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** It appears that the present difficulties concerning the EMPLOYMENT OR REEMPLOYMENT OF EXECUTIVE STAFF AND ENGINEERS in the Community countries are due primarily, to the concentration and reorganization of companies, which has gone on rather faster during the past year, and sometimes, but to a lesser degree, to the state of the market. This is one of the points made by the Commission of the European Communities in reply to a written question from Mr Cousté, French Member of the European Parliament, as to whether there is a crisis on the market for executive staff and engineers in the Community countries. The content of the Commission's reply is given in ANNEX 1.

** 1,250,000 DOCUMENTS OF NUCLEAR INTEREST: this is the collection stored in the memory of the computer of the Commission of the European Communities. Out of this mass, it only takes a few seconds to find replies to the requests for information which industrialists and research workers submit every day to the Commission's Centre for Information and Documentation (CID). On the basis of the methods developed in the nuclear field, the Commission's documentalists are now preparing the

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The information and articles published in this Bulletin concern European scientific cooperation and industrial development in Europe. Hence they are not simply confined to reports on the decisions or views of the Commission of the European Communities, but cover the whole field of questions discussed in the different circles concerned.

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ground for the gradual creation of a NETWORK OF AUTOMATED DOCUMENTARY SYSTEMS, with the ultimate aim of providing European "information users" with fast and complete access to the documentation accumulated throughout the world in all branches of human knowledge. A short note on this subject will be found in ANNEX 2.

** The TRANSPORT industry represents about 10% of the national income in most of the industrialized countries. But owing to its very rate of expansion, transport appears to be increasingly escaping man's control; its social cost (pollution, accidents, traffic jams, etc.) is increasing at a worrying rate, while at the same time the price paid by the user is dropping steadily. For these reasons the joint transport policy will not only need to forge the as yet non-existent links between the national transport networks, but also to enable member countries to join forces in solving the serious problems at present connected with transport development. A note on this subject will be found in ANNEX 3.

** According to provisional estimates by Community experts, THE COMMUNITY'S INTERNAL ENERGY CONSUMPTION IN 1971 amounted to about 871 million tce (tons of coal equivalent), an increase of 3.1% over 1970. This fall in the growth rate of internal energy consumption (the mean rate in 1950-70 was 5.3%) reflects the slowing-down of general economic development, together with the rather mild weather of 1971.

The following table shows the breakdown of internal energy consumption from primary sources and equivalents within the Community:

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	Volume (10 ⁶ tce)		Variation (%)	Proportion of total energy (%)	
	1970	1971	1971/70	1970	1971
Coal and equivalents	189.7	176.9	-6.8	22.5	20.3
Lignite and equivalents	32.7	32.5	0.6	3.9	3.7
Crude oil and equivalents	500.2	521.0	4.2	59.2	59.9
Natural gas	72.9	96.6	27.0	8.6	10.6
Electricity + others	48.9	47.7	-2.5	5.8	5.5
TOTAL	844.4	870.7	3.1	100	100

** EXPENDITURE ON SOCIAL SECURITY SYSTEMS WITHIN THE COMMUNITY in 1965 represented slightly more than 15% of the GNP of the Six (as against 12.7% in the United Kingdom, 7.3% in the United States, 11.1% in the USSR and 6.0% in Japan). The following table shows the breakdown of social security expenditure in the Member States of the Community in 1965 as a percentage of the GNP:

Belgium	France	Germany	Italy	Luxembourg	Netherlands
14.5	15.9	15.6	15.5	15.7	15.4

SOCIAL SECURITY REVENUE in the Community countries in 1965 consisted for the most part of contributions paid by employers and insured persons, the state contributions being only secondary:

Contributions	Belgium	France	Germany	Italy	Luxembourg	Netherlands
Employers	51.1%	70%	47.9%	60%	40.9%	42%
Insured persons	23.1%	19%	30.7%	14.7%	24%	42.2%
Public authorities	21%	8.6%	18.1%	19.2%	25.8%	7.9%

- ** The creation by MBB/BAC and SAAB of a new company to develop a SHORT TAKE-OFF AND LANDING AIRCRAFT (STOL) is a further step towards the integration of the European aerospace industry and one which has been welcomed by Mr Spinelli, Member of the Commission of the European Communities with Special Responsibility for Industrial Affairs and Research. In civil aviation, STOL is the next major area of development. Collaboration in this field could be an important catalyst for the development of permanent transnational industrial groups in this key industry.
- ** The Commission of the European Communities, in agreement with the Associated African States and Madagascar (AASM), has commissioned a study on the possibilities of CREATING EXPORT-ORIENTATED INDUSTRIES WITHIN THE AASM, i.e., industries producing articles the main markets for which would be in the industrial countries and particularly the Community, which is a privileged market for these states. This is a study aimed at drawing up a short-list of manufacturing industries orientated towards selected forms of exports which might be set up in one of the Associated States and are worth keeping in view for detailed examination at a later date.
- ** The Commission of the European Communities has just taken a favourable decision concerning a COOPERATION AGREEMENT relating to technical matters and sales promotion in the field of OPTICAL MICROSCOPES and their accessories recently concluded by the companies of Wild Paris and Leitz-France.
- ** "THE SIEMENS/CII AGREEMENT must be welcomed insofar as it aims to create a European transnational entity in the computer sector", said Mr Spinelli, Member of the Commission of the European Communities with special responsibility for Industrial Affairs and Research, when commenting on the cooperation agreement recently concluded between the two companies. He stated that the Commission of the European Communities had not yet received notice of this agreement and therefore reserved the right to pass a more detailed opinion, particularly with regard to the observation of the rules of competition laid down in the Treaties.

The Siemens/CII agreement would be an important step towards the RESTRUCTURATION OF THE COMPUTER INDUSTRY AT EUROPEAN LEVEL which the Commission considers essential in order to enable the industries of Community countries to reach a sufficient level of competitiveness with foreign groups of incomparably greater scope and efficiency (see "Industry, Research and Technology" No. 129). In the enlarged Community, it would be desirable for other firms suffering from the same shortcomings to move towards the creation of similar transnational complexes if it proved impossible for them to participate in this first attempt at cooperation.

** In all, 73% OF THE BUSINESS TYCOONS who attended the Second European Symposium on Management (see "Industry, Research and Technology" No. 123) thought that the sessions devoted to EUROPEAN INFORMATION were satisfactory, good or excellent.

A total of 68% said that they would certainly attend the third symposium, to be held in 1973, and the majority requested that even more attention be devoted to the European framework in which their firms developed.

** Under the auspices of the European Communities, the Molecular Biology Centre of the Consiglio Nazionale delle Ricerche at Rome is to hold a COURSE ON MOLECULAR BIOLOGY AND RADIOBIOLOGY for young Community research workers from 13 September to 8 October 1972. Applications for enrolment should reach the Secretariat of the Molecular Biology and Radiobiology Course, (Commission of the European Communities, DG III, 200 rue de la Loi, 1040 Brussels), before 7 April 1972.

THE MARKET FOR EXECUTIVE STAFF AND
ENGINEERS IN THE COMMUNITY COUNTRIES

Reply by the Commission of the European Communities to a written question from Mr Cousté, French Member of the European Parliament

The figures in the Commission's possession concerning the situation of executive staff and engineers in the Member States of the Community are incomplete and piecemeal.

The information collected by the European Communities' Statistical Office shows that not all the Member States draw up special statistics concerning executive staff and engineers and that the definition of this category varies from one country to another.

In West Germany, for example, the number of unemployed (persons registered as unemployed) in the category of "engineers, technicians and related professions", which reached an annual average of 8,400 in 1967, had fallen to about 3,000 by 1970. The average number of unemployed for the first nine months of 1971 is about 4,000. In this same category, the number of offers of employment recorded by the employment exchanges, with an annual average of 4,900 in 1967, had risen to 20,500 by 1970. The average figure for the first nine months of 1971 is about 19,500 registered offers.

In France, the number of persons in the category of engineers registered as unemployed, which totalled an average of 1,400 in 1967, had risen to 2,300 by 1970. The average number of jobs sought in the first seven months of 1971 was about 3,000. In addition, the number of offers of employment recorded by the employment exchanges in the category of "engineers", which amounted to an annual average of 100 in 1969, had risen to about 200 by 1970. The average for the first seven months of 1971 is about 800. The increase in the number of jobs sought and positions vacant is partly due to an improvement in the services offered by the National Employment Agency.

In Italy the number of persons in the category of "executive, salaried and junior staff" registered as unemployed amounted to 70,800 in 1967 and 86,600 in 1970. The number of offers of employment for this same category amounted to an annual average of about 50 in 1967 and 40 in 1970.

The figures quoted above require some qualification. For various reasons public employment exchanges record only a proportion of the situations offered and vacant for executive staff and engineers. In the absence of more complete information, it is therefore impossible to obtain an accurate idea of the situation with regard to this category of personnel throughout the Community.

Certain enquiries which have been made, particularly in France, suggest that the total number of offers of employment for executive staff and engineers published in the newspapers was tending to fall in 1971 by comparison with 1970.

Apart from these statistical factors, the information collected shows that the present difficulties concerning the employment or reemployment of executives and engineers are due primarily to the accelerated concentration and restructuration of companies during the past year and also, to some extent, to the present economic situation. Age factors (serious difficulties are reported as regards the placing of the over-50s, sometimes even the over-40s), together with further training or continuous retraining, justify suitable action aimed at assisting the retraining of executive staff and engineers. At these high levels, the individual character of the qualifications held or required also appreciably increases the difficulty of matching supply and demand.

THE COMMUNITY'S AUTOMATED NUCLEAR DOCUMENTATION SYSTEM

1,250,000 documents of nuclear interest: this is the collection stored in the memory of the computer of the Commission of the European Communities. Out of this mass it is a matter of only a few seconds to find replies to requests for information which industrialists and research workers submit every day to the Commission's Centre for Information and Documentation (CID).

The automated European Nuclear Documentation System (ENDS) developed by the CID was inaugurated in 1966 for the benefit of Community users. Each year the number of documents which it incorporates increases by about 130,000, i.e., 600 each working day. The documentalist no longer needs to spend hours comparing indexes and scanning bibliographies; by means of a system of indexing by keywords, the content of each document incorporated in the system is rapidly analysed and memorized. When the documentalist has to deal with a request for information, he only needs to "translate" this request, i.e., to convert it into keywords, and then to transmit it to the computer. The machine then scans its memory automatically for the references of documents capable of replying to the request and prints out a printed list of them.

The next thing is to check the computer's work, i.e., to eliminate from the documents selected those which do not provide information relevant to the request. Until recently this was a long job because it was performed manually. But some weeks ago this procedure was mechanized also. Even the formulation of the request to the computer for information has been made more reliable now that a direct dialogue is possible between the documentalist and the machine. The instruments of this dialogue are a console (a sort of typewriter keyboard) and a television screen. The documentalist asks the computer, on the basis of a sample of 200,000 documents, for the number of documents which it possesses in reply to a given question. If requested, the computer can also print out immediately on the screen the titles of the documents which it has selected. The documentalist can thus judge whether the question, as formulated by him, gives satisfactory results, or whether it should be altered.

Better still: the documentalist can inform the machine of those documents which it has found which he considers particularly relevant and those which on the contrary, appear off target. Later on, when the machine makes its search among the entire mass of memorized documents, it will be able to classify the selected documents by order of relevance on its own.

As a result of these refinements, the ENDS documentalists have been relieved of the last remnants of routine work. On the basis of this new experience the Commission's documentalists are collaborating with specialist centres in the Member States to draw up an automated documentation system in the metallurgical sector, which, of course, will draw on the methods developed for nuclear documentation.

All this is only a beginning: In accordance with a Council resolution, the Community intends gradually to create a network of automated documentation systems, the ultimate aim being to provide "information consumers" with rapid and complete access to the documentation accumulated throughout the world in all branches of human knowledge.

A JOINT TRANSPORT POLICY FOR WHAT?

There is every sign at present that transport, by reason of its very rate of expansion, is escaping from human control; it is devouring itself and becoming a menace to human life.

The impact of transport on social progress is so great that no government abdicates to private enterprise the responsibility for setting up transport networks and organizing their operation. Yet at Community level there appears as yet to be no awareness of any European interest which needs to be safeguarded by organizing transport at the Community level.

Although a joint transport policy appears in the European Treaties as one of the aims of economic union, the principles affirmed there have seen little in the way of practical implementation (see "Industry, Research and Technology" No. 123). Community trade, which has multiplied sixfold in the last ten years and is still growing, has to make use of a criss-cross network of national systems.

The Community's task must be to strengthen the links between these national systems, and above all to ensure that the error of national fragmentation is not repeated when future modes of transport are introduced. These at least should be planned and built on a joint basis, with due regard to the Community's own interests. Lastly, the Community must harmonize the various national transport legislations whose divergences still impede trade between Community countries.

Regulation of transport capacity

It is desirable that a balance be maintained between transport capacity and customers' requirements. Governments have solved this problem by limiting entry to the transport profession in order to control the transport capacity available on their national territory.

For transport from one country to another, governments grant one another licences in pairs, but this system, while adequate to regulate bilateral trade is unsuitable for trade between the six Common Market partners.

The Community has managed to set up a system of Community licences for transport between the Six, but their number is limited to 1200, they are split into national contingents and are issued by the national authorities. They cover only about 15% of intra-Community trade, the remainder being still subject to the system of bilateral quotas. It is not easy to understand why Community licences remain the exception and why they are not granted by a Community authority.

Limitation of weight and size of vehicles

The rapid growth of road traffic has forced governments to limit the weight and size of commercial vehicles. Since each government has chosen standards which it deemed appropriate to its own road network and to the interests of its truck manufacturers, the Community finds itself saddled with a West German regulation which limits the axle loading to 10 tons and a French regulation permitting axle loads of up to 13 tons. As a result there is no market for French trucks in West Germany and, when they have to be used in that country, they cannot do so fully loaded. A further result is that West German road/trains designed to come within the national maximum axle load are unable to use French highways which are not suitable for their length and size. The situation clearly shows how regulations which may be well justified in the country of origin constitute obstacles to Community trade.

In order to get over this difficulty the Commission has made a compromise proposal limiting axle loads to 11.5 tons.

Public transport

A state which owns railways, roads and canals permits their use only in return for certain charges in the collective interest in the form of reduced or "support" tariffs. The state also intervenes to alter the conditions governing competition between rail and road. In each country some sort of balance is struck between the subsidized railways and the road transport systems, which are subject to taxation. The result of this manipulation, however justified it may be, is that the price paid for transport is only remotely related to the operating cost.

The aim of the reform which the Commission of the European Communities intends to propose in the matter of transport prices is to fix a common basis, related to the cost of the use of infrastructures, for differential tariffs which will take other cost factors into account but will have a "transparent" structure, i.e., one which is understandable to users.

As regards roads, the amortization of the costs of construction and maintenance should be borne by users, each paying a sum dependent on the damage caused by his passage, which is a function of frequency, weight and speed.

Railways (which are both owners and users of the infrastructure) would have to base their fares on operating costs, with the state aid necessary to discharge past liabilities, pay off old loans and subsidize exceptional social charges. The obligations imposed by the public service nature of the railways would have to be exactly compensated by equivalent subsidies figuring clearly in the operating accounts.

In order to accomplish this revolution, companies should be managed independently and make profits in order to provide a return on capital and to pay back loans contracted for the maintenance and development of the network. The state would intervene only to define programmes and to supervise their subsequent implementation.

Future forms of transport

We are beginning to form an idea of the possible shape of the transport systems of the future. It is clear that they will speed up human communications and the transport of goods considerably, but at the same time will be a menace to human life because of the nuisances which seem indissociable from them.

The aircraft which will soon enable us to cover 2000 km in an hour will create large uninhabitable areas around airports. The supersonic bang will shatter the vestiges of the past stone by stone as it passes by. Roads will cause more deaths than cancer. Will the attendant drawbacks of transport reach a point where they block progress and even drag us backwards? Already transport moves more slowly in cities than in the days of the hansom cab.

Ecological progress may provide solutions which are as yet beyond us, but in this new field research and experimentation can and must be conducted in common, for there are no national interests to safeguard - simply a human interest to defend.