Statistics, telematic networks and EDI bulletin

1 □ 1994

DSIS – a framework for co-ordinating development of European Statistical Information Services

As the European Economic Area opens up, demands are increasing for a broader resource of reliable and accurate information to support decision making on social, economic and environmental issues. Within the statistical community, the emerging requirement is for easier collation and dissemination of statistics, and increased harmonisation. DSIS (Distributed Statistical Information Services) sets out to co-ordinate the development of informatics in support of the statistical process.

DSIS is a framework for a wide range of technological activities in the statistical community. Some exist already, some are enhancements, and some are new. These activities aim to ensure that technology is used effectively to provide benefit to the community. They include:

■ Harmonisation of statistical metadata
■ Security of statistical information
■ Information exchange standards
■ Telecommunication support
■ User interfaces.

The results of these activites will contribute to forming the European Statistical System: a system of standards, organisational methods and structures for producing statistics for and on the European Economic Area.

Some people may view DSIS as too big or too ambitious. This is not the case. Best management practice has been adopted in developing the DSIS work programme so that each activity has a clearly defined output, is of an achievable size, can be monitored for quality and progress, and conforms to strict planning and reporting requirements. This approach, with good programme and activity management, is the key to minimising the risk of failure.

DSIS is a rolling work programme. Some activities, such as implementing a communications network, produce a single identifiable result. Others, such as agreeing metadata definitions, are on-going and have an annual target to achieve. Priority will be given to establishing a telecommunications network, setting up reference systems, getting the harmonisation of metadata under way, defining and integrating EDI messages and developing new methods of collecting statistical data using EDI technology. The aim of DSIS is to provide a balance between developing a solid foundation for the future and rapidly achieving concrete results.

Who has been involved?
The establishment of the DSIS framework follows a project involving Eurostat, the EU Member States and EFTA countries. Initial research involving Eurostat and various Directorates General of the Commission was followed by a programme of interviews with each Member State. From this information, several options were developed for the way forward for DSIS. The Telematics Task Force, representing the Commission, Member States and EFTA countries, selected one of the options and the results of the project were considered by the Statistical Programme Committee. The development of a more detailed work programme

ensued. Some of the development needed for DSIS will be undertaken at the European level, but many decisions and actions will be left to individual organisations.

Will it succeed?
Yves Franchet, Director General of Eurostat, is clear about the key factors critical to the success of the programme: *"DSIS can only succeed given a high level of co-operation among all the organisations involved in European statistics, in particular the National Statistical Institutes and Eurostat. If this co-operation is forthcoming, we should all reap substantial benefits."*

inside

■ **DSIS – the benefits**
■ **glossary of terms**
■ **First things first – more about metadata, the reference environment, telecommunications, EDI messages and raw data collection**
■ **The DSIS work programme focuses on early benefits and long term results**

eurostat

CONTACT
Directorate A: Dissemination and public relations; computer processing; relations with ACP countries
Philippe Lebaube
Eurostat
Jean Monnet Building-C3/002A, L-2920 Luxembourg

Phone   (+352) 4301 34524
Fax   (+352) 4301 33015
X.400: C=BE; A=RTT; P=CEC; O=Eurostat; S=Lebaube; G=Philippe
Internet : philippe.lebaube@eurostat.cec.be

DSIS offers significant benefits at the regional, national and European levels

Whatever the size and structure of your organisation, the DSIS framework will offer significant benefits.

Work in harmony

Greater harmonisation, achieved through the use of agreed standards, will soon prove itself worthwhile in reducing the time, effort and cost required to collect, exchange and disseminate statistics – even through language barriers. Harmonised procedures and formats will also result in a higher degree of comparability and reliability of data from the different organisations – vital to the reputation of statistics and statisticians. As work is performed in accordance with a set of quality assurance standards, a uniformly high quality of European statistics will result.

Communicate electronically

Efficient electronic messaging systems will provide significant benefits, particularly in the area of operational efficiency. Use of EDI technology will make exchange of data between DSIS organisations an efficient, effective and reliable process. Its use will allow structured, processible data to be transferred, saving paper costs, speeding up and automating the communications process and avoiding the need to re-enter and validate data. This will result in greater accuracy, improved timeliness and reduced costs.

The benefits of using EDI technology will be complemented by benefits brought about by greater use of office automation tools, including electronic mail, which will open up opportunities to share electronic versions of unstructured information and ideas and to solve problems jointly. Fewer face-to-face meetings will be required and the preparation for those meetings

which will still be needed will be carried out far more effectively.

Magdalena Cordero of the Spanish National Statistical Institute believes that DSIS will bring many benefits to the statistical community but recognises that considerable co-operation and effort will be required to achieve positive results.

Empower end users

With increased harmonisation of statistics it will usually be possible to respond to requests by supplying reusable data. End users will then be able to use their own computing resources to make queries and to generate reports which meet their own specific requirements.

Cut down on duplication

Duplication of effort, in tackling the same problem in several different ways, is largely eliminated by the increased level of harmonisation and communication facilitated by the DSIS network. Dissemination policies and practices can be co-ordinated effectively and efficiently and work to achieve common goals can be shared out more easily amongst the organisations.

Subsidiarity protected

Gilles Decand, Head of Unit at Eurostat, emphasises that DSIS does not seek to impose itself on anyone: *"National Statistical Administrations retain their autonomy. Subsidiarity is supported, permitting matters of regional or national concern to be dealt with locally. In addition, current levels of investment are protected."*

Glossary of terms

- **METADATA** – Data which describes data. This includes title, reference period, nature of variables, universe, footnotes, comments, methodological notes, etc. MULTILINGUAL metadata is metadata for which agreed translations exist.

- **REFERENCE DATA** – Detailed data where the methodology is well established, standardised, uniform and scientific, and which are intended for experts who are capable of using their own means to seek out what they require.

- **DISSEMINATION DATA** – Aggregated data which are compiled as publications in paper and/or electronic form both for a well-defined and targeted public, such as political and administrative decision makers, and for a wider and less well-defined readership.

- **COLLABORATION AGREEMENTS** – Agreements specifying the nature and level of collaboration between two or more organisations involved in DSIS.

- **EUROPEAN STATISTICAL SYSTEM** – A system of agreed standards, organisational methods and structures for producing statistics for and on the European Economic Area; a system based on the principles of subsidiarity and on a high level of co-operation amongst organisations involved in European statistics.

- **DSIS WORK PROGRAMME** – A rolling work programme of activities to design and implement the technological infrastructure required by the European Statistical System. The DSIS work programme is elaborated annually in collaboration with the National Co-ordinators and contains well-defined and measurable results, including pilot schemes.

3

Telecommunications

Telecommunications play an increasingly important role in informatics in the European Statistical System. However, the present situation falls well short of the ideal. Indeed, the lack of a suitable telecommunications network is quite a stumbling block to the furthering of informatics in European statistics. The network is critical to the success of DSIS.
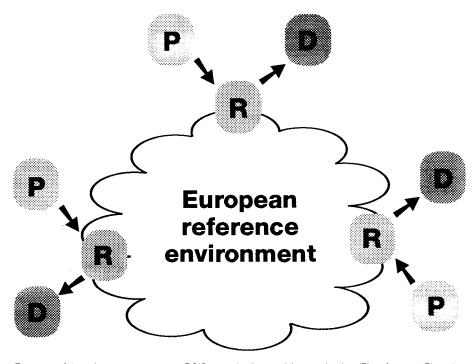
Back to basics

The first step is to introduce a basic telecommunications network between DSIS organisations, to which services can be added. The main benefits of a network arise from using the value-added services, such as application-to-application file transfer and routing and control mechanisms for file transfer. These services allow organisations to automate many of the routine exchanges of information and gain the benefits of reduced effort, greater reliability and speed.

Speed and security

Information can be exchanged much more quickly, allowing the more efficient collation and dissemination of statistical products. Remote access of statistical data held in the systems of other organisations will be possible, making the data more generally available, subject to access controls. In addition, data are less likely to be corrupted over a carefully implemented network than via other means of transportation.

Each set of three boxes represents a DSIS organisation and the production (P), reference (R) and dissemination (D) environments within those organisations

EDI messages

The use of EDI (electronic data interchange) is becoming pivotal in the areas of data collection, transfer of reference data and dissemination of statistics. All statistical administrations in Western Europe and beyond are either using EDI now or are in the advanced stages of planning for its use.

Initiatives already undertaken have resulted in the design of a variety of standardised EDI messages, principally in the areas of the exchange of aggregated statistics (including associated metadata), the dissemination of classifications and in some specific domains of raw data collection (for example, external trade, balance of payment and transport.)

Agreed basis for exchange

The integration of EDI techniques also involves ensuring that adequate security and confidentiality mechanisms are put into place, and that an agreed basis exists for the electronic exchange of data between the various exchange partners in the form of an interchange agreement.

Both the NSIs and Eurostat can now benefit from work already undertaken by working together in a co-ordinated programme in order to integrate some of the EDI messages and to integrate them into the statistical process. As many of the NSIs are already involved in the electronic exchange of information with Eurostat, much of this integration can be achieved with relatively little investment in time and resources. This activity is scheduled as part of the initial work programme.

Raw data collection

Particular emphasis will be placed in the programme on automating the collection of raw data from economic operators. The key to easing the collection burden is to put into place a co-operative development between, amongst others, economic operators, trade federations, software houses and the collection agencies. The SERT – Statistiques d'Entreprises et Réseaux Télématiques/Business Statistics and Telematic Networks – initiative is such a development in the field of business statistics.

Some NSIs have already put into place pilot projects to tackle this problem, and others are planning to do so in the near future.

The aim of the initial DSIS work programme is, where practical, to use the experiences from the pilots to build general solutions from the specific tools and techniques used, to build an inventory of problems encountered; to formulate an initial strategy for the collection process and to give advice to collection agencies on the implementation of this strategy.

The five top priorities

There are five high priority elements in the DSIS programme, which should provide early benefits as well as lasting results: harmonising metadata, creating a European reference environment, establishing a telecommunications network, designing and integrating EDI messages and developing an initial strategy for the collection of raw data. Together, these five will reduce the effort of exchanging, retrieving and disseminating statistical information. High quality statistics will be easier to achieve and easier to use, and a solid foundation will be laid for the future.

Agreeing the metadata

Metadata is a large and complex subject which can only be addressed over time. Existing initiatives to agree common metadata definitions are mainly sector driven. However, the DSIS framework seeks to co-ordinate and harmonise efforts in this field, providing consistent definitions which support the interoperability of statistical services.

Philippe Lebaube, Administrator at Eurostat, explains how overlaps will be avoided: *"When it comes to agreeing common metadata definitions, co-ordination between the various existing initiatives, and the new ones, is essen-tial. For this reason the work programme is focused on providing the essential cohesion and direction in this area. By carefully selecting the targets and co-ordinating the results, there will be minimal overlap."*

Phased approach

A phased approach will be taken to harmonising metadata across Europe with the initial focus being on metadata for the European Reference Environment. First, the boundary of metadata will be agreed – namely what is necessary to guarantee the interoperability of distributed statistical information services and what the target timescales are for agreement of definitions. These tar-gets will become the basis of subsequent annual work programmes and will become the targets against which progress is monitored.

Lowering the language barriers

One of the benefits of work in this area is the use of multilingual metadata, which will result in greater use of data across language barriers. Organisations will receive notification of updates to a definition from Eurostat, who will be responsible for keeping and disseminating the agreed definitions, initially on paper with an electronic version, and subsequently by EDI techniques over the telecommunications network.

Towards a European reference environment

The reference environment will provide the disseminators with a source of reference data from which they can produce dissemination products. It is data which is harmonised and validated. This means that the data are structured according to agreed standards and the associated metadata have agreed meanings.

Co-operative agreements

Each organisation will put in place its own reference environment, which contains data to meet both its own needs and those of other organisations which are allowed access to it. Access rights and relative responsibilities will be defined in collaboration agreements, thus creating the European reference environment.

Gilles Decand, Head of Unit at Eurostat, expects the idea of a European reference environment to take off pretty rapidly: *"The gradual approach adopted in the work programme means that current practices and rela-tionships can easily be maintained in parallel. This permits organisations to implement the solution at different rates. However, the perceived benefits of moving to the new European reference environment should encourage all sec-tors and organisations to join in sooner rather than later."*

Substantial benefits

Adoption of the reference environment concept by DSIS organisations gives substantial benefits at the regional, national and European levels. At all levels, statisticians benefit from rapid access to validated, harmonised and multi-lingual data for which the methods, statistical concepts, class-ifications and dataset descriptions and identifiers conform to agreed standards, irrespective of source. There will be less reliance on large, complex publications and it will be easier to respond to specific requests.

Philippe Lebaube comments: *"In the future, we believe statisticians will find a greater number and range of clientele making demands on their services. The range of products will increase, as will the media used in dissemination. This expansion, combined with the diversity of production methods, will place a large burden upon scarce resources. Separating production from dis-semination will relieve some of this burden and give statisticians greater flexibility in designing new products, enabling them to respond more quickly to new requirements."*

A programme that works

The work programme for implementing the DSIS programme is a highly practical one. It is made up of a number of easily managed activities, each producing readily identifiable results. What is more, each activity results in the implementation of a real service to users.

Structure of the DSIS work programme

The work programme is divided into a number of activities, each with a clearly defined aim and producing a well-defined and measurable result. Some activities are individual development projects, others are more generic tasks or provide on-going operational management.

DSIS handbook

The handbook is an essential aid to the efficient and efffective management of the work programme. It has been written for those people who are involved in DSIS at both the programme and the activity level. It identifies levels of responsibilities and provides a set of standards, models and guidelines.

Co-operation and collaboration agreements

Implementation and operation of a service resulting from completion of an activity may require two or more DSIS organisations to work together in an agreed manner. In each case a collaboration agreement between the parties will be made to ensure that the responsibilities for providing or using a service are understood.

User needs

The aim of meeting user needs must be the ultimate driving force behind any activity in the work programme. One of the early tasks of each activity is to specify the requirements. Activity management focuses on ensuring that the requirements are met in the most effective and efficient manner, consistent with the activity plan.

Importance of pilot projects

The use of pilot projects is seen as a very important step in the production of informatics solutions. Whenever possible, they will be undertaken to test technical components, procedures and organisational aspects of the work. Some will be used to demonstrate proposed solutions.

Who does the work?

The activities or tasks will be assigned to one of the following:
- a work group or task force
- an administrative unit of Eurostat
- a contractor, which may be a consortium from competent national administrations.
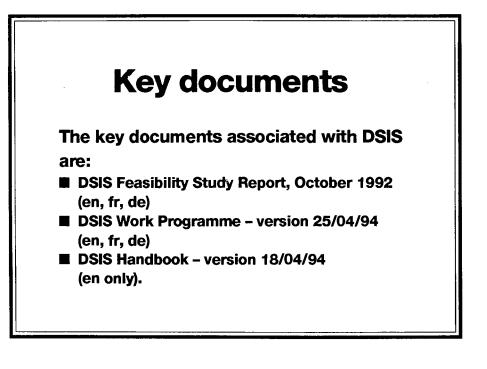
Achievements within two years

On completion of the second annual work programme it should be possible to report that considerable progress has been made on completing the priority tasks and that benefits are being realised. Specifically DSIS organisations will be benefiting from:
- use of many agreed metadata definitions and their strict version control being managed by the master metadata system
- the first implementations of the European Reference Environment, which will be the subject of a review towards the later part of the second year
- implementation of the DSIS network providing both electronic mail and application-to-application file transfer
- adoption of standard EDI messages for statistics
- improved raw data collection methods and tools.

Co-ordination with DSIS organisations

Community and national interests are represented, and decisions on detailed matters taken, by the proposed STN WG (Statistics, Telematics Networks and EDI Working Group). DSIS representatives on the working group are the National co-ordinators (for DSIS) for their respective National Administrations.

Key documents

The key documents associated with DSIS are:
- **DSIS Feasibility Study Report, October 1992 (en, fr, de)**
- **DSIS Work Programme – version 25/04/94 (en, fr, de)**
- **DSIS Handbook – version 18/04/94 (en only).**

Venta y suscripciones • Salg og abonnement • Verkauf und Abonnement • Πωλήσεις και συνδρομές
Sales and subscriptions • Vente et abonnements • Vendita e abbonamenti
Verkoop en abonnementen • Venda e assinaturas

BELGIQUE / BELGIË

**Moniteur belge /
Belgisch staatsblad**

Rue de Louvain 42 / Leuvenseweg 42
1000 Bruxelles / 1000 Brussel
Tél. (02) 512 00 26
Fax (02) 511 01 84

Jean De Lannoy

Avenue du Roi 202 / Koningslaan 202
1060 Bruxelles / 1060 Brussel
Tél. (02) 538 51 69
Télex 63220 UNBOOK B
Fax (02) 538 08 41

Autres distributeurs/
Overige verkooppunten:

**Librairie européenne/
Europese boekhandel**

Rue de la Loi 244/Wetstraat 244
1040 Bruxelles / 1040 Brussel
Tél. (02) 231 04 35
Fax (02) 735 08 60

Document delivery:

Credoc

Rue de la Montagne 34 / Bergstraat 34
Bte 11 / Bus 11
1000 Bruxelles / 1000 Brussel
Tél. (02) 511 69 41
Fax (02) 513 31 95

DANMARK

J. H. Schultz Information A/S

Herstedvang 10-12
2620 Albertslund
Tlf. 43 63 23 00
Fax (Sales) 43 63 19 69
Fax (Management) 43 63 19 49

DEUTSCHLAND

Bundesanzeiger Verlag

Breite Straße 78-80
Postfach 10 05 34
50445 Köln
Tel. (02 21) 20 29-0
Telex ANZEIGER BONN 8 882 595
Fax 202 92 78

GREECE/ΕΛΛΑΔΑ

G.C. Eleftheroudakis SA

International Bookstore
Nikis Street 4
10563 Athens
Tel. (01) 322 63 23
Telex 219410 ELEF
Fax 323 98 21

ESPAÑA

Boletín Oficial del Estado

Trafalgar, 27-29
28071 Madrid
Tel. (91) 538 22 95
Fax (91) 538 23 49

Mundi-Prensa Libros, SA

Castelló, 37
28001 Madrid
Tel. (91) 431 33 99 (Libros)
          431 32 22 (Suscripciones)
          435 36 37 (Dirección)
Télex 49370-MPLI-E
Fax (91) 575 39 98

Sucursal:

Librería Internacional AEDOS

Consejo de Ciento, 391
08009 Barcelona
Tel. (93) 488 34 92
Fax (93) 487 76 59

**Llibreria de la Generalitat
de Catalunya**

Rambla dels Estudis, 118 (Palau Moja)
08002 Barcelona
Tel. (93) 302 68 35
Tel. (93) 302 64 62
Fax (93) 302 12 99

FRANCE

**Journal officiel
Service des publications
des Communautés européennes**

26, rue Desaix
75727 Paris Cedex 15
Tél. (1) 40 58 77 01/31
Fax (1) 40 58 77 00

IRELAND

Government Supplies Agency

4-5 Harcourt Road
Dublin 2
Tel. (1) 66 13 111
Fax (1) 47 80 645

ITALIA

Licosa SpA

Via Duca di Calabria 1/1
Casella postale 552
50125 Firenze
Tel. (055) 64 54 15
Fax 64 12 57
Telex 570466 LICOSA I

GRAND-DUCHÉ DE LUXEMBOURG

Messageries du livre

5, rue Raiffeisen
2411 Luxembourg
Tél. 40 10 20
Fax 49 06 61

NEDERLAND

SDU Overheidsinformatie

Externe Fondsen
Postbus 20014
2500 EA 's-Gravenhage
Tel. (070) 37 89 880
Fax (070) 37 89 783

PORTUGAL

Imprensa Nacional

Casa da Moeda, EP
Rua D. Francisco Manuel de Melo, 5
1092 Lisboa Codex
Tel. (01) 69 34 14
Fax (01) 69 31 66

**Distribuidora de Livros
Bertrand, Ld.ª**

Grupo Bertrand, SA

Rua das Terras dos Vales, 4-A
Apartado 37
2700 Amadora Codex
Tel. (01) 49 59 050
Telex 15798 BERDIS
Fax 49 60 255

UNITED KINGDOM

HMSO Books (Agency section)

HMSO Publications Centre
51 Nine Elms Lane
London SW8 5DR
Tel. (071) 873 9090
Fax 873 8463
Telex 29 71 138

ÖSTERREICH

**Manz'sche Verlags-
und Universitätsbuchhandlung**

Kohlmarkt 16
1014 Wien
Tel. (1) 531 610
Telex 112 500 BOX A
Fax (1) 531 61-181

SUOMI/FINLAND

Akateeminen Kirjakauppa

Keskuskatu 1
PO Box 218
00381 Helsinki
Tel. (0) 121 41
Fax (0) 121 44 41

NORGE

Narvesen Info Center

Bertrand Narvesens vei 2
PO Box 6125 Etterstad
0602 Oslo 6
Tel. (22) 57 33 00
Telex 79668 NIC N
Fax (22) 68 19 01

SVERIGE

BTJ AB

Traktorvgen 13
22100 Lund
Tel. (046) 18 00 00
Fax (046) 18 01 25
          30 79 47

ICELAND

**BOKABUD
LARUSAR BLÖNDAL**

Skólavördustíg, 2
101 Reykjavik
Tel. 11 56 50
Fax 12 55 60

SCHWEIZ / SUISSE / SVIZZERA

OSEC

Stampfenbachstraße 85
8035 Zürich
Tel. (01) 365 54 49
Fax (01) 365 54 11

BÅLGARIJA

**Europress Klassica BK
Ltd**

66, bd Vitosha
1463 Sofia
Tel./Fax 2 52 74 75

ČESKÁ REPUBLIKA

NIS ČR

Havelkova 22
130 00 Praha 3
Tel. (2) 24 22 94 33
Fax (2) 24 22 14 84

MAGYARORSZÁG

Euro-Info-Service

Honvéd Europá Ház
Margitsziget
1138 Budapest
Tel./Fax 1 111 60 61
1 111 62 16

POLSKA

Business Foundation

ul. Krucza 38/42
00-512 Warszawa
Tel. (2) 621 99 93, 628-28-82
International Fax&Phone
(0-39) 12-00-77

ROMÂNIA

Euromedia

65, Strada Dionisie Lupu
70184 Bucuresti
Tel./Fax 0 12 96 46

RUSSIA

CCEC

9,60-letiya Oktyabrya Avenue
117312 Moscow
Tel./Fax (095) 135 52 27

SLOVAKIA

**Slovak Technical
Library**

Nm. slobody 19
812 23 Bratislava 1
Tel.   (7) 220 452
Fax : (7) 295 785

CYPRUS

**Cyprus Chamber of Commerce and
Industry**

Chamber Building
38 Grivas Dhigenis Ave
3 Deligiorgis Street
PO Box 1455
Nicosia
Tel. (2) 449500/462312
Fax (2) 458630

MALTA

Miller distributors Ltd

PO Box 25
Malta International Airport
LQA 05 Malta
Tel. 66 44 88
Fax 67 67 99

TÜRKIYE

**Pres Gazete Kitap Dergi
Pazarlama Dagitim Ticaret ve sanayi
AŞ**

Narlibaçhe Sokak N. 15
Istanbul-Cagaloğlu
Tel. (1) 520 92 96 - 528 55 66
Fax 520 64 57
Telex 23822 DSVO-TR

ISRAEL

ROY International

PO Box 13056
41 Mishmar Hayarden Street
Tel Aviv 61130
Tel. 3 496 108
Fax 3 648 60 39

EGYPT/
MIDDLE EAST

Middle East Observer

41 Sherif St.
Cairo
Tel/Fax 39 39 732

UNITED STATES OF AMERICA /
CANADA

UNIPUB

4611-F Assembly Drive
Lanham, MD 20706-4391
Tel. Toll Free (800) 274 4888
Fax (301) 459 0056

CANADA

Subscriptions only
Uniquement abonnements

Renouf Publishing Co. Ltd

1294 Algoma Road
Ottawa, Ontario K1B 3W8
Tel. (613) 741 43 33
Fax (613) 741 54 39
Telex 0534783

AUSTRALIA

Hunter Publications

58A Gipps Street
Collingwood
Victoria 3066
Tel. (3) 417 5361
Fax (3) 419 7154

JAPAN

Kinokuniya Company Ltd

17-7 Shinjuku 3-Chome
Shinjuku-ku
Tokyo 160-91
Tel. (03) 3439-0121

Journal Department

PO Box 55 Chitose
Tokyo 156
Tel. (03) 3439-0124

SOUTH-EAST ASIA

Legal Library Services Ltd

Orchard
PO Box 0523
Singapore 9123
Tel. 73 04 24 1
Fax 24 32 47 9

SOUTH AFRICA

Safto

5th Floor, Export House
Cnr Maude & West Streets
Sandton 2146
Tel. (011) 883-3737
Fax (011) 883-6569

AUTRES PAYS
OTHER COUNTRIES
ANDERE LÄNDER

**Office des publications officielles
des Communautés européennes**

2, rue Mercier
2985 Luxembourg
Tél. 499 28-1
Télex PUBOF LU 1324 b
Fax 48 85 73/48 68 17