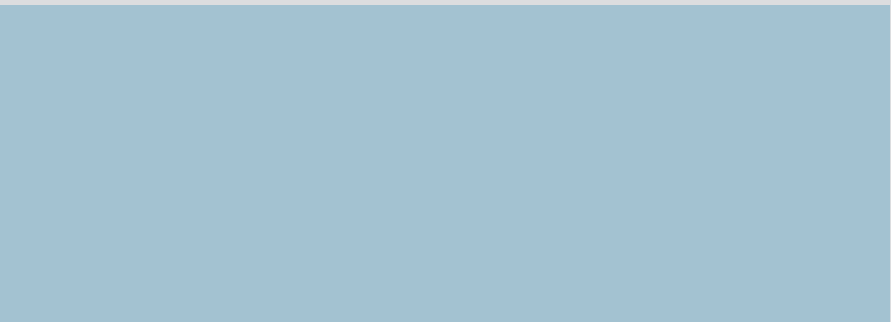
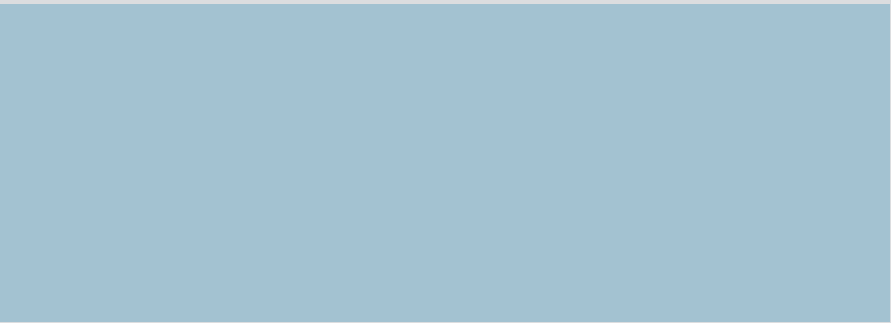


R

R&D CENTRES IN POLAND



I. R&D DEFINITION AND CHARTER TASKS

In accordance with the Public Procurement Act on Research and Development Units, research and development units are public entities, independent in legal, organizational and financial matters, established to conduct research and development activity that is useful for the domestic economy and society. Research and development units can be formed as:

- scientific research institutes,
- research and development centres,
- central laboratories.

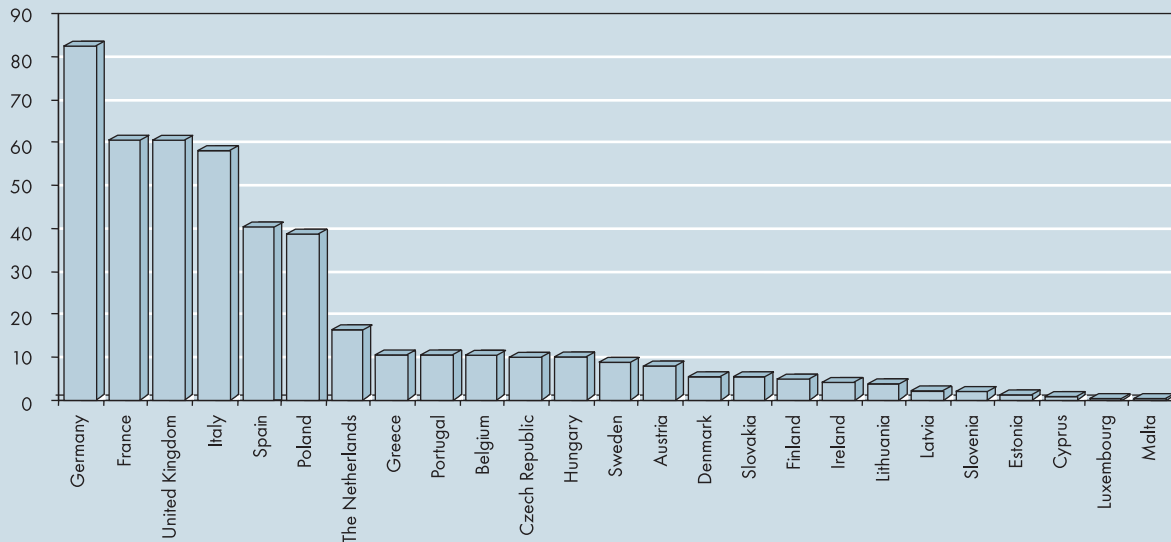
The main tasks of these economic entities are:

- to carry out scientific research and development projects and prepare them for implementation,
- to publish the results of research and development projects,
- to improve methods of carrying out scientific research and development,

- to organize training, collect scientific, theoretical and economic information, and undertake activity related to innovation and protection of intellectual property,
- to elaborate analysis and evaluation in particular scientific and technical fields and make proposals for implementing scientific achievements from around the world.

Some research and development units in Poland are also entitled to grant academic degrees and conduct postgraduate studies.

NUMBER OF PRIVATE AND PUBLIC HIGHER EDUCATION INSTITUTIONS BY PROVINCE



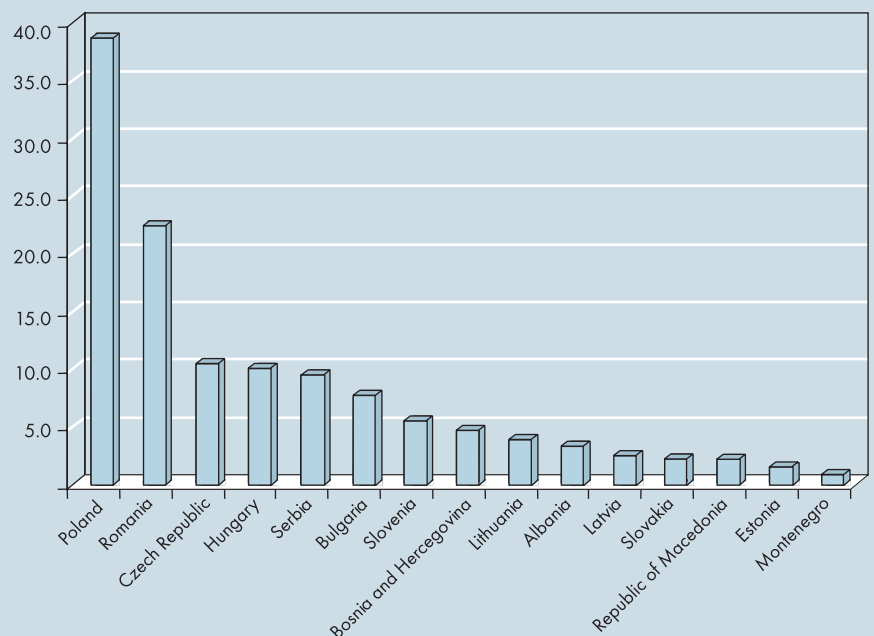
Source: Elaboration of WYG International on the basis of Eurostat data

II. R&D HUMAN RESOURCES PROFILE

1. Polish population in comparison with other European Union countries

2. Polish population in comparison with other Central & Eastern European countries

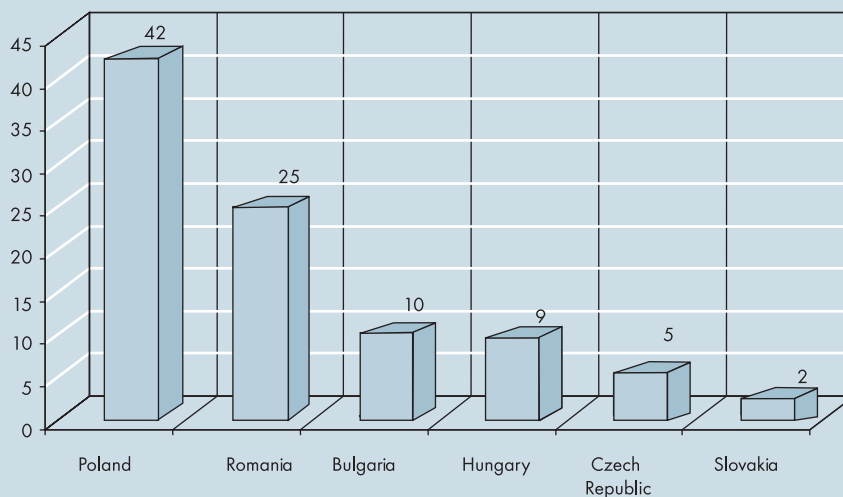
CEE COUNTRIES BY POPULATION IN 2006 (MILLION)



Source: Elaboration of WYG International

3. Number of cities with population above 100,000 in selected EU countries

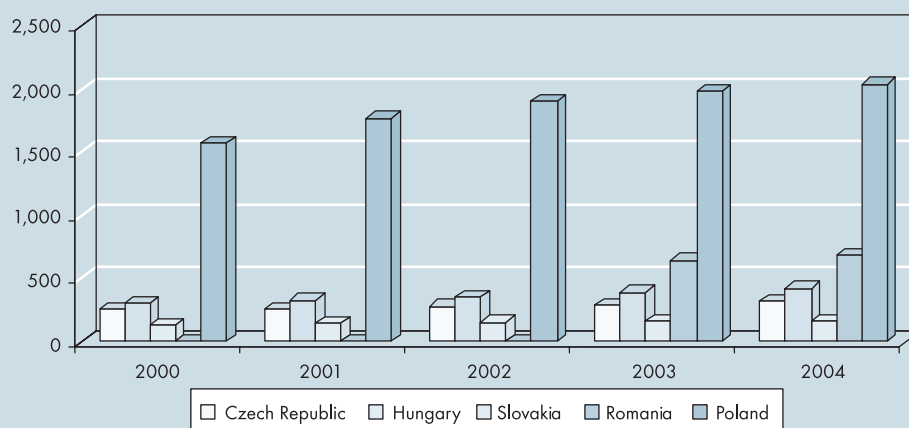
NUMBER OF CITIES WITH POPULATION ABOVE 100,000 IN SELECTED EU COUNTRIES



Source: Elaboration of WYG International data

4. Number of students in selected European countries

NUMBER OF STUDENTS IN SELECTED EUROPEAN COUNTRIES (THOUSANDS)



Source: Eurostat

5. Number of higher education institutions (public and private) in Poland in 2005

- 420 higher education institutions operated in Poland in 2005, including 17 universities, 22 technical universities and 93 business schools.

NUMBER OF PRIVATE AND PUBLIC HIGHER EDUCATION INSTITUTIONS BY PROVINCE

Province	Number of higher education institutions			
	Total	Universities	Technical universities	Business schools
Dolnośląskie	33	1	1	6
Kujawsko-pomorskie	18	1	1	0
Lubelskie	20	2	1	2
Lubuskie	8	1	0	1
łódzkie	25	1	1	8
Małopolskie	32	1	2	8
Mazowieckie	100	2	5	27
Opolskie	6	1	1	1
Podkarpackie	17	1	1	4
Podlaskie	17	1	1	3
Pomorskie	28	1	1	3
Śląskie	41	1	3	15
Świętokrzyskie	14	0	1	4
Warmińsko-mazurskie	9	1	0	2
Wielkopolskie	33	1	1	8
Zachodniopomorskie	19	1	2	1

Source: GUS

7. Number of students of selected faculties in Poland

- A large number of Polish universities have faculties that are well regarded by companies looking for R&D locations. Among them are IT, electronics, finance and banking, management and marketing.
- There were 257,757 students of economics and administration studying at public Polish universities and 242,366 at private universities in 2005.
- The total number of IT students in 2005 was 102,713, of whom 45,187 studied at private universities.
- There were 146,681 students of engineering and technology enrolled at public universities in 2005, and 2,690 at private universities.

The table on the right presents the number of IT students at selected Polish higher education institutions in 2004.

Number of IT students and graduates at selected higher education institutions in Poland as of 30 November 2004		
Public higher education institutions		
	students	graduates
Warsaw University	672	67
Łódź University	537	50
Wrocław University	487	64
Jagiellonian University, Cracow	642	37
University of Zielona Góra	907	159
Silesian University, Katowice	592	118
Adam Mickiewicz University, Poznań	970	49
Wrocław University of Technology	2,988	363
Łódź University of Technology	1,759	186
Opole University of Technology	1,248	106
Częstochowa University of Technology	1,699	203
Warsaw University of Technology	1,761	94
Szczecin University of Technology	1,097	304
University of Podlasie	263	115
Private higher education institutions		
Polish Japanese Institute of Information Technology	1,259	227
College of Computer Science, Łódź	1,090	155
Warsaw School of Information Technology (Wyższa Szkoła Informatyki Stosowanej i Zarządzania w Warszawie)	738	67
Academy of Humanities and Economics, Łódź	594	143

Source: Ministry of Science and Higher Education

The table presents the number of students of economics at selected Polish universities.

Number of students and graduates of economics at selected higher education institutions in Poland as of 30 November 2004		
Public higher education institutions		
	students	Graduates
Warsaw University	10,980	1,616
Łódź University	802	150
Nicolaus Copernicus University, Toruń	717	47
Rzeszów University	2,060	401
Gdańsk University	1,878	148
Szczecin University	1,771	163
Warsaw University of Technology	508	252
Radom University of Technology	1,430	243
Koszalin University of Technology	1,399	204
Wrocław University of Economics	1,610	266
Cracow University of Economics	1,226	162
Poznań University of Economics	1,650	219
Warsaw School of Economics	96	23
Warsaw Agricultural University	663	74
Agricultural University, Szczecin	1,267	228
Private higher education institutions		
Lazarski School of Commerce and Law	2,324	776
Higher School of International Commerce and Finance, Warsaw	762	81
Higher School of Economics, Białystok	563	99
Higher School of Economics and Computer Science, Warsaw (Wyższa Szkoła Ekonomiczno-Informatyczna w Warszawie)	512	157

Source: Ministry of Science and Higher Education

The table presents the number of students of finance and banking at selected Polish universities.

Number of students and graduates of finance and banking at selected higher education institutions in Poland as of 30 November 2004		
Public higher education institutions		
	students	graduates
Warsaw University	263	54
Łódź University	816	128
Gdańsk University	261	84
Szczecin University	860	198
Wrocław University of Economics	2,021	292
Kraków University of Economics	1,321	290
Karol Adamiecki University of Economics, Katowice	1,925	464
Warsaw School of Economics	2,085	487
Private higher education institutions		
Poznan School of Banking	1,764	367
Higher School of Banking and Finance, Bielsko-Biała	399	26
Higher School of Banking and Finance, Katowice	327	75
Leon Kozminski Academy of Entrepreneurship and Management, Warsaw	385	35

Source: Ministry of Science and Higher Education

The table presents the number of students of marketing and management at selected Polish universities.

Number of students and graduates of marketing and management faculties at selected higher education institutions in Poland as of 30 November 2004		
Public higher education institutions		
	students	graduates
Nicolaus Copernicus University, Toruń	1,836	267
Warsaw University	1,689	282
Łódź University	1,650	158
University of Zielona Góra	1,532	329
Jagiellonian University, Cracow	1,326	264
Gdańsk University	1,174	234
Rzeszów University of Technology	2,114	698
Częstochowa University of Technology	1,988	301
Łódź University of Technology	1,838	536
Wrocław University of Technology	1,621	182
Poznań University of Economics	2,402	333
Kraków University of Economics	1,692	247
Karol Adamiecki University of Economics, Katowice	1,680	299
Wrocław University of Economics	1,048	170
Warsaw School of Economics	987	234
Private higher education institutions		
National Louis University, Nowy Sącz	1,333	206
Leon Kozminski Academy of Entrepreneurship and Management, Warsaw	1,035	164
The Polish Open University (Wyższa Szkoła Zarządzania w Warszawie)	751	86
Spółeczna Wyższa Szkoła Przedsiębiorczości i Zarządzania, Łódź	660	109

Source: Ministry of Science and Higher Education

8. Foreign language education in Poland

Mandatory study of foreign languages was implemented by decree of the Education Minister dated 26 February 2002.

Children between the ages of 11 and 16 are required to study a foreign language.

According to the education program, children finishing primary school (grades IV to VI) should have basic communication skills such as:

- the ability to ask and answer simple questions,
- seeking and providing information about everyday situations,
- formulating short statements about themselves, their families and friends.

Children in primary schools should also be able to master foreign languages as well as have the ability to read simple lyrics and write simple texts. Children completing secondary school should be able to conduct an informal conversation, readily understand a foreign language, and formulate longer written statements.

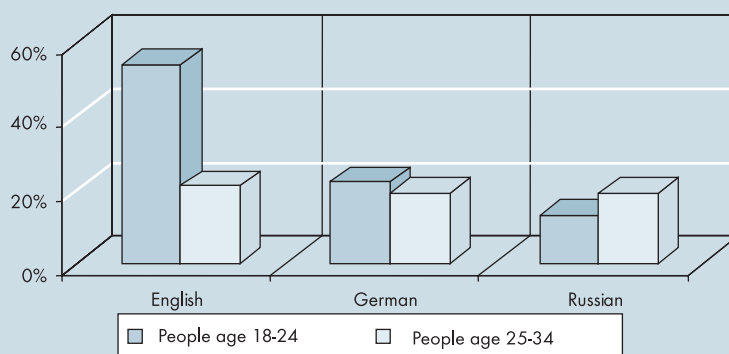
9. Foreign language knowledge declared by Poles

Foreign travel is common among managers and educated people, white-collar workers and self-employed people.

About 44% of Polish respondents state that they can communicate in at least one foreign language, with one in three claiming knowledge of at least two foreign languages.

Russian is declared to be the most widely known and used foreign language, with 23% of Poles declaring it as one of the foreign languages they use. Knowledge of Russian is widespread because it was compulsory in Polish schools before 1989.

NUMBER OF STUDENTS IN SELECTED EUROPEAN COUNTRIES (THOUSANDS)



Source: CBOS

NUMBER OF STUDENTS AND GRADUATES OF PHILOLOGY AT POLISH HIGHER EDUCATION INSTITUTIONS

Number of students and graduates of philology at selected higher education institutions in Poland as of 30 November 2004		
Public higher education institutions		
	students	graduates
English philology		
Silesian University	701	158
Warsaw University	412	131
Maria Curie-Skłodowska University, Lublin	394	57
Jagiellonian University, Cracow	354	50
University of Podlasie	146	24
Akademia Pedagogiczna im. Komisji Edukacji Narodowej, Cracow	223	48
German philology		
Silesian University	299	23
Warsaw University	555	194
Maria Curie-Skłodowska University, Lublin	221	37
Jagiellonian University, Cracow	384	65
Akademia Pedagogiczna im. Komisji Edukacji Narodowej, Cracow	175	–
Russian philology		
Warsaw University	455	65
Gdańsk University	326	55
Białystok University	302	49
Jagiellonian University, Cracow	238	17
University of Podlasie	159	29
Akademia Pedagogiczna im. Komisji Edukacji Narodowej, Cracow	347	49
Private higher education institutions		
English philology		
Silesian School of Economics and Languages	593	197
Polonia University, Częstochowa	463	106
Warsaw School of Social Psychology	307	–
German philology		
Polonia University, Częstochowa	98	21
Lodz Academy of International Studies	46	–
Russian philology		
Silesian School of Economics and Languages	29	–

Source: Ministry of Science and Higher Education

III. SCIENCE IN POLAND

1. Scientific awards for Polish students

Poles are one of the best educated populations in Europe. The younger generation of Poles is an especially attractive group for employers. Polish students compete successfully in many international competitions. The scientific discipline in which Polish students are the most successful is IT.

- In 2006 the team of Jagiellonian University students took second place in the 30th International Collegiate Programming Contest (ICPC), which is the biggest, most famous and prestigious contest for the best IT students from all over the world. The team from Warsaw University was ranked seventh. ICPT is organized by the Association for Computing Machinery (ACM) and sponsored by IBM. Success in the 30th ICPT represents a run of good luck for Polish IT students, as students from Warsaw University were the 2003 world champions and took second place in 2004.
 - Warsaw University students have been leaders for several years in TopCoder, the worldwide programming contest. Warsaw University is number one on the Top 10 List of the best IT schools, and Poland is ranked second among home countries of TopCoder members.
 - Polish students also rank highly in other disciplines. In April 2005 the graduates of the Cracow Economic Academy won the championship in the international management competition Euromanager.
 - In May 2006 Microsoft declared that 10 Polish students will be participating in the EMEA Internship Program at Microsoft's head office in Redmond. The students will be involved in the real work of a specific production group.
- Polish students are also successful in other scientific disciplines, especially design. In February 2006, Polish students from the Wrocław Art School won the contest organized by Viehweger-Leuchten, a company producing flat lighting in eastern Germany. The students designed lamps which will be produced by the company.

2. Employment in Polish science

Science, an important sector for the Polish economy, employed 96,331 people in 2004, 88,831 of whom were full-time employees. The number of scientific employees rose by 2,099 from 2003. Most of them were employed at universities, others at scientific units of the Polish Academy of Sciences and at development units.

3. Number of scientific laboratories

According to Polish Education Minis data, there are 253 research and development units registered in Poland. They conduct research for various economy sectors. The greatest number were registered in Warsaw (104), Łódź (56), Poznań (14), Cracow (13), Katowice (8) and Gliwice (8).

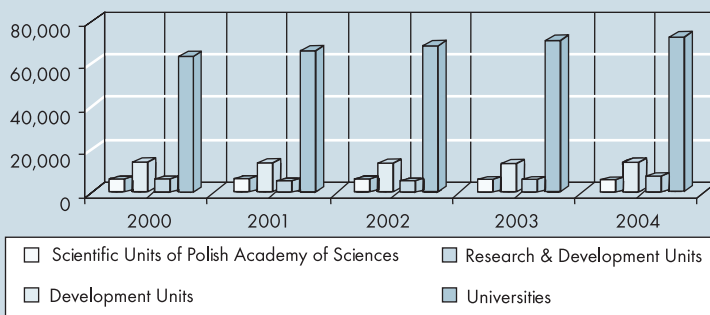
NUMBER OF STUDENTS OF PHILOLOGY AT POLISH PRIVATE HIGHER EDUCATION INSTITUTIONS

Private schools	
Name	Students
Pedagogical University of the Polish Association for Adult Education, Warsaw	66*
Tischner European University, Cracow	166*
Wrocław College of Humanities	50**
Szkoła Wyższa Psychologii Społecznej	449
Wyższa Szkoła Humanistyczno-Ekonomiczna, Łódź	162

*students of the first and second year in academic year 2005/2006

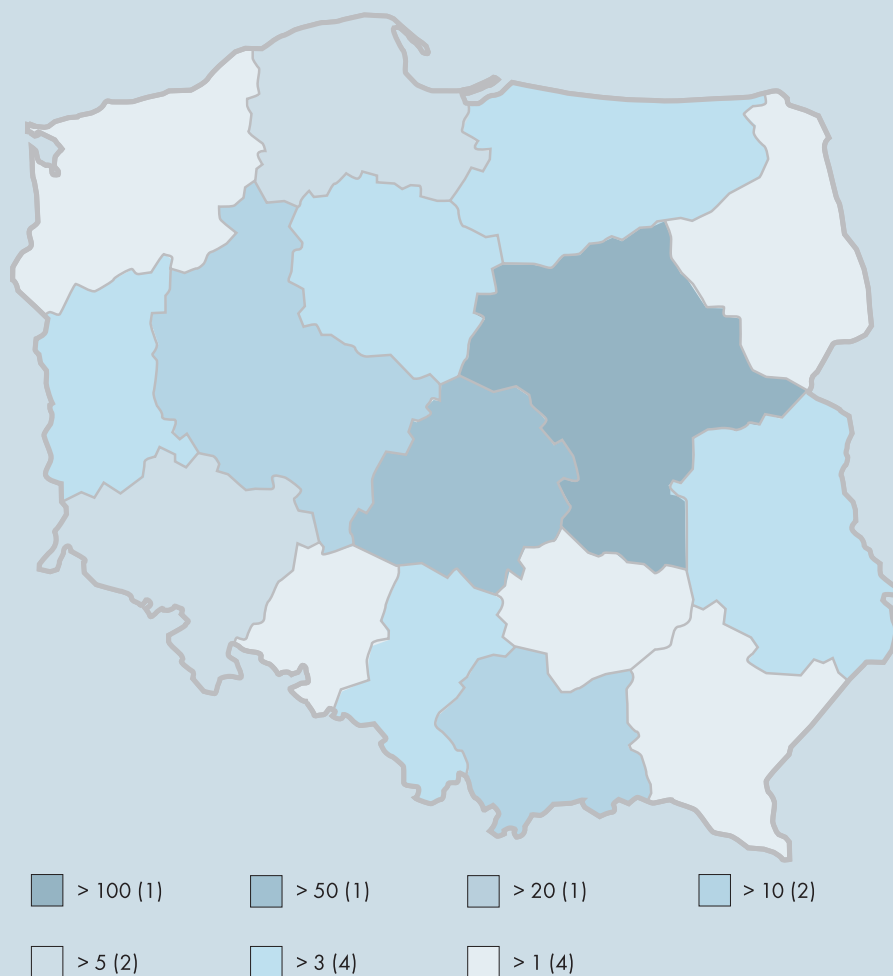
** part-time students

EMPLOYMENT IN POLISH SCIENCE



Source: GUS

NUMBER OF R&D CENTERS BY LOCATION IN POLAND



Source: Elaboration of WYG International data

4. Number of scientists holding doctorates

5. Patent applications and grants in Poland

According to estimates by the Central Statistical Office (GUS), in 2005 there were 2,028 patent applications filed, and 1,054 patents granted. This was 276 more patents than granted in 2004, but the number of patent applications dropped by 353.

6. Prizewinning inventions at the 55th World Exhibition on Innovation, Research and New Technologies – Brussels Eureka 2005

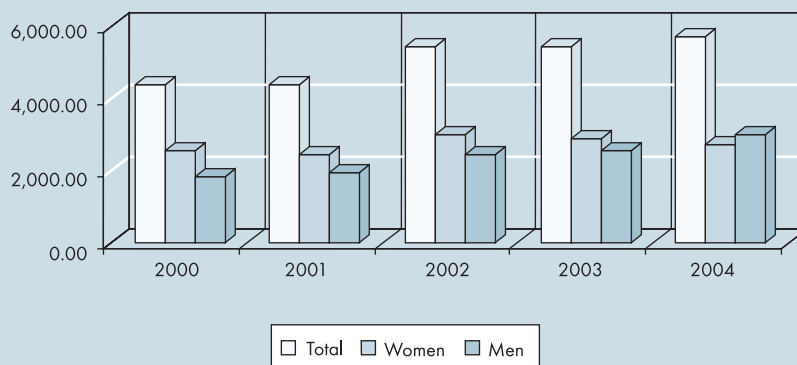
Eureka is the world exhibition on innovation, research and new technologies which is organized in Brussels.

The public exhibition at Brussels-Eureka attracts more than 500 participants from more than 30 countries and presents about 600 innovations and patented new inventions in a variety of areas. Brussels-Eureka specifically aims at inventors, innovative companies, top research specialists, spin-offs, creators of new technologies, important associations of inventors and professionals in technology transfer, to present the products of their research to the visitor.

Objectives of the exhibition:

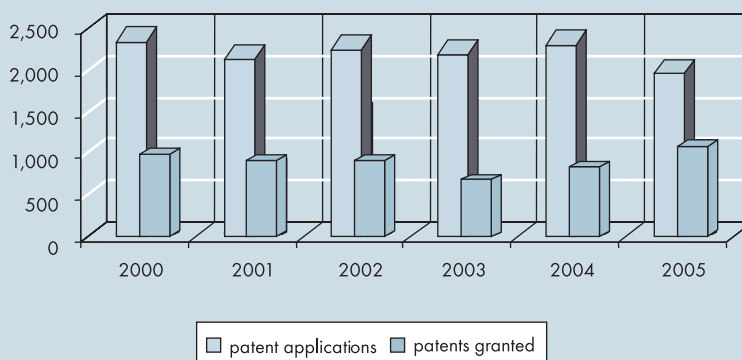
- Present your original prototypes, new technologies and inventions in a variety of domains.
- Establish contacts allowing you to commercialise your patent.
- Have you liaise with manufacturers, distributors, investors, experts, coaches and sales professionals from different countries, as well as establishing commercial and industrial relationships.
- Support the growth of SMEs and allow them to acquire innovations and inventions, while helping them to promote these in several countries.¹

NUMBER OF SCIENTISTS HOLDING DOCTORATES



Source: GUS

SCIENTIFIC PATENTS IN POLAND



Source: GUS

Country	Gold medal with mention	Gold medal	Silver medal	Bronze medal	Diploma
Azerbaijan	1	12	20	5	
Belgium	3		1		
Bosnia and Hercegovina	1	5			
China	3	9	9	6	
Croatia	7	6	1		
France	1	1			
Germany	2	1	3		
Hong Kong	1				
Hungary	1	5	5		
Iran	3		1		
Korea	1	9	3	3	
Malaysia	1	3	1		
Moldova	6	34	14	4	
Poland	10	21	14	1	1
Romania	14	58	34	21	
Russian Federation	2	4			
Serbia and Montenegro			2	1	
Spain	1	2			
Thailand				1	
Ukraine	3				

Source: Brussels Eureka, Medals 2005

¹ www.brussels-eureka.be

IV. LABOUR COSTS

1. Range of wages in R&D sector in Poland

The average monthly gross salary in the R&D sector in Poland in 2004 was PLN 3,426. The highest average wages among types of research-development units were at universities (PLN 3,230).

In 2004, among groups of R&D employees, technicians earned the least, with an average salary of PLN 2,537.

V. RESEARCH AND DEVELOPMENT IN POLAND

1. Types of R&D in Poland

In accordance with the Public Procurement Act on the State Committee for Scientific Research of 12 January 1991, 'scientific research' means:

- basic research, including experimental or theoretical research activity which is carried out to gain new knowledge about facts and phenomena but not designed for practical implementation;
- applied research, including research activity which is carried out to gain new knowledge about facts and phenomena that can be implemented.

Development works should be understood as works using existing knowledge which was gained during research or in practice.

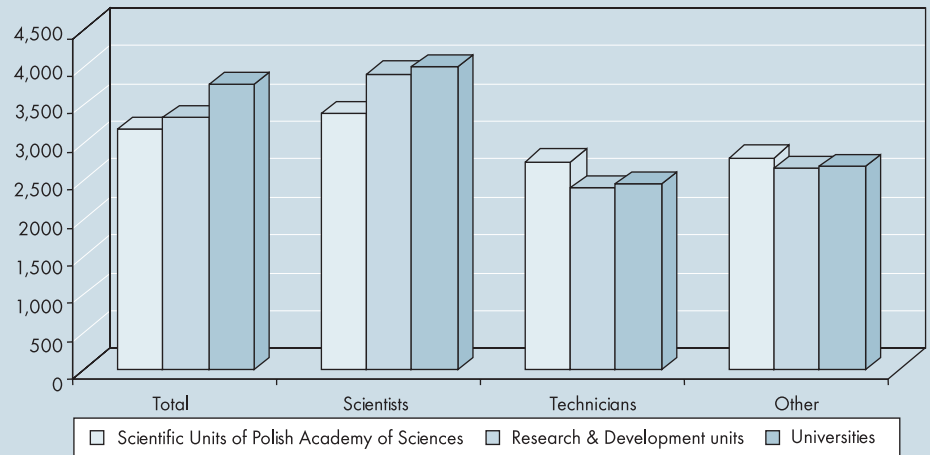
Many different research and development projects are carried out in Poland each year. They are conducted in such disciplines as:

- ITC
- Chemistry and biochemistry
- Biology and biotechnology
- Physics and biophysics
- Engineering
- Medicine
- Construction, etc.

2. Number of research and development centres of foreign companies in Poland

There are about 40 research and development centres in Poland, employing some 4,500 specialists. Seven new research and development centres were established in 2005. The largest R&D centres are located in Warsaw, Cracow and Wrocław.

AVERAGE MONTHLY GROSS SALARIES IN R&D SECTOR IN 2004

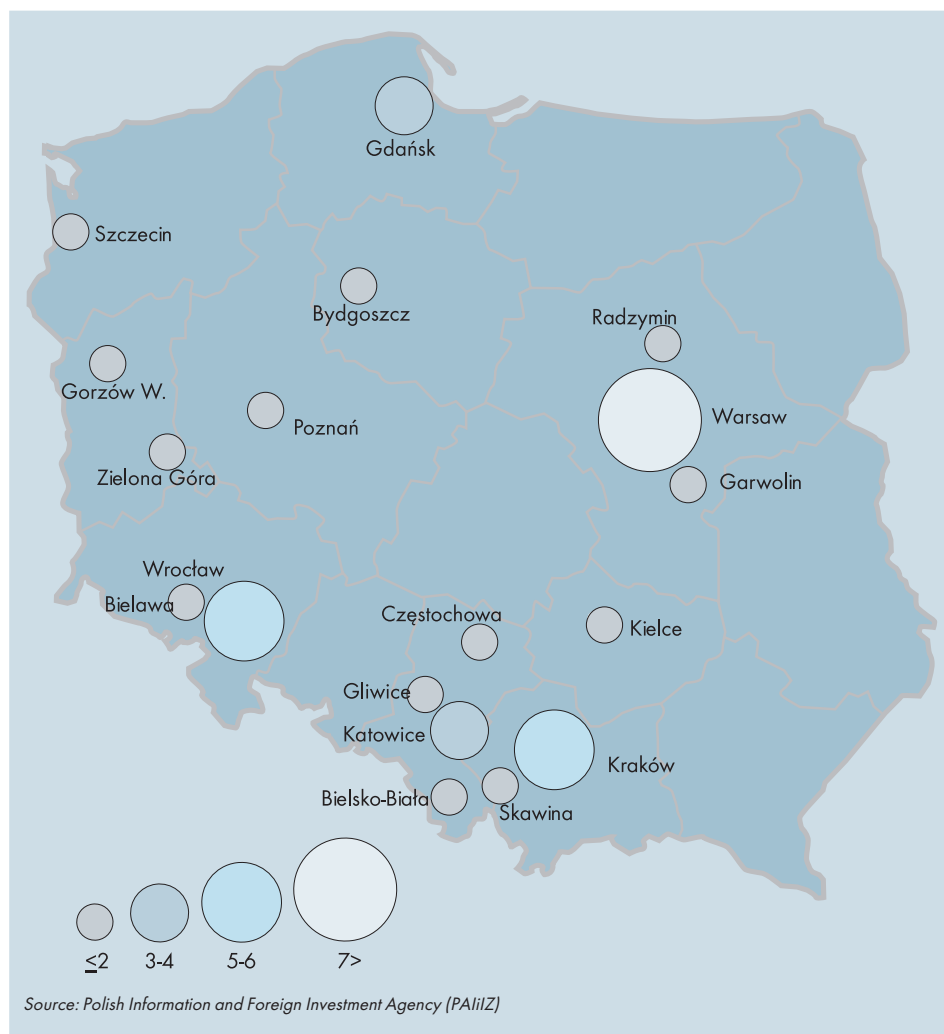


Source: GUS

RESEARCH AND DEVELOPMENT CENTRES IN POLAND BY COMPANIES

Cracow							
ABB	CH2M HILL	Delphi	IBM	Lurgi	Motorola	Pliva	Sabre
Warsaw							
Telekomunikacja Polska S.A.	General Electric Aircraft Service	Oracle	Microsoft	Samsung Electronic	SAS Institutes	TopGaN	
Wrocław							
Remy Internationale				Siemens			
Częstochowa							
TRW Automotive							
Katowice							
Bombardier				Ontrack			
Zielona Góra							
ADB							
Gdańsk							
Compuware				Intel			
Łódź							
Alstom				Bosch-Siemens			
Garwolin							
Avon							
Radzymin							
Cederroth							
Poznań							
GlaxoSmithKline							
Ciechanów							
LG Electronics							
Bydgoszcz							
Lucent Technologies							
Piła							
Philips							
Kętrzyn							
Philips							
Elbląg							
Alstom							
Rzeszów							
Pratt&Whitney							

3. Location of R&D Centres in Poland



VI. LEGAL FRAMEWORK

1. VAT regulations concerning services

- Polish VAT regulations are in compliance with EU law, in particular VI Council Directive of 17 May 1977 on the harmonisation of the laws of the Member States relating to turnover taxes – Common system of value added tax: uniform basis of assessment (77/388/EEC). This means that Polish VAT law is consistent with, but not necessarily identical to, the VAT law in other EU member states.
- According to Article 41 of the VAT Act of 11 March 2004, the basic VAT rate on goods and services in Poland is 22%. This applies to most types of services.
- When considering VAT on services, it is very important to identify the location of the taxable transaction correctly.
- According to Article 8 of the VAT Act of 11 March 2004, “supply of services” includes any service provided to a private person, legal entity or organizational unit without the status of a legal entity, which does not constitute a supply of goods.
- The “place where a service is supplied” is deemed to be the place where the supplier has established its business or has a fixed establishment from which the service is supplied or, in the absence of such a place of business or fixed establishment, the place where the supplier has its permanent address.

2. Intellectual property law in Poland

According to the Act on Copyright and Related Rights of 4 February 1994 (as amended), any creative activity with an individual character, regardless of value, use or manner of expression, may be subject to copyright protection.

Of particular relevance to research and development, works articulated in words, mathematical symbols or graphic symbols may be subject to copyright protection, what includes literary works, commentary, scientific studies, cartographical studies and software.

Copyright protection covers only matters that have been expressed; it does not protect findings, ideas, procedures, operating rules and mathematical concepts.

VII. FDI IN R&D SECTOR IN POLAND

Key drivers of foreign direct investment in the Polish R&D sector include²:

- the biggest market in Central Europe,
- one of the lowest labour costs on the continent,
- growing integration with the world economy,
- successful privatization of state-owned enterprises,
- human resources potential.

According to the Global Watch Service, as far as foreign investors in the Polish R&D sector

² Global Watch Service

are concerned, the most R&D investments have come from the USA (14 locations). Germany is second, with 3 R&D centres established in Poland. Denmark (2) and France (2) were ranked third. Other countries, such as Canada, Spain, Sweden, Japan, Austria and Great Britain, have each invested in one R&D centre in Poland.

The largest part of FDI in R&D in Poland is devoted to the IT and automotive sectors.

VIII. PROSPECTS FOR THE R&D SECTOR IN POLAND

Poland is expected to be a leading centre for research and development in Europe. The number of scientists holding doctorates is constantly growing. There is also observable employment growth in this sector, in each type of research and development unit.

Foreign investors are keenly interested in Poland especially because of the large highly educated and competitive workforce as well as conditions favourable for establishing businesses.

Companies perceive great possibilities for their own development in the R&D sector. They are looking especially for financial benefits. Development of the R&D sector is also very advantageous for Poland’s economy, because it stimulates the implementation of high technology in Poland as well as gives direct access to the scientific methodology applied in the most developed countries.



Polish Information and Foreign Investment Agency (PAIiIZ)

Polska Agencja Informacji i Inwestycji Zagranicznych S.A.

ul. Bagatela 12, 00-585 Warszawa, Polska

tel. (+48 22) 334 98 00, fax (+48 22) 334 99 99

www.paiz.gov.pl, e-mail: post@paiz.gov.pl

© 2006 PAIiIZ. All rights reserved

ISBN 83-60049-43-2

Photos by: G. Rogiński