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HUNGARY

Technical report: Business information provision in Hungary*

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    * Mention of firm names and commercial products does not imply the endorsement of the United Nations Industrial Development Organization (UNIDO).

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0. Introduction

In the frame of the project XP/RER/95/061 *Regional Industrial and Business Information Services* (started in July 1995) a system, provisionally named *Instant Business Information System* (IBIS) will be designed and its pilot version set up. The system is expected to provide SMEs (entrepreneurs, decision makers and other users) with reference and factual business information on *Central and Eastern European* countries. The system - at the initial phase - covering the Czech Republic, Hungary, Poland and Slovak Republic will
- link the industrial and business information services, in particular focused on SMEs and
- serve as a source of information first of all addressed and available to SMEs, mainly via the Internet.

According to the *project strategy*, the project starts with the preparation of country reports by national experts (i), as the next step, the country reports will be merged and used to work out the IBIS architecture and design its functionality (ii), finally the pilot version of IBIS will be set up and connected to the Internet.

The *aim* of the present country report is to provide a *state-of-the-art report* on the current situation in Hungary in terms of business information provision, especially for SMEs.

The *structure* of the report follows the recommendations of UNIDO.

1. Short description of the economic situation in Hungary

Hungary is a moderately developed country of industrial-agrarian character. In international terms it has a relatively limited economic potential with a sensitive foreign economy.

At the beginning of the 20th century the level of development of the Hungarian economy resembled that of Austria, Finland, Italy and Spain. In 1994, its per capita GDP was 4,019 USD. This illustrates the fact that during the 20th century Hungary fell from the group of developed countries. It ranks as a relatively small unit in the world economy, greatly dependent on international developments as well as on external development conditions. (Exports of commodities and services correspond to nearly 40% of the GDP.)

The relative underdevelopment of the economy reflects the unfavourable trends of its long-term economic development. Following the World War I. and the disintegration of the Austro-Hungarian Monarchy, Hungary lost a large part of its territory, population, external markets and raw material resources. It was then unable to mobilise the appropriate resources for the implementation of modernisation programs in the changed situation. The Treaty of Yalta of 1945, which concluded World War II. created an institutional system, economic structure and an introverted, protectionist economic environment and values alien to Hungary's heritage and development. Socialist industrialisation following the reconstruction period of 1945-49 emerged within a highly distorted structure that isolated itself from international developments. Hungary, through step-by-step reforms that began in the mid-1960s was able to distance itself rather conspicuously from the prevailing Stalinist and post-Stalinist models elsewhere in Eastern Europe. Nonetheless, economic growth and exports stagnated in the 1980s.This development was accompanied by a significant decline in investments, a continuous growth of inflation and lack of external balance. In 1989, per-capita indebtedness reached a high level even in international terms. The year 1990, which marked Hungary's transition to multy-party democracy, started out on a crisis footing, rooted in long-term crisis processes and affecting the whole economic and social structures. The difficulties of the transformation were aggravated by unfavourable developments in the international environment. Factoring into the equation in the early 1990s were the gradually worsening general crisis of the East European countries, the narrowing of market opportunities, insolvency, the longest and gravest recession since World War II. in developed market economies, the civil war in Yugoslavia, the gradually shifting international trading and financial trends towards the Far East, and a weakening of international economic and political co-ordination.

Since 1990 the following tasks have had to be tackled simultaneously: democratisation of a weakened totalitarian system, the transformation of a partly-reformed centrally planned economy into a market economy, and the curbing of potential consequent crisis; the alteration of one-sided dependence that had emerged in international relations, as well as the geographical regrouping of foreign economic relations. For those involved in the management of Hungarian economic life, the disappearance of the majority of the Eastern markets and the world economic recession produced a shock-effect, and a similar domestic shock was felt with the transformation of the operational order of the economy, the opening of Hungary's economy to the world, as well as the liberalisation of prices, wages, and imports.

In the period between 1989 and 1993, the nation's GDP decreased by 22 to 23%; however, as a result of the shadow economy, the actual shrinkage of the economy was more modest

than that. The volume of government investments dropped by 30%, while funds spent on research and development declined by more than 60%. Concurrent with the drop in production and incomes, unemployment increased from 0.5% to 12.5%.

Table 1. Gross Domestic Product (GDP)

Year	Billion forints (current prices)	Previous year=100 (comparative prices)	Per-capita, forints (current prices)
1989	1,710.8	100.4	164,524
1990	2,079.5	96.7	200,634
1991	2,308.4	88.1	223,000
1992	2,805.0	95 - 96	272,000
1993	3,502.6	98 -100	340,000

Source: Central Statistic Office

Despite all these factors, the transformation process did not fall into crisis; indeed, the process has proved irreversible. By the end of 1993, the operational order of the economy had undergone a fundamental transformation. About 90% of prices are now liberalised and, in a matter of four years, the rate of budget subsidies dropped from 13% to 4% relative to the GDP. The private sector share of the GDP amounted to 18% in 1989, rose to 34% in 1992, and, by the end of 1993, it had reached 50%. Between 1990 and 1991, one-tenth of all state property had been bought up by local entrepreneurs and capital investors. By 1992, this figure reached 30% and, by 1993, it represented 50%. In other words, the initial determining role of foreign capital investors in the privatisation process gradually decreased. Foreign trade monopolies ceased to exist as foreign trade became decentralised. Average customs tariffs dropped from 16% to 13%. Altogether, there are some 19,000 companies under partial or full foreign ownership operating in Hungary with a total capital investment base of around 7 billion USD. The geographical regrouping of foreign trade relations and the abolition of the earlier one-sided dependence on Eastern markets is highlighted by the fact that - compared to an average 27% over the past decades - the ratio of Hungarian exports to highly developed market economies reached 70% in 1992. Although the resources necessary for the rapid transformation of an obsolete economic structure - inherited from the past - were not available, the nation's once neglected service sector began to take off and, as a result of foreign capital investment, new, modern production structures appeared.

During the decades following the World War II, Hungary developed into a moderately developed industrial-agrarian country. Industry became a leading branch of the national economy by the end of 1989 - when, excluding the food industry - it accounted for 44% of total product output. It accounted for 28% of the GDP, 32% of investments, 26% of the labour force, and in the export of goods, 75%.

The nation's economic transition has presented manifold challenges for Hungarian industry. The nation had to implement a simultaneous opening to the world economy, along with market regrouping, manage the change of ownership, organisational decentralisation and an accelerated pace of technical modernisation. At the same time, it had to ease the consequences of a setback which began in 1989. Industry - which had been isolated from external competition and had marketed 90% of its products on the domestic or Comecon markets - increasingly encountered competition from imported goods. As a consequence of import liberalisation

between 1989 and 1993, the proportion of industry exposed to competition increased from 15% to 79%. In 1990, increasing industrial imports as well as the cancellation of budget subsidies extended to industry brought a quick end to the less competitive parts of Hungarian industry. On average in the 1980s, Hungarian industry exported one-third of all its products, with 60% going to socialist countries. The demand for high-quality products in these markets was much lower than the world average. The general crisis that emerged in the East European countries, the collapse of Comecon, the shift to world market prices, as well as increased competition from highly developed market economies, considerably damaged Hungarian industry's traditional Eastern European markets. Between 1989 and 1992, Hungarian industrial exports to the former socialist countries of the region decreased by 60%, and their share of total industrial exports had dropped to 18%. On the other hand, industrial exports to countries with market economies increased in 1992 by two and a half times.

At the end of the 1980s, the structure of Hungarian industry showed outstanding concentration: five-sixths of all industrial output was realised by 900 large enterprises. The transformation of the nation's industrial structure is well illustrated by the fact that in the period between 1989 and 1992, the percentage of those employed in companies with less than 20 workers increased from 26% to 64%. While in companies with 300 or more employees, employment dropped from 22% to 6% as a consequence of the break-up of a large part of formerly massive enterprises, and of the segmentation that goes hand-in-hand with privatisation.

In industrial production, since 1980s the proportion of the domestic private sector to total production increased from 7% to 30%, and the proportion of the foreign enterprises rose from 0,5% to 12%. In 1994, the share of the private sector in industry became predominant, while those companies that have remained under majority or partial state ownership now function according to the rules of a market economy. Privatisation and especially incoming foreign enterprises have provided an impetus to the emergence of modern management methods, particularly to the dissemination of a new professional culture of an industrial-service character.

As a consequence of various factors, in the period between 1989 and 1992, the nation's volume of industrial production dropped by 44%, while the volume of investments dropped by 21%. By 1993, investment on research and development - of key importance from the point of view of technical development - had dropped from a level that corresponded in 1988 to 2.3% of the GDP to 0.9%.

The decline in industrial production reached its nadir in 1992. By 1993 it was possible to see signs of a modest recovery; the production volume increased by more than 3% and continued to grow in 1994. Industrial exports increased from 24% to 28%. However, the volume of industrial output remained far below the 1980 level.

Since Hungary, unlike other central and eastern European countries, had already embarked on a wide range of reforms during the 1980s (notably banking reforms, tax reforms, and the beginnings of price and trade liberalisation), the government elected in 1990 chose a gradualist approach. However, this does not imply that the reform process was slow. Quite the contrary, as witnessed by the pace and rigour of structural policy.

1994 was the first year, when the economy seemed to be finally turning the corner. The GDP grew by 2.9% as opposed to the initial government forecast at 1 2%. Registered unemploy-

ment, which averaged about 13% in 1993, had fallen to 10% in 1994. Experts say the GDP should grow again in 1995 (0.3%) and continue to grow in 1996 (2%).

In 1995, the government introduced a number of austerity measures aimed at stabilising the economy. Hopefully, these measures will reduce the central budget deficit from its 1994 figure of about 6.5% of the GDP to 5% of the GDP and reduce the current account deficit.

2. Development of the small and medium business sector

Since SMEs are the primary target users of the previsioned IBIS, in this section they are defined and categorised from different aspects.

2.1 Defining small and medium businesses

Before defining our usage of the terms "small" and "medium" enterprises, a few concepts need to be clarified.

In the present situation the terms *small and medium companies* are used as synonyms for *small and medium businesses*. This is justified by the fact that in the case of economic associations (e.g. limited liability companies and partnerships) the company form is obvious, whereas Hungarian legal regulation basically treats even sole proprietorships as an individual company. Consequently, this term only excludes individuals who, although otherwise engaged in entre-preneurial activity, do not have an entrepreneurial license. Internal enterprises, if done within a large company, are excluded.

Company forms that can be regarded as small and medium businesses are the following:
- *sole proprietorships*: all individuals possessing an entrepreneurial license; craftsmen, retail traders, private individuals operating the unit of a legal entity on a contractual basis; individuals engaged in agricultural activity; public notaries; individual lawyers; and individuals engaged in private health and social services. (The list is based on the guide to the 1993 income tax state-ments);
- all of the forms listed in the *Company Act* (Act VI/1988 on economic associations, *Magyar Közlöny*, 1991: December 23, no. 143.): *general partnerships* ("KKT"), *deposit partnerships* ("BT"), *economic work partnerships* with liabilities undertaken by a legal entity, *limited liability companies* ("KFT"), *share companies* ("RT") and some other, less frequent legal forms;
- *cooperatives*;
- as well as *state enterprises* (even though their numbers are dwindling).

Furthermore, an existing form is the *economic work partnership* ("GMK") which, although they can no longer be founded, are economic associations without legal entity.

Aside from those listed above, there is a number of other organisational forms that can be engaged in economic activities. These primarily include non-profit organisations, such as public interest associations, associations, public bodies, foundations and public foundations. The original function of non-profit organisations is not an entrepreneurial activity. But in Hungary, some non-profit organisations are engaged in such practices. Thus, "entrepreneurial" non-profit organisations are included in the business sphere.

The next issue is the question of *size*. Obviously, the choice of a single indicator does not provide a precise definition since the number of employees, the turnover and the size of capital are all important indicators of a company's size.

There is no universally accepted definition of small businesses. The best-known and perhaps most useful definition is the one proposed by the *US Small Business Administration*, based on the number of employees in industry, and the volume of sales in the trade business, with

these indicators differing further according to the nature of the business. (The upper limit of small businesses is 500 employees in light industry, and 250 in the food industry, but even a company employing 1500 people can be classified as a small business in work-intensive sectors).

This categorisation can be useful if there is reliable information on individual companies. How-ever, at present this is not so in Hungary; thus, for the purposes of the present study, a simple, but fairly reliable indicator is the number of employees used for denoting company size.

Within this study, organisations employing less than 50 are classified as *small businesses*. Those businesses employing between 50 and 300 are regarded as *medium businesses*.

2.2 The size of small and medium businesses

2.2.1 The number of small and medium businesses

The determination of the number of small and medium enterprises is based on the following considerations:

- Each sole proprietorship is regarded as a registered small business, despite the fact that there might be a handful of exceptions.
- All economic organisations without legal entity are regarded as small companies since, at the most, only one percent of these probably employs more than 50 people.
- For a business with legal entity there are available statistics showing the breakdown by the number of employees, and thus the exact figures can be taken into account only in this latter case.

The basic data is shown in the *Tables* 2, 3, 4.

Table 2. Registered small businesses and their growth rate between 1989 - 1993

	1989	1990	1991	1992	1993	1994
Sole Proprietorship	320,619	393,450	510,459	606,207	688,853	778,036
Growth over previous year, %		*22.72%*	*29.74%*	*18.76%*	*13.63%*	*12.94%*
Business organisation without legal entity	17,341	27,571	44,279	70,597	98,036	106,387
Growth over previous year, %		*58.99%*	*60.60%*	*59.44%*	*38.87%*	*8.52%*
Business organisation with legal entity	7,492	20,594	42,978	69,386	85,638	101,247
Growth over previous year, %		*174.88%*	*108.69%*	*61.44%*	*23.42%*	*18.23%*
Total	**345,452**	**441,615**	**597,716**	**746,190**	**872,527**	**985,670**
Growth over previous year, %		*27.84%*	*35.35%*	*24.84%*	*16.93%*	*12.97%*

Source: Central Statistical Office

Table 3. Number of major types of business organisations with legal entity

Period	State enter-prise	Ltd. liability company	Shareholder company	Coopera-tive
December 1989	2,400	4,487	307	7,076
December 1990	2,363	18,317	646	7,132
December 1991	2,233	41,206	1,072	7,232
December 1992	1,733	57,262	1,717	7,694
December 1993	1,130	72,897	2,375	8,175
December 1994	821	87,957	2,896	8,252

Source: Central Statistical Office

Table 4. Number of business organisations with legal entity by number of employees

Period	Less than 11 people*	Between 11 and 20*	Between 21 and 50	Between 51 and 300	Over 300 people	Total
1989	..	5,105	2,387	3,459	2,617	13,568
1990	..	16,465	4,129	4,469	2,599	27,662
1991	..	36,809	6,169	5,372	2,396	50,746
1992	..	52,825	6,970	5,773	1,937	67,505
1993	39,772	28,447	7,637	6,055	1,624	83,535
1994	57,293	25,267	7,962	6,046	1,335	97,903

* Before 1993: Between 1 and 20 people

Source: Central Statistical Office

In late 1994, more than 985,000 registered small enterprises existed. Some of these, however, were not actually in operation: a number of entrepreneurs never actually began business in earnest. At the same time, a number of phantom organisations came into being, their sole purpose being to avoid taxes. Organisational transformations of state enterprises also produced a number of phantom enterprises that only operated for a certain period of time.

A large number of people who had full-time jobs applied for sole proprietorship licenses for exploiting the available tax advantages for side activities. Most sole proprietors were engaged in various activities only as a part-time enterpreneur or as a pensioner. Numerous enterprises existed merely to channel assets from a bankrupt business into these new operations. That way, the money was tucked away safely from the creditors' sight.

Various empirical observations as well as professional estimates suggest that the proportion of phantom enterprises may be as high as 40%; the number of operating small businesses can thus be put at little under 600,000 in late 1994.

The determination of the number of medium enterprises is somewhat easier since more reliable statistics are available. Retaining the assumption that only a fragment of sole proprietorships and businesses without legal entity employ over 50 people, the number of medium enterprises had grown to 6,000 from 1989 to 1994.

2.2.2 The number of employees in the small and medium business sector

Based on the available data and corrected by some considerations (phantom organisations etc.), the number of employees at the end of 1993 was roughly 1.6 million. This equals about one third of the total number of employees.

2.2.3 Share in the GDP production

The *Central Statistical Office* does not publish GDP figures by company size. However, the breakdown according to legal form in the 1993 *Statistical Yearbook* serves as a basis for an estimation. A 25 percentage proportion in the 1993 GDP seems realistic.

2.3 Joint ventures

Joint ventures deserve special attention since - according to the experience of the Hungarian information providers - they demand much more information than other types of SMEs.

By the end of 1993, the number of these companies totalled about 15,000. The overall investment in these companies is valued at more than 4 billion USD. Some 250 joint ventures were founded between 1972 and 1988, with a total base capital of 250 million USD.

The share of foreign capital in the Hungarian producing and infrastructural sector amounted to 15% by late 1993. The majority of the joint ventures is a small business. A representative survey of the joint ventures has shown that 35% of these companies employed less than 10 people, with roughly the same proportion employing between 10 to 20 people. Roughly 40% of these ventures is engaged in industry, another 40% in trade, and the rest in the service industry.

2.4 The structure of the small and medium business sector

After 1989, the growth of small and medium enterprises was linked to the structural transformation of the country's economy. The majority of small businesses appeared on the scene to fill a gap in the shortage economy. Liberalisation enabled free choice in the sense that adminis-trative barriers no longer blocked the launching of a new enterprise in most spheres of the economy. One of the motives driving entrepreneurs was a perspective of good market sales.

The next motivating factor influencing the choice of activity was the need for investment. The founders tended to have little capital when founding a new business, and they tried to aggregate the necessary capital during the operation of the business. Consequently, only a business requiring a minimal investment could be considered.

Table 5. shows the legal forms in which small businesses are the overwhelming majority. This illustrates the breakdown of small businesses by industries.

Table 5. Breakdown of small businesses by branches at the end of 1994

Branche	Small businesses	
	Number	Percentage
Agriculture, fishing	5,547	5,5
Mining	232	0,2
Manufacturing industry	19,038	18,8
Electricity, gas, heat and water utilities	298	0,3
Construction industry	9,604	9,5
Commerce, service and maintenance	35,889	35,5
Catering	3,334	3,3
Transport, storing, postal services, telecommunication	3,785	3,7
Financial and associated services	1,109	1,1
Real estate transactions, leasing	18,303	18,1
Public administration, social security	2	0,0
Education, training	529	0,5
Health- and social care	638	0,6
Other community, social and personal services	2,939	2,9
Total	101,247	100,0

Source: Central Statistical Office

2.5 Geographical distribution of the small and medium business sector

Hardly any differences can be noted between regions of differing economic development as regards to the number of enterprises. The only significant difference can be perceived between the Budapest agglomeration and the provinces. In Budapest the number of "businesses with legal entity" per 1000 people is more than 18, whilst beside the agglomeration, only Komárom-Esztergom county has 7.

Disregarding now the Budapest agglomeration, there are obviously more businesses in the more developed counties than in the underdeveloped ones. But the differences are less than striking. The greatest density (Komárom-Esztergom - 7,0) is hardly the double of the lowest (Heves - 3,9). The differences between the eastern and western regions of the country are also less significant than would be expected given the basis of differences of economic development and structural problems.

The distribution of businesses closely follows the indicators of urbanization: there are far fewer private businesses in rural villages than exist in cities.

Table 6. Geographical distribution of businesses with legal entity by counties in early 1994

County	Number of businesses with legal entity	Population (thousand people)	Number of businesses per 1,000 people
Budapest	36,964	2,017	18,3
Pest	6,807	950	7,2
Bács-Kiskun	3,534	545	6,5
Baranya	2,817	419	6,7
Békés	1,815	412	4,4
Borsod-Abaúj-Zemplén	3,290	762	4,3
Csongrád	2,855	439	6,5
Fejér	2,386	421	5,7
Györ-Moson-Sopron	2,941	424	6,9
Hajdú-Bihar	2,687	549	4,9
Heves	1,298	334	3,9
Jász-Nagykun-Szolnok	1,809	426	4,2
Komárom-Esztergom	2,208	315	7,0
Nógrád	1,040	227	4,6
Somogy	1,977	345	5,7
Szabolcs-Szatmár-Bereg	2,484	572	4,3
Tolna	1,303	254	5,1
Vas	1,423	276	5,2
Veszprém	2,166	306	5,4
Zala	1,634		
Total	83,447	10,375	8,0
Without Budapest agglomeration	39,676	7,408	5,4

Source: Institute for Industrial Economics

Table 7. The geographical distribution of businesses with legal entity by country regions at the beginning of 1994

	Number of businesses with legal entity	Population (thousand people)	Number of businesses falling to 1,000 people
Budapest agglomeration	43,771	2,967	14,75
West	20,673	3,568	5,75
Bács-Kiskun county	3,534	545	6,48
East	15,469	3,295	4,69
Total	83,447	10,375	8,04

Source: Institute for Industrial Economics

3. Information needs in the field of business and technology

Political changes took place relatively quickly in Hungary. But the transition from a centrally - planned economy to a market economy apparently requires a much longer period. As market forces gain a greater role in the economy, the need for business information is expected to increase considerably. So there is no doubt that business information services will develop spectacularly within the information sector in the coming years.

A large variety of non-profit and for-profit organisations already provide varying levels of business information services. However, in the present transition period of the business oriented information economy, while the developing business sector should potentially have a considerable *need* for business information, the actual *demand* is still low due to the lack of understanding of the value of information and of the limited financial resources of entrepreneurs. On the other hand, standards of some services are still rather poor, partly due to ignorance of users and their needs, and partly as a consequence of the lack of services tailored to special user groups.

Through this we can come to understand one of the basic problems: while the level of service remains below the standard the information sector is not really in a position to increase demand, and consequently, commercial information services struggle to obtain the necessary financial resources to enhance their services.

Although the government has realised the necessity to support information services as a measure to promote private entrepreneurship and does offer support through different channels, the real solution to the problem lies in the gradual completion of the privatisation process, the overall maturing of the real market economy and the economic strengthening of the country.

3.1 Major trends of information needs

Based on experiences of leading Hungarian organisations providing library and/or information services, some important *changes* have occured in the structure of the information needs of the user community.

a) Scientific and technical information needs are directed rather to *practical*, industrial *applications* than to fundamental, theoretical knowledge. In other words, *science* has *decreased* and *technology* (know-how, patents, manufacturing etc.) has *increased* proportionally.

b) In accordance with the above trends, the type of information services has undergone a change, too. The proportion of *bibliographic services* which supply or locate relevant documents for the users (and they should find the final information themselves) has *decreased* substantially to a *growing interest* in *factual information*. This means that information users prefer facts and data (graphs, tables, numerical data, material properties, recipes, comparative evaluations etc.) to a list of book and article titles that libraries have supplied so far almost exclusively.

c) A gradual *merging* of technological-type and business-type information can be observed. Although there are queries of a purely technological nature or of a purely business nature, a growing number of queries request technological and business information about the same subject field: product technologies and markets, technology forecasting, industry statistics,

company information with data on technologies, who produces what and how etc. The border-line between technology and business seems to be disappearing.

d) In the course of the last period (mainly after 1990) most of the users became *familiar* with the *new type of information services* based on the application of modern information techno-logy (online and CD-ROM databases, Internet services etc.) and gained experience on how to use them. Parallelly, these services became more and more popular due to their speed, flexibility, easy use, completeness etc., so by now more that 75 % of the users are ready to use electronic information services or even prefer to use them rather than traditional services (e.g. printed version of a database).

3.2 Main subject fields of interest

It is extremely difficult to identify the main categories of information needs since there are no published data available. *Non-profit organisations*, providing information services do not have reliable statistics (mainly because they have been computerised only recently - e.g. large libraries), while the *for-profit organisations* seem to lack the respective knowledge, partly because they have been established recently and do not have enough experience yet and partly because the user community itself cannot articulate clearly its information needs for the time being. Another obstacle is that in the private sector information needs are considered as confidential ones.

However, based mainly on the experience of the *National Technical Information Centre and Library* providing both technological and business information, there was an attempt to identify the main subject of interest. To illustrate the type of actual information that users need, sample queries were collected.

3.2.1 Main subject fields of interest in technology
In *Mechanical Engineering:*
- Machine tools, parts and components
- Metal working, machining, especially their automation
- Integrated and flexible manufacturing technologies
- Automotive engineering, especially automobile parts and components, engines
- Agricultural machinery
- Precision mechanics
- Coatings, corrosion protection

In *Chemical Engineering:*
- Petroleum, refinery
- Pharmaceutical industry
- Biologically active chemicals, ingredients
- Chemistry and chemical analytical methods and devices
- Nuclear chemistry, radiochemistry
- Manufacturing of specific chemicals
- Rubbers, elastomers, plastics

Some process industries and materials:
- Food technology
- Materials technology generally, materials handling, packaging
- Building materials
- Isotopes and applications
- Cellulose, paper and printing industries
- Glass, porcelain, ceramics technologies

In *Civil Engineering*
- Engineering geology
- Bridge, road, railway construction, construction machines
- Structures, foundations, hydrology, waterworks etc.
- Building construction

In *Energy. Heating and cooling. Environment:*
- Thermal power plants, alternative power production
- Nuclear energy (components, parts, units)
- Heating, air conditioning, refrigeration
- Fuel technologies (natural gas, oil, coal etc.)
- Industrial boilers, furnaces, burners, turbines etc.
- Household apparatuses (hot water, cooking etc.)
- Wastes, sewage, pollution control and environmental technologies

In *Electrical Engineering:*
- Lighting technology
- Electric motors and drives
- Small electric devices (transformers, switches, connectors, circuit breakers, cables etc.)
- Instruments, measuring devices
- Parts and components for microelectronics (PCBs, assemblies, circuits, semiconductor devices etc.)
- Microwave technology
- Telecommunications, especially telephone, mobile communications
- Control technology, process control
- Radio, television, household electronics
- Biomedical instruments, devices and technologies

In *Computers and Information:*
- Computer software development, programming
- Artificial intelligence, systems science, expert systems
- Data communication, data acquisition, data processing, networks
- Information technology, office automation
- Databases, information systems and services

Others:
- Management
- Design, planning, forecasting, consultancy
- Models, simulation
- Quality, maintenance engineering
- Engineering related mathematics and physics
- Noise, acoustics, optics
- Industrial economics, industry in general
- Some engineering related subjects (ergonomy, occupational health, education and training, statistics, standardisation etc.)

3.2.2 Sample queries. Technology
- Logic arrays and gate arrays (technologies, applications in integrated circuits, manufacturers, product parameters)*
- Fluoxetine (patents)
- Hydrogen elimination from primary cooling circuits of PWR type reactors
- Diphenyl containing polymers for peptide synthesis
- Oxygen permeability of contact lenses (patents)
- Gas bubble formation in aluminium alloys
- PVC and synthetic leather wall and floor covering (with production and sales)+
- Neutron activation analysis in geosciences
- Cable termination, joints and fittings for power cables
- Flue gas desulfurization technologies of power-plant boilers using heavy-oil fuels
- Epoxy silicone and polyurethane silicone resins for electric insulation of power lines
- Optical character recognition of Arabic, Chinese, Japanese and Persian languages
- Methane motor fuel additives (patents) and their use at various fuel producers in European countries*
- Decadic: .oate and decadienoic acid ethyl ester technologies, trade (export and import) statistics*
- Biological effects of infrasound (bioacoustics)

* Primarily technological queries with business implications

3.2.3 Main subject fields of interest in business
Company information
- Basic company data
- Financial information
- "Who produces what"
- Products and technologies, including statistics on patents
- Annual reports, evaluations
- Credit assessment

Market information
- Regional markets and trends
- Product markets and trends
- Prices, sales, international trade
- Production statistics
- New technologies and influence on markets
- Market research reports
- Consumption, consumer habits

Financial information
- Banking, financial services
- Stock exchanges (money and commodities), money markets, exchange rates (real-time services)
- Investments and policies

Legal information
Regional and local financial, trade and industry laws and regulations:
- Taxation laws
- Intellectual property law
- Customs regulations
- Privatisation laws
- Investment laws
- Enterprise laws etc.

Other business information
- Tenders
- Partner searching and matching
- Advertisements, business promotions
- Mergers and acquisitions
- Consultancy, education and training in business
- Business in general

3.2.4 Sample queries. Business
- Mineral water markets in some selected countries
- Carbon dioxide producers in some selected countries
- Software protection, legalisation of illegal software usage*
- Information on various companies (basic information and/or financial information, product lines)
- Innovation policy, technological R and D policy of various countries, comparative evaluations. Technology policy of Hungary
- International law and legal cases concerning waterways, water reservoirs
- Sportswear, sport clothing, protective garment producers in Europe
- Computer data security*
- PC sales and distribution of installed PCs in Europe
- LLDPE, EXXON, Dowtex polyethylenes and their producers in Europe*
- Several partner search/matching queries in various production processes and industries

* Primarily business queries with technological implications

4. Business information services

4.1 Statistical overview of Hungarian business information organisations

A *questionnaire survey* was made in 1993 by the *Budapest University of Economic Sciences Central Library* (BUES CL) on the organisations (not including libraries) providing business information services in Hungary. The survey was conducted in the frame of the *Business Information Project* of libraries (see later). A response rate of 94% was recorded (indicating the keenness of most organisations to promote their services). The data collected represents a *comprehensive* overview of most major players in business information in Hungary, and provides a *statistical sample* of their structure and services. Some *evaluations* of the results are presented below.

4.1.1 Nature of organisations
Regarding the nature of the organisations, 11% of them are government owned, 45% are chambers, associations or foundations and 44% are private companies (*Table* 8).

Table 8. Nature of organisations

Nature of organisations	Number of respondents
Central government agencies	18
Local government	4
Chambers	38
Associations	39
Foundations	17
Non-profit total	116
For-profit total	90
Total	206

4.1.2 Services
Services were grouped into 6 categories which are characteristic of information services in Hungary (*Table* 9).

Table 9. Type of service

Type of service	Service providers	No services
Consultancy	184	22
Company information	154	52
Market information	175	31
Special tailored information	148	58
Education, training	159	47
Operation of interest groups	84	122

The primary form of service is *consultancy*, and the least common service is the operation of *special interest groups*. The services were broken down also by the *types of organisations* (*Table* 10). The most common services provided by non-profit organisations include *consultancy* and *training*, while the order of services provided by for-profit organisations

consists of *market information* and *consultancy*.

Table 10. Type of service offered by different organisations

	Consulting	Company inf.	Market	Spec. tailored	Education, training	Interest group
Government	21	17	20	16	17	9
Chambers	37	32	32	29	38	15
Associations	38	28	32	21	37	15
Foundations	17	16	16	16	16	7
Non-profit	113	93	100	82	108	46
No services	3	23	16	34	8	70
For-profit	71	61	75	66	51	38
No services	19	29	15	24	39	52
Total	206	206	206	206	206	206

The most heavily demanded and, therefore, the most frequently used service is *consultancy* (83% of questionnaire respondents provide such a service), particularly in establishing new enterprises, finance, law and taxation (*Table* 11).

Table 11. Distrubution of consultancy services by different organisations

	Establish-ment of enterprise	Financial, credit	Legal	Taxation	Investment	Regulation
Government	14	12	12	8	8	8
Chambers	32	22	28	23	15	19
Association	32	31	30	33	13	20
Foundations	16	16	16	15	14	12
Non-profit	94	81	86	79	50	59
For-profit	43	40	35	32	36	24
Total	137	121	121	111	86	83

The most popular activity within *company information* (*Table* 12) is partner searching and matching (67%), followed by financial (23%) and legal information (23%).

Table 12. Distribution of company information services by different organisations

	General company information	Partner matching	Standards	Intellectual property, patents	Legal	Financial account-ancy
Government	17	13	3	3	2	2
Chambers	32	31	9	6	12	8
Associations	28	26	7	7	16	13

Foundations	16	15	5	7	6	5
Non-profit	93	85	24	23	36	28
For-profit	15	5³	9	15	12	20
Total	108	138	33	38	48	48

As far as *market information* is concerned (*Table* 13), the two most commonly offered services are product information and advertising (66% and 57%, resp.), in both non-profit and for-profit organisations. There is, however, a difference in the third-placed service. Non-profit organisations offer customs and export-import information (53%), whereas for-profit organisations offer pricing information. The least required type of information is that of logistics (26%).

Table 13. Distribution of market information services by different organisations

	Products	Customs, export-import	Advertis-ing	Prices	Nat./internat standards	Commercial limita-tions	Compet-itors	Logistics
Government	14	10	11	9	7	8	5	4
Chambers	26	24	23	16	23	21	15	10
Associations	29	18	21	22	13	15	17	10
Foundations	12	8	13	10	6	6	9	4
Non-profit	81	60	68	57	49	50	46	28
For-profit	55	25	53	48	17	17	37	26
Total	136	85	121	105	66	67	83	54

77% of respondents are engaged in providing *training and education* activities not surprisingly offered primarily by non-profit organisations (93%), followed by for-profit organisations (57%).

Operating *special interests groups* is a far less requested service, with only 48% of the respondents providing it.

4.1.3 Sources of information

Half of the information sources which services are based on are *purchased* by the respondents, while the other half is *produced* by them (*Table* 14). Document purchases (books and journals) lead in terms of purchased sources, while databases tend to be produced in-house. 76% of respondents themselves are responsible for producing information sources, and many of them (69%) are responsible for organising various meetings, exhibitions etc. It is remarkable that only a fraction of them (24%) make use of charged services offered by libraries. The majority prefer to purchase services from information brokers.

Table 14. Acquistion of information by source

FURCHASED			PRODUCED	
Books	145		Databases	119
Periodicals	161		CD-ROMs	24
CD-ROM databases	45		Floppies	87
Databases on floppy	87		Networks	54
Network access to databases	62		Periodicals	76
Library service	45		Leaflets, brochures	145
Information brokers	90		Studies	74
Other services	39		Directories	121
None of the above	15		Events	133
			Other	38
			None of the above	14

4.1.4. Technical specifications

90% of organisations are now equipped with fax machines. At least one PC is available on-site for 77% of the respondents. About 20% (23% of non-profit and 17% of for-profit organisations) are presently capable of providing services via network (*Table* 15).

Table 15. Technical facilities of the various organisations

	Govern-ment	Chambers	Asso-ciations	Foun-dations	Non-profit	For-profit	Total
Telephone	22	28	39	16	115	89	204
Fax	21	34	29	16	100	80	180
Telex	12	12	9	0	33	15	48
PC	20	26	28	13	87	71	158
LAN	14	7	8	14	43	29	72
X.25 network	7	5	0	4	16	6	22
TCP network	0	1	0	2	3	4	7
Modem	0	1	3	4	8	5	13
Other	2	2	1	0	5	7	12

4.1.5 Competition

The *majority* of the respondents are *familiar* with their competitors, and their activities; although, 38% could not estimate the number of their competitors or identify their competitors by name.

4.1.6 Factors of success

An interesting finding is that which focuses on which features best reflect the success of the organisations' efforts. The ranking of "success factors" in the total sample is given as follows: reliability, price, and speed of service. While non-profit and for-profit organisations agree *reliability* is the most important factor, only non-profit organisations agree *price* is of the second-most importance. For-profit organisations on the other hand believe *speed* of service

is the second most important and price conversely belongs in fourth place.

4.1.7 User understanding

Small and medium-sized enterprises are reported to be the primary recipients of the above services. Within this category, *manufacturing, distributing* and *service* type companies are equally represented.

The *information habits* of users are summarised in *Table* 16.

Table 16. Information habits of users

Specific Inquiries	159
No given habits	87
Occasional use	83
Regular use	46
Other	32
Not likely to use	15

The *general opinion* of business information providers toward users can be summarised as follows:

- A great majority of entrepreneurs ha·e *little* or *no knowledge* of the *existence* of business information sources, and neither of the *availability* or *value* of business information. They often don't know what types of information could be of use to them. They frequently cannot even identify their own needs and seek information only when they are in trouble.
- Learning to accept the price of information services is in itself a major problem and many entrepreneurs are *unable* or *unwilling* to *pay* for information.

4.2 Business information databases

4.2.1 Databases produced in Hungary

The *Hungarian Association of Database Suppliers* annually produces an electronic catalogue of databases *produced* and distributed *in Hungary*, called *Metadatabase*. This database of databases is distributed on floppy disk and, in the near future, will also be available online. This database has been analysed to present some statistics on Hungarian business databases. At present the Metadatabase contains 200 entries, of which approximately a quarter (58) can be considered as business information or business information-related databases.

Figure 1 shows the breakdown of these databases *by subject*. It is worth noting that the most well represented subject is that of *company information* (with 16 databases), while a wide range of other subjects are less extensively covered.

Figure 1. Breakdown of databases produced in Hungary by subject
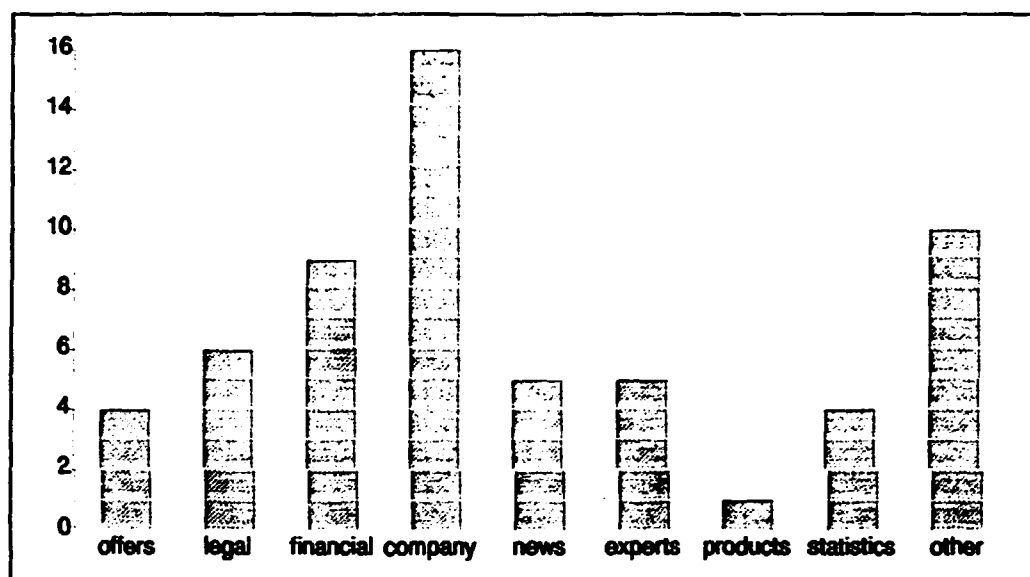
Since business information often consists of real-time, and concise, factual data, it is not surprising that *numeric* databases assume the largest share (*Figure* 2).

Figure 2. Breakdown of the databases produced in Hungary by type of databases
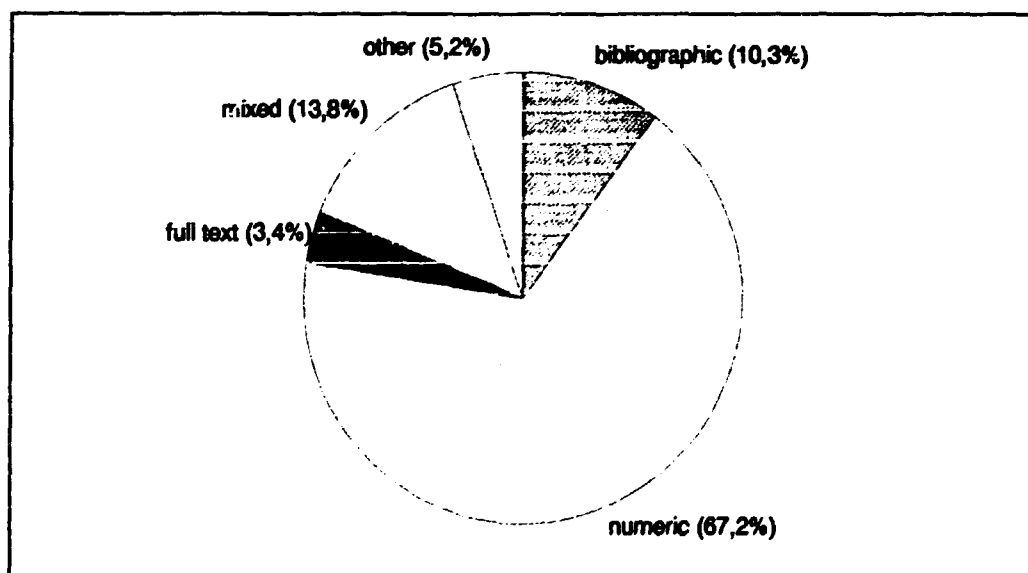
When one considers that most of these databases have been established during the last few years (76% of them since 1990 - see *Figure* 3) the general outlook should be one of optimism, especially if the number of databases grow in the same dynamic way. However, it should be emphasised that growth in numbers is rather less important than the more necessary improvements required in terms of coverage, access and distribution, and in terms of size, quality and

reliability. Dynamic development is also necessary in this field because domestic databases not only serve the local market (i.e. Hungary), but act as a prerequisite for stronger involvement in international cooperation, and serve to make a greater contribution to the foreign and international database and services market.

Figure 3. Growth of the Hungarian business databases
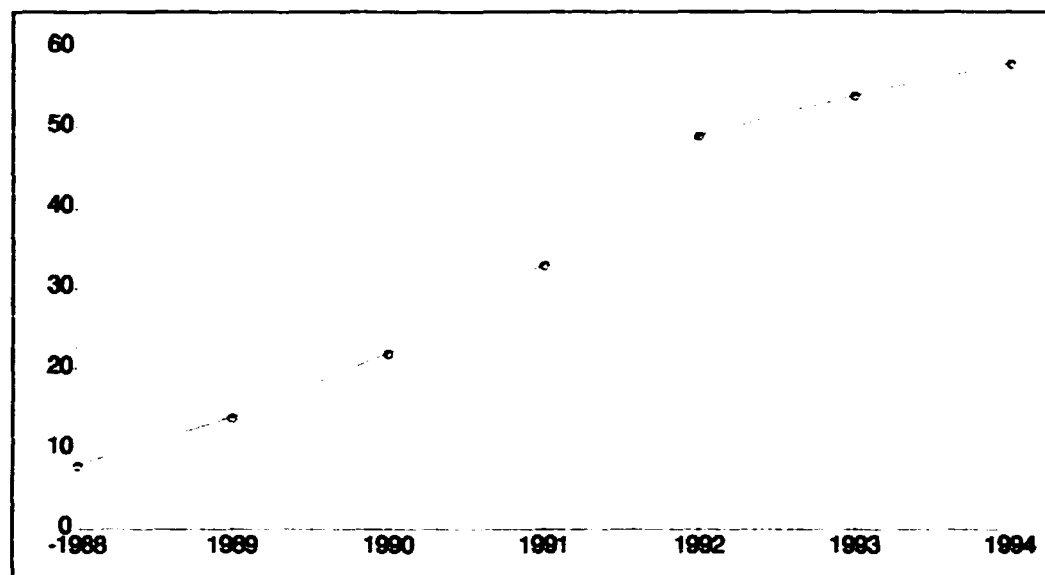
Based on the Metadatabase a *selective list* was compiled covering the *most important* and *public access* databases, i.e. excluding databases with limited access and for internal use (*Annex* 1).

4.2.2 Online access to foreign databases

Foreign databases available online through the foreign/international hosts (online vendors) are very valuable and important sources. According to the *Gale Directory of Databases*, 1994, there were 5,361 databases available online through database vendors, and 34% of them (1815) are *business* databases.

Since Hungarian organisations have access (password) to the largest database vendors, they can search themselves for and also provide search facilities for other Hungarian organisations in respect to 1,000 databases which represent the most important ones. *Table* 17 shows the hosts which are available by the leading Hungarian organisations in terms of online database use. The data collected are based on a representative questionnaire survey conducted in 1995. For this reason they do not reflect the total number of online users in the country, but - as estimated - they represent 80 to 90% of them.

Table 17. Online access to foreign databases

Online database vendors (hosts)	Major Hungarian organisations providing online servise through hosts
DIALOG	Technical University of Budapest, Library and Information Centre (BMF KK) Debrecen University of Medicine (DOTE KKK) Central Research Institute for Physics of the Hungarian Academy of Sciences Central Library of the Budapest University of Economic Sciences Central Library of the University of Veterinary Science Pharmaceutical Chemistry Research Institute National Technical Information Centre and Library (OMIKK) Central Library of the Miskolc University (ME KK) Central Library of the Veszprém University Richter Gedeon Pharmaceutical Works Kossuth Lajos University - University and National Library OLAJTERV General Contracting and Designing Office for the Oil Industry
STN	Technical University of Budapest, Library and Information Centre OLAJTERV General Contracting and Designing Office for the Oil Industry Central Library of the József Attila University Richter Gedeon Pharmaceutical Works (Richter Rt.) BIOGAL Pharmaceutical Works Central Library of the Veszprém University Pharmaceutical Chemistry Research Institute National Technical Information Centre and Library National Office for Inventions
ESA	Technical Library of Budapest, Library and Information Centre
ECHO	Central Library of the Budapest University of Economic Sciences
Data Star	National Institute for Medical Information and Library - MEDINFO National Technical Information Centre and Library Richter Gedeon Pharmaceutical Works OLAJTERV General Contracting and Designing Office for the Oil Industry
Orbit	National Technical Information Centre and Library OLAJTERV General Contracting and Designing Office for the Oil Industry
Questel	National Technical Information Centre and Library National Office for Inventions

There are no available statistics on the *use* of the business databases in the country. However, based on the survey the use of online databases (covering science, technology and business) by 6 major Hungarian organisations are shown in *Figure* 4.

Figure 4. The number of online searches in foreign databases by six major organisations
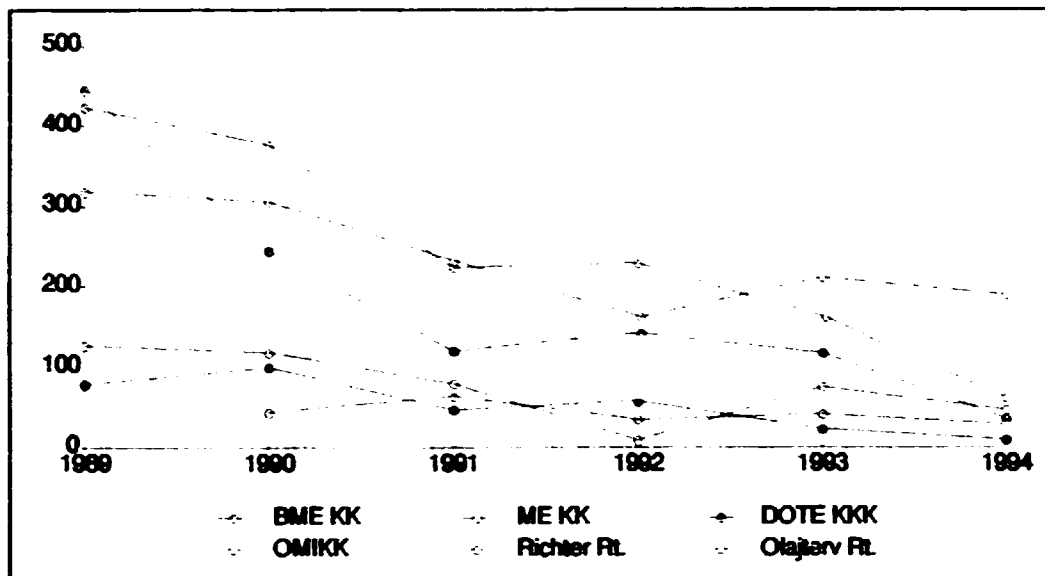
These data should represent the *main trends* in the use of online databases. It is estimated that about 10-20% of the sources were conducted in business databases in 1989, while in 1994 over half of them. The *decreasing* number of searches is due to
- the decreasing interest for scientific and technical information,
- the relative high costs of the online searches and the decreasing financial sources of the users,
- the growing use of the CD-ROM databases.

It is a general experience of the users and the online database intermediaries that at the present state of development of the databases produced in Hungary, more comprehenshive, reliable and up-to-date business information related to Hungary can be found in the foreign databases than in the domestic ones. For this reason users prefer to use foreign database that cover Hungary (e.g. databases at the host GBI (Germany) like HUCO, HUNTECH, or Dun & Bradstreet East European Directory).

4.2.3 The use of CD-ROM databases

A growing number of databases are produced in (or also in) CD-ROM, the world production of the CD-ROM titles was well over 4,000 in 1994.

A *growing* number of Hungarian organisations, *mainly libraries*, are providing CD-ROM databases for information retrieval. Especially in those libraries where they can be used free of charge, users prefer using them to the respective online ones. There is also a growing number of organisations (over 10), mainly libraries, which have a CD-ROM LAN system. It is also expected that some major libraries will start soon to provide *remote access* to CD-ROMs.

Based on a questionnaire survey the list of the main business databases on CD-ROM that are available for the public was compiled. (*Table* 18).

Table 18. List of CD-ROM business databases available in libraries

FOREIGN PRODUCTS
ABI/Inform
Business indicators
Company Information SEC
Connext
CORDIS
Econlit
European Kompass on Disc
European Trade Statistics
EUROSTAT
F & S Index plus Text/International
Gabler Wirtschaftlexikon
Helecon CD-ROM International
Index to Legal Periodocals
International Statistical Year Book
PAIS on CD-ROM
Patents Preview + Specifications
Standard and Poor Corporations
Tax Treaties Information
Taxation Information
Thomas Register
UK Corporations
The Wall Street Journal
Wer liefert was?
Wilson Business Abstracts
WISO
World Atlas

HUNGARIAN PRODUCTS
Hunpatéka (Hungarian patents)
Jogtár (Collection of legal rules)
Közlönytár (Collection of official gazettes)
Magyar Gazdaság Jogszabályok (Hungarian Rules of Economy)
Magyar Törvénytár (Hungarian Corpus Juris)
MSZ CD-1 (Hungarian standards)
Telefonkönyv (Telephone directory)

4.2.4 Hungarian business information through Internet

The Internet provides a large scale of business related information and this type of source is getting more and more familiar to the public. However, at the present sate of development the situation is similar to that one of the online databases. While a vast amount of information is available at foreign hosts, only a relatively small amount is of *Hungarian origin*. This situation can be illustrated by looking at the two well-known Internet indexes of the Hungary-related sources, namely to HUDIR (*Hungary Online Directory*) and to HIR (*Hungarian Information Resources*). Both of them have been checked under the heading *"Business"*.

In the HUDIR there are 89 entries, linked mainly either to Hungarian companies' WWW sites, or to a gopher directory managed in the frame of the *Information Infrastructure Development Program*, or to some services provided by Hungarian companies, for example partner matching. A WWW site usually contains some basic data on the company (address etc.) and a few promotional lines. The gopher directory contains only yellow-pages-type company data.

The HIR index contains 40 links similar to the above types. Part of them is overlaping with the HUDIR's list. Really valuable information (that is more than address and some promotional materials) was found only in the case of *foreign* sources, for example at the *Central and Eastern Europe Business Information Center* maintained by the U.S. government. Here detailed information was found for example on the oil and gas privatisation in Hungary, or on Hungarian manufacturing opportunities (such as companies seeking production co-opeation and subcontracting possibilities with U.S. firms).

4.3 Short description of some key organisations providing business information services

Describing the *main* organisations providing business information services in Hungary would go far beyond the limits of this study. However, to *illustrate* the variety of this sector, some of them are briefly overviewed. In addition, a *selective list* of the main Hungarian organisations providing business information services also upon *foreign request* has been compiled (*Annex* 2).

4.3.1 Company Data Informatics Ltd.

Company Data is a joint venture of the Austrian firm CMD (*Datenverarbeitungs und Verlags-Ges m.b.h.*) and the Hungarian company *Közlöny és Lapkiadó Kft.* (*Official Gazette and Publishing Company Ltd.*). It aims to provide up-to-date information on all *registered* companies in the country, based on the official *Registry of Companies in Hungary*, which contains about 200,000 entries for those companies filed at regional company registration offices.

The electronic database: *Company Data* contains key data for all known registered enterprises, including registration number, full and abbreviated name, address, telecommunications, date of formation, starting capital, description of business and other known addresses. In addition, the date and reason for any withdrawal from the company register is also included. The database can be searched in various ways, providing a flexible means for company information retrieval. The database can be accessed online via Videotex or installed for in-house use. *Company Data* is a for-profit organisation, and therefore a charge is made for searching the database.

4.3.2 Tenfore Hungary

Tenfore is an international *financial* information service, which, following its establishment in Hungary, provides subscribers with *real-time* financial data via satellite within 4 seconds of its origin at various world-wide financial centres. The data available includes actual currency and stock exchange values from over 300 banking institutions, stock market prices from over 60 financial and commodity stock exchanges world-wide, and current financial news from a number of well known business news agencies. Data is displayed ready for processing on users' own PCs using Windows based software.

4.3.3. Hungarian News Agency (MTI)

The *Press Database* contains all the *full-text news* reports published by MTI since 1988. The information comes from MTI's correspondents in Hungary and abroad, co-operating news agencies and various domestic and international journals. The database consists of 13 Hungarian subject-oriented subfiles and an English file. The total number of records is somewhere in the region of 1 million. The database can be searched using MTI's

classification code system

An English language service of MTI. *EcoNews*, provides *daily bulletins of economic news* at macroeconomic and company level, on banking and financial news, on the activities of the *Budapest Stock Exchange* (including stock and bond listings), and on economics-related laws and decrees. It can be accessed through a dedicated real-time telecommunication service, through local online accessing of SAB, and is also available in bulletin form. A news service of the *Budapest Stock Exchange* can also be obtained, either as a bulletin published 5 days a week (following every trading day) or electronically.

4.3.4 KOPINT-DATORG

This company has been providing *marketing* and other business information for many years. It produces several periodicals including a weekly newsletter containing business offers and tender announcements, a monthly magazine of business opportunities in the CIS, and a weekly bulletin summarising the most important activities of the European Commission. The company's other information services include:
- trade statistics,
- address lists of Hungarian manufacturers, distributors and service providers seeking
   cooperation with Hungarian or foreign partners,
- address lists of large Hungarian companies listed by activity,
- company information on Hungarian and foreign firms (basic filing data, owners, financial
   status, credit status),
- various economic indicators and commodity stock values registered at various stock
   exchanges,
- bespoke market research (desk and field).

4.3.5 National Office of Inventions

Patents, trademarks and other forms of *industrial property* play important roles in business activities. They can be used to reveal competitors, to avoid market failure, to maintain markets, and to acquire new technologies. The *National Office of Inventions* provides a large range of information services on this theme, of which some are mentioned below.

HUNPATEKA is the *bibliographic* database of *Hungarian patent documents* and is available on CD-ROM. It contains patents granted from 1920 to date. In addition, it contains bibliographic data and abstracts of patent applications from 1990 and claims are available from 1992. *HUNPADOC* is a *PC-based* database which lists bibliographic data of all Hungarian patents dating back to 1975. *PRECES* on CD-ROM is a database of patent documents from *East European* countries, prepared jointly by the participating countries under the support of the PHARE/RIPP project. The original patent documents of six countries can be displayed in facsimile format.

4.3.6 Institute of International Technology (NETI)

NETI is an organisation supported by the *Theodor Puskas Foundation*. Its goals are to promote the international standing of Hungary, to disseminate Hungarian scientific and technological achievement abroad and to support related R&D activities, and to manage international business relations.

NETI provides two English language databases: *HUCO*, a directory database of Hungarian companies, and *HUNTECH*, a database of Hungarian technologies and industries, offering partnerships to interested organisations abroad. Both databases are available on the inter-

national database host GBI (*German Business Information*). NETI also publishes a daily newsletter of economic and political analysis for distribution to both cabinet ministers and leading figures in the Hungarian economy. and produces strategic industry-related and company-based studies.

4.3.7 Hungarian Teletext Services

A valuable resource of current business information is the *Hungarian Teletext Service* operated by *Hungarian Television*. Its content (similar to that of many other national teletext services) contains basic banking information. stock exchange data. current laws and decrees with interpretation. retail information. trade and commercial advertisements, airline information, current price information and many other items of interest. Cultural programmes and announcements supplied by *Teletext* are also very popular. Though not yet interactive, business news and data provided by the *Hungarian Teletext Service* is the most widely available public service for business information in this country.

4.3.8 Institute for Small Business Development

The institute was established at the beginning of 1995 as the legal successor to the *Hungarian Small Business Administration*. It is a government institute belonging to the *Ministry of Trade and Industry*. It monitors and analyses the business sector and prepares recommendations for government management and administration. In addition, it provides several different business information services, for example, online access to the company database of the State Property Agency, access to the *WORLDBANKINFO* database of tenders, and access to the *BULLETIN BOARD* database, containing up-to-date business offers and proposals.

4.3.9 TeleDataCast

This company establishes and operates *complex data transmission systems* for relaying business and public information to remote regions.

The *Local Government Information System* or LOGIS, for example, regularly provides current information to local governments from the *Office of the Prime Minister* and certain other ministries and central government agencies. The *Budapest Stock Exchange Information System* (BSE-IS) provides accurate, real-time online information on the transactions of brokers within the exchange. Another example is the *Electronic Press* (EP) system, which supplies economic information on a regular basis to enterprises, business persons, economic organisations etc. The information includes current sources of economic news, financial data, stock exchange information, market prices, official gazettes and so on.

4.3.10 Hungarian Public Information Service (HPIS)

This service aims to provide access to *general interest* information produced within local government, public administration, and central government sources. Access to several government databases produced by government agencies is available. These services are marketed on a for-profit basis and include:
- real estate and land/property ownership details
- population census data
- regional business statistics
- details on local government leadership
- past election results
- legal information.

In addition to these services, HPIS also offers some limited forms of business information, obtained through other providers of corporate intelligence. Some examples include:
- the official company database of the *State Property Agency* (SPA)
- company and credit information databases
- who produces what?
- press cuttings database
- invitations to tender
- experts and technical information specialists
- *National Geographic Information System*

4.3.11 Hungarian Employers' Association

These type of institutions (associations/chambers) promoting trade and commerce also provide business information as part of their activities. In 1994, a new law on chambers reformed the entire system and by the end of last year, new agricultural, industrial, handicraft and commercial chambers had been formed.

The Hungarian Employers' Association (formerly the *Hungarian Chamber of Commerce*) continues its own information activities, from which its *PARTNER* matching database deserves special mention. It contains over 4,000 *business offers* and proposals for establishing partner-ships. The nature of offers is wide ranging and includes export-import, freight forwarding, co-operative manufacturing or sale, joint venture proposals, distribution offers and further business information brokerage.

4.3.12 Foreign companies with offices in Hungary

Several well-known *foreign companies* in the international market have opened *offices* in Hungary during the last few years, offering mainly *company information* on both Hungarian and foreign firms.

Dun & Bradstreet Hungary Ltd.

Provides international and Hungarian company information on a very broad scale. They include:
- standard information on millions of companies
- European information
- credit rating
- balance sheet analysis etc.

The information is supplied online, through phone or fax, on mail. Company information covers all countries in Western Europe, several East European countries and many others worldwide. The company is a subsidiary of *Dun & Bradstreet International*.

Kompass Hungary Ltd.

This subsidiary of *European Kompass* publishes volumes of companies with basic information throughout Europe. In addition international and Hungarian company information as well as product information can be retrieved from computer databases (online and CD-ROM).

Creditreform-Interinfo Ltd.

This organisation supplies online company and marketing information through its Hungarian office from eight European countries. In addition, Hungarian company information can be ordered in English or German.

Hoppenstedt Bonnier and Co. Ltd
It publishes three volumes annually covering
- large and medium companies of Hungary
- managers in Hungarian organisations
- institutions and organisations in Hungary
They are available also in computer readable database formats

BOSS-Info Ltd.
The Hungarian subsidiary of the international firm offers: complex business information, business offers, food industry specific company information, tenders, hotel accommodation information, travel information, company data, companies gone bankrupt etc.

Middle Europe Networks Ltd. of CompuServe, Hungary
The large international database host and gateway system offers several business databases and information services through the Hungarian office. They include: investing and finance, stock exchange information, company assessment and credit rating, electronic mail services, business news from press agencies Internet access etc.

4.4 Libraries

Many libraries in Hungary share the view that they should play an important role in the provision of national business information, since they
- are *natural* places where customers initially look for any kind of information;
- have the *financial resources* for purchasing *larger collections* of documents and also the necessary conditions (storage, skills, technical facilities) for overseeing their processing and provisioning.

To establish, operate and harmonise business information services in libraries, the *Association of Hungarian Librarians* in 1992 started the *Business Information Project*, with the support of the *Ministry of Culture and Education*. Three *academic* libraries (*BUES CL, Miskolc University Central Library*, and *Veszprém University Central Library*), the *National Technical Information Centre and Library (OMIKK)*, and nine *county* libraries took place in the first, preparatory phase of the project, which resulted in:
- establishing the main principles and methods of the libraries' networking of business information services (BIS),
- the creation of a database (the survey on which the database was created was referred to earlier) by *BUES CL* (called VIP:TIPP-TÁR) featuring Hungarian (non-library type) organisations who provide BIS to assess what services are already available in order to avoid any unnecessary duplication and to incorporate them into the library network,
- the creation of a bibliographic database by *OMIKK* (called VIP:VIA) featuring the main participating libraries' current business information holdings to harmonise their acquisitions and to be used as a reference tool, for inter-library loans,
- the promotion of business information courses and training (see later).

Some libraries are already providing significant forms of BIS. *BUES CL* for example produces *economic and business databases* (also available on the Internet) including *ECOINFO* - a *bibliographic* database on the library's economic and business-related holdings, and *HUNGNEWS* - a business press *news* database, and also serves its users (2/3 of which are not from the academic field, but from the R & D and business sector) from a large collection of

CD-ROMs (including ABI/Inform, Company Information SEC, Tax Treaties Information, Taxation Information, EUROSTAT, International Statistical Year Book, WISO, UK Corporations etc.) mounted on a LAN network, from a large selection of online foreign databases and from close ties with other Hungarian BIS organisations.

In the reference room a *business Corner* was opened this year with an open access collection of the most important business literature (directories on companies, laws and regulations etc.), with PC based Hungarian databases (e.g. TOP 200 - the *most successful* Hungarian companies ranted by profit; *KARTOTÉK* - Hungarian laws, *MARKETING* - Companies for privatisation) and with access to the library's CD-ROM collection.

OMIKK has also been providing business information mainly related to technical fields for several years through its library service which also provides access to large numbers of CD-ROMs via its LAN-network (*European Kompass on Disc, Wer liefert was?, F&S Index plus Text International* etc.), by offering online access to foreign databases via a number of international hosts and by publishing periodicals.

Outside of Budapest, a growing number of *county* and *town libraries* have already begun offering BIS (examples include the county libraries of Veszprém, Zalaegerszeg and Békéscsaba). In many ways they are offering more advanced services than those of the larger libraries, including tailor-made services for certain user groups. This is mainly because of the superior knowledge and needs of the business community within the region.

The above institutions, however, remain the *exception* rather than the rule. There are no *comprehensive* business information services in the sense of UK services (like the *Business Information Service* of the *British Library, Information in Business* at *De Monfort University*, Leicester, *Information Direct* at the *Birmingham Central Library* or *Business Information Service* at the *Manchester Business School*). *OMIKK* may be the *first* Hungarian library to establish a comprehensive service based on the know-how gained from the UK in the frame of the UNIDO sponsored project *BIS for SMEs in Hungary*. At the beginning of 1995 *OMIKK* opened a new service, called *Infocenter* that aims, on a trial basis, and in cooperation with 60 county, town and academic libraries, the *Hungarian Foundation for Enterprise Promotion* and the *Federal Chamber of Technical and Scientific Societies* to provide BIS. Customers are provided access to Internet services including the commercial databases at several workstations. They can use them by themselves, with the guidance and *assistance* of *OMIKK* information specialists. In addition, a growing number of databases, produced in Hungary are available in the center, e.g. *InfoBörze* (business offers) through BBS (Bulletin Board System), *Névjegyzék* (company database of the *Ministry of Industry and Trade*) etc. The *Infocenter* also acts as a *referral* center transferring unanswered requests to other Hungarian organisations providing similar services.

Having now completed the *preparatory* phase of the *Business Information Project*, libraries are now looking for the necessary financial support, including grants from Hungarian or foreign-based sources to implement the project's recommendations. Financial support is mainly required for acquisition of the basic documents to complete their collections, since the availability of government funds are annually decreasing. Library budgets are insufficient even to maintain the given level of acquisitions due to price increases and frequent devaluation of the forint. There is a strong hope however, that, through the *World Bank* supported project *Upgrading Higher Education Libraries*, now under preparation by the *Ministry of Culture and Education*, approximately 150 million USD will be allocated to selected libraries including

those supporting BIS over the next 5 years. This measure is likely to be approved during the coming year by both sides (the Hungarian government, and the World Bank).

4.5 Training and education

Over the last few years it has been of considerable priority to organise training seminars in BIS for existing and would-be *information professionals*, as well as to offer training for the *business community* at large (since many business persons still do not fully appreciate the true value of business information).

The first BIS courses were held in Hungary during 1992 (in Békéscsaba at the county library and in Szombathely at the Berzsenyi Teachers' Training College). Two one-week training courses were organised by the *Association of Hungarian Librarians* and were presented by business information professionals from Great Britain.

In 1993-94, a 48-hour BIS course was offered to the full-time, fourth-grade students of the *Library and Information Science (LIS) Department at Berzsenyi College* in cooperation with the *College of Finance and Accounting of Zalaegerszeg*. The first semester was an introduction to small and medium-sized enterprises, their establishment, organisation and information needs. The second semester focused on establishing and operating a business information service. In 1994, a more extensive, 120-hour course was conducted by the *Berzsenyi Teachers' Training College* within the frame of the libraries' *Business Information Project*. Sponsored by the *Ministry of Culture and Education*, participants (mainly from the county libraries) were admitted free of charge. The course leader was a member of the college staff, who had previously spent 7 months gaining experience at various business information services in the UK with the financial support of the *British Council*.

Additionally, the *English Department of the Berzsenyi College* offers an *Information Studies* programme for its students in cooperation with the LIS Department. Within this programme there is a BIS course taught in English and a student's coursebook in preparation. Its title will be *English for specific purposes: Business Information*. As concerns the future, the Berzsenyi College plans to develop the BIS course into a post-graduate programme.

While the Berzsenyi College plays an important role in the Western part of the country, the *Bessenyei György Teachers' Training College* in Nyíregyháza plays a similar role in the East. This is another pioneering college which has recently introduced business information studies into the curriculum. Starting in the 1993/1994 academic year, the *Department of Library and Information Science* began offering courses on business information services within the full-time basic programme of *Library and Information Studies* as well as a *post-graduate course* offering a *Manager of entrepreneurial information* qualification.

In relation to the training of information specialists, training for the *business community* has also begun. The seminars offered by *OMIKK* on the use of foreign business databases, organised in cooperation with leading foreign vendors (*DIALOG* etc.), serves as a key example.

4.6 International cooperation

With the growth of business information services, Hungary is also expected to cooperate internationally in this field, since user demand will always require the contribution of foreign and international organisations. The process of joining both foreign and international networks has already begun. For example, Hungary has been a member of the *World Trade Center Network* since 1987, and a member of the *Euro-Info-Center* and *BC-NET* networks since 1992.

However, the opportunities for international cooperation are still available in the field of *bilateral* contacts with leading business information services organisations in Europe and elsewhere, and in terms of the foreign and international networks (such as the *Business Cooperation Centre, European Business and Innovation Centre Network, European Business Library and Information Network, European Information Researcher Network, Chambernet Europe, European Business School Librarians Group*, and the UK's *Business Information Network*).

5. Development of the information infrastructure (telecommunication) in Hungary

5.1 The beginning: 1986-1989

The official recognition of the importance of the information infrastructure dates back to 1982, when scientists discussed the topic: Hungary and technical development. The lack of telephony and its related infrastructure was identified as the biggest obstacle. Funds were allocated to different sectors of the economy from 1985 that were targeted to improve the information infrastructure in Hungary.

The main outcome of the debate was the launch of the so called *Information Infrastructure Programme* (IIP) for the research and academic community.

The *main determining factors* of this period were:
- lack of international cooperation
- adverse effects of the embargo
- isolated intern~l hardware, software and service development
- lack of publ.ic data services (neither leased links, nor PSPDN)
- the general emphasis on the OSI solution.

The *major achievements* of this period were:
- the set-up of the *Information Infrastructure Development Project* (IIDP) financed and coordinated by the *National Committee for Technological Development* and the *Hungarian Academy of Sciences*
- the development and manufacturing of the X. 25 switching equipment
- the first X.25 based services appeared (databases, remote computing service, electronic mail, bulletin-board)
- the *Hungarian Telecommunication Company* introduced its public X.25 service based on products developed in the IIF Programme.

By the end of the period the active number of network users became more than a thousand. The very first local area networks appeared. Offices started to buy and use PCs, fax machines.

5.2 Quick development: 1990-1993

By 1991 the Hungarian and international climate had totally changed. The Hungarian political system was transformed, and the embargo was lifted.

Hungary became a member of *EARN* 1991 (by *HUEARN*), of RARE in 1992 (by *HUNGARNET*, which is a computer association of research and academic organisations, as well as libraries), *EUNET* etc.

The first freely elected government continued to support the IIP, which was extended by two members; the *Ministry of Education and Culture* and the *National Scientific Research Council. Activities* in frame of this program were also supported significantly by foreign organisations (*EU PHARE, World Bank, NATO, Soros Foundations* etc.)

Major achievements of this period were:

a.) In frame of the *Hungarian Telecommunication Company* (HTC):
- international X. 25 service was introduced
- international digital leased line service was introduced
- public leased link service of HTC was introduced
- the implementation of the fibre optic overlay structure.

b.) In frame of the IIP:
- the organisational structure of IIP was improved (different committees were formed for technical, user support and representation purposes)
- *HUNGARNET* association was set-up for international representation
- regional networking centres were set up to concentrate the efforts of institutions around university towns
- international network services were introduced (E-mail, X.400, X.500, Bitnet/EARN)
- the very first Internet connected networks appeared
- the inter-university FDDI ring became operational in Budapest
- the first TCP/IP networks came into existence
- different support programmes were harmonised to achieve conform and co-operating solutions
- campus wide software licensing agreements were reached with Digital, IBM, Sun
- Unix machines, X-terminals, routers were deployed at all major universities, research institutions
- the development of roughly 200 databases in different areas.

c.) Others:
- the government created its own *Information Programme Office* within the *Prime Minister's Office* (1991).

The dominance of the OSI or vendor specific solutions ceased to exist. LANs were introduced into the offices, institutions.

Several private networks became operational for banks, insurance companies, HTC, etc. Nevertheless the private networks applied usually proprietary solutions, mainly SNA or DECNET. Tenders were issued for the modernisation of different governmental agencies (tax, offices, *National Statistical Data* collections system, border guards, police force, fire fighters, GIRO network, unemployment offices, *Hungarian Electricity Board. Hungarian Railways. IBUSZ travel agency* etc.).

Alternative data communication services also appeared, were based on VSAT or private channels. The privatisation of different companies made the progress even faster. International companies appeared in Hungary with the immediate need of telecommunication. E.g. on the plants of Erickson and General Electrics sophisticated networking and telecommunication infrastructure was set up to conform to the system of the mother company.

At the beginning of the period, home-made networking solutions dominated. By the end of this period, the usual solutions were similar to that of western Europe. Lots of large wide area networks were planned, and some became operational.

The major foreign and international telecommunication, networking, software or hardware firms established direct sales and support channels to Hungary. Many firms set up Hungarian

subsidiaries.

The cable TV companies became active. The average home in an average city can have cable TV programmes. Cable TV companies are not allowed or able to provide public telephony. The Law of Telecommunication declares that telephony is a state monopoly that can be given into concession. Clearly the low prohibits the provision of phone service on cable TV company's circuits.

The number of the active networking users of IIF has reached five thousand.

5.3 The interim period before large scale expansion: 1994-1996

By 1993 it became obvious that the Internet networking technology was the only viable solution. The IIP developed its short term solution to provide Internet services for each of its member institutions. The number of IIP institutions became over 500.

The main problems to be solved in the IIP:
- the number of users grows by 10%/month
- the required bandwidth is doubling by every year
- the annual rate of inflation is more than 20%

The increasing demand for networking requires exponentially-growing budgets. Financing the IIP programme is getting more and more difficult.

5.3.1 The HBONE project
The HBONE project was launched in 1993. HBONE is the Hungarian TCP/IP backbone. The HBONE is providing Internet networking services for every institution within IIP. HBONE is a managed TCP/IP network service.

Table 19. Development of the international interconnectivity

Date	kbit/s
1992 Dec	3*9.6
1993 Dec	64+9.6
1994 Dec	3*64
1995 March	256k+2*64
1995 Oct (planned)	2M+256

Source: IIP programme

Traffic on the links tripled in the last year:

Table 20. Average traffic load on the EBONE links

1994 July	40	kbit/s
1995 Jan	57	kbit/s
1995 July	123	kbit/s

Source : EBONE statistics

The HBONE interconnects two FDDI networks, several MAN-s in university towns and in regional centres.

IP networking in the IIP community is continuously growing. The number of end users is over 30,000. Universities, libraries, museums, high schools, some government officers - mainly ministries and research institutions are connected to the Internet. User awareness and requirements are growing. The training of system and network administrators is often becoming more difficult.

Table 21. The registered and available number of Internet hosts in Hungary

	Europe		Hungary	
	hosts	domains	hosts	domains
1992 Jan	141,308	2,141	25	3
1992 July	220,262	3,202	101	4
1993 Jan	314,727	4,358	649	15
1993 July	422,315	5,783	1,276	22
1994 Jan	608,710	8,138	3,343	43
1994 July	788,635	10,493	5,441	83
1995 Jan	1.150,791	15,363	8,707	116
1995 July	1.764,549	24,611	10,235	152
1995 Aug.			12,041	

Source: RIPE hostcounts

5.3.2 Electronic mail
Traditionally electronic mail is the most attractive for end-users. The IIP programme was the forerunner in introducing electronic mail for end-users. Electronic mail has become a commonplace in Hungary. Due to the distributed nature of E-mail it is rather difficult to measure number of the actual end-users.

HUNGARNET has a central mail-hub with more than 7,000 active users. Traffic data is available for this particular server. From the Internet statistics it is clear that at least 152 other mail servers help to channel messages between users in Hungary and abroad.

Table 22. Monthly traffic of the central mail hub of HUNGARNET

	Number of messages	change in %	size in kbyte	change
1993 Jan	64384	0%	305564	0%
1994 Jan	111967	73%	724474	137%
1995 Jan	178384	59%	2388946	329%

Source: Hugbox mail exchange server statistics, Computer and Automation Institute

The development of the mail architecture followed the trends of the world. Initially home-made solutions dominated. Later the OSI X.400 solution was the target. The present practice is based on the Internet/SMTP mail with MIME extensions.

An X.400 mail gateway service is available for *HUNGARNET* users. It allows users to send and receive mail from the X.400 users in the world This gateway also serves easy communication with other Hungarian PRMD-s.

5.3.3 Information services

The world of information services has dramatically changed in the last two years with the appearance of modern Internet services.

The *Hungarian Home Page* has been used recently by about 690 hosts/day, including cca 380 Hungarian hosts, as indicated in *Figure* 5.

Figure 5. The daily use of the Hungarian Home Page
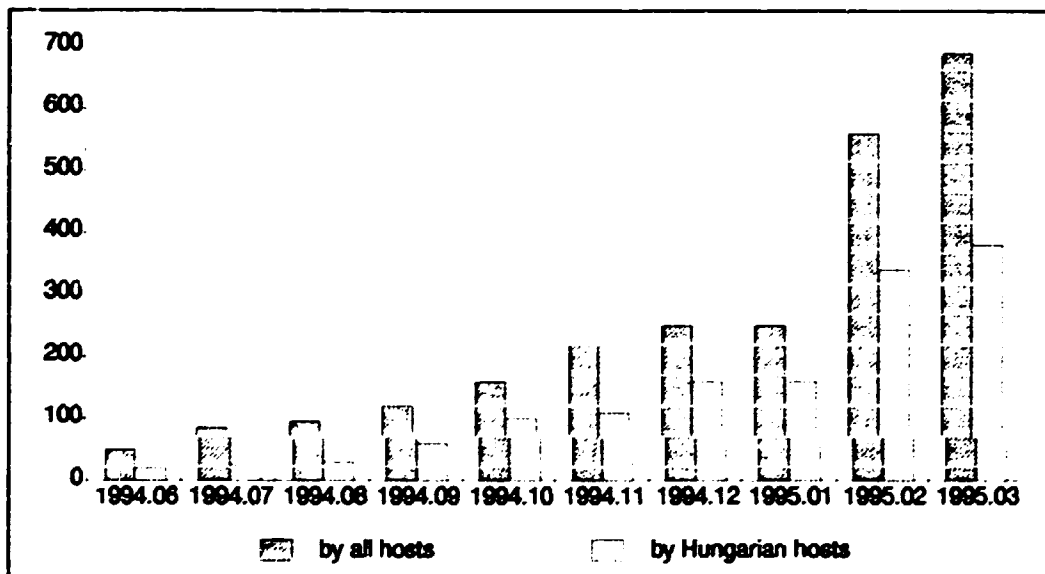
Source: Máray T.: WWW in Hungary. Proceedings of the Networkshop'95, Gödöllő 1995.

The field of information servers in Hungary became very large due to the ubiquitous Internet service. The actual numbers of the active servers are the following:
- WWW servers - 180 (1-2 new one every week)
- gopher server - 70

- FTP servers - 60.

The number of Hungarian mailing lists is over 50. The public Hungarian newsgroups are more than 30.

5.3.4 Internet service providers

At present a number of hosts - as mentioned above - is over 10,000. Most are universities and R & D institutions. However, by the end of the next year a dramatic increase is foreseen due to the fact that commercial Internet service providers have appeared on the market for the last 1-2 years giving the opportunity to the SMEs and individuals to access the Internet even from home. There is not much difference between their prices that do not acceed the respective ones in the U.S. They provide all the usual Internet services from the simple e-mail to the possibilty of creating WWW pages on the provider's server.

The main Hungarian commercial providers are as follows:
- *iSYS Hungary Ltd.*
    address: 1051 Budapest, Sas u. 9.
    phone: +36-1 266-6090
    e-mail: info@isys.hu, http://www.isys.hu

- *Odin Információs Szolgáltató Kft.* (Odin Information Servicing Ltd.)
    address: 1027 Budapest, Csalogány u. 23-25.
    phone: +36-1 216-5609
    e-mail: info@odin.hu

- *DataNet Kft.* (DataNet Ltd.)
    address: 1023 Budapest, Zsigmond tér 10.
    phone: +36-1 269-7222
    fax: +36-1 269-7022

- *EUnet Hungary Ltd.*
    address: 1518 Budapest, Pf. 63.
    phone: +36-1 269-8281
    e-mail: postmaster@hungary.eu.net, http://www.eunet.hu

- *CompuServe Hungary Ltd.*
    address: 1022 Budapest, Bég u. 3-5.
    phone: +6-1 212-4612

- *Pronet Professional Internet Services*
    address: 1053 Budapest, Magyar u. 11.
    phone: +36-1 266-7039
    e-mail: rline@pronet.hu

- *IBM Global Network*
     address: Budapest, Ménesi út 22.
     phone: +36-1 165-4422

5.3.5 The government X.400 pilot
One of the largest project was the introduction of X.400 message handling and the Internet to the ministries in Budapest (sixteen ministries, fifteen hundred users).

The project was successful: civil servants can now communicate with each other using electronic messaging. The external communication was also solved with subscribing to AT&T ADMD service and HTC's X.25 service.

The original project is still growing and recent plans include:
- introduction of X.500 based messaging
- introduction of EDI
- transformation of public governmental documents into WWW format.

There are several other initiatives to introduce X.400 messaging in different sectors of the administration.

5.3.6 GSM telephony
GSM telephony was introduced in the framework of concession contracts. Mobile telephony penetrated the Hungarian society. In the last fifteen months more than 150000 mobile phones became active. The two competing companies try to make the most out of this segment of the market.

Roaming in Europe is also provided. *Value added* services were also introduced on top of GSM network.

GSM telephony is very well accepted by the society. Small businesses or roaming individuals use it in most of the cases.

5.3.7 New services from the *Hungarian Telecommunication Company*
HTC is the biggest and almost the only provider in the Hungarian telecommunication market. The biggest result of the development work in last years is the establishment of the *fibre optic* overlay structure in Hungary. It serves a base for any type of future service. 2700 km optical cables were laid down, which interconnects fifty-four centres.

Digital exchanges have been introduced. It is expected that by the end of 1996 2/3 of the exchanges will be digital. The ERMES paging system was introduced in this year.

It is expected that by the end of 1995 the following services will be available:
- ISDN, not only in Budapest
- frame-relay, at least in Budapest
- digital managed data services in some parts of the country.

SDH (Synchronous Data Hierarchy) equipment planned to be deployed in 1996. The first ATM (Asynchronous Transfer Mode) pilot will start in early 1996.

HTC has been planning to introduce X.400 based messaging service for a long time. The

project was launched in 1992 but stopped in the same year. The relaunch of the messaging project was in 1995. There is not much hope that a public messaging service appears before 1996.

5.4 Recent developments

The Hungarian government recognised the requirement of modernisation coming from every sector of society. To meet this requirement different programmes are under preparation. The present budgetary problems do not leave much space for concerted actions for the government. In spite of it the period of the last fifteen months was busy with formulating plans. It is likely that the budget for 1996 will include funds for the further development of the information infrastructure.

5.4.1 *The National Information Infrastructure Development Project* (NIIDP)
The NIIDP was launched in December, 1994, simultaneously as the *American Information Infrastructure project* and the *Bangemann report*.

Similarly to those it called for actions to pave the way of modernisation.

The NIIDP is the logical continuation of the IIDP with the aim of providing network services for an even larger segment of the society.

NIIDP now is a *government* programme that is financed indirectly through the following organisations:
- *National Committee for Technological Development*
- *Hungarian Academy of Sciences*
- *Ministry of Education and Culture*
- *National Science Foundation.*

Its primary goal is to enhance and extend the national information infrastructure. NIIF finances and operates the HBONE project. Its user base is more than 30,000 people, mainly from R & D, higher education, libraries and other non-profit organisations.

The planning horizon of the NIIP is for the period of 1995-1997. For this period the following actions are planned:
- to secure the international network service access through EBONE and Europanet
- to enhance the present services (HBONE, E-mail, bulletin board, mail gateways, directory, message handling)
- to participate in international projects (Eurocaim, MICE, TEN-34)
- to introduce new types of service as qualified scientists can access the Internet from home;
  secondary school project (the use of Internet); participation in remote education; service for tele-working
- to provide coordination and technical support for integrated library systems
- to extend IP service access throughout Hungary
- to provide training (end-user training, system and network administrator training, regular Networkshops, training materials)
- to introduce new telecommunication technologies (frame-relay, ISDN, ATM pilot)
- to support the development of new information systems, data-bases, archives, bulletin boards

- to develop multimedia (multimedia mai! (MIME), structured multimedia information systems (WWW and other), multimedia databases).

NIIDP and HTC work together in several projects:
- introduction of public X.400
- introduction of public IP service.

5.4.2 Programme of Modernisation

The Programme of Modernisation is a document for open discussion. It was published in May 1995. The proposals are very general. Those parts that are relevant to the information infrastructure development focus on the following 4 areas:

a.) *Governmental informatics*
- every government office and local authority should be connected into a homogenous computer network. (The Internet is not named here.)
- the connected systems should be compatible in the next 5 to 10 years
- the most important registers of government and local authorities (personal records, social security, income tax etc.) should be upgraded to modern standards
- decision making should be supported by data from computerised archives
- stronger cooperation should be realised with European and international institutions in the field of telecommunication
- a long term target is to achieve communication between citizens and offices in electronic forms
- public information should be available in electronic forms as well
- the governmental informatics should be covered within a legal and technical framework.

b.) *Public informatics*
- the government should focus on the research and education. By the end of the next decade it is foreseen that every r-search, educational, public institute will communicate with a computer network. The effects of brain-drain could be reduced with this network. (The document does not refer to the results of the IIDP. The authors are not awaie the fact that practically every university, research institute and library are already connected to the Hungaian segment of the Internet.)
- the infrastructure should support citizens in financial and commercial transactions from home, like home shopping, home banking.

c.) *Business informatics*
- business informatics is financed through the market but partly controlled in order to establish a common and co-operating set of information services.

d.) *Public communications*
- an annual growth of 15% in phone subscribers should be achieved. The aim is to reach 31 subscribers per 100 citizens by the year 2000
- it is prognosed that the service level of broadcasting and other postal services will reach the western European standards by 2010
- public communication will develop very quickly in the liberalised sectors of the economy.

5.4.3 Administration Informatics

The role of ministries changed significantly by 1990. The situation before 1991/1992 was characterised that none of the ministries had any responsibility or task in governmental informatics or telecommunications.

The Government set up the *Inter-Ministerial Informatics Committee* in 1991. For daily operative tasks the *Informatics Coordination Bureau* was set up within the *Prime Minister's Office*. Initially the main tasks of these organisations were to harmonise and coordinate the efforts of different ministries. The committee works as a strategic planning office for the administration in the field of informatics from 1994. The Bureau on the other hand takes the initiative in special projects (see the Government X.400 project).

The following development areas were outlined in a recent study:
- increase the support for decision making in the field of economics
- supply with information of the administration
- introduction of work-flow management systems
- introduction of EDI
- enhance cooperation between the parallel information systems of the *Hungarian Parliament* and the *Government Administration*
- to develop common information systems for the ministries
- introduction of state-of-the-art applications.

The information infrastructure of the administration falls behind that of western countries. Open system-based solutions plan to be used in every field of applications, information processing systems and telecommunications. The network infrastructure should be upgraded in order to allow transmission of data, voice, video and image at the same time.

The study calls for development in the following areas:
- procurement or new open hardware and software systems that are vendor independent
- the development of a dedicated telecommunication infrastructure for the administration
- extend the present X.400 based messaging system
- wholesale software procurement for the administration

5.5 The NIS programme

The first proposal of the NIS initiative was prepared in January 1995. An updated and extended version of the NIS proposal will be published this year.

The acronym stands for the *National Informatics Strategy Initiative*. The NIS initiative concentrates on one aspect of the modernisation, namely the informatics and its effects on society.

The proposal calls for urgent action to avoid a continuously deepening financial and structural crisis. Should Hungary fail to respond the changing conditions then the crisis would be unavoidable.

The NIS initiative uses a general approach. Its time scale is within the next 10 to 20 years. The NIS initiative invokes harmonised actions of the governmental, private and public spheres.

The starting points of the NIS initiative are:
- the transition of the society to the information society
- the development of the information infrastructure.

The study identifies the following five areas where action should be taken:
- info-communication infrastructure
- informatics industry
- informatics applications
- education and the information revolution
- an informatics aware government.

The development of the info-communication infrastructure includes the following areas:
- telecommunication's infrastructure development
- information infrastructure development
- large scale application in the field of administrations, education, health, and social security service, etc.
- life in the information society.

The first two fields are partly technology driven. The third field requires investments from the public and private sectors.

The following foreseen applications should be implemented:
- citizens should be able to make financial and administrative transactions via computer networks
- private ventures should be able to make contracts, handle customs and excise matters, handle the transport of goods, etc. with the help of computer networks
- tele-working and tele-teaching
- bank transaction over computer networks
- home shopping, home banking, video on-demand.

The NIS initiative calls for governmental actions in the following fields:
- the *Hungarian Government* should have a *National Informatics Policy and Strategy*
- the *Government* should have a coordinated set of projects in the field of informatics
- the projects should be harmonised with other projects in the economy, and with other long-term or strategic initiatives
- reach national support with the help of the media
- initial funds to start the projects
- to create legal environment / copyright, privacy/
- project co-ordination and organisational framework.

The following projects are outlined in the NIS initiative
- the extension of the NIIDP
- extension of the GIS (geographic information systems) project
- automation of big Hungarian libraries
- computerisation of government administrative systems
- health care
- tele-teaching and remote educational system
- information network of the Hungarian National Press Agency
- tourism information systems
- networking support for the "green" movements

- EDI
- TV cable-based network access.

It is likely that the NIS initiative will be accepted by the ruling parties. It cannot be predicted whether the NIS will take off in 1996.

6. Recommendations

6.1 Recommendations on improving business information services in Hungary

6.1.1 Improving the coverage of domestic information sources

Although there is already a large and growing number of domestic information sources, there are still a great many omissions. (E.g. while there are several company information databases giving full contact details it is difficult to find anything *more* about a company, in the way of annual reports, trade literature and various other sources.) In the past this was due to the lack of a central infrastructure for filing accounts, results and other general financial company data, however, associate membership of the European Union should bring about a change in this practice.

6.1.2 Improving legislation and regulations

Further legislation and regulation is needed to ensure the *publicity* and *availability* of *official data*. As expected, the process of Hungary's admission to the European Union, now under way, will advance the related legislation, and will be of considerable benefit to the Hungarian business information infrastructure as well.

6.1.3 Improving business information services within libraries

Libraries are to some extent still behind the other types of business information providers, even though they traditionally serve the largest number of customers. Libraries should *coordinate* their efforts for developing business information services and take the respective services of the English libraries as a model. They should establish business type contacts with other libraries in Europe providing similar services so that the users' requests could be satisfied by using other libraries' resources and experience when needed.

6.1.4 Furthering participation in international products and services

The domestic business information sector should serve not only the home market but give *better orientation* for the foreign countries. Although many information products covering Central and Eastern Europe have appeared in the West, they cannot comprehensively satisfy local demand. Improving the coverage of domestic business information sources will not only serve the local market, but will serve to increase Hungary's participation internationally, and should be available either independently or for the incorporation into foreign services.

6.1.5 Better marketing and promotion of services

In both for-profit and non-profit sectors, but mainly in non-profit, much more attention should be paid to customers' information needs and to *tailor* the services more accordingly. Similarly, more efficient promotion and user education should be provided to enable the business community to better appreciate business information sources and services, and their value in making crucial business decisions. *Comprehensive reference tools* with national scope are also needed to increase the transparency of the business information infrastructure and to assist business persons in navigating through the diverse range of offered services.

6.1.6 The development of a domestic business information network is needed

To provide more adequate and comprehensive services both among providers and at service points, *stronger cooperation* is needed. Communication relaying the needs of users to those responsible for collecting information and between those providing information services is necessary for further development in all areas. The establishment of a domestic business

information network, based on modern information technology and suitable for interconnection to existing international networks, would be a milestone in service development for Hungary.

6.2 Recommendations on developing IBIS

6.2.1 Developing a referral system
Since in the present member countries and also in the other ones in the region which would join the system there is a large number of business information services, the main aim of IBIS should be not the creation of new information products and services but becoming a *referral* system and this way to promote the *awareness* and consequently the *use* of these services.

6.2.2 Using the existing telecommunication facilities
There is no need for a dedicated telecommunication network. Instead IBIS should make use of the *existing* telecommunication facilities, mainly that of Internet.

6.2.3 Interface for integrated searching
An IBIS gateway should be established as a distributed, client/server information system providing interface for *integrated* searching (using common search fields), viewing, browsing and ordering (in the national language and also in English). This gateway should give the possibility for the user to search for business information services and databases with the help of common retrieval criteria and, consequently provide access to those available on the Internet.

6.2.4 Regional metadatabases
Member countries under the guidance and coorditation of the national focal points should collect and regularly maintain data on the business information services and databases and to create the respective databases/metadatabases. Within the frame of IBIS, *regional metadatabases* should be developed and made available through Internet. As an option a CD-ROM version should also be considered.

6.2.5 Intermediary role of the national focal points
Since at present still a great proportion of organisations providing business information services do not have Internet connection and/or they are not on the development level to answer foreign requests (e.g. simply because of the language barrier), national focal points should also act as *intermediaries*, i.e. to receive orders from the member countries and fulfil them by contacting the competent organisation(s) in the country, if the requesting organisation prefers this way of communication. The intermediary role of the national focal point should also function in the other direction, i.e. by collecting requests in the country and transferring them to other IBIS member countries.

6.2.6 Fund raising
National focal points in cooperation with UNIDO should contact support organisations for SMEs in the country (e.g. in Hungary: *Institute for Small Business Development, Hungarian Foundation for Enterprise Promotion, Hungarian Small Business Association*) to harmonise business information provision activities in frame of IBIS and of these organisations, to identify the perspective areas of common interst and action and to *find financial support* for developing IBIS.

6.2.7 Steering Committee

For developing and operating IBIS, a *steering committee*, preferably consisting of the representatives of UNIDO and national focal points, should be organised.

6.2.8 Marketing and promotion

One of the main tasks of the national focal points should be extensive *marketing* and *promotion* of IBIS to enlarge the number of organisations involved into the realisation of the system and to increase awareness of the new service in the business community. An IBIS *newsletter* (on the Internet and also in printed form) would be beneficial to distributing information on the system.

6.2.9 Training and user education

Regional courses should be organised for the staff of the national focal points to train them for using the business information sources and services in the member countries. National focal points should be responsible for the *user education*. To assist them *a set of educational materials* and tools should be prepared with international cooperation (leaflets, manuals, A-V materials, demos etc.).

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Tape, Handheld, and Batch Access Database Products, July, 1994. 1071 p.

Selective list of business information databases
produced in Hungary

1. Name: Ajánlatbörze
    (scope: business offers)
    Supplier: ÁSZSZ Informatikai Rt.
            Address: 1119 Budapest, Andor u. 47-49.
            Contact person: Mr. Imre CSERE
            Phone: +36-1 185-1122
            Fax: +36-1 185-3236

    Subject: business offers
    Size (number of records): 1500
    Update frequency: daily
    Type: factual
    Language: Hungarian
    Access: online

2. Name: BIRHAT
    (scope: decisions of the Supreme Court, jurisdictional decrees)
    Supplier: ÁSZSZ Informatikai Rt.
            Address: 1119 Budapest, Andor u. 47-49.
            Contact person: Mr. László LENGYEL
            Phone: +36-1 185-1122
            Fax: +36-1 185-3236

    Subject: legal
    Size (number of records): 7000
    Update frequency: monthly
    Type: bibliographic
    Language: Hungarian
    Access: online, floppy

3.   Name: Brókertár
(scope: facts and figures of the daily trade of the Budapest Stock Exchange)
Supplier: TeleDataCast Kft.

        Address: 1054 Budapest, Báthori u. 24.
        Contact person: Ms. Judit MÓRICZ
        Phone: +36-1 269-4019
        Fax: +36-1 131-1962

Subject: financial
Update frequency: continuously
Type: factual
Language: Hungarian
Access: Data-BroadCast

4.   Name: Cégnotesz
(scope: registration of companies, experts, entrepreneurs).
Supplier: MIKROTREND

        Address: 1016 Budapest, Szirtes u. 28/a
        Contact person:
        Phone: +36-1 185-7871
        Fax: +36-1 185-7871

Subject: company information
Size (number of records): 160.000
Update frequency: bi-weekly
Type: factual
Language: Hungarian
Access: floppy, printed lists

5.   Name: Csődtájékoztató
(scope: bankrupt companies, companies being liquidated or get their accounts
square).
Supplier: ÁSZSZ Informatikai Rt.

        Address: 1119 Budapest, Andor u. 47-49.
        Contact person: Mr. László LENGYEL
        Phone: +36-1 185-1122
        Fax: +36-1 185-3236

Subject: company information
Size (number of records): 3000
Update frequency: weekly
Type: factual
Language: Hungarian
Access: online

6. Name: ECOINFO
   (scope: holdings of the Central Library of the Budapest University of Economics).
   Supplier: Budapesti Közgazdaságtudományi Egyetem
      Address: 1828 Budapest, 5. Pf. 489.
      Contact person: Mrs. Walter DEMMLER
      Phone: +36-1 217-9377
      Fax: +36-1 217-4910

   Subject: business literature/news
   Size (number of records): 170.000
   Update frequency: daily
   Type: bibliographic
   Language: Hungarian, English, German
   Access: online, floppy

7. Name: ELSAJ
   (scope: news on economy, monetary information).
   Supplier: TeleDataCast Kft.
      Address: 1054 Budapest, Báthori u. 24.
      Contact person: Mr. Sándor MÓRICZ
      Phone: +36-1 269-4019
      Fax: +36-1 131-1962

   Subject: business news
   Update frequency: daily
   Type: mixed, full text
   Language: Hungarian, English
   Access: Data-BroadCast

8. Name: EXPERT
   (scope: Experts engaged in research and development).
   Supplier: Országos Müszaki Információs Központ és Könyvtár
      Address: 1088 Budapest, Múzeum u. 17.
      Contact person: Mr. János LÖRINCZ
      Phone: +36-1 138-4683
      Fax: +36-1 138-2414

   Subject: experts
   Size (number of records): 2200
   Update frequency: monthly
   Type: factual
   Language: Hungarian, English
   Access: online

9. Name. FORRAS
    (scope: repertory of legal rules).
    Supplier. JUROS Kiado
    Address: 1052 Budapest, Vaci u 12.
    Contact person. Dr. Anna LISKA-NAGY
    Phone. +36-1 111-4847
    Fax. +36-1 137-8365

    Subject. legal
    Size (number of records). 500
    Update frequency: four monthly
    Type: bibliographic
    Language. Hungarian
    Access. floppy, CD-ROM

10. Name.GIP
    (scope. registration of technical and fiscal data on the developments of the
    infrastructure of foreign and native investors).
    Supplier: Kozlekedesi, Hirkozlesi es Vizugyi Miniszterium
    Address: 1077 Budapest, Dob u. 75-81.
    Contact person: Mr. Mihaly SZUCS
    Phone. +36-1 122-0220
    Fax. +36-1 122-9080

    Subject. company information
    Size (number of records): 600
    Update frequency: quarterly
    Type:factual
    Language. Hungarian, English
    Access floppy

11. Name. Hirdetotabla
    (scope. entrepreneurial partner mediation)
    Supplier. Kisvallalkozas-Fejlesztesi Intezet
    Address: 1024 Budapest, Margit krt. 85.
    Contact person: Ms Ludmilla MASZLAG
    Phone. +36-1 156-5566/4121
    Fax. +36-1 156-6491

    Subject. business offers
    Size (number of records). 500
    Update frequency. continuously
    Type: factual
    Language. Hungarian
    Access. online, printed

12. Name: HUNTECH
    (scope: new Hungarian products, achivements of research and development).
    Supplier: Nemzetközi Technológiai Intézet
        Address: 1450 Budapest, Pf. 20
        Contact person: Dr Zsolt BALASSY
        Phone: +36-1 153-0633
        Fax: +36-153-2320

    Subject: product information
    Size (number of records): 1300
    Update frequency: continuously
    Type: factual
    Language: English
    Access: online, floppy, printed

13. Name: IKM Név és Cim
    (scope: economic organizations under the Ministry of Industry and Commerce).
    Supplier: Ipari és Kereskedelmi Minisztérium, Informatikai Fõosztály
        Address: 1024 Budapest, Margit krt. 85.
        Contact person: Ms. Katalin FARKAS
        Phone: +36-1 156-3373
        Fax: +36-1 175-3295

    Subject: company information
    Size (number of records): 32.000
    Update frequency: quarterly
    Type: factual
    Language: Hungarian
    Access: online, printed

14. Name: Institut
    (scope: R & D institutions)
    Supplier: Országos Műszaki Információs Központ és Könyvtár
        Address: 1088 Budapest, Múzeum u. 17.
        Contact person: Mr. János LÕRINCZ
        Phone: +36-1 138-4683
        Fax: +36-1 138-2414

    Subject: company information
    Size (number of records): 1500
    Update frequency: yearly
    Type: factual
    Language: Hungarian, English
    Access: online

15.   Name: INTERCONTACT
       (scope: trade relations)
       Supplier: Intercontact Marketing Network Kft.
              Address: 1102 Budapest, Szent László tér 20.
              Contact person: Mr. Csaba JUHÁSZ
              Phone: +36-1 260-1484
              Fax: +36-1 261-4235

       Subject: company information
       Size (number of records): 1000
       Update frequency: daily
       Type: factual
       Language: Hungarian, English
       Access: printed

16.   Name. IPOSZ Hiradó
       (scope: legal rules affecting tradesmen, business prospects/offers)
       Supplier: IPOSZ MKK
              Address: 1054 Budapest, Kálmán Imre u. 20.
              Contact person: Mr. Gábor ORBÁN
              Phone: +36-1 269-2951
              Fax: +36-1 269-2957

       Subject: legal
       Type: mixed
       Language: Hungarian
       Access: online

17.   Name: ISZV BBS
       (scope: open fiscal and business information)
       Supplier: Információ Szolgáltató Vállalkozás Bt.
              Address: 6723 Szeged, Ács u. 2/a
              Contact person: Mr. András HAJDÚ
              Phone: +36-62 356-868

       Subject: financial information
       Size (number of records): 300
       Update frequency: daily
       Type: factual
       Language: Hungarian
       Access: online

18.   Name: Jogi információ
      (scope: juristic information).
      Supplier: Országgyűlési Könyvtár
            Address: 1357 Budapest, Kossuth L. tér 1-3.
            Contact person: Dr. Csaba NAGY
            Phone: +36-1 269-4114
            Fax: +36-1 269-0417

      Subject: legal
      Size (number of records): 7300
      Update frequency: monthly
      Type: bibliographic
      Language: Hungarian
      Access: floppy

19.   Name: KAMATOK
      (scope: deposit and credit interest rates)
      Supplier: Országos Takarékpénztár és Kereskedelmi Bank Rt.
            Address: 1876 Budapest, Nádor u. 16.
            Contact person: Dr. István BÖLÖNI
            Phone: +36-1 153-1444
            Fax: +36-1 131-6312

      Subject: financial information
      Type: numeric
      Language: Hungarian
      Access: printed

20.   Name: KARTOTÉK
      (scope: registry of legal rules).
      Supplier: Igazságügyi Minisztérium
            Address: 1055 Budapest, Szalay u. 16.
            Contact person: Mr. Gábor GLATT
            Phone: +36-1 112-0410
            Fax: +36-1 112-0410

      Subject: legal
      Size (number of records): 12.500
      Update frequency: monthly
      Type: bibliographic
      Language: Hungarian
      Access: floppy

21. Name: KUTFEJ
     (scope: financial research)
     Supplier: Pénzügyminisztérium Gazdaságelemzési és Informatikai Intézet
          Address: 1149 Budapest, Angol u. 27.
          Contact person: Ms. Edit MAJTÉNYI
          Phone: +36-1 251-0288
          Fax: +36-1 163-0242

     Subject: financial information
     Size (number of records): 100.000
     Update frequency: yearly
     Type: factual
     Language: Hungarian, English
     Access: online

22. Name: LEXIKON
     (scope: information on technology of trade and commerce)
     Supplier: Magyar Munkaadói Szövetség/Hunginfo Kft.
          Address: 1055 Budapest, Kossuth tér 6-8.
          Contact person: Mr. Gábor NAGY
          Phone: +36-1 153-2503
          Fax: +36-1 153-1285

     Subject: other (economic data)
     Size (number of records): 250
     Update frequency: weekly
     Type: factual
     Language: Hungarian
     Access: online

23. Name: MÉDIA ÁSZ
     (scope: advertisement prices and services of the media)
     Supplier: S & S Karakter Kft
          Address: 1055 Budapest, Honvéd u. 40.
          Contact person: Mr. István SALLAY
          Phone: +36-1 131-3529
          Fax: +36-1 111 9636

     Subject: other (advertisement)
     Size (number of records): 2000
     Update frequency: semiannually
     Type: factual
     Language: Hungarian
     Access: printed

24.   Name: MET
       (scope: Data on the Budapest Stock Exchange).
       Supplier: Orczán Csaba és dr. Orczán Zsolt
              Address: 1536 Budapest, Pf. 311
              Contact person: Mr. Csaba ORCZÁN
              Phone: +36-! 201-6530

       Subject: financial information
       Size (number of records): 800
       Update frequency: weekly
       Type: numeric
       Language: Hungarian
       Access: online

25.   Name: MOSZ Információ
       (scope: agricultural market- and professional information)
       Supplier: Mezőgazdasági Szövetkezők és Termelők Országos Szövetsége
              Address: 1054 Budapest, Akadémia u. 1-3.
              Contact person: Dr. Mihály GÁL
              Phone: +36-1 153-4444
              Fax: +36-1 153-2552

       Subject: other (market information)
       Size (number of records): 600
       Update frequency: daily
       Type: mixed
       Language: Hungarian
       Access: online

26.   Name: MTI-SAB
       (scope: databank of the press)
       Supplier: Magyar Távirati Iroda Sajtóadatbank
              Address: 1016 Budapest, Naphegy tér 8.
              Contact person: Dr. Iván SZABÓ
              Phone: +36-1 117-6722
              Fax: +36-1 175-4337

       Subject: business news
       Size (number of records): 750.000
       Update frequency: daily
       Type: mixed
       Language: Hungarian, English
       Access: online, printed

27. Name: Nagyvállalatok
(scope: large and medium enterprises of Hungary).
Supplier: Hoppenstedt Bonnier & Társa Információs Kft.
Address: 1211 Budapest, Petz Ferenc u. 6.
Contact person: Mr. Csaba TÜSKE
Phone: +36-1 276-1344
Fax: +36-1 276-0933

Subject: company information
Size (number of records): 6400
Update frequency: semiannually
Type: factual
Language: Hungarian, English, German
Access: printed, CD-ROM

28. Name: Névjegyzék
(scope: name and address list of economic organizations under the Ministry of Industry and Trade).
Supplier: Ipari és Kereskedelmi Minisztérium Informatikai Főosztály
Address: 1024 Budapest, margit krt. 85.
Contact person: Ms. Katalin FARKAS
Phone: +36-1 156-5191
Fax: +36-1 175-3295

Subject: company information
Size (number of records): 30 000
Update frequency: monthly
Type: factual
Language: Hungarian
Access: online, CD-ROM

29. Name: Önkormányzati címek
(scope: address of Hungarian self-goverments and name of their mayors)
Supplier: Országgyűlési Könyvtár
Address: 1357 Budapest, Kossuth L. tér 1-3.
Contact person: Mr. Mihály MEDVE
Phone: +36-1 268-4105
Fax: +36-1 268-4853

Subject: company information
Size (number of records): 3200
Update frequency: quarterly
Type: factual
Language: Hungarian
Access: online

30. Name: PARTNER-HUNGINFO
    (scope: search of trade partners)
    Supplier: Hunginfo Kft.
    > Address: 1055 Budapest, Kossuth L. tér 6-8.
    > Contact person: Mr. Gábor NAGY
    > Phone: +36-1 153-2503
    > Fax: +36-1 153-1285

    Subject: business offers
    Size (number of records): 3000
    Update frequency: weekly
    Type: factual
    Language: Hungarian, English
    Access: online

31. Name: PRESSDOK
    (scope: articles published in the Hungarian political and jurisdical press)
    Supplier: Országgyűlési Könyvtár
    > Address: 1357 Budapest, Kossuth L. tér 1-3.
    > Contact person: Mr. Mihály MEDVE
    > Phone: +36-1 268-4105
    > Fax: +36-1 268-4853

    Subject: business news
    Size (number of records): 250.000
    Update frequency: monthly
    Type: bibliographic
    Language: Hungarian, English, German
    Access: floppy, CD-ROM

32. Name: PROJECT
    (scope: Hungarian R+D subjects)
    Supplier: Országos Műszaki Könyvtár és Dokumentációs Központ
    > Address: 1088 Budapest, Múzeum u. 17.
    > Contact person: Mr. János LŐRINCZ
    > Phone: +36-1 138-4683
    > Fax: +36-1 138-2414

    Subject: other (R+D subjects)
    Size (number of records): 1000
    Update frequency: monthly
    Type: factual
    Language: Hungarian, English
    Access: online

33. Name: STADAT
(scope: statistical data).
Supplier: Központi Statisztikai Hivatal
Address: 1024 Budapest, Keleti Károly u 5-7
Contact person: Mrs. Béla TAKÁCS
Phone: +36-1 212-6008
Fax: +36-1 202-2894

Subject: statistics
Size (number of records): 6500
Update frequency: monthly
Type: numeric
Language: Hungarian
Access: online, printed

34. Name: Szakértő
(scope: judicial experts)
Supplier: Igazságügyi Minisztérium
Address: 1055 Budapest, Szalay u 16.
Contact person: Ms. Éva PRUCKNER-BARTHA
Phone: +36-1 132-8902
Fax: +36-1 131-8753

Subject: experts
Size (number of records): 3200
Update frequency: yearly
Type: factual
Language: Hungarian
Access: floppy

35. Name: SZÜV KI? MIT?
(scope: who manufactures what?)
Supplier: Számítástechnikai és Ügyvitelszervező Vállalkozás Rt
Address: 1145 Budapest, Szugló u- 9-15.
Contact person: Ms. Csilla VARANNAI
Phone: +36-1 163-0626
Fax: +36-1 163-3897

Subject: company information
Size (number of records): 66.000
Update frequency: quarterly
Type: factual
Language: Hungarian, English, German
Access: floppy

36. Name: TELCOMTEC-INFO
     (scope: business offers, financial information)
     Supplier: TELCOMTEC Kft.
          Address: 3529 Miskolc, Perczel Mór u. 26.
          Contact person: Mr. István MITRÓ
          Phone: +36-46 354-203
          Fax: +36-46 354-205

     Subject: business offers
     Size (number of records): 25.000
     Update frequency: continuously
     Type: mixed
     Language: Hungarian, English
     Access: online

37. Name: Törvénytár
     (scope: Hungarian Corpus Juris)
     Supplier: Magyar Közszolgálati Adattár
          Address: 1139 Budapest, Újpesti rkp. 8.
          Contact person: Mr. László BÓDIS
          Phone: +36-1 112-5411
          Fax: +36-1 112-5411

     Subject: legal
     Update frequency: monthly
     Type: full text
     Language: Hungarian
     Access: CD-ROM

38. Name: Tőzsdei Adatbázisok
     (scope: information on the stock market and the commercial exchange)
     Supplier: FORNAX Rt.
          Address: 1123 Budapest, Táltos u. 1.
          Contact person: Mr. Attila BENCSIK
          Phone: +36-1 175-6322
          Fax: +36-1 156-7419

     Subject: financial information
     Update frequency: daily
     Type: numeric
     Language: Hungarian, English
     Access: online

39. Name: VÁMSTAT
    (scope: foreign trade product statistics).
    Supplier: KOPINT-DATORG Rt.
           Address: 1051 Budapest, Dorottya u. 6
           Contact person: Customer Service
           Phone: +36-1 266-5070
           Fax: +36-1 266-5782

    Subject: statistics
    Size (number of records): 1.075.000
    Update frequency: monthly
    Type: factual
    Language: Hungarian
    Access: printed

40. Name: VIP: TIPP-TÁR
    (scope: data on information suppliers).
    Supplier: Budapesti Közgazdaságtudományi Egyetem Központi Könyvtára
           Address: 1828 Budapest, 5, Pf. 489
           Contact person: Mrs. Erzsébet SZIVI
           Phone: +36-1 217-9377
           Fax: +36-1 217-4910

    Subject: company information
    Size (number of records): 260
    Update frequency: quarterly
    Type: factual
    Language: Hungarian
    Access: floppy

Selective list of the Hungarian organisations
provinding business information upon foreign request

1. Name: ACSI Logisztikai Rt.
   (ACSI Logistic Co.)
   Address: 1089 Budapest, Rigó u. 3.
   Contact person: Mr. József TÓTH
   Phone: +36-1 210-0101
   Fax: +36-1 133-8170
   Telex: 225664

   Nature of organisation: central government agency
   Type of service: consultancy, company information, market information, training,
   operation of interest groups

2. Name: ADN Német Hirszolgálat
   (ADN German News Service)
   Address: 1146 Budapest, Zichy Géza u. 9.
   Contact person: Ms. Cornélia KOWALTSKY
   Phone: +36-1 120-0810
   Fax: +36-1 121-0810

   Nature of organisation: for-profit
   Type of service: market information, operation of interest groups

3. Name: AGORA Észak-Magyarországi Regionális Kereskedelemfejlesztési és
Befektetési Kft
   (AGORA North-Hungarian Regional Ltd. for Trade Development and Investment)
   Address: 3525 Miskolc, Szűcs S. u. 5..
   Contact person: Mr. Tamás GÁL
   Phone: +36-46 412-821

   Nature of organisation: for-profit
   Type of service: consultancy, company information, market information, special
   tailored information, training

8. Name: CASH-POINT Kft.
    (CASH-POINT Ltd.)
    Address: 1021 Budapest, Horvát u. 28-32.
    Contact person: Mrs. Zoltán MÁRKUS
    Phone: +36-1 201-6385
    Fax: -36-1 201-6385

    Nature of organisation: for-profit
    Type of service: consultancy, company information, market information, special
        tailored information, operation of interest group

9. Name: Dallas+1 Bt.
    (Dallas+1 Deposit partnership)
    Address: 3300 Eger, Széchenyi u. 18.
    Contact person: Mr. Géza VINCZE
    Phone: +36-36 310-870
    Fax: +36-36 310-870

    Nature of organisation: for-profit
    Type of service: consultancy, company information, market information, special
        tailored information, operation of interest group

10. Name: Debreceni Vállalkozásfejlesztő Alapitvány
    (Debrecen Foundation for the Development of Undertakings)
    Address: 4026 Debrecen, Péterfia u. 25.
    Contact person: Mr. Gusztáv VÁNYAI
    Phone: +36-52 347-301
    Fax: +36-52 348-257

    Nature of organisation: foundation
    Type of service: consultancy, company information, market information, special
        tailored information, operation of interest group

11. Name: Dr. Kunos József Befektetési, Vállalkozási Tanácsadó Iroda
    (Dr. József Kunos's Consultancy for Investment and Enterprise)
    Address: 6720 Szeged, Victor Hugo u. 4.
    Contact person: Mr. Attila HAVASI, Ms. Orsolya BABINETZ
    Phone: +36-62 312-302
    Fax: +36-62 312-302, 312-323

    Nature of organisation: for-profit
    Type of service: consultancy, company information, market information, special
        tailored information

12. Name: EURONET Business Communications Network
    Address: 3009 Hatvan, Esze T. u. 2.
    Contact person: Mrs Erika KALLO-SZÜCS
    Phone: +36-37 342-385
    Fax: +36-38

    Nature of organisation: for-profit
    Type of service: consultancy, company information, market information special
tailored
        information, training

13. Name: Econo-Contact Kereskedelemszervezö Iroda
    (Eco-Contact Office for Trade Organization)
    Address: 3000 Hatvan Pf. 31
    Contact person: Mr. Tamás MONTVAI
    Phone: +36-37 342-054

    Nature of organisation: for-profit
    Type of service: consultancy, company information, market information, special
        tailored information, training, operation of interest group

14. Name: HIT Investcenter Tradeinform Magyar Befektetési és Kereskedelemfejlesztési

    Vállalat
    (HIT Investcenter Tradeinform Hungarian Enterprise for Investment and Trade
    Development)
    Address: 3300 Eger, Kossuth L. u. 9.
    Contact person: Dr. György SIBELKA
    Phone: +36-36 311-847, 310-011
    Fax: +36-36 311-847, 311-106
    Telex: 63330

    Nature of organisation: central government agency
    Type of service: consultancy, company information, market information, special
        tailored information, operation of interest group

15. Name: Heves Megyei Vállalkozói Központ
    (Entrepreneurial Centre of Heves County)
    Address: 3300 Eger, Dobó tér 6/a
    Contact person: Mr. Zoltán HANTOS
    Phone: +36-36 310-724
    Fax: +36-36 313-265

    Nature of organisation: foundation
    Type of service: consultancy, company information, market information, special
        tailored information, training, operation of interest group

16.   Name: I & I Kulturalis es Innovacios Kft
      (I and I Cultural and Innovative Ltd.)
      Address: 1011 Budapest, Corvin tér 8.
      Contact person: Mr. József TOTH
      Phone: +36-1 201-5728
      Fax: +36-1 201-4892

      Nature of organisation: for-profit
      Type of service: market information, special tailored information, training, operation of

          interest group

17.   Name: IPOSZ
      (Hungarian Federation of Craft Unions)
      Address: 4000 Debrecen, Kerekes F. u. 42.
      Contact person: Mr. Sandor HUNYADI
      Phone: +36-52 368-755

      Nature of organisation: for-profit
      Type of service: consultancy, market information, training

18.   Name: ITAG-OKOLEX Gazdasagi Tanacsado és Könyvvizsgálo Rt.
      (ITAG-OKOLEX Economic Advisory and Auditorial Co.)
      Address: 9022 Györ, Czuczor u. 18-24.
      Contact person: Mr. Lajos KOVALIK
      Phone: +36-96 317-946
      Fax: +36-96 318-436

      Nature of organisation: for-profit
      Type of service: consultancy, company information, market information, special
              tailored information, training

19.   Name: Innovacios Park Technologia ATOMKI
      (Innovative Park Technology ATOMKI (Research Institute for Nuclear Physics of
      the Hungarian Academy of Sciences))
      Address: 4025 Debrecen, Bem tér 18/c
      Contact person: Mr. Levente SZABO
      Phone: +36-52 417-266
      Fax: +36-52 413-945, 416-181

      Nature of organisation: for-profit
      Type of service: consultancy, company information, special tailored information,
training

20.	Name: Intercredit Céginformációs és Inkasszó Kft.:
(Intercredit Ltd. for Company Information and Encashment)
Address: 1089 Budapest, Orczy u. 6.
Contact person: Dr. Sándor NAGY
Phone: +36-1 114-3480, 133-1911
Fax: +36-1 113-4642

Nature of organisation: for-profit
Type of service: company information

21.	Name: KNOW-HOW Gazdasági Tanácsadó Rt.
(KNOW-HOW Economic Advisory Ltd.)
Address: 2891 Tata, Katona J. u. 16.
Contact person: Mrs. László NEUSINGER
Phone: +36-34 384-523, 384-177
Fax: +36-34 384-685
Telex: 27-424

Nature of organisation: for-profit
Type of service: consultancy, company information, market information, special
	tailored information, training, operation of interest group

22.	Name: KOPINT-DATORG Rt.
(KOPINT-DATORG Ltd.)
Address: 1051 Budapest, Dorottya u. 6.
Contact person: Dr. András RÉV
Phone: +36-1 266-6722, 266-6126
Fax: +36-1 266-6483

Nature of organisation: for-profit
Type of service: consultancy, company information, market information, special
	tailored information, training, operation of interest group

23.	Name: KSH Számitástechnikai és Ügyvitelszervező Vállalalt Zalaegerszegi
Számitóközpontja
(Computer Centre of the KSH (Central Statistical Office) Computer Technical and
Management Organizational Enterprise in Zalaegerszeg)
Address: 8900 Zalaegerszeg, Mártirok u. 42-44
Contact person: Mr. László ESZÉKI
Phone: +36-92 314-390, 325-644
Fax: +36-92 312-287

Nature of organisation: central government agency
Type of service: consultancy, company informat.on, market information, training

24. Name: Kis- és Középvállalkozások Kamarája Regionális Iroda
(Chamber of Small- and Medium Enterprises, Regional Office)
Address: 9700 Szombathely, Nádasdy u. 39.
Contact person: Mr. Pál NÉMETH
Phone: +36-94 328-660, 312-250
Fax: +36-94 314-395

Nature of organisation: chamber
Type of service: consultancy, company information, market information, special
tailored information, training

25. Name: Legyel Köztársaság Nagykövetségének Tanácsosi Hivatala
(Councellor's Office at the Embassy of the Polish Republic)
Address: 1143 Budapest, Stefánia út 65.
Contact person: Dr Eduárd MOLENDOVSZKI
Phone: +36-1 252-5959, 251-4677
Fax: +36-1 252-9289
Telex: 224-383

Nature of organisation: central government agency
Type of service: company information, market information, special tailored
information

26. Name: MAP Magyar-Angol Pénzügyi Tanácsadó Kft.
(MAP Hungarian-British Monetary Advisory Ltd.)
Address: 1112 Budapest, Budaörsi út 45.
Contact person: Ms. Júlia BOROS
Phone: +36-1 185-0878, 185-2395
Fax: +36-1 185-0878, 209-3137

Nature of organisation: for-profit
Type of service: consultancy, company information, special tailored information

27. Name: MEDITOR Számitástechnikai Kereskedelmi és Szolgáltató Kft.
(MEDITOR Computer Technical Commercial and Servicing Ltd.)
Address: 4032 Debrecen, Sántha Kálmán u. 11. III.8.
Contact person:
Phone: +36-52 344-480

Nature of organisation: for-profit
Type of service: consultancy, market information, special tailored information,
training

28. Name: MIKROKAPCSOLAT
(MICRO-Link)
Address: 3200 Gyöngyös, Szt. Bertalan u. 3.
Contact person: Mr. Attila ALATTYÁNI
Phone: +36-37 312-356
Fax: +36-37 312-356

Nature of organisation: for-profit
Type of service: consultancy, market information, special tailored information,
    operation of interest group

29. Name: MINABEX Kft.
(MINABEX Ltd.)
Address: 7100 Szekszárd, Ybl M. u. 3.
Contact person: Mr. Ferenc GALLAI
Phone: +36-74 315-933
Fax: +36-74 315-671

Nature of organisation: for-profit
Type of service: consultancy, company information, market information, special
    tailored information

30. Name: Magyar Adatbázisforgalmazók Szövetsége
(Association of Hungarian Database Suupliers)
Address: 1012 Budapest, Kuny Domokos u. 13.
Contact person: Mr. András FÉLEGYHÁZI Jr.
Phone: +36-1 202-2998
Fax: +36-1 202-2894

Nature of organisation: association
Type of service: consultancy, special tailored information, training, operation of
interest
        group

31. Name: Magyar Munkaadói Szövetség
(Hungarian Employers' Association)
Address: 1055 Budapest, Kossuth tér 6-8.
Contact person: Customer Service
Phone: +36-1 153-3333
Fax: +36-1 153-1285
Telex: 22-4745

Nature of organisation: association
Type of service: consultancy, company information, special tailored information,
    training, operation of interest group

32.   Name: Magyar Közszolgálati Adattár
       (Hungarian Public Information Service)
       Address: 1137 Budapest, Újpesti rkp. 8.
       Contact person: Mr. László BÓDIS
       Phone: +36-1 112-5411
       Fax: +36-1 112-5411

       Nature of organisation: for-profit
       Type of service: consultancy, company information, market information, special
           tailored information, training

33.   Name: Magyar Szabványügyi Hivatal
       (Hungarian Bureau of Standards)
       Address: 1091 Budapest, Üllői út 25.
       Contact persons: Mr. Csaba CZINKÓCZKY, Mr. Dénes MOLNÁR
       Phone: +36-1 118-3011
       Fax: +36-1 118-5125
       Telex: 225-723
       e-mail: 41550 nhu della.hu

       Nature of organisation: central government agency
       Type of service: consultancy, company information, market information, training

34.   Name: MarContrade Pécs Bt - Felkinálom Manager Klub
       (MarContrade Pécs Deposit Partnership - ("I Offer Up" Manager Club)
       Address: 7623 Pécs, Kolozsvár u. 9.
       Contact person: Mr. László VARGA, Mr. Péter TABI
       Phone: +36-72 443-558

       Nature of organisation: for-profit
       Type of service: consultancy, company information, market information, special
           tailored information

35.   Name: Mátrix Informatikai Kft.
       (Mátrix Informatics Ltd.)
       Address: 1073 Budapest, Kertész u. 37.
       Contact person: Ms. Gyöngyi LEHOCZKY
       Phone: +36-1 268-0580
       Fax: +36-1 268-0577

       Nature of organisation: for-profit
       Type of service: consultancy, market information, training

36.	Name: NEURON Szamitástechnikai Szolgáltató és Kooperácios Iroda
	(NEURON Computer Technical Servicing and Co-Operative Office)
	Address: 1094 Budapest, Liliom u. 1.a
	Contact person: Dr. Sándor GAJDOCSI
	Phone: +36-1 216-8059, 216-0260
	Fax: +36-1 216-2990

	Nature of organisation: for-profit
	Type of service: consultancy, company information, market information

37.	Name: Nagykanizsai Polgármesteri Hivatal Gazdasági Osztálya Vagyonkezelési
	Vállalkozási Iroda
	(Economic Department of the Nagykanizsa Mayor's Bureau, Entrepreneurial
	Office for Estate Administration)
	Address: 8800 Nagykanizsa, Erzsébet tér 7.
	Contact person: Mr. Zoltán KOVÁCS
	Phone: +36-93 313-080
	Fax: +36-93 310-275

	Nature of organisation: local government
	Type of service: consultancy, company information, market information, training,
		operation of interest group

38.	Name: OPANCA Kereskedelmi, Ipari, Szolgáltató Kft.
	(OPANCA Commercial and Industrial Servicing Ltd.)
	Address: 4030 Debrecen, Rigó u. 1.
	Contact person:
	Phone: +36-52 316-414
	Fax: +36-52 315-568

	Nature of organisation: for-profit
	Type of service: consultancy, market information, special tailored information

39.	Name: Oktáv Rácio Oktató és Szolgáltató Kft.
	("Oktáv Rácio" Educational and Servicing Ltd.)
	Address: 4026 Debrecen, Wesselényi u. 6.
	Contact person: Mr. Tibor LITAUSZKI jr.
	Phone: +36-52 349-072

	Nature of organisation: for-profit
	Type of service: consultancy, company information, market information, special
		tailored information, training, operation of interest group

40. Name: Országos Információs Rendszer Alapítvány
(National Information System Foundation)
Address: 1119 Budapest, Fehérvári út 44.
Contact person: Mrs. Ferenc PRINTZ
Phone: +36-1 181-2114, 166-7644
Fax: +36-1 181-2114

Nature of organisation: foundation
Type of service: consultancy, company information, market information, special tailored information, training, operation of interest group

41. Name: Kisvállalkozás-Fejlesztési Intézet
(Institute for Small Business Development)
Address: 1024 Budapest, Margit krt. 85.
Contact person: Dr. Imre MARKÓ
Phone: +36-1 155-5566/4041
Fax: +36-1 156-6491

Nature of organisation: central government agency
Type of service: consultancy, company information, market information, special tailored information, operation of interest group

42. Name: Országos Találmányi Hivatal
(National Office of Inventions)
Address: 1054 Budapest, Garibaldi u. 2.
Contact person: Dr. Miklós BENDZSEL
Phone: +36-1 131-2723
Fax: 131-2596
Telex: 224700

Nature of organisation: central government agency
Type of service: consultancy, market information, training

43. Name: PARTNER Kereskedelmi és Vállalkozási Kft.
(PARTNER Commercial and Entrepreneurial Ltd.)
Address: 4025 Debrecen, Simonffy u. 1/a
Contact person: Mr. Ferenc UGRAI
Phone: +36-52 410-565, 430-167

Nature of organisation: for-profit
Type of service: consultancy, company information, market information, special tailored information, operation of interest group

44. Name: Pyramid Gmk
    (Pyramid Economic Work Partnership)
    Address: 7400 Kaposvár, Honvéd u. 51.
    Contact person: Mr Lajos NAGY
    Phone: +36-82 419-155, 413-758
    Fax: +36-82 419-155

    Nature of organisation: for-profit
    Type of service: company information, market information, special tailored
        information, training

45. Name: Pécs-Baranyai Kereskedelmi és Iparkamara
    (Pécs-Baranya Chamber of Trade and Industry)
    Address: 7621 Pécs, Ligalmasok u. 24.
    Contact person: Dr. Tamás SIKFÖI
    Phone: +36-72 413-840
    Fax: +36-72 411-917
    Telex: 412-529

    Nature of organisation: chamber
    Type of service: consultancy, company information, market information, special
        tailored information, training

46. Name: R & G Limited
    (R and G Limited)
    Address: 3300 Eger, Dobó u. 5.
    Contact person: Mr. Lajos RICZKÓ
    Phone: +36-36 321-963
    Fax: +36-36 321-963

    Nature of organisation: for-profit
    Type of service: consultancy, company information, market information, special
        tailored information, operation of interest group

47. Name: Somogyi Kereskedelmi és Iparkamara
    (Somogy Chamber of Trade and Industry)
    Address: 7400 Kaposvár, Bajcsy zs. u. 1/c
    Contact person: Mr. Miklós CHRIST
    Phone: +36-82 316-244, 316-710
    Fax: +36-82 319-428

    Nature of organisation: chamber
    Type of service: consultancy, company information, market information, special
        tailored information, training

48. Name Székesfehérvar Megyei Jogú Varos Polgarmesteri Hivatal Vallalkozassegitő
     Irodája
     (Office for Assisting Entrepreneurs in the Mayor's Bureau of Székesfehérvár (town
of
     county rank)
     Address 8000 Székesfehérvár. Varoshaz ter 1
     Contact person Dr. Otto GOROG
     Phone +36-22 315-081, 312-900

     Nature of organisation. local government
     Type of service: consultancy, special tailored information, training

49. Name: Székesfehérvári Regionális Vallalkozásfejlesztési Alapitvány
     (Foundation for the Development of Undertakings in theSzékesfehérvár Region)
     Address: 8000 Székesfehérvár, Rákóczi út 25.
     Contact person: Mr Attila TOTH
     Phone: +36-22 318-010, 318-000
     Fax +36-22 318-000

     Nature of organisation: foundation
     Type of service: consultancy, company information, market information, special
         tailored information, training

50. Name TELCOMTEC Műszaki Fejlesztő, Fővállalkozó és Kereskedelmi Kft.
     (TELCOMTEC Technical Development, Primary Contractor and Trade Ltd.)
     Address: 3527 Miskolc, Katalin u. 1.
     Contact person: Mr. István MITRÓ
     Phone: +36-46 354-203, 354-204
     Fax: +36-46 354-205
     Telex: 62-647

     Nature of organisation: for-profit
     Type of service: consultancy, company information, market information, special
         tailored information, training

51. Name: Új Képújság Kft.
     (Hungarian Teletext Services)
     Address: 1051 Budapest, Nádor u. 25-27.
     Contact person Dr. Gyula KŐRÖSI
     Phone +36-1 112-6882, 111-2449
     Fax +36-1 112-6029
     Telex: 223-627

     Nature of organisation: for-profit
     Type of service: consultancy, market information, special tailored information,
training,
             operation of interest group

52. Name: VOSZ Bekes megyei Teruleti Csoport
     (VOSZ (National Federation of Entrepreneurs) Local Group in Bekes County)
     Address: 5600 Bekescsaba, Attila u. 2.
     Contact person: Ms. Ilona KOVACS
     Phone: +36-66 441-141
     Fax: +36-66 441-141

     Nature of organisation: association
     Type of service: consultancy, company information, market information, training

53. Name: VOSZ Nemzetközi Információs Központ
     (VOSZ International Information Centre)
     Address: 5000 Szolnok, Baross út. 1.
     Contact person: Mr. Gyula TÓTH, Ms. Andrea VARGA
     Phone: +36-56 426-999
     Fax: +36-56 426-999

     Nature of organisation: for-profit
     Type of service: consultancy, company information, market information, special
         tailored information, operation of interest group

54. Name: Vas megyei Kereskedelmi és Iparkamara
     (Chamber of Trade and Industry in Vas County)
     Address: 9700 Szombathely, Honvéd tér 2.
     Contact person: Mr. Andras BAKTAY
     Phone: +36-94 312-356
     Fax: +36-94 316-936

     Nature of organisation: chamber
     Type of service: consultancy, company information, market information, special
         tailored information, training

55. Name: Észak-Magyarországi Gazdasagi Kamara Heves megyei Képviselete
     (Representation of the North-Hungarian Chamber of Economy in Heves County)
     Address: 3300 Eger, Dobó tér 6/a
     Contact person: Mr. Gábor FÜLÖP
     Phone: +36-36 312-989
     Fax: +36-36 312-989

     Nature of organisation: chamber
     Type of service: consultancy, company information, market information, special
         tailored information, training, operation of interest group

56. Name: Észak-Magyarországi Regionális Munkaerőfejlesztési és Átképző Kozpont
     Információs és Tanácsadó Osztály
     (Information and Consultancy Department of the North-Hungarian Regional Centre
for
     the Development and Re-training of Labour Force)
     Address: 3518 Miskolc, Erenyő u. 1.
     Contact person: Dr. János KOVACS
     Phone: +36-46 312-226
     Fax: +36-46 312-226

     Nature of organisation: central government agency
     Type of service: consultancy, company information, market information, special
          tailored information, training, operation of interest group

57. Name: Központi Statisztikai Hivatal Tolna Megyei Igazgatósága
     (Tolna County Directorate of the Hungarian Central Statistical Office)
     Address: 7101 Szekszárd Wesselényi u. 15-17.
     Contact person: Mrs. János WEIFFEHSCHMIDT
     Phone: +36-74 316-611
     Fax: +36-74 316-967

     Nature of organisation: central government agency
     Type of service: consultancy, company information, market information, special
          tailored information

58. Name: Hoppenstedt Bonnier & Társa Információs Kft.
     (Hoppenstedt Bonnier and Co. Information Ltd.)
     Address: 1211 Budapest, Petz Ferenc u. 6.
     Contact person: Mr. Tibor KOLOS
     Phone: +36-1 276-1333, 276-1344
     Fax: +36-1 276-0933

     Nature of organisation: for-profit
     Type of service: company information

59. Name: Nemzeti Üzleti és Innovációs Központ
     (National Business and Innovation Centre)
     Address: 1121 Budapest, Konkoly-Thege u. 29-33. Building Nr. 18.
     Contact person: Mr. Ferenc KLEINHEINCZ
     Phone: +36-1 160-0075
     Fax: +36-1 160-3557

     Nature of organisation: foundation
     Type of service: consultancy, company information, market information, special
          tailored information, training

60.   Name: Nemzetközi Technológiai Intézet
       (Institute of International Technology)
       Address: 1054 Budapest, Alkotmány u. 25.
       Contact person: Dr. Zsolt KÖHALMI
       Phone: +36-1 153-0633
       Fax: +36-1 153-2320

       Nature of organisation: foundation
       Type of service: consultancy, company information, market information, special
            tailored information

61.   Name: TeleDataCast Kereskedelmi és Szolgáltató Kft.
       (TeleDataCast Commercial and Servicing Ltd.)
       Address: 1054 Budapest, Báthori u. 24.
       Contact person: Mr. György ADORJÁN
       Phone: +36-1 111-7606, 131-1962
       Fax: +36-1 131-1962

       Nature of organisation: for-profit
       Type of service: comapny information, market information, financial information

62.   Name: Company Data Kft.
       (Company Data Ltd.)
       Address: 1133 Budapest, Váci út 110.
       Contact person: Mrs, Ildikó HRIVÁK-GEDE
       Phone: +36-1 267-1902, 267-1904
       Fax: +36-1 267-1904

       Nature of organisation: for-profit
       Type of service: company information

63.   Name: Creditreform-Interinfo Kft.
       (Creditreform-Interinfo Ltd.)
       Address: 1085 Budapest, Üllői út 32.
       Phone: +36-1 114-0079
       Fax: +36-1 210-1578
       Telex: 22 2624

       Nature of organisation: for-profit
       Type of service: company information, market information

64.   Name: Dun & Bradstreet Hungária Kft.
      (Dun & Bradstreet Hungary Ltd.)
      Address: 1052 Budapest, Vármegye u. 3-5.
      Contact person: Mr. Gábor SELMECI
      Phone: +36-1 267-4190
      Fax: -36-1 267-4193

      Nature of organisation: for-profit
      Type of service: company information

65.   Name: Kompass Hungária Kft.
      (Kompass Hungary Ltd.)
      Address: 1161 Budapest, Rózsa u. 34/A
      Contact person: Mrs. Zsuzsanna PALOTÁS-HORVÁTH
      Phone:(36-1)251-8456
      Fax:(36-1)251-4544

      Nature of organisation: for profit
      Type of service: company information

66.   Name: Middle Europe Networks. Compuserve Hungary
      Address: 1022 Budapest, Bég u. 3-5.
      Contact person: Mr. Tibor BERENTEI
      Phone: +36-1 212-4612
      Fax: +36-1 212-4612

      Nature of organisation: for-profit
      Type of service: company information, financial information

67.   Name: Országos Műszaki Információs Központ és Könyvtár
      (National Technical Information Centre and Library)
      Address: 1088 Budapest, Múzeum u. 17.
      Contact person: Dr. Ákos HERMAN
      Phone: +36-1 138-4074
      Fax: +36-1 138-2414
      Telex: 22-4944 OMIKK H

      Nature of organisation: central government agency
      Type of service: consultancy, company information, market information, special
           tailored information, training

68.   Name: Magyar Távirati Iroda
      (Hungarian News Agency)
      Address: 1016 Budapest, Naphegy tér 8.
      Contact person: Dr. Iván SZABO
      Phone: +36-1 117-6722
      Fax: +36-1 175-4337

      Nature of organisation: central government agency
      Type of service: business news

69.   Name: TENFORE Hungária Kft.
      (TENFORE Hungary Ltd)
      Address: 1124 Budapest, Kiss János altb. u. 56.
      Contact person: Mr. Pal BÁRDOS
      Phone: ++6-1 175-1046, 202-2791
      Fax: +36-1 156-9335

      Nature of organisation: for-profit
      Type of service: financial information