



**POLSKA AGENCJA INFORMACJI  
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**The Information Technology  
Sector in Poland**

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## **Introduction**

The report on the IT sector in Poland aims to present the current situation and forecasts for this market.

The information technology market in Poland undergoes dynamic changes. In years 2002-2008 its value almost quadrupled.

According to the forecasts, in 2009 the IT sector will increase by about 1.2% with respect to the previous year. This result is clearly lower than the two-digit growth dynamics reached in the past years. The main reasons for this outcome are problems created by the economic crisis faced by the companies - IT customers. In the effort of making savings, the companies postpone expenditure on IT.

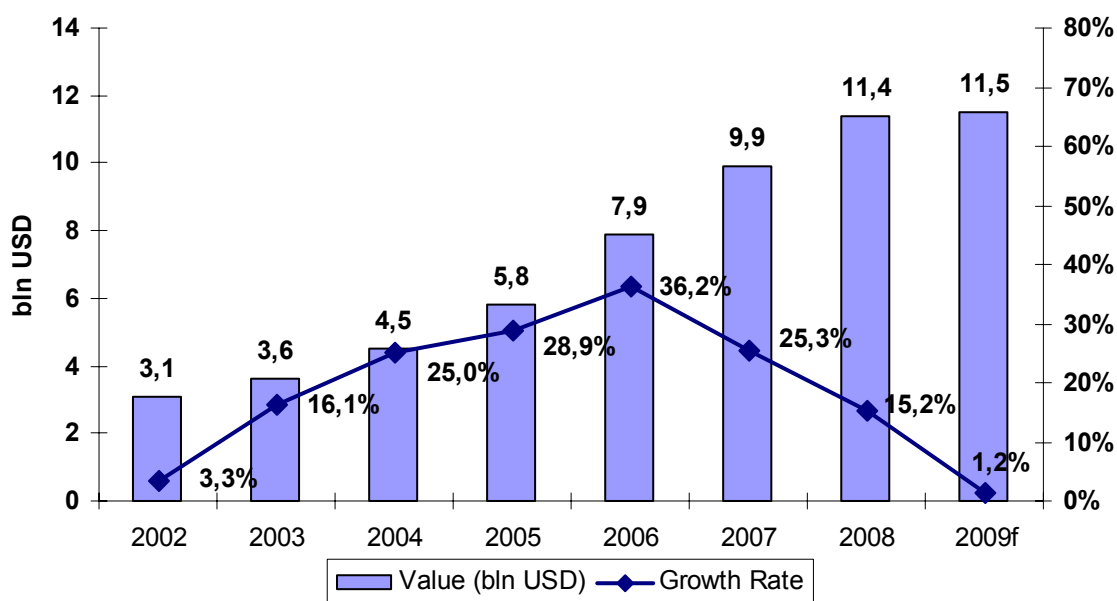
# Part 1.

## The IT sector in Poland

### 1.1. General market characteristics

The IT market in Poland was developing very dynamically in the recent years. According to the IDC data, since 1995 there was a constant two-digit positive growth rate (it reached a one-digit value only three times: in years 1999, 2001 and 2002).<sup>1</sup> A slowdown in the beginning of the 21<sup>st</sup> century was linked to the so-called Internet bubble burst – a boom of the dot-com companies market which started in the U.S. and then spread to other countries. In Poland it contributed to the WIG index dip by over 40% in the period of March 2000 to July 2002.

**Graph 1. IT market value in Poland in years 2002-2009**



f – forecasted value

Source: own work based on IDC, 2009.

In 2008 the value of IT market in Poland amounted to 11.4 bln USD which constituted a growth by 15.2% with respect to the previous year.<sup>2</sup> However, since 2007 the growth rate has been significantly decreasing and according to the forecasts, in 2009 it will drop to the lowest value since 1995. The optimistic variant

<sup>1</sup> S. Kosieliński, *Mam pomysł na złoty interes, czyli rzecz o przemyśle teleinformatycznym w Polsce i jego klientach*, Computerworld, 2009.

<sup>2</sup> *Ibid.*

indicates an increase by 1.2%, whereas the pessimistic one predicts a negative dynamic of between -2% and -3%. The past changes in value of the IT market were correlated with, but clearly higher than the GDP dynamics.<sup>3</sup>

One of the reasons for such a fall in dynamics is the fact, that generally, companies consider expenditure on IT as unnecessary costs in a given time, but not as an investment which enables to reduce these costs in the future.<sup>4</sup>

The condition of the segment of small and middle-size companies is one of numerous important factors which influence this situation. Due to lower results caused by the crisis and difficulties in obtaining crediting, this group of companies represents the highest possibility of a fall in the implementation of IT projects. In some cases the results of companies were affected by slower realization of projects of informatization in Poland.<sup>5</sup>

The IT market was also greatly affected by the condition in the financial sector. On the one hand, banks limited their expenditure on IT due to the economic crisis and are not likely to decide to implement further projects which do not significantly improve their functioning. On the other hand, in all the large banks in Poland the creation of IT systems was completed in the recent years. One of the projects under implementation in this field is the creation by Asseco Poland of an IT infrastructure in PKO BP, subject to completion in 2011 as well as an IT system creation in Bank Ochrony Środowiska which is due to be completed in quarter 2 of 2012.<sup>6</sup>

It is also important to mention about resources granted from structural funds. Nearly 4 bln EUR<sup>7</sup>, which equals 50% of the yearly IT market value in Poland, have been granted for activities linked to the information technology and the creation of information society in years 2007-2013. The fund-related yearly value of investments will correspond to 6% of the market value.<sup>8</sup>

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<sup>3</sup> *Sektor IT – raport analityczny*, Dom Inwestycyjny BRE Banku S.A., May 2009.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Fundamentalna analiza sektorowa, Sektor: Informatyka*, Dom Maklerski Banku Ochrony Środowiska S.A., quarter 2 of 2009.

<sup>6</sup> *Wirtualny Nowy Przemysł*, October 2009; Asseco Poland, October 2009; *Sektor IT – raport analityczny*, Dom Inwestycyjny BRE Banku S.A., May 2009.

<sup>7</sup> *Narodowe Strategiczne Ramy Odniesienia 2007-2013*, Ministry of Regional Development, Warsaw 2007.

<sup>8</sup> Own estimates based on the data of Ministry of Regional Development.

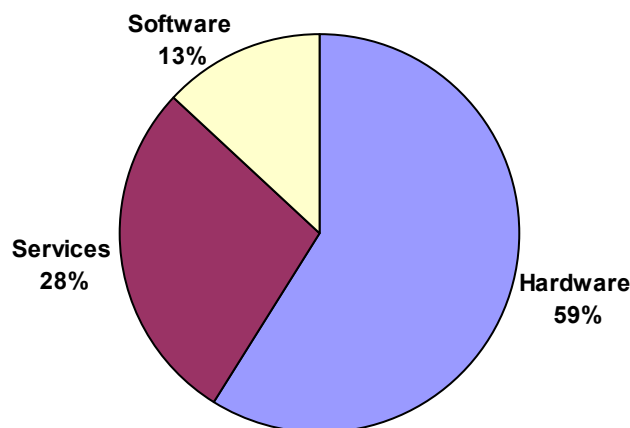
## 1.2. Economic situation of the IT sector

Entrepreneurs assessed economic situation of the IT sector in 2009 as much worse than in the previous year. Almost two thirds of the surveyed recognized that the situation was worse than in 2008 (an increase by 63 percentage points) 15% claimed that it was better (a drop by 53 percentage points) and 25% claimed that the situation remained unchanged (a drop by 5 percentage points).<sup>9</sup>

## 1.3. The IT market structure in Poland

There are essentially three segments distinguished in the IT market: hardware, software and services. The market structure in 2008 illustrates graph 2. In comparison to the previous year, the share of the largest category – hardware decreased (by 4 percentage points). The share of services increased by 4 percentage points. Both in 2008 and in 2007 the software segment constituted 13% of the market.

**Graph 2. The IT market structure in 2008**



Source: IDC, 2009.

In 2009 the highest fall in dynamics is predicted in the hardware segment. Its sensitivity to the slowdowns was noticeable in the second half of 2008 when a significant drop in sales took place.<sup>10</sup> The reason for it could be the fact that companies consider investment in hardware as unnecessary in the light of problems

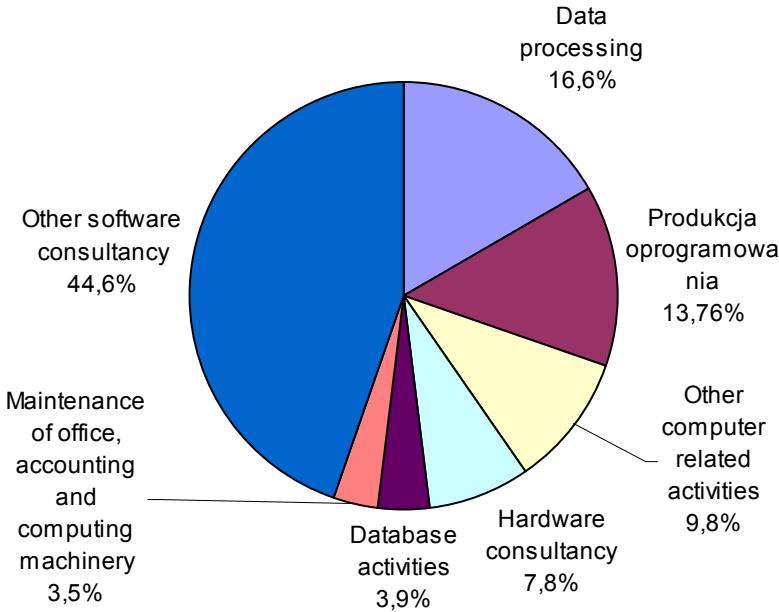
<sup>9</sup> *Krajobraz po bitwie*, Forbes, październik 2009.

<sup>10</sup> *Sektor IT – raport analityczny*, op.cit.

related to the economic crisis. Another factor leading to this situation was the increase in prices of electronic equipment in 2009, due to the PLN depreciation with respect to other currencies – mainly EUR and USD – as compared to the level of the second half of 2008.

The segments of hardware and services should react more calmly to the crisis, due to the fact that some expenditure related with them cannot be postponed in time. It is also important, that spending in these segments is generally considered as the one generating the highest savings. An analysis of their structure shows, that nearly 45% of incomes of companies was in the section of consulting services.

**Graph 3. The structure of hardware and service segments in quarter 1 of 2009 (sales value)**



Source: Internet Securities.

The joint analysis of hardware and services segments indicate, that in 2008 the highest value of sales was marked by the IT sector companies operating in the field of software consulting (about 45%). Along with the activities of data processing and software production, these services made up about 75% of the sales value in 2008.

## Part 2.

### Detailed characteristics of the IT market

#### 2.1. The largest IT companies in Poland

The beginnings of the IT sector in Poland go back to 1980s. Lidia and Ryszard Kajkowski were the pioneers, who in several cities of Poland established IT companies.<sup>11</sup> One of them was Prokom<sup>12</sup> – presently the largest part in terms of capitalization in the Warsaw Stock Exchange of Asseco Poland. Asseco in turn is a company set up in 1991, which initially operated under the name of COMP Rzeszów. There are also other long-existing companies such as Computerland, set up in 1991, currently operating under the name of Sygnity or Optimus producing computer equipment established in 1988.<sup>13</sup>

Among the top companies on the IT market in Poland, there are not only Polish companies but also world leaders. Out of 10 largest companies in terms of income only two marked a fall in income in 2008. The average increase in income of the others compared to the previous year amounted to nearly 24.5%.<sup>14</sup>

**Table 1. IT market leaders in Poland**

No.	Name	Income in 2008 r. (mln PLN)	Change to 2007 r.
1.	Hewlett-Packard	2 790	7%
2.	ABC Data	2 726	7%
3.	Action	2 212	28%
4.	AB	1 692	11%
5.	Tech Data	1 606	-11%
6.	IBM	1 254	14%
7.	Microsoft	1 200	14%
8.	Asseco Poland	929	109%
9.	Vobis	875	5%
10.	Intel Poland	854	-10%

Source: Computerworld TOP 200, 2009.

Since December 31, 1998 the IT sector companies have had in the Warsaw Stock Exchange their sector sub-index of the WIG index, that is the WIG-Informatyka

<sup>11</sup> Krauze, Ryszard. *Prokom*, Gazeta.pl Gospodarka, 17.07.1999.

<sup>12</sup> Initially the company was called *Procom*.

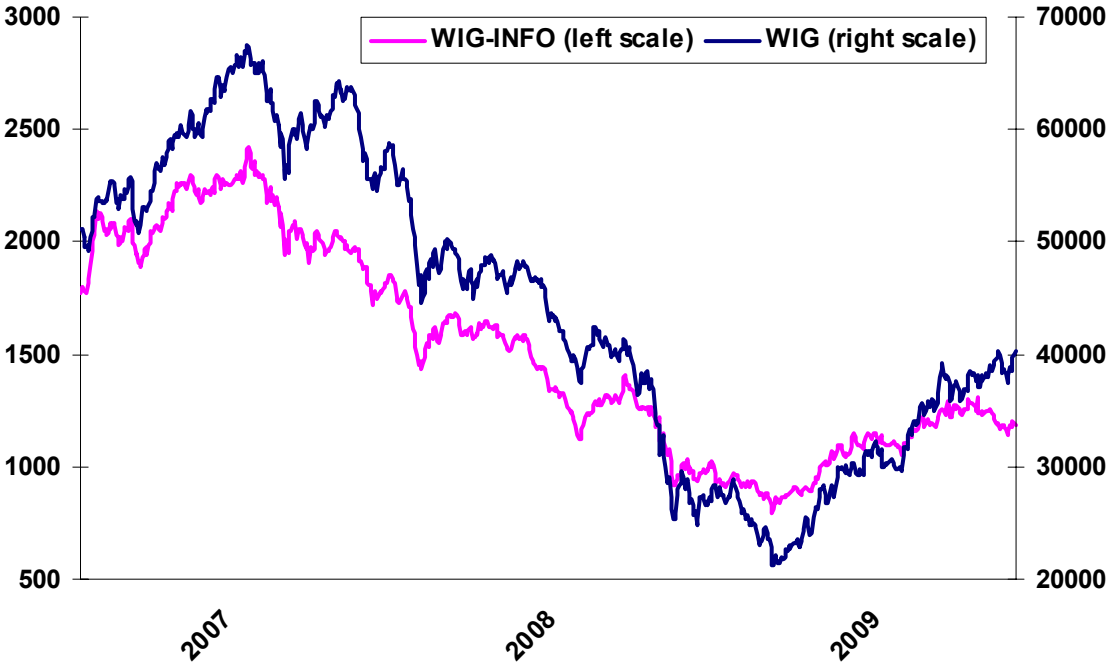
<sup>13</sup> *Krajobraz po bitwie*, Forbes, 10.2009.

<sup>14</sup> Computerworld TOP 200, 2009.



(WIG-INFO). It currently consists of 22 companies whose total market value amounted to about 6.5 bln PLN.<sup>15</sup> The graph below presents WIG-INFO and WIG indices in the period of January 2, 2007 – November 12, 2009. In February 2009, after a year and a half of a slump period, the WIG-INFO index as well as the main index of Warsaw Stock Exchange gained an upward trend.

**Graph 4. WIG-INFO and WIG indices (January 2, 2007 – November 12, 2009)**



Source: Warsaw Stock Exchange, 2009

From February 9, 2009, when, due to the economic crisis, the WIG-INFO reached the lowest value in the recent years, until mid-November it increased by nearly 40%. In the same time<sup>16</sup> the WIG, the main index of Warsaw Stock Exchange, increased by almost 90%.

Among the companies comprising the WIG-INFO there are both companies set up at the turn of 1980s and 1990s and the ones established relatively recently. They operate mainly in the segments of software and company solutions.

Polish IT companies sometimes operate as capital groups. The largest of them in terms of income is AB S.A. The highest number of dependant companies have

<sup>15</sup> Warsaw Stock Exchange as of 10.11.2009.

<sup>16</sup> From February 17 when it reached the minimum caused by the crisis.

Sygnity and Comarch. These groups frequently actively operate on foreign markets. The largest capital group in this respect is Comarch which has 11 foreign companies.

**Table 2. Companies comprising the WIG-INFO index by market value**

Name	Market value (thousand PLN)
Asseco Poland	3 538 054,80
Comarch	345 724,00
Asseco Slovakia	302 336,00
ATM	226 782,00
Comp Safe Support	216 316,00
Asseco SEE	206 675,00
Asseco Business Solutions	147 234,70
Sygnity	141 297,00
Qumak-Sekom	113 398,75
TETA	107 889,45
Novitus	55 552,54
Infovide-Matrix	47 128,50
Optimus	33 709,94
Wasko	26 263,43
I&B System	26 021,52
Macrologic	21 149,12
NTT System	18 362,88
Techmex	18 286,05
ARCUS	16 867,50
ELZAB	14 819,21
B3System	12 506,96
Talex	7 623,20

Source: Warsaw Stock Exchange, November 2009.

**Table 3. The largest capital groups (CG) in Poland operating in the IT sector**

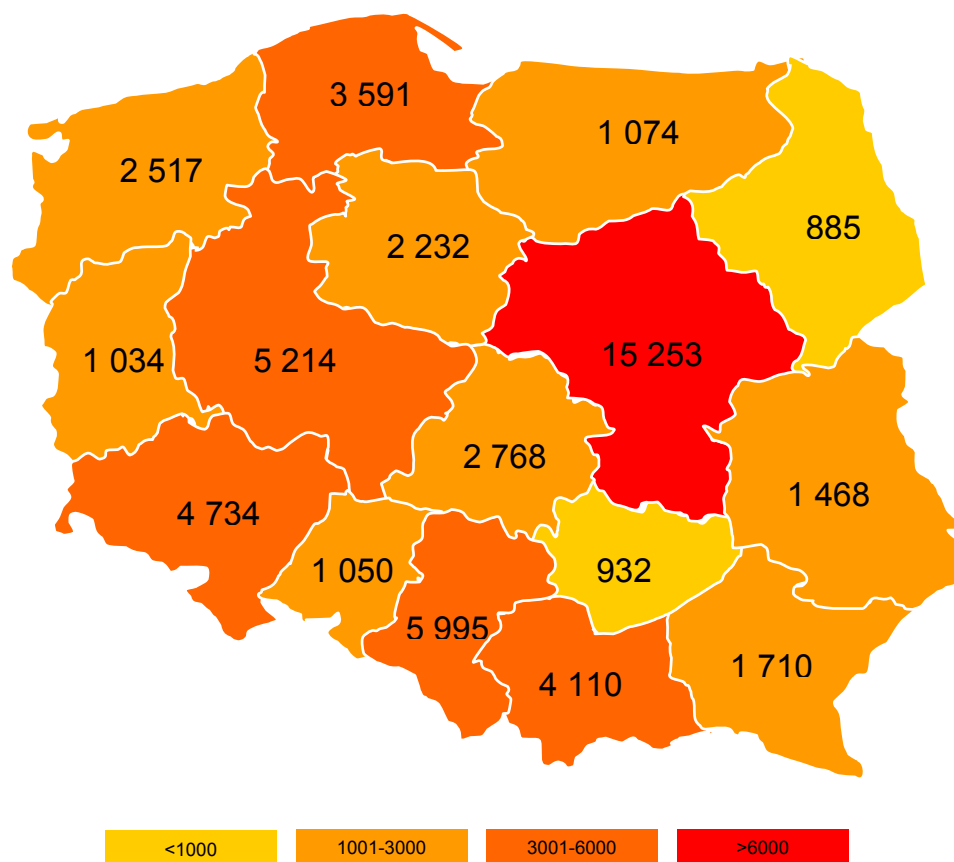
No.	Name	Income in 2008 r. (mln PLN)	Dependent companies	Foreign companies
1.	AB CG	2 852	6	5
2.	Asseco Poland CG	2 786	11	4
3.	Action CG	2 343	6	1
4.	Sygnity CG	995	16	2
5.	Komputronik CG	758	8	
6.	Comarch CG	700	14	11
7.	Pronox Technology CG	663	3	
8.	NTT System CG	643	4	
9.	ABG CG	592	4	
10.	PC Factory CG	573	1	

Source: Computerworld TOP 200, 2009.

## 2.2. Geographic structure of IT companies in Poland

According to the data by Central Statistical Office at the end of 2008 in Poland there were 54 567 entities operating within the IT sector. The highest number of companies of this segment was in the Mazowieckie Voivodship (28% of IT companies in Poland located their business office there). This voivodship, along with the Śląskie Voivodship with its 11% of IT business offices, significantly stands out. The lowest number (about 1.6%) of companies operating in the IT sector is in the Świętokrzyskie i Podlaskie Voivodships.

**Graph 5. Number of entities operating within the IT sector (in quarter 4 of 2008)**



Source: Own work based on the Central Statistical Office data, 2009.

## 2.3. IT education in Poland

In Poland at the end of 2008 about 1.93 mln persons studied. There were almost 170 000 persons studying at science-related<sup>17</sup> faculties, of which nearly 88 000 (4.6% of the total) studied computer science. Almost 60% of them chose to

<sup>17</sup> According to the CSO, the “science” group comprise the subgroups of biology, physics, mathematics, statistics and computer science.

study at public universities.<sup>18</sup> Private universities offer specialization in computer science due to relatively low costs compared to other technical faculties.

The number of computer science graduates in academic year 2007/2008 at public universities amounted to 9 000 (2% of all graduates in the year under analysis), of whom 71% graduated full-time programs. About 6 600 persons (of whom 30% graduated full-time programs) graduated from private universities.<sup>19</sup> It is worth emphasizing, that in the recent time there has been more interest in sciences. One of the reasons for it is granting high scholarships at some of the faculties.<sup>20</sup> Campaign “Dziewczyny na Politechniki” (*Girls Go to Technical Universities*) aims to encourage women to study at technical universities.<sup>21</sup>

In the recent years Polish students achieved success at world contests, such as for example:

- ACM International Collegiate Programming Contest (IBM) – a student contest in team programming organized since 1977. Students of the University of Warsaw won first place in years 2003 and 2007.
- Imagine Cup (Microsoft) – a contest organized since 2003 whose aim is to solve a presented problem by means of technologies (not only through IT). Since 2005 Poles have stood 12 times on a podium (among others for the achievements in the creation of games and algorithms and software design). In 2009 a project called kAMUflage enabling to learn Braille’s language through music created by a Polish team won a special prize of First Lady of Egypt – Mrs. Suzanne Mubarak.<sup>22</sup>
- Google Code Jam – a yearly programming contest organized since 2003. In the 2005 edition Marek Cygan, a student of the University of Warsaw, won the first place.
- IEEE Computer Society International Design Competition – an international design contest. In 2004 students of the Poznań University of Technology (previously Polytechnics of Poznań) won the first place.

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<sup>18</sup> *Szkoły wyższe i ich finanse in 2008*, GUS 2009.

<sup>19</sup> *Ibid.*

<sup>20</sup> *Kierunki zamawiane*, Ministerstwo Nauki i Szkolnictwa Wyższego, 2009.

<sup>21</sup> *Dziewczyny na Politechniki*, <http://www.dziewczynynapolitechniki.pl>, 2009.

<sup>22</sup> *Sukces Polaków pod piramidami*, Interia.pl, July 2009.

- TopCoder – a programming contest sponsored by a company with the same name organized since 2001.

At the Information Technology Contest in Poland, organized since 1993, participated over 13 000 persons. It is a qualification round to the International Information Technology Contest in which Poles won in total 24 gold, 23 silver and 17 bronze medals.<sup>23</sup>

## **2.4. Remuneration in the IT sector**

The comparison of monthly remuneration at mid-level positions in different sectors shows that wages in the IT segment are the highest ones. The average wage of programmers amounts to nearly 4 700 PLN. Half of them earned over 4 950 PLN which was by 61% more than a wage at the lowest-paying position of independent accountant (half of them earned over 3 100 PLN).

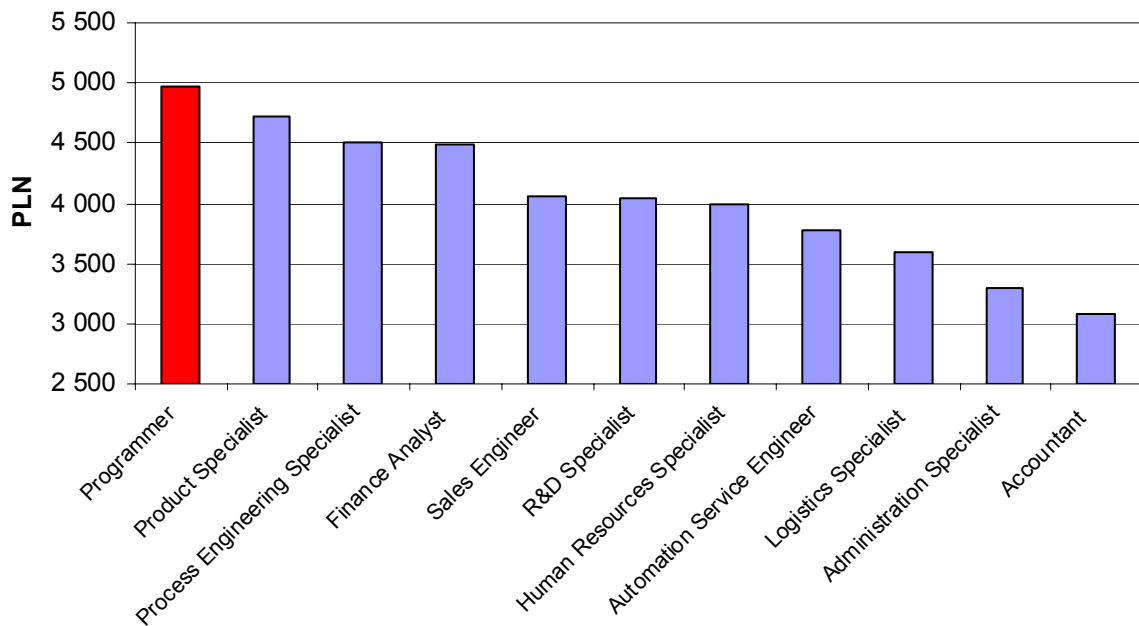
Wages in the IT sector are quite diverse. The average pay of computer service technicians is the lowest – half of them earn under 2 150 PLN and the other half more than this. Department directors earn the most – half of them earn over 14 000 PLN less than this. The difference amounts to nearly 12 000 PLN.

Wages of IT directors in comparison to the same positions in different sectors represent the average level. Half of administrative directors earned under 11 000 PLN – which was the lowest value. Financial directors were the highest paid – half of them earned over 16 000 PLN.

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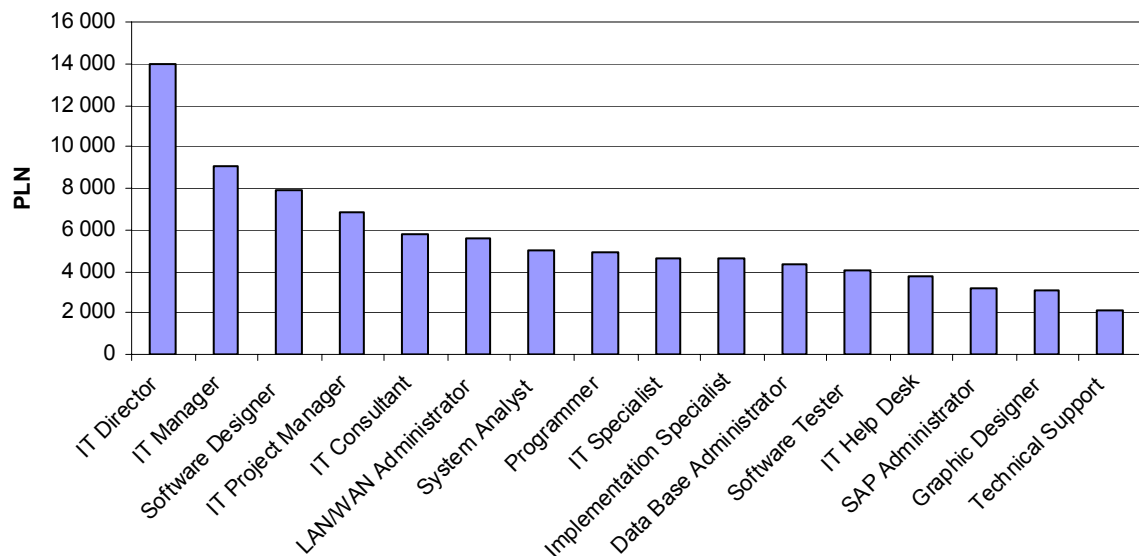
<sup>23</sup> S. Kosieliński, op.cit.

**Graph 6. Comparison of median monthly remuneration at similar positions in different sectors**



Source: *Podstawowy Raport Płacowy*, Advisory Group Test HR, Spring 2009.

**Graph 7. Median monthly remuneration in Polish and foreign companies of the IT sector in quarter 1 in 2009**



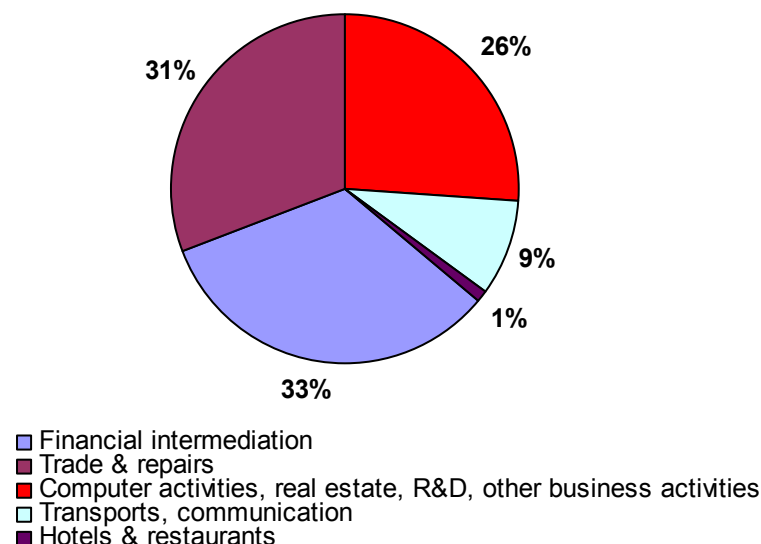
Source: *Podstawowy Raport Płacowy*, Advisory Group Test HR, Spring 2009.

## 2.5. Foreign direct investments in the IT sector

The information technology sector is one of the priority sectors of PAIIZ. 66.5% of foreign direct investments (FDI) which flew to Poland in 2008 were in the service sector.<sup>24</sup> In the same year investments in the IT sector reached the level of 115.0 mln EUR. In years 2005-2007 the value of FDI related to the IT sector amounted to 8.1 mln EUR, 55.5 mln EUR and -12.1 mln EUR (deinvestments), respectively.<sup>25</sup>

FDI stock in the IT sector in Poland in 2008 equaled 500.1 mln EUR and in years 2005-2007 amounted to 359.5 mln EUR, 424.7 mln EUR and 473.0 mln, respectively.<sup>26</sup>

**Graph 8. Incomes of foreign investors in the service sector in 2007**



Source: *Zagraniczne Inwestycje Bezpośrednie w Polsce w 2007 roku*, NBP 2009.

It is worth mentioning, that in 2009, among other investments of foreign companies operating in this sector, IBM opened two service centers, that is:

- Integrated Delivery Center in Wrocław – an investment worth 18 mln EUR, which plans to employ 3 000 persons,

<sup>24</sup> According to the classification applied by the NBP, it includes the IT sector.

<sup>25</sup> *Zagraniczne Inwestycje Bezpośrednie w Polsce w 2008 roku: Aneks statystyczny*, NBP 2009.

<sup>26</sup> *Ibid.*

- Regional Competence-Implementation Center in Gdańsk – an investment worth 4 mln EUR, where 50 new workplaces were created.

Moreover, in the recent years companies such as Dell, Google, HP and Oracle chose Poland as a location of their research centers, service centers and factories.