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POLAND

Technical report: Business information in Poland*

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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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FOREWORD

This Report is aimed at the presentation of general conditions in Poland concerning the possibility to include the country into an international network of future Instant Business Information System (IBIS), which is planned to implementation under the auspices of the United Nations Industrial Development Organization (UNIDO).

The Report consists of six Chapters. Forwarded by introductory Chapter 1, a short description of the country economic situation comes in Chapter 2, where trends over last 5-6 years are outlined, with special emphasis being put on terms and conditions for the activity of small and medium sized enterprises (SMEs). Consequently, identification of current and future business information needs in terms of industry and business is presented in Chapter 3, in line with the categorisation of actual an prospective business information users. In Chapter 4, description of main business information services providers in Poland is given, to comprise their scope of services rendered and types of databases used. Chapter 5 includes the characteristics of telecommunication system in Poland. Special attention had been devoted there to the INTERNET as the means of possible international data interchange within the prospective IBIS, and full list of INTERNET services providers is also included. In Chapter 6 proposals are outlined regarding future IBIS architecture and functionalities. These proposals are based on the architecture of existing in Poland the National Business Information Network (Polish acronym OSIG) which was implemented and it has been now operated by the Polish Chamber of Commerce as central system node and their members, i.e. a number of Regional Chambers of Industry and Trade as regional system nodes.

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There is a broad consensus on the need for a closer cooperation and involvement of current and future users in all aspects of information and communication technologies with a special emphasis being put on the issues of business information services rendering. The question is how to achieve this. Therefore, it seems purposeful to consider a setting up of a permanent international coordination body in the field of international business information interchange, whose activity would be aimed at the harmonization and unification of all these tremendous efforts, which are being undertaken by various international organizations and individual countries in this domain.

It seems rather not clear yet, what organization could have played such coordinative role. It could be possibly the Electronic Commerce Business Contact Group, which was set up this year by the European Union within the G7 Pilot Project entitled "A Global Marketplace for SMEs". However, the activity scope of the Contact Group seems to be still too much technical since it has been focused practically solely on the issues of telecommunication and Information Technology (IT).

Also among European countries, a lot of discussions are being held currently on the issues of business information interchange, including the countries of European Union and also the countries who are not yet the EU members. Global and European information society, who can constitute the world's largest trading block, with its all diversity of cultures and pluralism, tends towards the creation of organizational and technical infrastructures, which will be capable to provide a wide range of business information services to both national and international business communities, as well in terms of on line services as throughout the whole world. Some such initiatives are briefly discussed in Chapter 1 below. One of such initiatives is the present IBIS network, which will hopefully fill in the existing gap in business information interchange between the countries of Central and Eastern Europe.

1. INTRODUCTION

The present information services that companies, including SMEs, have been looking for in the countries who formerly belonged to the Council of Mutual Economic Assistance (CMEA), are far from being sufficient, while the undergoing transition to market economy in these countries calls for efficient provision of up-to-date information on companies' activity, products, services, potential partners, suppliers, and also technologies, raw materials, markets, prices, commercial laws and regulations, standards etc. That is such a broad range of the data that is usually called the business information.

Some already existing international business information systems, such as BC-NET and BRE, the countries have access to, are based unfortunately on both: rather not sophisticated but lengthy procedures and simplified IT tools. New ideas and initiatives were presented to this end last June in Paris, at the International Chamber of Commerce, during the International Conference on the Electronic Information Superhighways, calling for worldwide implementation of newly designed IBCC-Net System, which, as it was announced there, will possibly incorporate the BC-Net. The use of INTERNET in this regard will certainly considerably speed up and intensify the business information interchange between the countries who will join the IBCC-Net system. The Worldwide Information Web is the resolution that should be endeavoured as target goal in this regard.

Encouraging to this end, apart from the new IBCC-Net, is also the fact of preparation of initial concept for International Business Information System which has been proposed by the Working Group on Information Technology within the framework of Central European Initiative. This concept calls for the implementation of regional business information interchange system between the Chambers of Commerce and Trade in ten CEI member countries, who are Austria, Bosnia, Croatia, Czech Republic, Hungary, Italy, Makedonia, Poland, Slovakia and Slovenia. Bulgaria, Romania and Ukraine are the associated countries. This can be only beneficial, since it means, that business offers and demands could have circulated within such an international information network, and by means of business company offer matching of its member countries, the improvement of mutual business cooperation between their national companies will be facilitated, including also a possibility to entering in international joint-ventures. This will significantly contribute to the reinforcement of international trade between the CEI member countries.

Such trends to launch international information interchange have appeared also among the former CMEA countries themselves. During a Seminar organized in Warsaw at the end of 1994 by the Polish Chamber of Commerce, which representatives of 14 countries participated to, namely: Albania, Byelorussia, Croatia, Czechia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Slovakia, and Ukraine, the adoption of Commercial Self-Government model was discussed, including the issues of business information flow among the interested countries. Two options were considered, which are commonly applied in Europe. The first option, so called Continental Model, includes compulsory company membership to Chambers of Commerce. National Business Registers are efficiently operated when based on Continental Model, for example in Germany, Italy, the Netherlands and France. For such an option, full company data are available on all the companies in the country scale, because the companies are obliged to provide their individual data to the regional and central databases of the Register, on compulsory basis. The second option is so called Anglo-Saxon Model, when company membership to a Chamber is voluntary. Unfortunately, voluntary character of the membership, because of its

sole nature, causes much inconveniences in collecting company information. Nevertheless, the representatives from Russia and Czech Republic declared their support to Anglo-Saxon Model, while other representatives, including Poland, endeavoured Continental Model.

Another example of international activity concerning the approach to the issues of international exchange of business information is the existing Cooperation Agreement between the Polish Chamber and the Russian Chamber of Commerce in the field of business information interchange. Further step to this Agreement was an international IT Experts Meeting of the representatives of Byelorussia, Bulgaria, Kazakhstan, Latvia, Lithuania, Moldova, Poland, Russia, Slovakia and Ukraine, which was organized by the Polish Chamber of Commerce last February, in Poland. The participants considered a possibility to entering an International Agreement between the associations of Chambers of Commerce in former CMEA countries, on the improvement of business information interchange. Possibility to implementation of an international computerised business information network among those countries was also discussed during the Meeting. Unfortunately, not all of those national Chambers have their own appropriate computerised information systems. Technical and financial assistance from international organizations would be an asset to the development and implementation of such an international network.
In the beginning of this year also another effort was concluded by IT specialists of the Polish Chamber of Commerce. This resulted namely in preparation of the "Feasibility Study on the Implementation of Business Information System at the Polish Chamber of Commerce and Regional Chambers of Industry and Trade in Poland". This Study calls for the the enhancement of existing computerised Business Information System (Polish acronym OSIG) which has been for about four years operated by the Polish Chamber of Commerce, and by a number of regional Chambers of Industry and Trade in Poland. The OSIG network has covered practically all the country area and it undergos now radical organizational and technical modification, including both: the purchase and installation of new computer hardware, and the design and implementation of modified database application software. UNIX as operating system, INFORMIX 4-GL as database tool software and also internationally used by EU countries the NACE activity and HS/CN product classification systems have been adopted as standards to operate this modified OSIG system. Original Polish, the POLPAK X-25 telecommunication network was adopted to the OSIG system as the means for data uploading and downloading between the system nodes. A possibility to a widespread use of the INTERNET as the means of international communication in the field of business information has been also considered for the operation of the OSIG network.

2. ECONOMIC CONDITIONS AND TRENDS IN POLAND

Poland is the largest market in Central Europe and the sixth largest in Europe, with an area of 312,000 square km, and population of approximately 38,500,000. Geographically, Poland is the eight largest country in Europe. The geographic distribution is such that over 60% of the population are urban dwellers; the capital - Warsaw is the largest city with over 2,000,000 inhabitants.

The country is uniquely homogeneous as 98% of the population are ethnic Poles. Poland is a relatively "young" country with 65% of Poland's population under 40 years of age.

Poland has a large market of relatively highly skilled labour. Work levels among the Poles are such that Poland has a fairly skilled, well-educated and still relatively inexpensive workforce. The unemployment rate amounts up-to 15 per cent. Well over half of total employment figures (60 per cent) come from the private sector - the

tendency is for it to grow its role in the labour market.

Poland is relatively well endowed with numerous mineral resources. It is the leading world producer and exporter of hard coal, sulphur, copper, zinc, lead, silver, natural gas, salt and other minerals.

Nevertheless, Poland's infrastructure requires modernization in almost every area. However, thanks to its central position in Europe and its moderate geophysical conditions, Poland enjoys favourable conditions for development of all modes of transportation. Huge investement is being planned for the development of motorways in Poland. They are to cross the country, to connect Germany to Russia and Southern Poland to the Baltic Sea. Telecommunication network has undergone its essential modernization and some improvement has already been completed, especially with regard to international and intercity telephone connections.

The Gross Domestic Product (GDP) in Poland is at the level of between USD 1,900-2,500 per capita depending on the definitions and statistical data used. Its breakdown into sectors is presented below:

The Gross Domestic Product
Breakdown by sector

Sector	Percentage in Total GDP
Industry	47%
Trade and Commerce	15%
Non-material Production	14%
Construction	9%
Agriculture	7%
Transportation	4%
Municipal Management	2%
Forestry	1%
Other	1%

Manufacturing Structure
of the Polish Industry

Branch	Percentage of Total
Electro-engineering	24%
Food Processing	19%
Fuel and Energy	17%
Metallurgical	13%
Chemical	10%
Light Industry	7%
Wood and Paper	4%
Mineral	4%
Other	2%

Poland, like the other countries of Central and Eastern Europe, is in the midst of drastic transition from centrally planned to market economy. The path to change in Poland began on January 1st, 1990 when Poland implemented their stabilization and adjustment programme, called the Balcerowicz Programme. The plan was sought to attain two strategic goals:

* stabilization of the economy;
* transformation of centrally planned economic system into a market economy.

For the most part, the Programme had the support of the political and social forces, and the cooperation of the international financial institutions, such as the International Monetary Fund, the World Bank,

the Paris Club, and the international communities, most notably, the G-7 countries. Key factors to a successful transformation are: privatisation, de-monopolization of production and trade, full convertibility of the national currency, the ZLOTY, and a liberal trade regime. Many positive changes have occurred since the birth of the Balcerowicz Programme: inflation has decreased, although it still is a problem, small-scale industry and trade have enjoyed a revival, and the position of the ZLOTY has strengthened. Unfortunately, many problems still exist, most of which are simply unavoidable changes in a socio-economic process.

2.1. Economic Development Trends

Basic Indicators of Economic Situation

Changes	1991	1992	(% YoY) 1993
GDP (in constant prices)	-7,6	1,5	4,5~
Industrial production (in constant prices)	-11,9	3,9	7,4~
Agriculture production~ (in constant prices)	-1,6	-12,8	1,5~
Unemployment rate (%)	11,8	13,6	15,7~
Consumer prices index	70,0	43,0	35,3~
udget deficit~ (1000 bln zl,	31,0	71,9	43,9

The main characteristic of the resumed growth of GDP and industrial production is its high diversification to found in many dimensions (across regions and industries, in private vs public sectors, in organizational structures, in demand structure etc.). This diversification proves both that restructuring processes have been initiated and that adjustment capacities vary substantially across economic structures and agents.

When looking for sources of observed economic growth, it is the demand side of the economy whose basic role should be emphasized, and consumption demand in particular. Its increase, in spite of fall in real wages, was mostly due to decreasing savings (measured in terms of domestic currency deposits with a tendency for both foreign currency savings and equity purchases to increase), expansion of income other than wages and increased indebtedness of households. Investment has not yet begun to play a visibly stimulating role as a source of growth when judged on the basis of aggregated data.

Branch differentiation of growth and investment emphasizes a strengthening leading role of industry in economic growth. In this sector, labour productivity was the basic growth factor, as industrial employment slightly decreased. The production increase too places in entities employing more than 5 persons, at the same time decreasing in smaller units.

Also, in building/construction sector, an increase of production amounting to 12.3 per cent (1993) took place in spite of serious contraction in housing and a reduction of employment by 8.9 per cent. Agricultural production increased as compared to 1992 by 1.5 per cent, at the same time an improvement in its profitability led to an increase in demand for agricultural machinery, fertilizers and pesticides.

Though in 1993 the process of ownership transformation was substantially delayed, it was the private sector that contributed most to economic growth. Its share of industrial production increased from 30.8 to 37.4 per cent, when compared to 1992, its nominal investment spending expanded by approximately 100 per cent and employment in this

sector increased by 9.6 per cent.

Both domestic and foreign economists agree as to the lasting nature of the trends of growth in the Polish economy in next years. The GDP's growth in 1994 was estimated to ca. 5 per cent.

In 1994, the most significant factor contributing towards the growth was the increase of investment demand alongside a reduction of consumption demand. Besides investment, an important factor was the export trade. The gradual improvement in economic conditions in the countries of OECD and in particular of the European Union, the most important market for Poland, provides opportunities for an increase in Polish exports.

The development of private sector of the economy has been taking place through both the privatisation of economic entities of state-owned legal person status and through the setting up of new private businesses. Despite the steady progress of the process of ownership transformation, public sector assets remain nearly twice the value of those of the private sector. Privatisation is widely regarded as a means towards a more efficient use of those assets. There is, however, a shortage of private capital in Poland in relation to the value of the state assets awaiting privatisation. Two separate privatisation strategies are pursued. The first strategy is the setting up of National Investment Founds, whose role is to take over the management of a large part of state assets, with a view to eventually increasing their market value. These Funds take the form of companies whose shares are to be releases for public trading. The second strategy is the policy of attracting foreign capital into the privatisation process. As a result of this policy, a number of mutually beneficial transaction have already been accomplished. For major investors there are additional opportunities to negotiate individual conditions for participation in the privatisation process.

Development of Polish Private Sector
percentage share

Year:	1989	1990	1991	1992	1993
GDP (in constant prices)	28,4	35,0	45,3	49,7	50,0+
Employees:					
including individual farmers	43,9	45,1	50,2	53,7	57,5~
excluding individual farmers	29,6	30,9	36,6	40,4	45,2~
Foreign Trade:					
total	-	8,6	36,2	40,4	45,2~
export	-	4,9	21,9	38,4	44,0~
import	-	14,4	49,9	54,5	59,8~
Investments (current prices)	35,3	41,3	40,8	44,0	42,8~

The liberalization of the Polish economy has made it possible for various types of business to operate on an equal footing, regardless of the nature of ownership. This has led to a rapid growth in the number of business in Poland in the period between 1990 an 1993.

Number of businesses (at th end of each year)

Year	1990	1991	1992	1993~
Joint Stock c.c.~ Companies	29,700	47,700	58,200	66,500~
Joint-ventures	1,600	4,800	10,100	15,100~
Co-operatives	16,600	18,900	19,400	19,700~
Private Businesses	1,135,500	1,420,600	1,630,800	1,783,900
State owned firms	8,453	8,228	7,245	5,924

The rising number of joint venture enterprises(with foreign partners) in Poland points to the increasing integration of the Polish and global economies. The State monopoly in foreign trade was broken. The involvement of private firms in foreign trade between the years 1990-1993 increased significantly,in 1993 they accounted for 42% of Polish exports. The industrial output to the private sector in 1993 (in constant prices) rose by 34,7% on the previous year, and its proportion of the entire industrial output increased to 37.4%. Private firms' market share rose to 85.8% of the construction industry and 44,3% of transport services. 87.8% of all the shops engaged in the retail trade are privately owned.

2.2. General Conditions for SMEs

During two or three years after the 2nd World War private sector was supplying about 70% of GDP in Poland. Afterwards all those enterprises were closed or confiscated. Restrictions were to some extend lifted during seventies and private enterprises started to grow. There were about 350 000 firms (excluding agriculture) creating roughly 600 000 jobs. Breakthrough took place in 1988 when Law on Economic Activity has been passed allowing incorporated companies to operate. Afterwards, from the 1st January 1990 Balcerowicz's reforms meant complete liberalization policy toward private business. As a result newly developed sector became main element behind growth dynamic in Poland. At the end of 1993 there were about 2.1 million registered private enterprises and more than 5.4 million people worked in the private sector. These figures indicate that the private sector is a sector of rather small and very small enterprises. According to Main Statistical Office (Polish acronym GUS) criteria the following size by employment distribution can be shown:

small firms < 5	18,5%
5 < medium sized < 50~	52,0%
50 < large firms	29,5%

Sustaining achieved growth of SMEs is important for a number of reasons. SMEs will form the backbone of a market economy and in the future will, as in a market oriented countries, give the majority of jobs. In addition, support for small and medium firms can help in privatisation of state owned enterprises as part of the process of transformation as well as in social and political stability through creation of the middle class.

There is a great demand for both equity and working capital. Stronger now "old" (3-4 years) SMEs exhausted their internal financial possibilities and their demand for external credit is becoming stronger and can be in the future decisive impediment. Although a new banking structure has been established, it is still the stage of development and does not always serve the SMEs sector very well.

The following tables include the results of studies on sources of SMEs equity and natural persons enterprises growth.

SOURCE OF EQUITY	%
Owners savings	77,4
Money earned abroad	14,5
Funds borrowed from family or friends	20,3
Bank credit	12,8
Other	9,8

figures sum to more than 100% since there are several simultaneous sources of equity

The above table shows that the most important sources of financing are personal funds the least is bank credit.

Growth of Natural Persons' Enterprises

Field of activity	Number	1991 %	1992 %	1993 %	Average employment in 1992
Industry	14,309	4.2	-0.5	-0.5	1.43~
Construction	6,124	3.6	9.4	4.1	1.26~
Transportation	713	1.2	17.9	9.4	0.28~
Commerce	204,055	58.9	13.8	13.2	0.66~
Catering	15,178	67.4	29.7	7.2	1.14~
Other Services	44,131	21.5	39.6	15.5	0.41~
TOTAL	284,510	25.0	14.8	9.4	0.84~

these data does not take into account the owners, their families and short contract workers

From above table can be seen that in 1993 growth of number of enterprises was slower than in 1992.

Financial situation is the most important problem faced by the Polish private enterprises, since nearly in all cases there is acute deficit of capital. For SMEs there is no security market, the only remaining source is personal saving and private borrowing. Small enterprises are particularly prone to the liquidity problems and numerous firms are filing for bankruptcy. It is estimated that many of them are artificial. It is a way to acquire needed capital at the weaker partner's expense. It is feasible due to the overburdened courts, law loopholes and low penalties. The weakest point in the system is the efficiency of the courts. It takes months or even years to have court's decision even if the case is straightforward. The problem is aggravated by unfair competition. It is believed that about 20% of businesses in Poland are not registered and do not pay taxes.

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The scale of annual chamges, as far as the number of businesses in Poland is concerned, ia difficult to assess, because such businesses as individuals who conduct business activity have no duty to registration. However, according to the REGON statistical data:

- total 2,148,154 businesses were registered at the end of 1994;
- 312,247 new companies were registered in 1994;
- 190,302 companies were closed in 1994;
- 409,036 changes were introduced into company records in 1994.

2.3. The Law on Economic Activity

All economic activity in Poland, which is not covered by special provisions, is based on the Law on Economic Activity of 23rd December 1988. It defines an economic entity as natural person (individual), a legal person (corporate body), or an entity having legal status if its purpose is to conduct economic activity in the area of manufacturing, construction, trade, or the provision of services for profit and in its own name. Economic activity can be undertaken upon notification of, and receipt of a permit from, the appropriate state administrative body (e.g. the Commerce and Service Department of a Communal/Municipal Office). Businesses acting on the basis of Commercial Law are due to their registration in Registration Courts. In some instances (e.g. production of arms, spirits and tobacco products) a special licence has to be obtained. Licences are issued by the head of the appropriate state department.

3. BUSINESS INFORMATION NEEDS AND USERS

It is commonly accepted that the term "business information" means generally the sum of data comprised by the following set of notional categories:

1. Information on each individual company and a full collection of such information about all the companies in the country scale. Apart from basic company data, such as company name, address and contact persons, this includes branch/sectorial company activity profile in terms of product manufactured and/or services rendered, also export/import data, employment, annual turnover and balance sheet. This category includes also the data on the company membership to a chamber of commerce.

2. The same as Item 1 above data on foreign companies who are willing and able to enter cooperation agreements/contracts with domestic companies, especially in the field of overall modernization, automation and general improvement of technological and managerial processes in Poland. This regards particularly such foreign companies who are intended to invest in various sectors of Polish economy, e.g. industry, agriculture, trade, construction, transportation, tourism and other services etc.

3. Detailed (complementary to Items 1 and 2 above) information on company (domestic and foreign) products and services, in terms of their specific types, categories, prices, including qualitative and quantitative data, product marks and standards, supply and paying modes etc.

4. Supplementary to Items 1 and 2 the data on company cooperation needs, expressed in terms of company offers and demands, in the scope of as well general and technical cooperation as export/sales, import/purchase, investment, subcontracting, business representation, training and documentation needs, participation to business missions and visits, fairs and exhibitions, etc. and also intention to enter joint-ventures.

5. Information on domestic and foreign fairs and exhibitions, and conditions to participate thereto by domestic companies, including name of the event, its characteristics, location and timing, types of product and/or services presented, exhibition area prices and participation costs.

6. Information on inward and onward business missions and related events, and conditions to participate thereto by domestic companies, including name of the event, its scope, target country/region and timing, types of product and/or services presented, possible exhibition area, prices and costs, and other

participation terms and conditions.

7. Information on upgrading and training of company staff in the scope of business management and finance, legal acts and regulations, standardization, customs tariffs, insurance and business information. Detailed information includes course, seminar and symposia type and scope, target groups, timing, location and conditions to participate.

8. Information pertaining to services in the scope of management of special foreign trade customs documentation such as ATA Carnet and certificates of origin for given commodity types.

9. Statistic and analytic information, including development trends in particular sectors of national economy, versus both branches and regions, and on foreign markets for particular groups of products and services. This regards also export capacity of domestic economy sectors and import opportunities on foreign markets on various product and service groups. Information on product manufacture and sales in various country regions is also included here.

10. Information on legal acts and regulations pertaining to general commerce, finance, accounting, domestic and foreign trade, customs, including domestic terms and conditions and those of foreign countries and international organizations. Special emphasis is put on contracts commencing and implementation, commercial arbitration, shipment of goods, services rendering etc., including full texts of legal acts and regulations. This category includes also rendering legal conductance and patent services.

11. Information on various organizations, associations and other business supporting institutions, including Chambers of Industry and Trade, domestic, foreign and international, with special attention put on SMEs. Data on their activity scope, procedures and contact persons are also included here.

12. Specific information on countries, their economies, policies and governmental and non-governmental organizations, geographic and demographic, social and cultural information, currency rates, customs tariffs and specific national legal regulations.

13. Bibliographic-documentary information pertaining to commercial and economic issues, such as the results of market research in various sectors/branches, branch catalogues, statistic year-books, press releases and similar information which can be of use for business communities in Poland and abroad.

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In free market economies many institutions dealing professionally with business information are mostly active. In this context some governmental institutions, Chambers of Commerce and Industry and other specialized companies who are professionally rendering business information services are to be mentioned in the first place.

In Poland, business information support institutions have been established effectively since 1990, i.e. since beginning of economy transformation. Hence, they have been emerging parallel to new economic reality. Because of relatively short time of their activities and due to the lack of business tradition, at present such firms and institutions starting with information activity have been using both the qualitative and quantitative information resources, which are unfortunately still insufficient and limited.

As the result, the following, sometimes contradictory, developments occur in those institutions:

(a) in order to draw attention of new customers to newly created services/products appropriate promotion campaigns are being commenced by information providers for the purpose of presenting their own activities;

(b) attracted by all possible means, groups of customers can be even disappointed in initial contacts with such firms and institutions in terms of services offered thereto; such services are usually relatively expensive and they do not always satisfy primary customers.

At the beginning, many consulting firms were established, a lot of new databases was created, and a broad spectrum of new opportunities of providing economic information for potential customers, mainly small and medium-size enterprises had emerged. However, new economic reality and new requirements of capital market have had a relentless verifying impact on similar undertakings on the Polish market. This results from the following reasons:

1. Limited knowledge and lack of skills of companies commencing such activities;

2. Insufficient funds of those companies, resulting in hampering the collection of appropriate databases which constitute background for such undertakings;

3. Technical incapability or lack of skills to benefit from foreign databases, connections etc., enabling to broaden the scope of local databases capacities or capabilities;

4. "Superficial" Polish market for such services.

This "shallowness" of the Polish market for such services has resulted from above mentioned relatively short period of shaping such a market in Poland and from emerging new, just established companies, being only potential end-users of such services.

Until 1989 the information and consulting services market was, in the scope of business activity, practically limited to a number of only several hundred subjects. Those were state-owned so-called foreign trade enterprises. They created their own databases focused on legal and economic regulations being in force on domestic and foreign markets, also on customers, custom tariffs, taxes etc.

Eight thousand state-owned enterprises did not benefit from such type of services because of existing governmental assignment system of investment and material property indispensable for provision of continuity of their production. The need to acquire detailed market knowledge was excluded by impact of that system. That was a typical seller's market.

Existing private enterprises and cooperatives were also mostly dependent on governmental assignments for means of production, and they needed totally different kind of information. Those firms operated also in those conditions of the seller market.

The buyer market started to constitute itself simultaneously with the beginning of economic transformation, and aforementioned consulting services market has also begun to grow, becoming beneficial to companies which required assistance in this new situation.

In 1990-1992, about 1.5 million small and medium size enterprises were established spontaneously, major part of which required various kinds of assistance in the process of undertaking their business activities.

At the same time some negative phenomena like competition, incredible partners, failure in international trade connected with unawareness of rules and legal regulations applied on foreign markets, etc. have also come to light.

Dealing within the above mentioned scope of activity newly established and entering the market consulting companies faced a broad spectrum of problems in which business companies have counted on their assistance.

A lot of small consulting companies were established, which attempted to cope with all of those problems. Many of them were not in a position to keep pace with competition and they did not withstand the increasing requirements of their costumers.

However, several dozen companies in consulting branch succeeded to survive on the Polish market; the major part of them begun to specialize in selected fields, like company and branch activity profiles, matching offers/demands and partners, legal services, etc.

3.1. Categories of Business Information Users

The end-users of business information are generally companies themselves and also institutions and organizations, who are interested in business information in terms of its commercial, managerial and training use.

The following user categories are typical for the use of a business information system:

1. Companies are major users, especially SMEs, who need the information for their own purpose in terms of both their internal growth (in the case of existing companies) and their rational development (in the case of newly established businesses). SMEs are prevailing in an overall number of companies in a given country, so business information systems are mainly focused on servicing SMEs. Commonly, for the purpose of a business information system of international coverage, SME is usually defined as follows;

   - employment up-to 500 people or annual turnover up-to 40 Million ECU;
   - active in manufacture, trade and/or service profile in terms of consumer goods, financial turnover or distribution of information media;
   - focused on transboundary turnover.

   Two types of companies' business information needs are prevailing:

   (a) lists of companies active in given activity profile(s) for:

   - seeking cooperation partners;

   - promoting own company products/services by means of direct mail shooting;

   (b) offer/demand matching to find cooperation partners.

2. Chambers of Commerce are also major user group. Chambers of Commerce are the associations of companies. They can be either territorial (e.g. district or regional Chambers of Industry and Trade) or branch chambers and professional associations. The chambers can use the information for their internal purposes, e.g. to operate a directory of their member companies and institutions, for example, in order to organize various business promotional or training events, or for external use, e.g. for its subsequent redistribution to their members or to other

external business information systems, e.g. in order to interchange the data. The ratio of data processing is rather simple in the case of this user group, and it is limited to company database retrieval, whereas in the case of governmental institutions a sophisticated National Business Register System is necessary to fit the needs.

3. Governmental institutions need rather generalized, but reliable and true sectorial and branch business information, usually statistical in character, while focused on distribution of businesses in both: particular sectors of national economy and geographic regions of the country. Such information is usually used in policy and decision making processes in some selected economy sectors like industry (identification of emphasis to be put on development of given industrial sectors), foreign trade (intensifying the trade scope in selected branches), finance (fiscal policy - imposing and exaction of taxes) and social affairs (reduction of unemployment). Such type of information usually come from National Business Register, i.e. an anagraphic and live directory of all enterprises existing in the country.

4. Another user group are international and national (other than governmental or self-governmental) economic organizations, including their business information systems. They need detailed sectorial, branch and company information for the purpose of overall intensifying of economic turnover in the country scale or within an international organization. This is being achieved by means of company offers/demands matching that leads to bringing companies together and to making them able to enter cooperation relations vis a vis other companies.

5. There are business information companies, active in so called business intelligence activity, who are concerned with gathering detailed data on a given company's economic standing. This includes financial data collecting from banks, insurance agencies, company partners and similar sources for the purpose of evaluation of company reliability and their financial soundness, and credit worthiness and taxability.

6. Specific intermediary role of a business information user is on media, which typically use business information for either general publishing (i.e. press releases) or individual promotional purposes (e.g. advertising).

*

At the initial stage of coming into business the most important proved to be information needs pertaining to the following issues:

1. Seeking for business partners effected with the appliance of modern techniques of information technology.

2. Publication of promotion catalogues of companies concerned as well as their corresponding offers and demands.

3. Mutual transfer of companies' offers/demands.

4. Data on custom tariffs, legal acts, credit lines etc.

5. Checking of a particular firm's credibility.

4. MAJOR BUSINESS INFORMATION PROVIDERS IN POLAND

Generally, business information providers constitute large and non-homogenous group of small and medium-sized and even large companies, institutions and organizations, who can be divided into

four major clusters. The first cluster deals with supplying the end-users with lists of company addresses for direct mail-shooting and with general activity profiles, the second - with so called business intelligence services, i.e. making detailed reports on company economic standing, including an assessment of risk to entering cooperation agreements and individual contracts with a given company. The third cluster includes institutions and organizations who deal with synthesized market surveys and statistic information. The fourth cluster includes the providers of legal information and services. It is obvious, that especially medium providers render a mixture of service types.

List of organizations, institutions and companies who are dealing with business information in Poland is given below in alphabetic order.

1. BC-NET, the Business Cooperation Network, is an international business information system of European Union, which is concerned with the matching of company offers and demands. Central host is situated in Brussels. Polish BC-NET representative is the Polish Chamber of Commerce.

2. BRE - Bureau de Raprochement des Enterprises - also an international business information system of European Union in Brussels, which is concerned with the matching of company offers and demands. Polish BRE consultant is presently the Chamber of Industry and Trade in Koszalin, after having overtaken this function from the Polish Chamber of Commerce.

3. BUSINESS FOUNDATION. One of major Polish providers of business information. The company is concerned mainly with collecting of offers/demands on foreign companies with the aim to matching them with the Polish ones. Company database ("Business Foundation Databank", some 8,400 records) is distributed countrywide as well as its printed equivalent the "Business Foundation Book", both are updated annually. Their own INTERNET server is expected to be set-up yet in 1995.

4. BUSINESS INFORMATION AGENCY, a newly established company, who set-up their own several-thousand company database this September. The database is aimed at company offers/demands matching.

5. CENTRE FOR PROFESSIONAL INFORMATION SEARCHING, Warsaw, is a Polish representative of KNIGHT RIDDER INFORMATION, who can facilitate on-line access to various sectorial databases, including national and international business information systems.

6. CENTRE FOR SCIENTIFIC AND INDUSTRIAL INFORMATION, Warsaw, is a governmental agency, who can arrange for end-user's access to various national and international databases, also through INTERNET, however information services are rendered off-line. Information from 450 multiprofile databases, including financial, and marketing analysis, are available, which are grouped in Dialog Information Service, including economic information collected by Pergamon Financial Data, also 250 Data-Star databases and 100 databases in Orbit Search Services, which are concerned with scientific and technical information, and some STN 200 databases on science and technology

7. CREDITREFORM POLAND Ltd., a joint venture between CREDITREFORM, Germany and Polish Commercial Bank, Warsaw, are the business intelligence company based on a network of correspondents active in major Polish economic regions.

8. DUNN & BRADSTREET POLAND Ltd, the Polish Division of DUNN & BRADSTREET CORPORATION, USA, one of major business intelligence companies, which renders services on companies' economic standing, based on a correspondents' network all over Poland.

9. EUROSTART Ltd, offers the access to several databases comprised by their own the KOLIBER business information network, which is based on the DIALOGUE standard. Access is possible through both modem and the POLPAK X-25 network to such databases as TELEADRESON, KOMPASS, POZNAe relation-type database designed with ORACLE 7.0, which is on-line accessible for remote users. Several database types are available on request, such as Boss-Finace, Business Foundation Databank, Offers/Demands Exchange.

11. HOPPENSTED BONNIER INFORMATION POLAND, German-Polish company, which distributes the "Top-Ten" database on major Polish companies. CD-ROM version of the database is planned in near future. Additionally, they also render information services, in the form of a database, on major Polish business managers. End user can also access a business database on about 80,000 German companies.

12. IBIA, Warsaw - owned by MANAGEMENT & BANKING Ltd, a Polish business intelligence company with a limited number of staff, who render business information services on customers' requests.

13. INFOCREDIT, Warsaw, another Polish business intelligence company with a limited number of staff, who render business information services on customers' requests.

14. The "InfoData" Department for Business Information Procedures and Legalization, Polish Chambers of Commerce (PCC), one of major providers have a UNIX-based multiprofile company database designed with INFORMIX-4GL tool software, which comprises about 450,000 Polish company records. The database is available in major Polish cities, to form a Countrywide Business Information Network (Polish acronym OSIG). About 30 network nodes have in operation their own regional business databases. Central host is situated at PCC in Warsaw.

15. INTERCREDIT, Warsaw, a business intelligence joint venture of INTERCREDIT HOLDING, Vienna and METALEXPORT Ltd, Warsaw. They offer company reports and teleaddress data on manufacturers, exporters and wholesalers. The company has their Branch in Poznaand a correspondents' network all over Poland.

16. KOMPASS, Poland, one of major providers, have a database on about 40,000 Polish companies, to comprise about 45,000 products and activity types, which are classified with the use of an unique 4-7 position classification code. The database is updated at least twice a year. The data are available on-line in DIALOGUE standard. Printed company directories are also published once half a year.

17. MAIN STATISTICS OFFICE, one of major providers, a governmental agency, who operate central register on Polish companies (about 2,5 Million company records). They constitute an information system (based on X-25 network) including all 49 Voivodship (e.g. administration district) Statistics Agencies, who provide basic company data concerning company activity profile coded with the NACE classification codes. Financial information on companies is restricted only for use by selected governmental agencies, such as Treasury Agencies.

18. MARKET INFORMATION CENTRE, Warsaw, deals with the collecting of foreign import offers with the aim to their matching with Polish export demands. Information is also available on economic trends on foreign markets, as well as on trade customs in foreign countries, including their up-to-date fitosanitary and tariff regulations.

19. NATIONAL AGENCY FOR TECHNOLOGY AND TECHNIQUE, a newly established governmental information agency, who is subordinated to the Ministry of Industry and Trade. They are concerned mainly with information support towards the implementation of Polish originated technology and techniques aimed at the improvement of industrial development and general economic development. A comprehensive database on technology and technique is planned to implementation.

20. POLTAX, Tax Collecting Information System, a governmental agency subordinated to the Ministry of Finance, who are dealing with general collection of income and turnover taxes from companies and individuals. The database system on tax-payers is being implemented on Voivodship (i.e. district) level. Access to the database is legally restricted to governmental institutions.

21. TELEADRESON Centre for Professional Information, Warsaw, have their own English- and German-language company database, which includes also major governmental institutions and organizations, such as Universities, schools, hospitals, etc. Database software is focused mainly on company offer matching in terms of general economic and/or institutional cooperation. Database is updated monthly.

22. UNIDO, Polish Bureau, can distribute CD-ROM databases on banking and financial services.

23. UNION OF POLISH BANKS can provide mostly specialized information, which is however restricted for use exclusively by Polish banking services, including the data on specific documents, like lost and false cheques, register of deposits, debtors directory etc.

24. The U.S. WEST Ltd, Poland, offers free 29 printed regional directories annually on Polish, and they offer also mailing lists (geographic and/or branch profiles) from their company database, which includes 600,000 company records to comprise about 800 activity branches. Database is updated three times a year.

5. TELECOMMUNICATION SYSTEM IN POLAND

This is the Polish Telecommunication S.A (TP SA), who with their POLPAK X-25 network (see below for details) practically have the monopoly in the field of telephone network in Poland. There are also some other X-25 based digital telecommunication networks, such as TELBANK (interbanking services), KOLPAK (telecommunication network servicing the Polish railroad system), CUPAK and URMPAK (both servicing governmental institutions, and also some minor network operators.

Economic changes have intensified also the development of rather poor so far in the country scale the telecommunication system. Plans to modernize telecommunication services in Poland are based on the involvement of Western telecommunication companies. Nowdays, there are about 5 Million subscribers in Poland. Target goal is to attain 12-15 Million new subscribers by the year 2000. This will require modernization of Polish telecommunication technology and the development of local, transit and international exchange networks while based on digital technology. Municipal interexchange cable lines as well as long-distance cabling have undergone the replacement by optical ones, an they undergo their equipment with digital teletransmission operating systems. The implementation cost of 10-year telecommunication development programme is estimated at 20 billion USD. This cannot be drawn out from the State budget and external, e.g. World Bank and EU funding has been strongly involved here, aimed at the attracting of international industrial organizations. These are briefly presented below.

Dutch company ATP completed a contract on a network of 2,000 trunk exchange subscribers for KOMERTEL system in Warsaw, including 72 international links and ESS-PRX type electronic international exchange in Warsaw. This contract included also the digitalization of the INTELSAT satellite exchange system.

Spanish company ALCATEL SESA have supplied eight S-12 type transit municipal exchanges for Warsaw, total capacity of 140,000 link terminals, including local exchanges for total 120,000 links.

SIEMENS supplied Warsaw with a telex exchange for 12,000 connections, an EWSD type international telephone exchange (1,500 links) an a trunk exchange, capacity 9,390 for Katowice.

Italian ITALTEL provided the modernization and development of telecommunication network for the Przemyl region, based on their own "Linea UT" type technology, which includes 51,000 new subscribers and 13,000 old lines for their replacement by new ones.

French ALCATEL-CIT supplied E-10 type international telephone exchange for Poznaey installed also the POLPAK X-25 package network for 1,000 users.

Korean SAMSUNG equipped the Opole region with Opole with TDX type exchanges.

Austrian KAPSH supplied the Wrocaw region with ADS type exchanges.

Two Danish companies, GREAT NORDIC and NKT, who already completed installation of optical fibre line Bornholm-Koszalin, have also extended the existing line from Koszalin, down to Southern state border.

On the basis of international Agreement between Poland, Germany, former Czechoslovakia, Hungary and Russia, an international line TEL is being constructed from Western to Eastern Europe.

American US WEST INTERNATIONAL participates to the construction of East-West optical fibre line, including its connection to the Trans-Siberian Line.

As far as funding is concerned, the following projects were implemented on the basis of credit lines provided by the World Bank and the European Investment Bank:

- installation of 12 transit trunk exchanges, total capacity 55,500 link terminals;
- installation of 10 local exchanges, capacity 71,500 link terminals;
- construction of 900 km optical fibre cabling and 15 digital telephone radio lines, both capacity 140 Mb/s;
- installation of 2 telegraph exchanges for Katowice and Gda-
  construction of a ground station for the EUTELSAT satellite system to comprise 1,000 lines to Western Europe.

Involvement of foreign firm in the above listed assignments is based on the creation of joint venture companies, who commence the production of telecommunication equipment, and on the basis of preferential foreign loans for the supply of equipment for the construction of teletransmission system networks.

5.1 The POLPAK Telecommunication Network and its Development

The aforementioned technical modifications led to creation of the POLPAK - the Polish public teleinformation network with package commutation for data transmission - which was started up in June 1992 with transmission speed of 9,600 bit/s. The network, which currently covers about 60 per cent of the country territory, is based on ALCATEL 1100 system equipment, and it is fully compatible with international CCITT standards: X.3, X.25, X.28, X.32 and X.75. The network consists of 20 nodes joined by analog transmission lines. Main network nodes are connected by appropriately faster lines, which guarantee greater data volume capacity. Warsaw is the home to the largest POLPAK network node and to network management headquarters, that includes a statistics and measurement node. This makes it possible to test subscription networks automatically and to test a subscriber's protocol remotely. All larger network nodes consist of two redundant halves, making POlPAK highly reliable.

POLPAK characteristics include:

- simultaneous (sending and receiving) data transmission to and from various subscribers operating at different transmission speeds and according to different protocols;
- guarantee for precise and reliable information transmission
- automatic selection of data packages to be sent;
- separate transmission of particular packages while maintaining their order;
- the possibility to separate parameter/variable modification for each protocol X.25 "transmission session";
- billing by an accounting the services rendered.

POLPAK subscribers are given the access to:

- other POLPAK subscribers, especially their databases;
- other telecommunication networks' subscribers in Poland and abroad;
- teletext and telephone networks;
- the POLKOM e-mail services; -
- X.400 and EDI information service systems.

As demand for data transmission services grows, the network has undergone its modernization to increase its inter-node links' speed and subscribers' access speed. In 1994 the number of POLPAK subscribers increased twofold. As the result, the network expansion was begun, and extra equipment was installed at the existing nodes, which now facilitate transmission at the speed of up to 64 kbits/sec. It is planned that 2 MB/s speed will be offered to users in early 1996.

The expansion consists of the following features:

- maximum development of existing nodes;
- increase in the number of nodes;
- increase of both inter-node connectors' - speeds and subscribers' connector speeds to 64 kbits/sec and 2 Mbits/sec;
- new software and a new management system for the entire network which will allow it to operate according to Frame Delay protocol and will allow the introduction of many new facilities;
- a new routing plan which takes into consideration the new division of Poland into four regions.

Expansion of the POLPAK network is being managed mainly with ALCATEL 1100 series equipment. Twenty-three new nodes have been purchased, and they are already being installed. New network structure will consist of five super fast units PSX-MC-X312 nodes, which form the "back-bone" (in the cities of Gdaatowice, Poznarsaw and Wrocaw), connected by digital 2 Mbits/sec lines.

All other inter-node lines are also digital and they are operated at 64 kbits/sec.

Compared to current POLPAK network, there will be an increase in quality due to the change from analog lines operating at 9.6 kbits/sec speed to digital lines, which are much safer and secure much greater both the quality and data transmission speed. The structure of the expanded network will provide quick connections for all existing and new LANs and WANs. This will also improve connections between subscribers operating at lower transmission speeds.

Once expanded, the POLPAK network will consist of municipal 43 nodes. The network will be adopted to a new generation modems: V.32 bis and V.34 and basebands. Used so far, the R225 telecommunication software will be replaced with the most recent the ALCATEL software, version R250, which will facilitate the management of the network and increase its reliability and quality of services. This will also give subscribers the access to new facilities and services.

Expansion of the POLPAK network - an increase in its speed volume and implementation of new transmission protocols - will make it a great platform for data transmission for such new TP SA services as: POLPAK-T, POLKOM-400 (News Service System) or access to the INTERNET.

POLPAK-T will be a quick skeleton network for transmission between users who require very high transmission speeds. In its preliminary stage of development, the network will use Frame Delay protocol with the possibility to more efficient ATM protocol. Each POLPAK-T network node will be connected to the other nodes by links with the minimum 2 Mbits/sec speed. If necessary, these links will be replaced with faster ones: 8 or 32 Mbits/sec. The users will be given the opportunity to choose from ports in particular nodes with 64 kbits/sec or 2 Mbits/sec.

The POLPAK-400 system will be a public information service system consisting of three cooperating modules:

- news service module (X400);
- electronic subscriber module (X500);
- electronic documents exchange module (EDI X435 and Edifact standard, and American ANSI X.12 standard).

X400 Electronic Mail Service is based on an MHS (Message Handling System). The system will provide the following functions:

- domestic and international information exchange service, including storage and transfer of information as well as text conversion;
- cooperation with both private and public domains of X400, namely PRMD and ADMD;
- cooperation with non-X400 electronic mail systems such as MS-mail, CC:mail, SHTP and others compatible with P7 protocol;
- storage and forwarding of faxes;
- cooperation with the POLPAK network.

In the second half of 1995, the TP SA Centre for Teleinformation Systems (CST) will provide its subscribers with the ability to tap into the INTERNET. This will be possible thanks to co-operation agreement signed with NASK under which CST will sell accounts in NASK. Countrywide access to Internet will be available through the POLPAK network.

5.2. INTERNET in Poland

From 1990 through 1992, leading academic centres in Poland made their tremendous efforts in order to gain full access to the INTERNET (initially through the EARN network). Since the Research Academic

Computer Network (Polish acronym NASK) was founded at the University of Warsaw, they commenced a countrywide enhancement of the Polish backbone INTERNET network. Now, the NASK is sponsored by the Governmental Committee for Scientific Research. Presently, four INTERNET domains exist in Poland: educational, governmental, military and commercial. Commercial domain is being actively developed by the ATM Ltd, who in line with the NASK are the sole authorized Polish INTERNET operators, and they have the right to pass on their authorization to other commercial providers, who consequently sell their professional services to the end-users. Practically every user, including businesses, has the opportunity to benefit either from E-mail or from the network resources, provided they are equipped with computer and modem. Such software packages as ftp, Gopher, Mosaic, telnet, Eudora and many others, are easily available on the Polish market.

In 1994, the growth tempo of users from business sector exceeded 700 per cent. Municipal area networks (MANs) and subsequent connection of MANs into information superhighways will be the next step on the way to formation of a countrywide IT structure, which will enable the use of applications those up-till-now were only in a test stage. Access to Worldwide Web is now possible in Poland.

In 1995 the Polish INTERNET Society was founded as an association which basic aim is to support the development of INTERNET in Poland. Works are being done on the implementation of the Polish diacritical marks to the INTERNET.
(Access: http://www.gumbeers.elka.pg.gda.pl/WA/ISOC-PL).

Alphabetic list of Polish providers of INTERNET services is given below.

5.2.1. Polish Providers of INTERNET Services

ATM Ltd.
Offer for institutions and private users. Access through the telephone, X.25 network, KOMERTEL, ISDN. E-mail and terminal accounts, SLIP/PPP.
Address: Grochowska 21A, 04-186 Warszawa
Tel: +48-(2) 6106073; Fax: +48-(2) 6104144;
E-mail: customer@atm.com.pl
Contact: Mr. Dariusz Wichniewicz, E-mail: darekw@atm.com.pl
FTP: merkury.atm.com.pl, name: anonymous
Telnet: ikp.atm.com.pl, login: info
WWW:http://www.atm.com.pl
Based on the agreement with PT SA, Warsaw-East Branch, the company offers free access to Internet in Telecommunication Promotion Centre, Warsaw, 33/35 Targowa Str.

Banking IT Centre, Ltd.
Offer for institutions and private users. Access through hired or commutation lines.
Address: pl. Matejki 1, 30-960 Krakw
Tel: +48-(12) 185303, fax: +48-(12) 216660
Contact: Mr. Wacaw Milecki,
E-mail: waclaw@bci.krakow.pl
WWW: http://www.bci.krakow.pl

EUnet, PL-net Ltd.
Address: Al. Jerozolimskie 65/79, 00-697 Warszawa
Contact: Mr. Michael Bielicki; Tel: +48-(2) 6306302;
Fax: +48-(2) 6306305
E-mail: info@Poland.EU.net

Home Space Net, Ltd.
Offer for institutions and private users.
Address: ul. Kasprowicza 151 B
Tel: +48(22)358854; Fax: +48(22)358627
E-mail: hsn@bevy.hsn.com.pl

Internet for Schools
Foundation, who offer, for primary and secondary schools, includes user accounts and access through commuted connections (terminal, SLIP).
Address: Warsaw University, Faculty of Physics,
Hoa 69, 00-681 Warszawa, Tel/Fax: +48-(22)29-43-09;
WWW: http://idsserv.waw.ids.edu.pl/ids/Welcome.html.

Internet Technologies, Poland
Offer for institutions and private users.
Address: LIM Center, Al. Jerozolimskie 65/79, Warszawa
Tel. +48-(2) 630-60-49;
Contact: Mr. Rafa Plutecki;
E-mail: info@it.com.pl
WWW: http://www.it.com.pl

MALOKA BBS Ltd.
Offer for institutions and private users. BBS and access to Internet resources.
Address: Lena 14, 05-806 Komorw
Tel/fax: +48-(2) 6305004; Modem: +48-(2) 6220202
Kontakt: Mr. Stanisaw TymiE-mail: stan@maloka.waw.pl
X.25: Polpak 32-00-21-12, Telbank 12-21-40-95
Telnet: bbs.maloka.waw.pl

MAGNUM Ltd.
Offer for institutions and private users includes: accounts on UNIX machine and access through SLIP/PPP, UUCP.
Address: Wicza60, 90-530 d-
Tel. +48-(42) 370662, fax +48-(42) 370735
E-mail: poczta@magnum.lodz.pl Ftp: ftp.magnum.lodz.pl WWW: http://www.magnum.lodz.pl

The NASK, Scientific and Academic Computer Network
Offer for institutions and private users. The network includes about 20 regional nodes in the country.
Address: Bartycka 18, 00-716 Warszawa
Tel: +48-(22) 268000, Tel/fax: +48-(22) 410047
Gopher: gopher.nask.org.pl
WWW:http://www.nask.org.pl

The PDI, Public Access to Internet
Offer for institutions and private users includes accounts (E-mail, News, BBS), and SLIP, PPP, TERM and UUCP.
Address: Piotrkowska 118, d-, Tel: (+42) 30-21-94.
E-mail: info@pdi.lodz.pl
WWW:http://www.pdi.lodz.pl

PERYT Ltd.
Offer for institutions and private users.
Address: St-pi, 00-739 Warszawa, Tel/fax: 411707;
E-mail: mp@peryt.peryt.waw.pl
WWW:http://www.peryt.waw.pl

PETEX-Service, in Bielsko-Biaa, Ltd.
Offer for institutions and private users. Bi-lingual, Polish and German information services are rendered.
Address: Sasankowa 15, 43-300 Bielsko-Biaa
Tel/fax: +48-(30) 25137; Modem: +48-(30) 23431;
E-mail: sysop@petex1.petex.bielsko.pl
WWW:http://www.petex.bielsko.pl

The company manages the Internet Public Access Centre in Bielsko-Biaa (Address: Babiogrska 11, Bielsko-Biaa, tel. +48-(30) 119-700).

PHC ABA, Ltd.
Address: Wybickiego 7, 31-261 Krakw
Tel: +48-(12) 362767, Fax: +48-(12) 367174, +48-(12) 473684
WWW:http://www.aba.krakow.pl

POLBOX Ltd.
Access through public telephone network (terminal access PPP, SLIP). The offer includes standard Internet services.
Address: P.O. Box 35, 01-323 Warszawa 83
Tel/Fax: +48-(2) 6656363, Modem: +48-(2) 6656363
Telnet:polbox.com.pl
WWW:http://www.polbox.com.pl

POLSKA OnLine Ltd.
Address: Przasnyska 6, pok. 404a, 01-756 Warszawa
Tel: +48-(2) 6635086, Fax: +48-(2) 6635281
Information on the company's activity is available through E-mail,
Address: info@pol.pl
WWW:http://www.pol.pl

TELBANK S.A.
Banking Telecommunication Enterprise. Active in telecommunication equipment setting-up and operation, and in the field of telecommunication lines and networks. They manage the TELBANK-M intercity digital channel network, the TELBANK-P package commutation network, the TELBANK-T digital telephone network and the TELBANK-VSAT satellite network.
Address: Poligonowa 3, 04-051 Warszawa
Tel/Fax: +48-(22) 10 20 51
Gopher:gopher://vena.telbank.pl
WWW:http://www.telbank.pl

TERNET Ltd.
Address: ul. Baniowa 3, 02-349 Warszawa
Tel: +48-(22) 226441, Fax: +48-(22) 232395
E-mail: ternet@ternet.pl
WWW: http://www.ternet.waw.pl

- UNIV-COMP Ltd.
Address: Al. Jerozolimskie 44, 00-950 Warszawa
Offer includes telecommunication within Swift Global network.
WWW:http://www.univ.waw.pl

6. MAIN FEATURES OF THE PROPOSED SYSTEM ARCHITECTURE

Initially, a rule should be assumed, that company records are collected territorially, i.e. in the country of company's origin, that is on the area which is covered by a National Focal Point. It should be also decided on general administration of the IBIS network, namely, whether the database software system should be an individual software package, which could be duplicated and disseminated among interested national organizations or should there rather be two mutually interrelated components, including:

- a set of national systems, each for national use;
- an international, i.e. central database system.

A decision will be based on several aspects, like:

- functionality of overall information system,
- structure, contents and size of databases,
- use of the system and performance requirements.

Main characteristic of the system could be its modularity. Based on a general module consisting of basic and dedicated company data, all kind of other database modules may be added, e.g. designed for offer/demand matching, organization of business missions and visits, fairs and exhibitions, legal services rendering, direct mail shooting etc. The advantage for this is the opportunity to develop the system in stages and to come up with results yet in a short time. It gives the system the flexibility needed to be successful in a fast changing environment. Besides, this gives each national component (i.e. National Focal Point) the possibility only to implement the modules they really need for their activities, since not every activity might have be done by every national component. Some basic modules could be obligatory for all the national components and some additional modules could be optional.

Concerning information systems, its main functions are in general:

- acquisition of information;

- distribution of information .

This structure will be found in each database module. It is to be foreseen that at the national component the emphasis could be put on information acquisition, while at the international level it would be the information distribution. This may result in different modules for both levels. Another important aspect of the modularity is to avoid redundancy. Each module will add some extra data-sets to the data-structure but will, on the other hand, use the data already available in existing modules. For example the company data will be accessed by almost all other modules. The need for each module has to be considered and priorities should be set out. The following modules might become part of the system. The first three modules, without any doubt, will get the highest priority, as far as their implementation is concerned.

6.1. FUNCTIONAL MODULES

It is proposed, that the IBIS database system will comprise a set of seven functional database modules (companies, i.e. basic and dedicated company data, company offers and demands, business missions and visits, fairs and exhibitions, training, legislation, documentary information and information on countries). A set of operational modules should be also included, such as permanent information, e.g. classification of company activity and product, company legal forms, geographical coverage, data security module, etc. Description of each functional module is following.

MODULE COMPANIES

This module is the main IBIS database, which includes basic company information. The module is functionally linked to all other IBIS functional modules discussed below.

Data Elements Used

Information on a company consists of the following listed below data elements, including basic and dedicated data, to comprise also financial data elements, as they became available:

(a) Basic Company Data

- unique company ID, including country code - such automatic ID should be assigned by system software;

- official and indexing names and address (street No, city, postal code);

- description of activity profile(s) and their respective NACE activity codes;
- products manufactured (description and HS/CN codes);
- organizational and legal forms (description and codes);
- telephone, telefax, telex Nos, and possibly electronic mail;
- country code and its description;

(b) Dedicated Company Data

- full names and posts of company management and their contact persons;
- working languages used;
- dates of: company founding, registration (Register type, location), and commencing of activity;
- registration number;
- register capital;
- company's shareholders and amount of their shares;
- employment number, including full-timers and part-timers;
- details on daughter companies (branches), their names, addresses, contact persons and telephone, fax and telex Nos, including a specification of company's marketing network (e.g. shops, magazines, stores etc.);
- export/import scope, financial value and directions (e.g. countries, regions, price lists for particular products and services);
- annual turnover;
- information on intellectual property rights e.g. patents, licenses, trade marks;
- information on company's membership to Chamber(s) of Commerce;
- information on bank(s) servicing the company, including bank account No(s);
- paying modes applied;
- financial data extracted from annual balance sheet, e.g. assets, liabilities, gross and net profit~;
- company's immobilities (e.g. buildings, real estates), their description and value;
- company's business partners;
- assessment of company's standing (i.e. risk scale in terms of company reliability to perform cooperation contracts);
- additional free text description and remarks.

MODULE BUSINESS OPPORTUNITIES (OFFERS AND DEMANDS)

This module is the basic database module which is linked to almost all the functional modules discussed below. This module deals with all kind of business opportunities. A business opportunity may concern an offer or a demand for products and services but also it might be an interest in a form of cooperation. This may regard also general cooperation, export (sales), import (purchase), opportunity to set-up a joint-venture company, financial and/or material input, technical assistance, investment, technology transfer, licenses, know-how, subcontracting, marketing network, management, also training, and organization of fairs and exhibitions, business missions and visits.

This module will refer to companies registered in the module "Companies" and will add specific information, like for example:

- type of opportunity, products and services, quantities, duration time, contact person;

- for the offer/demand, additional requirements and information etc.

Data Elements Used

- company/opportunity ID;

- basic company data, offer/demand type, submission and expiry dates, general description of the opportunity;

- information on products and/or services offerred/demanded, their qualitative/quantitative characteristics, terms and conditions of possible contract, including offer/demand value regarding particular products/services;

- geographical coverage of the offer/demand (information on preferred markets, countries and regions).

Subsequent modules are described below briefly.

MODULE BUSINESS MISSIONS AND VISITS

Commercial inward and onward missions and visits, in line with domestic and international fairs and exhibitions, are mostly important promotional events to companies who intend to participate thereto. For that reason general information about a mission or visit will be registered, like destination, contact organization/institution, theme, timing and duration, and number of participants, price etc. Beside that more detailed information is needed for identifying potential participants for an outward mission or potential hosts for an inward mission. Also the participants can be registered: name, address, company. Finally, if needed - the module would support the registration of the effects and results of the mission/visit.

MODULE FAIRS AND EXHIBITIONS

The general set-up and the use of this module is quite similar to the "Missions" module above. The module will contain general information about fairs and exhibitions which are planned to be held in particular countries covered by the IBIS network. Possible information to be registered: dates, place, address of the fair, subject, organizer (name, address), conditions (price per square meter, etc), available support, congress facilities, etc.

MODULE TRAINING

This module contains information about training courses, seminars, workshops, study tours etc., organized by various institutions world-wide. It will register: training subject, location, timing, training schedules. conditions to participation (price), etc. Important training issues are: legal services, business information, company registers and business intelligence. Additionally, the Module should contain also information on relevant training programmes managed by Universities, business and administration schools (basic and postgraduate studies, training courses etc.).

MODULE LEGISLATION

Issues regarding legal regulations important to system users are dealt with Module "Legislation", which should in the aspect of its database updating, should be operated rather only on central level (provided that such a level will be distinguished within the IBIS network). Information stored in this Module comprises selected categories of legal acts pertaining to national economy per country, including finance, banking, investment, customs, general business, services, and other particular economy sectors, in terms of commencing business activity in particular countries. Such information is of crucial importance for negotiating and entering business contracts.

Data record includes legal act name and ID, issuance date, editor's and source name and full text of the legal act or regulation. Respective database searching procedures will enable access to detailed text data.

MODULE DOCUMENTARY INFORMATION

The aim of this Module is to systemize the business information selected form publications local reviews, on themes of interest (products, technologies, trends on different markets, market studies, etc.) and placing them at the disposal of end-users.
Data record includes document ID and its title, issuance date, editor's and source name and full text of the document. Respective database searching procedures will enable access to detailed text data.

MODULE COUNTRIES

Information regarding specific characteristics of different countries is included into this module. This regards geographical data, population, traditions, climate, economic activity, politics, main institutions, custom tariff, specific regulations etc.

MODULE PERMANENT INFORMATION

System index-files containing nomenclatures are stored in Module "Permanent Information". These are the following index files (nomenclatures) and tables: product and activity profile classification systems (HC/CN, CPA, NACE), legal and organization forms and geographical coverage (e.i. countries, regions, Districts, Counties) and price tables for particular types of information services rendered - if necessary. Particular index-files comprise text description of given items and their respective codes. Information stored in this Module will be applied to operate the databases of all the aforementioned functional modules.

The proposed IBIS architecture, despite it may be perceived as huge and too much diffuse, can be justified in terms of full information contents that is necessary for successful bringing companies together, for example by matching their offers and demands, and also providing information to companies about such promotional events like business missions, fairs, exhibitions and training.

An alternative to the proposed architecture can be merging together the modules: offers/demands, missions and visits, fairs and exhibitions, and training into one module in the aspect of their appropriate classification and coding system.

Detailed IBIS architecture and its functionality, e.g. rules and principles of circulation of the database records in the INTERNET and their use are the matter of subsequent functional system design.