Gyorgy Stubnya and Akos Robert Herman

Department Head
National Technical Information Center and Library
Muzeum, H - 1088
Hungary, POB 12, H-1428
Telephone:36-1-118-5852 (36-1) 138-2300, (36-1) 138-4803
FAX:(36-1) 138-2414 36-1-118-0942
Internet:

Information System in Transition -- The Hungarian Scene

Recently political and economical conditions have been changing permanently in the eastern European countries. This permanent transition is characterizing also Hungary as well as influencing the function and activity of the Hungarian library/information network, too. Our institute, the National Technical Information Centre and Library (Hungarian abbreviation: OMIKK) is an active participant in and very often a suffering victim of this process of transition.

In the first part of our lecture we would like to demonstrate and analize a little bit the general transformation of the Hungarian libraries and information centres and to make some slight predictions for future trends.

In the second part we try to give a short summary on the activity of OMIKK and elucidate our present and prospective role within the national information policy.

In both cases considerations referring to the present situation will suggest some necessary tasks and will help in drawing up conlusions regarding our future acquisition policy, including export and import of different information resources.

Fig. 1.

The first figure demonstrates a regressive tendency of the Hungarian library conditons during the last ten years. During this period the number of public libraries (the figure includes the community and company libraries) decreased with 45 percent compared to 1985. The larger decrease (about 70 percent) refers to company libraries, namely from 5003 to 1470. This means that about 3500 companies because of their financial difficulties liquidated their own libraries or the factories have been closed.

This tendency is significant also to the figures representing the number of personnel. The most unfavourable effect of this negative tendency is represented by the figures acquisition expenditures. In the column representing the special libraries (this name includes the national libraries, the university libraries, the libraries of the Hungarian Academy of Sciences etc.) there is no remarkable decrease in the number of libraries as well as the nominal value of acquisition expenditures. But, taking into consideration that during this period the prices of books and periodicals increased and were 3,5 times more than 8 years ago, the result is very depressing. This general tendency is characteristic to our institute as well.

Fig. 2.

This second figure gives some more details concerning this regrettable acquisition period of OMIKK.

This regression is significant not only to the library network but also to the whole economy. The next figure gives some data on the change of unemployment, number and structure of enterprises, industrial productivity during the last 10 years.

Fig. 3.

In the case of unemployment and productivity decrease, we hope that the worst was the end of 1992, now we are slightly over. This fact gives a little hope to see more promising the prospect of libraries in the near future.

The new structure of economy includes joint venture companies, increasing number of small and medium sized enterprises (see Fig. 3.). Supposingly they will carry on more Hungarian R D activities which has been very low, recently (see Fig. 4.).

Fig. 4.

The increasing R D activity should also give a bigger market for OMIKK to collect technical and techno-economical information and serve better the users.

In contrary the problems outlined before, there are two fields of modern librarianship which have been developing more rapidly. One is the computerization - including also the creation of new data bases as well as the use of foreign ones - and the other is the telecommunication infrastructure.

Fig. 5.

This figure illustrates that the computerization of libraries increased essentially.

Fig. 6.

Figure 6. shows that the modern and quick telecommunication network will reach all the bigger Hungarian cities and give possibilities to establish more and more foreign connections.
This trend means that in our acquisition activity the needs for foreign databases and CD-ROMs will increase already in the near future. The higher and higher prices of books and periodicals (e.g. in average one Hungarian book = 4,5 USD, one journal title per year 14 USD; one foreign book 14 USD, one journal per year 293 USD) recommends the trend to buy less copies from the same books and journals and to establish a few big lending library with central stocks. Using more extensively the CD-ROM and data base possibilities, the libraries will be access libraries (except commercial materials) in the future.

The possible starting of a big project supported by a World Bank loan and the Hungarian State could change essentially the future aquisition policy in our country.

The title of the planned project is: "Textbooks and higher education libraries project."

The third Sub-Programme aims at developing of higher education libraries included some special library may be OMIKK, too.

The principal objectives of this Sub-Programme are:

- To upgrade the library and information system serving higher education to appropriate Western European standards.
- To provide essential access to books, journals and other information sources and services, in support of students, teachers and researchers, within the context of curriculum and research needs and within the framework of higher education policy.
- To deliver information services in the most efficient and cost-effective ways and to establish, by the project's end, affordable and sustainable systems for the future.
- To ensure that the components of an effective library and information service (including stock acquisition, interlending, accommodation and study facilities, the technological base, and staffing for management and service), are given due attention; and that library and information service development is responsive to changing needs and to the implementation of new management and professional practices.
- To link Hungarian library and information services to European and world systems and sources.

After this short survey of the general situation of the Hungarian library system, we would like to introduce our institution.

The National Technical Information Centre and Library (OMIKK) is the successor of the public library of the Hungarian Royal Museum of Technology and Industry founded in 1883. OMIKK as a complex information organization, with a staff of 300, is one of the first five largest Hungarian libraries.

Its major fields of activities are:

information services

- on-line service through the national packet - switched network from databases of Hungarian R D organizations including HRDIS, HRDINST, (available now), HRDEXP, HRDA (available from 1995);
- collecting, processing, distributing technical economic and business information,
- on-line and CD-ROM information retrieval (OMIKK has access to 9 international host organizations, making available about seven hundred databases for several hundred customers of OMIKK);
- preparing reports, analyses and feasibility studies for supporting decision making on various levels.

traditional scientific and technical library services i. e. OMIKK incorporates the National Technical Library with its holdings of 1,5 million library units.

editing and publishing books, reviews, journals OMIKK publishes different journals for the Hungarian industrial professionals, containing secondary information, the Hungarian R D Abstracts, Science and Technology in English (based on the databases HRDA), and the leading Hungarian journal for information professionals, TMT.

translation sevices

translation of technical and scientific documents from Hungarian into foreign languages and from foreign into Hungarian.

OMIKK uses Information Infrastructure Network which is Hungarian electronic network offering on-line, e-mail, electronic bulletin etc. services

One important function of OMIKK is to educate librarians, information specialists and to cooperate in general training with universities and colleges.

OMIKK customers basically can be classified into two groups:

specialists of industrial enterprises (directors, managers and engineers of small and medium sized enterprises, researchers and experts, decision making staff of the industry), the new generation of industrial specialists (undergraduate and graduate students) and teachers and professors.

OMIKK provides technical and economic information for SME including also consultation services through the network of Hungarian Public Libraries.

OMIKK provides information for specialists using sophisticated computerised on-line information searching and traditional library documentation services.

OMIKK is engaged in international cooperation with UN Agencies (UNDP, UNIDO, IAEA, ITU etc.), with non governmental professional organizations (FID, IFLA, IATUL) and with information centres and libraries of many countries.

OMIKK has been playing a leading role in introducing EC information sources in Hungary. In close cooperation with DG XII, XIII, XXII and the Office for Official Publications of the EU OMIKK organized international seminars, including:

CEC information sources (1992),
Information provision for SMES (1992),
Information market in the EU and in Hungary (1993).

Following this short introduction we give some more details about the fields which are strong connection with our acquisition and service activity.

The scientific databases of OMIKK

OMIKK regards as its outstanding task to supply Hungarian research and technical development with information.

The four databases of our Institution, partly still under development are the following:

Hungarian Research and Development Institutes or logogram **HRDINS**

The database contains the most important data necessary for identifying the research organization and the researchers. The separate records feature the name and address of the business unit and it is possible to trace the structure of the business organization right down to the research unit in the frame of an up to four-level hierarchy. The records of the database include further the manager and all the researchers of the given research unit. The more or less detailed information on the research field of the respecitve unit are also indicated, in addition to listing the offered services and the co-operation possibilities. The database is bi-lingual and the substance of text fields appears in both Hungarian and English.

The basis of the OMIKK HRDINS database was the input gained from some 1500 completed questionnaires.

Hungarian Research and Development Information System or logogram: **HRDIS**

The database of research and development subjects and projects. The database includes the description of and detailed information on, persons, research stations and publications associated with R D subjects. The various records also cover the most important financial data of the project, the co-operating organizations and researchers as well as the related other subjects and research programmes.

Hungarian Research and Development Experts or logogram: **HRDEXP**

Currently a general expert database in the field of technical sciences is not available in Hungary. We wish to fill this gap by developing in the second step a database from the data collected. The purpose of HRDEXP database is supplying information about the scientific and professional activities of the Hungarian technical and scientific experts, their most significant achievements, workplace and dwelling particulars as well as personal data.

Hungarian R and D Abstracts Science and Technology or logogram: **HRDA**

This is an English language quarterly and database which contains abstracts of the most outstanding articles featured in the publications of the Hungarian Academy Sciences, universities, research centres, learned societies etc. including also abstracts of selected theses submitted to the Hungarian Academy of Sciences and to universities. Information of valuable new books is provided as well.

The DATABASES can be searched according to thesauri or free terms. There is a possibility to search according all important data for the content of the following fields:

the economic organization and its sub-units,
the key words
the research subject, field and
the services.

The HOST of our system is presently:

IBM RISC 600 computer
working with UNIX ODT operational system
accessed through X. 25 network
with 1 GB mirror server.

The SERVICING and developing software environment of the system is the following:

ADABAS database handling
NATURAL 4. generation development environment (from Software A. G.).

Collecting, processing and distributing of technical, economic and business information

OMIKK is publishing 15 20 periodicals and yearly 10 20 monographies and 15 20 studies (technical, scientific and economic subject fields).

♦ Within the activity of the dissemination of information OMIKK has developed a large cooperation with interested organizations, (chambers of industry, handicrafts, professional federations, scientific associations, foundations for SME's etc.). These cooperations are resulting a good multiplying effect in this field.

- SME' s first of all in industry and services became interested with growing activity to ensure competitiveness for information on new products, technologies, standards, licences etc.,

To meet the demands of the more than 80 thousand of SME-s the OMIKK creates a specialised databases with Hungarian keywords and the titles of the papers of collected international and home journals.

The whole database or part of it (the annual increase 80 000 data) are deposited in all the public libraries of large Hungarian cities and in the libraries of technical universities (about 60 different places).

We plan the online access to this database next year.

Online search services

OMIKK started its commercial online search services in 1980. It has been available since, for any user in Hungary. In 1982, after the installation of the NEDIX lineswitched network, we could easily access any online vendor through global data networks. We have gradually built up access to a number of hosts:

Dialog (USA)
Data Star (Switzerland)
International Atomic Energy Agency/INIS (Austria)
STN International (Germany)
Questel (France)
Pergamon Infoline (Great Britain, discontinued operation)
ESA-IRS (Italy)
GBI (Germany)
ECHO (Luxembourg)

The most heavily used hosts have been Dialog, Data Star and STN, a high proportion of their databases (about 600-700 in total) have been searched at least once. Usage of the rest of hosts has been marginal (some of them had not been used at all).

OMIKK has been offering its online services on a cost recovery basis, for users who have not their own access to hosts. Now we have about 300-400 customers annually, a number reduced strongly compared to that of previous years.

The bulk of searches in the former years had been directed toward literature retrieval in science and technology, including patent searches. i. e., bibliographic databases had been searched primarily. Recently, however, the majority of searches has been moved to business databases, retrieving factual data on markets, companies, products etc.

CD-ROM services

Since 1992, the Hungarian National Technical Library has been operating a CD-ROM service for its readers, at the reference room.

The CD-ROM databases can be accessed through a Local Area Network for simultaneous access of 21 disks, and through some individual workstation equipped with CD-ROM drives.

The aim of the CD-ROM LAN system is to provide simultaneous access for several users (for library clients as well as for librarians) to a number of CD-ROM databases. The fifteen mostly used databases out of more than fifty titles subscribed by the Library were selected to be accessed through the network. The rest can be used on three stand-alone workstations. The need for an extension of the CD-ROM LAN system is clear. (See Fig. 7.)

Fig. 7.

The LAN itself is a Novell network that serves the purposes of both the CD-ROM system and the shared electronic catalogueing system of the Library.

The CD-ROM server of the network is a MultiPlatters system.

The CD-ROM databases can be used by library readers free of charge if they search them by themselves (perhaps aided by reference librarians). However, if they need the help of trained intermediaries for using sophisticated bibliographic databases (Chemical Abstracts collective Index, COMPENDEX, INSPEC) then a charge should be paid. In both cases, the expenses of the material used (diskettes, papers) should be paid for.

Library Automation at OMIKK

The first offline catalogue database was based on CDS/ISIS and implemented on IBM mainframe computer.The change for an online system and the establishment of the first modules (cataloguing and OPAC) was connected to the purchase of the BIS (Bibliotheks-Informationssystem) software of the German company: DABIS Datenbank Informationssysteme GmbH. This happened in the framework of the shared cataloguing project of Hungarian technical libraries.

The establishment of the shared cataloguing system (in Hungarian acronym OSCAR) was from the very beginning combined with the building of the integrated library system. The online system was started in 1992.

The necessity to upgrade and update the hardware of OMIKK, some troubles with the BIS software and compatibility problems within the shared cataloguing system led to the decision of changing the hardware, the system's software, the physical and logical network and the application oriented software.

The integrated library system of the National Technical Library (OMK) is realized within the network of OMIKK and is making use of the ALEPH (Automated Library Expendable Program of the Hebrew University), developed by ALEPH YISSUM (Hebrew University, Jerusalem) and distributed by Ex Libris Ltd. (Tel-Aviv).

ALEPH and the new hardware for running the system within the network of OMIKK was installed in April 1993.

The integrated library system of OMK consists at present of the following operational subsystems:

cataloguing (with holding information and authority maintenance)

online public access catalogue (OPAC)
acquisition

The database consists of records on books (monographs) and university textbooks. The extension of the database by cataloguing serials is planned for 1994, probably connected to the establishment and starting of the serials control subsystem.

The number of bibliographic records in the database is more then 50 000 for the period from 1982 up to now.

The retrospective conversion of the catalogue for the period before1982 entries of about 200 000 books, 100 000 research and development reports and
10 000 serials is planned for the following 3-5 years depending on available manpower and funding.

Retrospective conversion is problematic because the widely used conversion series cannot cope with the Hungarian part of holdings and with the Hungarian language (alphabet).

The system is online accessible via the public X. 25. packet switched data network.

If we try to give a short summary of future trends of OMIKK paying attention to the acquisition as a parameter it is possible to say:

- the role of electronic media (CD-ROM database etc.) will increase especially in the field of business and company information. Therefore here we should do the work of an access library. (In the case of NTIS report, because of financial problems we already do this activity)
- the new joint ventures and SMEs will make R D investments and in this case the demand on primary documents of technical literature will enhance the lending library role of OMIKK
- the integration of OMIKK to the new information infrastructures (X. 25 network optical cables etc.) included the network of different home institutes, the internet network and databases should give many new directions which may influence our activity as a lending or access library as well.

About the Speakers

Akos Robert Herman
Mr. Herman was born in 1938 in Miskolc. He was awarded metallurgical engineer in 1961, from the Moscow Institute for Non-Ferrous Metals, served as scientific fellow in Research Institute for Electronics, Budapest till 1972, and served in managerial posts at various companies. He is now general director of National Information Centre and Library in Budapest, Hungary. He received his PhD in electronics from Budapest Technical University, 1981. Since 1993 he has been a Professor in Kandó College. His professional interests are: semiconductor, device technology, and informatics. He has a wife and two adult children (a son and a daugther).

Gyorgy Stubnya
Mr Stubnya was Born in Miskolc, Hungary in 1944. He received his Diploma - as chemist - at Kossuth Lajos University of Sciences, in Debrecen in 1968. Between 1969 and 1982 he was researcher and team leader in the Institute of Technical Physics of Hungarian Academy of Sciences. Mr Stubnya's main research fields: semiconductor technology. Since 1982 he has served as department head of the National Technical Information Centre and Library (OMIKK). Here the task was to develop various current awareness and SDI services, editing and publishing abstract journals, surveys etc. He is married and has one adult daugther.

Libraries in Hungary (1985-1993)

Year	Public libraries				Special libraries				OMIKK		
	Number of libraries	*Personnel*	*Collection (item)*	*Acquisition (in USD)*	*Number of libraries*	*Personnel*	*Collection (items)*	*Acquisition (in USD)*	*Personnel*	*Collection (items)*	*Acquisition (in USD)*
1985	9646	12848	50.613489	2.827017	123	2775	28.614738	5.243274	489	1.408086	622535
1986	9322	12554	52.071700	3.484957	123	2763	29.699947	7.400000	472	1.452147	714821
1987	9051	11993	53.077658	3.410815	123	2526	30.067985	8.375864	457	1.484946	748207
1988	8733	11671	53.871671	3.426836	123	2412	30.434480	8.988874	492	* 1.358111	848759
1989	8217	11225	54.205485	3.123947	122	2548	30.862617	8.583186	540	1.382956	904121
1990	7350	10133	52.988443	3.524044	121	2385	31.155333	9.409344	448	1.404790	1.148181
1991	6587	8574	51.728177	3.566963	120	2246	31.669879	9.572625	409	1.423330	965324
1992	5850	8168	51.007618	4.389690	117	2162	31.673583	8.945042	323	* 1.404806	856610
1993	5264	7670	49.101826	4.301048	117	2213	32.240414	8.431664	297	1.418265	983478

* weeding in 1988 and 1992

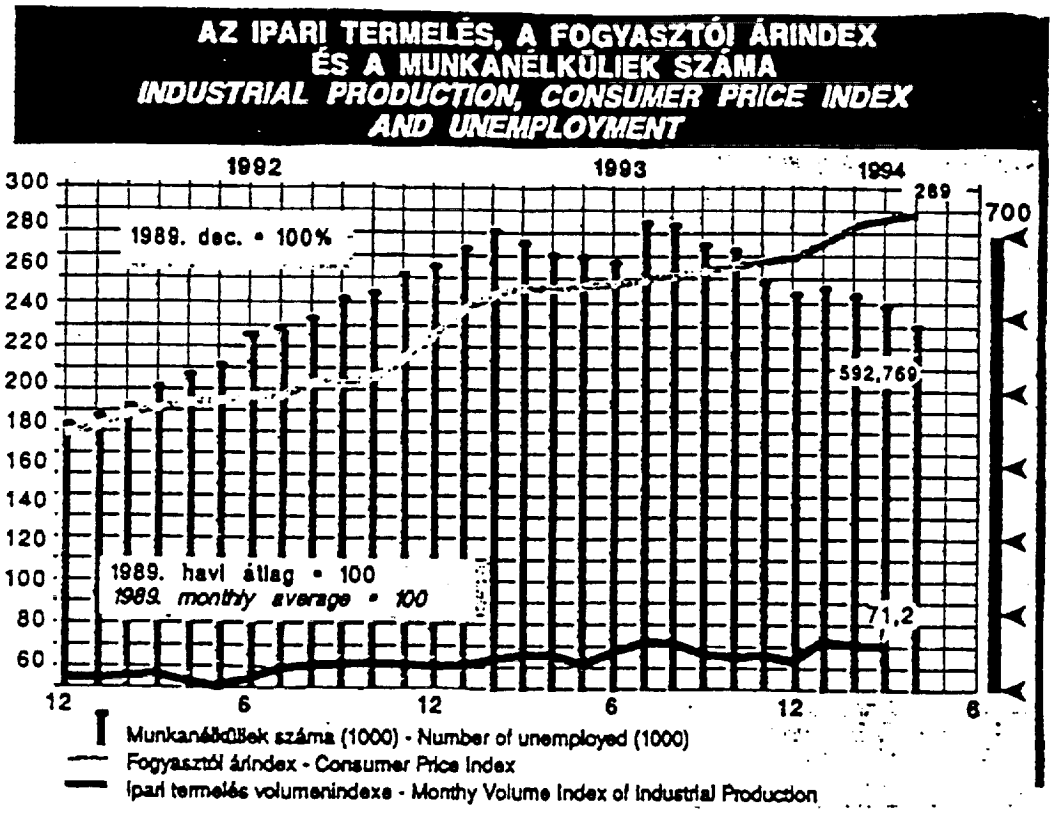
Figure 1.

OMIKK, trends in collection by main types of documents

Year	*Total*	*Books*	*Periodical titles*	NTIS report		
				Environment protection	*Energy*	*Others*
1985	1.408086	483913	5380	2470	1729	740
1986	1.452147	497602	5301	1980	1388	602
1987	1.484946	506626	5283	1650	900	450
1988	1.358111	518701	4331	990	570	270
1989	1.358956	529491	4476	1400	980	420
1990	1.404790	541027	4389	2200	1540	560
1991	1.423330	552159	4320	2300	1630	700
1992	1.404806	521861	3928	490	198	84
1993	1.418265	533201	3410	0	0	0

Other by NTIS cover nuclear research, manufacturing, technology, material testing

Figure 2.



Economic organizations by legal type, Hungary, 1988-1993
(Units)

	1988	*1989*	*1990*	*1991*	*1992*	*September 1993*	*1993/1988*
Economic organizations with "legal personality"	10 811	15 235	29 470	52 756	69 386	80 780	747.2
Company-forms without "legal personality"	29 657	24 143	34 095	52 136	70 932	92 459	311.8
Individual, non-incorporated business units	290 877	320 619	393 450	510 459	606 207	650 267	223.5
Budgetary and non-profit organizations	28 500	31 200	38 300	43 322	48 982	52 944	185.8
Total	359 845	391 197	495 315	658 673	795 507	876 450	243.6

Source: Hungarian Central Statistical Office.

Structure of economic units with "legal personality" by organizational form, Hungary, 1988-1993
(Per cent of all units with "legal personality")

	1988	*1989*	*1990*	*1991*	*1992*	*September 1993*
State enterprises	22.0	15.8	8.0	4.3	2.5	1.6
Corporations	8.8	31.6	66.0	80.9	85.6	87.7
of which:						
Limited liability companies	4.2	29.6	62.3	78.1	82.5	84.6
Joint stock companies	1.1	2.0	2.2	2.0	2.5	2.7
Cooperatives	63.3	46.7	26.0	14.8	119.9	10.1
Other	5.9	5.9	-	-	-	0.6
Total number of units	10 811	15 169	29 405	53 765	69 386	80 780

Source: Hungarian Central Statistical Office.

Figure 3.

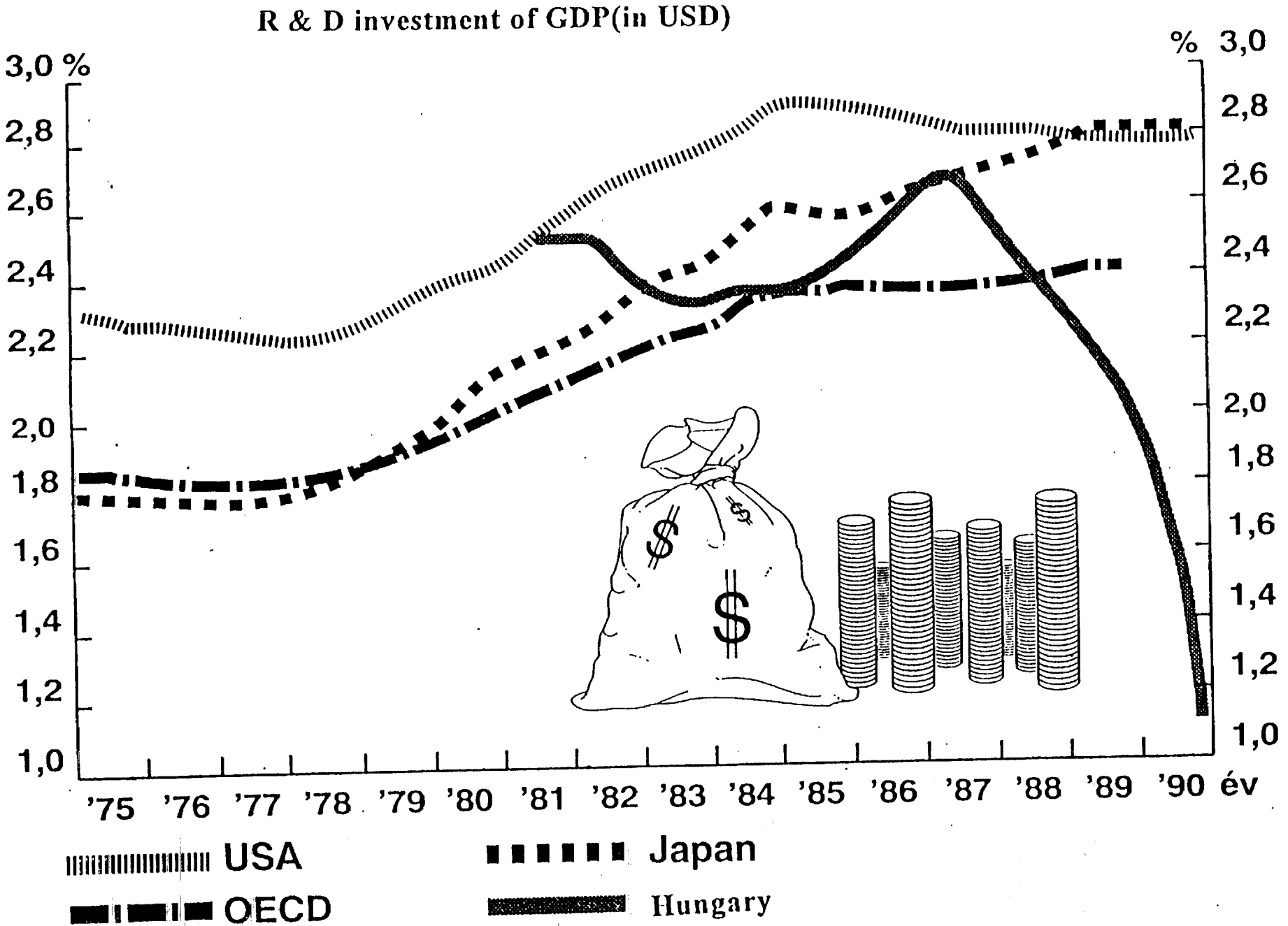

R & D investment of GDP(in USD)
3,0 %
2,8
2,6
2,4
2,2
2,0
1,8
1,6
1,4
1,2
1,0
% 3,0
2,8
2,6
2,4
2,2
2,0
1,8
1,6
1,4
1,2
1,0
'75 '76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 év
USA
Japan
OECD
Hungary

Figure 4.

Computers in Hungarian Libraries (1985 - 1993)

Year	Public libraries			Special libraries			OMIKK		
	PC	CD ROM	Computer	PC	CD ROM	Computer	PC	CD ROM	Computer
1985	9	–	–	No	exact	data	8	–	1
1987	28	–	–				16	–	1
1989	100	–	–				26	–	1
1993	271	–	–	1697	132	56	101	5	2

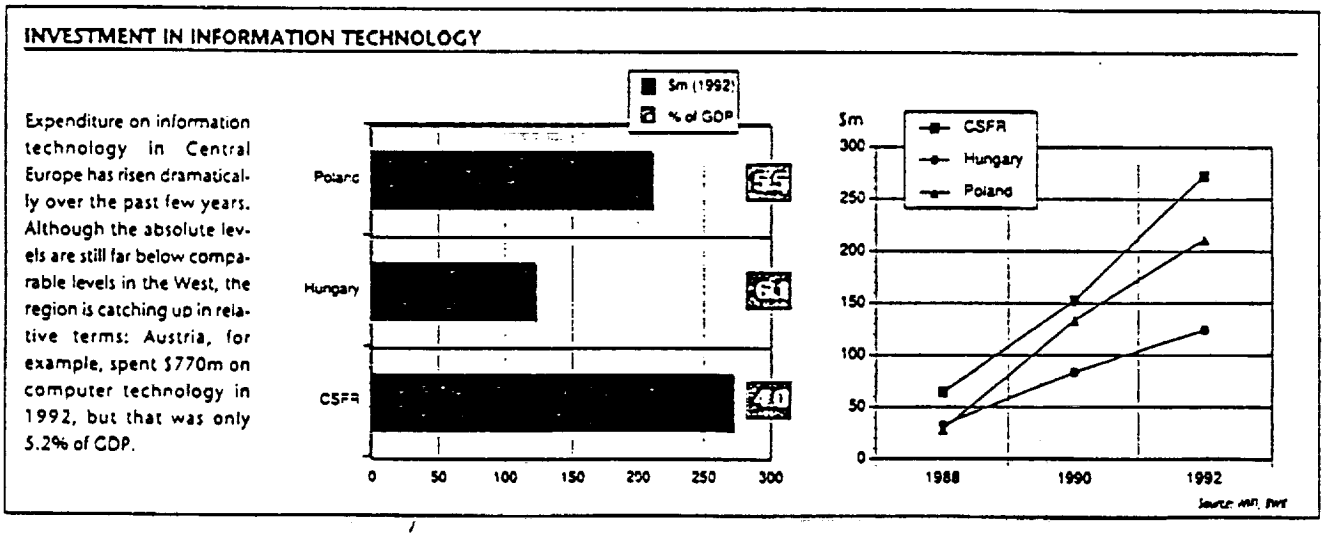


Figure 5.

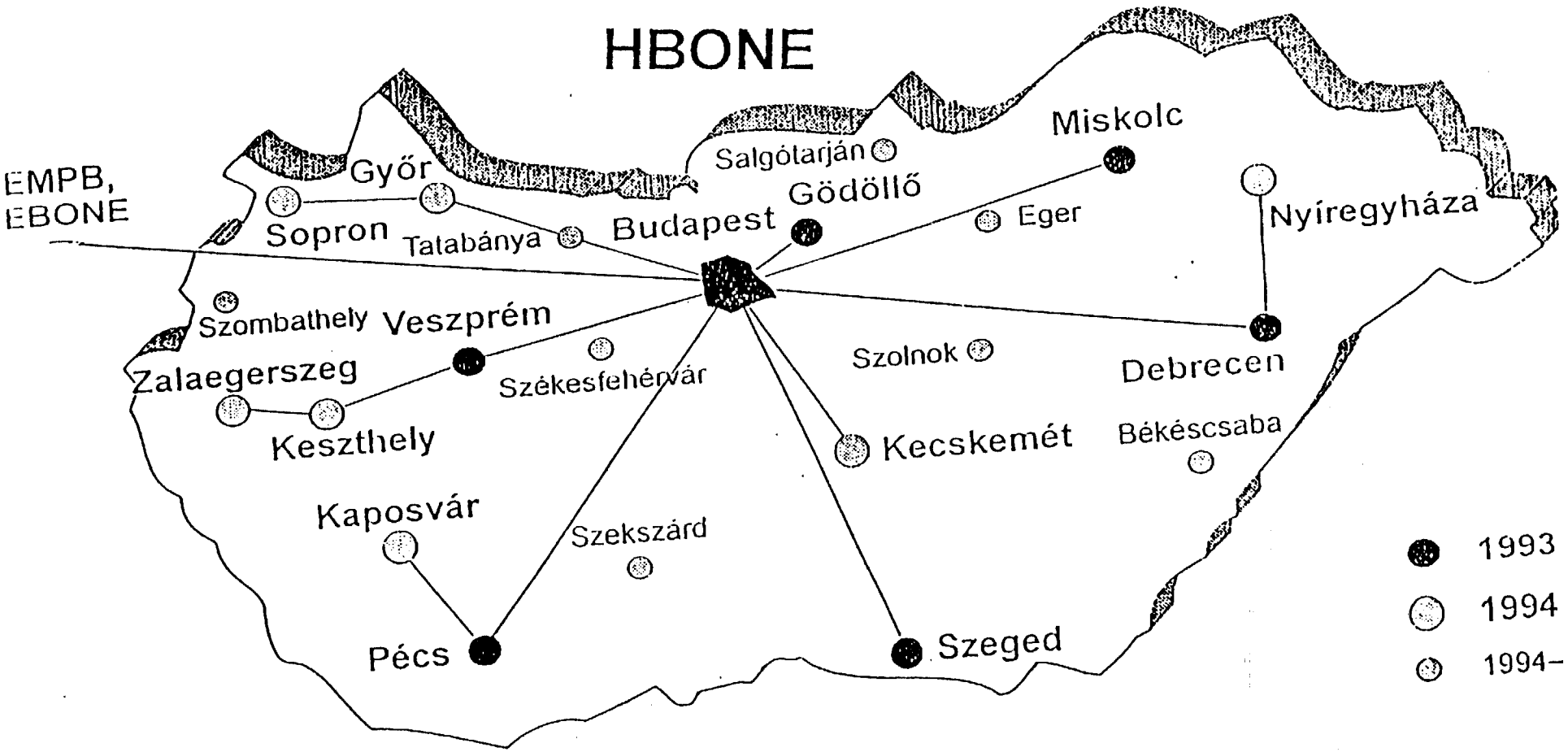

HBONE
EMPB,
EBONE
Győr
Sopron
Tatabánya
Budapest
Salgótarján
Gödöllő
Miskolc
Eger
Nyíregyháza
Szombathely
Veszprém
Zalaegerszeg
Keszthely
Székesfehérvár
Szolnok
Debrecen
Kecskemét
Békéscsaba
Kaposvár
Szekszárd
Pécs
Szeged
1993
1994
1994–

Figure 6

CD–ROM databases in the OMIKK

1. Available through the LAN:
   - INSPEC (back to 1989)
   - METADEX COLLECTION (back to 1985)
   - Chemical Abstracts 12th Collective Index
   - COMPENDEX (back to 1987)
   - NTIS (back to 1983)
   - F&S Index plus Text/International (back to 1991)
   - Ulrich's Plus
   - VLB Aktuell
   - Whitaker's Bookbank
   - Books in Print plus with Reviews
   - CDMARC Bibliographic

2. Available from the Reference Desk for use in stand-alone workstations:
   - Analytical Abstracts (back to 1980)
   - Biotechnology Abstracts (back to 1982)
   - Books out of Print
   - Bookbank out of Print
   - CD-ROM Directory
   - CHEM-BANK (RTECS + OHMTADS + CMRIS + HSDB)
   - Computer Select
   - Enviro/Energyline Abstracts (back to 1971)
   - European Kompass on Disc
   - HUTM (Hungarian trademarks 1896-1992)
   - HUNPATHECA (Hungarian patents 1930-1970)
   - Kirk-Othmer Encyclopedia
   - McGraw-Hill Science and Technical Reference Set
   - Microsoft Programmers' Library
   - The New Grolier Electronic Encyclopedia
   - Polymer Encyclopedia
   - Super Blue and Software du Jour
   - Wer Liefert Was?

Figure 7.