6	1.7	3 600	2.9	27.3	27.5	2.1	40.7	37.2	3.9	638	-29.4	-9.9
24.9	12.0	3 700	-2.6	19.7	14.3	7.0	39.6	31.1	-0.2	2 354	67.9	21.6
9.0	-10.4	5 734	-12.1	16.6	14.9	-7.2	25.4	20.6	-12.6	2 229	111.5	15.9
43.6	21.9	11 400	-2.6	7.6	6.2	14.4	12.8	9.9	-7.2	3 089	-11.5	..
-70.0	-41.2	1 100	1.3	2 422.2	5 333.7	-3 000.0	132.1	147.3	20.0	1 006	-20.8	..
-9.4	..	418 871	-5.6	0.5	0.4	8.8	0.3	0.3	..	57 692	104.9	..
15.8	13.7	14 762	5.1	5.0	4.7	18.6	9.7	8.0	6.5	15 128	27.8	19.3
46.4	26.8	5 077	6.0	21.4	20.0	9.3	28.1	24.8	6.7	1 297	53.3	..
-15.2	-39.1	1 995	6.0	21.6	25.7	23.9	71.0	77.0	0.4	6 179	10.1	-13.7
-38.4	31.6	1 553	0.7	25.1	29.6	9.2	89.9	83.2	6.2	9 647	130.0	..
11.4	1.9	5 981	2.3	8.0	7.7	12.5	23.3	22.6	-0.3	3 752	43.0	..
-20.4	-14.1	8 660	-7.4	13.8	11.2	4.4	16.0	13.1	32.0	1 546	-10.0	-26.4
-6.7	2.8	26 650	0.6	3.3	3.3	7.1	5.2	5.0	10.5	10 627	24.3	8.2
-50.9	..	3 833	-9.4	17.7	32.7	-13.6	35.8	43.5	..	1 363	-36.3	..
-13.7	5.6	12 941	5.8	8.1	6.3	11.7	10.6	10.3	79.0	3 725	..	..

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				units	€m	%	%	%	€m
251	United Microelectronics	IT hardware (93)	Taiwan	137	-20.5	-17.8	42.1	2 235	32.2
252	Chubu Electric Power	Electricity (72)	Japan	136	-8.2	-6.9	3.3	16 097	-2.4
253	Lear	Automobiles & parts (31)	USA	136	-2.8	-11.4	-4.8	12 484	9.2
254	Silicon Graphics	IT hardware (93)	USA	136	-6.0	-23.0	-21.6	762	-28.3
255	Cephalon	Pharma & biotech (48)	USA	135	32.7	52.3	54.4	567	41.1
256	Mattel	Household goods & textiles (34)	USA	133	4.9	-9.2	-2.2	3 932	1.5
257	ArvinMeritor	Automobiles & parts (31)	USA	132	26.5	-2.9	18.3	6 174	13.2
258	Harley-Davidson	Automobiles & parts (31)	USA	132	8.9	89.8	6.5	3 888	14.0
259	Kobe Steel	Steel & other metals (18)	Japan	132	-19.3	-2.8	121.5	8 912	0.6
260	Meiji Seika Kaisha	Food producers (43)	Japan	131	-5.8	7.0	11.0	2 615	-2.3
261	Koito Manufacturing	Automobiles & parts (31)	Japan	131	-7.7	12.8	..	2 302	3.3
262	Gilead Sciences	Pharma & biotech (48)	USA	131	22.3	-27.4	41.0	688	85.9
263	Shiseido	Personal care & household (47)	Japan	130	1.7	1.8	1.2	4 618	0.5
264	Lam Research	IT hardware (93)	USA	127	-10.4	-21.1	28.5	599	-19.9
265	UTStarcom	IT hardware (93)	USA	126	85.0	44.1	44.3	1 557	100.1
266	Conexant Systems	IT hardware (93)	USA	126	-50.8	-33.0	16.5	476	-0.2
267	eBay	General retailers (52)	USA	126	32.6	59.6	34.8	1 716	78.2
268	International Flavors & Fragrances	Personal care & household (47)	USA	126	10.6	6.5	20.0	1 508	5.2
269	Dover	Diversified industrials (24)	USA	126	-5.8	-4.0	0.3	3 499	5.5
270	Showa Denko	Chemicals (11)	Japan	126	10.0	-0.0	-6.9	5 100	2.3
271	Scientific-Atlanta	Media & entertainment (54)	USA	124	2.1	-0.6	26.1	1 150	-13.2
272	MedImmune	Pharma & biotech (48)	USA	124	8.4	73.7	25.2	836	24.4
273	<i>Globespan Virata (now part of Conexant Systems)</i>	IT hardware (93)	USA	124	13.0	39.9	271.9	181	-15.4
274	Dow Corning	Chemicals (11)	USA	123	-10.8	-5.7	-1.6	2 069	7.0
275	JDS Uniphase	IT hardware (93)	USA	122	-39.7	-21.8	187.4	536	-38.5
276	Skyworks Solutions	IT hardware (93)	USA	120	14.4	19.4	21.2	490	35.0
277	Statoil	Oil & gas (07)	Norway	120	36.4	16.3	-3.5	29 616	2.6
278	OKI Electric	Electronic & electrical (25)	Japan	119	5.9	-32.6	-24.4	4 840	11.8
279	Bausch & Lomb	Health (44)	USA	119	16.7	5.3	0.4	1 601	11.2
280	General Mills	Food producers (43)	USA	118	13.7	58.2	7.4	8 329	32.2
281	Pitney Bowes	Electronic & electrical (25)	USA	117	4.2	6.1	10.5	3 629	3.8
282	Thermo Electron	Engineering & machinery (26)	USA	116	-5.6	-9.6	-2.9	1 663	0.5
283	Bombardier	Aerospace & defence (21)	Canada	115	-33.9	21.9	89.2	13 080	-9.9
284	Brocade Communications	IT hardware (93)	USA	115	9.7	19.4	119.3	416	-6.7
285	Sybase	Software & computer services (97)	USA	115	-3.8	-6.6	-34.0	617	-6.2
286	Kawasaki Heavy Industries	Engineering & machinery (26)	Japan	115	-6.4	-5.7	-11.8	9 170	8.3
287	Hasbro	Household goods & textiles (34)	USA	114	-6.9	22.4	-39.7	2 488	11.4
288	Harman International Industries	Electronic & electrical (25)	USA	114	30.2	23.9	-4.1	1 767	22.0
289	East Japan Railway	Transport (59)	Japan	113	13.0	1.4	2.8	18 979	0.9
290	Dainippon Pharmaceutical	Pharma & biotech (48)	Japan	113	16.0	4.4	4.0	1 274	4.9
291	BEA Systems	Software & computer services (97)	USA	112	6.1	9.8	35.4	803	8.4
292	JSR	Chemicals (11)	Japan	112	7.6	5.7	155.5	2 035	11.3
293	Alcan	Steel & other metals (18)	Canada	111	21.7	-14.8	66.7	10 814	8.8
294	Vertex Pharmaceuticals	Pharma & biotech (48)	USA	111	23.6	43.0	319.1	55	-57.0
295	Time Warner	Media & entertainment (54)	USA	110	2.2	29.5	-18.6	31 367	-3.4
296	Bandai	Household goods & textiles (34)	Japan	110	4.0	3.6	-9.5	1 812	7.5
297	Nintendo	Software & computer services (97)	Japan	108	-14.1	0.0	6.3	3 726	-9.1
298	ConocoPhillips Petroleum	Oil & gas (07)	USA	108	24.8	147.8	2.3	71 684	81.5
299	Western Digital	IT hardware (93)	USA	107	12.1	-1.9	-24.9	2 155	26.4
300	Swatch	Household goods & textiles (34)	Switzerland	105	15.5	..	-100.0	2 553	-2.0

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
7.0	-41.4	9 000	-1.5	6.1	10.2	8.3	15.2	18.8	-1.1	8 914	-4.6	..
-1.1	6.6	17 994	-1.7	0.8	0.9	13.4	7.6	8.1	..	12 373	5.3	..
5.9	-3.2	111 000	-3.5	1.1	1.2	4.5	1.2	1.2	-3.5	2 999	10.9	14.2
-27.7	-20.5	3 714	-16.4	17.8	13.6	-13.6	36.5	32.5	0.9	316	72.7	55.5
90.5	137.1	1 646	29.5	23.8	25.3	22.1	82.0	80.0	-0.9	2 239	6.8	..
1.7	2.9	25 000	0.0	3.4	3.3	15.7	5.3	5.1	3.8	5 867	-17.3	-2.7
1.1	32.1	32 000	0.0	2.1	1.9	4.0	4.1	3.3	17.8	1 093	13.1	1.7
21.4	20.4	9 460	4.0	3.4	3.6	23.5	14.0	13.3	21.4	13 976	27.6	..
-12.8	9.6	26 765	-0.8	1.5	1.8	3.8	4.9	6.1	23.3	3 259	43.9	39.9
0.8	-1.2	..	..	5.0	5.2	1.6	..	..	..	1 300	17.1	..
1.3	6.5	12 599	..	5.7	6.4	4.6	10.4	..	..	1 026	67.1	..
100.0	19.4	1 425	14.0	19.0	28.9	-18.3	91.7	85.5	-9.2	10 776	-0.4	42.9
5.3	-0.9	24 839	-1.4	2.8	2.8	8.3	5.2	5.1	1.7	4 194	9.4	13.3
-37.9	23.5	2 100	-16.0	21.2	19.0	-1.2	60.6	56.8	17.0	2 518	15.8	0.9
56.5	70.2	5 500	67.8	8.1	8.8	13.6	23.0	20.9	3.2	1 647	-52.6	..
-43.4	-49.5	1 450	-41.1	26.5	53.8	-125.4	87.1	104.4	32.6	584	-46.2	-29.8
62.1	73.7	5 700	42.5	7.4	9.9	28.8	22.2	23.8	..	32 894	16.4	..
-1.9	26.0	5 454	-4.8	8.4	8.0	14.8	23.2	19.9	19.7	2 795	25.0	..
-6.2	-17.4	25 700	2.8	3.6	4.0	10.1	4.9	5.3	1.3	6 394	9.4	2.1
-4.9	-5.1	10 623	-2.8	2.5	2.3	4.7	11.8	10.5	8.4	1 992	11.3	23.6
-33.5	46.5	6 889	17.4	10.8	9.2	9.0	18.0	20.7	23.9	3 734	6.3	..
46.4	16.8	1 650	9.6	14.8	17.0	23.2	75.1	75.9	4.1	4 477	-44.0	..
-22.5	513.3	700	-39.4	68.3	51.1	-289.5	176.6	94.8	21.6	..	..	..
-11.4	5.7	8 200	-4.7	5.9	7.1	5.9	14.9	16.0	..	..	..	..
-66.0	126.0	5 489	-40.5	22.7	23.2	-2.8	22.2	21.9	67.4	4 109	34.5	-27.0
76.2	-31.3	3 800	-5.0	24.6	29.0	-69.4	31.7	26.3	..	994	11.6	..
6.5	9.2	19 326	12.9	0.4	0.3	17.2	6.2	5.1	9.1	21 640	32.1	..
-3.2	-18.3	20 960	-6.9	2.5	2.6	2.4	5.7	5.0	-12.9	1 729	2.1	-6.0
6.1	-3.4	11 600	0.9	7.4	7.1	12.6	10.2	8.9	9.7	2 584	57.5	20.9
12.3	5.6	27 300	-8.6	1.4	1.6	17.3	4.3	3.5	-7.8	13 533	-2.4	11.6
7.0	6.2	24 747	-25.3	3.2	3.2	18.9	4.7	3.4	12.1	7 780	10.2	-2.2
-4.7	-4.0	10 800	-0.9	7.0	7.4	8.8	10.7	11.3	-0.1	3 379	-0.6	2.4
9.4	34.4	60 377	-14.3	0.9	1.2	2.9	1.9	2.5	13.5	3 510	-37.4	-34.1
9.6	55.9	1 230	-7.7	27.7	23.5	-26.7	93.5	78.7	12.3	1 001	-11.1	..
-10.4	-3.5	3 660	-6.6	18.6	18.1	13.5	31.4	30.5	-7.6	1 101	-4.9	0.7
7.9	-7.8	28 642	-1.0	1.3	1.4	2.1	4.0	4.2	-6.8	1 694	25.1	-0.7
-1.4	-24.6	6 900	-4.2	4.6	5.5	10.1	16.5	16.9	-1.2	2 541	-3.3	8.6
6.4	2.3	10 776	3.7	6.4	6.0	7.6	10.5	8.4	12.1	4 489	113.9	67.3
-0.1	1.7	78 760	-1.8	0.6	0.5	14.1	1.4	1.3	7.3	17 810	..	..
3.3	2.4	2 480	-2.8	8.8	8.0	6.4	45.4	38.0	..	1 064	6.5	-13.7
-4.3	19.1	3 122	1.9	13.9	14.2	18.2	35.8	34.4	14.9	2 069	-52.5	..
12.3	-5.1	4 303	..	5.5	5.7	11.3	25.9	..	..	3 432	5.9	..
-0.7	38.0	59 900	24.5	1.0	0.9	5.4	1.9	1.9	2.2	11 516	20.5	1.4
-3.8	114.5	720	-26.5	201.1	69.9	-381.8	153.6	91.3	67.3	557	-33.7	..
7.1	5.6	80 000	-12.3	0.4	0.3	14.8	1.4	1.2	..	57 927	10.2	-29.8
5.1	3.8	2 599	-4.4	6.1	6.3	9.7	42.4	38.9	5.9	1 909	19.8	..
19.9	-12.8	..	..	2.9	3.1	20.0	..	..	..	12 322	17.2	-15.6
107.1	15.4	39 000	-31.6	0.2	0.2	10.3	2.8	1.5	0.2	42 727	50.0	..
10.1	-0.2	11 508	20.5	5.0	5.6	7.0	9.3	10.0	-19.3	1 150	-26.3	38.9
-2.9	-1.9	20 707	1.8	4.1	3.5	14.9	5.1	4.5	4.2	6 194	..	5.7

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				units €m	%	%	%	€m	%
301	Parametric Technology	Software & computer services (97)	USA	105	-2.6	-8.6	3.6	533	-9.4
302	Ebara	Engineering & machinery (26)	Japan	104	-18.3	-13.6	20.6	3 832	-7.9
303	Casio Computer	IT hardware (93)	Japan	104	0.2	17.7	-3.0	3 259	15.3
304	Kaneka	Chemicals (11)	Japan	103	0.8	5.6	7.3	2 754	4.7
305	Rockwell Automation	Electronic & electrical (25)	USA	103	-0.8	-22.5	-64.3	3 254	5.0
306	Nitto Denko	Chemicals (11)	Japan	103	6.1	5.1	16.7	2 801	11.7
307	RF Micro Devices	Electronic & electrical (25)	USA	102	26.0	36.7	23.4	516	28.0
308	Osaka Gas	Utilities - other (73, 78)	Japan	102	-8.8	-8.7	-10.6	7 013	-2.6
309	Applied Micro Circuits	IT hardware (93)	USA	102	-36.8	31.1	47.0	104	28.4
310	American Standard Companies	Engineering & machinery (26)	USA	102	-27.2	32.3	5.6	6 792	9.9
311	Norsk Hydro	Diversified industrials (24)	Norway	101	4.3	2.4	-11.4	20 470	5.4
312	Exelixis	Pharma & biotech (48)	USA	101	13.9	35.4	60.0	41	17.1
313	NGK Spark Plug	Automobiles & parts (31)	Japan	101	1.7	7.9	15.3	1 693	3.4
314	Kellogg	Food producers (43)	USA	101	19.1	-3.5	-6.9	6 986	6.1
315	Sumitomo Metal	Steel & other metals (18)	Japan	100	-27.3	-11.1	-12.5	9 059	-9.3
316	Newell Rubbermaid	Household goods & textiles (34)	USA	99	42.2	30.4	36.0	6 144	4.0
317	Unaxis	Diversified industrials (24)	Switzerland	99	-1.9	-24.5	-5.0	1 032	8.2
318	Anritsu	IT hardware (93)	Japan	98	-13.1	-1.1	22.8	581	-40.3
319	Federal-Mogul	Automobiles & parts (31)	USA	98	11.3	-3.9	-9.9	4 397	2.3
320	SMC	Engineering & machinery (26)	Japan	97	2.2	-9.3	39.8	1 530	12.2
321	Kissei Pharmaceutical	Pharma & biotech (48)	Japan	97	0.2	13.3	24.8	440	-0.7
322	ITT Industries	Engineering & machinery (26)	USA	96	6.3	13.9	0.9	4 461	12.9
323	NGK Insulators	Diversified industrials (24)	Japan	96	-16.4	-9.0	-1.3	2 232	0.5
324	Air Products and Chemicals	Chemicals (11)	USA	96	0.4	-1.6	-1.5	4 993	16.6
325	Dainippon Ink & Chemicals	Chemicals (11)	Japan	96	0.7	6.6	12.5	7 116	-1.8
326	Intermune	Pharma & biotech (48)	USA	95	-7.5	148.9	150.0	122	37.1
327	Fanuc	Electronic & electrical (25)	Japan	95	12.8	-7.3	4.9	1 585	-1.0
328	PMC-Sierra	IT hardware (93)	USA	95	-13.3	-31.5	12.5	198	14.5
329	Santen Pharmaceutical	Pharma & biotech (48)	Japan	94	4.4	15.9	14.0	668	1.5
330	BorgWarner	Automobiles & parts (31)	USA	94	8.3	4.4	-6.7	2 433	12.4
331	Brunswick	Household goods & textiles (34)	USA	94	15.0	7.2	-6.2	3 273	11.2
332	Dade Behring	Pharma & biotech (48)	USA	93	2.0	37.6	-19.0	1 139	3.5
333	Molex	Electronic & electrical (25)	USA	93	4.7	-17.0	10.1	1 461	7.7
334	Kuraray	Chemicals (11)	Japan	93	3.2	-1.0	1.3	2 386	5.4
335	Yokohama Rubber	Automobiles & parts (31)	Japan	93	1.8	4.0	1.7	2 962	0.1
336	Incyte	Pharma & biotech (48)	USA	92	-23.7	-28.6	10.8	37	-54.3
337	Openwave Systems	Software & computer services (97)	USA	91	-20.1	-47.0	353.4	212	-26.6
338	Ceridian	Support services (58)	USA	91	21.8	59.8	-6.1	994	5.1
339	3Com	IT hardware (93)	USA	90	-60.4	-46.7	-12.3	740	-36.9
340	Network Appliance	IT hardware (93)	USA	90	-3.3	-3.5	94.8	707	11.7
341	Schindler	Engineering & machinery (26)	Switzerland	89	7.8	3.2	-3.8	4 892	-3.2
342	Hilti	Construction & building (13)	Liechtenstein	88	2.0	-0.4	-2.2	1 931	0.6
343	Palm (<i>now.palmOne</i>)	IT hardware (93)	USA	88	-21.6	-12.0	..	691	-15.4
344	Vitesse Semiconductor	IT hardware (93)	USA	87	-35.3	24.1	59.1	124	-3.9
345	Daicel Chemical Industries	Chemicals (11)	Japan	87	2.3	-3.0	13.9	2 007	3.8
346	Tokyo Gas	Utilities - other (73, 78)	Japan	87	..	..	..	8 342	2.7
347	Symbol Technologies	Electronic & electrical (25)	USA	86	49.4	18.4	-26.5	1 213	9.2
348	ADC Telecommunications	IT hardware (93)	USA	86	-38.4	-36.7	-17.6	613	-26.2
349	Ivax	Pharma & biotech (48)	USA	86	42.5	-13.6	34.7	1 126	18.7
350	Mitsubishi Materials	Steel & other metals (18)	Japan	86	-24.6	-0.2	4.6	7 137	-7.8

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
-20.6	0.7	3 500	-8.0	19.7	18.3	-12.6	30.0	28.4	7.6	933	40.7	-23.8
-6.2	6.0	15 966	1.5	2.7	3.1	-6.5	6.5	8.1	-10.5	1 004	-1.7	-17.9
-13.9	8.3	11 481	-21.7	3.2	3.7	3.3	9.1	7.1	24.4	2 876	67.6	35.5
-3.2	3.7	6 720	-0.1	3.8	3.9	6.5	15.4	15.2	3.9	2 590	26.8	0.8
-8.6	-40.2	21 500	-2.3	3.2	3.4	8.9	4.8	4.7	-19.3	5 467	36.9	33.1
-7.3	12.4	10 764	13.2	3.7	3.9	8.8	9.5	10.2	3.2	5 959	6.8	..
37.5	10.2	1 895	5.6	19.7	20.0	6.0	53.6	45.0	8.7	875	-7.7	..
2.3	12.1	15 020	1.0	1.4	1.5	6.3	6.8	7.5	-22.0	5 138	-1.6	-5.9
-33.1	-64.9	723	-15.5	97.6	198.4	-113.5	140.4	187.8	25.3	890	-31.7	..
4.4	-1.7	60 000	0.0	1.5	2.3	7.6	1.7	2.3	1.1	6 426	46.6	..
6.6	-2.6	44 602	4.7	0.5	0.5	14.3	2.3	2.3	-6.8	13 212	12.9	14.2
6.1	65.0	573	4.2	246.8	253.7	-185.4	176.6	161.5	..	436	..	..
-1.3	14.4	9 306	-1.2	5.9	6.0	1.1	10.8	10.5	6.3	1 813	15.0	3.4
-6.2	27.3	25 250	-1.8	1.4	1.3	17.0	4.0	3.3	-14.0	13 563	23.8	12.9
-9.9	5.2	25 858	-13.6	1.1	1.4	3.8	3.9	4.6	-5.1	4 094	48.4	35.1
7.9	-0.4	40 000	-14.9	1.6	1.2	0.7	2.5	1.5	45.4	4 706	-25.7	..
-30.0	-35.3	6 500	-5.7	9.6	10.6	0.4	15.2	14.6	-0.3	1 157	25.8	-1.2
-17.3	38.3	3 720	-20.9	16.8	11.6	1.2	26.3	24.0	14.6	607	1.3	..
-0.6	-9.3	44 900	-5.9	2.2	2.0	0.1	2.2	1.8	2.4	19	11.8	-41.7
-26.8	29.9	10 834	..	6.4	7.0	12.5	9.0	..	5.8	5 645	-8.5	-0.9
1.6	3.3	1 665	2.0	22.0	21.8	7.5	58.1	59.1	11.5	911	35.6	-3.7
6.6	-3.2	39 000	2.6	2.2	2.3	8.7	2.5	2.4	9.2	5 849	16.5	24.0
-9.5	5.1	11 071	0.6	4.3	5.2	5.7	8.7	10.5	-6.8	2 237	29.2	-3.7
-5.5	4.6	18 500	7.6	1.9	2.2	10.8	5.2	5.6	-2.7	9 325	10.7	3.4
-0.2	4.6	27 007	-4.9	1.3	1.3	3.3	3.5	3.3	11.5	1 427	6.0	-3.5
178.1	255.6	260	4.0	77.9	115.4	-59.0	365.5	411.0	26.3	297	-26.8	..
-18.1	26.4	..	..	6.0	5.3	30.0	..	..	..	10 735	-10.1	4.5
-32.4	-53.5	930	-15.4	47.8	63.1	-7.1	101.9	99.4	7.4	1 663	6.5	-24.5
0.6	5.8	2 500	1.5	14.1	13.7	11.4	37.6	36.6	4.9	1 204	69.3	-3.9
16.1	-11.2	14 300	2.1	3.9	4.0	10.2	6.6	6.2	1.1	2 084	47.3	..
10.1	-11.6	23 225	10.5	2.9	2.8	6.1	4.0	3.9	4.9	2 898	51.1	21.7
12.7	4.2	2 700	-55.0	8.2	8.3	11.4	34.5	15.2	..	1 683	..	..
-27.6	6.7	17 275	3.8	6.3	6.5	5.5	5.4	5.3	-0.7	4 059	3.0	-6.4
-2.5	-0.8	6 983	-1.9	3.9	4.0	4.5	13.3	12.6	3.3	2 305	-1.1	0.6
3.1	-1.1	12 979	-1.2	3.1	3.1	5.5	7.1	6.9	4.5	1 053	33.0	17.7
-53.4	13.0	454	-7.5	249.1	149.1	-337.8	203.0	246.0	20.7	348	10.5	-30.9
-60.8	536.2	1 455	-22.8	43.1	39.5	-79.7	62.7	60.6	..	579	47.0	..
1.0	0.5	9 320	-1.0	9.2	7.9	15.2	9.8	7.9	23.5	2 121	-2.3	..
-47.6	-34.9	3 300	-28.5	12.1	19.3	-32.0	27.2	49.1	-15.9	1 526	11.4	4.4
-20.7	73.9	2 345	2.9	12.7	14.6	9.6	38.2	40.6	4.4	5 478	11.4	..
-2.1	-5.6	39 727	-1.9	1.8	1.6	5.4	2.2	2.0	5.4	2 930	62.1	..
-4.1	-0.4	14 640	0.3	4.6	4.5	8.2	6.0	5.9	-2.2	..	..	..
-33.9	..	982	-16.1	12.7	13.7	-24.7	89.3	95.5	..	1 436	275.9	..
-57.7	-12.9	797	-14.9	70.4	104.6	-104.0	109.6	144.2	21.0	482	-54.0	-44.1
-0.1	9.9	5 416	1.0	4.3	4.4	4.4	16.1	15.8	-21.0	1 368	6.9	9.2
1.0	9.6	11 338	..	1.0	0.0	10.0	7.6	..	..	8 007	..	..
-3.6	0.3	5 300	-5.4	7.1	5.2	0.7	16.3	10.3	13.7	2 434	4.9	-9.5
-56.4	-26.9	5 700	-25.0	14.1	16.8	-11.6	15.1	18.4	8.2	1 539	12.3	-28.4
-1.6	73.7	8 719	4.3	7.6	6.4	15.5	9.9	7.2	3.3	3 684	28.8	..
-8.5	15.9	21 745	-2.8	1.2	1.5	-2.3	3.9	5.1	-3.7	1 819	40.5	-0.7

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				<i>units</i>	€m	%	%	%	€m
351	Pliva	Pharma & biotech (48)	Croatia	86	19.7	29.1	16.7	854	1.8
352	Mitsubishi Gas Chemical	Chemicals (11)	Japan	85	-3.1	-4.5	1.4	2 309	13.2
353	Celgene	Pharma & biotech (48)	USA	85	40.0	94.4	29.6	215	99.1
354	Maytag	Household goods & textiles (34)	USA	85	-3.3	30.3	6.0	3 799	2.7
355	Illinois Tool Works	Engineering & machinery (26)	USA	85	5.4	-0.9	-10.7	7 956	6.0
356	Kajima	Construction & building (13)	Japan	85	-0.2	-10.3	-2.3	13 869	-9.0
357	Terumo	Health (44)	Japan	84	10.7	15.6	-8.3	1 484	7.2
358	Fujikura	Electronic & electrical (25)	Japan	84	-4.6	9.7	-1.9	2 344	-9.1
359	UBE Industries	Chemicals (11)	Japan	84	-12.2	1.1	-1.5	3 799	-4.5
360	Zimmer	Health (44)	USA	84	31.1	..	..	1 507	38.5
361	Toto	Construction & building (13)	Japan	84	-7.8	-4.0	3.7	3 253	3.7
362	Acterna	IT hardware (93)	USA	83	-34.7	6.8	145.3	539	-40.0
363	Rieter	Engineering & machinery (26)	Switzerland	83	-0.1	-10.2	19.1	1 999	4.8
364	Ballard Power Systems	Automobiles & parts (31)	Canada	82	-8.7	37.6	23.5	95	31.9
365	Quantum	IT hardware (93)	USA	82	-7.6	-11.6	-2.7	641	-7.1
366	Adaptec	IT hardware (93)	USA	82	-12.7	-4.3	11.2	359	10.8
367	Kyushu Electric Power	Electricity (72)	Japan	81	-10.0	-6.4	2.8	9 992	-7.4
368	Tektronix	IT hardware (93)	USA	80	-16.6	-20.8	12.2	627	-6.3
369	Mylan Laboratories	Pharma & biotech (48)	USA	80	16.2	47.4	-8.6	1 090	8.4
370	Mitsubishi Rayon	Chemicals (11)	Japan	80	-0.2	0.3	0.3	2 224	-1.9
371	Dainippon Screen Mfg	Engineering & machinery (26)	Japan	80	7.4	0.7	10.1	1 242	-3.6
372	Black & Decker	Household goods & textiles (34)	USA	80	3.6	-2.0	3.8	3 554	2.0
373	Sasol	Oil & gas (07)	South Africa	80	-34.6	125.8	40.3	7 667	4.8
374	Tohoku Electric Power	Electricity (72)	Japan	79	-7.0	-5.5	..	11 790	-6.1
375	AU Optronics	Electronic & electrical (25)	Taiwan	79	51.6	20.3	16.1	2 449	38.6
376	Harris	IT hardware (93)	USA	79	-4.1	-8.7	13.9	1 659	11.6
377	Watson Pharmaceuticals	Pharma & biotech (48)	USA	79	21.6	28.5	-5.6	1 156	19.2
378	Integrated Device Technology	IT hardware (93)	USA	78	-23.7	-0.0	0.3	274	0.4
379	Activision	Software & computer services (97)	USA	78	71.8	39.1	-1.1	751	9.6
380	KDDI	Telecommunication services (67)	Japan	77	16.8	74.8	485.6	20 604	-1.7
381	Tosoh	Chemicals (11)	Japan	77	6.1	2.1	3.2	3 491	10.4
382	Electronics For Imaging	Software & computer services (97)	USA	77	7.5	-8.3	4.3	301	8.3
383	SPX	Electronic & electrical (25)	USA	76	-19.0	8.7	46.5	4 029	0.7
384	Sumitomo Heavy Industries	Engineering & machinery (26)	Japan	76	..	-100.0	-40.7	3 560	-7.0
385	SIG	Support services (58)	Switzerland	76	8.6	58.3	0.0	1 896	1.0
386	Sumitomo Bakelite	Chemicals (11)	Japan	76	4.7	20.3	11.8	1 186	3.6
387	Medarex	Pharma & biotech (48)	USA	76	15.5	113.9	13.8	9	-71.0
388	International Game Technology	Leisure & hotels (53)	USA	75	18.3	28.4	13.3	1 687	15.2
389	Tularik	Pharma & biotech (48)	USA	75	52.1	6.2	49.0	24	20.0
390	Convergys	Support services (58)	USA	75	-17.1	-1.9	22.5	1 815	0.1
391	Saurer	Engineering & machinery (26)	Switzerland	75	2.8	-5.6	10.1	1 746	9.4
392	Bio-Rad Laboratories	Health (44)	USA	75	13.7	8.4	12.3	795	12.3
393	Lubrizol	Chemicals (11)	USA	74	0.4	6.7	1.4	1 625	3.5
394	Nippon Oil	Oil & gas (07)	Japan	74	-3.9	2.3	-10.1	23 320	7.2
395	Parker Hannifin	Engineering & machinery (26)	USA	74	-14.6	-5.1	29.1	5 082	4.2
396	Engelhard	Chemicals (11)	USA	74	5.5	4.6	1.8	2 945	-1.0
397	OSI Pharmaceuticals	Pharma & biotech (48)	USA	74	3.2	131.2	155.1	26	52.9
398	Taisei	Construction & building (13)	Japan	73	0.0	-1.0	7.9	12 166	-1.7
399	Linear Technology	IT hardware (93)	USA	73	14.5	-22.1	30.9	481	18.5
400	Intersil	IT hardware (93)	USA	72	-30.4	23.5	12.9	402	-21.9

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
21.8	6.2	6 872	-6.2	10.0	8.5	17.4	12.5	9.8	24.5	..	..	..
-14.6	11.4	4 729	1.3	3.7	4.3	0.3	18.1	18.9	0.9	1 500	71.8	2.5
21.3	32.8	703	25.5	39.7	56.4	-0.9	121.3	108.8	..	3 388	52.6	..
7.9	1.8	20 640	-0.0	2.2	2.4	5.6	4.1	4.2	16.4	1 283	-19.3	..
1.9	-6.9	47 500	-2.5	1.1	1.1	16.4	1.8	1.7	2.8	22 229	33.9	12.4
7.9	10.5	10 850	-3.6	0.6	0.6	1.8	7.8	7.5	-2.0	2 544	21.1	10.4
6.3	2.8	8 749	8.5	5.7	5.5	17.5	9.6	9.4	-2.5	4 036	30.2	..
-3.1	10.7	23 873	5.1	3.6	3.4	-3.1	3.5	3.9	-3.6	1 465	19.3	-3.9
0.5	3.9	10 829	-9.6	2.2	2.4	5.4	7.8	8.0	-0.7	924	-7.5	-9.6
..	..	6 500	80.6	5.6	5.9	26.6	12.9	17.8	..	14 695	101.7	..
-0.4	8.7	17 061	-2.4	2.6	2.9	4.1	4.9	5.2	-3.0	2 824	29.8	12.2
-3.0	157.9	2 840	-42.9	15.4	14.1	-49.2	29.2	25.5	41.5	..	..	..
-6.1	8.1	13 316	2.6	4.1	4.3	6.4	6.2	6.4	-0.6	928	29.4	..
148.3	16.0	1 099	-15.5	86.7	125.2	-131.6	74.9	69.4	4.2	664	-48.5	-41.6
-20.0	-22.7	1 809	-11.5	12.8	12.9	-2.2	45.3	43.4	2.5	349	-21.4	-37.3
-2.4	-28.0	1 512	-1.0	22.7	28.8	5.9	53.9	61.1	-44.7	652	10.7	..
0.7	1.3	19 060	-1.2	0.8	0.8	11.6	4.3	4.7	-5.7	7 169	14.2	5.0
-31.7	10.1	4 142	-3.7	12.8	14.4	-2.2	19.4	22.4	-8.5	2 040	42.0	2.5
15.0	30.2	2 800	14.3	7.3	6.8	37.2	28.5	28.1	7.5	3 155	-31.8	3.2
-6.1	3.9	8 872	-3.7	3.6	3.5	4.8	9.0	8.7	4.3	1 664	19.0	0.5
-28.2	38.7	4 468	0.9	6.4	5.8	-2.8	17.8	16.7	7.6	950	13.1	19.5
1.4	-5.0	22 100	-0.9	2.2	2.2	9.2	3.6	3.4	4.0	4 475	73.2	18.7
49.1	63.5	31 150	0.2	1.0	1.7	18.7	2.6	3.9	20.5	8 701	35.2	..
-1.2	8.9	18 678	-4.1	0.7	0.7	11.8	4.2	4.4	..	6 598	0.8	..
101.3	47.1	14 583	90.8	3.2	3.0	15.3	5.4	6.8	..	4 343	40.0	..
-4.1	8.2	10 200	5.2	4.8	5.5	3.3	7.7	8.5	-0.8	2 505	52.4	20.2
5.4	42.9	3 983	6.8	6.8	6.7	20.6	19.8	17.4	3.6	2 132	-39.1	-25.8
-9.3	-61.7	3 150	1.6	28.5	37.5	-2.2	24.8	33.0	6.7	961	6.2	-26.9
10.0	26.6	1 324	9.1	10.3	6.6	11.6	58.6	37.2	10.9	1 613	98.4	..
24.9	48.7	13 341	-1.7	0.4	0.3	5.1	5.8	4.9	..	16 633	1.0	..
0.3	14.0	9 167	-2.5	2.2	2.3	4.8	8.4	7.7	-1.2	1 557	24.6	6.2
-32.2	-12.2	1 382	49.1	25.5	25.7	9.0	55.5	76.9	-12.7	850	-7.3	..
22.6	53.6	22 200	-8.3	1.9	2.4	10.7	3.4	3.9	-6.6	2 466	-10.8	..
0.6	-9.3	11 777	-5.5	2.1	0.0	1.9	6.5	0.0	5.8	1 312	..	29.6
22.0	9.4	9 014	-4.1	4.0	3.7	0.3	8.4	7.4	11.6	982	64.5	..
-17.3	-3.0	..	..	6.4	6.3	1.4	..	14.5	..	1 148	18.5	..
-8.8	88.9	423	-1.9	840.9	211.3	-1 144.4	178.9	152.0	-3.3	377	..	..
54.1	33.6	5 300	-14.5	4.5	4.3	32.3	14.2	10.3	5.3	8 946	24.5	..
-23.1	30.0	406	-5.6	312.5	246.5	-350.0	184.7	114.6	18.3	1 324	198.9	..
-1.5	7.3	56 500	15.8	4.1	5.0	12.2	1.3	1.8	..	1 850	-5.6	-21.5
3.5	8.1	10 286	-4.4	4.3	4.6	4.7	7.3	6.8	5.3	606	51.1	..
9.3	12.7	4 800	4.3	9.4	9.3	14.6	15.6	14.3	3.1	1 066	-13.9	..
7.7	3.6	5 032	-3.8	4.6	4.7	8.7	14.8	14.2	-1.8	1 417	6.1	1.5
-27.9	13.4	13 882	-3.4	0.3	0.4	2.7	5.3	5.4	0.5	7 392	38.4	5.3
2.8	11.7	46 787	-2.9	1.5	1.8	5.6	1.6	1.8	-0.6	5 439	25.1	9.0
-26.4	-8.1	6 480	-2.6	2.5	2.4	8.7	11.4	10.5	3.7	2 896	12.2	1.6
-19.1	-8.7	480	11.9	283.8	420.8	-557.7	153.8	166.7	41.0	1 886	95.6	..
-4.4	4.1	..	..	0.6	0.6	2.2	..	4.0	..	2 382	45.7	7.5
-47.3	37.7	2 613	-2.9	15.1	15.6	48.4	27.7	23.5	7.9	9 680	7.7	..
35.2	-27.4	1 600	-22.4	18.0	20.2	15.7	45.2	50.4	..	2 041	-21.5	..

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment			Net		
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				units	€m	%	%	%	€m
401	Macromedia	Software & computer services (97)	USA	72	-7.4	-10.6	2.3	293	9.7
402	Barr Laboratories (now Barr Pharmaceuticals)	Pharma & biotech (48)	USA	72	20.5	42.2	31.6	716	-24.1
403	Georg Fischer	Engineering & machinery (26)	Switzerland	72	-8.2	-10.3	2.3	2 113	-4.6
404	Cell Therapeutics	Pharma & biotech (48)	USA	71	52.4	31.5	68.1	20	53.8
405	McData	IT hardware (93)	USA	70	49.7	20.7	30.0	332	27.7
406	ImClone Systems	Pharma & biotech (48)	USA	70	-29.3	32.9	67.7	70	45.8
407	Regeneron Pharmaceuticals	Pharma & biotech (48)	USA	70	-22.2	43.5	485.0	46	170.6
408	Reynolds and Reynolds	Software & computer services (97)	USA	70	-0.1	-3.3	-5.0	799	1.5
409	Campbell Soup	Food producers (43)	USA	70	14.3	22.2	-1.6	5 294	8.9
410	Qlogic	IT hardware (93)	USA	70	8.0	16.6	23.7	415	18.9
411	FMC	Chemicals (11)	USA	69	6.6	-17.8	-35.4	1 523	3.7
412	CR Bard	Health (44)	USA	69	41.6	15.5	0.4	1 136	12.5
413	Lattice Semiconductor	IT hardware (93)	USA	69	1.5	19.7	-7.0	166	-8.8
414	Nippon Shokubai	Chemicals (11)	Japan	68	0.6	0.4	-4.3	1 214	2.7
415	ICOS	Pharma & biotech (48)	USA	68	41.4	6.3	42.5	60	-18.9
416	Avid Technology	IT hardware (93)	USA	68	3.9	-4.4	3.9	374	12.7
417	ON Semiconductor	IT hardware (93)	USA	68	25.9	-16.1	-19.2	848	-1.4
418	Microchip Technology	IT hardware (93)	USA	68	-2.9	7.7	3.9	554	7.4
419	Cell Genesys	Pharma & biotech (48)	USA	68	13.5	48.0	709.7	14	-54.8
420	Toyo Tire	Automobiles & parts (31)	Japan	67	3.3	3.2	-19.4	1 888	0.5
421	Hyundai Heavy Industries	Engineering & machinery (26)	South Korea	67	11.0	13.2	16.6	6 358	17.5
422	Yue Yuen Industrial	Household goods & textiles (34)	Hong Kong	67	39.4	9.4	4.1	1 990	29.5
423	SanDisk	IT hardware (93)	USA	67	33.3	7.2	28.0	856	99.5
424	Enterasys Networks	IT hardware (93)	USA	67	-1.0	-21.1	-26.2	329	-14.3
425	Andrew	IT hardware (93)	USA	67	45.2	21.3	18.7	804	17.2
426	ECI Telecom	IT hardware (93)	Israel	66	-10.3	-24.6	-6.6	334	-34.8
427	Nippon Sheet Glass	Construction & building (13)	Japan	66	8.8	29.7	-6.2	2 072	-2.4
428	PerkinElmer	IT hardware (93)	USA	66	-3.8	6.3	-5.6	1 217	2.0
429	Weatherford International	Oil & gas (07)	USA	66	4.2	71.1	62.6	2 054	11.3
430	Yamatate	Electronic & electrical (25)	Japan	66	1.3	1.1	15.9	1 243	0.5
431	Abgenix	Pharma & biotech (48)	USA	66	-24.2	75.7	151.5	13	-13.3
432	Science Applications International	Software & computer services (97)	USA	65	-5.0	-27.1	-15.1	5 328	13.8
433	Toyobo	Household goods & textiles (34)	Japan	65	-2.5	-2.8	-13.8	2 784	-1.8
434	Hamamatsu Photonics	Engineering & machinery (26)	Japan	65	11.0	5.2	19.5	451	0.4
435	Delta Electronics	Electronic & electrical (25)	Taiwan	65	18.9	1.9	23.2	1 135	11.6
436	Paccar	Engineering & machinery (26)	USA	64	44.8	-24.3	-27.8	6 497	13.5
437	Akebono Brake Industry	Automobiles & parts (31)	Japan	64	-9.2	2.6	5.9	936	-0.1
438	Denki Kagaku Kogyo	Chemicals (11)	Japan	64	5.8	1.3	6.9	1 804	1.3
439	I2 Technologies	Software & computer services (97)	USA	64	-53.3	-40.4	33.3	392	-45.6
440	National Instruments	Software & computer services (97)	USA	64	26.0	5.3	8.6	338	9.0
441	Neurocrine Biosciences	Pharma & biotech (48)	USA	64	-16.6	68.3	90.5	110	685.7
442	Chugoku Electric Power	Electricity (72)	Japan	64	-13.6	20.1	-10.2	7 466	-1.2
443	Amcor	Support services (58)	Australia	63	51.4	366.6	-25.0	6 397	25.5
444	Nippon Kayaku	Chemicals (11)	Japan	63	-2.0	4.8	-6.1	913	3.3
445	Macronix International	IT hardware (93)	Taiwan	63	-28.9	-0.4	21.7	406	8.3
446	Micronas Semiconductor	IT hardware (93)	Switzerland	63	12.6	6.8	70.4	491	8.4
447	International Rectifier	IT hardware (93)	USA	63	13.1	0.2	47.6	685	20.0
448	Citizen Watch	Household goods & textiles (34)	Japan	62	-20.8	-6.8	-0.9	2 471	2.0
449	Mettler-Toledo International	Engineering & machinery (26)	USA	62	10.4	9.3	14.7	1 034	7.5
450	NSK	Engineering & machinery (26)	Japan	62	3.4	-13.3	5.6	3 868	8.7

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
3.9	-16.8	1 213	11.8	24.7	29.2	13.0	59.6	72.0	7.1	1 124	19.2	..
133.4	17.8	1 234	14.8	10.1	6.4	28.5	58.6	55.8	3.5	2 841	-14.1	..
-11.3	-1.5	13 247	-3.6	3.4	3.5	-2.9	5.4	5.7	-2.3	655	122.0	..
160.0	..	372	30.1	354.9	358.3	-485.0	190.8	162.9	10.0	212	-28.6	..
-4.8	38.6	1 022	13.6	21.2	18.1	-1.8	68.9	52.3	11.7	476	-32.6	..
84.6	2 500.0	582	16.2	100.6	207.6	-122.9	121.0	198.9	-9.7	3 513	..	..
0.0	-63.8	675	0.9	152.8	531.6	-171.7	104.1	135.1	68.1	360	-30.8	..
-1.1	8.6	4 518	-1.8	8.8	8.9	19.4	15.5	15.2	0.2	1 186	-18.7	..
-8.0	6.3	25 000	0.0	1.3	1.3	16.1	2.8	2.4	6.6	8 328	4.4	..
27.8	-5.2	819	10.7	16.8	18.5	38.1	84.9	87.1	5.9	1 790	-47.6	..
-4.6	-50.5	5 300	-3.6	4.6	4.4	5.4	13.1	11.8	16.5	1 230	82.8	-9.7
7.8	7.6	8 300	7.8	6.1	4.8	16.0	8.3	6.4	17.0	4 566	56.1	..
-22.2	-48.0	1 048	-2.3	41.6	37.4	-45.2	65.9	63.4	-1.1	439	-35.3	..
-0.5	-0.8	2 967	-3.6	5.6	5.7	6.3	23.0	22.1	-0.2	1 161	10.6	21.7
8.8	-5.6	675	28.6	113.3	65.0	-188.3	100.7	91.6	7.0	1 175	-43.7	..
-3.8	-8.5	1 582	1.7	18.1	19.7	8.6	42.9	42.0	2.1	1 157	14.0	..
-10.7	-41.4	10 055	5.1	8.0	6.3	0.1	6.7	5.6	8.2	803	63.2	..
13.9	-20.2	3 678	9.0	12.2	13.5	24.7	18.4	20.7	-3.8	4 750	17.5	..
40.9	15.8	348	3.6	483.0	192.2	-528.6	194.3	177.3	85.0	228	-27.8	..
2.7	6.6	6 280	-0.6	3.6	3.5	4.0	10.7	10.3	-2.2	500	45.3	..
9.8	11.7	..	..	1.1	1.1	4.1	..	..	..	1 183	..	..
8.9	5.2	242 000	18.1	3.4	3.1	13.0	0.3	0.2	7.6	3 194	-11.9	..
47.9	-39.2	751	25.4	7.8	11.7	22.2	88.9	83.6	20.6	3 109	0.2	..
-2.8	-53.5	1 400	-14.0	20.3	17.6	-28.3	47.7	41.4	16.5	280	-60.2	-57.5
-17.5	3.0	6 211	30.6	8.3	6.7	1.6	10.7	9.7	25.0	1 340	8.2	..
-27.6	-15.7	2 460	-23.8	19.8	14.4	-17.4	26.9	22.9	16.6	533	..	21.5
-6.7	13.4	13 406	11.9	3.2	2.9	1.3	4.9	5.1	2.7	1 295	17.5	..
13.2	-21.6	10 000	-6.5	5.4	5.7	8.6	6.6	6.4	6.5	1 777	21.3	-6.9
0.0	28.4	16 700	6.4	3.2	3.4	11.2	3.9	4.0	27.4	4 918	29.8	..
-6.0	4.6	7 092	-0.2	5.3	5.2	8.0	9.3	9.1	3.8	595	4.4	-2.1
-44.4	28.6	403	4.1	504.7	577.2	-1 223.1	162.8	223.7	13.1	668	-26.5	..
-3.1	3.4	42 700	10.3	1.2	1.5	7.2	1.5	1.8	-17.0	..	..	..
-4.9	-2.9	9 784	..	2.3	2.3	-3.8	6.6	..	2.4	1 376	41.0	8.7
-3.0	21.5	3 016	3.8	14.3	13.0	6.9	21.4	20.1	5.2	988	30.2	..
-16.2	29.1	..	..	5.7	5.3	8.9	..	..	..	1 515	-1.2	..
18.6	-18.1	17 000	6.3	1.0	0.8	12.3	3.8	2.8	-5.7	8 340	22.2	32.8
0.2	4.5	4 554	..	6.9	7.6	4.1	14.1	..	0.6	392	49.6	39.0
-11.6	6.2	..	..	3.6	3.4	4.7	..	..	..	1 238	12.3	..
-7.8	-12.5	2 452	-5.7	16.3	19.1	4.3	26.1	52.8	-3.2	262	-37.6	-62.1
1.6	-6.2	3 078	2.3	18.9	16.4	9.8	20.8	16.9	5.5	1 800	19.5	..
-57.6	175.0	330	19.6	58.1	546.9	-41.8	193.6	277.4	15.1	1 304	1.7	..
-2.3	-0.4	14 638	1.8	0.9	1.0	12.8	4.4	5.1	-2.5	5 068	1.6	4.5
45.9	1.9	28 610	-4.6	1.0	0.8	6.1	2.2	1.4	48.0	3 335	..	..
-1.2	-0.2	3 679	3.6	6.9	7.3	6.4	17.2	18.2	-6.0	779	13.2	..
-25.7	-33.2	3 434	-9.4	15.6	23.7	-42.1	18.4	23.4	..	1 185	50.6	..
24.8	15.6	1 746	9.5	12.8	12.3	17.3	36.0	35.0	18.7	1 062	121.3	..
-26.4	30.0	5 500	-6.8	9.1	9.7	-14.5	11.4	9.4	15.7	2 054	42.2	..
-13.4	9.7	16 749	-4.1	2.5	3.2	4.5	3.7	4.5	-8.5	2 451	39.2	19.6
5.7	4.7	8 650	1.8	6.0	5.8	11.5	7.2	6.6	9.7	1 464	18.4	..
-9.8	9.5	20 351	-8.9	1.6	1.7	0.5	3.0	2.7	4.2	1 914	23.8	..

II.1.5. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year

Rank	Company	FTSE Sector	Country	R&D Investment				Net	
				2003	change 03/02	change 02/01	change 01/00	2003	change 03/02
				units	€m	%	%	%	€m
451	FileNET	Software & computer services (97)	USA	61	7.4	4.2	18.9	289	5.1
452	Hydro-Quebec	Electricity (72)	Canada	61	-7.5	3.9	..	7 009	-12.1
453	Cirrus Logic	IT hardware (93)	USA	60	-20.1	-21.7	-4.7	156	-25.0
454	Clorox	Personal care & household (47)	USA	60	13.4	0.0	6.3	3 285	2.0
455	Zarlink Semiconductor	IT hardware (93)	Canada	60	-15.4	6.3	-13.8	157	1.9
456	Praxair	Chemicals (11)	USA	60	8.7	4.5	1.6	4 450	9.4
457	Avery Dennison	Chemicals (11)	USA	59	0.4	6.6	3.1	3 776	13.2
458	Fairchild Semiconductor	IT hardware (93)	USA	59	-9.0	-1.0	-1.1	1 107	-1.1
459	Toyo Ink Manufacturing	Chemicals (11)	Japan	59	1.7	..	..	1 606	-2.4
460	Pentax	Media & entertainment (54)	Japan	59	17.0	9.6	-2.9	800	2.8
461	Hyperion Solutions	Software & computer services (97)	USA	59	1.3	-10.8	16.2	405	3.8
462	Nippon Shinyaku	Pharma & biotech (48)	Japan	58	12.3	6.1	-1.8	392	4.8
463	Credence Systems	IT hardware (93)	USA	58	-13.9	-1.3	26.8	145	11.5
464	Tekelec	IT hardware (93)	USA	58	22.7	-16.8	31.9	209	1.5
465	International Paper	Forestry & paper (15)	USA	58	-5.2	-16.3	0.0	19 962	1.8
466	Brooks Automation	IT hardware (93)	USA	58	-2.9	23.3	41.7	272	12.9
467	Edwards Lifesciences	Health (44)	USA	58	11.7	18.6	0.0	682	22.2
468	Aspen Technology	Software & computer services (97)	USA	58	-11.8	19.6	23.8	256	0.8
469	Polycorn	Software & computer services (97)	USA	58	-5.4	29.3	67.7	333	-9.8
470	Tokuyama	Chemicals (11)	Japan	58	-4.2	7.3	-6.6	1 668	-0.7
471	Genencor International	Pharma & biotech (48)	USA	58	43.2	4.0	29.3	304	9.4
472	AGCO	Engineering & machinery (26)	USA	57	24.8	15.3	8.8	2 771	19.6
473	NetIQ	Software & computer services (97)	USA	56	16.5	67.8	253.6	246	11.3
474	Cooper Tire & Rubber	Automobiles & parts (31)	USA	56	-3.9	-6.8	-20.2	2 786	5.5
475	MeadWestvaco	Forestry & paper (15)	USA	56	-22.0	91.6	-4.1	5 988	4.3
476	Nissan Chemical Industries	Chemicals (11)	Japan	55	11.5	8.1	-7.4	1 123	9.9
477	Shimizu	Construction & building (13)	Japan	55	-10.1	11.8	-17.7	11 463	-2.2
478	Valspar	Chemicals (11)	USA	55	5.7	13.5	25.4	1 782	5.7
479	Taiheiyō Cement	Construction & building (13)	Japan	55	0.0	-1.3	-15.7	6 865	-5.3
480	CV Therapeutics	Pharma & biotech (48)	USA	55	-18.9	15.1	98.8	9	125.0
481	Telenor	Telecommunication services (67)	Norway	55	-13.2	-42.0	74.8	6 303	8.7
482	Asahi Breweries	Beverages (41)	Japan	55	7.1	..	..	6 321	1.7
483	Solectron	Electronic & electrical (25)	USA	55	-7.6	7.0	15.0	8 732	-10.3
484	Intergraph	Software & computer services (97)	USA	55	9.3	-0.9	-6.6	418	5.3
485	Sealed Air	Support services (58)	USA	55	16.4	6.3	2.8	2 800	10.2
486	Trimble Navigation	Electronic & electrical (25)	USA	54	10.5	-2.6	35.2	429	15.9
487	American Power Conversion	Electronic & electrical (25)	USA	54	12.6	9.9	16.5	1 161	12.6
488	Fair Isaac	Software & computer services (97)	USA	54	66.6	43.3	-13.1	499	60.5
489	Quest Software	Software & computer services (97)	USA	54	13.5	-0.2	49.8	241	17.6
490	Zeon	Chemicals (11)	Japan	53	11.7	1.2	-3.3	1 560	10.3
491	Lonza	Chemicals (11)	Switzerland	53	-19.6	8.5	-12.1	1 437	-11.6
492	Redback Networks	IT hardware (93)	USA	53	-26.9	-36.6	33.7	85	-15.0
493	Advanced Fibre Communications	IT hardware (93)	USA	52	7.3	0.4	4.4	264	-3.3
494	LTX	IT hardware (93)	USA	52	-7.0	7.7	30.5	95	-1.0
495	Affymetrix	Pharma & biotech (48)	USA	52	-7.8	12.7	23.0	238	3.5
496	LG Chem	Chemicals (11)	South Korea	52	..	..	..	4 589	26.9
497	Showa	Engineering & machinery (26)	Japan	52	2.5	13.7	-2.2	1 455	10.9
498	Triquint Semiconductor	IT hardware (93)	USA	52	11.1	13.0	66.1	248	17.0
499	Benq	IT hardware (93)	Taiwan	51	34.4	-15.0	..	2 576	87.5
500	Yaskawa Electric	Engineering & machinery (26)	Japan	51	-9.6	..	..	1 673	1.6

Sales		Employees		R&D/Sales ratio		Operating Profit	R&D per employee			Market Capitalisation		
change 02/01	change 01/00	2003	change 03/02	2003	2002	2003	2003	2002	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs
%	%	#	%	%	%	% of Net Sales	€K	€K	%	€m	%	%
4.2	-16.5	1 720	0.9	21.1	20.7	3.1	35.5	33.4	10.7	575	6.5	..
3.4	10.1	18 317	1.6	0.9	0.8	69.0	3.3	3.6	..	..	..	..
-37.2	-46.4	767	-15.2	38.7	36.3	12.8	78.7	83.5	1.8	408	30.8	-36.3
4.1	-4.4	8 900	-6.3	1.8	1.7	19.1	6.8	5.6	14.2	8 470	10.9	..
-12.5	-57.4	1 037	-18.9	37.9	45.7	-22.3	57.4	55.1	24.1	353	-18.1	-29.6
-0.6	2.3	25 438	1.7	1.3	1.3	16.9	2.3	2.2	2.1	10 164	23.8	21.0
10.6	-2.3	20 300	-1.0	1.6	1.8	8.1	2.9	2.9	-0.9	5 305	26.9	6.1
0.3	-21.1	9 740	0.2	5.4	5.8	-1.4	6.1	6.7	0.3	1 388	15.3	..
..	..	..	..	3.7	3.5	3.6	..	..	..	793	32.8	..
1.6	-9.1	5 435	0.5	7.4	6.5	2.9	10.8	9.3	14.2	511	16.4	..
-4.9	4.1	2 224	-1.2	14.4	14.8	9.9	26.3	25.6	5.2	1 272	73.5	..
-0.8	4.1	1 852	0.7	14.9	13.9	7.9	31.5	28.3	..	304	-71.1	..
-45.6	-55.7	1 042	-8.4	40.2	52.1	-62.8	55.9	59.5	7.9	683	42.3	..
-16.9	-0.4	1 065	21.7	27.8	23.0	4.3	54.6	54.1	9.3	958	58.9	..
-6.2	-6.4	83 000	-8.8	0.3	0.3	4.0	0.7	0.7	2.6	16 639	14.7	3.9
-17.5	14.5	1 900	-36.7	21.2	24.7	-50.7	30.4	19.8	12.6	509	-10.9	..
1.6	-13.8	5 000	0.0	8.5	9.3	11.9	11.5	10.3	10.5	1 658	25.9	..
3.3	15.5	1 748	-20.5	22.5	25.7	-50.0	33.0	29.7	9.0	183	45.2	..
21.4	15.6	1 183	-6.9	17.3	16.5	5.4	48.7	47.9	-2.4	1 454	17.2	..
-7.0	8.9	4 615	-1.5	3.5	3.6	2.7	12.5	12.8	..	987	32.1	..
7.8	2.8	1 245	13.4	18.9	14.4	7.9	46.2	36.6	18.6	740	-3.1	..
15.0	8.8	11 300	-2.2	2.0	2.0	5.8	5.0	3.9	10.7	1 495	30.1	..
67.4	247.4	1 364	8.9	22.9	21.9	-295.5	41.3	38.6	39.5	423	-15.6	..
5.6	-9.2	22 899	-0.5	2.0	2.2	5.7	2.5	2.5	-12.9	1 379	40.3	..
84.0	7.4	29 400	-4.2	0.9	1.3	0.4	1.9	2.4	-6.0	4 842	26.1	..
1.6	4.6	..	..	4.9	4.9	5.9	..	32.9	..	1 136	15.4	..
-7.5	9.4	..	..	0.5	0.5	2.6	..	..	..	2 592	33.2	2.6
10.7	29.5	7 000	0.0	3.1	3.1	10.0	7.9	7.5	0.2	1 993	14.5	..
-2.2	0.0	18 770	..	0.8	0.8	2.6	2.9	..	-2.5	1 792	26.2	..
-20.0	66.7	261	27.3	612.1	1 698.3	988.9	211.1	331.4	-1.6	332	-56.3	..
19.9	10.9	21 750	-5.4	0.9	1.1	16.7	2.5	2.8	0.3	9 622	42.1	..
-3.1	4.4	14 654	-2.8	0.9	0.8	8.3	3.7	3.4	..	4 304	..	..
-34.3	32.2	53 000	-27.4	0.6	0.6	-24.3	1.0	0.8	1.1	4 193	22.1	..
-5.9	-22.9	3 700	-2.6	13.1	12.6	3.8	14.8	13.2	7.9	781	-3.1	12.7
4.4	0.0	17 600	-1.7	2.0	1.9	14.5	3.1	2.6	..	3 193	1.7	..
-1.9	28.7	2 150	4.9	12.5	13.1	8.6	24.9	23.7	16.0	1 115	80.7	..
-9.2	-3.4	6 365	17.3	4.6	4.6	15.7	8.4	8.8	18.5	2 393	-8.5	..
19.2	10.6	2 355	-1.4	10.7	10.3	27.9	22.7	13.5	10.5	1 608	..	..
5.1	48.9	1 735	-4.3	22.2	23.0	7.5	30.8	26.0	11.9	882	34.0	..
-1.6	12.3	2 868	3.1	3.4	3.3	3.5	18.4	17.0	1.1	1 223	..	..
35.8	-24.1	5 938	-4.5	3.7	4.0	5.9	8.9	10.5	-9.8	1 765	-5.3	..
-44.4	-18.2	483	-19.0	61.8	71.8	-90.6	108.7	120.5	15.5	220	238.5	..
5.0	-21.2	773	-9.8	19.9	17.9	6.8	67.8	57.0	11.7	1 169	-1.5	..
-63.4	8.3	576	-25.8	55.2	58.7	-118.9	91.0	72.6	17.6	393	-1.8	..
29.2	12.0	871	-0.7	22.0	24.7	5.9	60.0	64.7	2.9	1 302	18.8	..
..	..	..	..	1.1	0.0	10.2	..	..	..	1 840	..	..
14.6	15.8	6 795	19.3	3.6	3.9	7.7	7.7	8.9	..	722	..	..
-20.3	11.8	2 046	37.8	20.8	21.9	-21.8	25.2	31.3	23.4	437	-7.0	..
-5.8	..	3 117	7.8	2.0	2.8	7.3	16.5	13.2	..	1 925	0.1	..
..	..	7 720	..	3.1	3.5	-0.2	6.7	..	..	955	..	..

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units €m	%	%	€m	%	%	%
Top 500 companies				195 637	3.9	3.7	4 342 382	6.8	2.9	..
<i>number of companies for calculation</i>				<i>500</i>	<i>496</i>	<i>-</i>	<i>500</i>	<i>499</i>	<i>-</i>	<i>-</i>
USA				110 831	4.7	3.5	2 246 380	11.2	2.9	..
<i>number of companies for calculation</i>				<i>288</i>	<i>288</i>	<i>-</i>	<i>288</i>	<i>288</i>	<i>-</i>	<i>-</i>
1	Ford Motor	1	Automobiles & parts (31)	5 946	-2.6	3.3	130 865	1.0	-1.0	..
2	Pfizer	2	Pharma & biotech (48)	5 654	37.8	17.2	35 825	39.6	15.2	..
3	General Motors	4	Automobiles & parts (31)	4 519	-1.7	-4.8	147 084	-0.7	0.2	..
4	IBM	6	Software & computer services (97)	4 011	6.7	1.1	70 663	9.8	0.3	..
5	Johnson & Johnson	7	Pharma & biotech (48)	3 714	18.4	17.0	33 188	15.3	12.8	..
6	Microsoft	8	Software & computer services (97)	3 694	8.2	7.3	25 518	13.5	11.9	..
7	Intel	9	IT hardware (93)	3 457	8.1	3.8	23 896	12.6	-3.7	..
8	Motorola	13	IT hardware (93)	2 990	0.5	-5.3	21 452	1.4	-10.4	..
9	Hewlett-Packard	16	IT hardware (93)	2 895	10.3	11.3	57 923	30.2	14.4	..
10	Merck	18	Pharma & biotech (48)	2 520	18.7	10.7	17 827	-56.6	-17.7	..
11	Cisco Systems	20	IT hardware (93)	2 485	-9.1	-8.4	14 967	-0.2	-0.1	..
12	General Electric	24	Diversified industrials (24)	2 106	19.9	12.5	105 356	6.9	0.9	..
13	Eli Lilly	27	Pharma & biotech (48)	1 863	9.3	5.2	9 975	13.6	5.0	..
14	Bristol-Myers Squibb	28	Pharma & biotech (48)	1 807	2.8	5.5	16 565	15.3	4.7	..
15	Wyeth	30	Pharma & biotech (48)	1 660	0.6	7.4	12 566	8.7	6.1	..
16	Delphi	31	Automobiles & parts (31)	1 586	17.6	5.6	22 275	2.4	-1.2	..
17	Sun Microsystems	32	IT hardware (93)	1 456	0.3	4.1	9 065	-8.5	-10.1	..
18	Texas Instruments	33	IT hardware (93)	1 386	8.0	0.0	7 796	17.3	-6.1	..
19	Abbott Laboratories	34	Health (44)	1 374	11.0	8.7	15 603	11.3	12.7	..
20	Procter & Gamble	36	Personal care & household (47)	1 320	4.0	-4.3	34 389	7.8	2.8	..
21	Amgen	37	Pharma & biotech (48)	1 312	48.3	25.1	6 625	51.3	32.1	..
22	Boeing	38	Aerospace & defence (21)	1 309	0.7	4.6	40 025	-6.6	-0.5	..
23	Lucent Technologies	40	IT hardware (93)	1 180	-35.6	-28.2	6 715	-31.3	-37.0	..
24	Schering-Plough	42	Pharma & biotech (48)	1 165	3.1	3.3	6 607	-18.1	-5.3	..
25	El du Pont de Nemours	44	Chemicals (11)	1 070	6.7	-8.8	21 403	12.5	-1.5	..
26	Oracle	45	Software & computer services (97)	936	9.7	5.3	7 512	-2.1	-2.2	..
27	Agilent Technologies	48	Electronic & electrical (25)	833	-10.1	..	4 801	0.8	..	..
28	United Technologies	49	Diversified industrials (24)	814	-13.8	-7.6	24 604	10.9	5.8	..
29	Dow Chemical	51	Chemicals (11)	778	-8.0	3.2	25 871	18.2	12.4	..
30	Applied Materials	53	IT hardware (93)	730	-12.5	-6.0	3 550	-11.5	-22.3	16
31	Lockheed Martin	54	Aerospace & defence (21)	716	8.8	11.8	25 230	19.7	7.9	..
32	Visteon	55	Automobiles & parts (31)	716	0.1	..	14 001	-4.0	..	..
33	Xerox	56	IT hardware (93)	688	-5.3	-6.0	12 448	-0.9	-5.7	..
34	Advanced Micro Devices	58	IT hardware (93)	676	4.4	9.9	2 434	13.8	-12.9	..
35	EMC	60	IT hardware (93)	660	-8.4	-2.1	4 945	14.7	-11.1	..
36	Eastman Kodak	64	Media & entertainment (54)	619	2.5	-0.1	10 558	3.8	-1.6	..
37	Allergan	65	Pharma & biotech (48)	604	226.9	57.4	1 392	26.8	4.0	..
38	Altria	66	Tobacco (49)	604	11.1	12.3	64 877	31.6	9.0	..
39	Honeywell	67	Aerospace & defence (21)	595	-0.8	-2.8	18 316	3.7	-2.6	..
40	Medtronic	68	Health (44)	594	16.0	16.0	6 077	19.6	15.2	..
41	3M	69	Diversified industrials (24)	594	1.5	1.0	14 454	11.6	2.9	..
42	Computer Associates	72	Software & computer services (97)	560	0.3	0.5	2 597	5.1	-7.9	..
43	Caterpillar	76	Engineering & machinery (26)	530	2.0	1.0	18 047	13.0	4.1	..
44	Micron Technology	78	IT hardware (93)	520	16.9	15.4	2 451	19.4	-25.0	20
45	Broadcom	79	IT hardware (93)	518	-8.5	37.6	1 276	48.5	12.3	..
46	Exxon Mobil	81	Oil & gas (07)	490	-2.1	3.1	169 025	46.7	1.1	..
47	BMC Software	83	Software & computer services (97)	465	19.6	19.1	1 125	6.9	-1.9	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	15 639 659	-1.0	-1.0	4.5	4.7	9.1	3.7	12.1	11.6	5 958 227	12.1
-	-	477	465	-	500	499	500	499	477	472	492	467
..	..	8 023 022	-1.5	-1.8	4.9	5.2	10.3	2.6	13.8	13.0	4 083 350	10.6
-	-	288	288	-	288	288	288	288	288	288	284	279
..	..	327 531	-6.5	-1.8	4.5	4.7	5.9	0.1	18.2	17.4	20 539	34.2
..	..	122 000	24.5	10.7	15.8	16.0	7.2	35.9	46.3	41.9	194 795	-5.8
..	..	326 000	-6.9	-5.5	3.1	3.1	6.8	4.7	13.9	13.1	19 175	-32.6
..	..	319 273	1.1	-1.9	5.7	5.8	10.7	8.1	12.6	11.9	116 340	1.4
..	..	110 600	2.1	3.9	11.2	10.9	24.7	25.3	33.6	29.0	130 046	5.8
..	..	55 000	8.9	12.1	14.5	15.2	40.1	33.1	67.2	67.6	244 077	6.3
..	..	79 700	1.3	-2.5	14.5	15.1	24.2	14.9	43.4	40.6	128 000	-0.5
..	..	88 000	-9.3	-15.7	13.9	14.1	3.8	-11.1	34.0	30.7	30 163	79.2
..	..	142 000	0.7	17.1	5.0	5.9	4.1	-1.9	20.4	18.6	49 245	-4.9
..	..	63 200	-18.2	-3.0	14.1	5.2	42.1	19.7	39.9	27.5	80 104	-21.7
..	..	34 000	-5.6	0.0	16.6	18.2	23.1	9.6	73.1	75.9	113 858	7.2
..	..	305 000	-3.2	-0.9	2.0	1.8	20.6	22.6	6.9	5.6	269 214	19.5
..	..	46 100	5.5	8.9	18.7	19.4	25.5	31.9	40.4	39.0	56 877	-5.2
..	..	44 000	0.0	0.0	10.9	12.2	23.1	16.4	41.1	40.0	35 300	-12.8
..	..	52 385	-0.7	2.9	13.2	14.3	10.9	43.2	31.7	31.3	37 404	-25.1
..	..	190 000	-1.0	-3.4	7.1	6.2	1.7	2.6	8.3	7.0	4 231	11.1
..	..	36 100	-7.7	-0.5	16.1	14.7	-24.3	-9.9	40.3	37.1	10 469	2.8
..	..	34 154	-1.3	-7.0	17.8	19.3	9.2	-3.4	40.6	37.1	29 095	11.4
..	..	70 000	-2.5	4.9	8.8	8.8	20.1	22.4	19.6	17.2	48 657	-2.3
..	..	98 000	-3.9	-3.8	3.8	4.0	17.8	17.4	13.5	12.4	108 706	18.3
..	..	12 900	27.5	20.8	19.8	20.2	37.0	-14.2	101.7	87.5	57 146	-18.6
..	..	157 000	-4.8	-7.4	3.3	3.0	1.6	3.8	8.3	7.9	33 774	62.9
..	..	34 500	-26.6	-35.1	17.6	18.7	-9.4	-54.6	34.2	39.0	10 368	80.3
..	..	30 500	0.0	2.8	17.6	14.0	-0.7	24.7	38.2	37.0	22 507	10.8
..	..	81 000	2.5	-4.5	5.0	5.3	2.2	-1.9	13.2	12.7	33 914	-3.9
..	..	40 650	-3.2	-0.5	12.5	11.1	34.9	33.7	23.0	20.3	43 741	-12.9
..	..	29 000	-19.4	..	17.4	19.5	-15.8	-26.0	28.7	25.7	9 088	11.9
..	..	203 300	31.2	9.7	3.3	4.3	11.8	13.1	4.0	6.1	37 925	34.9
..	..	46 400	-7.1	3.5	3.0	3.9	7.0	0.6	16.8	16.9	29 470	18.2
26	58	12 050	-25.1	-14.4	20.6	20.8	-7.0	4.1	60.6	51.9	22 918	-9.6
..	..	130 000	4.0	0.0	2.8	3.1	6.1	4.2	5.5	5.3	18 789	-0.7
..	..	72 000	-6.5	..	5.1	4.9	-5.8	-1.6	9.9	9.3	1 055	63.8
..	..	61 100	-9.9	-12.9	5.5	5.8	2.6	-0.5	11.3	10.7	8 793	39.4
..	..	14 300	11.4	-0.3	27.8	30.3	-7.4	-45.3	47.2	50.4	3 484	77.5
..	..	20 000	14.9	-6.0	13.3	16.7	6.1	-9.9	33.0	41.4	21 033	21.4
..	..	63 900	-8.7	-6.6	5.9	5.9	0.9	8.4	9.7	8.6	6 019	-3.6
..	..	4 930	0.6	-7.3	43.4	16.8	-1.4	7.9	122.5	37.7	8 045	-5.3
..	..	165 000	-0.6	-2.5	0.9	1.1	19.2	30.9	3.7	3.3	77 717	18.1
..	..	108 000	0.0	-4.8	3.3	3.4	8.1	-2.8	5.5	5.6	25 619	30.7
..	..	26 732	-3.6	7.5	9.8	10.1	30.6	23.9	22.2	18.5	47 625	-2.6
..	..	67 072	-2.5	-3.7	4.1	4.5	19.5	18.7	8.9	8.5	51 167	16.8
..	..	15 300	-4.4	-5.6	21.6	22.6	0.1	-6.1	36.6	34.9	11 504	-1.5
..	..	69 169	0.3	1.0	2.9	3.3	7.8	6.7	7.7	7.5	19 920	11.7
45	36	16 600	-11.2	-4.1	21.2	21.7	-37.0	-39.9	31.4	23.8	6 476	-8.6
..	..	2 729	8.8	3.0	40.6	65.9	-58.5	-180.1	189.8	225.8	7 093	88.1
..	..	105 700	14.3	1.9	0.3	0.4	14.5	12.4	4.6	5.4	240 064	26.8
..	..	6 429	-6.3	-4.3	41.3	36.9	-2.0	0.3	72.3	56.6	2 717	10.0

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	€m	%	%	%
USA continued										
48	Deere	85	Engineering & machinery (26)	458	9.4	2.1	10 583	-2.4	6.1	..
49	Schlumberger	89	Oil & gas (07)	441	-14.4	0.9	11 014	3.1	13.1	..
50	Baxter International	90	Health (44)	438	10.4	13.4	7 069	9.9	8.9	..
51	Qualcomm	91	IT hardware (93)	415	15.9	15.4	3 148	30.6	7.5	..
52	Guidant	93	Health (44)	411	18.5	13.6	2 932	14.2	13.2	..
53	Emerson Electric	94	Electronic & electrical (25)	408	-3.0	-4.7	11 066	1.0	-3.5	..
54	Electronic Arts	95	Software & computer services (97)	405	27.4	9.5	2 344	19.1	30.8	..
55	ADP	96	Support services (58)	396	5.1	2.7	5 666	13.3	7.6	..
56	Millennium Pharmaceuticals	99	Pharma & biotech (48)	387	44.8	85.1	344	22.9	30.4	..
57	Raytheon	101	Aerospace & defence (21)	386	-17.0	-2.5	14 357	8.1	2.3	13
58	Johnson Controls	102	Automobiles & parts (31)	384	10.3	6.2	17 954	12.7	9.7	..
59	Apple Computer	104	IT hardware (93)	373	5.6	7.4	4 921	8.1	-8.1	..
60	Agere Systems	106	IT hardware (93)	370	-32.6	..	1 458	-15.5	..	..
61	Boston Scientific	109	Health (44)	358	31.8	31.5	2 756	19.1	9.3	..
62	Analog Devices	111	IT hardware (93)	357	6.2	4.0	1 623	19.9	-7.4	..
63	National Semiconductor	114	IT hardware (93)	345	-1.2	4.1	1 326	11.9	-7.9	..
64	Peoplesoft	115	Software & computer services (97)	343	26.9	10.1	1 797	16.3	9.3	..
65	LSI Logic	116	IT hardware (93)	343	-5.4	4.5	1 342	-6.8	-14.8	..
66	Northrop Grumman	118	Aerospace & defence (21)	317	-1.5	22.8	20 776	52.3	51.0	..
67	Chiron	120	Pharma & biotech (48)	310	20.1	10.1	1 400	38.3	41.2	..
68	Avaya	124	IT hardware (93)	288	-20.9	..	3 439	-12.5	..	..
69	Maxtor	126	IT hardware (93)	281	-11.7	14.6	3 240	8.1	14.7	..
70	Goodyear	128	Automobiles & parts (31)	278	-7.8	-6.1	11 986	9.2	1.6	..
71	Corning	130	IT hardware (93)	273	-28.8	-14.0	2 450	-2.3	-24.3	..
72	Cadence Design Systems	131	Software & computer services (97)	270	4.2	2.0	888	-13.4	-4.4	17
73	Genzyme	133	Pharma & biotech (48)	266	14.4	27.3	1 359	28.9	23.8	32
74	Dell	135	IT hardware (93)	262	3.4	-3.1	32 857	17.1	9.1	..
75	Whirlpool	136	Household goods & textiles (34)	258	15.2	8.6	9 653	10.5	5.6	..
76	Applera	138	Pharma & biotech (48)	256	-15.3	5.6	1 409	4.4	9.0	..
77	Siebel Systems	140	Software & computer services (97)	245	-15.7	28.5	1 074	-17.1	-9.0	..
78	Veritas Software	141	Software & computer services (97)	241	10.9	20.0	1 385	16.0	13.1	..
79	NCR	142	IT hardware (93)	240	2.0	-3.1	4 438	0.2	-2.1	..
80	PPG Industries	148	Chemicals (11)	230	6.2	-1.2	6 942	8.5	0.5	..
81	Synopsys	150	Software & computer services (97)	229	27.0	14.6	933	29.8	16.4	..
82	Tellabs	151	IT hardware (93)	227	-14.7	-11.7	777	-25.6	-33.9	..
83	General Dynamics	154	Aerospace & defence (21)	224	11.5	25.4	13 174	20.2	17.1	8
84	Kimberly-Clark	155	Personal care & household (47)	223	-2.9	0.4	11 375	5.8	0.9	..
85	Unisys	156	Software & computer services (97)	222	2.5	-5.7	4 686	5.4	-5.0	..
86	AT&T	159	Telecommunication services (67)	220	9.1	-11.7	27 375	-8.7	-19.4	..
87	Adobe Systems	160	Software & computer services (97)	220	12.6	4.9	1 026	11.2	0.7	..
88	Maxim Integrated Products	162	IT hardware (93)	216	-1.2	24.2	914	12.4	10.0	20
89	Nvidia	163	IT hardware (93)	214	20.1	46.2	1 445	-4.6	35.3	..
90	Kla-Tencor	164	IT hardware (93)	213	-6.7	5.2	1 049	-19.2	-4.1	15
91	Lexmark	165	IT hardware (93)	211	7.2	7.1	3 770	9.1	7.7	..
92	Amazon.com	167	General retailers (52)	204	2.3	-1.5	4 173	33.8	24.0	..
93	Intuit	169	Software & computer services (97)	203	13.8	14.8	1 309	21.5	14.7	..
94	Textron	170	Diversified industrials (24)	202	23.2	-6.0	7 816	-7.5	-9.0	..
95	Teradyne	171	IT hardware (93)	202	-13.4	-5.4	1 073	10.7	-23.7	17
96	Symantec	173	Software & computer services (97)	200	27.9	25.8	1 483	33.0	29.9	..
97	Dana	174	Automobiles & parts (31)	200	-12.2	-4.2	6 314	-16.9	-13.9	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	43 221	0.4	-0.3	4.3	3.9	5.6	2.9	10.6	9.7	12 396	31.0
..	..	77 000	-1.9	8.7	4.0	4.8	5.2	-13.6	5.7	6.6	30 043	42.3
..	..	53 100	-2.7	7.3	6.2	6.2	13.5	14.7	8.3	7.3	14 611	9.2
..	..	7 400	-8.6	5.5	13.2	14.9	29.8	11.6	56.1	44.2	46 619	96.8
..	..	12 000	9.1	9.1	14.0	13.5	10.4	26.0	34.3	31.5	13 757	17.0
..	..	106 700	-4.3	-4.7	3.7	3.8	12.2	6.2	3.8	3.8	20 302	15.9
..	..	4 800	20.0	11.1	17.3	16.2	26.2	18.0	84.4	79.5	11 767	23.4
..	..	41 000	2.5	0.8	7.0	7.5	21.0	26.8	9.7	9.4	19 544	11.9
..	..	1 530	-26.4	4.8	112.6	95.6	-111.6	-165.0	253.2	128.7	2 749	-4.7
87	0	78 000	2.1	-5.9	2.7	3.5	6.0	0.9	5.0	6.1	11 206	6.9
..	..	118 000	6.3	4.0	2.1	2.2	4.9	5.6	3.3	3.1	8 504	23.4
..	..	10 912	6.9	8.4	7.6	7.8	0.2	-0.2	34.2	34.6	9 515	51.8
..	..	6 800	-36.4	..	25.4	31.8	-14.9	-76.2	54.4	51.3	1 606	-54.7
..	..	15 000	7.9	3.0	13.0	11.8	19.8	20.3	23.9	19.6	25 271	27.9
..	..	8 400	-2.3	-2.6	22.0	24.8	18.2	7.0	42.5	39.1	11 830	7.0
..	..	9 800	-3.0	-2.3	26.1	29.5	-2.0	-9.7	35.2	34.6	4 878	54.1
..	..	12 163	46.7	14.9	19.1	17.5	5.1	12.9	28.2	32.6	5 097	19.8
..	..	4 722	-10.6	-13.2	25.6	25.2	-16.4	-14.9	72.6	68.7	1 542	-42.7
..	..	122 600	4.5	46.1	1.5	2.4	6.0	4.6	2.6	2.7	14 951	18.4
..	..	5 332	31.9	15.9	22.2	25.5	16.7	19.0	58.2	63.9	6 858	0.3
..	..	16 900	-10.1	..	8.4	9.3	1.6	-7.5	17.0	19.4	5 153	80.0
..	..	13 554	8.9	16.6	8.7	10.6	3.3	-8.3	20.7	25.5	914	-51.8
..	..	86 000	-7.3	-6.9	2.3	2.7	-1.8	1.8	3.2	3.2	1 522	113.5
..	..	20 600	-11.2	-20.0	11.1	15.3	-13.6	-68.4	13.2	16.5	13 446	61.5
58	25	4 800	-7.2	-5.3	30.4	25.2	-2.8	12.1	56.2	50.0	2 828	0.2
57	12	5 625	0.4	8.5	19.6	22.1	-2.3	-1.3	47.3	41.5	9 154	6.1
..	..	46 000	17.6	4.8	0.8	0.9	8.5	8.2	5.7	6.5	70 948	4.4
..	..	68 407	0.2	4.1	2.7	2.6	6.3	-0.4	3.8	3.3	3 415	-3.3
..	..	5 470	-8.1	4.0	18.2	22.4	3.3	-4.2	46.9	50.9	3 798	-2.0
..	..	4 972	-15.9	-12.4	22.8	22.4	-2.8	-5.8	49.2	49.1	3 128	-12.5
..	..	6 518	15.4	10.9	17.4	18.2	21.6	7.2	37.0	38.5	6 502	-35.7
..	..	29 000	-3.7	-4.2	5.4	5.3	0.6	-3.7	8.3	7.8	3 482	63.5
..	..	32 900	-3.5	-2.6	3.3	3.4	10.7	1.1	7.0	6.3	8 028	7.5
..	..	4 362	2.5	14.3	24.5	25.1	18.3	-32.8	52.4	42.3	2 603	-29.3
..	..	3 515	-27.2	-25.9	29.2	25.5	-28.3	-27.4	64.5	55.0	2 937	33.1
86	5	67 600	25.2	16.0	1.7	1.8	8.4	10.8	3.3	3.7	15 528	25.9
..	..	62 000	-3.0	-2.2	2.0	2.1	16.4	18.9	3.6	3.6	25 826	29.1
..	..	37 300	2.5	0.4	4.7	4.9	7.6	7.1	6.0	6.0	2 740	-13.9
..	..	61 600	-13.2	-28.1	0.8	0.7	15.2	-17.2	3.6	2.8	9 542	-24.9
..	..	3 507	5.0	5.3	21.4	21.1	29.4	23.2	62.6	58.4	8 009	31.3
33	46	6 202	2.2	14.8	23.6	26.9	38.7	33.7	34.8	36.0	12 508	28.0
..	..	1 825	20.6	31.9	14.8	11.8	5.3	7.5	117.3	117.8	2 026	-24.0
31	55	4 900	-14.0	-5.5	20.3	17.6	10.5	14.9	43.4	40.0	6 423	-18.8
..	..	11 800	-2.5	-3.2	5.6	5.7	12.6	11.6	17.9	16.2	9 116	39.0
..	..	7 800	4.0	-4.7	4.9	6.4	2.7	-0.8	26.2	26.6	12 554	-4.1
..	..	6 700	3.1	11.4	15.5	16.6	22.2	11.0	30.3	27.4	5 781	-16.1
..	..	43 000	-12.2	-15.4	2.6	1.9	5.2	2.9	4.7	3.4	6 688	43.2
37	44	6 100	-15.3	-15.7	18.8	24.1	-12.9	-45.5	33.1	32.4	2 630	3.8
..	..	5 300	23.3	11.7	13.5	14.0	28.1	24.7	37.7	36.4	11 478	104.5
..	..	59 000	-15.8	-9.4	3.2	3.0	6.0	0.6	3.4	3.2	2 283	23.9

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	€m	%	%	%
USA continued										
98	Cypress Semiconductor	175	IT hardware (93)	199	-12.7	10.9	663	8.0	-13.4	..
99	Atmel	180	IT hardware (93)	196	-2.2	-0.6	1 055	11.5	-12.9	..
100	Xilinx	181	IT hardware (93)	196	11.5	5.1	1 108	21.0	-5.6	19
101	Forest Laboratories	183	Pharma & biotech (48)	195	20.3	32.6	2 101	20.1	31.2	..
102	Navistar International	186	Engineering & machinery (26)	192	11.0	2.3	5 819	8.5	-4.4	..
103	St Jude Medical	187	Health (44)	191	20.3	20.5	1 532	21.5	17.9	..
104	Comverse Technology	189	IT hardware (93)	190	-2.6	-1.1	607	4.1	-14.5	..
105	Rohm & Haas	190	Chemicals (11)	189	-8.5	-2.8	5 091	12.1	-2.3	..
106	ChevronTexaco	191	Oil & gas (07)	189	7.7	11.7	80 966	24.5	26.4	..
107	Halliburton	192	Oil & gas (07)	189	-2.5	1.0	12 900	30.2	11.1	..
108	Becton Dickinson	194	Health (44)	186	-22.1	1.7	3 590	12.3	7.8	..
109	Biogen Idec	195	Pharma & biotech (48)	185	156.9	50.2	538	68.1	63.5	..
110	McKesson	197	Food & drug retailers (63)	183	-30.8	7.2	55 105	21.7	18.3	..
111	Novellus Systems	199	IT hardware (93)	180	2.3	8.5	733	10.1	-7.7	..
112	Goodrich	203	Aerospace & defence (21)	177	27.9	5.8	3 475	12.1	0.1	..
113	Eaton	205	Electronic & electrical (25)	177	9.9	-6.1	6 391	11.8	-1.0	..
114	Sepracor	207	Pharma & biotech (48)	175	-9.7	9.6	273	44.4	60.5	0
115	Rockwell Collins	211	Aerospace & defence (21)	171	-14.6	..	2 015	2.0	..	20
116	Autodesk	216	Software & computer services (97)	166	21.0	7.1	754	15.3	0.5	..
117	SunGard Data Systems	218	Software & computer services (97)	165	19.2	12.1	2 276	13.5	20.0	..
118	Yahoo!	219	Software & computer services (97)	164	34.0	19.7	1 288	70.4	13.5	..
119	Danaher	220	Engineering & machinery (26)	164	19.0	14.5	4 197	15.7	11.9	..
120	Colgate-Palmolive	222	Personal care & household (47)	162	4.2	5.2	7 851	6.5	1.9	..
121	Storage Technology	223	IT hardware (93)	162	-5.0	-7.5	1 730	7.0	1.9	..
122	Ingersoll-Rand	224	Engineering & machinery (26)	162	1.6	2.7	7 830	10.3	3.9	..
123	Gillette	225	Personal care & household (47)	160	9.2	4.1	7 335	9.4	-0.2	..
124	Cummins	227	Engineering & machinery (26)	159	2.6	-6.4	4 992	7.6	-1.5	..
125	Ciena	228	IT hardware (93)	158	-21.8	15.7	224	-21.7	-31.0	..
126	Beckman Coulter	230	Health (44)	154	5.7	1.6	1 738	6.4	5.1	..
127	AlCoA	231	Steel & other metals (18)	154	-9.3	0.0	17 048	6.1	-2.1	..
128	Eastman Chemical	235	Chemicals (11)	149	6.2	8.1	4 598	9.0	3.1	..
129	Mentor Graphics	236	Software & computer services (97)	147	12.5	13.6	536	13.3	4.6	..
130	Networks Associates	237	Software & computer services (97)	146	24.1	2.1	742	-10.3	7.9	..
131	Novell	238	Software & computer services (97)	146	8.6	-7.8	876	-2.6	-1.7	..
132	DST Systems	239	Software & computer services (97)	146	25.3	-3.4	1 916	1.4	21.1	5
133	Human Genome Sciences	240	Pharma & biotech (48)	145	-9.2	38.2	6	100.0	-29.3	..
134	Stryker	242	Health (44)	143	27.4	13.8	2 874	20.4	16.6	..
135	Cerner	243	Software & computer services (97)	143	20.0	25.7	666	11.7	27.5	..
136	Altera	244	IT hardware (93)	142	-2.3	1.2	656	16.3	-15.6	..
137	Juniper Networks	245	IT hardware (93)	140	8.8	26.1	556	28.4	1.4	..
138	Compuware	247	Software & computer services (97)	139	13.1	14.6	1 003	-8.0	-14.3	..
139	Baker Hughes	248	Oil & gas (07)	137	4.7	13.7	4 196	5.4	0.4	..
140	Lear	253	Automobiles & parts (31)	136	-2.8	-6.4	12 484	9.2	3.8	..
141	Silicon Graphics	254	IT hardware (93)	136	-6.0	-17.2	762	-28.3	-25.6	..
142	Cephalon	255	Pharma & biotech (48)	135	32.7	46.1	567	41.1	85.4	..
143	Mattel	256	Household goods & textiles (34)	133	4.9	-2.3	3 932	1.5	2.0	..
144	ArvinMeritor	257	Automobiles & parts (31)	132	26.5	13.2	6 174	13.2	14.8	..
145	Harley-Davidson	258	Automobiles & parts (31)	132	8.9	30.1	3 888	14.0	18.5	9
146	Gilead Sciences	262	Pharma & biotech (48)	131	22.3	7.8	688	85.9	64.3	..
147	Lam Research	264	IT hardware (93)	127	-10.4	-3.2	599	-19.9	-15.0	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	4 033	-1.7	-3.1	30.1	37.2	-1.1	-32.1	49.4	55.7	1 106	-12.5
..	..	7 900	4.6	-4.6	18.6	21.2	-6.0	-44.6	24.9	26.6	1 613	37.4
42	38	2 770	6.1	1.1	17.7	19.2	23.4	12.6	70.9	67.4	8 099	17.6
..	..	4 967	17.1	20.7	9.3	9.3	34.5	35.8	39.3	38.3	14 101	7.1
..	..	14 200	-13.9	-5.8	3.3	3.2	2.9	-10.0	13.5	10.5	1 978	-4.6
..	..	7 391	22.3	14.3	12.5	12.6	23.6	23.2	25.9	26.3	9 515	26.3
..	..	4 663	-2.6	-9.9	31.3	33.5	-2.8	-30.5	40.7	40.7	2 646	19.7
..	..	17 245	-2.1	-2.3	3.7	4.5	7.6	-7.0	10.9	11.7	6 966	10.5
..	..	50 582	-4.6	13.5	0.2	0.3	13.5	5.9	3.7	3.3	81 120	31.7
..	..	101 000	21.7	2.8	1.5	2.0	-3.0	-7.6	1.9	2.3	11 079	51.5
..	..	24 783	-1.8	-0.3	5.2	7.5	16.5	16.4	7.5	9.5	9 484	25.6
..	..	3 727	274.6	96.3	34.4	22.5	-132.5	53.1	49.6	72.4	15 356	260.7
..	..	24 600	0.4	2.3	0.3	0.6	1.4	1.6	7.4	10.8	7 488	-6.7
..	..	2 902	-10.1	-1.7	24.6	26.5	-10.2	-2.1	62.1	54.6	3 165	-26.1
..	..	20 600	-10.0	-7.8	5.1	4.5	7.1	7.4	8.6	6.0	3 014	40.2
..	..	51 000	0.0	-4.8	2.8	2.8	9.1	7.0	3.5	3.2	7 718	53.3
100	0	983	20.2	20.2	64.0	102.3	-30.4	-95.8	177.6	236.3	3 071	93.3
72	8	14 300	-1.4	..	8.5	10.2	14.5	13.9	12.0	13.8	4 811	30.2
..	..	3 493	-0.1	0.1	22.0	21.0	11.4	3.1	47.5	39.2	3 553	171.8
..	..	10 000	13.6	8.6	7.2	6.9	21.6	21.6	16.5	15.7	5 442	-8.9
..	..	5 500	52.8	19.1	12.8	16.2	20.8	5.3	29.9	34.1	32 479	107.1
..	..	30 000	3.4	7.7	3.9	3.8	16.0	12.2	5.5	4.8	12 379	43.7
..	..	36 600	-2.9	-1.5	2.1	2.1	21.5	22.1	4.4	4.1	22 523	-5.5
..	..	7 100	0.0	-2.2	9.4	10.5	8.8	6.8	22.8	24.0	2 225	-1.8
..	..	42 000	-6.7	-6.2	2.1	2.2	9.4	1.0	3.8	3.5	9 438	29.5
..	..	29 400	-3.0	-5.8	2.2	2.2	21.9	21.5	5.4	4.8	30 961	21.3
..	..	24 200	2.1	-4.7	3.2	3.3	3.3	2.4	6.6	6.5	2 362	59.0
..	..	1 816	-14.3	-13.2	70.7	70.8	-131.3	-416.4	87.2	95.6	1 269	-36.9
..	..	9 900	-1.0	0.7	8.9	8.9	15.4	10.5	15.6	14.6	2 695	30.3
..	..	120 000	-5.5	-5.5	0.9	1.1	8.7	5.6	1.3	1.3	22 095	23.3
..	..	15 000	-4.5	0.9	3.2	3.3	-4.4	3.5	9.9	8.9	2 742	26.4
..	..	3 600	2.9	9.4	27.3	27.5	2.1	-2.3	40.7	37.2	638	-29.4
..	..	3 700	-2.6	2.3	19.7	14.3	7.0	12.3	39.6	31.1	2 354	67.9
..	..	5 734	-12.1	5.4	16.6	14.9	-7.2	-20.8	25.4	20.6	2 229	111.5
93	2	11 400	-2.6	4.1	7.6	6.2	14.4	13.9	12.8	9.9	3 089	-11.5
..	..	1 100	1.3	15.2	2 422.2	5 333.7	-3 000.0	-7 366.7	132.1	147.3	1 006	-20.8
..	..	14 762	5.1	6.9	5.0	4.7	18.6	18.1	9.7	8.0	15 128	27.8
..	..	5 077	6.0	17.8	21.4	20.0	9.3	11.2	28.1	24.8	1 297	53.3
..	..	1 995	6.0	0.8	21.6	25.7	23.9	13.7	71.0	77.0	6 179	10.1
..	..	1 553	0.7	18.8	25.1	29.6	9.2	-21.2	89.9	83.2	9 647	130.0
..	..	8 660	-7.4	-13.2	13.8	11.2	4.4	9.8	16.0	13.1	1 546	-10.0
..	..	26 650	0.6	2.8	3.3	3.3	7.1	8.6	5.2	5.0	10 627	24.3
..	..	111 000	-3.5	-3.0	1.1	1.2	4.5	2.7	1.2	1.2	2 999	10.9
..	..	3 714	-16.4	-18.0	17.8	13.6	-13.6	-7.5	36.5	32.5	316	72.7
..	..	1 646	29.5	47.5	23.8	25.3	22.1	17.7	82.0	80.0	2 239	6.8
..	..	25 000	0.0	-5.9	3.4	3.3	15.7	10.1	5.3	5.1	5 867	-17.3
..	..	32 000	0.0	-3.9	2.1	1.9	4.0	4.3	4.1	3.3	1 093	13.1
86	5	9 460	4.0	7.1	3.4	3.6	23.5	20.2	14.0	13.3	13 976	27.6
..	..	1 425	14.0	18.8	19.0	28.9	-18.3	14.1	91.7	85.5	10 776	-0.4
..	..	2 100	-16.0	-17.3	21.2	19.0	-1.2	-14.2	60.6	56.8	2 518	15.8

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
USA continued										
148	UTStarcom	265	IT hardware (93)	126	85.0	56.7	1 557	100.1	74.7	..
149	Conexant Systems	266	IT hardware (93)	126	-50.8	-27.3	476	-0.2	-34.2	..
150	eBay	267	General retailers (52)	126	32.6	41.8	1 716	78.2	71.2	..
151	International Flavors & Fragrances	268	Personal care & household (47)	126	10.6	12.2	1 508	5.2	9.1	40
152	Dover	269	Diversified industrials (24)	126	-5.8	-3.2	3 499	5.5	-6.5	..
153	Scientific-Atlanta	271	Media & entertainment (54)	124	2.1	8.6	1 150	-13.2	-5.4	..
154	MedImmune	272	Pharma & biotech (48)	124	8.4	33.1	836	24.4	28.6	..
155	Globespan Virata (now part of Conexant Systems)	273	IT hardware (93)	124	13.0	80.5	181	-15.4	59.0	..
156	Dow Corning	274	Chemicals (11)	123	-10.8	-6.1	2 069	7.0	0.1	..
157	JDS Uniphase	275	IT hardware (93)	122	-39.7	10.7	536	-38.5	-22.1	17
158	Skyworks Solutions	276	IT hardware (93)	120	14.4	18.3	490	35.0	17.8	..
159	Bausch & Lomb	279	Health (44)	119	16.7	7.3	1 601	11.2	4.5	..
160	General Mills	280	Food producers (43)	118	13.7	24.6	8 329	32.2	16.2	..
161	Pitney Bowes	281	Electronic & electrical (25)	117	4.2	6.9	3 629	3.8	5.7	..
162	Thermo Electron	282	Engineering & machinery (26)	116	-5.6	-6.1	1 663	0.5	-2.7	..
163	Brocade Communications	284	IT hardware (93)	115	9.7	42.2	416	-6.7	16.8	..
164	Sybase	285	Software & computer services (97)	115	-3.8	-16.0	617	-6.2	-6.8	..
165	Hasbro	287	Household goods & textiles (34)	114	-6.9	-11.8	2 488	11.4	-6.1	..
166	Harman International Industries	288	Electronic & electrical (25)	114	30.2	15.7	1 767	22.0	9.9	..
167	BEA Systems	291	Software & computer services (97)	112	6.1	16.4	803	8.4	7.3	..
168	Vertex Pharmaceuticals	294	Pharma & biotech (48)	111	23.6	94.9	55	-57.0	-3.9	..
169	Time Warner	295	Media & entertainment (54)	110	2.2	2.5	31 367	-3.4	3.0	..
170	ConocoPhillips Petroleum	298	Oil & gas (07)	108	24.8	46.8	71 684	81.5	63.1	..
171	Western Digital	299	IT hardware (93)	107	12.1	-6.2	2 155	26.4	11.6	..
172	Parametric Technology	301	Software & computer services (97)	105	-2.6	-2.7	533	-9.4	-10.2	36
173	Rockwell Automation	305	Electronic & electrical (25)	103	-0.8	-35.0	3 254	5.0	-16.9	..
174	RF Micro Devices	307	Electronic & electrical (25)	102	26.0	28.5	516	28.0	24.7	..
175	Applied Micro Circuits	309	IT hardware (93)	102	-36.8	6.8	104	28.4	-33.0	..
176	American Standard Companies	310	Engineering & machinery (26)	102	-27.2	0.5	6 792	9.9	4.1	..
177	Exelixis	312	Pharma & biotech (48)	101	13.9	35.2	41	17.1	27.0	..
178	Kellogg	314	Food producers (43)	101	19.1	2.3	6 986	6.1	8.2	..
179	Newell Rubbermaid	316	Household goods & textiles (34)	99	42.2	36.1	6 144	4.0	3.8	..
180	Federal-Mogul	319	Automobiles & parts (31)	98	11.3	-1.2	4 397	2.3	-2.7	..
181	ITT Industries	322	Engineering & machinery (26)	96	6.3	6.9	4 461	12.9	5.2	..
182	Air Products and Chemicals	324	Chemicals (11)	96	0.4	-0.9	4 993	16.6	4.8	..
183	Intermune	326	Pharma & biotech (48)	95	-7.5	79.2	122	37.1	138.4	..
184	PMC-Sierra	328	IT hardware (93)	95	-13.3	-12.6	198	14.5	-28.9	..
185	BorgWarner	330	Automobiles & parts (31)	94	8.3	1.8	2 433	12.4	5.1	..
186	Brunswick	331	Household goods & textiles (34)	94	15.0	5.0	3 273	11.2	2.7	..
187	Dade Behring	332	Pharma & biotech (48)	93	2.0	4.4	1 139	3.5	6.7	..
188	Molex	333	Electronic & electrical (25)	93	4.7	-1.4	1 461	7.7	-6.0	..
189	Incyte	336	Pharma & biotech (48)	92	-23.7	-15.5	37	-54.3	-37.8	..
190	Openwave Systems	337	Software & computer services (97)	91	-20.1	24.3	212	-26.6	22.3	..
191	Ceridian	338	Support services (58)	91	21.8	22.3	994	5.1	2.2	..
192	3Com	339	IT hardware (93)	90	-60.4	-43.0	740	-36.9	-40.1	..
193	Network Appliance	340	IT hardware (93)	90	-3.3	22.1	707	11.7	15.5	..
194	Palm (now palmOne)	343	IT hardware (93)	88	-21.6	..	691	-15.4	..	..
195	Vitesse Semiconductor	344	IT hardware (93)	87	-35.3	8.5	124	-3.9	-29.2	..
196	Symbol Technologies	347	Electronic & electrical (25)	86	49.4	9.1	1 213	9.2	1.8	..
197	ADC Telecommunications	348	IT hardware (93)	86	-38.4	-31.5	613	-26.2	-38.3	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	5 500	67.8	51.8	8.1	8.8	13.6	13.5	23.0	20.9	1 647	-52.6
..	..	1 450	-41.1	-45.2	26.5	53.8	-125.4	-143.6	87.1	104.4	584	-46.2
..	..	5 700	42.5	..	7.4	9.9	28.8	28.9	22.2	23.8	32 894	16.4
29	31	5 454	-4.8	-6.2	8.4	8.0	14.8	16.8	23.2	19.9	2 795	25.0
..	..	25 700	2.8	-4.5	3.6	4.0	10.1	0.1	4.9	5.3	6 394	9.4
..	..	6 889	17.4	-12.3	10.8	9.2	9.0	8.2	18.0	20.7	3 734	6.3
..	..	1 650	9.6	27.8	14.8	17.0	23.2	-128.6	75.1	75.9	4 477	-44.0
..	..	700	-39.4	48.4	68.3	51.1	-289.5	-141.6	176.6	94.8	..	..
..	..	8 200	-4.7	..	5.9	7.1	5.9	2.2	14.9	16.0	..	..
70	13	5 489	-40.5	-33.9	22.7	23.2	-2.8	-778.2	22.2	21.9	4 109	34.5
..	..	3 800	-5.0	..	24.6	29.0	-69.4	-54.8	31.7	26.3	994	11.6
..	..	11 600	0.9	-2.2	7.4	7.1	12.6	8.3	10.2	8.9	2 584	57.5
..	..	27 300	-8.6	35.1	1.4	1.6	17.3	14.0	4.3	3.5	13 533	-2.4
..	..	24 747	-25.3	-4.6	3.2	3.2	18.9	19.0	4.7	3.4	7 780	10.2
..	..	10 800	-0.9	-6.0	7.0	7.4	8.8	17.9	10.7	11.3	3 379	-0.6
..	..	1 230	-7.7	26.6	27.7	23.5	-26.7	13.0	93.5	78.7	1 001	-11.1
..	..	3 660	-6.6	-9.1	18.6	18.1	13.5	-13.1	31.4	30.5	1 101	-4.9
..	..	6 900	-4.2	-10.7	4.6	5.5	10.1	-2.3	16.5	16.9	2 541	-3.3
..	..	10 776	3.7	3.2	6.4	6.0	7.6	5.6	10.5	8.4	4 489	113.9
..	..	3 122	1.9	1.3	13.9	14.2	18.2	12.1	35.8	34.4	2 069	-52.5
..	..	720	-26.5	16.5	201.1	69.9	-381.8	-74.2	153.6	91.3	557	-33.7
..	..	80 000	-12.3	..	0.4	0.3	14.8	-235.6	1.4	1.2	57 927	10.2
..	..	39 000	-31.6	46.5	0.2	0.2	10.3	2.7	2.8	1.5	42 727	50.0
..	..	11 508	20.5	16.3	5.0	5.6	7.0	3.2	9.3	10.0	1 150	-26.3
37	27	3 500	-8.0	-9.5	19.7	18.3	-12.6	-10.5	30.0	28.4	933	40.7
..	..	21 500	-2.3	-19.5	3.2	3.4	8.9	4.8	4.8	4.7	5 467	36.9
..	..	1 895	5.6	18.3	19.7	20.0	6.0	2.0	53.6	45.0	875	-7.7
..	..	723	-15.5	-14.8	97.6	198.4	-113.5	-776.5	140.4	187.8	890	-31.7
..	..	60 000	0.0	-0.6	1.5	2.3	7.6	8.7	1.7	2.3	6 426	46.6
..	..	573	4.2	..	246.8	253.7	-185.4	-200.0	176.6	161.5	436	..
..	..	25 250	-1.8	19.0	1.4	1.3	17.0	18.5	4.0	3.3	13 563	23.8
..	..	40 000	-14.9	-6.4	1.6	1.2	0.7	0.9	2.5	1.5	4 706	-25.7
..	..	44 900	-5.9	-3.5	2.2	2.0	0.1	-26.1	2.2	1.8	19	11.8
..	..	39 000	2.6	-2.1	2.2	2.3	8.7	10.9	2.5	2.4	5 849	16.5
..	..	18 500	7.6	1.9	1.9	2.2	10.8	16.7	5.2	5.6	9 325	10.7
..	..	260	4.0	41.9	77.9	115.4	-59.0	-125.8	365.5	411.0	297	-26.8
..	..	930	-15.4	-18.6	47.8	63.1	-7.1	-40.5	101.9	99.4	1 663	6.5
..	..	14 300	2.1	0.7	3.9	4.0	10.2	0.1	6.6	6.2	2 084	47.3
..	..	23 225	10.5	0.0	2.9	2.8	6.1	4.9	4.0	3.9	2 898	51.1
..	..	2 700	-55.0	..	8.2	8.3	11.4	-10.7	34.5	15.2	1 683	..
..	..	17 275	3.8	-0.7	6.3	6.5	5.5	5.1	5.4	5.3	4 059	3.0
..	..	454	-7.5	-30.0	249.1	149.1	-337.8	-132.1	203.0	246.0	348	10.5
..	..	1 455	-22.8	..	43.1	39.5	-79.7	-343.9	62.7	60.6	579	47.0
..	..	9 320	-1.0	-1.0	9.2	7.9	15.2	12.5	9.8	7.9	2 121	-2.3
..	..	3 300	-28.5	-32.2	12.1	19.3	-32.0	-38.7	27.2	49.1	1 526	11.4
..	..	2 345	2.9	16.9	12.7	14.6	9.6	-1.7	38.2	40.6	5 478	11.4
..	..	982	-16.1	..	12.7	13.7	-24.7	-10.5	89.3	95.5	1 436	275.9
..	..	797	-14.9	-10.3	70.4	104.6	-104.0	-466.7	109.6	144.2	482	-54.0
..	..	5 300	-5.4	-4.1	7.1	5.2	0.7	-4.9	16.3	10.3	2 434	4.9
..	..	5 700	-25.0	-36.7	14.1	16.8	-11.6	-85.0	15.1	18.4	1 539	12.3

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	€m	%	%	%
USA continued										
198	Ivax	349	Pharma & biotech (48)	86	42.5	18.4	1 126	18.7	26.6	..
199	Celgene	353	Pharma & biotech (48)	85	40.0	52.2	215	99.1	47.5	..
200	Maytag	354	Household goods & textiles (34)	85	-3.3	10.1	3 799	2.7	4.1	..
201	Illinois Tool Works	355	Engineering & machinery (26)	85	5.4	-2.3	7 956	6.0	0.2	..
202	Zimmer	360	Health (44)	84	31.1	..	1 507	38.5	..	..
203	Acterna	362	IT hardware (93)	83	-34.7	19.6	539	-40.0	14.5	..
204	Quantum	365	IT hardware (93)	82	-7.6	-7.4	641	-7.1	-16.9	21
205	Adaptec	366	IT hardware (93)	82	-12.7	-2.4	359	10.8	-8.0	..
206	Tektronix	368	IT hardware (93)	80	-16.6	-9.5	627	-6.3	-11.0	..
207	Mylan Laboratories	369	Pharma & biotech (48)	80	16.2	16.1	1 090	8.4	17.5	..
208	Black & Decker	372	Household goods & textiles (34)	80	3.6	1.8	3 554	2.0	-0.6	..
209	Harris	376	IT hardware (93)	79	-4.1	-0.1	1 659	11.6	5.0	..
210	Watson Pharmaceuticals	377	Pharma & biotech (48)	79	21.6	13.8	1 156	19.2	21.5	..
211	Integrated Device Technology	378	IT hardware (93)	78	-23.7	-8.5	274	0.4	-29.6	..
212	Activision	379	Software & computer services (97)	78	71.8	33.2	751	9.6	15.1	..
213	Electronics For Imaging	382	Software & computer services (97)	77	7.5	0.9	301	8.3	-13.6	30
214	SPX	383	Electronic & electrical (25)	76	-19.0	8.9	4 029	0.7	23.8	..
215	Medarex	387	Pharma & biotech (48)	76	15.5	41.2	9	-71.0	-20.6	..
216	International Game Technology	388	Leisure & hotels (53)	75	18.3	19.8	1 687	15.2	33.3	..
217	Tularik	389	Pharma & biotech (48)	75	52.1	34.0	24	20.0	6.3	..
218	Convergys	390	Support services (58)	75	-17.1	-0.1	1 815	0.1	1.9	..
219	Bio-Rad Laboratories	392	Health (44)	75	13.7	11.4	795	12.3	11.4	..
220	Lubrizol	393	Chemicals (11)	74	0.4	2.8	1 625	3.5	4.9	29
221	Parker Hannifin	395	Engineering & machinery (26)	74	-14.6	1.5	5 082	4.2	6.2	..
222	Engelhard	396	Chemicals (11)	74	5.5	4.0	2 945	-1.0	-12.5	..
223	OSI Pharmaceuticals	397	Pharma & biotech (48)	74	3.2	82.6	26	52.9	4.2	..
224	Linear Technology	399	IT hardware (93)	73	14.5	5.3	481	18.5	-4.9	..
225	Intersil	400	IT hardware (93)	72	-30.4	-1.0	402	-21.9	-8.5	..
226	Macromedia	401	Software & computer services (97)	72	-7.4	-5.4	293	9.7	-1.8	26
227	Barr Laboratories (now Barr Pharmaceuticals)	402	Pharma & biotech (48)	72	20.5	31.1	716	-24.1	27.8	..
228	Cell Therapeutics	404	Pharma & biotech (48)	71	52.4	49.9	20	53.8	..	6
229	McData	405	IT hardware (93)	70	49.7	32.9	332	27.7	19.0	..
230	ImClone Systems	406	Pharma & biotech (48)	70	-29.3	16.3	70	45.8	312.1	..
231	Regeneron Pharmaceuticals	407	Pharma & biotech (48)	70	-22.2	86.9	46	170.6	-0.7	..
232	Reynolds and Reynolds	408	Software & computer services (97)	70	-0.1	-2.8	799	1.5	2.9	..
233	Campbell Soup	409	Food producers (43)	70	14.3	11.2	5 294	8.9	2.1	..
234	Qlogic	410	IT hardware (93)	70	8.0	15.9	415	18.9	13.0	..
235	FMC	411	Chemicals (11)	69	6.6	-17.3	1 523	3.7	-21.2	..
236	CR Bard	412	Health (44)	69	41.6	18.0	1 136	12.5	9.3	..
237	Lattice Semiconductor	413	IT hardware (93)	69	1.5	4.2	166	-8.8	-28.3	..
238	ICOS	415	Pharma & biotech (48)	68	41.4	28.9	60	-18.9	-5.9	..
239	Avid Technology	416	IT hardware (93)	68	3.9	1.1	374	12.7	-0.3	..
240	ON Semiconductor	417	IT hardware (93)	68	25.9	-5.1	848	-1.4	-19.8	..
241	Microchip Technology	418	IT hardware (93)	68	-2.9	2.8	554	7.4	-0.8	..
242	Cell Genesys	419	Pharma & biotech (48)	68	13.5	138.7	14	-54.8	-9.7	..
243	SanDisk	423	IT hardware (93)	67	33.3	22.3	856	99.5	21.5	21
244	Enterasys Networks	424	IT hardware (93)	67	-1.0	-16.8	329	-14.3	-27.1	..
245	Andrew	425	IT hardware (93)	67	45.2	27.9	804	17.2	-0.2	..
246	PerkinElmer	428	IT hardware (93)	66	-3.8	-1.2	1 217	2.0	-3.3	..
247	Weatherford International	429	Oil & gas (07)	66	4.2	42.6	2 054	11.3	12.6	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	8 719	4.3	14.6	7.6	6.4	15.5	17.9	9.9	7.2	3 684	28.8
..	..	703	25.5	..	39.7	56.4	-0.9	-90.7	121.3	108.8	3 388	52.6
..	..	20 640	-0.0	-5.4	2.2	2.4	5.6	7.6	4.1	4.2	1 283	-19.3
..	..	47 500	-2.5	-4.9	1.1	1.1	16.4	13.4	1.8	1.7	22 229	33.9
..	..	6 500	80.6	..	5.6	5.9	26.6	29.2	12.9	17.8	14 695	101.7
..	..	2 840	-42.9	-15.5	15.4	14.1	-49.2	-24.6	29.2	25.5	..	..
60	18	1 809	-11.5	-9.6	12.8	12.9	-2.2	-29.4	45.3	43.4	349	-21.4
..	..	1 512	-1.0	76.5	22.7	28.8	5.9	-8.3	53.9	61.1	652	10.7
..	..	4 142	-3.7	-1.1	12.8	14.4	-2.2	3.1	19.4	22.4	2 040	42.0
..	..	2 800	14.3	8.1	7.3	6.8	37.2	33.6	28.5	28.1	3 155	-31.8
..	..	22 100	-0.9	-2.2	2.2	2.2	9.2	8.3	3.6	3.4	4 475	73.2
..	..	10 200	5.2	0.7	4.8	5.5	3.3	7.4	7.7	8.5	2 505	52.4
..	..	3 983	6.8	9.9	6.8	6.7	20.6	24.1	19.8	17.4	2 132	-39.1
..	..	3 150	1.6	-14.3	28.5	37.5	-2.2	-63.7	24.8	33.0	961	6.2
..	..	1 324	9.1	20.1	10.3	6.6	11.6	10.9	58.6	37.2	1 613	98.4
51	19	1 382	49.1	15.6	25.5	25.7	9.0	3.2	55.5	76.9	850	-7.3
..	..	22 200	-8.3	16.6	1.9	2.4	10.7	9.4	3.4	3.9	2 466	-10.8
..	..	423	-1.9	46.0	840.9	211.3	-1 144.4	-425.8	178.9	152.0	377	..
..	..	5 300	-14.5	13.8	4.5	4.3	32.3	27.2	14.2	10.3	8 946	24.5
..	..	406	-5.6	13.3	312.5	246.5	-350.0	-385.0	184.7	114.6	1 324	198.9
..	..	56 500	15.8	..	4.1	5.0	12.2	11.1	1.3	1.8	1 850	-5.6
..	..	4 800	4.3	8.1	9.4	9.3	14.6	15.0	15.6	14.3	1 066	-13.9
45	26	5 032	-3.8	4.7	4.6	4.7	8.7	9.6	14.8	14.2	1 417	6.1
..	..	46 787	-2.9	2.2	1.5	1.8	5.6	4.8	1.6	1.8	5 439	25.1
..	..	6 480	-2.6	0.3	2.5	2.4	8.7	7.0	11.4	10.5	2 896	12.2
..	..	480	11.9	29.5	283.8	420.8	-557.7	-1 058.8	153.8	166.7	1 886	95.6
..	..	2 613	-2.9	-2.5	15.1	15.6	48.4	43.8	27.7	23.5	9 680	7.7
..	..	1 600	-22.4	..	18.0	20.2	15.7	0.4	45.2	50.4	2 041	-21.5
56	19	1 213	11.8	-11.7	24.7	29.2	13.0	0.4	59.6	72.0	1 124	19.2
..	..	1 234	14.8	26.8	10.1	6.4	28.5	28.0	58.6	55.8	2 841	-14.1
83	11	372	30.1	36.3	354.9	358.3	-485.0	-600.0	190.8	162.9	212	-28.6
..	..	1 022	13.6	19.0	21.2	18.1	-1.8	-4.6	68.9	52.3	476	-32.6
..	..	582	16.2	28.9	100.6	207.6	-122.9	-256.3	121.0	198.9	3 513	..
..	..	675	0.9	11.2	152.8	531.6	-171.7	-570.6	104.1	135.1	360	-30.8
..	..	4 518	-1.8	-3.0	8.8	8.9	19.4	13.0	15.5	15.2	1 186	-18.7
..	..	25 000	0.0	4.4	1.3	1.3	16.1	16.0	2.8	2.4	8 328	4.4
..	..	819	10.7	9.5	16.8	18.5	38.1	32.1	84.9	87.1	1 790	-47.6
..	..	5 300	-3.6	-29.0	4.6	4.4	5.4	8.4	13.1	11.8	1 230	82.8
..	..	8 300	7.8	0.8	6.1	4.8	16.0	17.0	8.3	6.4	4 566	56.1
..	..	1 048	-2.3	5.3	41.6	37.4	-45.2	-37.4	65.9	63.4	439	-35.3
..	..	675	28.6	20.5	113.3	65.0	-188.3	-186.5	100.7	91.6	1 175	-43.7
..	..	1 582	1.7	-1.0	18.1	19.7	8.6	0.9	42.9	42.0	1 157	14.0
..	..	10 055	5.1	-12.3	8.0	6.3	0.1	1.2	6.7	5.6	803	63.2
..	..	3 678	9.0	6.9	12.2	13.5	24.7	16.5	18.4	20.7	4 750	17.5
..	..	348	3.6	29.0	483.0	192.2	-528.6	-138.7	194.3	177.3	228	-27.8
39	40	751	25.4	1.4	7.8	11.7	22.2	7.0	88.9	83.6	3 109	0.2
..	..	1 400	-14.0	-28.6	20.3	17.6	-28.3	-42.4	47.7	41.4	280	-60.2
..	..	6 211	30.6	2.3	8.3	6.7	1.6	-2.6	10.7	9.7	1 340	8.2
..	..	10 000	-6.5	-7.2	5.4	5.7	8.6	-8.5	6.6	6.4	1 777	21.3
..	..	16 700	6.4	12.0	3.2	3.4	11.2	3.1	3.9	4.0	4 918	29.8

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
USA continued										
248	Abgenix	431	Pharma & biotech (48)	66	-24.2	49.6	13	-13.3	-14.8	..
249	Science Applications International	432	Software & computer services (97)	65	-5.0	-16.2	5 328	13.8	4.5	..
250	Paccar	436	Engineering & machinery (26)	64	44.8	-7.5	6 497	13.5	3.3	..
251	I2 Technologies	439	Software & computer services (97)	64	-53.3	-28.2	392	-45.6	-24.0	..
252	National Instruments	440	Software & computer services (97)	64	26.0	12.9	338	9.0	1.3	..
253	Neurocrine Biosciences	441	Pharma & biotech (48)	64	-16.6	38.8	110	685.7	109.3	..
254	International Rectifier	447	IT hardware (93)	63	13.1	18.7	685	20.0	4.7	..
255	Mettler-Toledo International	449	Engineering & machinery (26)	62	10.4	11.5	1 034	7.5	6.0	..
256	FileNET	451	Software & computer services (97)	61	7.4	10.0	289	5.1	-2.9	23
257	Cirrus Logic	453	IT hardware (93)	60	-20.1	-15.8	156	-25.0	-36.8	..
258	Clorox	454	Personal care & household (47)	60	13.4	6.4	3 285	2.0	0.5	..
259	Praxair	456	Chemicals (11)	60	8.7	4.9	4 450	9.4	3.6	..
260	Avery Dennison	457	Chemicals (11)	59	0.4	3.3	3 776	13.2	6.9	..
261	Fairchild Semiconductor	458	IT hardware (93)	59	-9.0	-3.8	1 107	-1.1	-7.8	..
262	Hyperion Solutions	461	Software & computer services (97)	59	1.3	1.7	405	3.8	0.9	..
263	Credence Systems	463	IT hardware (93)	58	-13.9	2.6	145	11.5	-35.4	..
264	Tekelec	464	IT hardware (93)	58	22.7	10.4	209	1.5	-5.7	..
265	International Paper	465	Forestry & paper (15)	58	-5.2	-7.4	19 962	1.8	-3.7	..
266	Brooks Automation	466	IT hardware (93)	58	-2.9	19.3	272	12.9	2.2	19
267	Edwards Lifesciences	467	Health (44)	58	11.7	9.8	682	22.2	2.3	..
268	Aspen Technology	468	Software & computer services (97)	58	-11.8	9.3	256	0.8	6.3	..
269	Polycom	469	Software & computer services (97)	58	-5.4	27.0	333	-9.8	8.2	..
270	Genencor International	471	Pharma & biotech (48)	58	43.2	24.4	304	9.4	6.6	..
271	AGCO	472	Engineering & machinery (26)	57	24.8	16.1	2 771	19.6	14.4	..
272	NetIQ	473	Software & computer services (97)	56	16.5	90.5	246	11.3	86.4	..
273	Cooper Tire & Rubber	474	Automobiles & parts (31)	56	-3.9	-10.6	2 786	5.5	0.4	..
274	MeadWestvaco	475	Forestry & paper (15)	56	-22.0	12.8	5 988	4.3	27.3	..
275	Valspar	478	Chemicals (11)	55	5.7	14.5	1 782	5.7	14.9	..
276	CV Therapeutics	480	Pharma & biotech (48)	55	-18.9	22.9	9	125.0	44.2	..
277	Sollectron	483	Electronic & electrical (25)	55	-7.6	4.4	8 732	-10.3	-8.0	..
278	Intergraph	484	Software & computer services (97)	55	9.3	0.4	418	5.3	-8.6	..
279	Sealed Air	485	Support services (58)	55	16.4	8.3	2 800	10.2	4.8	..
280	Trimble Navigation	486	Electronic & electrical (25)	54	10.5	13.3	429	15.9	13.6	..
281	American Power Conversion	487	Electronic & electrical (25)	54	12.6	13.0	1 161	12.6	-0.4	..
282	Fair Isaac	488	Software & computer services (97)	54	66.6	27.5	499	60.5	28.4	..
283	Quest Software	489	Software & computer services (97)	54	13.5	19.3	241	17.6	22.5	24
284	Redback Networks	492	IT hardware (93)	53	-26.9	-14.8	85	-15.0	-27.2	..
285	Advanced Fibre Communications	493	IT hardware (93)	52	7.3	4.0	264	-3.3	-7.2	..
286	LTX	494	IT hardware (93)	52	-7.0	9.3	95	-1.0	-26.8	..
287	Affymetrix	495	Pharma & biotech (48)	52	-7.8	8.5	238	3.5	14.4	..
288	Triquint Semiconductor	498	IT hardware (93)	52	11.1	27.7	248	17.0	1.4	..
Japan				64 924	2.8	3.6	1 543 239	2.0	2.4	..
<i>number of companies for calculation</i>				<i>153</i>	<i>150</i>	<i>-</i>	<i>153</i>	<i>152</i>	<i>-</i>	<i>-</i>
1	Toyota Motor	3	Automobiles & parts (31)	4 945	13.4	14.0	114 672	8.3	6.9	..
2	Matsushita Electric	5	Electronic & electrical (25)	4 285	5.1	2.1	55 331	1.1	-1.4	..
3	Sony	10	Electronic & electrical (25)	3 278	2.3	4.0	55 286	-1.4	6.2	..
4	Honda Motor	11	Automobiles & parts (31)	3 232	10.6	9.4	58 969	8.3	9.3	..
5	NTT	15	Telecommunication services (67)	2 929	1.3	3.5	80 803	-5.3	1.7	..
6	Hitachi	17	IT hardware (93)	2 751	-1.4	-5.1	63 858	5.4	0.8	8

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	403	4.1	32.3	504.7	577.2	-1 223.1	-1 186.7	162.8	223.7	668	-26.5
..	..	42 700	10.3	1.0	1.2	1.5	7.2	6.4	1.5	1.8	0	..
..	..	17 000	6.3	-1.9	1.0	0.8	12.3	8.1	3.8	2.8	8 340	22.2
..	..	2 452	-5.7	-25.8	16.3	19.1	4.3	0.0	26.1	52.8	262	-37.6
..	..	3 078	2.3	7.0	18.9	16.4	9.8	10.6	20.8	16.9	1 800	19.5
..	..	330	19.6	20.6	58.1	546.9	-41.8	-585.7	193.6	277.4	1 304	1.7
..	..	5 500	-6.8	2.6	9.1	9.7	-14.5	8.2	11.4	9.4	2 054	42.2
..	..	8 650	1.8	1.6	6.0	5.8	11.5	10.5	7.2	6.6	1 464	18.4
73	4	1 720	0.9	-0.7	21.1	20.7	3.1	1.5	35.5	33.4	575	6.5
..	..	767	-15.2	-17.3	38.7	36.3	12.8	-78.4	78.7	83.5	408	30.8
..	..	8 900	-6.3	-6.8	1.8	1.7	19.1	13.2	6.8	5.6	8 470	10.9
..	..	25 438	1.7	2.8	1.3	1.3	16.9	14.9	2.3	2.2	10 164	23.8
..	..	20 300	-1.0	4.3	1.6	1.8	8.1	9.7	2.9	2.9	5 305	26.9
..	..	9 740	0.2	-4.1	5.4	5.8	-1.4	5.0	6.1	6.7	1 388	15.3
..	..	2 224	-1.2	-3.4	14.4	14.8	9.9	4.4	26.3	25.6	1 272	73.5
..	..	1 042	-8.4	-4.9	40.2	52.1	-62.8	-105.4	55.9	59.5	683	42.3
..	..	1 065	21.7	1.0	27.8	23.0	4.3	19.9	54.6	54.1	958	58.9
..	..	83 000	-8.8	-9.7	0.3	0.3	4.0	-0.1	0.7	0.7	16 639	14.7
50	31	1 900	-36.7	5.9	21.2	24.7	-50.7	-206.2	30.4	19.8	509	-10.9
..	..	5 000	0.0	-0.7	8.5	9.3	11.9	9.7	11.5	10.3	1 658	25.9
..	..	1 748	-20.5	0.3	22.5	25.7	-50.0	-23.2	33.0	29.7	183	45.2
..	..	1 183	-6.9	30.1	17.3	16.5	5.4	6.0	48.7	47.9	1 454	17.2
..	..	1 245	13.4	5.0	18.9	14.4	7.9	1.8	46.2	36.6	740	-3.1
..	..	11 300	-2.2	4.9	2.0	2.0	5.8	2.5	5.0	3.9	1 495	30.1
..	..	1 364	8.9	36.6	22.9	21.9	-295.5	-263.3	41.3	38.6	423	-15.6
..	..	22 899	-0.5	2.6	2.0	2.2	5.7	7.6	2.5	2.5	1 379	40.3
..	..	29 400	-4.2	19.9	0.9	1.3	0.4	-1.4	1.9	2.4	4 842	26.1
..	..	7 000	0.0	14.3	3.1	3.1	10.0	11.6	7.9	7.5	1 993	14.5
..	..	261	27.3	24.9	612.1	1 698.3	988.9	-2 250.0	211.1	331.4	332	-56.3
..	..	53 000	-27.4	3.2	0.6	0.6	-24.3	-28.3	1.0	0.8	4 193	22.1
..	..	3 700	-2.6	-7.0	13.1	12.6	3.8	92.4	14.8	13.2	781	-3.1
..	..	17 600	-1.7	..	2.0	1.9	14.5	-10.2	3.1	2.6	3 193	1.7
..	..	2 150	4.9	-2.3	12.5	13.1	8.6	6.2	24.9	23.7	1 115	80.7
..	..	6 365	17.3	-4.7	4.6	4.6	15.7	8.6	8.4	8.8	2 393	-8.5
..	..	2 355	-1.4	15.4	10.7	10.3	27.9	12.2	22.7	13.5	1 608	..
72	3	1 735	-4.3	6.6	22.2	23.0	7.5	3.9	30.8	26.0	882	34.0
..	..	483	-19.0	-26.2	61.8	71.8	-90.6	-132.0	108.7	120.5	220	238.5
..	..	773	-9.8	-6.9	19.9	17.9	6.8	11.4	67.8	57.0	1 169	-1.5
..	..	576	-25.8	-7.0	55.2	58.7	-118.9	-95.8	91.0	72.6	393	-1.8
..	..	871	-0.7	5.4	22.0	24.7	5.9	1.7	60.0	64.7	1 302	18.8
..	..	2 046	37.8	3.5	20.8	21.9	-21.8	-46.2	25.2	31.3	437	-7.0
..	..	4 857 788	-0.5	-0.0	4.2	4.2	5.7	3.6	12.7	12.6	1 096 288	12.1
-	-	136	125	-	153	150	153	152	136	131	152	141
..	..	264 096	7.1	7.2	4.3	4.1	8.1	6.7	18.7	17.7	113 783	37.0
..	..	290 493	0.8	-0.3	7.7	7.4	2.7	0.9	14.8	14.1	26 127	1.4
..	..	161 100	-4.1	-5.3	5.9	5.7	1.9	1.6	20.3	19.1	25 640	1.1
..	..	126 900	5.2	4.1	5.5	5.4	7.7	8.2	25.5	24.2	37 437	8.4
..	..	207 400	-2.6	-2.5	3.6	3.4	12.9	0.2	14.1	13.6	104 554	54.6
10	82	326 344	-3.9	-1.4	4.3	4.6	2.2	1.6	8.4	8.2	16 343	18.0

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units €m	%	%	€m	%	%	%
Japan continued										
7	Toshiba	19	IT hardware (93)	2 491	1.6	0.9	41 274	-1.3	-2.1	9
8	Nissan Motor	22	Automobiles & parts (31)	2 222	14.6	8.0	50 514	10.2	4.5	..
9	Fujitsu	23	IT hardware (93)	2 114	-18.3	-10.7	34 158	-7.8	-4.2	..
10	Canon	25	Electronic & electrical (25)	1 917	10.9	10.0	23 658	8.8	4.8	..
11	NEC	26	IT hardware (93)	1 899	-13.4	-9.4	36 298	4.5	-3.2	..
12	Denso	35	Automobiles & parts (31)	1 353	-1.5	4.5	17 256	-2.8	7.4	..
13	Mitsubishi Electric	39	IT hardware (93)	1 196	-21.0	-2.4	26 920	-0.3	-1.2	..
14	Fuji Photo Film	41	Media & entertainment (54)	1 177	8.3	24.9	18 536	4.4	21.4	..
15	Sharp	43	Electronic & electrical (25)	1 126	20.8	7.3	14 819	11.1	2.6	..
16	Takeda Chemical	46	Pharma & biotech (48)	919	23.9	17.2	7 738	4.1	4.3	12
17	Sanyo Electric	47	Electronic & electrical (25)	894	12.9	6.7	16 821	12.3	5.4	..
18	Mitsubishi Heavy	50	Engineering & machinery (26)	810	-7.7	-5.5	19 188	-9.4	-3.4	..
19	Ricoh	57	Electronic & electrical (25)	684	10.7	5.7	13 169	2.4	5.0	..
20	Mitsubishi Chemical	59	Chemicals (11)	674	7.6	11.0	13 963	6.0	4.2	..
21	Mazda Motor	61	Automobiles & parts (31)	650	-7.5	4.9	17 491	12.9	3.0	16
22	Sankyo	62	Pharma & biotech (48)	641	6.2	10.4	4 216	3.8	-1.1	11
23	Aisin Seiki	70	Automobiles & parts (31)	592	18.3	14.7	10 416	15.2	12.1	6
24	Sumitomo Chemical	73	Chemicals (11)	539	9.2	7.1	8 220	9.1	5.4	..
25	Bridgestone	77	Automobiles & parts (31)	525	4.1	5.1	17 043	2.5	4.7	..
26	Yamanouchi Pharmaceutical	80	Pharma & biotech (48)	495	2.6	6.8	3 748	5.3	5.3	14
27	Fujisawa Pharmaceutical	84	Pharma & biotech (48)	462	9.3	11.1	2 826	11.9	9.7	..
28	Suzuki Motor	86	Automobiles & parts (31)	447	34.3	..	14 908	20.8	9.8	18
29	Fuji Heavy Industries	87	Automobiles & parts (31)	445	9.5	14.4	10 152	0.7	1.1	5
30	Eisai	88	Pharma & biotech (48)	442	8.5	8.5	3 452	8.1	15.6	8
31	Yamaha Motor	92	Automobiles & parts (31)	414	14.5	7.4	7 495	7.0	4.9	21
32	Daiichi Pharmaceutical	97	Pharma & biotech (48)	395	10.0	13.8	2 382	-3.3	2.3	..
33	Matsushita Electric Works	98	Construction & building (13)	391	-4.4	-1.3	9 122	4.9	1.5	5
34	Pioneer	103	Electronic & electrical (25)	381	13.4	11.5	5 185	-1.6	3.8	..
35	Tokyo Electron	105	IT hardware (93)	371	-6.9	10.5	3 407	10.2	1.5	..
36	Asahi Kasei	107	Chemicals (11)	365	-0.5	9.0	8 830	-0.1	-0.0	..
37	Sumitomo Electric	108	Electronic & electrical (25)	360	0.4	5.1	11 014	0.3	4.4	..
38	Mitsubishi Pharma	110	Pharma & biotech (48)	357	40.7	35.6	2 077	22.6	12.2	3
39	Kyocera	113	IT hardware (93)	350	17.0	18.6	7 914	3.4	9.6	..
40	Japan Tobacco	117	Tobacco (49)	329	-15.5	-2.2	33 231	-1.1	0.9	..
41	Komatsu	119	Engineering & machinery (26)	315	9.2	-2.0	8 850	9.8	3.0	..
42	Tokyo Electric Power	121	Electricity (72)	298	-15.9	-17.4	36 389	-5.8	-1.1	..
43	Omron	122	Electronic & electrical (25)	298	-2.8	3.2	3 958	0.2	-1.2	..
44	Kao	125	Personal care & household (47)	285	2.1	1.3	6 677	4.3	3.2	8
45	Alps Electric	127	Electronic & electrical (25)	280	28.3	15.2	4 584	3.0	2.6	23
46	Mitsui Chemicals	129	Chemicals (11)	275	-4.9	-0.9	7 791	10.6	6.0	..
47	Asahi Glass	132	Construction & building (13)	270	18.1	8.7	12 260	28.0	8.1	22
48	Toray Industries	134	Chemicals (11)	264	-4.2	-2.8	7 641	1.7	1.4	..
49	Olympus Optical	137	Electronic & electrical (25)	257	14.0	2.8	4 175	6.8	9.6	28
50	JFE	139	Steel & other metals (18)	245	..	..	17 953	..	..	..
51	TDK	143	Electronic & electrical (25)	236	-17.5	5.7	4 504	5.9	-3.3	..
52	Rohm	144	IT hardware (93)	235	48.4	11.9	2 591	9.0	-0.9	..
53	Murata Manufacturing	145	IT hardware (93)	233	-0.5	2.7	2 922	0.1	-4.9	..
54	Shionogi	146	Pharma & biotech (48)	231	2.2	5.0	2 118	-31.9	-10.5	..
55	Kyowa Hakko Kogyo	149	Pharma & biotech (48)	229	5.6	6.1	2 658	-5.1	-1.4	..
56	Ono Pharmaceutical	152	Pharma & biotech (48)	225	7.3	14.8	999	1.3	2.1	1

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
13	78	161 000	-2.9	-5.0	6.0	5.9	2.6	1.7	15.5	14.8	9 286	-19.6
..	..	127 625	2.0	-3.4	4.4	4.2	9.7	6.2	17.4	15.5	38 082	-7.3
..	..	157 044	-7.7	-5.8	6.2	7.0	-2.9	-11.2	13.5	15.2	9 786	19.9
..	..	102 567	4.9	5.8	8.1	7.9	14.7	11.1	18.7	17.7	34 225	-8.5
..	..	143 393	-1.7	-1.5	5.2	6.3	2.8	-1.3	13.2	15.0	9 512	-0.9
..	..	89 380	3.2	3.4	7.8	7.7	9.8	5.5	15.1	15.9	17 077	31.4
..	..	110 279	-5.1	-1.8	4.4	5.6	0.3	-3.9	10.8	13.0	7 808	..
..	..	72 633	0.1	25.0	6.4	6.1	5.3	6.4	16.2	15.0	12 156	-12.5
..	..	46 633	0.2	-2.1	7.6	7.0	3.0	1.2	24.1	20.0	12 739	-8.6
25	61	14 547	0.2	-3.6	11.9	10.0	37.2	36.3	63.2	51.1	33 230	18.3
..	..	79 025	-1.8	-1.8	5.3	5.3	-3.0	0.7	11.3	9.8	5 489	-15.0
..	..	61 292	-2.3	-1.9	4.2	4.1	3.8	2.0	13.2	14.0	6 961	-12.0
..	..	73 200	-1.9	-0.5	5.2	4.8	6.3	7.5	9.4	8.3	11 448	3.1
..	..	37 633	-2.5	4.0	4.8	4.8	3.8	-2.3	17.9	16.2	4 153	8.4
36	49	36 184	-4.3	-6.2	3.7	4.5	1.8	1.7	18.0	18.6	3 366	30.8
14	74	11 520	-0.9	0.6	15.2	14.9	12.8	14.3	55.7	51.9	2 948	-36.9
10	84	44 132	9.7	10.3	5.7	5.5	7.5	4.9	13.4	12.4	5 105	34.8
..	..	17 906	5.2	0.8	6.6	6.5	6.2	6.4	30.1	29.0	5 489	26.2
..	..	108 741	1.8	2.1	3.1	3.0	7.6	5.8	4.8	4.7	12 281	19.4
23	63	9 278	1.0	1.2	13.2	13.5	19.1	18.0	53.3	52.5	9 878	12.4
..	..	..	..	..	16.3	16.7	10.5	13.4	..	..	6 361	11.5
18	65	..	..	..	3.0	2.7	2.9	2.4	..	..	7 482	..
45	49	27 478	3.8	0.7	4.4	4.0	4.3	4.2	16.2	15.3	3 353	3.3
40	52	7 433	0.0	1.9	12.8	12.8	15.2	13.8	59.4	54.8	6 751	29.6
38	42	32 066	3.5	7.6	5.5	5.2	5.8	2.6	12.9	11.7	3 331	74.5
..	..	..	..	..	16.6	14.6	11.0	17.1	..	50.8	4 101	19.5
2	93	47 620	-1.0	3.7	4.3	4.7	3.6	2.3	8.2	8.5	4 823	15.6
..	..	36 360	4.9	8.0	7.3	6.4	7.0	4.0	10.5	9.7	3 094	-20.5
..	..	10 053	-1.2	4.0	10.9	12.9	-4.4	-5.1	36.9	39.1	6 878	-27.1
..	..	25 730	-1.9	-1.1	4.1	4.1	-7.3	1.2	14.2	14.0	5 132	29.9
..	..	79 197	13.2	5.7	3.3	3.3	-0.5	2.3	4.5	5.1	5 536	13.4
11	86	8 733	-3.2	26.8	17.2	15.0	3.2	7.6	40.9	28.1	4 184	37.6
..	..	..	..	..	4.4	3.9	6.1	4.2	..	6.8	11 583	13.7
..	..	38 628	-1.9	-2.0	1.0	1.2	3.6	2.3	8.5	9.9	4 714	-54.3
..	..	31 635	3.2	-0.4	3.6	3.6	3.0	1.2	10.0	9.4	4 562	7.2
..	..	52 322	-2.6	2.7	0.8	0.9	9.6	11.9	5.7	6.6	24 449	8.3
..	..	23 751	-6.5	-1.6	7.5	7.8	1.1	-4.4	12.5	12.1	4 272	-3.3
9	83	19 330	-2.4	0.5	4.3	4.4	13.4	13.6	14.7	14.1	11 219	13.9
21	56	32 586	7.7	-1.7	6.1	4.9	6.9	6.0	8.6	7.2	1 896	-21.8
..	..	12 660	-4.2	2.6	3.5	4.1	3.7	2.0	21.7	21.8	2 785	-7.1
14	64	55 732	3.7	4.5	2.2	2.4	6.6	1.5	4.8	4.3	8 395	17.2
..	..	33 791	-3.2	-1.6	3.5	3.7	3.8	2.5	7.8	7.9	5 235	77.8
35	37	23 975	15.8	8.1	6.2	5.8	8.9	5.5	10.7	10.9	3 919	-23.9
..	..	54 100	..	..	1.4	..	3.3	..	4.5	..	11 140	..
..	..	31 705	-1.7	-2.6	5.2	6.7	3.1	-7.7	7.4	8.9	7 107	8.4
..	..	16 841	12.7	7.2	9.1	6.7	27.2	18.5	14.0	10.6	9 966	-22.7
..	..	26 435	-3.5	1.3	8.0	8.0	14.0	12.6	8.8	8.5	9 217	-7.2
..	..	6 149	-32.9	-14.6	10.9	7.3	3.8	4.4	37.6	24.7	4 814	13.6
..	..	6 749	-7.5	-5.0	8.6	7.7	3.5	3.6	33.9	29.7	2 369	15.2
0	99	..	..	..	22.5	21.3	35.1	31.1	..	..	4 567	16.5

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Japan continued										
57	Konica (now Konica Minolta)	153	Media & entertainment (54)	224	3.9	6.1	4 135	3.6	-0.1	16
58	Teijin	157	Chemicals (11)	221	-6.2	1.6	6 587	-3.6	13.8	..
59	Toyota Industries	158	Automobiles & parts (31)	220	-0.9	7.3	7 909	9.1	19.5	17
60	Taisho Pharmaceutical	161	Pharma & biotech (48)	218	-8.3	8.3	2 027	0.9	-0.1	..
61	Sega	166	Software & computer services (97)	205	19.2	-3.3	1 459	-4.4	-16.5	5
62	Nikon	168	IT hardware (93)	204	0.7	15.6	3 469	-2.9	8.0	21
63	Kansai Electric Power	172	Electricity (72)	202	-10.6	-7.2	19 345	-1.4	0.3	..
64	Fuji Electric	177	Electronic & electrical (25)	198	-4.6	-1.8	6 158	-0.8	-0.8	2
65	Ajinomoto	182	Food producers (43)	196	-1.8	3.3	7 307	4.7	6.0	9
66	Shin-Etsu Chemical	184	Chemicals (11)	195	-3.5	0.5	6 161	4.4	1.0	..
67	Kirin Brewery	185	Beverages (41)	192	12.9	6.6	8 624	2.5	2.8	..
68	Yokogawa Electric	193	Electronic & electrical (25)	187	31.2	9.3	2 432	5.8	1.7	..
69	Furukawa Electric	196	Electronic & electrical (25)	184	7.5	14.7	5 257	-7.9	0.7	..
70	Tanabe Seiyaku	198	Pharma & biotech (48)	182	4.9	7.7	1 284	-4.7	-3.6	..
71	Minolta (now part of Konica Minolta)	201	Electronic & electrical (25)	180	-16.1	-7.7	3 907	3.4	3.0	35
72	Dai Nippon Printing	202	Media & entertainment (54)	178	3.1	7.0	9 683	-0.2	0.6	..
73	Daikin Industries	204	Electronic & electrical (25)	177	2.1	3.9	4 237	6.3	7.4	..
74	Advantest	206	IT hardware (93)	175	-11.5	0.7	723	2.6	-16.3	9
75	Sekisui Chemical	208	Construction & building (13)	173	3.5	-6.7	5 916	-5.4	-4.6	..
76	Kubota	209	Engineering & machinery (26)	172	-11.9	-8.4	6 881	0.4	-2.2	..
77	Yamaha	215	Household goods & textiles (34)	167	0.3	2.1	3 991	2.8	1.3	15
78	Calsonic Kansei	217	Automobiles & parts (31)	166	8.1	..	4 032	18.3	..	10
79	IHI	221	Engineering & machinery (26)	163	-12.1	2.5	7 538	-5.9	0.8	3
80	Brother Industries	229	Electronic & electrical (25)	156	16.3	8.8	3 023	7.4	9.7	..
81	Japan Radio	232	Electronic & electrical (25)	150	-10.6	-5.9	1 919	-0.8	-2.1	..
82	Toppan Printing	233	Media & entertainment (54)	150	5.8	3.3	9 259	-3.4	0.4	..
83	Chubu Electric Power	252	Electricity (72)	136	-8.2	-4.0	16 097	-2.4	1.0	..
84	Kobe Steel	259	Steel & other metals (18)	132	-19.3	20.2	8 912	0.6	-1.3	..
85	Meiji Seika Kaisha	260	Food producers (43)	131	-5.8	3.8	2 615	-2.3	-0.9	..
86	Koito Manufacturing	261	Automobiles & parts (31)	131	-7.7	..	2 302	3.3	3.7	..
87	Shiseido	263	Personal care & household (47)	130	1.7	1.6	4 618	0.5	1.6	..
88	Showa Denko	270	Chemicals (11)	126	10.0	0.8	5 100	2.3	-2.6	..
89	OKI Electric	278	Electronic & electrical (25)	119	5.9	-18.6	4 840	11.8	-4.0	..
90	Kawasaki Heavy Industries	286	Engineering & machinery (26)	115	-6.4	-8.0	9 170	8.3	2.5	7
91	East Japan Railway	289	Transport (59)	113	13.0	5.6	18 979	0.9	0.8	..
92	Dainippon Pharmaceutical	290	Pharma & biotech (48)	113	16.0	8.0	1 274	4.9	3.6	..
93	JSR	292	Chemicals (11)	112	7.6	42.7	2 035	11.3	5.9	..
94	Bandai	296	Household goods & textiles (34)	110	4.0	-0.8	1 812	7.5	5.4	..
95	Nintendo	297	Software & computer services (97)	108	-14.1	-3.0	3 726	-9.1	-1.7	..
96	Ebara	302	Engineering & machinery (26)	104	-18.3	-5.2	3 832	-7.9	-2.9	..
97	Casio Computer	303	IT hardware (93)	104	0.2	4.6	3 259	15.3	2.4	..
98	Kaneka	304	Chemicals (11)	103	0.8	4.5	2 754	4.7	1.7	..
99	Nitto Denko	306	Chemicals (11)	103	6.1	9.2	2 801	11.7	5.2	5
100	Osaka Gas	308	Utilities - other (73, 78)	102	-8.8	-9.4	7 013	-2.6	3.7	..
101	NGK Spark Plug	313	Automobiles & parts (31)	101	1.7	8.1	1 693	3.4	5.3	19
102	Sumitomo Metal	315	Steel & other metals (18)	100	-27.3	-17.3	9 059	-9.3	-4.9	..
103	Anritsu	318	IT hardware (93)	98	-13.1	1.8	581	-40.3	-11.9	14
104	SMC	320	Engineering & machinery (26)	97	2.2	9.0	1 530	12.2	2.2	..
105	Kissei Pharmaceutical	321	Pharma & biotech (48)	97	0.2	12.3	440	-0.7	1.4	..
106	NGK Insulators	323	Diversified industrials (24)	96	-16.4	-9.1	2 232	0.5	-1.5	6

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
25	59	17 199	-0.7	-1.2	5.4	5.4	5.9	3.4	13.0	12.5	5 401	32.7
..	..	23 265	-3.2	1.9	3.4	3.5	-1.3	1.5	9.5	9.8	2 596	34.0
18	65	25 030	8.6	24.0	2.8	3.1	3.2	6.0	8.8	9.6	5 958	31.0
..	..	4 806	-1.8	-1.3	10.8	11.9	20.2	22.7	45.4	48.7	5 492	28.4
18	77	3 469	-0.1	..	14.0	11.3	2.1	-6.4	59.0	49.4	1 869	52.2
34	45	13 184	-8.0	3.3	5.9	5.7	-3.2	1.1	15.4	14.1	2 788	-7.4
..	..	35 554	-6.2	2.5	1.0	1.2	9.1	12.7	5.7	6.0	14 075	6.2
3	95	25 822	5.4	-2.2	3.2	3.3	1.9	0.2	7.7	8.5	1 429	6.7
6	85	24 793	1.9	3.5	2.7	2.9	6.8	6.5	7.9	8.2	6 017	9.3
..	..	17 384	4.9	-3.6	3.2	3.4	15.3	15.7	11.2	12.2	11 372	-17.0
..	..	22 852	-0.9	1.5	2.2	2.0	7.5	7.0	8.4	7.4	7 670	29.8
..	..	18 675	3.2	..	7.7	6.2	-5.4	-7.0	10.0	7.9	2 307	24.8
..	..	..	..	..	3.5	3.0	-19.5	1.0	..	..	2 137	2.1
..	..	..	..	..	14.2	12.9	16.0	11.0	..	38.1	1 761	4.0
36	29	19 682	-10.3	-3.3	4.6	5.7	4.3	-5.1	9.1	9.8	..	..
..	..	35 182	0.9	-0.2	1.8	1.8	3.1	1.9	5.1	5.0	8 511	3.9
..	..	15 845	3.9	3.5	4.2	4.3	7.2	6.5	11.2	11.4	4 965	14.1
9	82	3 519	-16.8	-6.6	24.2	28.0	-18.9	-40.4	49.6	46.7	4 657	-1.3
..	..	20 500	..	..	2.9	2.7	2.3	-7.2	8.4	..	3 117	88.1
..	..	22 198	-2.8	-4.4	2.5	2.9	3.0	0.4	7.8	8.6	4 894	44.5
16	68	18 842	1.6	..	4.2	4.3	9.6	4.6	8.8	9.0	2 428	-7.3
23	67	14 806	1.6	..	4.1	4.5	3.4	1.8	11.2	10.5	1 245	12.2
10	87	23 575	..	..	2.2	2.3	-0.7	1.3	6.9	..	1 487	..
..	..	15 412	2.6	-2.1	5.2	4.8	8.4	1.7	10.1	8.9	1 856	2.4
..	..	..	..	..	7.8	8.7	2.2	-4.7	..	19.1	450	17.5
..	..	33 292	5.3	-0.1	1.6	1.5	4.6	4.2	4.5	4.5	5 598	11.6
..	..	17 994	-1.7	..	0.8	0.9	13.4	14.5	7.6	8.1	12 373	5.3
..	..	26 765	-0.8	-2.5	1.5	1.8	3.8	-0.3	4.9	6.1	3 259	43.9
..	..	..	..	..	5.0	5.2	1.6	3.6	..	..	1 300	17.1
..	..	12 599	..	..	5.7	6.4	4.6	2.3	10.4	..	1 026	67.1
..	..	24 839	-1.4	-0.2	2.8	2.8	8.3	6.2	5.2	5.1	4 194	9.4
..	..	10 623	-2.8	-7.0	2.5	2.3	4.7	4.4	11.8	10.5	1 992	11.3
..	..	20 960	-6.9	-6.5	2.5	2.6	2.4	0.9	5.7	5.0	1 729	2.1
24	68	28 642	-1.0	-1.3	1.3	1.4	2.1	2.0	4.0	4.2	1 694	25.1
..	..	78 760	-1.8	-1.6	0.6	0.5	14.1	11.9	1.4	1.3	17 810	..
..	..	2 480	-2.8	..	8.8	8.0	6.4	10.4	45.4	38.0	1 064	6.5
..	..	4 303	..	..	5.5	5.7	11.3	8.5	25.9	..	3 432	5.9
..	..	2 599	-4.4	-6.3	6.1	6.3	9.7	9.0	42.4	38.9	1 909	19.8
..	..	..	..	..	2.9	3.1	20.0	21.0	..	..	12 322	17.2
..	..	15 966	1.5	6.0	2.7	3.1	-6.5	-4.3	6.5	8.1	1 004	-1.7
..	..	11 481	-21.7	-15.9	3.2	3.7	3.3	-8.9	9.1	7.1	2 876	67.6
..	..	6 720	-0.1	0.6	3.8	3.9	6.5	5.1	15.4	15.2	2 590	26.8
7	88	10 764	13.2	5.8	3.7	3.9	8.8	1.0	9.5	10.2	5 959	6.8
..	..	15 020	1.0	16.2	1.4	1.5	6.3	7.3	6.8	7.5	5 138	-1.6
46	35	9 306	-1.2	1.8	5.9	6.0	1.1	3.6	10.8	10.5	1 813	15.0
..	..	25 858	-13.6	-12.9	1.1	1.4	3.8	-6.1	3.9	4.6	4 094	48.4
0	86	3 720	-20.9	-11.2	16.8	11.6	1.2	4.4	26.3	24.0	607	1.3
..	..	10 834	..	3.1	6.4	7.0	12.5	11.6	9.0	..	5 645	-8.5
..	..	1 665	2.0	0.7	22.0	21.8	7.5	14.9	58.1	59.1	911	35.6
12	82	11 071	0.6	-2.5	4.3	5.2	5.7	4.9	8.7	10.5	2 237	29.2

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Japan continued										
107	Dainippon Ink & Chemicals	325	Chemicals (11)	96	0.7	6.5	7 116	-1.8	0.8	..
108	Fanuc	327	Electronic & electrical (25)	95	12.8	3.1	1 585	-1.0	0.8	19
109	Santen Pharmaceutical	329	Pharma & biotech (48)	94	4.4	11.3	668	1.5	2.6	4
110	Kuraray	334	Chemicals (11)	93	3.2	1.2	2 386	5.4	0.7	14
111	Yokohama Rubber	335	Automobiles & parts (31)	93	1.8	2.5	2 962	0.1	0.7	..
112	Daicel Chemical Industries	345	Chemicals (11)	87	2.3	4.2	2 007	3.8	4.5	..
113	Tokyo Gas	346	Utilities - other (73, 78)	87	..	..	8 342	2.7	4.4	..
114	Mitsubishi Materials	350	Steel & other metals (18)	86	-24.6	-7.7	7 137	-7.8	-0.8	2
115	Mitsubishi Gas Chemical	352	Chemicals (11)	85	-3.1	-2.1	2 309	13.2	2.5	..
116	Kajima	356	Construction & building (13)	85	-0.2	-4.4	13 869	-9.0	2.8	1
117	Terumo	357	Health (44)	84	10.7	5.5	1 484	7.2	5.4	13
118	Fujikura	358	Electronic & electrical (25)	84	-4.6	0.9	2 344	-9.1	-0.8	..
119	UBE Industries	359	Chemicals (11)	84	-12.2	-4.4	3 799	-4.5	-0.1	..
120	Toto	361	Construction & building (13)	84	-7.8	-2.8	3 253	3.7	3.9	..
121	Kyushu Electric Power	367	Electricity (72)	81	-10.0	-4.7	9 992	-7.4	-1.9	..
122	Mitsubishi Rayon	370	Chemicals (11)	80	-0.2	0.1	2 224	-1.9	-1.4	..
123	Dainippon Screen Mfg	371	Engineering & machinery (26)	80	7.4	6.0	1 242	-3.6	-1.4	9
124	Tohoku Electric Power	374	Electricity (72)	79	-7.0	..	11 790	-6.1	0.4	..
125	KDDI	380	Telecommunication services (67)	77	16.8	128.7	20 604	-1.7	22.2	..
126	Tosoh	381	Chemicals (11)	77	6.1	3.8	3 491	10.4	8.1	..
127	Sumitomo Heavy Industries	384	Engineering & machinery (26)	76	..	0.3	3 560	-7.0	-5.3	..
128	Sumitomo Bakelite	386	Chemicals (11)	76	4.7	12.1	1 186	3.6	-6.0	..
129	Nippon Oil	394	Oil & gas (07)	74	-3.9	-4.1	23 320	7.2	-4.3	..
130	Taisei	398	Construction & building (13)	73	0.0	2.2	12 166	-1.7	-0.7	..
131	Nippon Shokubai	414	Chemicals (11)	68	0.6	-1.1	1 214	2.7	0.4	14
132	Toyo Tire	420	Automobiles & parts (31)	67	3.3	-4.9	1 888	0.5	3.2	..
133	Nippon Sheet Glass	427	Construction & building (13)	66	8.8	9.8	2 072	-2.4	1.1	..
134	Yamatake	430	Electronic & electrical (25)	66	1.3	5.9	1 243	0.5	-0.4	..
135	Toyobo	433	Household goods & textiles (34)	65	-2.5	-6.5	2 784	-1.8	-3.2	..
136	Hamamatsu Photonics	434	Engineering & machinery (26)	65	11.0	11.7	451	0.4	5.8	16
137	Akebono Brake Industry	437	Automobiles & parts (31)	64	-9.2	-0.5	936	-0.1	1.5	1
138	Denki Kagaku Kogyo	438	Chemicals (11)	64	5.8	4.7	1 804	1.3	-1.6	..
139	Chugoku Electric Power	442	Electricity (72)	64	-13.6	-2.3	7 466	-1.2	-1.3	..
140	Nippon Kayaku	444	Chemicals (11)	63	-2.0	-1.2	913	3.3	0.6	..
141	Citizen Watch	448	Household goods & textiles (34)	62	-20.8	-9.9	2 471	2.0	-1.1	..
142	NSK	450	Engineering & machinery (26)	62	3.4	-1.8	3 868	8.7	2.4	..
143	Toyo Ink Manufacturing	459	Chemicals (11)	59	1.7	..	1 606	-2.4	..	..
144	Pentax	460	Media & entertainment (54)	59	17.0	7.6	800	2.8	-1.7	..
145	Nippon Shinyaku	462	Pharma & biotech (48)	58	12.3	5.4	392	4.8	2.7	..
146	Tokuyama	470	Chemicals (11)	58	-4.2	-1.4	1 668	-0.7	0.2	..
147	Nissan Chemical Industries	476	Chemicals (11)	55	11.5	3.7	1 123	9.9	5.3	..
148	Shimizu	477	Construction & building (13)	55	-10.1	-6.1	11 463	-2.2	-0.3	..
149	Taiheiyo Cement	479	Construction & building (13)	55	0.0	-5.9	6 865	-5.3	-2.5	0
150	Asahi Breweries	482	Beverages (41)	55	7.1	..	6 321	1.7	1.0	..
151	Zeon	490	Chemicals (11)	53	11.7	3.0	1 560	10.3	6.8	10
152	Showa	497	Engineering & machinery (26)	52	2.5	4.5	1 455	10.9	13.7	..
153	Yaskawa Electric	500	Engineering & machinery (26)	51	-9.6	..	1 673	1.6	..	12

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	27 007	-4.9	-4.5	1.3	1.3	3.3	0.6	3.5	3.3	1 427	6.0
34	47	..	..	..	6.0	5.3	30.0	24.9	..	..	10 735	-10.1
5	91	2 500	1.5	6.1	14.1	13.7	11.4	14.4	37.6	36.6	1 204	69.3
10	76	6 983	-1.9	-2.1	3.9	4.0	4.5	1.9	13.3	12.6	2 305	-1.1
..	..	12 979	-1.2	-1.9	3.1	3.1	5.5	5.0	7.1	6.9	1 053	33.0
..	..	5 416	1.0	31.9	4.3	4.4	4.4	3.2	16.1	15.8	1 368	6.9
..	..	11 338	..	-12.1	1.0	0.0	10.0	9.3	7.6	..	8 007	..
6	92	21 745	-2.8	-4.1	1.2	1.5	-2.3	-6.6	3.9	5.1	1 819	40.5
..	..	4 729	1.3	-3.0	3.7	4.3	0.3	-2.9	18.1	18.9	1 500	71.8
7	92	10 850	-3.6	-2.4	0.6	0.6	1.8	-3.0	7.8	7.5	2 544	21.1
17	70	8 749	8.5	8.2	5.7	5.5	17.5	12.6	9.6	9.4	4 036	30.2
..	..	23 873	5.1	4.6	3.6	3.4	-3.1	1.7	3.5	3.9	1 465	19.3
..	..	10 829	-9.6	-3.7	2.2	2.4	5.4	3.1	7.8	8.0	924	-7.5
..	..	17 061	-2.4	0.2	2.6	2.9	4.1	0.8	4.9	5.2	2 824	29.8
..	..	19 060	-1.2	1.1	0.8	0.8	11.6	12.7	4.3	4.7	7 169	14.2
..	..	8 872	-3.7	-4.1	3.6	3.5	4.8	0.8	9.0	8.7	1 664	19.0
21	69	4 468	0.9	-1.5	6.4	5.8	-2.8	-11.4	17.8	16.7	950	13.1
..	..	18 678	-4.1	4.2	0.7	0.7	11.8	11.9	4.2	4.4	6 598	0.8
..	..	13 341	-1.7	..	0.4	0.3	5.1	2.3	5.8	4.9	16 633	1.0
..	..	9 167	-2.5	5.0	2.2	2.3	4.8	1.9	8.4	7.7	1 557	24.6
..	..	11 777	-5.5	-5.1	2.1	0.0	1.9	1.6	6.5	0.0	1 312	..
..	..	..	..	..	6.4	6.3	1.4	2.7	..	14.5	1 148	18.5
..	..	13 882	-3.4	-4.6	0.3	0.4	2.7	2.0	5.3	5.4	7 392	38.4
..	..	..	..	..	0.6	0.6	2.2	-2.7	..	4.0	2 382	45.7
9	76	2 967	-3.6	-0.9	5.6	5.7	6.3	3.9	23.0	22.1	1 161	10.6
..	..	6 280	-0.6	-2.8	3.6	3.5	4.0	3.6	10.7	10.3	500	45.3
..	..	13 406	11.9	6.8	3.2	2.9	1.3	0.1	4.9	5.1	1 295	17.5
..	..	7 092	-0.2	2.0	5.3	5.2	8.0	2.6	9.3	9.1	595	4.4
..	..	9 784	..	-8.7	2.3	2.3	-3.8	-4.9	6.6	..	1 376	41.0
24	60	3 016	3.8	6.3	14.3	13.0	6.9	9.1	21.4	20.1	988	30.2
21	78	4 554	..	-1.1	6.9	7.6	4.1	1.8	14.1	..	392	49.6
..	..	..	..	..	3.6	3.4	4.7	0.9	..	..	1 238	12.3
..	..	14 638	1.8	0.2	0.9	1.0	12.8	10.8	4.4	5.1	5 068	1.6
..	..	3 679	3.6	5.2	6.9	7.3	6.4	6.3	17.2	18.2	779	13.2
..	..	16 749	-4.1	-1.5	2.5	3.2	4.5	-2.2	3.7	4.5	2 451	39.2
..	..	20 351	-8.9	-5.7	1.6	1.7	0.5	-1.0	3.0	2.7	1 914	23.8
..	..	..	..	..	3.7	3.5	3.6	1.1	..	..	793	32.8
..	..	5 435	0.5	-5.8	7.4	6.5	2.9	-6.2	10.8	9.3	511	16.4
..	..	1 852	0.7	..	14.9	13.9	7.9	9.1	31.5	28.3	304	-71.1
..	..	4 615	-1.5	..	3.5	3.6	2.7	2.6	12.5	12.8	987	32.1
..	..	..	..	..	4.9	4.9	5.9	4.6	..	32.9	1 136	15.4
..	..	..	..	..	0.5	0.5	2.6	1.9	..	..	2 592	33.2
9	90	18 770	..	-3.6	0.8	0.8	2.6	-0.3	2.9	..	1 792	26.2
..	..	14 654	-2.8	52.9	0.9	0.8	8.3	5.9	3.7	3.4	4 304	..
12	78	2 868	3.1	1.9	3.4	3.3	3.5	1.6	18.4	17.0	1 223	..
..	..	6 795	19.3	..	3.6	3.9	7.7	6.9	7.7	8.9	722	..
15	73	7 720	..	..	3.1	3.5	-0.2	-7.8	6.7	..	955	..

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units €m	%	%	€m	%	%	%
Non-EU European countries				9 934	7.8	3.3	206 501	0.7	1.1	..
<i>number of companies for calculation</i>				23	23	-	23	23	-	-
Croatia				..	..	..	..	..	..	..
<i>number of companies for calculation</i>				-	-	-	-	-	-	-
1	Pliva	351	Pharma & biotech (48)	86	19.7	21.7	854	1.8	9.6	55
Liechtenstein				..	..	..	..	..	..	..
<i>number of companies for calculation</i>				-	-	-	-	-	-	-
1	Hilti	342	Construction & building (13)	88	2.0	-0.2	1 931	0.6	-1.3	..
Norway				276	11.2	3.7	56 389	4.3	5.6	..
<i>number of companies for calculation</i>				3	3	-	3	3	-	-
1	Statoil	277	Oil & gas (07)	120	36.4	15.2	29 616	2.6	6.1	..
2	Norsk Hydro	311	Diversified industrials (24)	101	4.3	-1.8	20 470	5.4	3.1	76
3	Telenor	481	Telecommunication services (67)	55	-13.2	-4.2	6 303	8.7	13.1	..
Switzerland				9 484	7.7	3.2	147 327	-0.6	-0.5	..
<i>number of companies for calculation</i>				18	18	-	18	18	-	-
1	Roche	12	Pharma & biotech (48)	3 055	12.0	6.5	20 012	5.0	2.9	38
2	Novartis	14	Pharma & biotech (48)	2 978	6.9	-0.1	19 712	-5.1	-4.9	..
3	Nestle	52	Food producers (43)	772	-0.2	5.1	56 396	-1.3	2.6	..
4	Syngenta	71	Chemicals (11)	576	4.3	10.6	5 215	6.1	10.5	39
5	Asea Brown Boveri	82	Electronic & electrical (25)	486	11.5	-4.5	14 901	2.7	-6.5	..
6	Serono	100	Pharma & biotech (48)	387	36.1	22.8	1 473	20.1	14.4	..
7	Clariant	178	Chemicals (11)	197	-12.5	-9.4	5 459	-8.7	-7.0	50
8	Ciba Specialty Chemicals	200	Chemicals (11)	180	-4.4	-1.4	4 260	-6.2	-5.6	41
9	Givaudan	246	Personal care & household (47)	139	5.3	5.3	1 740	1.5	4.8	..
10	Swatch	300	Household goods & textiles (34)	105	15.5	6.7	2 553	-2.0	-2.2	54
11	Unaxis	317	Diversified industrials (24)	99	-1.9	-11.1	1 032	8.2	-21.2	42
12	Schindler	341	Engineering & machinery (26)	89	7.8	2.3	4 892	-3.2	-3.6	..
13	Rieter	363	Engineering & machinery (26)	83	-0.1	2.2	1 999	4.8	2.1	47
14	SIG	385	Support services (58)	76	8.6	19.8	1 896	1.0	10.5	..
15	Saurer	391	Engineering & machinery (26)	75	2.8	2.3	1 746	9.4	7.0	..
16	Georg Fischer	403	Engineering & machinery (26)	72	-8.2	-5.6	2 113	-4.6	-5.9	81
17	Micronas Semiconductor	446	IT hardware (93)	63	12.6	27.0	491	8.4	16.1	58
18	Lonza	491	Chemicals (11)	53	-19.6	-8.5	1 437	-11.6	-3.0	56
Rest of the World				9 948	-0.3	7.2	346 262	5.4	7.7	..
<i>number of companies for calculation</i>				36	35	-	36	36	-	-
Australia				419	12.3	3.9	18 639	8.6	8.6	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-
1	Telstra	112	Telecommunication services (67)	356	7.4	-0.6	12 242	1.5	3.3	..
2	Amcor	443	Support services (58)	63	51.4	74.3	6 397	25.5	23.1	..
Bermuda				902	11.7	7.5	34 601	-8.5	2.2	..
<i>number of companies for calculation</i>				3	3	-	3	3	-	-
1	Tyco International	75	Diversified industrials (24)	532	5.9	8.3	23 330	-17.4	0.6	..
2	Accenture	176	Support services (58)	199	6.7	-0.2	10 621	15.7	5.1	..
3	Marvell Technology	210	IT hardware (93)	172	43.8	..	650	62.1	..	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	818 714	-3.0	-1.0	4.8	4.5	12.4	7.8	12.1	10.9	343 696	18.5
-	-	23	23	-	23	23	23	23	23	23	21	20
..
-	-	-	-	-	-	-	-	-	-	-	-	-
43	1	6 872	-6.2	-2.2	10.0	8.5	17.4	24.0	12.5	9.8	..	..
..
-	-	-	-	-	-	-	-	-	-	-	-	-
..	..	14 640	0.3	2.0	4.6	4.5	8.2	2.5	6.0	5.9	..	..
..	..	85 678	3.6	2.5	0.5	0.5	16.1	13.0	3.2	3.0	44 474	27.6
-	-	3	3	-	3	3	3	3	3	3	3	3
..	..	19 326	12.9	5.6	0.4	0.3	17.2	17.8	6.2	5.1	21 640	32.1
11	13	44 602	4.7	5.3	0.5	0.5	14.3	12.0	2.3	2.3	13 212	12.9
..	..	21 750	-5.4	-4.5	0.9	1.1	16.7	-7.3	2.5	2.8	9 622	42.1
..	..	711 524	-3.7	-1.5	6.4	5.9	11.0	5.8	13.3	11.9	299 222	17.2
-	-	18	18	-	18	18	18	18	18	18	18	17
35	28	65 357	-6.2	0.3	15.3	14.3	17.8	-9.9	46.7	39.2	70 331	12.9
..	..	78 541	6.1	-1.8	15.1	13.4	22.6	23.3	37.9	37.6	99 009	12.8
..	..	253 000	-0.5	4.1	1.4	1.4	10.5	7.2	3.1	3.1	81 638	15.7
34	26	21 457	-4.1	-4.9	11.1	11.2	8.3	3.8	26.9	24.7	7 365	53.8
..	..	116 464	-16.2	-10.2	3.3	3.0	-1.2	-2.1	4.2	3.1	8 851	116.6
..	..	4 577	-0.8	2.4	26.2	23.2	22.3	22.5	84.4	61.5	5 674	-6.1
14	36	27 008	-3.0	-5.1	3.6	3.8	3.8	-3.0	7.3	8.1	2 456	92.5
24	35	18 658	-1.8	-2.8	4.2	4.2	7.7	9.6	9.7	9.9	3 867	12.4
..	..	5 981	2.3	5.6	8.0	7.7	12.5	17.2	23.3	22.6	3 752	43.0
12	34	20 707	1.8	2.4	4.1	3.5	14.9	15.5	5.1	4.5	6 194	..
17	41	6 500	-5.7	-10.8	9.6	10.6	0.4	-6.4	15.2	14.6	1 157	25.8
..	..	39 727	-1.9	-3.0	1.8	1.6	5.4	0.0	2.2	2.0	2 930	62.1
22	30	13 316	2.6	2.9	4.1	4.3	6.4	6.7	6.2	6.4	928	29.4
..	..	9 014	-4.1	7.4	4.0	3.7	0.3	3.4	8.4	7.4	982	64.5
..	..	10 286	-4.4	-2.9	4.3	4.6	4.7	3.6	7.3	6.8	606	51.1
9	11	13 247	-3.6	-3.3	3.4	3.5	-2.9	1.4	5.4	5.7	655	122.0
3	39	1 746	9.5	7.0	12.8	12.3	17.3	16.6	36.0	35.0	1 062	121.3
30	14	5 938	-4.5	1.5	3.7	4.0	5.9	11.9	8.9	10.5	1 765	-5.3
..	..	1 940 135	0.5	0.4	2.9	3.1	14.4	7.5	3.4	3.5	434 893	25.9
-	-	30	29	-	36	35	36	36	30	29	35	27
..	..	65 779	-12.3	-1.2	2.3	2.2	19.8	25.5	6.4	5.0	20 381	..
-	-	2	2	-	2	2	2	2	2	2	2	-
..	..	37 169	-17.4	-9.9	2.9	2.7	27.0	30.8	9.6	7.4	17 046	-8.0
..	..	28 610	-4.6	17.8	1.0	0.8	6.1	13.1	2.2	1.4	3 335	..
..	..	340 972	-0.8	..	2.6	2.1	10.6	23.9	2.6	2.3	65 174	61.1
-	-	3	3	-	3	3	3	3	3	3	3	2
..	..	258 600	-3.3	6.3	2.3	1.8	10.1	29.3	2.1	1.9	49 289	58.0
..	..	80 700	7.6	..	1.9	2.0	12.0	9.2	2.5	2.5	10 984	76.1
..	..	1 672	31.4	..	26.4	29.7	6.9	-14.0	102.6	93.8	4 901	..

II.1.6. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year within countries

No.	Company	Rank	FTSE Sector	R&D Investment			Net Sales			Market
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe
				units	€m	%	%	€m	%	%
Brazil				297	22.5	48.0	26 115	32.9	18.0	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-
1	Petroleo Brasileiro	226	Oil & gas (07)	159	36.7	30.1	24 416	38.4	21.3	..
2	EMBRAER	250	Aerospace & defence (21)	137	9.3	92.9	1 699	-15.1	-8.2	..
Canada				2 366	-25.6	-4.6	40 625	-14.2	-2.1	..
<i>number of companies for calculation</i>				7	7	-	7	7	-	-
1	Nortel Networks	29	IT hardware (93)	1 768	-30.8	-8.5	8 372	-39.7	-22.0	..
2	ATI Technologies	214	IT hardware (93)	169	29.4	16.6	1 098	35.6	0.3	..
3	Bombardier	283	Aerospace & defence (21)	115	-33.9	15.1	13 080	-9.9	9.8	..
4	Alcan	293	Steel & other metals (18)	111	21.7	20.0	10 814	8.8	14.2	42
5	Ballard Power Systems	364	Automobiles & parts (31)	82	-8.7	15.8	95	31.9	56.1	..
6	Hydro-Quebec	452	Electricity (72)	61	-7.5	..	7 009	-12.1	-0.0	..
7	Zarlink Semiconductor	455	IT hardware (93)	60	-15.4	-8.1	157	1.9	-27.6	..
China				375	26.4	..	60 378	17.6	..	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-
1	PetroChina	147	Oil & gas (07)	231	33.5	11.3	29 039	24.3	7.9	..
2	China Petroleum & Chemical	241	Oil & gas (07)	145	16.5	..	31 339	12.1	..	..
Hong Kong				..	..	..	..	..	..	..
<i>number of companies for calculation</i>				-	-	-	-	-	-	-
1	Yue Yuen Industrial	422	Household goods & textiles (34)	67	39.4	16.6	1 990	29.5	14.1	..
Israel				235	15.1	7.8	2 932	16.9	9.6	..
<i>number of companies for calculation</i>				2	2	-	2	2	-	-
1	Teva Pharmaceutical Industries	213	Pharma & biotech (48)	169	29.4	26.9	2 598	30.1	23.3	..
2	ECI Telecom	426	IT hardware (93)	66	-10.3	-14.2	334	-34.8	-26.4	..
South Africa				..	..	..	..	..	..	..
<i>number of companies for calculation</i>				-	-	-	-	-	-	-
1	Sasol	373	Oil & gas (07)	80	-34.6	27.5	7 667	4.8	36.7	..
South Korea				4 378	14.3	13.3	138 896	4.2	10.8	..
<i>number of companies for calculation</i>				9	8	-	9	9	-	-
1	Samsung Electronic	21	Electronic & electrical (25)	2 382	17.6	22.4	43 127	8.8	14.2	..
2	Hyundai Motor	63	Automobiles & parts (31)	638	54.9	6.1	30 998	-3.2	12.7	..
3	LG Electronics	74	Electronic & electrical (25)	532	-13.0	..	13 425	8.8	..	..
4	Korea Electric Power	179	Electricity (72)	197	-14.3	8.4	14 528	7.0	6.9	..
5	KT	188	Telecommunication services (67)	190	4.2	-2.4	7 701	-29.4	-5.1	..
6	POSCO	212	Steel & other metals (18)	170	26.5	-5.6	11 836	24.0	8.9	..
7	SK Telecom	234	Telecommunication services (67)	149	15.4	41.7	6 334	2.1	8.6	..
8	Hyundai Heavy Industries	421	Engineering & machinery (26)	67	11.0	13.6	6 358	17.5	13.0	..
9	LG Chem	496	Chemicals (11)	52	..	..	4 589	26.9	..	..
Taiwan				829	-4.0	13.7	14 419	35.2	5.8	..
<i>number of companies for calculation</i>				7	7	-	7	7	-	-
1	Taiwan Semiconductor	123	IT hardware (93)	297	8.4	35.3	4 840	24.7	7.0	..
2	Winbond Electronic	249	IT hardware (93)	137	-25.4	..	778	37.9	..	..
3	United Microelectronics	251	IT hardware (93)	137	-20.5	-2.4	2 235	32.2	-6.1	..
4	AU Optronics	375	Electronic & electrical (25)	79	51.6	28.4	2 449	38.6	60.1	1
5	Delta Electronics	435	Electronic & electrical (25)	65	18.9	14.3	1 135	11.6	6.5	8
6	Macronix International	445	IT hardware (93)	63	-28.9	-4.8	406	8.3	-18.7	..
7	Benq	499	IT hardware (93)	51	34.4	..	2 576	87.5	..	..

spread (2003)		Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation	
North America	Rest of World	2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02
%	%	#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%
..	..	61 739	16.3	7.8	1.1	1.2	29.4	12.8	4.8	4.6	27 355	127.6
-	-	2	2	-	2	2	2	2	2	2	2	..
..	..	48 798	19.5	7.8	0.7	0.7	30.6	12.9	3.3	2.9	23 630	-
..	..	12 941	5.8	7.8	8.1	6.3	11.7	12.2	10.6	10.3	3 725	..
..	..	195 730	1.0	0.3	5.8	6.7	6.4	-43.9	12.1	16.4	31 315	8.5
-	-	7	7	-	7	7	7	7	7	7	6	6
..	..	52 800	0.4	-11.7	21.1	18.4	-36.9	-173.4	33.5	48.6	12 218	25.8
..	..	2 200	5.2	3.6	15.4	16.1	3.6	-4.0	76.8	62.4	3 054	35.4
..	..	60 377	-14.3	1.4	0.9	1.2	2.9	-2.5	1.9	2.5	3 510	-37.4
39	17	59 900	24.5	17.4	1.0	0.9	5.4	7.0	1.9	1.9	11 516	20.5
..	..	1 099	-15.5	11.1	86.7	125.2	-131.6	-213.9	74.9	69.4	664	-48.5
..	..	18 317	1.6	2.0	0.9	0.8	69.0	39.8	3.3	3.6	..	..
..	..	1 037	-18.9	-26.0	37.9	45.7	-22.3	-27.3	57.4	55.1	353	-18.1
..	..	838 469	-2.9	..	0.6	0.6	20.6	18.3	0.4	0.3	126 954	-
-	-	2	2	-	2	2	2	2	2	2	2	..
..	..	419 598	0.0	-1.7	0.8	0.7	33.3	29.9	0.6	0.4	69 262	..
..	..	418 871	-5.6	..	0.5	0.4	8.8	8.6	0.3	0.3	57 692	104.9
..
-	-	-	-	-	-	-	-	-	-	-	-	-
..	..	242 000	18.1	8.4	3.4	3.1	13.0	12.3	0.3	0.2	3 194	-11.9
..	..	13 420	4.8	-3.2	8.0	8.2	22.0	11.8	17.5	16.0	15 013	..
-	-	2	2	-	2	2	2	2	2	2	2	-
..	..	10 960	14.4	8.3	6.5	6.6	27.0	20.7	15.4	13.7	14 480	26.3
..	..	2 460	-23.8	-26.4	19.8	14.4	-17.4	-22.9	26.9	22.9	533	..
..
-	-	-	-	-	-	-	-	-	-	-	-	-
..	..	31 150	0.2	5.8	1.0	1.7	18.7	24.2	2.6	3.9	8 701	35.2
..	..	100 843	-11.8	-5.3	3.2	2.9	11.2	12.9	10.6	6.5	94 190	0.7
-	-	4	3	-	9	8	9	9	4	3	9	6
..	..	..	..	..	5.5	5.1	9.8	15.8	..	..	44 992	-1.1
..	..	..	..	..	2.1	1.3	6.2	5.4	..	..	7 532	51.3
..	..	27 683	..	..	4.0	5.0	5.4	3.7	19.2	..	4 919	..
..	..	30 829	3.9	1.4	1.4	1.7	23.1	25.3	6.4	7.8	8 372	9.7
..	..	38 167	-21.5	-9.5	2.5	1.7	7.8	21.5	5.0	3.8	6 932	-16.3
..	..	..	..	..	1.4	1.4	16.8	11.4	..	..	9 453	11.8
..	..	4 164	-10.3	..	2.4	2.1	32.2	25.9	35.8	27.9	8 967	-17.3
..	..	..	..	..	1.1	1.1	4.1	-1.9	..	..	1 183	..
..	..	..	..	..	1.1	0.0	10.2	10.1	..	..	1 840	..
..	..	50 033	17.4	5.4	5.8	8.1	12.5	7.0	15.3	19.0	42 616	-2.3
-	-	6	6	-	7	7	7	7	6	6	7	7
..	..	16 066	7.6	3.2	6.1	7.1	25.5	17.3	18.5	18.3	23 371	-5.7
..	..	3 833	-9.4	..	17.7	32.7	-13.6	-35.5	35.8	43.5	1 363	-36.3
..	..	9 000	-1.5	-1.3	6.1	10.2	8.3	11.5	15.2	18.8	8 914	-4.6
1	97	14 583	90.8	..	3.2	3.0	15.3	9.2	5.4	6.8	4 343	40.0
33	57	..	..	..	5.7	5.3	8.9	8.4	..	..	1 515	-1.2
..	..	3 434	-9.4	..	15.6	23.7	-42.1	-65.1	18.4	23.4	1 185	50.6
..	..	3 117	7.8	..	2.0	2.8	7.3	5.9	16.5	13.2	1 925	0.1

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Top 500 companies				195 637	3.9	3.7	4 342 382	6.8	2.9	..	..	..
<i>number of companies for calculation</i>				<i>500</i>	<i>496</i>	<i>-</i>	<i>500</i>	<i>499</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Oil & gas (07)				2 427	2.6	8.8	497 236	33.3	11.2	..	..	..
<i>number of companies for calculation</i>				<i>13</i>	<i>13</i>	<i>-</i>	<i>13</i>	<i>13</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Exxon Mobil	81	USA	490	-2.1	3.1	169 025	46.7	1.1	..	..	..
2	Schlumberger	89	USA	441	-14.4	0.9	11 014	3.1	13.1	..	..	..
3	PetroChina	147	China	231	33.5	11.3	29 039	24.3	7.9	..	..	..
4	ChevronTexaco	191	USA	189	7.7	11.7	80 966	24.5	26.4	..	..	..
5	Halliburton	192	USA	189	-2.5	1.0	12 900	30.2	11.1	..	..	..
6	Petroleo Brasileiro	226	Brazil	159	36.7	30.1	24 416	38.4	21.3	..	..	..
7	China Petroleum & Chemical	241	China	145	16.5	..	31 339	12.1	..	..	..	..
8	Baker Hughes	248	USA	137	4.7	13.7	4 196	5.4	0.4	..	..	..
9	Statoil	277	Norway	120	36.4	15.2	29 616	2.6	6.1	..	..	..
10	ConocoPhillips Petroleum	298	USA	108	24.8	46.8	71 684	81.5	63.1	..	..	..
11	Sasol	373	South Africa	80	-34.6	27.5	7 667	4.8	36.7	..	..	..
12	Nippon Oil	394	Japan	74	-3.9	-4.1	23 320	7.2	-4.3	..	..	..
13	Weatherford International	429	USA	66	4.2	42.6	2 054	11.3	12.6	..	..	..
Chemicals (11)				8 155	0.8	1.2	214 317	6.9	2.4	..	..	..
<i>number of companies for calculation</i>				<i>44</i>	<i>43</i>	<i>-</i>	<i>44</i>	<i>44</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	El du Pont de Nemours	44	USA	1 070	6.7	-8.8	21 403	12.5	-1.5	..	..	..
2	Dow Chemical	51	USA	778	-8.0	3.2	25 871	18.2	12.4	..	..	..
3	Mitsubishi Chemical	59	Japan	674	7.6	11.0	13 963	6.0	4.2	..	..	..
4	Syngenta	71	Switzerland	576	4.3	10.6	5 215	6.1	10.5	39	34	26
5	Sumitomo Chemical	73	Japan	539	9.2	7.1	8 220	9.1	5.4	..	..	..
6	Asahi Kasei	107	Japan	365	-0.5	9.0	8 830	-0.1	-0.0	..	..	..
7	Mitsui Chemicals	129	Japan	275	-4.9	-0.9	7 791	10.6	6.0	..	..	..
8	Toray Industries	134	Japan	264	-4.2	-2.8	7 641	1.7	1.4	..	..	..
9	PPG Industries	148	USA	230	6.2	-1.2	6 942	8.5	0.5	..	..	..
10	Teijin	157	Japan	221	-6.2	1.6	6 587	-3.6	13.8	..	..	..
11	Clariant	178	Switzerland	197	-12.5	-9.4	5 459	-8.7	-7.0	50	14	36
12	Shin-Etsu Chemical	184	Japan	195	-3.5	0.5	6 161	4.4	1.0	..	..	..
13	Rohm & Haas	190	USA	189	-8.5	-2.8	5 091	12.1	-2.3	..	..	..
14	Ciba Specialty Chemicals	200	Switzerland	180	-4.4	-1.4	4 260	-6.2	-5.6	41	24	35
15	Eastman Chemical	235	USA	149	6.2	8.1	4 598	9.0	3.1	..	..	..
16	Showa Denko	270	Japan	126	10.0	0.8	5 100	2.3	-2.6	..	..	..
17	Dow Corning	274	USA	123	-10.8	-6.1	2 069	7.0	0.1	..	..	..
18	JSR	292	Japan	112	7.6	42.7	2 035	11.3	5.9	..	..	..
19	Kaneka	304	Japan	103	0.8	4.5	2 754	4.7	1.7	..	..	..
20	Nitto Denko	306	Japan	103	6.1	9.2	2 801	11.7	5.2	5	7	88
21	Air Products and Chemicals	324	USA	96	0.4	-0.9	4 993	16.6	4.8	..	..	..
22	Dainippon Ink & Chemicals	325	Japan	96	0.7	6.5	7 116	-1.8	0.8	..	..	..
23	Kuraray	334	Japan	93	3.2	1.2	2 386	5.4	0.7	14	10	76
24	Daicel Chemical Industries	345	Japan	87	2.3	4.2	2 007	3.8	4.5	..	..	..
25	Mitsubishi Gas Chemical	352	Japan	85	-3.1	-2.1	2 309	13.2	2.5	..	..	..
26	UBE Industries	359	Japan	84	-12.2	-4.4	3 799	-4.5	-0.1	..	..	..
27	Mitsubishi Rayon	370	Japan	80	-0.2	0.1	2 224	-1.9	-1.4	..	..	..
28	Tosoh	381	Japan	77	6.1	3.8	3 491	10.4	8.1	..	..	..
29	Sumitomo Bakelite	386	Japan	76	4.7	12.1	1 186	3.6	-6.0	..	..	..
30	Lubrizol	393	USA	74	0.4	2.8	1 625	3.5	4.9	29	45	26
31	Engelhard	396	USA	74	5.5	4.0	2 945	-1.0	-12.5	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
15 639 659	-1.0	-1.0	4.5	4.7	9.1	3.7	12.1	11.6	5 958 227	12.1	6.0	6.8
477	465	-	500	499	500	499	477	472	492	467	492	498
1 368 257	-0.4	0.3	0.5	0.6	14.2	9.8	1.8	1.7	608 895	39.5	8.5	9.4
13	13	-	13	13	13	13	13	13	13	12	13	13
105 700	14.3	1.9	0.3	0.4	14.5	12.4	4.6	5.4	240 064	26.8	6.0	7.9
77 000	-1.9	8.7	4.0	4.8	5.2	-13.6	5.7	6.6	30 043	42.3	7.4	10.1
419 598	0.0	-1.7	0.8	0.7	33.3	29.9	0.6	0.4	69 262	..	23.2	28.9
50 582	-4.6	13.5	0.2	0.3	13.5	5.9	3.7	3.3	81 120	31.7	5.9	7.8
101 000	21.7	2.8	1.5	2.0	-3.0	-7.6	1.9	2.3	11 079	51.5	3.2	6.1
48 798	19.5	7.8	0.7	0.7	30.6	12.9	3.3	2.9	23 630	127.6	21.3	22.1
418 871	-5.6	..	0.5	0.4	8.8	8.6	0.3	0.3	57 692	104.9	13.2	3.6
26 650	0.6	2.8	3.3	3.3	7.1	8.6	5.2	5.0	10 627	24.3	7.7	6.3
19 326	12.9	5.6	0.4	0.3	17.2	17.8	6.2	5.1	21 640	32.1	9.4	7.7
39 000	-31.6	46.5	0.2	0.2	10.3	2.7	2.8	1.5	42 727	50.0	6.8	8.8
31 150	0.2	5.8	1.0	1.7	18.7	24.2	2.6	3.9	8 701	35.2	16.1	13.5
13 882	-3.4	-4.6	0.3	0.4	2.7	2.0	5.3	5.4	7 392	38.4	2.7	2.7
16 700	6.4	12.0	3.2	3.4	11.2	3.1	3.9	4.0	4 918	29.8	11.7	11.5
649 767	-1.5	-1.2	3.8	4.1	5.2	2.9	12.1	11.8	200 688	11.9	5.7	6.1
39	38	-	44	43	44	44	39	40	43	41	42	44
81 000	2.5	-4.5	5.0	5.3	2.2	-1.9	13.2	12.7	33 914	-3.9	6.3	5.3
46 400	-7.1	3.5	3.0	3.9	7.0	0.6	16.8	16.9	29 470	18.2	3.4	5.9
37 633	-2.5	4.0	4.8	4.8	3.8	-2.3	17.9	16.2	4 153	8.4	4.7	5.4
21 457	-4.1	-4.9	11.1	11.2	8.3	3.8	26.9	24.7	7 365	53.8	3.4	2.7
17 906	5.2	0.8	6.6	6.5	6.2	6.4	30.1	29.0	5 489	26.2	8.2	7.1
25 730	-1.9	-1.1	4.1	4.1	-7.3	1.2	14.2	14.0	5 132	29.9	5.9	5.6
12 660	-4.2	2.6	3.5	4.1	3.7	2.0	21.7	21.8	2 785	-7.1	6.6	8.5
33 791	-3.2	-1.6	3.5	3.7	3.8	2.5	7.8	7.9	5 235	77.8	5.9	6.1
32 900	-3.5	-2.6	3.3	3.4	10.7	1.1	7.0	6.3	8 028	7.5	2.5	3.0
23 265	-3.2	1.9	3.4	3.5	-1.3	1.5	9.5	9.8	2 596	34.0	7.5	5.5
27 008	-3.0	-5.1	3.6	3.8	3.8	-3.0	7.3	8.1	2 456	92.5	3.5	3.6
17 384	4.9	-3.6	3.2	3.4	15.3	15.7	11.2	12.2	11 372	-17.0	8.2	7.8
17 245	-2.1	-2.3	3.7	4.5	7.6	-7.0	10.9	11.7	6 966	10.5	5.3	7.1
18 658	-1.8	-2.8	4.2	4.2	7.7	9.6	9.7	9.9	3 867	12.4	3.5	3.5
15 000	-4.5	0.9	3.2	3.3	-4.4	3.5	9.9	8.9	2 742	26.4	4.0	8.0
10 623	-2.8	-7.0	2.5	2.3	4.7	4.4	11.8	10.5	1 992	11.3	5.8	4.3
8 200	-4.7	..	5.9	7.1	5.9	2.2	14.9	16.0	..	..	3.0	9.2
4 303	..	..	5.5	5.7	11.3	8.5	25.9	..	3 432	5.9	..	6.5
6 720	-0.1	0.6	3.8	3.9	6.5	5.1	15.4	15.2	2 590	26.8	5.3	7.5
10 764	13.2	5.8	3.7	3.9	8.8	1.0	9.5	10.2	5 959	6.8	6.5	12.3
18 500	7.6	1.9	1.9	2.2	10.8	16.7	5.2	5.6	9 325	10.7	9.7	11.6
27 007	-4.9	-4.5	1.3	1.3	3.3	0.6	3.5	3.3	1 427	6.0	4.2	4.9
6 983	-1.9	-2.1	3.9	4.0	4.5	1.9	13.3	12.6	2 305	-1.1	5.7	15.9
5 416	1.0	31.9	4.3	4.4	4.4	3.2	16.1	15.8	1 368	6.9	6.2	7.7
4 729	1.3	-3.0	3.7	4.3	0.3	-2.9	18.1	18.9	1 500	71.8	7.2	10.0
10 829	-9.6	-3.7	2.2	2.4	5.4	3.1	7.8	8.0	924	-7.5	6.3	8.7
8 872	-3.7	-4.1	3.6	3.5	4.8	0.8	9.0	8.7	1 664	19.0	6.9	5.9
9 167	-2.5	5.0	2.2	2.3	4.8	1.9	8.4	7.7	1 557	24.6	2.8	3.9
..	..	..	6.4	6.3	1.4	2.7	..	14.5	1 148	18.5	6.6	7.8
5 032	-3.8	4.7	4.6	4.7	8.7	9.6	14.8	14.2	1 417	6.1	..	3.3
6 480	-2.6	0.3	2.5	2.4	8.7	7.0	11.4	10.5	2 896	12.2	3.1	3.0

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Chemicals (11) continued												
32	FMC	411	USA	69	6.6	-17.3	1 523	3.7	-21.2	..	..	..
33	Nippon Shokubai	414	Japan	68	0.6	-1.1	1 214	2.7	0.4	14	9	76
34	Denki Kagaku Kogyo	438	Japan	64	5.8	4.7	1 804	1.3	-1.6	..	..	..
35	Nippon Kayaku	444	Japan	63	-2.0	-1.2	913	3.3	0.6	..	..	..
36	Praxair	456	USA	60	8.7	4.9	4 450	9.4	3.6	..	..	..
37	Avery Dennison	457	USA	59	0.4	3.3	3 776	13.2	6.9	..	..	..
38	Toyo Ink Manufacturing	459	Japan	59	1.7	..	1 606	-2.4	..	..	..	..
39	Tokuyama	470	Japan	58	-4.2	-1.4	1 668	-0.7	0.2	..	..	..
40	Nissan Chemical Industries	476	Japan	55	11.5	3.7	1 123	9.9	5.3	..	..	..
41	Valspar	478	USA	55	5.7	14.5	1 782	5.7	14.9	..	..	..
42	Zeon	490	Japan	53	11.7	3.0	1 560	10.3	6.8	10	12	78
43	Lonza	491	Switzerland	53	-19.6	-8.5	1 437	-11.6	-3.0	56	30	14
44	LG Chem	496	South Korea	52	..	..	4 589	26.9	..	..	..	..
Construction & building (13)				1 340	1.7	-0.4	78 917	0.8	1.1	..	..	..
<i>number of companies for calculation</i>				<i>10</i>	<i>10</i>	<i>-</i>	<i>10</i>	<i>10</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Matsushita Electric Works	98	Japan	391	-4.4	-1.3	9 122	4.9	1.5	5	2	93
2	Asahi Glass	132	Japan	270	18.1	8.7	12 260	28.0	8.1	22	14	64
3	Sekisui Chemical	208	Japan	173	3.5	-6.7	5 916	-5.4	-4.6	..	..	..
4	Hilti	342	Liechtenstein	88	2.0	-0.2	1 931	0.6	-1.3	..	..	..
5	Kajima	356	Japan	85	-0.2	-4.4	13 869	-9.0	2.8	1	7	92
6	Toto	361	Japan	84	-7.8	-2.8	3 253	3.7	3.9	..	..	..
7	Taisei	398	Japan	73	0.0	2.2	12 166	-1.7	-0.7	..	..	..
8	Nippon Sheet Glass	427	Japan	66	8.8	9.8	2 072	-2.4	1.1	..	..	..
9	Shimizu	477	Japan	55	-10.1	-6.1	11 463	-2.2	-0.3	..	..	..
10	Taiheiy Cement	479	Japan	55	0.0	-5.9	6 865	-5.3	-2.5	0	9	90
Forestry & paper (15)				114	-14.3	0.6	25 950	2.4	0.9	..	..	..
<i>number of companies for calculation</i>				<i>2</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	International Paper	465	USA	58	-5.2	-7.4	19 962	1.8	-3.7	..	..	..
2	MeadWestvaco	475	USA	56	-22.0	12.8	5 988	4.3	27.3	..	..	..
Steel & other metals (18)				998	-7.1	-1.3	82 759	4.3	1.6	..	..	..
<i>number of companies for calculation</i>				<i>7</i>	<i>6</i>	<i>-</i>	<i>7</i>	<i>6</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	JFE	139	Japan	245	..	..	17 953	..	..	..	..	..
2	POSCO	212	South Korea	170	26.5	-5.6	11 836	24.0	8.9	..	..	..
3	AlCoA	231	USA	154	-9.3	0.0	17 048	6.1	-2.1	..	..	..
4	Kobe Steel	259	Japan	132	-19.3	20.2	8 912	0.6	-1.3	..	..	..
5	Alcan	293	Canada	111	21.7	20.0	10 814	8.8	14.2	42	39	17
6	Sumitomo Metal	315	Japan	100	-27.3	-17.3	9 059	-9.3	-4.9	..	..	..
7	Mitsubishi Materials	350	Japan	86	-24.6	-7.7	7 137	-7.8	-0.8	2	6	92
Aerospace & defence (21)				4 148	-0.9	6.7	152 147	7.8	6.6	..	..	..
<i>number of companies for calculation</i>				<i>10</i>	<i>10</i>	<i>-</i>	<i>10</i>	<i>10</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Boeing	38	USA	1 309	0.7	4.6	40 025	-6.6	-0.5	..	..	..
2	Lockheed Martin	54	USA	716	8.8	11.8	25 230	19.7	7.9	..	..	..
3	Honeywell	67	USA	595	-0.8	-2.8	18 316	3.7	-2.6	..	..	..
4	Raytheon	101	USA	386	-17.0	-2.5	14 357	8.1	2.3	13	87	0
5	Northrop Grumman	118	USA	317	-1.5	22.8	20 776	52.3	51.0	..	..	..
6	General Dynamics	154	USA	224	11.5	25.4	13 174	20.2	17.1	8	86	5
7	Goodrich	203	USA	177	27.9	5.8	3 475	12.1	0.1	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
5 300	-3.6	-29.0	4.6	4.4	5.4	8.4	13.1	11.8	1 230	82.8	4.5	4.6
2 967	-3.6	-0.9	5.6	5.7	6.3	3.9	23.0	22.1	1 161	10.6	1.7	2.6
..	..	..	3.6	3.4	4.7	0.9	..	..	1 238	12.3	10.0	5.8
3 679	3.6	5.2	6.9	7.3	6.4	6.3	17.2	18.2	779	13.2	5.3	7.2
25 438	1.7	2.8	1.3	1.3	16.9	14.9	2.3	2.2	10 164	23.8	17.5	9.7
20 300	-1.0	4.3	1.6	1.8	8.1	9.7	2.9	2.9	5 305	26.9	4.2	3.6
..	..	..	3.7	3.5	3.6	1.1	..	..	793	32.8	6.0	6.1
4 615	-1.5	..	3.5	3.6	2.7	2.6	12.5	12.8	987	32.1	6.7	7.8
..	..	..	4.9	4.9	5.9	4.6	..	32.9	1 136	15.4	7.1	8.5
7 000	0.0	14.3	3.1	3.1	10.0	11.6	7.9	7.5	1 993	14.5	2.2	2.1
2 868	3.1	1.9	3.4	3.3	3.5	1.6	18.4	17.0	1 223	..	4.3	4.7
5 938	-4.5	1.5	3.7	4.0	5.9	11.9	8.9	10.5	1 765	-5.3	18.7	13.7
..	..	..	1.1	0.0	10.2	10.1	..	..	1 840	..	8.8	5.2
198 579	1.4	2.7	1.7	1.7	3.3	-0.8	6.1	5.9	29 764	27.4	3.2	3.0
<i>8</i>	<i>6</i>	<i>-</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>8</i>	<i>7</i>	<i>9</i>	<i>9</i>	<i>10</i>	<i>10</i>
47 620	-1.0	3.7	4.3	4.7	3.6	2.3	8.2	8.5	4 823	15.6	4.0	3.4
55 732	3.7	4.5	2.2	2.4	6.6	1.5	4.8	4.3	8 395	17.2	8.7	8.3
20 500	..	..	2.9	2.7	2.3	-7.2	8.4	..	3 117	88.1	2.7	4.6
14 640	0.3	2.0	4.6	4.5	8.2	2.5	6.0	5.9	..	..	4.5	4.2
10 850	-3.6	-2.4	0.6	0.6	1.8	-3.0	7.8	7.5	2 544	21.1	1.4	0.9
17 061	-2.4	0.2	2.6	2.9	4.1	0.8	4.9	5.2	2 824	29.8	2.2	5.5
..	..	..	0.6	0.6	2.2	-2.7	..	4.0	2 382	45.7	1.2	0.6
13 406	11.9	6.8	3.2	2.9	1.3	0.1	4.9	5.1	1 295	17.5	4.2	5.7
..	..	..	0.5	0.5	2.6	1.9	..	..	2 592	33.2	0.6	0.6
18 770	..	-3.6	0.8	0.8	2.6	-0.3	2.9	..	1 792	26.2	3.8	4.8
112 400	-7.6	-4.7	0.4	0.5	3.1	-0.4	1.0	1.1	21 481	17.1	4.8	4.4
<i>2</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>
83 000	-8.8	-9.7	0.3	0.3	4.0	-0.1	0.7	0.7	16 639	14.7	4.6	4.1
29 400	-4.2	19.9	0.9	1.3	0.4	-1.4	1.9	2.4	4 842	26.1	5.2	5.7
308 368	-0.1	-2.2	1.2	1.3	6.2	2.5	2.7	2.7	63 376	23.6	4.4	7.9
<i>6</i>	<i>5</i>	<i>-</i>	<i>7</i>	<i>6</i>	<i>7</i>	<i>6</i>	<i>6</i>	<i>5</i>	<i>7</i>	<i>6</i>	<i>7</i>	<i>6</i>
54 100	..	..	1.4	..	3.3	..	4.5	..	11 140	..	1.9	..
..	..	..	1.4	1.4	16.8	11.4	..	..	9 453	11.8	7.3	11.8
120 000	-5.5	-5.5	0.9	1.1	8.7	5.6	1.3	1.3	22 095	23.3	4.0	6.3
26 765	-0.8	-2.5	1.5	1.8	3.8	-0.3	4.9	6.1	3 259	43.9	3.7	11.9
59 900	24.5	17.4	1.0	0.9	5.4	7.0	1.9	1.9	11 516	20.5	6.5	5.8
25 858	-13.6	-12.9	1.1	1.4	3.8	-6.1	3.9	4.6	4 094	48.4	4.3	5.6
21 745	-2.8	-4.1	1.2	1.5	-2.3	-6.6	3.9	5.1	1 819	40.5	4.1	7.5
771 418	0.7	1.5	2.7	3.0	5.2	3.1	5.4	5.5	134 927	23.6	2.1	2.5
<i>10</i>	<i>10</i>	<i>-</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>	<i>9</i>	<i>10</i>	<i>10</i>
157 000	-4.8	-7.4	3.3	3.0	1.6	3.8	8.3	7.9	33 774	62.9	1.5	1.9
130 000	4.0	0.0	2.8	3.1	6.1	4.2	5.5	5.3	18 789	-0.7	2.2	2.5
108 000	0.0	-4.8	3.3	14.3	8.1	-2.8	5.5	5.6	25 619	30.7	2.8	3.0
78 000	2.1	-5.9	2.7	3.5	6.0	0.9	5.0	6.1	11 206	6.9	2.4	2.7
122 600	4.5	46.1	1.5	2.4	6.0	4.6	2.6	2.7	14 951	18.4	2.4	3.1
67 600	25.2	16.0	1.7	1.8	8.4	10.8	3.3	3.7	15 528	25.9	1.4	1.9
20 600	-10.0	-7.8	5.1	4.5	7.1	7.4	8.6	6.0	3 014	40.2	2.8	2.7

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units €m	%	%	€m	%	%	%	%	%
Aerospace & defence (21) continued												
8	Rockwell Collins	211	USA	171	-14.6	..	2 015	2.0	..	20	72	8
9	EMBRAER	250	Brazil	137	9.3	92.9	1 699	-15.1	-8.2	..	..	..
10	Bombardier	283	Canada	115	-33.9	15.1	13 080	-9.9	9.8	..	..	..
Diversified industrials (24)				4 670	6.2	3.1	202 793	3.3	0.9	..	..	..
<i>number of companies for calculation</i>				<i>9</i>	<i>9</i>	<i>-</i>	<i>9</i>	<i>9</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	General Electric	24	USA	2 106	19.9	12.5	105 356	6.9	0.9	..	..	..
2	United Technologies	49	USA	814	-13.8	-7.6	24 604	10.9	5.8	..	..	..
3	3M	69	USA	594	1.5	1.0	14 454	11.6	2.9	..	..	..
4	Tyco International	75	Bermuda	532	5.9	8.3	23 330	-17.4	0.6	..	..	..
5	Textron	170	USA	202	23.2	-6.0	7 816	-7.5	-9.0	..	..	..
6	Dover	269	USA	126	-5.8	-3.2	3 499	5.5	-6.5	..	..	..
7	Norsk Hydro	311	Norway	101	4.3	-1.8	20 470	5.4	3.1	76	11	13
8	Unaxis	317	Switzerland	99	-1.9	-11.1	1 032	8.2	-21.2	42	17	41
9	NGK Insulators	323	Japan	96	-16.4	-9.1	2 232	0.5	-1.5	6	12	82
Electronic & electrical (25)				21 402	6.4	4.4	372 935	3.7	2.7	..	..	..
<i>number of companies for calculation</i>				<i>41</i>	<i>41</i>	<i>-</i>	<i>41</i>	<i>41</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Matsushita Electric	5	Japan	4 285	5.1	2.1	55 331	1.1	-1.4	..	..	..
2	Sony	10	Japan	3 278	2.3	4.0	55 286	-1.4	6.2	..	..	..
3	Samsung Electronic	21	South Korea	2 382	17.6	22.4	43 127	8.8	14.2	..	..	..
4	Canon	25	Japan	1 917	10.9	10.0	23 658	8.8	4.8	..	..	..
5	Sharp	43	Japan	1 126	20.8	7.3	14 819	11.1	2.6	..	..	..
6	Sanyo Electric	47	Japan	894	12.9	6.7	16 821	12.3	5.4	..	..	..
7	Agilent Technologies	48	USA	833	-10.1	..	4 801	0.8	..	..	..	..
8	Ricoh	57	Japan	684	10.7	5.7	13 169	2.4	5.0	..	..	..
9	LG Electronics	74	South Korea	532	-13.0	..	13 425	8.8	..	..	..	..
10	Asea Brown Boveri	82	Switzerland	486	11.5	-4.5	14 901	2.7	-6.5	..	..	..
11	Emerson Electric	94	USA	408	-3.0	-4.7	11 066	1.0	-3.5	..	..	..
12	Pioneer	103	Japan	381	13.4	11.5	5 185	-1.6	3.8	..	..	..
13	Sumitomo Electric	108	Japan	360	0.4	5.1	11 014	0.3	4.4	..	..	..
14	Omron	122	Japan	298	-2.8	3.2	3 958	0.2	-1.2	..	..	..
15	Alps Electric	127	Japan	280	28.3	15.2	4 584	3.0	2.6	23	21	56
16	Olympus Optical	137	Japan	257	14.0	2.8	4 175	6.8	9.6	28	35	37
17	TDK	143	Japan	236	-17.5	5.7	4 504	5.9	-3.3	..	..	..
18	Fuji Electric	177	Japan	198	-4.6	-1.8	6 158	-0.8	-0.8	2	3	95
19	Yokogawa Electric	193	Japan	187	31.2	9.3	2 432	5.8	1.7	..	..	..
20	Furukawa Electric	196	Japan	184	7.5	14.7	5 257	-7.9	0.7	..	..	..
21	Minolta (now part of Konica Minolta)	201	Japan	180	-16.1	-7.7	3 907	3.4	3.0	35	36	29
22	Daikin Industries	204	Japan	177	2.1	3.9	4 237	6.3	7.4	..	..	..
23	Eaton	205	USA	177	9.9	-6.1	6 391	11.8	-1.0	..	..	..
24	Brother Industries	229	Japan	156	16.3	8.8	3 023	7.4	9.7	..	..	..
25	Japan Radio	232	Japan	150	-10.6	-5.9	1 919	-0.8	-2.1	..	..	..
26	OKI Electric	278	Japan	119	5.9	-18.6	4 840	11.8	-4.0	..	..	..
27	Pitney Bowes	281	USA	117	4.2	6.9	3 629	3.8	5.7	..	..	..
28	Harman International Industries	288	USA	114	30.2	15.7	1 767	22.0	9.9	..	..	..
29	Rockwell Automation	305	USA	103	-0.8	-35.0	3 254	5.0	-16.9	..	..	..
30	RF Micro Devices	307	USA	102	26.0	28.5	516	28.0	24.7	..	..	..
31	Fanuc	327	Japan	95	12.8	3.1	1 585	-1.0	0.8	19	34	47
32	Molex	333	USA	93	4.7	-1.4	1 461	7.7	-6.0	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
14 300	-1.4	..	8.5	10.2	14.5	13.9	12.0	13.8	4 811	30.2	2.8	2.5
12 941	5.8	7.8	8.1	6.3	11.7	12.2	10.6	10.3	3 725	..	3.0	5.1
60 377	-14.3	1.4	0.9	1.2	2.9	-2.5	1.9	2.5	3 510	-37.4	2.0	2.9
964 845	2.6	1.7	2.3	2.2	16.6	19.6	4.8	4.7	437 283	23.8	5.9	9.7
<i>9</i>	<i>9</i>	<i>-</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>
305 000	-3.2	-0.9	2.0	1.8	20.6	22.6	6.9	5.6	269 214	19.5	7.4	10.7
203 300	31.2	9.7	3.3	4.3	11.8	13.1	4.0	6.1	37 925	34.9	1.7	2.1
67 072	-2.5	-3.7	4.1	4.5	19.5	18.7	8.9	8.5	51 167	16.8	3.7	4.7
258 600	-3.3	6.3	2.3	1.8	10.1	29.3	2.1	1.9	49 289	58.0	4.0	8.0
43 000	-12.2	-15.4	2.6	1.9	5.2	2.9	4.7	3.4	6 688	43.2	3.1	2.8
25 700	2.8	-4.5	3.6	4.0	10.1	0.1	4.9	5.3	6 394	9.4	2.2	2.4
44 602	4.7	5.3	0.5	0.5	14.3	12.0	2.3	2.3	13 212	12.9	9.3	23.3
6 500	-5.7	-10.8	9.6	10.6	0.4	-6.4	15.2	14.6	1 157	25.8	6.0	4.9
11 071	0.6	-2.5	4.3	5.2	5.7	4.9	8.7	10.5	2 237	29.2	6.7	8.5
1 638 591	-2.7	-1.9	5.7	5.6	3.9	3.1	11.3	10.3	306 159	4.1	5.3	5.6
<i>36</i>	<i>35</i>	<i>-</i>	<i>41</i>	<i>41</i>	<i>41</i>	<i>41</i>	<i>36</i>	<i>36</i>	<i>40</i>	<i>39</i>	<i>41</i>	<i>41</i>
290 493	0.8	-0.3	7.7	7.4	2.7	0.9	14.8	14.1	26 127	1.4	3.7	3.3
161 100	-4.1	-5.3	5.9	5.7	1.9	1.6	20.3	19.1	25 640	1.1	3.0	5.1
..	..	..	5.5	5.1	9.8	15.8	..	..	44 992	-1.1	11.9	8.5
102 567	4.9	5.8	8.1	7.9	14.7	11.1	18.7	17.7	34 225	-8.5	6.6	6.8
46 633	0.2	-2.1	7.6	7.0	3.0	1.2	24.1	20.0	12 739	-8.6	8.6	10.8
79 025	-1.8	-1.8	5.3	5.3	-3.0	0.7	11.3	9.8	5 489	-15.0	4.0	7.3
29 000	-19.4	..	17.4	19.5	-15.8	-26.0	28.7	25.7	9 088	11.9	3.4	5.0
73 200	-1.9	-0.5	5.2	4.8	6.3	7.5	9.4	8.3	11 448	3.1	4.2	4.1
27 683	..	..	4.0	5.0	5.4	3.7	19.2	..	4 919	..	3.8	3.4
116 464	-16.2	-10.2	3.3	3.0	-1.2	-2.1	4.2	3.1	8 851	116.6	2.9	3.3
106 700	-4.3	-4.7	3.7	3.8	12.2	6.2	3.8	3.8	20 302	15.9	2.4	2.8
36 360	4.9	8.0	7.3	6.4	7.0	4.0	10.5	9.7	3 094	-20.5	8.3	5.7
79 197	13.2	5.7	3.3	3.3	-0.5	2.3	4.5	5.1	5 536	13.4	6.6	10.0
23 751	-6.5	-1.6	7.5	7.8	1.1	-4.4	12.5	12.1	4 272	-3.3	6.4	7.3
32 586	7.7	-1.7	6.1	4.9	6.9	6.0	8.6	7.2	1 896	-21.8	6.2	5.1
23 975	15.8	8.1	6.2	5.8	8.9	5.5	10.7	10.9	3 919	-23.9	5.8	4.8
31 705	-1.7	-2.6	5.2	6.7	3.1	-7.7	7.4	8.9	7 107	8.4	6.8	10.2
25 822	5.4	-2.2	3.2	3.3	1.9	0.2	7.7	8.5	1 429	6.7	2.1	2.9
18 675	3.2	..	7.7	6.2	-5.4	-7.0	10.0	7.9	2 307	24.8	2.5	2.6
..	..	..	3.5	3.0	-19.5	1.0	..	..	2 137	2.1	4.4	10.1
19 682	-10.3	-3.3	4.6	5.7	4.3	-5.1	9.1	9.8	..	..	2.3	4.1
15 845	3.9	3.5	4.2	4.3	7.2	6.5	11.2	11.4	4 965	14.1	4.2	5.7
51 000	0.0	-4.8	2.8	2.8	9.1	7.0	3.5	3.2	7 718	53.3	3.4	3.2
15 412	2.6	-2.1	5.2	4.8	8.4	1.7	10.1	8.9	1 856	2.4	2.8	2.2
..	..	..	7.8	8.7	2.2	-4.7	..	19.1	450	17.5	2.3	3.2
20 960	-6.9	-6.5	2.5	2.6	2.4	0.9	5.7	5.0	1 729	2.1	3.7	4.0
24 747	-25.3	-4.6	3.2	3.2	18.9	19.0	4.7	3.4	7 780	10.2	6.2	5.1
10 776	3.7	3.2	6.4	6.0	7.6	5.6	10.5	8.4	4 489	113.9	5.2	5.7
21 500	-2.3	-19.5	3.2	3.4	8.9	4.8	4.8	4.7	5 467	36.9	2.6	2.6
1 895	5.6	18.3	19.7	20.0	6.0	2.0	53.6	45.0	875	-7.7	6.0	27.1
..	..	..	6.0	5.3	30.0	24.9	..	..	10 735	-10.1	3.4	5.2
17 275	3.8	-0.7	6.3	6.5	5.5	5.1	5.4	5.3	4 059	3.0	9.3	10.1

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Electronic & electrical (25) continued												
33	Symbol Technologies	347	USA	86	49.4	9.1	1 213	9.2	1.8	..	..	..
34	Fujikura	358	Japan	84	-4.6	0.9	2 344	-9.1	-0.8	..	..	..
35	AU Optronics	375	Taiwan	79	51.6	28.4	2 449	38.6	60.1	1	1	97
36	SPX	383	USA	76	-19.0	8.9	4 029	0.7	23.8	..	..	..
37	Yamatake	430	Japan	66	1.3	5.9	1 243	0.5	-0.4	..	..	..
38	Delta Electronics	435	Taiwan	65	18.9	14.3	1 135	11.6	6.5	8	33	57
39	Solectron	483	USA	55	-7.6	4.4	8 732	-10.3	-8.0	..	..	..
40	Trimble Navigation	486	USA	54	10.5	13.3	429	15.9	13.6	..	..	..
41	American Power Conversion	487	USA	54	12.6	13.0	1 161	12.6	-0.4	..	..	..
Engineering & machinery (26)				4 867	-0.1	-0.8	174 070	4.2	1.8	..	..	..
<i>number of companies for calculation</i>				<i>32</i>	<i>31</i>	<i>-</i>	<i>32</i>	<i>32</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Mitsubishi Heavy	50	Japan	810	-7.7	-5.5	19 188	-9.4	-3.4	..	..	..
2	Caterpillar	76	USA	530	2.0	1.0	18 047	13.0	4.1	..	..	..
3	Deere	85	USA	458	9.4	2.1	10 583	-2.4	6.1	..	..	..
4	Komatsu	119	Japan	315	9.2	-2.0	8 850	9.8	3.0	..	..	..
5	Navistar International	186	USA	192	11.0	2.3	5 819	8.5	-4.4	..	..	..
6	Kubota	209	Japan	172	-11.9	-8.4	6 881	0.4	-2.2	..	..	..
7	Danaher	220	USA	164	19.0	14.5	4 197	15.7	11.9	..	..	..
8	IHI	221	Japan	163	-12.1	2.5	7 538	-5.9	0.8	3	10	87
9	Ingersoll-Rand	224	USA	162	1.6	2.7	7 830	10.3	3.9	..	..	..
10	Cummins	227	USA	159	2.6	-6.4	4 992	7.6	-1.5	..	..	..
11	Thermo Electron	282	USA	116	-5.6	-6.1	1 663	0.5	-2.7	..	..	..
12	Kawasaki Heavy Industries	286	Japan	115	-6.4	-8.0	9 170	8.3	2.5	7	24	68
13	Ebara	302	Japan	104	-18.3	-5.2	3 832	-7.9	-2.9	..	..	..
14	American Standard Companies	310	USA	102	-27.2	0.5	6 792	9.9	4.1	..	..	..
15	SMC	320	Japan	97	2.2	9.0	1 530	12.2	2.2	..	..	..
16	ITT Industries	322	USA	96	6.3	6.9	4 461	12.9	5.2	..	..	..
17	Schindler	341	Switzerland	89	7.8	2.3	4 892	-3.2	-3.6	..	..	..
18	Illinois Tool Works	355	USA	85	5.4	-2.3	7 956	6.0	0.2	..	..	..
19	Rieter	363	Switzerland	83	-0.1	2.2	1 999	4.8	2.1	47	22	30
20	Dainippon Screen Mfg	371	Japan	80	7.4	6.0	1 242	-3.6	-1.4	9	21	69
21	Sumitomo Heavy Industries	384	Japan	76	..	0.3	3 560	-7.0	-5.3	..	..	..
22	Saurer	391	Switzerland	75	2.8	2.3	1 746	9.4	7.0	..	..	..
23	Parker Hannifin	395	USA	74	-14.6	1.5	5 082	4.2	6.2	..	..	..
24	Georg Fischer	403	Switzerland	72	-8.2	-5.6	2 113	-4.6	-5.9	81	9	11
25	Hyundai Heavy Industries	421	South Korea	67	11.0	13.6	6 358	17.5	13.0	..	..	..
26	Hamamatsu Photonics	434	Japan	65	11.0	11.7	451	0.4	5.8	16	24	60
27	Paccar	436	USA	64	44.8	-7.5	6 497	13.5	3.3	..	..	..
28	Mettler-Toledo International	449	USA	62	10.4	11.5	1 034	7.5	6.0	..	..	..
29	NSK	450	Japan	62	3.4	-1.8	3 868	8.7	2.4	..	..	..
30	AGCO	472	USA	57	24.8	16.1	2 771	19.6	14.4	..	..	..
31	Showa	497	Japan	52	2.5	4.5	1 455	10.9	13.7	..	..	..
32	Yaskawa Electric	500	Japan	51	-9.6	..	1 673	1.6	..	12	15	73
Automobiles & parts (31)				30 661	5.8	4.7	754 372	4.1	3.4	..	..	..
<i>number of companies for calculation</i>				<i>32</i>	<i>32</i>	<i>-</i>	<i>32</i>	<i>32</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Ford Motor	1	USA	5 946	-2.6	3.3	130 865	1.0	-1.0	..	..	..
2	Toyota Motor	3	Japan	4 945	13.4	14.0	114 672	8.3	6.9	..	..	..
3	General Motors	4	USA	4 519	-1.7	-4.8	147 084	-0.7	0.2	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
5 300	-5.4	-4.1	7.1	5.2	0.7	-4.9	16.3	10.3	2 434	4.9	4.0	2.5
23 873	5.1	4.6	3.6	3.4	-3.1	1.7	3.5	3.9	1 465	19.3	8.5	12.3
14 583	90.8	..	3.2	3.0	15.3	9.2	5.4	6.8	4 343	40.0	37.5	23.8
22 200	-8.3	16.6	1.9	2.4	10.7	9.4	3.4	3.9	2 466	-10.8	1.4	1.9
7 092	-0.2	2.0	5.3	5.2	8.0	2.6	9.3	9.1	595	4.4	0.8	1.3
..	..	..	5.7	5.3	8.9	8.4	..	..	1 515	-1.2	4.2	5.4
53 000	-27.4	3.2	0.6	0.6	-24.3	-28.3	1.0	0.8	4 193	22.1	1.7	2.0
2 150	4.9	-2.3	12.5	13.1	8.6	6.2	24.9	23.7	1 115	80.7	2.1	1.6
6 365	17.3	-4.7	4.6	4.6	15.7	8.6	8.4	8.8	2 393	-8.5	1.5	1.6
788 672	-1.1	-1.4	2.8	2.9	5.5	3.2	6.1	5.9	152 484	22.2	3.5	4.2
31	28	-	32	31	32	32	31	27	32	27	31	31
61 292	-2.3	-1.9	4.2	4.1	3.8	2.0	13.2	14.0	6 961	-12.0	4.7	3.6
69 169	0.3	1.0	2.9	3.3	7.8	6.7	7.7	7.5	19 920	11.7	7.8	8.8
43 221	0.4	-0.3	4.3	3.9	5.6	2.9	10.6	9.7	12 396	31.0	2.4	6.2
31 635	3.2	-0.4	3.6	3.6	3.0	1.2	10.0	9.4	4 562	7.2	5.0	6.4
14 200	-13.9	-5.8	3.3	3.2	2.9	-10.0	13.5	10.5	1 978	-4.6	2.8	3.6
22 198	-2.8	-4.4	2.5	2.9	3.0	0.4	7.8	8.6	4 894	44.5	2.8	3.7
30 000	3.4	7.7	3.9	3.8	16.0	12.2	5.5	4.8	12 379	43.7	1.5	1.4
23 575	..	..	2.2	2.3	-0.7	1.3	6.9	..	1 487	..	..	..
42 000	-6.7	-6.2	2.1	2.2	9.4	1.0	3.8	3.5	9 438	29.5	1.1	1.4
24 200	2.1	-4.7	3.2	3.3	3.3	2.4	6.6	6.5	2 362	59.0	1.8	1.5
10 800	-0.9	-6.0	7.0	7.4	8.8	17.9	10.7	11.3	3 379	-0.6	2.2	2.5
28 642	-1.0	-1.3	1.3	1.4	2.1	2.0	4.0	4.2	1 694	25.1	2.5	2.7
15 966	1.5	6.0	2.7	3.1	-6.5	-4.3	6.5	8.1	1 004	-1.7	3.8	4.6
60 000	0.0	-0.6	1.5	2.3	7.6	8.7	1.7	2.3	6 426	46.6	2.0	2.1
10 834	..	3.1	6.4	7.0	12.5	11.6	9.0	..	5 645	-8.5	3.0	8.9
39 000	2.6	-2.1	2.2	2.3	8.7	10.9	2.5	2.4	5 849	16.5	2.7	3.1
39 727	-1.9	-3.0	1.8	1.6	5.4	0.0	2.2	2.0	2 930	62.1	1.1	1.3
47 500	-2.5	-4.9	1.1	1.1	16.4	13.4	1.8	1.7	22 229	33.9	2.6	2.9
13 316	2.6	2.9	4.1	4.3	6.4	6.7	6.2	6.4	928	29.4	4.1	4.5
4 468	0.9	-1.5	6.4	5.8	-2.8	-11.4	17.8	16.7	950	13.1	1.1	1.7
11 777	-5.5	-5.1	2.1	0.0	1.9	1.6	6.5	0.0	1 312	..	2.5	3.1
10 286	-4.4	-2.9	4.3	4.6	4.7	3.6	7.3	6.8	606	51.1	2.9	2.9
46 787	-2.9	2.2	1.5	1.8	5.6	4.8	1.6	1.8	5 439	25.1	2.5	3.4
13 247	-3.6	-3.3	3.4	3.5	-2.9	1.4	5.4	5.7	655	122.0	4.4	5.0
..	..	..	1.1	1.1	4.1	-1.9	..	..	1 183	..	3.6	1.7
3 016	3.8	6.3	14.3	13.0	6.9	9.1	21.4	20.1	988	30.2	9.5	15.6
17 000	6.3	-1.9	1.0	0.8	12.3	8.1	3.8	2.8	8 340	22.2	4.5	4.7
8 650	1.8	1.6	6.0	5.8	11.5	10.5	7.2	6.6	1 464	18.4	2.1	2.7
20 351	-8.9	-5.7	1.6	1.7	0.5	-1.0	3.0	2.7	1 914	23.8	4.7	8.8
11 300	-2.2	4.9	2.0	2.0	5.8	2.5	5.0	3.9	1 495	30.1	0.4	1.9
6 795	19.3	..	3.6	3.9	7.7	6.9	7.7	8.9	722	..	4.0	3.7
7 720	..	..	3.1	3.5	-0.2	-7.8	6.7	..	955	..	2.7	4.9
2 356 345	-1.4	-0.9	4.1	4.0	6.2	4.1	12.6	11.8	340 339	17.4	5.6	5.3
30	28	-	32	32	32	32	30	28	32	31	31	32
327 531	-6.5	-1.8	4.5	4.7	5.9	0.1	18.2	17.4	20 539	34.2	4.7	4.5
264 096	7.1	7.2	4.3	4.1	8.1	6.7	18.7	17.7	113 783	37.0	10.4	10.8
326 000	-6.9	-5.5	3.1	3.1	6.8	4.7	13.9	13.1	19 175	-32.6	4.0	4.0

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Automobiles & parts (31) continued												
4	Honda Motor	11	Japan	3 232	10.6	9.4	58 969	8.3	9.3	..	..	..
5	Nissan Motor	22	Japan	2 222	14.6	8.0	50 514	10.2	4.5	..	..	..
6	Delphi	31	USA	1 586	17.6	5.6	22 275	2.4	-1.2	..	..	..
7	Denso	35	Japan	1 353	-1.5	4.5	17 256	-2.8	7.4	..	..	..
8	Visteon	55	USA	716	0.1	..	14 001	-4.0	..	..	..	..
9	Mazda Motor	61	Japan	650	-7.5	4.9	17 491	12.9	3.0	16	36	49
10	Hyundai Motor	63	South Korea	638	54.9	6.1	30 998	-3.2	12.7	..	..	..
11	Aisin Seiki	70	Japan	592	18.3	14.7	10 416	15.2	12.1	6	10	84
12	Bridgestone	77	Japan	525	4.1	5.1	17 043	2.5	4.7	..	..	..
13	Suzuki Motor	86	Japan	447	34.3	..	14 908	20.8	9.8	18	18	65
14	Fuji Heavy Industries	87	Japan	445	9.5	14.4	10 152	0.7	1.1	5	45	49
15	Yamaha Motor	92	Japan	414	14.5	7.4	7 495	7.0	4.9	21	38	42
16	Johnson Controls	102	USA	384	10.3	6.2	17 954	12.7	9.7	..	..	..
17	Goodyear	128	USA	278	-7.8	-6.1	11 986	9.2	1.6	..	..	..
18	Toyota Industries	158	Japan	220	-0.9	7.3	7 909	9.1	19.5	17	18	65
19	Dana	174	USA	200	-12.2	-4.2	6 314	-16.9	-13.9	..	..	..
20	Calsonic Kansei	217	Japan	166	8.1	..	4 032	18.3	..	10	23	67
21	Lear	253	USA	136	-2.8	-6.4	12 484	9.2	3.8	..	..	..
22	ArvinMeritor	257	USA	132	26.5	13.2	6 174	13.2	14.8	..	..	..
23	Harley-Davidson	258	USA	132	8.9	30.1	3 888	14.0	18.5	9	86	5
24	Koito Manufacturing	261	Japan	131	-7.7	..	2 302	3.3	3.7	..	..	..
25	NGK Spark Plug	313	Japan	101	1.7	8.1	1 693	3.4	5.3	19	46	35
26	Federal-Mogul	319	USA	98	11.3	-1.2	4 397	2.3	-2.7	..	..	..
27	BorgWarner	330	USA	94	8.3	1.8	2 433	12.4	5.1	..	..	..
28	Yokohama Rubber	335	Japan	93	1.8	2.5	2 962	0.1	0.7	..	..	..
29	Ballard Power Systems	364	Canada	82	-8.7	15.8	95	31.9	56.1	..	..	..
30	Toyo Tire	420	Japan	67	3.3	-4.9	1 888	0.5	3.2	..	..	..
31	Akebono Brake Industry	437	Japan	64	-9.2	-0.5	936	-0.1	1.5	1	21	78
32	Cooper Tire & Rubber	474	USA	56	-3.9	-10.6	2 786	5.5	0.4	..	..	..
Household goods & textiles (34)				1 436	6.9	2.5	48 444	5.7	2.1	..	..	..
<i>number of companies for calculation</i>				<i>13</i>	<i>13</i>	<i>-</i>	<i>13</i>	<i>13</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Whirlpool	136	USA	258	15.2	8.6	9 653	10.5	5.6	..	..	..
2	Yamaha	215	Japan	167	0.3	2.1	3 991	2.8	1.3	15	16	68
3	Mattel	256	USA	133	4.9	-2.3	3 932	1.5	2.0	..	..	..
4	Hasbro	287	USA	114	-6.9	-11.8	2 488	11.4	-6.1	..	..	..
5	Bandai	296	Japan	110	4.0	-0.8	1 812	7.5	5.4	..	..	..
6	Swatch	300	Switzerland	105	15.5	6.7	2 553	-2.0	-2.2	54	12	34
7	Newell Rubbermaid	316	USA	99	42.2	36.1	6 144	4.0	3.8	..	..	..
8	Brunswick	331	USA	94	15.0	5.0	3 273	11.2	2.7	..	..	..
9	Maytag	354	USA	85	-3.3	10.1	3 799	2.7	4.1	..	..	..
10	Black & Decker	372	USA	80	3.6	1.8	3 554	2.0	-0.6	..	..	..
11	Yue Yuen Industrial	422	Hong Kong	67	39.4	16.6	1 990	29.5	14.1	..	..	..
12	Toyobo	433	Japan	65	-2.5	-6.5	2 784	-1.8	-3.2	..	..	..
13	Citizen Watch	448	Japan	62	-20.8	-9.9	2 471	2.0	-1.1	..	..	..
Beverages (41)				247	11.6	..	14 945	2.2	2.0	..	..	..
<i>number of companies for calculation</i>				<i>2</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Kirin Brewery	185	Japan	192	12.9	6.6	8 624	2.5	2.8	..	..	..
2	Asahi Breweries	482	Japan	55	7.1	..	6 321	1.7	1.0	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
126 900	5.2	4.1	5.5	5.4	7.7	8.2	25.5	24.2	37 437	8.4	4.0	4.1
127 625	2.0	-3.4	4.4	4.2	9.7	6.2	17.4	15.5	38 082	-7.3	5.5	4.7
190 000	-1.0	-3.4	7.1	6.2	1.7	2.6	8.3	7.0	4 231	11.1	3.6	3.8
89 380	3.2	3.4	7.8	7.7	9.8	5.5	15.1	15.9	17 077	31.4	7.7	7.8
72 000	-6.5	..	5.1	4.9	-5.8	-1.6	9.9	9.3	1 055	63.8	5.0	3.9
36 184	-4.3	-6.2	3.7	4.5	1.8	1.7	18.0	18.6	3 366	30.8	2.6	3.4
..	..	..	2.1	1.3	6.2	5.4	..	..	7 532	51.3	6.5	3.5
44 132	9.7	10.3	5.7	5.5	7.5	4.9	13.4	12.4	5 105	34.8	8.2	6.6
108 741	1.8	2.1	3.1	3.0	7.6	5.8	4.8	4.7	12 281	19.4	6.2	4.8
..	..	..	3.0	2.7	2.9	2.4	..	..	7 482	..	3.9	4.8
27 478	3.8	0.7	4.4	4.0	4.3	4.2	16.2	15.3	3 353	3.3	8.4	8.0
32 066	3.5	7.6	5.5	5.2	5.8	2.6	12.9	11.7	3 331	74.5	3.5	4.0
118 000	6.3	4.0	2.1	2.2	4.9	5.6	3.3	3.1	8 504	23.4	2.9	2.5
86 000	-7.3	-6.9	2.3	2.7	-1.8	1.8	3.2	3.2	1 522	113.5	2.5	3.3
25 030	8.6	24.0	2.8	3.1	3.2	6.0	8.8	9.6	5 958	31.0	8.1	7.5
59 000	-15.8	-9.4	3.2	3.0	6.0	0.6	3.4	3.2	2 283	23.9	3.8	3.9
14 806	1.6	..	4.1	4.5	3.4	1.8	11.2	10.5	1 245	12.2	4.7	5.2
111 000	-3.5	-3.0	1.1	1.2	4.5	2.7	1.2	1.2	2 999	10.9	..	1.9
32 000	0.0	-3.9	2.1	1.9	4.0	4.3	4.1	3.3	1 093	13.1	2.5	2.7
9 460	4.0	7.1	3.4	3.6	23.5	20.2	14.0	13.3	13 976	27.6	4.6	7.5
12 599	..	..	5.7	6.4	4.6	2.3	10.4	..	1 026	67.1	6.0	6.8
9 306	-1.2	1.8	5.9	6.0	1.1	3.6	10.8	10.5	1 813	15.0	4.5	12.8
44 900	-5.9	-3.5	2.2	2.0	0.1	-26.1	2.2	1.8	19	11.8	5.4	6.3
14 300	2.1	0.7	3.9	4.0	10.2	0.1	6.6	6.2	2 084	47.3	5.6	5.1
12 979	-1.2	-1.9	3.1	3.1	5.5	5.0	7.1	6.9	1 053	33.0	4.9	3.7
1 099	-15.5	11.1	86.7	125.2	-131.6	-213.9	74.9	69.4	664	-48.5	5.3	22.2
6 280	-0.6	-2.8	3.6	3.5	4.0	3.6	10.7	10.3	500	45.3	7.9	5.4
4 554	..	-1.1	6.9	7.6	4.1	1.8	14.1	..	392	49.6	5.1	11.1
22 899	-0.5	2.6	2.0	2.2	5.7	7.6	2.5	2.5	1 379	40.3	4.4	4.3
516 953	6.7	2.6	3.0	2.9	7.2	3.9	2.8	2.7	42 737	0.8	3.8	3.9
<i>13</i>	<i>12</i>	<i>-</i>	<i>13</i>	<i>13</i>	<i>13</i>	<i>13</i>	<i>13</i>	<i>12</i>	<i>13</i>	<i>12</i>	<i>13</i>	<i>13</i>
68 407	0.2	4.1	2.7	2.6	6.3	-0.4	3.8	3.3	3 415	-3.3	3.5	3.9
18 842	1.6	..	4.2	4.3	9.6	4.6	8.8	9.0	2 428	-7.3	3.5	3.0
25 000	0.0	-5.9	3.4	3.3	15.7	10.1	5.3	5.1	5 867	-17.3	4.0	3.4
6 900	-4.2	-10.7	4.6	5.5	10.1	-2.3	16.5	16.9	2 541	-3.3	2.0	2.1
2 599	-4.4	-6.3	6.1	6.3	9.7	9.0	42.4	38.9	1 909	19.8	3.1	2.6
20 707	1.8	2.4	4.1	3.5	14.9	15.5	5.1	4.5	6 194	..	5.1	5.6
40 000	-14.9	-6.4	1.6	1.2	0.7	0.9	2.5	1.5	4 706	-25.7	3.9	3.4
23 225	10.5	0.0	2.9	2.8	6.1	4.9	4.0	3.9	2 898	51.1	3.9	3.0
20 640	-0.0	-5.4	2.2	2.4	5.6	7.6	4.1	4.2	1 283	-19.3	4.2	4.9
22 100	-0.9	-2.2	2.2	2.2	9.2	8.3	3.6	3.4	4 475	73.2	2.3	2.2
242 000	18.1	8.4	3.4	3.1	13.0	12.3	0.3	0.2	3 194	-11.9	6.8	5.0
9 784	..	-8.7	2.3	2.3	-3.8	-4.9	6.6	..	1 376	41.0	5.0	5.2
16 749	-4.1	-1.5	2.5	3.2	4.5	-2.2	3.7	4.5	2 451	39.2	3.9	6.8
37 506	-1.7	13.0	1.7	1.5	7.8	6.5	6.6	5.8	11 974	-	-	6.8
<i>2</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>..</i>	<i>..</i>	<i>2</i>
22 852	-0.9	1.5	2.2	2.0	7.5	7.0	8.4	7.4	7 670	29.8	5.1	7.5
14 654	-2.8	52.9	0.9	0.8	8.3	5.9	3.7	3.4	4 304	..	..	5.9

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Food producers (43)				1 388	1.9	6.0	86 927	2.8	4.2	..	..	..
<i>number of companies for calculation</i>				<i>6</i>	<i>6</i>	<i>-</i>	<i>6</i>	<i>6</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Nestle	52	Switzerland	772	-0.2	5.1	56 396	-1.3	2.6	..	..	..
2	Ajinomoto	182	Japan	196	-1.8	3.3	7 307	4.7	6.0	9	6	85
3	Meiji Seika Kaisha	260	Japan	131	-5.8	3.8	2 615	-2.3	-0.9	..	..	..
4	General Mills	280	USA	118	13.7	24.6	8 329	32.2	16.2	..	..	..
5	Kellogg	314	USA	101	19.1	2.3	6 986	6.1	8.2	..	..	..
6	Campbell Soup	409	USA	70	14.3	11.2	5 294	8.9	2.1	..	..	..
Health (44)				4 339	13.3	12.1	51 376	14.0	11.3	..	..	..
<i>number of companies for calculation</i>				<i>15</i>	<i>15</i>	<i>-</i>	<i>15</i>	<i>15</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Abbott Laboratories	34	USA	1 374	11.0	8.7	15 603	11.3	12.7	..	..	..
2	Medtronic	68	USA	594	16.0	16.0	6 077	19.6	15.2	..	..	..
3	Baxter International	90	USA	438	10.4	13.4	7 069	9.9	8.9	..	..	..
4	Guidant	93	USA	411	18.5	13.6	2 932	14.2	13.2	..	..	..
5	Boston Scientific	109	USA	358	31.8	31.5	2 756	19.1	9.3	..	..	..
6	St Jude Medical	187	USA	191	20.3	20.5	1 532	21.5	17.9	..	..	..
7	Becton Dickinson	194	USA	186	-22.1	1.7	3 590	12.3	7.8	..	..	..
8	Beckman Coulter	230	USA	154	5.7	1.6	1 738	6.4	5.1	..	..	..
9	Stryker	242	USA	143	27.4	13.8	2 874	20.4	16.6	..	..	..
10	Bausch & Lomb	279	USA	119	16.7	7.3	1 601	11.2	4.5	..	..	..
11	Terumo	357	Japan	84	10.7	5.5	1 484	7.2	5.4	13	17	70
12	Zimmer	360	USA	84	31.1	..	1 507	38.5	..	..	..	..
13	Bio-Rad Laboratories	392	USA	75	13.7	11.4	795	12.3	11.4	..	..	..
14	CR Bard	412	USA	69	41.6	18.0	1 136	12.5	9.3	..	..	..
15	Edwards Lifesciences	467	USA	58	11.7	9.8	682	22.2	2.3	..	..	..
Personal care & household (47)				2 606	3.9	-0.7	78 778	6.3	2.1	..	..	..
<i>number of companies for calculation</i>				<i>9</i>	<i>9</i>	<i>-</i>	<i>9</i>	<i>9</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Procter & Gamble	36	USA	1 320	4.0	-4.3	34 389	7.8	2.8	..	..	..
2	Kao	125	Japan	285	2.1	1.3	6 677	4.3	3.2	8	9	83
3	Kimberly-Clark	155	USA	223	-2.9	0.4	11 375	5.8	0.9	..	..	..
4	Colgate-Palmolive	222	USA	162	4.2	5.2	7 851	6.5	1.9	..	..	..
5	Gillette	225	USA	160	9.2	4.1	7 335	9.4	-0.2	..	..	..
6	Givaudan	246	Switzerland	139	5.3	5.3	1 740	1.5	4.8	..	..	..
7	Shiseido	263	Japan	130	1.7	1.6	4 618	0.5	1.6	..	..	..
8	International Flavors & Fragrances	268	USA	126	10.6	12.2	1 508	5.2	9.1	40	29	31
9	Clorox	454	USA	60	13.4	6.4	3 285	2.0	0.5	..	..	..
Pharma & biotech (48)				36 199	16.8	12.2	239 679	0.2	4.2	..	..	..
<i>number of companies for calculation</i>				<i>64</i>	<i>64</i>	<i>-</i>	<i>64</i>	<i>64</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Pfizer	2	USA	5 654	37.8	17.2	35 825	39.6	15.2	..	..	..
2	Johnson & Johnson	7	USA	3 714	18.4	17.0	33 188	15.3	12.8	..	..	..
3	Roche	12	Switzerland	3 055	12.0	6.5	20 012	5.0	2.9	38	35	28
4	Novartis	14	Switzerland	2 978	6.9	-0.1	19 712	-5.1	-4.9	..	..	..
5	Merck	18	USA	2 520	18.7	10.7	17 827	-56.6	-17.7	..	..	..
6	Eli Lilly	27	USA	1 863	9.3	5.2	9 975	13.6	5.0	..	..	..
7	Bristol-Myers Squibb	28	USA	1 807	2.8	5.5	16 565	15.3	4.7	..	..	..
8	Wyeth	30	USA	1 660	0.6	7.4	12 566	8.7	6.1	..	..	..
9	Amgen	37	USA	1 312	48.3	25.1	6 625	51.3	32.1	..	..	..
10	Schering-Plough	42	USA	1 165	3.1	3.3	6 607	-18.1	-5.3	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
355 343	-1.0	6.4	1.6	1.6	11.4	8.9	3.5	3.4	124 379	13.1	4.2	4.2
<i>5</i>	<i>5</i>	<i>-</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>5</i>	<i>5</i>	<i>6</i>	<i>6</i>	<i>6</i>	<i>6</i>
253 000	-0.5	4.1	1.4	1.4	10.5	7.2	3.1	3.1	81 638	15.7	3.8	4.0
24 793	1.9	3.5	2.7	2.9	6.8	6.5	7.9	8.2	6 017	9.3	5.5	4.9
..	..	..	5.0	5.2	1.6	3.6	..	..	1 300	17.1	4.8	4.0
27 300	-8.6	35.1	1.4	1.6	17.3	14.0	4.3	3.5	13 533	-2.4	6.8	6.4
25 250	-1.8	19.0	1.4	1.3	17.0	18.5	4.0	3.3	13 563	23.8	2.8	3.1
25 000	0.0	4.4	1.3	1.3	16.1	16.0	2.8	2.4	8 328	4.4	4.2	4.4
278 617	1.4	5.2	8.4	8.5	19.1	19.5	15.6	13.9	215 348	13.3	6.2	6.4
<i>15</i>	<i>15</i>	<i>-</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>
70 000	-2.5	4.9	8.8	8.8	20.1	22.4	19.6	17.2	48 657	-2.3	6.3	7.3
26 732	-3.6	7.5	9.8	10.1	30.6	23.9	22.2	18.5	47 625	-2.6	5.0	6.0
53 100	-2.7	7.3	6.2	6.2	13.5	14.7	8.3	7.3	14 611	9.2	8.9	9.1
12 000	9.1	9.1	14.0	13.5	10.4	26.0	34.3	31.5	13 757	17.0	6.8	4.4
15 000	7.9	3.0	13.0	11.8	19.8	20.3	23.9	19.6	25 271	27.9	5.4	3.8
7 391	22.3	14.3	12.5	12.6	23.6	23.2	25.9	26.3	9 515	26.3	2.5	3.9
24 783	-1.8	-0.3	5.2	7.5	16.5	16.4	7.5	9.5	9 484	25.6	5.8	6.4
9 900	-1.0	0.7	8.9	8.9	15.4	10.5	15.6	14.6	2 695	30.3	6.0	7.1
14 762	5.1	6.9	5.0	4.7	18.6	18.1	9.7	8.0	15 128	27.8	4.0	4.6
11 600	0.9	-2.2	7.4	7.1	12.6	8.3	10.2	8.9	2 584	57.5	4.6	5.1
8 749	8.5	8.2	5.7	5.5	17.5	12.6	9.6	9.4	4 036	30.2	6.3	6.9
6 500	80.6	..	5.6	5.9	26.6	29.2	12.9	17.8	14 695	101.7	8.4	2.5
4 800	4.3	8.1	9.4	9.3	14.6	15.0	15.6	14.3	1 066	-13.9	6.9	4.7
8 300	7.8	0.8	6.1	4.8	16.0	17.0	8.3	6.4	4 566	56.1	5.0	3.3
5 000	0.0	-0.7	8.5	9.3	11.9	9.7	11.5	10.3	1 658	25.9	4.4	5.7
290 504	-3.2	-2.8	3.3	3.4	17.3	17.2	9.0	8.4	218 446	16.5	4.1	4.5
<i>9</i>	<i>9</i>	<i>-</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>9</i>
98 000	-3.9	-3.8	3.8	4.0	17.8	17.4	13.5	12.4	108 706	18.3	3.4	4.2
19 330	-2.4	0.5	4.3	4.4	13.4	13.6	14.7	14.1	11 219	13.9	4.4	5.0
62 000	-3.0	-2.2	2.0	2.1	16.4	18.9	3.6	3.6	25 826	29.1	6.1	6.4
36 600	-2.9	-1.5	2.1	2.1	21.5	22.1	4.4	4.1	22 523	-5.5	3.1	3.7
29 400	-3.0	-5.8	2.2	2.2	21.9	21.5	5.4	4.8	30 961	21.3	4.4	4.8
5 981	2.3	5.6	8.0	7.7	12.5	17.2	23.3	22.6	3 752	43.0	5.7	3.4
24 839	-1.4	-0.2	2.8	2.8	8.3	6.2	5.2	5.1	4 194	9.4	3.6	2.9
5 454	-4.8	-6.2	8.4	8.0	14.8	16.8	23.2	19.9	2 795	25.0	3.4	4.5
8 900	-6.3	-6.8	1.8	1.7	19.1	13.2	6.8	5.6	8 470	10.9	5.0	4.3
793 306	2.2	3.4	15.1	13.0	18.3	18.9	44.0	38.5	1 007 184	-1.7	7.0	6.4
<i>60</i>	<i>60</i>	<i>-</i>	<i>64</i>	<i>64</i>	<i>64</i>	<i>64</i>	<i>60</i>	<i>62</i>	<i>63</i>	<i>59</i>	<i>64</i>	<i>64</i>
122 000	24.5	10.7	15.8	16.0	7.2	35.9	46.3	41.9	194 795	-5.8	5.8	5.4
110 600	2.1	3.9	11.2	10.9	24.7	25.3	33.6	29.0	130 046	5.8	5.4	5.8
65 357	-6.2	0.3	15.3	14.3	17.8	-9.9	46.7	39.2	70 331	12.9	7.3	6.9
78 541	6.1	-1.8	15.1	13.4	22.6	23.3	37.9	37.6	99 009	12.8	5.3	5.1
63 200	-18.2	-3.0	14.1	5.2	42.1	19.7	39.9	27.5	80 104	-21.7	8.5	4.6
46 100	5.5	8.9	18.7	19.4	25.5	31.9	40.4	39.0	56 877	-5.2	13.6	10.2
44 000	0.0	0.0	10.9	12.2	23.1	16.4	41.1	40.0	35 300	-12.8	4.5	5.5
52 385	-0.7	2.9	13.2	14.3	10.9	43.2	31.7	31.3	37 404	-25.1	12.0	13.3
12 900	27.5	20.8	19.8	20.2	37.0	-14.2	101.7	87.5	57 146	-18.6	16.2	11.9
30 500	0.0	2.8	17.6	14.0	-0.7	24.7	38.2	37.0	22 507	10.8	8.4	7.6

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Pharma & biotech (48) continued												
11	Takeda Chemical	46	Japan	919	23.9	17.2	7 738	4.1	4.3	12	25	61
12	Sankyo	62	Japan	641	6.2	10.4	4 216	3.8	-1.1	11	14	74
13	Allergan	65	USA	604	226.9	57.4	1 392	26.8	4.0	..	..	..
14	Yamanouchi Pharmaceutical	80	Japan	495	2.6	6.8	3 748	5.3	5.3	14	23	63
15	Fujisawa Pharmaceutical	84	Japan	462	9.3	11.1	2 826	11.9	9.7	..	..	..
16	Eisai	88	Japan	442	8.5	8.5	3 452	8.1	15.6	8	40	52
17	Daiichi Pharmaceutical	97	Japan	395	10.0	13.8	2 382	-3.3	2.3	..	..	..
18	Millennium Pharmaceuticals	99	USA	387	44.8	85.1	344	22.9	30.4	..	..	..
19	Serono	100	Switzerland	387	36.1	22.8	1 473	20.1	14.4	..	..	..
20	Mitsubishi Pharma	110	Japan	357	40.7	35.6	2 077	22.6	12.2	3	11	86
21	Chiron	120	USA	310	20.1	10.1	1 400	38.3	41.2	..	..	..
22	Genzyme	133	USA	266	14.4	27.3	1 359	28.9	23.8	32	57	12
23	Applera	138	USA	256	-15.3	5.6	1 409	4.4	9.0	..	..	..
24	Shionogi	146	Japan	231	2.2	5.0	2 118	-31.9	-10.5	..	..	..
25	Kyowa Hakko Kogyo	149	Japan	229	5.6	6.1	2 658	-5.1	-1.4	..	..	..
26	Ono Pharmaceutical	152	Japan	225	7.3	14.8	999	1.3	2.1	1	0	99
27	Taisho Pharmaceutical	161	Japan	218	-8.3	8.3	2 027	0.9	-0.1	..	..	..
28	Forest Laboratories	183	USA	195	20.3	32.6	2 101	20.1	31.2	..	..	..
29	Biogen Idec	195	USA	185	156.9	50.2	538	68.1	63.5	..	..	..
30	Tanabe Seiyaku	198	Japan	182	4.9	7.7	1 284	-4.7	-3.6	..	..	..
31	Sepracor	207	USA	175	-9.7	9.6	273	44.4	60.5	0	100	0
32	Teva Pharmaceutical Industries	213	Israel	169	29.4	26.9	2 598	30.1	23.3	..	..	..
33	Human Genome Sciences	240	USA	145	-9.2	38.2	6	100.0	-29.3	..	..	..
34	Cephalon	255	USA	135	32.7	46.1	567	41.1	85.4	..	..	..
35	Gilead Sciences	262	USA	131	22.3	7.8	688	85.9	64.3	..	..	..
36	MedImmune	272	USA	124	8.4	33.1	836	24.4	28.6	..	..	..
37	Dainippon Pharmaceutical	290	Japan	113	16.0	8.0	1 274	4.9	3.6	..	..	..
38	Vertex Pharmaceuticals	294	USA	111	23.6	94.9	55	-57.0	-3.9	..	..	..
39	Exelixis	312	USA	101	13.9	35.2	41	17.1	27.0	..	..	..
40	Kissei Pharmaceutical	321	Japan	97	0.2	12.3	440	-0.7	1.4	..	..	..
41	Intermune	326	USA	95	-7.5	79.2	122	37.1	138.4	..	..	..
42	Santen Pharmaceutical	329	Japan	94	4.4	11.3	668	1.5	2.6	4	5	91
43	Dade Behring	332	USA	93	2.0	4.4	1 139	3.5	6.7	..	..	..
44	Incyte	336	USA	92	-23.7	-15.5	37	-54.3	-37.8	..	..	..
45	Ivax	349	USA	86	42.5	18.4	1 126	18.7	26.6	..	..	..
46	Pliva	351	Croatia	86	19.7	21.7	854	1.8	9.6	55	43	1
47	Celgene	353	USA	85	40.0	52.2	215	99.1	47.5	..	..	..
48	Mylan Laboratories	369	USA	80	16.2	16.1	1 090	8.4	17.5	..	..	..
49	Watson Pharmaceuticals	377	USA	79	21.6	13.8	1 156	19.2	21.5	..	..	..
50	Medarex	387	USA	76	15.5	41.2	9	-71.0	-20.6	..	..	..
51	Tularik	389	USA	75	52.1	34.0	24	20.0	6.3	..	..	..
52	OSI Pharmaceuticals	397	USA	74	3.2	82.6	26	52.9	4.2	..	..	..
53	Barr Laboratories (now Barr Pharmaceuticals)	402	USA	72	20.5	31.1	716	-24.1	27.8	..	..	..
54	Cell Therapeutics	404	USA	71	52.4	49.9	20	53.8	..	6	83	11
55	ImClone Systems	406	USA	70	-29.3	16.3	70	45.8	312.1	..	..	..
56	Regeneron Pharmaceuticals	407	USA	70	-22.2	86.9	46	170.6	-0.7	..	..	..
57	ICOS	415	USA	68	41.4	28.9	60	-18.9	-5.9	..	..	..
58	Cell Genesys	419	USA	68	13.5	138.7	14	-54.8	-9.7	..	..	..
59	Abgenix	431	USA	66	-24.2	49.6	13	-13.3	-14.8	..	..	..
60	Neurocrine Biosciences	441	USA	64	-16.6	38.8	110	685.7	109.3	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
14 547	0.2	-3.6	11.9	10.0	37.2	36.3	63.2	51.1	33 230	18.3	3.2	3.7
11 520	-0.9	0.6	15.2	14.9	12.8	14.3	55.7	51.9	2 948	-36.9	2.9	4.6
4 930	0.6	-7.3	43.4	16.8	-1.4	7.9	122.5	37.7	8 045	-5.3	6.3	5.6
9 278	1.0	1.2	13.2	13.5	19.1	18.0	53.3	52.5	9 878	12.4	3.6	4.6
..	..	..	16.3	16.7	10.5	13.4	..	..	6 361	11.5	4.0	7.1
7 433	0.0	1.9	12.8	12.8	15.2	13.8	59.4	54.8	6 751	29.6	4.6	3.8
..	..	..	16.6	14.6	11.0	17.1	..	50.8	4 101	19.5	3.7	4.6
1 530	-26.4	4.8	112.6	95.6	-111.6	-165.0	253.2	128.7	2 749	-4.7	12.2	40.4
4 577	-0.8	2.4	26.2	23.2	22.3	22.5	84.4	61.5	5 674	-6.1	10.0	8.1
8 733	-3.2	26.8	17.2	15.0	3.2	7.6	40.9	28.1	4 184	37.6	4.2	5.7
5 332	31.9	15.9	22.2	25.5	16.7	19.0	58.2	63.9	6 858	0.3	7.9	8.3
5 625	0.4	8.5	19.6	22.1	-2.3	-1.3	47.3	41.5	9 154	6.1	15.2	17.0
5 470	-8.1	4.0	18.2	22.4	3.3	-4.2	46.9	50.9	3 798	-2.0	8.1	6.8
6 149	-32.9	-14.6	10.9	7.3	3.8	4.4	37.6	24.7	4 814	13.6	3.2	2.1
6 749	-7.5	-5.0	8.6	7.7	3.5	3.6	33.9	29.7	2 369	15.2	3.6	3.1
..	..	..	22.5	21.3	35.1	31.1	..	..	4 567	16.5	4.7	6.2
4 806	-1.8	-1.3	10.8	11.9	20.2	22.7	45.4	48.7	5 492	28.4	4.9	7.9
4 967	17.1	20.7	9.3	9.3	34.5	35.8	39.3	38.3	14 101	7.1	3.8	3.6
3 727	274.6	96.3	34.4	22.5	-132.5	53.1	49.6	72.4	15 356	260.7	44.4	41.3
..	..	..	14.2	12.9	16.0	11.0	..	38.1	1 761	4.0	3.2	3.1
983	20.2	20.2	64.0	102.3	-30.4	-95.8	177.6	236.3	3 071	93.3	1.5	15.9
10 960	14.4	8.3	6.5	6.6	27.0	20.7	15.4	13.7	14 480	26.3	6.4	6.4
1 100	1.3	15.2	2 422.2	5 333.7	-3 000.0	-7 366.7	132.1	147.3	1 006	-20.8	900.0	1 566.7
1 646	29.5	47.5	23.8	25.3	22.1	17.7	82.0	80.0	2 239	6.8	5.6	5.5
1 425	14.0	18.8	19.0	28.9	-18.3	14.1	91.7	85.5	10 776	-0.4	18.6	3.8
1 650	9.6	27.8	14.8	17.0	23.2	-128.6	75.1	75.9	4 477	-44.0	10.8	9.7
2 480	-2.8	..	8.8	8.0	6.4	10.4	45.4	38.0	1 064	6.5	3.8	2.9
720	-26.5	16.5	201.1	69.9	-381.8	-74.2	153.6	91.3	557	-33.7	25.5	25.8
573	4.2	..	246.8	253.7	-185.4	-200.0	176.6	161.5	436	..	26.8	14.3
1 665	2.0	0.7	22.0	21.8	7.5	14.9	58.1	59.1	911	35.6	2.3	2.0
260	4.0	41.9	77.9	115.4	-59.0	-125.8	365.5	411.0	297	-26.8	0.8	4.5
2 500	1.5	6.1	14.1	13.7	11.4	14.4	37.6	36.6	1 204	69.3	7.8	7.4
2 700	-55.0	..	8.2	8.3	11.4	-10.7	34.5	15.2	1 683	..	7.8	8.7
454	-7.5	-30.0	249.1	149.1	-337.8	-132.1	203.0	246.0	348	10.5	21.6	11.1
8 719	4.3	14.6	7.6	6.4	15.5	17.9	9.9	7.2	3 684	28.8	6.8	8.2
6 872	-6.2	-2.2	10.0	8.5	17.4	24.0	12.5	9.8	..	..	5.3	7.7
703	25.5	..	39.7	56.4	-0.9	-90.7	121.3	108.8	3 388	52.6	4.2	8.3
2 800	14.3	8.1	7.3	6.8	37.2	33.6	28.5	28.1	3 155	-31.8	8.6	2.6
3 983	6.8	9.9	6.8	6.7	20.6	24.1	19.8	17.4	2 132	-39.1	10.4	7.1
423	-1.9	46.0	840.9	211.3	-1 144.4	-425.8	178.9	152.0	377	..	77.8	112.9
406	-5.6	13.3	312.5	246.5	-350.0	-385.0	184.7	114.6	1 324	198.9	20.8	30.0
480	11.9	29.5	283.8	420.8	-557.7	-1 058.8	153.8	166.7	1 886	95.6	26.9	88.2
1 234	14.8	26.8	10.1	6.4	28.5	28.0	58.6	55.8	2 841	-14.1	8.9	3.9
372	30.1	36.3	354.9	358.3	-485.0	-600.0	190.8	162.9	212	-28.6	15.0	38.5
582	16.2	28.9	100.6	207.6	-122.9	-256.3	121.0	198.9	3 513	..	82.9	141.7
675	0.9	11.2	152.8	531.6	-171.7	-570.6	104.1	135.1	360	-30.8	52.2	158.8
675	28.6	20.5	113.3	65.0	-188.3	-186.5	100.7	91.6	1 175	-43.7	6.7	6.8
348	3.6	29.0	483.0	192.2	-528.6	-138.7	194.3	177.3	228	-27.8	157.1	167.7
403	4.1	32.3	504.7	577.2	-1 223.1	-1 186.7	162.8	223.7	668	-26.5	184.6	906.7
330	19.6	20.6	58.1	546.9	-41.8	-585.7	193.6	277.4	1 304	1.7	36.4	28.6

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Pharma & biotech (48) continued												
61	Nippon Shinyaku	462	Japan	58	12.3	5.4	392	4.8	2.7	..	..	..
62	Genencor International	471	USA	58	43.2	24.4	304	9.4	6.6	..	..	..
63	CV Therapeutics	480	USA	55	-18.9	22.9	9	125.0	44.2	..	..	..
64	Affymetrix	495	USA	52	-7.8	8.5	238	3.5	14.4	..	..	..
Tobacco (49)				933	-0.0	6.2	98 108	18.3	5.9	..	..	..
<i>number of companies for calculation</i>				<i>2</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Altria	66	USA	604	11.1	12.3	64 877	31.6	9.0	..	..	..
2	Japan Tobacco	117	Japan	329	-15.5	-2.2	33 231	-1.1	0.9	..	..	..
General retailers (52)				330	12.1	8.6	5 889	44.3	32.5	..	..	..
<i>number of companies for calculation</i>				<i>2</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Amazon.com	167	USA	204	2.3	-1.5	4 173	33.8	24.0	..	..	..
2	eBay	267	USA	126	32.6	41.8	1 716	78.2	71.2	..	..	..
Leisure & hotels (53)				..	..	..	..	..	..	..	..	..
<i>number of companies for calculation</i>				<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	International Game Technology	388	USA	75	18.3	19.8	1 687	15.2	33.3	..	..	..
Media & entertainment (54)				2 642	5.6	10.8	85 488	-0.4	4.4	..	..	..
<i>number of companies for calculation</i>				<i>8</i>	<i>8</i>	<i>-</i>	<i>8</i>	<i>8</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Fuji Photo Film	41	Japan	1 177	8.3	24.9	18 536	4.4	21.4	..	..	..
2	Eastman Kodak	64	USA	619	2.5	-0.1	10 558	3.8	-1.6	..	..	..
3	Konica (now Konica Minolta)	153	Japan	224	3.9	6.1	4 135	3.6	-0.1	16	25	59
4	Dai Nippon Printing	202	Japan	178	3.1	7.0	9 683	-0.2	0.6	..	..	..
5	Toppan Printing	233	Japan	150	5.8	3.3	9 259	-3.4	0.4	..	..	..
6	Scientific-Atlanta	271	USA	124	2.1	8.6	1 150	-13.2	-5.4	..	..	..
7	Time Warner	295	USA	110	2.2	2.5	31 367	-3.4	3.0	..	..	..
8	Pentax	460	Japan	59	17.0	7.6	800	2.8	-1.7	..	..	..
Support services (58)				954	7.7	6.6	30 189	14.2	8.6	..	..	..
<i>number of companies for calculation</i>				<i>7</i>	<i>7</i>	<i>-</i>	<i>7</i>	<i>7</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	ADP	96	USA	396	5.1	2.7	5 666	13.3	7.6	..	..	..
2	Accenture	176	Bermuda	199	6.7	-0.2	10 621	15.7	5.1	..	..	..
3	Ceridian	338	USA	91	21.8	22.3	994	5.1	2.2	..	..	..
4	SIG	385	Switzerland	76	8.6	19.8	1 896	1.0	10.5	..	..	..
5	Convergys	390	USA	75	-17.1	-0.1	1 815	0.1	1.9	..	..	..
6	Amcor	443	Australia	63	51.4	74.3	6 397	25.5	23.1	..	..	..
7	Sealed Air	485	USA	55	16.4	8.3	2 800	10.2	4.8	..	..	..
Transport (59)				..	..	..	..	..	..	..	..	..
<i>number of companies for calculation</i>				<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	East Japan Railway	289	Japan	113	13.0	5.6	18 979	0.9	0.8	..	..	..
Food & drug retailers (63)				..	..	..	..	..	..	..	..	..
<i>number of companies for calculation</i>				<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	McKesson	197	USA	183	-30.8	7.2	55 105	21.7	18.3	..	..	..
Telecommunication services (67)				3 977	2.9	2.9	161 362	-5.8	-1.7	..	..	..
<i>number of companies for calculation</i>				<i>7</i>	<i>7</i>	<i>-</i>	<i>7</i>	<i>7</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	NTT	15	Japan	2 929	1.3	3.5	80 803	-5.3	1.7	..	..	..
2	Telstra	112	Australia	356	7.4	-0.6	12 242	1.5	3.3	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
1 852	0.7	..	14.9	13.9	7.9	9.1	31.5	28.3	304	-71.1	10.2	11.2
1 245	13.4	5.0	18.9	14.4	7.9	1.8	46.2	36.6	740	-3.1	8.6	5.4
261	27.3	24.9	612.1	1 698.3	988.9	-2 250.0	211.1	331.4	332	-56.3	44.4	125.0
871	-0.7	5.4	22.0	24.7	5.9	1.7	60.0	64.7	1 302	18.8	4.2	8.3
203 628	-0.9	-2.4	1.0	1.1	14.0	19.3	4.6	4.5	82 431	8.3	-	2.7
2	2	-	2	2	2	2	2	2	2	2	..	2
165 000	-0.6	-2.5	0.9	1.1	19.2	30.9	3.7	3.3	77 717	18.1	2.4	3.2
38 628	-1.9	-2.0	1.0	1.2	3.6	2.3	8.5	9.9	4 714	-54.3	..	2.0
13 500	17.4	..	5.6	7.2	10.3	6.2	24.5	25.6	45 448	9.9	5.5	3.5
2	2	-	2	2	2	2	2	2	2	2	2	2
7 800	4.0	-4.7	4.9	6.4	2.7	-0.8	26.2	26.6	12 554	-4.1	0.9	1.0
5 700	42.5	..	7.4	9.9	28.8	28.9	22.2	23.8	32 894	16.4	16.9	11.4
..
-	-	-	-	-	-	-	-	-	-	-	-	-
5 300	-14.5	13.8	4.5	4.3	32.3	27.2	14.2	10.3	8 946	24.5	5.6	1.8
314 530	-4.4	1.7	3.1	2.9	8.0	-85.9	8.4	7.6	99 857	6.3	5.9	6.8
8	8	-	8	8	8	8	8	8	8	8	7	8
72 633	0.1	25.0	6.4	6.1	5.3	6.4	16.2	15.0	12 156	-12.5	4.9	6.6
63 900	-8.7	-6.6	5.9	5.9	0.9	8.4	9.7	8.6	6 019	-3.6	3.8	4.5
17 199	-0.7	-1.2	5.4	5.4	5.9	3.4	13.0	12.5	5 401	32.7	5.3	7.7
35 182	0.9	-0.2	1.8	1.8	3.1	1.9	5.1	5.0	8 511	3.9	5.0	7.7
33 292	5.3	-0.1	1.6	1.5	4.6	4.2	4.5	4.5	5 598	11.6	7.7	6.0
6 889	17.4	-12.3	10.8	9.2	9.0	8.2	18.0	20.7	3 734	6.3	1.7	2.2
80 000	-12.3	..	0.4	0.3	14.8	-235.6	1.4	1.2	57 927	10.2	7.3	7.9
5 435	0.5	-5.8	7.4	6.5	2.9	-6.2	10.8	9.3	511	16.4	..	3.0
242 744	5.3	6.9	3.2	3.4	12.0	11.3	3.9	3.8	42 009	22.5	4.0	3.1
7	7	-	7	7	7	7	7	7	7	6	7	7
41 000	2.5	0.8	7.0	7.5	21.0	26.8	9.7	9.4	19 544	11.9	1.9	2.3
80 700	7.6	..	1.9	2.0	12.0	9.2	2.5	2.5	10 984	76.1	1.6	2.3
9 320	-1.0	-1.0	9.2	7.9	15.2	12.5	9.8	7.9	2 121	-2.3	2.4	2.6
9 014	-4.1	7.4	4.0	3.7	0.3	3.4	8.4	7.4	982	64.5	7.5	6.2
56 500	15.8	..	4.1	5.0	12.2	11.1	1.3	1.8	1 850	-5.6	7.6	4.0
28 610	-4.6	17.8	1.0	0.8	6.1	13.1	2.2	1.4	3 335	..	8.3	4.1
17 600	-1.7	..	2.0	1.9	14.5	-10.2	3.1	2.6	3 193	1.7	3.5	2.9
..
-	-	-	-	-	-	-	-	-	-	-	-	-
78 760	-1.8	-1.6	0.6	0.5	14.1	11.9	1.4	1.3	17 810	..	13.8	13.5
..
-	-	-	-	-	-	-	-	-	-	-	-	-
24 600	0.4	2.3	0.3	0.6	1.4	1.6	7.4	10.8	7 488	-6.7	0.2	0.2
383 591	-8.4	-10.7	2.5	2.3	14.0	1.6	10.4	9.2	173 296	22.7	13.1	15.9
7	7	-	7	7	7	7	7	7	7	7	7	7
207 400	-2.6	-2.5	3.6	3.4	12.9	0.2	14.1	13.6	104 554	54.6	15.8	17.8
37 169	-17.4	-9.9	2.9	2.7	27.0	30.8	9.6	7.4	17 046	-8.0	12.7	14.7

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units €m	%	%	€m	%	%	%	%	%
Telecommunication services (67) continued												
3	AT&T	159	USA	220	9.1	-11.7	27 375	-8.7	-19.4	..	..	..
4	KT	188	South Korea	190	4.2	-2.4	7 701	-29.4	-5.1	..	..	..
5	SK Telecom	234	South Korea	149	15.4	41.7	6 334	2.1	8.6	..	..	..
6	KDDI	380	Japan	77	16.8	128.7	20 604	-1.7	22.2	..	..	..
7	Telenor	481	Norway	55	-13.2	-4.2	6 303	8.7	13.1	..	..	..
Electricity (72)				1 118	-12.2	-7.3	122 616	-3.6	0.3	..	..	..
<i>number of companies for calculation</i>				<i>8</i>	<i>8</i>	<i>-</i>	<i>8</i>	<i>8</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Tokyo Electric Power	121	Japan	298	-15.9	-17.4	36 389	-5.8	-1.1	..	..	..
2	Kansai Electric Power	172	Japan	202	-10.6	-7.2	19 345	-1.4	0.3	..	..	..
3	Korea Electric Power	179	South Korea	197	-14.3	8.4	14 528	7.0	6.9	..	..	..
4	Chubu Electric Power	252	Japan	136	-8.2	-4.0	16 097	-2.4	1.0	..	..	..
5	Kyushu Electric Power	367	Japan	81	-10.0	-4.7	9 992	-7.4	-1.9	..	..	..
6	Tohoku Electric Power	374	Japan	79	-7.0	..	11 790	-6.1	0.4	..	..	..
7	Chugoku Electric Power	442	Japan	64	-13.6	-2.3	7 466	-1.2	-1.3	..	..	..
8	Hydro-Quebec	452	Canada	61	-7.5	..	7 009	-12.1	-0.0	..	..	..
Utilities - other (73, 78)				188	..	..	15 355	0.2	4.1	..	..	..
<i>number of companies for calculation</i>				<i>2</i>	<i>-</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Osaka Gas	308	Japan	102	-8.8	-9.4	7 013	-2.6	3.7	..	..	..
2	Tokyo Gas	346	Japan	87	..	..	8 342	2.7	4.4	..	..	..
IT hardware (93)				44 846	-6.6	-2.6	519 323	4.3	-3.7	..	..	..
<i>number of companies for calculation</i>				<i>107</i>	<i>107</i>	<i>-</i>	<i>107</i>	<i>107</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
1	Intel	9	USA	3 457	8.1	3.8	23 896	12.6	-3.7	..	..	..
2	Motorola	13	USA	2 990	0.5	-5.3	21 452	1.4	-10.4	..	..	..
3	Hewlett-Packard	16	USA	2 895	10.3	11.3	57 923	30.2	14.4	..	..	..
4	Hitachi	17	Japan	2 751	-1.4	-5.1	63 858	5.4	0.8	8	10	82
5	Toshiba	19	Japan	2 491	1.6	0.9	41 274	-1.3	-2.1	9	13	78
6	Cisco Systems	20	USA	2 485	-9.1	-8.4	14 967	-0.2	-0.1	..	..	..
7	Fujitsu	23	Japan	2 114	-18.3	-10.7	34 158	-7.8	-4.2	..	..	..
8	NEC	26	Japan	1 899	-13.4	-9.4	36 298	4.5	-3.2	..	..	..
9	Nortel Networks	29	Canada	1 768	-30.8	-8.5	8 372	-39.7	-22.0	..	..	..
10	Sun Microsystems	32	USA	1 456	0.3	4.1	9 065	-8.5	-10.1	..	..	..
11	Texas Instruments	33	USA	1 386	8.0	0.0	7 796	17.3	-6.1	..	..	..
12	Mitsubishi Electric	39	Japan	1 196	-21.0	-2.4	26 920	-0.3	-1.2	..	..	..
13	Lucent Technologies	40	USA	1 180	-35.6	-28.2	6 715	-31.3	-37.0	..	..	..
14	Applied Materials	53	USA	730	-12.5	-6.0	3 550	-11.5	-22.3	16	26	58
15	Xerox	56	USA	688	-5.3	-6.0	12 448	-0.9	-5.7	..	..	..
16	Advanced Micro Devices	58	USA	676	4.4	9.9	2 434	13.8	-12.9	..	..	..
17	EMC	60	USA	660	-8.4	-2.1	4 945	14.7	-11.1	..	..	..
18	Micron Technology	78	USA	520	16.9	15.4	2 451	19.4	-25.0	20	45	36
19	Broadcom	79	USA	518	-8.5	37.6	1 276	48.5	12.3	..	..	..
20	Qualcomm	91	USA	415	15.9	15.4	3 148	30.6	7.5	..	..	..
21	Apple Computer	104	USA	373	5.6	7.4	4 921	8.1	-8.1	..	..	..
22	Tokyo Electron	105	Japan	371	-6.9	10.5	3 407	10.2	1.5	..	..	..
23	Agere Systems	106	USA	370	-32.6	..	1 458	-15.5	..	..	..	..
24	Analog Devices	111	USA	357	6.2	4.0	1 623	19.9	-7.4	..	..	..
25	Kyocera	113	Japan	350	17.0	18.6	7 914	3.4	9.6	..	..	..
26	National Semiconductor	114	USA	345	-1.2	4.1	1 326	11.9	-7.9	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
61 600	-13.2	-28.1	0.8	0.7	15.2	-17.2	3.6	2.8	9 542	-24.9	9.1	10.3
38 167	-21.5	-9.5	2.5	1.7	7.8	21.5	5.0	3.8	6 932	-16.3	18.0	19.7
4 164	-10.3	..	2.4	2.1	32.2	25.9	35.8	27.9	8 967	-17.3	16.9	21.7
13 341	-1.7	..	0.4	0.3	5.1	2.3	5.8	4.9	16 633	1.0	5.7	9.8
21 750	-5.4	-4.5	0.9	1.1	16.7	-7.3	2.5	2.8	9 622	42.1	10.6	29.5
207 392	-1.6	2.6	0.9	1.0	15.6	15.5	5.4	6.0	78 104	7.0	18.5	19.4
<i>8</i>	<i>8</i>	<i>-</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>8</i>	<i>7</i>	<i>7</i>	<i>8</i>	<i>8</i>
52 322	-2.6	2.7	0.8	0.9	9.6	11.9	5.7	6.6	24 449	8.3	16.8	16.9
35 554	-6.2	2.5	1.0	1.2	9.1	12.7	5.7	6.0	14 075	6.2	15.9	18.2
30 829	3.9	1.4	1.4	1.7	23.1	25.3	6.4	7.8	8 372	9.7	31.1	32.6
17 994	-1.7	..	0.8	0.9	13.4	14.5	7.6	8.1	12 373	5.3	14.8	18.7
19 060	-1.2	1.1	0.8	0.8	11.6	12.7	4.3	4.7	7 169	14.2	19.7	22.5
18 678	-4.1	4.2	0.7	0.7	11.8	11.9	4.2	4.4	6 598	0.8	15.0	17.0
14 638	1.8	0.2	0.9	1.0	12.8	10.8	4.4	5.1	5 068	1.6	12.7	12.8
18 317	1.6	2.0	0.9	0.8	69.0	39.8	3.3	3.6	..	..	27.4	18.9
26 358	..	8.1	1.2	..	8.3	8.3	7.1	..	13 145	..	8.0	9.1
<i>2</i>	<i>..</i>	<i>-</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>-</i>	<i>2</i>	<i>2</i>
15 020	1.0	16.2	1.4	1.5	6.3	7.3	6.8	7.5	5 138	-1.6	7.1	8.5
11 338	..	-12.1	1.0	0.0	10.0	9.3	7.6	..	8 007	..	8.7	9.6
2 037 645	-4.3	-5.3	8.6	9.6	2.6	-10.2	21.8	22.1	910 404	10.0	4.3	6.5
<i>106</i>	<i>106</i>	<i>-</i>	<i>107</i>	<i>107</i>	<i>107</i>	<i>107</i>	<i>106</i>	<i>107</i>	<i>105</i>	<i>102</i>	<i>106</i>	<i>107</i>
79 700	1.3	-2.5	14.5	15.1	24.2	14.9	43.4	40.6	128 000	-0.5	12.1	17.6
88 000	-9.3	-15.7	13.9	14.1	3.8	-11.1	34.0	30.7	30 163	79.2	2.4	2.3
142 000	0.7	17.1	5.0	5.9	4.1	-1.9	20.4	18.6	49 245	-4.9	2.7	3.1
326 344	-3.9	-1.4	4.3	4.6	2.2	1.6	8.4	8.2	16 343	18.0	3.4	4.0
161 000	-2.9	-5.0	6.0	5.9	2.6	1.7	15.5	14.8	9 286	-19.6	3.6	4.4
34 000	-5.6	0.0	16.6	18.2	23.1	9.6	73.1	75.9	113 858	7.2	3.8	14.0
157 044	-7.7	-5.8	6.2	7.0	-2.9	-11.2	13.5	15.2	9 786	19.9	3.5	11.2
143 393	-1.7	-1.5	5.2	6.3	2.8	-1.3	13.2	15.0	9 512	-0.9	4.7	4.5
52 800	0.4	-11.7	21.1	18.4	-36.9	-173.4	33.5	48.6	12 218	25.8	3.2	7.4
36 100	-7.7	-0.5	16.1	14.7	-24.3	-9.9	40.3	37.1	10 469	2.8	3.3	4.5
34 154	-1.3	-7.0	17.8	19.3	9.2	-3.4	40.6	37.1	29 095	11.4	8.1	9.6
110 279	-5.1	-1.8	4.4	5.6	0.3	-3.9	10.8	13.0	7 808	..	3.7	6.1
34 500	-26.6	-35.1	17.6	18.7	-9.4	-54.6	34.2	39.0	10 368	80.3	3.4	3.6
12 050	-25.1	-14.4	20.6	20.8	-7.0	4.1	60.6	51.9	22 918	-9.6	5.9	8.2
61 100	-9.9	-12.9	5.5	5.8	2.6	-0.5	11.3	10.7	8 793	39.4	1.3	0.9
14 300	11.4	-0.3	27.8	30.3	-7.4	-45.3	47.2	50.4	3 484	77.5	18.6	26.1
20 000	14.9	-6.0	13.3	16.7	6.1	-9.9	33.0	41.4	21 033	21.4	5.9	7.2
16 600	-11.2	-4.1	21.2	21.7	-37.0	-39.9	31.4	23.8	6 476	-8.6	26.6	29.3
2 729	8.8	3.0	40.6	65.9	-58.5	-180.1	189.8	225.8	7 093	88.1	3.0	7.0
7 400	-8.6	5.5	13.2	14.9	29.8	11.6	56.1	44.2	46 619	96.8	5.8	4.6
10 912	6.9	8.4	7.6	7.8	0.2	-0.2	34.2	34.6	9 515	51.8	2.6	3.0
10 053	-1.2	4.0	10.9	12.9	-4.4	-5.1	36.9	39.1	6 878	-27.1	1.5	7.4
6 800	-36.4	..	25.4	31.8	-14.9	-76.2	54.4	51.3	1 606	-54.7	6.3	9.0
8 400	-2.3	-2.6	22.0	24.8	18.2	7.0	42.5	39.1	11 830	7.0	3.3	3.4
..	..	..	4.4	3.9	6.1	4.2	..	6.8	11 583	13.7	3.8	5.7
9 800	-3.0	-2.3	26.1	29.5	-2.0	-9.7	35.2	34.6	4 878	54.1	10.3	9.2

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
IT hardware (93) continued												
27	LSI Logic	116	USA	343	-5.4	4.5	1 342	-6.8	-14.8	..	..	..
28	Taiwan Semiconductor	123	Taiwan	297	8.4	35.3	4 840	24.7	7.0	..	..	..
29	Avaya	124	USA	288	-20.9	..	3 439	-12.5	..	..	..	..
30	Maxtor	126	USA	281	-11.7	14.6	3 240	8.1	14.7	..	..	..
31	Corning	130	USA	273	-28.8	-14.0	2 450	-2.3	-24.3	..	..	..
32	Dell	135	USA	262	3.4	-3.1	32 857	17.1	9.1	..	..	..
33	NCR	142	USA	240	2.0	-3.1	4 438	0.2	-2.1	..	..	..
34	Rohm	144	Japan	235	48.4	11.9	2 591	9.0	-0.9	..	..	..
35	Murata Manufacturing	145	Japan	233	-0.5	2.7	2 922	0.1	-4.9	..	..	..
36	Tellabs	151	USA	227	-14.7	-11.7	777	-25.6	-33.9	..	..	..
37	Maxim Integrated Products	162	USA	216	-1.2	24.2	914	12.4	10.0	20	33	46
38	Nvidia	163	USA	214	20.1	46.2	1 445	-4.6	35.3	..	..	..
39	Kla-Tencor	164	USA	213	-6.7	5.2	1 049	-19.2	-4.1	15	31	55
40	Lexmark	165	USA	211	7.2	7.1	3 770	9.1	7.7	..	..	..
41	Nikon	168	Japan	204	0.7	15.6	3 469	-2.9	8.0	21	34	45
42	Teradyne	171	USA	202	-13.4	-5.4	1 073	10.7	-23.7	17	37	44
43	Cypress Semiconductor	175	USA	199	-12.7	10.9	663	8.0	-13.4	..	..	..
44	Atmel	180	USA	196	-2.2	-0.6	1 055	11.5	-12.9	..	..	..
45	Xilinx	181	USA	196	11.5	5.1	1 108	21.0	-5.6	19	42	38
46	Comverse Technology	189	USA	190	-2.6	-1.1	607	4.1	-14.5	..	..	..
47	Novellus Systems	199	USA	180	2.3	8.5	733	10.1	-7.7	..	..	..
48	Advantest	206	Japan	175	-11.5	0.7	723	2.6	-16.3	9	9	82
49	Marvell Technology	210	Bermuda	172	43.8	..	650	62.1	..	..	..	..
50	ATI Technologies	214	Canada	169	29.4	16.6	1 098	35.6	0.3	..	..	..
51	Storage Technology	223	USA	162	-5.0	-7.5	1 730	7.0	1.9	..	..	..
52	Ciena	228	USA	158	-21.8	15.7	224	-21.7	-31.0	..	..	..
53	Altera	244	USA	142	-2.3	1.2	656	16.3	-15.6	..	..	..
54	Juniper Networks	245	USA	140	8.8	26.1	556	28.4	1.4	..	..	..
55	Winbond Electronic	249	Taiwan	137	-25.4	..	778	37.9	..	..	..	..
56	United Microelectronics	251	Taiwan	137	-20.5	-2.4	2 235	32.2	-6.1	..	..	..
57	Silicon Graphics	254	USA	136	-6.0	-17.2	762	-28.3	-25.6	..	..	..
58	Lam Research	264	USA	127	-10.4	-3.2	599	-19.9	-15.0	..	..	..
59	UTStarcom	265	USA	126	85.0	56.7	1 557	100.1	74.7	..	..	..
60	Conexant Systems	266	USA	126	-50.8	-27.3	476	-0.2	-34.2	..	..	..
61	GlobespanVirata (now part of Conexant Systems)	273	USA	124	13.0	80.5	181	-15.4	59.0	..	..	..
62	JDS Uniphase	275	USA	122	-39.7	10.7	536	-38.5	-22.1	17	70	13
63	Skyworks Solutions	276	USA	120	14.4	18.3	490	35.0	17.8	..	..	..
64	Brocade Communications	284	USA	115	9.7	42.2	416	-6.7	16.8	..	..	..
65	Western Digital	299	USA	107	12.1	-6.2	2 155	26.4	11.6	..	..	..
66	Casio Computer	303	Japan	104	0.2	4.6	3 259	15.3	2.4	..	..	..
67	Applied Micro Circuits	309	USA	102	-36.8	6.8	104	28.4	-33.0	..	..	..
68	Anritsu	318	Japan	98	-13.1	1.8	581	-40.3	-11.9	14	0	86
69	PMC-Sierra	328	USA	95	-13.3	-12.6	198	14.5	-28.9	..	..	..
70	3Com	339	USA	90	-60.4	-43.0	740	-36.9	-40.1	..	..	..
71	Network Appliance	340	USA	90	-3.3	22.1	707	11.7	15.5	..	..	..
72	Palm (now palmOne)	343	USA	88	-21.6	..	691	-15.4	..	..	..	..
73	Vitesse Semiconductor	344	USA	87	-35.3	8.5	124	-3.9	-29.2	..	..	..
74	ADC Telecommunications	348	USA	86	-38.4	-31.5	613	-26.2	-38.3	..	..	..
75	Acterna	362	USA	83	-34.7	19.6	539	-40.0	14.5	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
4 722	-10.6	-13.2	25.6	25.2	-16.4	-14.9	72.6	68.7	1 542	-42.7	4.6	2.2
16 066	7.6	3.2	6.1	7.1	25.5	17.3	18.5	18.3	23 371	-5.7	18.3	33.2
16 900	-10.1	..	8.4	9.3	1.6	-7.5	17.0	19.4	5 153	80.0	1.4	2.2
13 554	8.9	16.6	8.7	10.6	3.3	-8.3	20.7	25.5	914	-51.8	2.8	3.7
20 600	-11.2	-20.0	11.1	15.3	-13.6	-68.4	13.2	16.5	13 446	61.5	11.8	11.3
46 000	17.6	4.8	0.8	0.9	8.5	8.2	5.7	6.5	70 948	4.4	0.8	0.9
29 000	-3.7	-4.2	5.4	5.3	0.6	-3.7	8.3	7.8	3 482	63.5	1.1	1.4
16 841	12.7	7.2	9.1	6.7	27.2	18.5	14.0	10.6	9 966	-22.7	10.2	24.7
26 435	-3.5	1.3	8.0	8.0	14.0	12.6	8.8	8.5	9 217	-7.2	4.6	8.8
3 515	-27.2	-25.9	29.2	25.5	-28.3	-27.4	64.5	55.0	2 937	33.1	1.0	2.6
6 202	2.2	14.8	23.6	26.9	38.7	33.7	34.8	36.0	12 508	28.0	7.3	8.9
1 825	20.6	31.9	14.8	11.8	5.3	7.5	117.3	117.8	2 026	-24.0	7.0	3.3
4 900	-14.0	-5.5	20.3	17.6	10.5	14.9	43.4	40.0	6 423	-18.8	10.1	4.2
11 800	-2.5	-3.2	5.6	5.7	12.6	11.6	17.9	16.2	9 116	39.0	2.0	2.6
13 184	-8.0	3.3	5.9	5.7	-3.2	1.1	15.4	14.1	2 788	-7.4	4.2	5.9
6 100	-15.3	-15.7	18.8	24.1	-12.9	-45.5	33.1	32.4	2 630	3.8	2.2	3.8
4 033	-1.7	-3.1	30.1	37.2	-1.1	-32.1	49.4	55.7	1 106	-12.5	9.4	20.5
7 900	4.6	-4.6	18.6	21.2	-6.0	-44.6	24.9	26.6	1 613	37.4	..	8.8
2 770	6.1	1.1	17.7	19.2	23.4	12.6	70.9	67.4	8 099	17.6	3.0	4.0
4 663	-2.6	-9.9	31.3	33.5	-2.8	-30.5	40.7	40.7	2 646	19.7	4.6	4.6
2 902	-10.1	-1.7	24.6	26.5	-10.2	-2.1	62.1	54.6	3 165	-26.1	3.4	3.2
3 519	-16.8	-6.6	24.2	28.0	-18.9	-40.4	49.6	46.7	4 657	-1.3	12.6	13.9
1 672	31.4	..	26.4	29.7	6.9	-14.0	102.6	93.8	4 901	..	11.7	5.7
2 200	5.2	3.6	15.4	16.1	3.6	-4.0	76.8	62.4	3 054	35.4	1.2	3.0
7 100	0.0	-2.2	9.4	10.5	8.8	6.8	22.8	24.0	2 225	-1.8	2.0	4.3
1 816	-14.3	-13.2	70.7	70.8	-131.3	-416.4	87.2	95.6	1 269	-36.9	10.3	18.5
1 995	6.0	0.8	21.6	25.7	23.9	13.7	71.0	77.0	6 179	10.1	1.7	1.4
1 553	0.7	18.8	25.1	29.6	9.2	-21.2	89.9	83.2	9 647	130.0	2.7	6.7
3 833	-9.4	..	17.7	32.7	-13.6	-35.5	35.8	43.5	1 363	-36.3	10.8	21.5
9 000	-1.5	-1.3	6.1	10.2	8.3	11.5	15.2	18.8	8 914	-4.6	26.0	49.7
3 714	-16.4	-18.0	17.8	13.6	-13.6	-7.5	36.5	32.5	316	72.7	2.0	2.1
2 100	-16.0	-17.3	21.2	19.0	-1.2	-14.2	60.6	56.8	2 518	15.8	1.7	1.1
5 500	67.8	51.8	8.1	8.8	13.6	13.5	23.0	20.9	1 647	-52.6	6.2	7.7
1 450	-41.1	-45.2	26.5	53.8	-125.4	-143.6	87.1	104.4	584	-46.2	3.4	3.6
700	-39.4	48.4	68.3	51.1	-289.5	-141.6	176.6	94.8	..	..	3.3	3.3
5 489	-40.5	-33.9	22.7	23.2	-2.8	-778.2	22.2	21.9	4 109	34.5	6.9	12.1
3 800	-5.0	..	24.6	29.0	-69.4	-54.8	31.7	26.3	994	11.6	6.5	6.3
1 230	-7.7	26.6	27.7	23.5	-26.7	13.0	93.5	78.7	1 001	-11.1	6.0	14.4
11 508	20.5	16.3	5.0	5.6	7.0	3.2	9.3	10.0	1 150	-26.3	2.3	2.2
11 481	-21.7	-15.9	3.2	3.7	3.3	-8.9	9.1	7.1	2 876	67.6	3.0	4.8
723	-15.5	-14.8	97.6	198.4	-113.5	-776.5	140.4	187.8	890	-31.7	10.6	4.9
3 720	-20.9	-11.2	16.8	11.6	1.2	4.4	26.3	24.0	607	1.3	3.4	6.8
930	-15.4	-18.6	47.8	63.1	-7.1	-40.5	101.9	99.4	1 663	6.5	4.5	1.2
3 300	-28.5	-32.2	12.1	19.3	-32.0	-38.7	27.2	49.1	1 526	11.4	2.7	23.8
2 345	2.9	16.9	12.7	14.6	9.6	-1.7	38.2	40.6	5 478	11.4	6.9	35.5
982	-16.1	..	12.7	13.7	-24.7	-10.5	89.3	95.5	1 436	275.9	1.3	1.6
797	-14.9	-10.3	70.4	104.6	-104.0	-466.7	109.6	144.2	482	-54.0	12.1	46.5
5 700	-25.0	-36.7	14.1	16.8	-11.6	-85.0	15.1	18.4	1 539	12.3	9.0	2.4
2 840	-42.9	-15.5	15.4	14.1	-49.2	-24.6	29.2	25.5	..	..	3.3	3.3

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
IT hardware (93) continued												
76	Quantum	365	USA	82	-7.6	-7.4	641	-7.1	-16.9	21	60	18
77	Adaptec	366	USA	82	-12.7	-2.4	359	10.8	-8.0	..	..	..
78	Tektronix	368	USA	80	-16.6	-9.5	627	-6.3	-11.0	..	..	..
79	Harris	376	USA	79	-4.1	-0.1	1 659	11.6	5.0	..	..	..
80	Integrated Device Technology	378	USA	78	-23.7	-8.5	274	0.4	-29.6	..	..	..
81	Linear Technology	399	USA	73	14.5	5.3	481	18.5	-4.9	..	..	..
82	Intersil	400	USA	72	-30.4	-1.0	402	-21.9	-8.5	..	..	..
83	McData	405	USA	70	49.7	32.9	332	27.7	19.0	..	..	..
84	Qlogic	410	USA	70	8.0	15.9	415	18.9	13.0	..	..	..
85	Lattice Semiconductor	413	USA	69	1.5	4.2	166	-8.8	-28.3	..	..	..
86	Avid Technology	416	USA	68	3.9	1.1	374	12.7	-0.3	..	..	..
87	ON Semiconductor	417	USA	68	25.9	-5.1	848	-1.4	-19.8	..	..	..
88	Microchip Technology	418	USA	68	-2.9	2.8	554	7.4	-0.8	..	..	..
89	SanDisk	423	USA	67	33.3	22.3	856	99.5	21.5	21	39	40
90	Enterasys Networks	424	USA	67	-1.0	-16.8	329	-14.3	-27.1	..	..	..
91	Andrew	425	USA	67	45.2	27.9	804	17.2	-0.2	..	..	..
92	ECI Telecom	426	Israel	66	-10.3	-14.2	334	-34.8	-26.4	..	..	..
93	PerkinElmer	428	USA	66	-3.8	-1.2	1 217	2.0	-3.3	..	..	..
94	Macronix International	445	Taiwan	63	-28.9	-4.8	406	8.3	-18.7	..	..	..
95	Micronas Semiconductor	446	Switzerland	63	12.6	27.0	491	8.4	16.1	58	3	39
96	International Rectifier	447	USA	63	13.1	18.7	685	20.0	4.7	..	..	..
97	Cirrus Logic	453	USA	60	-20.1	-15.8	156	-25.0	-36.8	..	..	..
98	Zarlink Semiconductor	455	Canada	60	-15.4	-8.1	157	1.9	-27.6	..	..	..
99	Fairchild Semiconductor	458	USA	59	-9.0	-3.8	1 107	-1.1	-7.8	..	..	..
100	Credence Systems	463	USA	58	-13.9	2.6	145	11.5	-35.4	..	..	..
101	Tekelec	464	USA	58	22.7	10.4	209	1.5	-5.7	..	..	..
102	Brooks Automation	466	USA	58	-2.9	19.3	272	12.9	2.2	19	50	31
103	Redback Networks	492	USA	53	-26.9	-14.8	85	-15.0	-27.2	..	..	..
104	Advanced Fibre Communications	493	USA	52	7.3	4.0	264	-3.3	-7.2	..	..	..
105	LTX	494	USA	52	-7.0	9.3	95	-1.0	-26.8	..	..	..
106	Triquint Semiconductor	498	USA	52	11.1	27.7	248	17.0	1.4	..	..	..
107	Benq	499	Taiwan	51	34.4	..	2 576	87.5	..	..	..	..
Software & computer services (97)				15 280	8.5	5.1	152 636	8.6	2.5	..	..	..
<i>number of companies for calculation</i>				45	45	-	45	45	-	-	-	-
1	IBM	6	USA	4 011	6.7	1.1	70 663	9.8	0.3	..	..	..
2	Microsoft	8	USA	3 694	8.2	7.3	25 518	13.5	11.9	..	..	..
3	Oracle	45	USA	936	9.7	5.3	7 512	-2.1	-2.2	..	..	..
4	Computer Associates	72	USA	560	0.3	0.5	2 597	5.1	-7.9	..	..	..
5	BMC Software	83	USA	465	19.6	19.1	1 125	6.9	-1.9	..	..	..
6	Electronic Arts	95	USA	405	27.4	9.5	2 344	19.1	30.8	..	..	..
7	Peoplesoft	115	USA	343	26.9	10.1	1 797	16.3	9.3	..	..	..
8	Cadence Design Systems	131	USA	270	4.2	2.0	888	-13.4	-4.4	17	58	25
9	Siebel Systems	140	USA	245	-15.7	28.5	1 074	-17.1	-9.0	..	..	..
10	Veritas Software	141	USA	241	10.9	20.0	1 385	16.0	13.1	..	..	..
11	Synopsys	150	USA	229	27.0	14.6	933	29.8	16.4	..	..	..
12	Unisys	156	USA	222	2.5	-5.7	4 686	5.4	-5.0	..	..	..
13	Adobe Systems	160	USA	220	12.6	4.9	1 026	11.2	0.7	..	..	..
14	Sega	166	Japan	205	19.2	-3.3	1 459	-4.4	-16.5	5	18	77
15	Intuit	169	USA	203	13.8	14.8	1 309	21.5	14.7	..	..	..

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
1 809	-11.5	-9.6	12.8	12.9	-2.2	-29.4	45.3	43.4	349	-21.4	2.8	2.2
1 512	-1.0	76.5	22.7	28.8	5.9	-8.3	53.9	61.1	652	10.7	2.0	1.9
4 142	-3.7	-1.1	12.8	14.4	-2.2	3.1	19.4	22.4	2 040	42.0	2.2	1.9
10 200	5.2	0.7	4.8	5.5	3.3	7.4	7.7	8.5	2 505	52.4	3.5	2.4
3 150	1.6	-14.3	28.5	37.5	-2.2	-63.7	24.8	33.0	961	6.2	8.4	12.8
2 613	-2.9	-2.5	15.1	15.6	48.4	43.8	27.7	23.5	9 680	7.7	1.0	3.4
1 600	-22.4	..	18.0	20.2	15.7	0.4	45.2	50.4	2 041	-21.5	12.4	8.2
1 022	13.6	19.0	21.2	18.1	-1.8	-4.6	68.9	52.3	476	-32.6	4.2	21.9
819	10.7	9.5	16.8	18.5	38.1	32.1	84.9	87.1	1 790	-47.6	4.3	3.4
1 048	-2.3	5.3	41.6	37.4	-45.2	-37.4	65.9	63.4	439	-35.3	4.8	7.7
1 582	1.7	-1.0	18.1	19.7	8.6	0.9	42.9	42.0	1 157	14.0	1.6	2.1
10 055	5.1	-12.3	8.0	6.3	0.1	1.2	6.7	5.6	803	63.2	5.5	2.4
3 678	9.0	6.9	12.2	13.5	24.7	16.5	18.4	20.7	4 750	17.5	9.0	12.4
751	25.4	1.4	7.8	11.7	22.2	7.0	88.9	83.6	3 109	0.2	4.9	3.0
1 400	-14.0	-28.6	20.3	17.6	-28.3	-42.4	47.7	41.4	280	-60.2	4.6	5.2
6 211	30.6	2.3	8.3	6.7	1.6	-2.6	10.7	9.7	1 340	8.2	3.1	4.7
2 460	-23.8	-26.4	19.8	14.4	-17.4	-22.9	26.9	22.9	533	..	2.7	1.8
10 000	-6.5	-7.2	5.4	5.7	8.6	-8.5	6.6	6.4	1 777	21.3	1.1	2.5
3 434	-9.4	..	15.6	23.7	-42.1	-65.1	18.4	23.4	1 185	50.6	15.0	52.5
1 746	9.5	7.0	12.8	12.3	17.3	16.6	36.0	35.0	1 062	121.3	8.4	7.3
5 500	-6.8	2.6	9.1	9.7	-14.5	8.2	11.4	9.4	2 054	42.2	8.3	8.8
767	-15.2	-17.3	38.7	36.3	12.8	-78.4	78.7	83.5	408	30.8	1.3	5.8
1 037	-18.9	-26.0	37.9	45.7	-22.3	-27.3	57.4	55.1	353	-18.1	2.5	3.9
9 740	0.2	-4.1	5.4	5.8	-1.4	5.0	6.1	6.7	1 388	15.3	9.8	9.2
1 042	-8.4	-4.9	40.2	52.1	-62.8	-105.4	55.9	59.5	683	42.3	8.3	20.8
1 065	21.7	1.0	27.8	23.0	4.3	19.9	54.6	54.1	958	58.9	2.4	1.9
1 900	-36.7	5.9	21.2	24.7	-50.7	-206.2	30.4	19.8	509	-10.9	4.1	7.9
483	-19.0	-26.2	61.8	71.8	-90.6	-132.0	108.7	120.5	220	238.5	5.9	11.0
773	-9.8	-6.9	19.9	17.9	6.8	11.4	67.8	57.0	1 169	-1.5	3.8	3.3
576	-25.8	-7.0	55.2	58.7	-118.9	-95.8	91.0	72.6	393	-1.8	14.7	21.9
2 046	37.8	3.5	20.8	21.9	-21.8	-46.2	25.2	31.3	437	-7.0	8.9	9.0
3 117	7.8	..	2.0	2.8	7.3	5.9	16.5	13.2	1 925	0.1	2.6	2.2
672 140	2.5	0.2	10.0	10.0	16.4	12.4	22.6	21.3	563 825	6.9	4.2	4.6
44	44	-	45	45	45	45	44	44	44	43	45	45
319 273	1.1	-1.9	5.7	5.8	10.7	8.1	12.6	11.9	116 340	1.4	4.9	5.9
55 000	8.9	12.1	14.5	15.2	40.1	33.1	67.2	67.6	244 077	6.3	2.8	2.7
40 650	-3.2	-0.5	12.5	11.1	34.9	33.7	23.0	20.3	43 741	-12.9	3.1	2.9
15 300	-4.4	-5.6	21.6	22.6	0.1	-6.1	36.6	34.9	11 504	-1.5	0.9	1.0
6 429	-6.3	-4.3	41.3	36.9	-2.0	0.3	72.3	56.6	2 717	10.0	3.6	1.8
4 800	20.0	11.1	17.3	16.2	26.2	18.0	84.4	79.5	11 767	23.4	3.0	2.4
12 163	46.7	14.9	19.1	17.5	5.1	12.9	28.2	32.6	5 097	19.8	11.1	4.8
4 800	-7.2	-5.3	30.4	25.2	-2.8	12.1	56.2	50.0	2 828	0.2	7.4	9.9
4 972	-15.9	-12.4	22.8	22.4	-2.8	-5.8	49.2	49.1	3 128	-12.5	1.1	4.3
6 518	15.4	10.9	17.4	18.2	21.6	7.2	37.0	38.5	6 502	-35.7	4.6	7.2
4 362	2.5	14.3	24.5	25.1	18.3	-32.8	52.4	42.3	2 603	-29.3	4.3	5.4
37 300	2.5	0.4	4.7	4.9	7.6	7.1	6.0	6.0	2 740	-13.9	4.2	3.5
3 507	5.0	5.3	21.4	21.1	29.4	23.2	62.6	58.4	8 009	31.3	3.0	2.7
3 469	-0.1	..	14.0	11.3	2.1	-6.4	59.0	49.4	1 869	52.2	3.6	1.8
6 700	3.1	11.4	15.5	16.6	22.2	11.0	30.3	27.4	5 781	-16.1	3.1	4.7

II.1.7. Ranking of the Top 500 non-EU companies by R&D investment in the 2003 financial year, within sectors (of declared main activity)

No.	Company	Rank	Country	R&D Investment			Net Sales			Market spread (2003)		
				2003	change 03/02	CAGR 3 yrs	2003	change 03/02	CAGR 3 yrs	Europe	North America	Rest of World
				units	€m	%	%	€m	%	%	%	%
Software & computer services (97) continued												
16	Symantec	173	USA	200	27.9	25.8	1 483	33.0	29.9	..	..	..
17	Autodesk	216	USA	166	21.0	7.1	754	15.3	0.5	..	..	..
18	SunGard Data Systems	218	USA	165	19.2	12.1	2 276	13.5	20.0	..	..	..
19	Yahoo!	219	USA	164	34.0	19.7	1 288	70.4	13.5	..	..	..
20	Mentor Graphics	236	USA	147	12.5	13.6	536	13.3	4.6	..	..	..
21	Networks Associates	237	USA	146	24.1	2.1	742	-10.3	7.9	..	..	..
22	Novell	238	USA	146	8.6	-7.8	876	-2.6	-1.7	..	..	..
23	DST Systems	239	USA	146	25.3	-3.4	1 916	1.4	21.1	5	93	2
24	Cerner	243	USA	143	20.0	25.7	666	11.7	27.5	..	..	..
25	Compuware	247	USA	139	13.1	14.6	1 003	-8.0	-14.3	..	..	..
26	Sybase	285	USA	115	-3.8	-16.0	617	-6.2	-6.8	..	..	..
27	BEA Systems	291	USA	112	6.1	16.4	803	8.4	7.3	..	..	..
28	Nintendo	297	Japan	108	-14.1	-3.0	3 726	-9.1	-1.7	..	..	..
29	Parametric Technology	301	USA	105	-2.6	-2.7	533	-9.4	-10.2	36	37	27
30	Openwave Systems	337	USA	91	-20.1	24.3	212	-26.6	22.3	..	..	..
31	Activision	379	USA	78	71.8	33.2	751	9.6	15.1	..	..	..
32	Electronics For Imaging	382	USA	77	7.5	0.9	301	8.3	-13.6	30	51	19
33	Macromedia	401	USA	72	-7.4	-5.4	293	9.7	-1.8	26	56	19
34	Reynolds and Reynolds	408	USA	70	-0.1	-2.8	799	1.5	2.9	..	..	..
35	Science Applications International	432	USA	65	-5.0	-16.2	5 328	13.8	4.5	..	..	..
36	I2 Technologies	439	USA	64	-53.3	-28.2	392	-45.6	-24.0	..	..	..
37	National Instruments	440	USA	64	26.0	12.9	338	9.0	1.3	..	..	..
38	FileNET	451	USA	61	7.4	10.0	289	5.1	-2.9	23	73	4
39	Hyperion Solutions	461	USA	59	1.3	1.7	405	3.8	0.9	..	..	..
40	Aspen Technology	468	USA	58	-11.8	9.3	256	0.8	6.3	..	..	..
41	Polycom	469	USA	58	-5.4	27.0	333	-9.8	8.2	..	..	..
42	NetIQ	473	USA	56	16.5	90.5	246	11.3	86.4	..	..	..
43	Intergraph	484	USA	55	9.3	0.4	418	5.3	-8.6	..	..	..
44	Fair Isaac	488	USA	54	66.6	27.5	499	60.5	28.4	..	..	..
45	Quest Software	489	USA	54	13.5	19.3	241	17.6	22.5	24	72	3

Employees			R&D/Sales ratio		Operating Profit		R&D per employee		Market Capitalisation		Capital expenditures	
2003	change 03/02	CAGR 3 yrs	2003	2002	2003	2002	2003	2002	2003	change 03/02	2003	2002
#	%	%	%	%	% of Net Sales	% of Net Sales	€K	€K	€m	%	% of Net Sales	% of Net Sales
5 300	23.3	11.7	13.5	14.0	28.1	24.7	37.7	36.4	11 478	104.5	5.9	13.6
3 493	-0.1	0.1	22.0	21.0	11.4	3.1	47.5	39.2	3 553	171.8	2.7	4.4
10 000	13.6	8.6	7.2	6.9	21.6	21.6	16.5	15.7	5 442	-8.9	6.4	4.8
5 500	52.8	19.1	12.8	16.2	20.8	5.3	29.9	34.1	32 479	107.1	7.2	5.4
3 600	2.9	9.4	27.3	27.5	2.1	-2.3	40.7	37.2	638	-29.4	3.5	3.4
3 700	-2.6	2.3	19.7	14.3	7.0	12.3	39.6	31.1	2 354	67.9	6.5	5.7
5 734	-12.1	5.4	16.6	14.9	-7.2	-20.8	25.4	20.6	2 229	111.5	3.5	2.4
11 400	-2.6	4.1	7.6	6.2	14.4	13.9	12.8	9.9	3 089	-11.5	11.0	9.1
5 077	6.0	17.8	21.4	20.0	9.3	11.2	28.1	24.8	1 297	53.3	9.9	7.9
8 660	-7.4	-13.2	13.8	11.2	4.4	9.8	16.0	13.1	1 546	-10.0	5.9	16.4
3 660	-6.6	-9.1	18.6	18.1	13.5	-13.1	31.4	30.5	1 101	-4.9	4.5	4.9
3 122	1.9	1.3	13.9	14.2	18.2	12.1	35.8	34.4	2 069	-52.5	1.6	2.8
..	..	..	2.9	3.1	20.0	21.0	..	..	12 322	17.2	0.4	2.4
3 500	-8.0	-9.5	19.7	18.3	-12.6	-10.5	30.0	28.4	933	40.7	3.2	4.1
1 455	-22.8	..	43.1	39.5	-79.7	-343.9	62.7	60.6	579	47.0	3.3	5.5
1 324	9.1	20.1	10.3	6.6	11.6	10.9	58.6	37.2	1 613	98.4	1.2	1.3
1 382	49.1	15.6	25.5	25.7	9.0	3.2	55.5	76.9	850	-7.3	1.3	2.5
1 213	11.8	-11.7	24.7	29.2	13.0	0.4	59.6	72.0	1 124	19.2	6.8	1.9
4 518	-1.8	-3.0	8.8	8.9	19.4	13.0	15.5	15.2	1 186	-18.7	5.8	3.7
42 700	10.3	1.0	1.2	1.5	7.2	6.4	1.5	1.8	0	..	2.0	0.7
2 452	-5.7	-25.8	16.3	19.1	4.3	0.0	26.1	52.8	262	-37.6	0.3	1.0
3 078	2.3	7.0	18.9	16.4	9.8	10.6	20.8	16.9	1 800	19.5	4.1	7.7
1 720	0.9	-0.7	21.1	20.7	3.1	1.5	35.5	33.4	575	6.5	2.4	3.3
2 224	-1.2	-3.4	14.4	14.8	9.9	4.4	26.3	25.6	1 272	73.5	4.0	3.1
1 748	-20.5	0.3	22.5	25.7	-50.0	-23.2	33.0	29.7	183	45.2	1.6	3.9
1 183	-6.9	30.1	17.3	16.5	5.4	6.0	48.7	47.9	1 454	17.2	3.6	2.7
1 364	8.9	36.6	22.9	21.9	-295.5	-263.3	41.3	38.6	423	-15.6	4.9	5.4
3 700	-2.6	-7.0	13.1	12.6	3.8	92.4	14.8	13.2	781	-3.1	1.9	2.0
2 355	-1.4	15.4	10.7	10.3	27.9	12.2	22.7	13.5	1 608	..	3.0	6.1
1 735	-4.3	6.6	22.2	23.0	7.5	3.9	30.8	26.0	882	34.0	2.1	1.0

Notes on Scope, Definitions, Sources, Interpretation and Limitations

The Top 500 EU R&D Scoreboard, and the Top 500 Non-EU R&D Scoreboard, each rank companies by their R&D investment. They have been prepared by Company Reporting Ltd, an independent corporate financial reporting specialist based in Edinburgh, Scotland. The approach taken is described in what follows.

Scope of the 2004 EU Industrial R&D Investment Scoreboards

1. The company data in the Scoreboards were prepared from the most recent audited company reports and accounts published on or before 30 July 2004 and received by Company Reporting on or before 2 August 2004. To prepare the Scoreboards, approximately 6,000 companies' accounts were analysed and 3,500 were found to have evidence of R&D activity; of these, some 2,419 were found to disclose R&D spending.
2. The accounts used are the consolidated group accounts of the ultimate parent company. Companies which are subsidiaries of any other company, such as Airbus, France, are not listed separately. Usually, majority-owned subsidiaries are consolidated in the accounts of the parent, whereas joint ventures that are 50% owned by each of two partners are included as a stand-alone company. This approach seeks to maximise completeness while at the same time minimising double counting.
3. For the EU scoreboard, the exclusion of companies which are subsidiaries of any other company applies also to companies for which the ultimate parent company is outside the EU, such as Ford, UK and IBM, Germany. These foreign-owned companies have been excluded for the further reason that transfer pricing of R&D services renders their interpretation significantly different from that of other companies.
4. For the purposes of the Scoreboards, R&D investment includes only investments funded by, and performed for, the companies themselves. It excludes R&D undertaken under contract for customers such as governments or other companies. It also excludes the companies' share of any associated company or joint venture R&D investment. Where some or all of a company's R&D costs have been capitalised, the additions to the appropriate intangible assets are included to calculate the cash investment and any amortisation eliminated. There is no clear distinction between R&D "expenditure" and R&D "investment" in company reporting. On the basis of the accounting disclosures the cash spent by the company

in the year has been calculated and called a “cash investment”; this is considered to be a meaningful label in the sense that senior management will have invested the full cash amount in the year and the subsequent accounting treatment is an artefact of the accounting process. In order to perform the calculation itself, the R&D expensed to the profit and loss account (i.e. R&D “expenditure”) are added to any capitalised R&D intangibles (i.e. R&D “investment”) and then any amortisation of capitalised R&D charged to the profit and loss account is subtracted from the resulting R&D expenditure total.

5. Companies are allocated to the country in which their ultimate parent has its registered office. In some cases this is different from the operational headquarters or the principal location of the company’s R&D activity; examples are EADS, which is allocated to the Netherlands, and AstraZeneca which is allocated to the UK.
6. The focus of the Scoreboards on R&D investment as reported in group accounts means that the results are independent of the location of the R&D activity.

Sources

The database from which these Scoreboards are drawn consists of information extracted from the audited annual reports & accounts of EU and non-EU companies, using rigorous financial reporting practice verification processes. The companies are those which are identified by Company Reporting as having being active in R&D which either (i) responded to a request for their annual accounts or (ii) whose accounts available at a public registry from which low-cost copies could be obtained. The database contains many times more companies than are listed in the Scoreboard to ensure that the top companies in terms of R&D investment can be identified in each case.

The market capitalisation data have been extracted from both the Financial Times London Share Service and Reuters. These reflect the market capitalisation of each company at the close of trading on 30 July 2004.

In the case of EU and Non-EU companies, the Company Reporting database is supplemented by a feed service from Standard & Poor’s Compustat Global Vantage database to identify potential new entrants to the ranking. The Amadeus and the Experian databases have also been used; and recognised stock exchanges are also monitored. These external sources are used only to identify potential new entrants; the data are always extracted from the audited annual reports and accounts captured by Company Reporting.

The industry sectors are based on the FTSE Global Classification System.

Limitations

There are some limitations inherent in the approach used to prepare the Scoreboards.

These can be broadly classified as disclosure, measurement, timing and availability:

1. Disclosure

The main limitation is the reliance on disclosure of R&D investment in published annual reports and accounts. In the UK, separate work by Company Reporting finds that a significant minority of companies with evidence of R&D activities disclose no figures for R&D investment. In some cases, the R&D investment is not material enough to warrant disclosure; in others, this is permitted by current accounting standards. However, the number of such companies making voluntary disclosure suggests that perceived issues of definition and competitive pressure are surmountable.

A few companies are known to have substantial R&D investment but disclose this investment elsewhere than in their annual report & accounts and so are not included. There are also companies with a significant R&D investment that disclose this investment only as a percentage figure (often to only 1 significant figure); an example of this is Krones from Germany. Some companies disclose some other form of approximation; such as “about ...” or “almost ...”. These companies are also not included. Companies in some countries are less likely than others to disclose R&D investment, or to disclose it consistently. The converse appears to apply to UK practice, where an equivalent R&D Scoreboard has been published by the UK Government for the last 15 years; the impact of which is that there is a higher incidence of voluntary disclosure in the UK than elsewhere and a consequent over representation of UK companies in this EU Scoreboard.

As a result of these disclosure limitations, the Scoreboards cannot set out to capture systematically all R&D-active companies. There is evidence to suggest that the distribution of R&D activity is highly skewed towards larger companies, with a “long tail” of smaller ones. The Scoreboard captures the more significant R&D investing companies and therefore allows reasonable comparisons to be made. For many diversified groups, the R&D investment

disclosed in their accounts arises from only part of their activities, whereas sales, profit before tax and market capitalisation are in respect of all their activities. Unless all such groups disclose additionally their R&D investment with the other information in segmental analyses, it is not possible to relate the R&D more closely to the results of the individual activities which give rise to it. The impact of this is that some statistics for these groups, e.g. R&D as a percentage of sales, are possibly understated relative to the R&D based activities and so comparisons with non-diversified groups will be limited.

2. Measurement

In implementing the definition of R&D, companies exhibit variability arising from three principal sources:

- (i) Natural variability - which arises from differing interpretations of the Frascati definition; some companies view a process as an R&D process while other companies may view the same process as an engineering or other process.
- (ii) Data capture variability - which arises from differing information systems; some companies will have in place better systems than others for measuring the costs associated with R&D processes.
- (iii) Fiscal variability - which arises from fiscal incentives based on the treatment of costs.

3. Timing

The accounts of the companies included in the current year's set are their most recent published accounts and are intended to cover the 2003 financial year. Companies from most countries have discretion in the choice of accounting period end and as a result the current year set can include accounts ending on a range of dates from mid 2003 to early 2004. Furthermore, the accounts of some companies are made publicly available more promptly than others; as a result the published accounts for any given year are somewhat heterogeneous in terms of the periods they cover. Likewise, the Scoreboard data for the preceding three years are taken from companies' published accounts subject to the same caveat. As an example, if one company was reporting the latest financial accounts for the period April 2003 – March 2004 (considered to be the 2003 financial year), the accounting data for April 2000 – March 2001, April 2001 – March 2002 and April 2002 – March 2003 were examined and used as a source for previous years' reporting.

4. Availability

The accounts of companies which are not listed on an official stock exchange are significantly more difficult to capture. There is considerable variability between countries in relation to the existence of and –where they exist– the administrative procedures and costs associated with capturing accounts. This results in private companies, particularly smaller ones, being under-represented.

Interpretation

There are some fundamental aspects of the Scoreboards which affect their interpretation.

1. Funding vs. activity

The focus of the Scoreboards on R&D investment as reported in group accounts means that the results are independent of the location of the R&D activity. The Scoreboards indicate the level of R&D funded by companies, not all of which is carried out in the country in which the company is registered. This enables inputs such as R&D and Capex investment to be related to outputs such as Sales, Profits, productivity ratios and market capitalisation. The information in the Scoreboard differs therefore from other information such as the Business Enterprise R&D (BERD) data generated by the OECD, Eurostat and by National Statistics Offices. The BERD data focus on R&D activity within the countries, independent of the source of funding and, at the national level, exclude R&D carried out by companies in other countries. In brief, the distinction can be seen as being that of “funding vs. activity”.

2. Growth

At the aggregate level, the growth statistics reflect the growth of the set of companies in the year under examination. Companies which may have existed in the base year but which are not represented in the current year set are excluded from the Scoreboards (a company may continue to be represented in the current year set if it has been acquired by or merged with another). These are therefore “successful efforts” aggregates rather than economic estimates of market aggregates.

3. Currency effects

Currency translations have been applied using the exchange rates on a single reference date and this has been applied to all historical data also. The result

is that the Scoreboard figures are expressed as domestic currency amounts rather than in purchasing power parity terms. The original domestic currency data can be derived simply by reversing the translations at the relevant rates set out in the Definitions section above and users can then apply their own preferred current purchasing power parity transformation models; the transformations will be subject to the timing limitations set out above.

Glossary of definitions

1. **“R&D investment”**: the research & development investment included in the Scoreboards is the cash spending, as described in “Scope of the R&D Scoreboards” above. The figures used are those published in the annual report and accounts, subject to the accounting definitions of R&D. The definition is set out in International Accounting Standard (IAS) 38 “Intangible assets” and is based on the OECD “Frascati” manual. The R&D investment disclosed in some companies’ accounts follows the US practice of including engineering costs relating to product improvement. Where these engineering costs have been stated separately, they have been excluded from the Scoreboard.

The incidence of non-disclosure is uncertain and the impact of this practice is a possible overstatement of some overseas R&D investment figures in comparison with the EU. Both US and EU practice exclude technical service from the definition of R&D.

2. **“Net sales”**: the usual accounting definition of sales, excluding sales taxes and shares of sales of joint ventures & associated companies. For banks, sales are defined as the “Total (operating) income” plus any insurance income. For insurance companies, sales are defined as “Gross premiums written” plus any banking income.
3. **“Operating profit (or loss)”**: this is calculated as profit (or loss) before taxation, plus net interest costs (or minus net interest income), less gains (or plus losses) arising from the sale/disposal of businesses or fixed assets.
4. **“Change 03/02 (%)”**: is the simple growth over the previous year (here, between the 2002 and 2003 financial years), expressed as a percentage = $100 * ((C/B) - 1)$; where C = the amount for the current year, and B = the amount for the previous year. 1yr growth is calculated only if data exist for both the current and previous year. At the aggregate level, 1yr growth is calculated by aggregating only those companies for which data exist for both the current and previous year.

5. **“CAGR 3yrs (%)”**: compound annual growth over the previous 3 years (the period 2000-2003), expressed as a percentage = $100 * (((C/B)^{(1/t)} - 1))$; where C = current year amount, B = base year amount (where base year = current year - 3), and t = number of time periods (= 3). 3yr growth is calculated only if data exist for the current and base years. At the aggregate level, 3yr growth is calculated only by aggregating those companies for which data exist for the current and base years.
6. **“Capital expenditure”**: Capital expenditure, disclosed in accounts as additions to tangible fixed assets (also referred to as Capex).
7. **“Employees”**: the total consolidated average employees, or year-end employees if the average is not stated.
8. **“R&D per employee”**: the simple ratio of R&D investment to the number of Employees. At the aggregate level, R&D per employee and the other non-growth statistics are calculated by aggregating data for only those companies for which data exist for both the numerator and the denominator.
9. **“Exchange rates”**: all foreign currency amounts have been translated at the Euro exchange rates ruling on 31 December 2003. This also applies to the historical comparative data. The principal rates used are:

Sweden: 9.08 (Kronor) Japan: 135.18 (Yen) Switzerland: 1.56 (Franc)
UK: 0.70 (Pound Sterling) USA: 1.26 (US Dollar)
10. **“Market capitalisation”**: share price multiplied by the number of shares issued at a given date. Figures for each company in the Scoreboards are taken as being those on 30 July 2004. The gross market capitalisation is used to take account of those companies for which not all the equity is traded on the market. *Companies not listed on an official stock exchange have been distinguished by the use of italics in Tables II.1.1 and II.1.5.*
11. **“Market Spread”**: sales by destination (shares in financial year 2003) - analysed between: (i) Europe; (ii) North America (USA and Canada); and (iii) Rest of the World. The definition of Europe as well as North America is subject to the definitions adopted by the individual companies. There were different disclosures in companies' accounts for “Market Spread” ratios making that the sum in some cases is either much higher or much lower than 100%. Tables report only those figures whose sum is between 98% and 102% for a company (or company's consolidate group account).

12. **“R&D/Sales ratio”**: often called “company R&D intensity”, is a company’s R&D investment as a percentage of its net sales.

Other notes

The headers of the company data tables in the Scoreboard include the following:

FTSE Sector: the sector of economic activity – according to the FTSE classification – which the company itself declared as its main activity in its financial accounts and/or reports or when it was listed on an official stock exchange. The code number of the FTSE classification for the respective sector is given in brackets.

Country: the country in which the ultimate parent company has chosen to site its registered office.

Company: the name of the ultimate parent company listed in the 2004 EU Industrial R&D Investment Scoreboard. Indications of possible mergers and/or acquisitions are given in brackets, if any have occurred. Companies not listed on a recognised stock exchange have been distinguished by the use of *italics*, in Tables II.1.1 and II.1.5.

Number of companies for calculation: is the number of companies for which figures were available in the 2004 Scoreboard for the given R&D-related indicator in the given year. In the case of computed indicators needing data from two or more years to be calculated, the number in italics is the number of companies used for aggregate calculations, that is after subtracting all the companies for which data for at least one year is missing (not available) from the Scoreboard.

Contact information

Company data contained in Volume II have been collected by David Tonkin and Andreas Jakob (Company Reporting Ltd.) - Tel: + 44 (0) 131 561 8000; Fax: +44 (0) 131 5261 8001; e-mail: research@comrep.co.uk

The Scoreboard webpage is: <http://EU-IRIScoreboard.jrc.es/> here the electronic version of the 2004 EU Industrial R&D Investment Scoreboard (both Analysis – Volume I - and Company Data – Volume II -) is available.

Comments and feedback may be sent by e-mail to: sera.secretariat@cec.eu.int
For hardcopies please contact: Rafael.Castillo@cec.eu.int



Publications Office

Publications.eu.int

ISBN 92-894-8479-9



9 789289 484794