Regulatory Strategy of the President of the Office of Electronic Communications for 2008-2010

Warsaw 2008

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1. Description of the Polish telecommunications market

1.1. Fixed telephony

Despite the rapid growth of the mobile telephony market and Internet access, fixed telephony remains a very important instrument of social communication.

The „Analysis of the implementation of regulatory strategy in the years 2006-2007" prepared by UKE at the beginning of February 2008 illustrates the changes, which have recently taken place on the Polish fixed telephony market, which is gradually losing ground to mobile telephony and the Internet. The number of fixed telephony subscribers is falling, as well as the number of lines served by telecommunications operators.

At the same time, we have observed a decline in the prices of fixed telephony services (computed as the volume of revenues divided by the number of call minutes). Customers enjoy an ever greater freedom in the choice of telecommunications offerings and operators, while operators, competing for customers, offer more and more attractive calling plans[1].

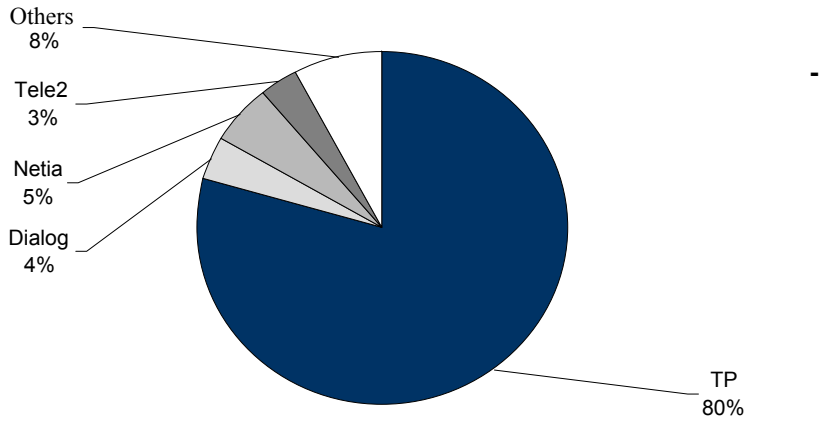
According to the data provided in the „Analysis of the implementation of regulatory strategy..." domestic operators were providing fixed telephony services to just over 10 million end users (at the end of Q3 2007). The customer base shrank by about 10% comparing to 2006, while the number of telephone lines served stood at over 8 million, which represents a decline of about 8.6% on 2006.

Telekomunikacja Polska S.A. has for years remained the unchallenged leader on the fixed telephony market. As the incumbent, it enjoys a dominant position in all the segments of this market, but one can already observe that Telekomunikacja Polska S.A. is losing its share in fixed telephony services to alternative operators.

At the end of Q3 2007 the incumbent had an 80% share in revenues from telephone services provided in fixed networks.

[1] As the poll on which the analysis referred to above is based was conducted before the end of 2007, it was not possible to obtain data for the whole year 2007. Therefore, the data presented here concern either the period from 2005 until the end of Q3 2007, or Q3 2007 alone.

Revenues from telephone services in fixed networks, B2B and B2C combined – percentage shares at the end of Q3 2007

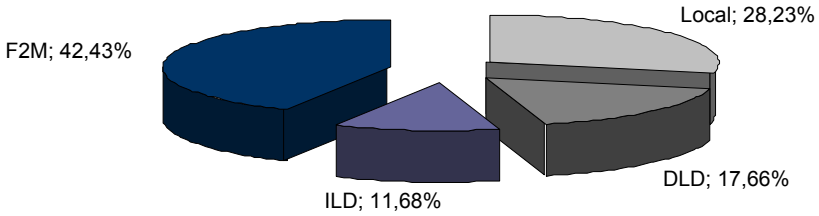


Source: UKE based on operators' data. Q3 data for TP not available - the figure is an UKE estimate.

Netia, the next biggest operator, had a 5% market share, while Telefonia Dialog and Tele2 had 4% and 3% respectively. The combined share of the remaining operators was nearly 8%.

As goes for the shares of fixed telephony operators in revenues from outgoing calls, outgoing calls to mobiles, with over 42%, represented the highest share. Revenues from local calls accounted to about 28% and the operators made the least money on international calls (almost 12%).

Structure of calls by revenues in Q3 2007



Source: UKE based on operators' data.

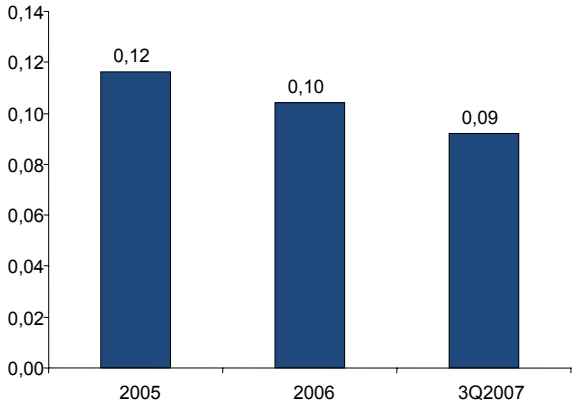
The incumbent had the highest share in local calls, where it achieved a 77% market share. The shares of three alternative operators were as follows: Tele2 – 7%, Netia – 6% and Dialog – 5%. From the perspective of the alternative operators, the best structure of shares in revenues from outgoing calls was in international calls, in which TP had a 69% market share, while the revenues of Netia - the next biggest player - were at 9%.

When analysing the market of fixed telephony services, one must mention price developments concerning these services. There are less and less domestic calling plans with simple tariffs, without any free minutes included in line rental. This is why an analysis of call prices based on tariff prices does not reflect real prices. Most

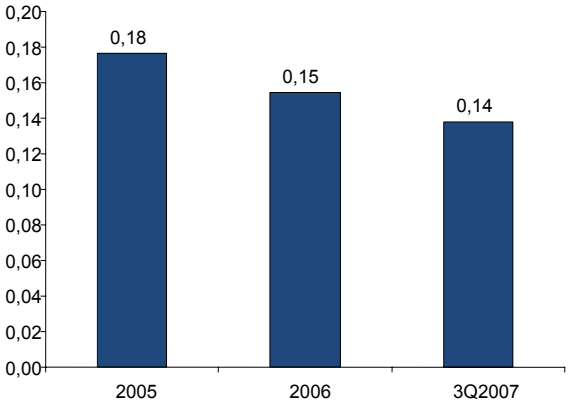
calling plans offer attractive services like “2000 minutes free” or “free evenings and weekends” included in line rental. This situation results from telecommunications operators’ competition for customers. This is why our analysis of call prices is based on an averaged price calculated as operators’ averaged revenue per call minute. The figures have been taken from the analysis mentioned above.

The average revenue per call minute, calculated as explained above, declined between 2005 and Q3 2007. In 2007 it was PLN 0.09 and was about 10% lower than

Average price of a local call per minute in the years 2005 – 2007 (PLN)



Average price of a long-distance call per minute in the years 2005 – 2007 (PLN)



in the previous year.

Source: UKE calculations based on information received from operators.

A similar decline of average prices was also to be observed in long-distance calls. The average per-minute call revenue in 2007 was PLN 0.14, which represents a 6.7% decline on 2006.

International call prices in 2007 also declined comparing to 2006 and 2005. However, this decline was much less pronounced than in the case of local and long-distance calls. The average price of an international call minute at peak time on a working day at the end of 2007 was PLN 1.04, which represents a decline of about 2% on 2006 and just over 7% on 2005.

According to the results of the “Analysis of the implementation of regulatory strategy...” there has also been a decline in the prices of F2M calls. Comparing the volume of revenues generated by the operators from F2M calls with total F2M traffic, i.e. the total number of F2M call minutes, we have calculated the average prices for F2M calls for 2005 and 2007: the average price of a minute of an F2M call calculated using this method was lower by a little more than 5% than the same price in 2005 and it stood at PLN 0.86.

1.2. Mobile Telephony

In 2007 four new service providers made their debuts on the domestic mobile telephony market:

- P4 Sp. z o.o. (Play brand operator)
- Wirtualna Polska S.A. (WPmobi)
- AVON
- MNI S.A. (Simfonia, Ezo)

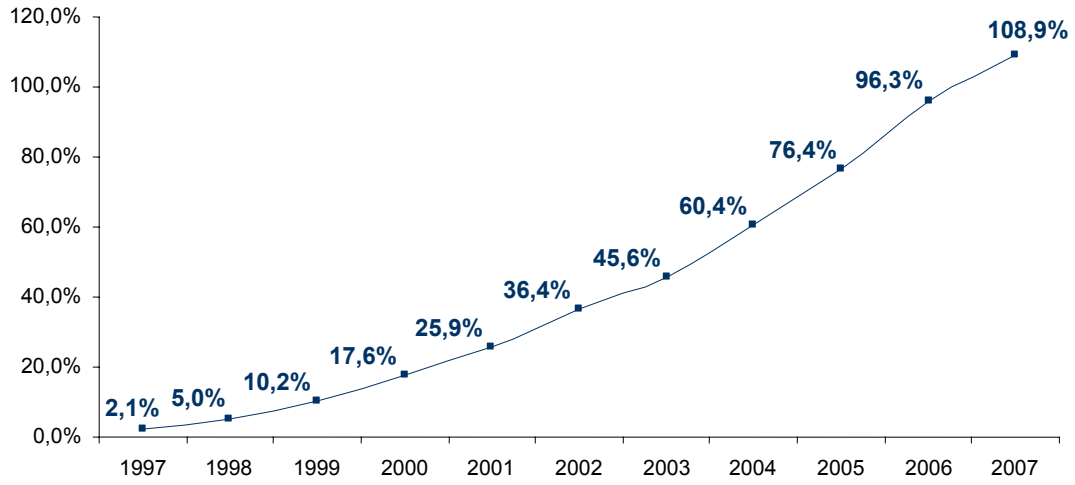
Adding the earlier existing providers:

- PTK Centertel Sp. z o.o. (Orange)
- PTC Sp. z o.o. (Era, Tak Tak, Heyah)
- Polkomtel S.A. (Plus, Simplus, Sami Swoi)
- emFinanse Sp. z o.o. (mBank mobile) – start-up in December 2006,

gives us 8 operators (4 MNOs and 4 MVNOs – SPs) on the Polish mobile telephony market at 31 December 2007.

In 2007 the demand side showed a dynamic penetration growth, which oscillated at around 108.9% at the end of the year, which yields an annual growth of 12.6%.

Mobile penetration in the years 1997-2007 (in %)



Source: UKE figures and Weekly Bulletin April 2008.

Talking about market penetration, one needs to remember that the actual penetration (i.e. excluding unused prepaid cards) is lower than the generally known figure. According to UKE's preliminary estimates, the number of such inactive SIM cards varies between 4 and 6 million, which under UKE's preliminary assumptions (an inactive user has not used any payable outgoing services or received any incoming services during three consecutive months) may mean that penetration at the end of 2007 was 10.5%-15.5% lower.

According to figures at the end of Q3 2007, mobile telephony users made 17.1 billion calls, which totalled 27.3 billion minutes. Hence, a statistical Polish user averaged 433 calls over three quarters of 2007, with an average combined duration of about 691 minutes. Thus, a statistical call lasted 1.6 minutes.

Average voice call prices suffered a strong decline in the years 2005-2007. Depending on customer type – residential post-paid, business post-paid and pre-paid – prices had fallen by 46%, 32% and 35%, respectively.

The preferences of mobile telephony users have not changed comparing to the previous years. Price remained the decisive criterion with regard to the choice of operators' offerings (67.5% of consumers in a poll commissioned by UKE named this criterion as the most important), the other criteria being discounts and promotions (63.5% of the respondents).

The introduction of the Eurotariff (i.e. regulated rates for voice calls in international roaming in the EU) was a major event, which enabled Poles travelling to other European countries to make calls for not more than EUR 0.49 per minute and receive calls for a maximum of EUR 0.24 per minute.

The year 2007 witnessed a rapid development of mobile technologies. A company called mPay offered Polkomtel S.A. customers a service allowing them to make payments using their mobiles. The main players - PTK Centertel Sp. z o.o., PTC Sp. z o.o., Polkomtel S.A. and the new entrant P4 Sp. z o.o. signed a letter of intent on co-operation on a common standard for mobile services (inter alia payments and mobile TV) The market saw more and more sophisticated telephones, including the so-called smartphones, combining the functionalities of handsets and computers.

The entry of P4 Sp. z o.o. in March caused quite a stir on the mobile telephony market. According to this operator's figures, the Play network had more than 1 million users at the turn of 2007/2008.

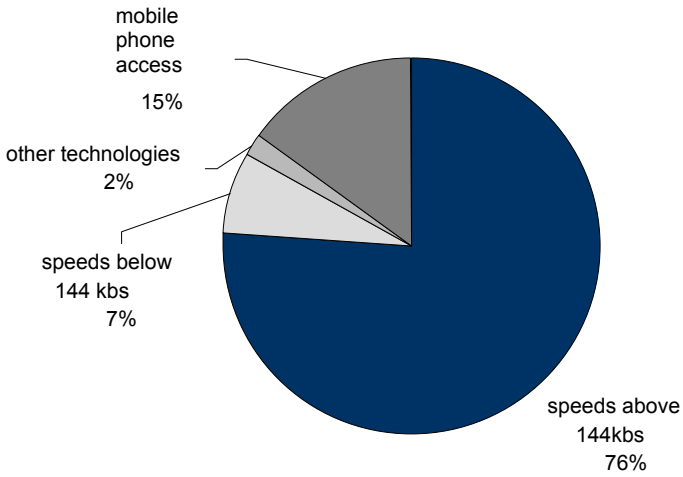
1.3. Internet

By the end of Q3 2007 the total number of residential and business customers using broadband Internet access had increased to more than 3.15 million.

The figures presented by UKE in the „Analysis of the implementation of regulatory strategy in the years 2006-2007" very clearly illustrate the changes, which have taken place on the Polish Internet access market in the recent years. Among other things, changes were to be observed in the structure of Internet access lines, available speeds and prices. BSA agreements, which brought about the decline of Internet access prices, influenced the situation on this market.

By the end of September 2007, the total number of various types of access lines (not only broadband) had grown to over 4 million, which was 100% more than in 2005. The structure of the lines had also changed. The share of DSL and cable access with speeds exceeding 144 kbps in the residential sector had increased to 76%. On the other hand, the share of access lines with speeds below 144 kbps plummeted to 7% today. This falling trend for this access category points to changes in end-user preferences, who are increasingly interested in faster access lines. Customers have practically completely given up dial-up Internet access. During the analysed period one can clearly observe the rise of the share of accesses offered by mobile networks, which amounted to 15% at the end of Q3 2007.

Shares of access types in total number of Internet access lines on the B2C market – Q3 2007

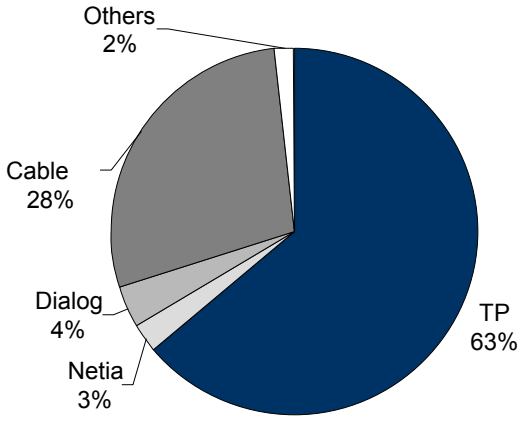


** SIM cards used by employees of companies using Blueconnect, Orange Free and iPlus services are counted as B2C accesses*

Source: UKE on the basis of operators' data, UKE estimates

DSL and cable infrastructure are the fastest growing broadband access technology and the shares of the individual operators in the total number of DSL and cable lines are pretty much stable. At the end of Q3 2007, TP S.A. had a 63% share; cable operators had 28%, while Dialog and Netia had 4% and 3% shares, respectively.

Shares in DSL and cable lines used to provide Internet access with speeds above 144 kbps – Q3 2007

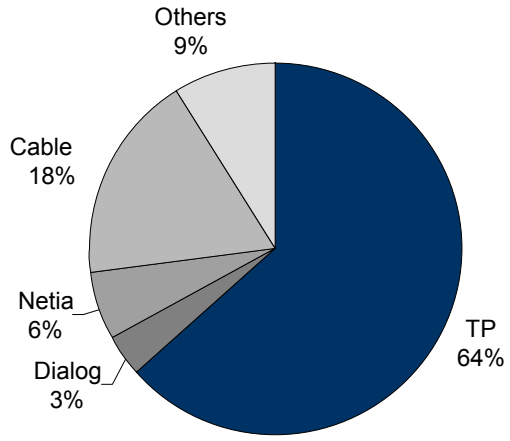


Source: UKE on the basis of operators' data

Revenues from the Polish Internet access market are growing in line with the increase in the number of end-users and the emergence of new Internet access services. TP S.A. had the highest share in these revenues (64%) in Q3 2007,

followed by cable operators, with an 18% share. Telefonia Dialog S.A. had a 3% share, while Netia S.A. had 6%.

Shares in total operators' revenues from Internet access services – Q3 2007



Source: UKE on the basis of operators' data

While the gap in revenues from the provision of Internet access services between the incumbent and the remaining operators is gradually closing, the difference in revenues from data transmission remains very pronounced.

At the end of September 2007 TP S.A. had a 71% share in revenues from data transmission. Netia S.A. and Telefonia Dialog S.A. had much lower shares – 8% and 3%, respectively. The remaining undertakings shared revenues amounting to 18% of the total of revenues generated from data transmission in fixed networks.

Revenues from data transmission in fixed networks, B2B and B2C combined – percentage shares at the end of Q3 2007

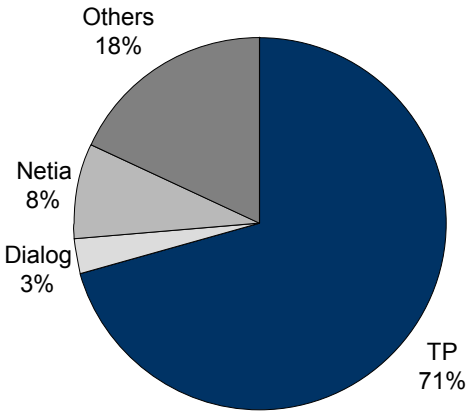
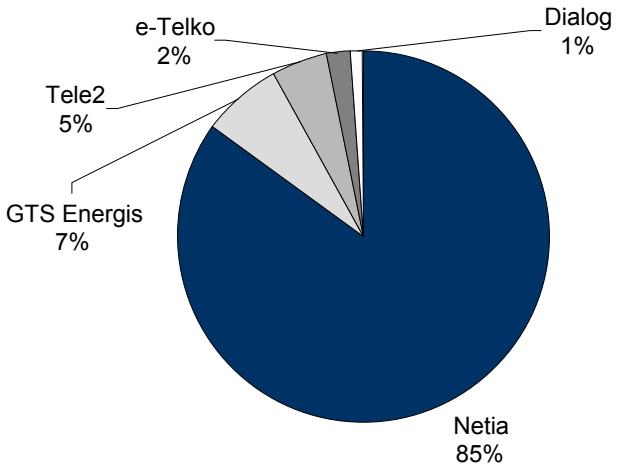


Figure for TP includes metered dial-up access

Source: UKE on the basis of operators' data

The introduction of BSA lines was one of the measures taken by UKE with regard to the Internet access market. By the end of 2007, there were already more than 100 thousand such lines on the Polish market. The first such agreements were concluded with TP S.A. at the beginning of 2007. Today Netia S.A. has the greatest number of BSA users (85% share at the end of Q3 2007). GTS Energis has a 7% share and Tele2 – 2.5%. This type of access may be expected to continue its rapid growth, which should enhance competition and therefore - further cuts in Internet access prices.

Shares in total number of BSA users



Source: UKE on the basis of operators' data

2. Regulatory and market trends in Europe and worldwide and their implications for the Polish market

2.1. EU regulatory objectives and requirements

As a member of the European Union, Poland must abide by its rules. EU Directives set out, among other things, the objectives and principles of regulatory policy on the telecommunications market. They indicate the expectations of the European Union with regard to NRA activities and are a key determinant of the strategy of the President of UKE. The guidelines laid down by the EU with regard to the regulation of electronic markets deal with four main areas:

- enhancing competition;
- the development of telecommunications infrastructure;
- consumer protection;
- ensuring an appropriate level of the prices of telecommunications services.

With regard to **enhancing competition** the EU recommends the following:

- supporting competition in the provision of electronic networks and services, as well as associated facilities and services by the NRAs, inter alia by ensuring that the users derive the maximum benefits in terms of diversity, prices and the quality of services; ensuring that there is no market distortion or limitation of competition in the electronic communications sector;
- removing the existing market barriers concerning the provision of electronic networks and services, associated facilities and services, as well as electronic communications services at the Community level;
- ensuring that there is no discrimination in the treatment of undertakings providing electronic networks and services;
- Promoting the efficient use and management of the spectrum and numbering resources

The recommendations with regard to the **development of infrastructure** concern:

- support for efficient investment in infrastructure and the promotion of innovative technologies;
- harmonisation and simplification of the rules and conditions for granting authorisations concerning electronic networks and services.

Recommendations dealing with consumer protection focus on:

- ensuring a high level of **consumer protection** in their relations with suppliers;
- ensuring a high level of personal data and privacy protection;
- promoting transparency in information, especially by mandating the transparency of prices and terms and conditions for the use of publicly accessible electronic communications services.

As goes for **ensuring an appropriate level of prices for telecommunications services**, the EU recommends:

- ensuring that services provided by significant market power undertakings reflect their costs (NRAs should be authorised to impose, as a measure of last resort and after due consideration, retail regulation on significant market power undertakings);
- ensuring that all end users have access to a certain minimum set of services at an affordable price in their respective territories, whatever their geographic location may be.

2.2. EU recommendations with regard to achieving an Information Society

The strategy for achieving an Information Society in the European Union is the next element, which determines the actions of the President of UKE. It provides for the establishment of a single European Information Space, investment in the development of infrastructure and ICT research, ensuring that the citizens enjoy an appropriate level of public services, a better quality of life and opportunities to take part in public life and take advantage of its benefits. More detailed recommendations dealing with the achievement of the Information Society are provided in the description of the „i2010" initiative. Many of the actions proposed therein require support from the NRAs. The activities of the President of UKE should be aimed at the implementation of the objectives of the "i2010" initiative in the areas falling within its authority.

The following are the main challenges for regulators stemming out of the "i2010" initiative:

- development of ICT through competition and investment;
- expansion of broadband Internet access networks
- creating conditions promoting the development of competitive convergent services;
- ensuring that the population has widespread access to desired content through advanced technologies;
- stimulating innovation and research in ICT;
- promoting standardisation in ICT;
- ensuring access to public services via the Internet (e-Governement, e-Health, e-Learning, e-Procurement);
- increased ICT penetration in the society;
- enhancing the population's skills and awareness with regard to the use of ICT;
- ensuring security in the Internet and other communications networks, as well as improving confidence in new technologies;
- removing barriers preventing citizens from taking part in the Information Society.

2.3. The unified regulator

The regulatory environment in Europe and worldwide is undergoing continuous, dynamic change. This is reflected both in the objectives and nature of NRAs' actions, as well as in changes in the legal basis of their operation or changes in the organisational structure of the NRAs, which regulate the individual markets. Such transformations are induced by the evolution of the telecommunications and media markets, which are amongst the fastest developing areas of the economy.

For years now, we have been observing convergent trends on these markets and they are still gathering momentum. The most important types of convergence are:

- the convergence of platforms, which involves fixed and mobile telephony plus Internet access;
- the convergence of the telecommunications market and the media market.

The first type of convergence, i.e. the convergence of platforms, consists in the integration of different technologies in a single product. This degree of integration may vary: from offers for independent services combined in a package, which represents the lowest stage of integration, up to the integration of all services into a single product, inseparably combining the elements of the individual services.

The second type of convergence, i.e. the convergence of telecommunications and media markets consists in the obliteration of the division into one market responsible only for the transmission of data or voice and another, responsible solely for the creation and delivery of content. The offering for telecommunications services and services consisting in the delivery of content is becoming increasingly integrated, both at the level of the offerer and of the product itself. Technological advances allow the delivery of the same content using many different technologies, e.g. standard TV programming, formerly reserved for analogue receivers, may now be delivered to the client by cable or satellite operators, Internet providers using IP technology or to mobile phones using DVB-H or 3G technologies. There are an increasing number of bundled offers, combining the telecommunications service associated with data or voice transmission with the delivery of specified content. Telecommunications operators, formerly focused on delivering „pure" telecommunications services, are beginning to offer specified content to their clients. And conversely, undertakings dealing only in the media are extending their operations to include the provision of telecommunications services.

These phenomena may already be observed also in Poland. The first type of convergence is exemplified by triple play offerings from cable operators or mobile TV services offered by Polish mobile operators. The second phenomenon may be illustrated by triple play offerings from all major cable operators or the prospective entry of the owner of one of the biggest TV channels into the provision of mobile telephony services through its own MNVO.

These developments are far more advanced in countries with better developed telecommunications markets, such as e.g. the Netherlands, where all fixed network operators, ISPs and cable operators offer competitive triple play products. The UK, where Ofcom's active support for the development of convergent products has brought about a major increase in the number of convergent offerings and their sales volumes, is another example.

These phenomena have a strong impact on the principles and possibilities of the regulation of telecommunications and media markets. Formerly, it was possible to clearly separate them and apply different a different regulation to each one. However, in a situation where the borderline between these markets is increasingly vague, such a regulatory model is more and more difficult to apply. In response to the trends described above, the most advanced countries are restructuring their institutions in charge of the supervision and regulation of these markets:

- Italy, where AGCOM was established in 1997, was the first country to make the decision on the integration of regulatory functions. AGCOM is in charge of the regulation of the electronic media market, the telecommunications market and even the press.
- When Ofcom was established in the UK in 2003, it took over the duties of five organisations: Oftel (in charge of the regulation of the telecommunications market), the Radiocommunications Agency (responsible for spectrum management), ITC (in charge of supervising television), the Radio Authority (responsible for supervising radio stations) and the Broadcasting Standards Commission (responsible for standards, integrity and independence of television and radio stations).
- In Australia in 2005, two institutions: ACA (Australian Communications Authority) - in charge of the telecommunications market and ABA (Australian Broadcasting Authority) – responsible for the media market, were merged into ACMA (Australia Communications and Media Authority) – one regulator responsible for the regulation of telecommunications, television, radio and the Internet.
- The USA has had its integrated regulator since 1934.
- Canada established its integrated regulator in 1976.

Markets, which have integrated regulators, count amongst the most advanced. There are many examples showing positive effects of the operation of an integrated regulator:

- Italy was the first country to see a commercial launch of mobile DVB-H television. Currently, DVB-H in Italy has about 1 million users.
- The UK experienced a rapid increase in the number and competitiveness of triple play offerings, which contributed to increasing broadband Internet access penetration. Moreover, the UK successfully introduced digital radio (DAB technology). Between 2004 and 2007 digital radio penetration increased from 2 to 18%; Digital radio coverage extends to 90% of the UK population.
- South Korea is one of the most advanced electronic media markets in the world. It has a very high broadband Internet penetration of 78% of the households (in 2006) with a high share of cable. Mobile TV has more than 2 million users. Moreover, South Korea has one of the most advanced mobile content markets.
- Japan is also witnessing a very rapid growth of the mobile content market. Mobile TV has been available in Japan since 2004. There are nearly 28 million broadband lines, including more than 10 million fibre-optic lines

(FTTH). Additionally, Japan has well-developed innovative services on the borderline between telecommunications and other industries, e.g. mobile payments Oseifu Keitai.

Also in Poland, despite certain backwardness, one may observe trends indicating that the operation of an integrated regulator could produce better results than the efforts of separate, independent institutions. It is therefore worthwhile to continue the debate about the establishment of an integrated Polish regulator, whose authority would embrace both the telecommunications and the electronic media market. There are a number of arguments in favour of this solution. These reasons have also been analysed by the European Union, inter alia in the Green Paper on the Convergence of the Telecommunications, Media and Information Technology Sectors, and the Implications for Regulation. The most important arguments in favour of the establishment of an integrated regulator include:

- a clear trend in the convergence of electronic telecommunications and media markets, which obliterates the difference between the medium and content;
- improved operating effectiveness reflected in the reduction of overlapping activities by separate regulatory authorities;
- improved co-operation and harmonisation of objectives and actions of telecommunications and broadcasting policies;
- restricting uncertainty and conflicts concerning the division of powers between regulatory authorities (e.g. in the process of the digital switchover in Poland)
- one-stop shopping for the consumer;
- coherent approach to regulation, especially in the overlapping areas of different sectors;
- a stronger position of the regulator in negotiations with other stakeholders (operators, national authorities and NGOs);
- synergies in the area of knowledge management and dissemination of best practices;
- cost efficiencies derived from the operation of an integrated institution.

The establishment of an integrated regulator is a task, which requires time, preparation and discussions with many stakeholders (the government, European Commission, National Broadcasting Council [KRRiT] and others). The establishment of an integrated regulator would call for founding a new institution on the basis of UKE and KRRiT. The establishment of such a new institution would provide the opportunity to accurately define its authority with regard to new areas, which have not yet been clearly regulated (e.g. supervision of content distributed using new technologies and media). Such a new institution should be responsible for the regulation of telecommunications markets and the media market made up of television, radio and the Internet, with regard to their infrastructural and resource aspects, as well as the aspect of content regulation. This would allow:

- creating better conditions in Poland for the development of convergent products, generating tangible benefits for customers,
- the development of access to content via various technological platforms,
- a faster development of new products at the borderline of telecommunications and media (e.g. mobile DVB-H television, IPTV, VoD, etc.),
- better consumer protection with regard to content delivered by various means,
- comprehensive frequency management,
- higher broadband access penetration,
- and in particular - also a more efficient digital switchover process in Poland.

Polish debates on the establishment of a „convergent" regulator should closely follow and take account of the actions of the European Union. Proposals aimed at the establishment of a transnational regulator may be particularly important in this context. If these proposals were to be implemented, then the organisation and powers of Poland's future integrated regulator could be largely determined by the actions of the European Union. In conclusion, one may say that currently observed regulatory trends show that an integrated regulatory authority is the right direction to take and it fits well into the potential, future EU regulatory structures.

2.4. Stimulating investment

2.4.1. Methods of financing telecommunications investment around the world

Investment in telecommunications networks is very costly. A private sector investor cannot single-handedly complete a nationwide investment project, but may be assisted by the state. There are examples from around the world, which show that high levels of the development of telecommunications services (expressed in e.g. penetration or Internet access speeds) have been achieved with considerable support from national governments.

A telecommunications project, as any other, may be financed by: the private sector, national administration (directly from the state budget or via government agencies), local self-government or the European Union. Such funds are usually combined in various configurations, depending on project scale or its meaning to a country or region.

There are many examples worldwide to show that good co-operation between the public and private sector may contribute to improving the quality of services. In Japan, which is the world leader in the level and accessibility of telecommunications services, the public sector finances one third of investments in fibre-optic networks. This is why in 2007, Japan could boast the second highest – after South Korea – Internet access penetration using fibre-optic technology (7.6 lines per 100 inhabitants). The Japanese government also offers preferential loans for telecommunications investment projects and tax breaks to companies, which are actively upgrading the quality of their infrastructure. Japanese authorities have announced a strategy calling for connecting all homes to fibre-optic cables.

In South Korea mentioned earlier, the government aims at transforming the country into the most technologically advanced country in the world. The implementation of this policy translates, among other things, into direct co-financing of infrastructural investment and tax breaks for companies, which expand their telecommunications networks. South Korea wants to use ICT development as a vehicle, which will help it join the ranks of the most advanced countries (in 2007, it overtook the UK in terms of the GDP).

Also the French government decided to offer certain benefits to companies, which invest in telecommunications infrastructure. In 2001, it forced a state-owned bank to offer preferential credits to such undertakings. Today, France is the European leader in terms of the speed of the lines offered. Internet access at 100Mbps is not all that rare in Parisian homes.

In turn, in Ireland the government launched a programme aimed at providers offering Internet access to small communities to boost penetration in rural areas. Such undertakings may obtain refunds up to 55% of their investment outlays on broadband lines.

Also Canada has also launched in the recent years some very advanced government programmes aimed at popularising broadband Internet access. Investment projects in sparsely populated areas are wholly funded from the state budget. Also private sector initiatives may expect considerable government support of up to 50% of total investment costs.

In 2001, the UK government decided on improving the availability of broadband access lines. The DTI established a special fund intended for the co-financing of initiatives leading to higher ADSL penetration. This programme enabled the UK to achieve 99.6% ADSL accessibility already in 2005.

The Italian government spent some 300 million euros on investment projects designed to increase the availability of broadband access in the south of the country. Between 2001 and 2007 the penetration of this service in Italy increased from 0.7% to 15.8%, which is one of the highest growth rates in the world.

Broadband access was one of the topics of the political debate preceding Australia's last parliamentary election. The new PM pledged to spend 5 billion dollars on rolling out a fibre-optic network, which service providers will be able to use without any restrictions.

Also local governments are starting their own telecommunications investment projects. Stockholm is an excellent example of such involvement - a company owned by the city used such public infrastructure as water delivery and sewerage networks to roll out more than 500,000 kilometres of fibre-optic cable. Today, Sweden’s capital has the highest penetration of such lines in the world.

Structural funds of the European Union, which according to the Lisbon Strategy, intends to become the most dynamic and competitive economy in the world, are another source of finance for infrastructural investment. The development of telecommunications services is one of the key objectives of this strategy. To achieve that, the European Union is happy to co-finance the deployment of infrastructure, which eliminates disproportions between regions, especially with regard to broadband Internet access.

Poland should certainly take advantage of the experience of other countries. There is no doubt that the Polish government needs to be persuaded about the very high importance of telecommunications investment and the opportunities that telecommunications may offer the country. Unlike other states, Poland does not have a clear telecommunications development strategy, which should be developed jointly by the regulator and the government. Real, central budget funds should follow in the footsteps of such a strategy.

In Poland, due to its considerable backwardness in broadband Internet access, legislative changes enabling the President of UKE to have more influence on attracting foreign investment and outlining the areas of investment in telecommunications infrastructure, could be beneficial. Tax breaks associated with telecommunications investment or legal solutions facilitating the investment process, e.g. regarding access to real estate in the investment process, might be effective instruments contributing to the development of telecommunications infrastructure in Poland.

2.4.2. Role of local self-government in investment processes

Informing and encouraging potential stakeholders to roll out infrastructure is another practical task for the telecommunications regulator. In this case, the regulator would not be directly involved in investment projects or even its preparation, but would try to encourage (usually local governments) to make the right decisions. Finland, where the regulator developed a training programme for representatives of local self-government on the benefits derived from the financing of telecommunications investment and the possible ways of their financing, is a good example. In the United States, the regulator of the state of Maine ran a broadband Internet promotion amongst the inhabitants, which boosted interest in this service.

Also in France, co-operation with local self-governments and supporting telecommunications initiatives are amongst the duties of the regulator. The main idea is to encourage local authorities to offer as much assistance as possible to prospective investors. When building new urban infrastructure (e.g. waterworks), local self-governments should take account of the possible synergies with telecommunications investment projects. Such investment projects should be consulted with operators, who already operate in the area or have informed about their plans to the effect. Prospective investors should not have problems with obtaining measurement data that they need or information about the existing urban infrastructure. Local authorities cannot create administrative barriers for operators wishing to use urban ducts or other installations controlled by local self-governments. This could seriously cut down investment costs and encourage operators to make their final decisions. The mayor of Paris, who in 2006 announced that his objective was to have one fibre-optic cable connected to every house in the French capital, clearly understands the importance of the development of telecommunications infrastructure.

Self-governments can also directly participate in investment projects through entities that they may control. Stockholm, mentioned earlier, or Reykjavik are perfect examples. Iceland, whose economic strategy is largely based on the development of

telecommunications, has made the decision on the expansion of the fibre-optic network and one of the investors is a company, owned by the capital of the country.

Now, there is a budding awareness in Poland, also at the self-government level, of the opportunities created by the development of telecommunications. The Polish NRA could be the provider of information with this regard.

2.4.3. NRAs' role in investment processes

Few regulators have dedicated funds, which they could allocate for investment purposes, which means that they cannot offer direct financial support to new activities. Organisations, which have been more closely integrated with ministries, as is the case in South Korea or Japan, are an exception to this rule. The US NRA is an independent organisation, which offers considerable support to investment projects. The programme offering assistance in the extension of the broadband network for e-health initiatives, launched in 2006, may be an example of such activities. Investors may get refunds of up to 85% of investment project costs.

NRAs have a range of other ways to provide non-financial support to initiatives launched by other organisations. Assistance in the organisation of public-private partnership is a common practice worldwide. The NRA assumes the role of the „go-between": It supervises the realisation of the project, co-ordinates the acquisition of project finance and provides assistance with formal issues. The telecommunications regulator in Vermont, USA used this model to combine public and private funding in an initiative aimed at the roll-out of broadband lines. It also provided all the advisory assistance required to develop the framework of this co-operation.

There is also another model of the regulator's operation, often used in the USA. The regulator negotiates with the prospective investor on softening the applicable regulatory regime in return for significant infrastructural investment. This solution has been applied in e.g. California, Maine or Vermont, where the authorities adopted a legal act (Vermont Incentive Regulation Plan) in 2005, which mandated the operator to make strictly specified, annual reductions in its call tariffs. At the same time, the regulator specified the conditions, which released the operator from the obligation to implement such cuts. These measures were primarily aimed at ensuring an appropriate level of infrastructural investment. This was not the first such decision of these authorities. In 2003, the same operator was punished for failing to ensure the appropriate quality of telecommunications services, but instead of paying fines, the company could allocate the money to investment projects specified by the authorities.

A telecommunications regulator should also strive to ensure conditions encouraging investment, primarily by laying down rules, which will make the investment environment predictable. This may concern e.g. a clear position on new, emerging technologies or concepts (e.g. NGN).

The Polish regulator does not have the financial means to directly finance telecommunications investment. However, it must be emphasised that in the countries cited above, the initiatives described above were also beyond the means of the regulators themselves. The assignment of funds or granting of tax breaks were usually decisions made at the government level. A regulator must operate within its scope of authority, which means it may only suggest or encourage competent ministries to take the necessary steps or adopt a clear position.

The Polish regulator may play a very important role in the process of providing information. The most important thing is to educate local self-governments and encourage them if not to launch their own telecommunications investment projects, then at least to facilitate such projects. It is also very important to inform smaller private-sector undertakings (SMEs) about the chances and ways to secure financing for prospective telecommunications investment projects (e.g. from EU funds) and to encourage public-private partnership between SMEs and local self-governments.

2.5. Euro 2012

Euro 2012 – the organisation of the European football championship in Poland – is a major event, which should be taken into account in deliberations on the Regulatory Strategy of the President of UKE. This event deserves attention both in the aspect of Poland's promotion and the necessary infrastructural support.

Both the mass media and tourists (fans) visiting Poland during that time may be an important source of information and a vehicle of Poland's promotion in the world. Not to mention, that the organisation of the event may attract investors.

Looking at infrastructural issues, there is no doubt that it will be economically and socially beneficial to ensure Poland's appropriate infrastructural preparation for Euro 2012 by implementing and launching of a number of technologies and infrastructural platforms. Among such technologies, one must list:

- digital television;
- radio access to the Internet;
- access to TV image on demand;
- other.

As goes for digital television and the role that this technology may play during Euro 2012, we must first consider the chances to implement and launch mobile television. This service is already available in e.g. Italy, where it has nearly 1 million users and sports events account for 90% of the programming that these users watch. Launching and popularising this technology before Euro 2012 may bring many direct and indirect positive effects:

- considerable financial revenues;
- opportunity to maximise the number of viewers/participants of the event;
- opportunity to organise interactive contests, polls, votes, etc.;
- the chance to build a large part of infrastructure, which will be needed in the future, which would be difficult without the „carrot" in the form of Euro 2012;
- a factor stimulating the take-up of this service.

It may be also anticipated that in addition to interest in the football championship in Poland, there will also be an increased demand for these services. There is no doubt that mobile and wireless Internet access will be such a service. It may be also assumed that in addition to the extension of the standard mobile infrastructure, WiFi Internet access will also be very popular. What is more, there is an increasing

number of mobile appliances capable of connecting to the Internet using this standard. The roll-out of such infrastructure would require the extension of the backbone infrastructure and more hotspots, i.e. devices capable of receiving and transmitting the radio signal allowing Internet access. A good solution would be to create such Internet access areas especially in places, where many people will gather (stadiums, railway stations, hotels, restaurants, etc.). Such a network would be helpful in solving many logistic and communications problems, as well as issues related to security, while maintaining this network beyond Euro 2012 would place our country in the top EU league with regard to the development of such infrastructure and associated services.

Another solution, whose development Euro 2012 could very well stimulate, are solutions related to VoD. Poland could promote the existing technologies of providing TV image on demand using the Internet (IPTV), but also support the introduction in Poland of technologies yet unknown in many EU countries, dealing with the recording and replaying of video image using special devices provided by infrastructural operators, personalised for individual users (so-called Personal Video Recorder - PVR). Such devices are very popular in the USA. The user „programs" his/her personal preferences with regard to the type of TV programming. Then, the device draws up a personal repertoire for its owner on the basis of TV programming available from broadcasters. In his spare moments the consumer may start watching the repertoire prepared for him, suspend or replay it. Given the specific character of this technology, an event of the rank of Euro 2012 offers a unique opportunity to promote this technology in Poland.

The last group of technological achievements, which may play a special role during Euro 2012 and also be popularised amongst Poles, are the services that tourists and fans will need. These are:

- location and navigation services;
- information services;
- emergency services.

These issues will be solved only if the appropriate infrastructure is deployed. For example, an appropriate infrastructure and direct, fast lines would allow the organisation of special service centres for foreign-language tourists, operating in countries of origin, offering answers to most FAQs or capable of putting them through with an appropriate service in Poland. Also location services, available via mobile phones or other portable devices, capable of somehow connecting with the world through the Internet, will no doubt enjoy increased popularity during Euro 2012.

Considering all these aspects, there is no doubt that the Office of Electronic Communications could play a major role in stimulating and planning the development of these technologies. There is ample evidence from abroad that the NRAs play a number of various roles in such situations: from simple communication tasks, up to the management of major projects financed from national budgets.

3. Main strategic objectives of the President of UKE for the years 2008-2010

The strategic objectives of the President of the Office of Electronic Communications for the years 2008-2010 have been formulated on the basis of analyses of the Polish market, other European and world markets, obligations set out in the Telecommunications Law and EU guidelines.

The principal and overriding objective of the President of UKE will be to **increase the accessibility of telecommunications services for the citizens and increase their usage.** Having adopted this as the principal objective, the President of UKE looks at it in the following dimensions:

- economic;
- commercial (real/factual);
- infrastructural.

The President of UKE will, on the one hand, strive to ensure the existence of infrastructure required to allow access to telecommunications services in areas threatened by digital exclusion and on the other, to increase the diversity of telecommunications offerings and reduce the prices of these services. Special attention needs to be devoted to ensuring broadband Internet access and universal service. In Poland's less densely populated areas one still cannot have broadband Internet access or, still quite frequently, not even a landline. Denmark, where as much as 95% of all households can have fast Internet access, can be an example for Poland.

The implementation of the objective defined above, which is both overriding and fundamental, will be pursued in the framework of six main tasks, which will be the focus of the activities of the President of UKE in the years 2008-2010. These tasks are:

- **Stimulating competition (3.1);**
- **Consumer protection (3.2);**
- **Development of new products and technologies (3.3);**
- **Reducing prices (3.4);**
- **Increasing the physical availability of services by stimulating infrastructural investment (3.5);**
- **Promoting Poland as an „investment-friendly" country (3.6).**

These tasks must be implemented to ensure the proper operation of the telecommunications market in Poland. Their achievement is also required to close the technological gap between Poland and other EU countries and implement the concept of the Information Society in our country.

3.1. Stimulating competition

The regulator plays a key role in creating conditions for fair competition on the telecommunications market, which is due to high entry barriers and strong trends, which favour the establishment of natural monopolies or oligopolistic markets. Stimulating competition has a strong impact on a number of elements of the market

and therefore, actions designed to support the achievement of this objective are intended to:

- enable alternative operators to compete effectively and increase their market shares;
- create favourable market entry conditions for new telecommunications entrants;
- ensure the optimal use of available resources.

This objective is of a special importance in the case of Poland, which is due to the position of the incumbent on the fixed telephony market, which is stronger than on the more advanced telecommunications markets in Europe. In mobile telephony, we also deal with a very strong position of three operators, who have been present on the market for many years. Despite the entry of a new MNO and several MVNOs in the meantime, not one of them has so far managed to capture a major share of the market.

3.2. Consumer protection

Consumer protection is an activity derived both from EU guidelines and the statutory duties of UKE. The implementation of this objective will consist in ensuring:

- transparent information;
- fair conditions on which services are provided and an appropriate quality of services;
- increasing consumer awareness of their rights.

Monitoring the observance of consumer rights has a particular importance in periods of market liberalisation, when dynamic change happens and when new mechanisms are shaped. The President of UKE will stimulate the development of these mechanisms in a manner beneficial to the customers.

3.3. Development of new products and technologies

The President of UKE will promote the introduction of new products and technologies to ensure that customers have access to a broad range of services and to speed up the deployment of infrastructure. Such activities should contribute to increasing innovativeness and efficiency in the national economy. The President of UKE will support, within the scope of its authority, initiatives aimed at research on new products and technologies, inter alia by making available the resources required for such research (e.g. spectrum), which remain under its control.

3.4. Reducing prices

Achieving a reduction in the prices of telecommunications services is another important objective from the perspective of the President of UKE, to ensure greater usage by the citizens and their greater affordability. This task is in line with EU guidelines, which state that ensuring that the prices of services provided by SMP undertakings reflect their costs is one of the fundamental duties of the regulator.

According to the EU, the next task of the regulator is to ensure that all end-users have access to a certain minimum set of services at an affordable price in their domicile. The recent years have seen rapid price declines in most areas of the market. This applies to fixed telephony, Internet access and mobile telephony. This positive trend notwithstanding, the costs of telecommunications services in Poland still remain much higher than in other EU countries. This phenomenon is even more pronounced, if we consider that the purchasing power of the Polish population is much lower than in most other EU countries. This is why activities aimed at further price reductions of telecommunications services in Poland need to be continued.

3.5. Wider physical availability of services through stimulation of infrastructural investment

The next strategic objective of the President of UKE is to increase the physical availability of services by stimulating investment in telecommunications infrastructure. The achievement of this objective is paramount, because Poland is still lagging in terms of service availability and telecommunications infrastructure behind leading EU countries, such as Denmark, where as much as 95% of the population can have access to broadband Internet access. The level of investment in telecommunications infrastructure is also much lower than the EU average.

Building the infrastructure required to ensure broadband Internet access, including the promotion of new technologies, such as FWA or FTTx, is one of the most important challenges faced by the President of UKE. To ensure the achievement of this goal, the President of UKE will also strive to create favourable conditions for investors.

Direct action by the President of UKE aimed at stimulating investment is limited by legal constraints, which is why the President of UKE will focus on indirect activities. However, it must be emphasised that the effective stimulation of infrastructural development requires the support of various public agencies and institutions, or EU funds, especially in less urbanised areas.

3.6. Promoting Poland as an “investor-friendly” country

Promoting Poland as a friendly country for investors will be another important objective of the President of UKE. Foreign telecommunications investment in Poland will have a highly positive impact on the condition of the market. Foreign investors may play a key role in stimulating competition and in the expansion of telecommunications infrastructure. The activities of the President of UKE with this regard will focus on promoting Poland on various European and world fora, ensuring easy and quick access to information for investors and support for the development of mechanisms facilitating the start-up of investment projects in Poland, as well as those increasing their profitability. The achievement of this objective will require certain legislative changes, which remain beyond the authority of the President of UKE. Nonetheless, the President of UKE intends to take part in devising proposals and studies on for such solutions.

3.7. Activities designed to achieve the strategic objectives of the President of UKE

Achieving the tasks described above will require a number of activities in the years 2008-2010. These activities have been split up into two groups. The first group is comprised of measurable (direct) activities, for which measures and target values have been defined. These are:

Measurable (direct) activities:

1. Increasing the availability of universal service;
2. Increasing the availability of broadband Internet and of new services and packages by:
    a. implementing procedures, which allow the introduction of LLU and promoting LLU more than other offerings;
    b. extending wholesale BSA and WLR offers plus the introduction of the SP model;
3. Increasing the availability of mobile services through price reductions on the mobile telephony market;
4. Increasing the availability of competitive offerings by eliminating barriers and reducing the costs associated with changing one's provider of telecommunications services;
5. Increasing the availability of new services by maximising frequency utilisation.

The second group is comprised of activities, which do not lend themselves to measurement (indirect), for which specific measures are difficult to define, but their implementation is nonetheless very important from the perspective of the President of UKE. These are:

Activities difficult to measure (indirect):

1. Improving the quality of services and customer protection on mobile, fixed and Internet access markets;
2. Increasing customer awareness and education about available products and customer rights;
3. Improving the transparency of offers for telecommunications services and their compliance with law;
4. Activities designed to attract investors to the Polish telecommunications market and activities supporting telecommunications investment and eliminating investment barriers (attracting investors, promoting pro-investment legal solutions, elimination of administrative investment barriers, collaboration with local and self-government investors).

Table 3.1 illustrates how the individual objectives will be implemented through selected strategic activities

Objectives / Activities	Stimulating competition	Consumer protection	Development of new products and technologies	Reducing prices	Wider physical availability of services through stimulation of infrastructural investment	Promoting Poland as an "investor-friendly" country
1. Increasing the availability of universal service				✓	✓	
2. Increasing the availability of broadband Internet and of new services and packages	✓		✓	✓	✓	
3. Increasing the availability of mobile services through price reductions on the mobile telephony market				✓		
4. Increasing the availability of competitive offerings by eliminating barriers and reducing the costs associated with changing one's provider of telecommunications services	✓	✓		✓		
5. Increasing the availability of new services by maximising frequency utilisation	✓		✓	✓	✓	
6. Improving the quality of services and customer protection on mobile, fixed and Internet access markets	✓	✓		✓		
7. Increasing customer awareness and education about available products and customer rights	✓	✓				
8. Improving the transparency of offers for telecommunications services and their compliance with law		✓				
9. Activities designed to attract investors to the Polish telecommunications market, activities supporting telecommunications investment and eliminating investment barriers	✓	✓			✓	✓

4. Timetable for strategy implementation

4.1. Measurable (direct) activities

4.1.1. Increasing the availability of universal service

Increasing the availability of universal service is a task, which is derived both from EU guidelines and from the Telecommunications Law. The President of UKE intends to carry out a number of activities in order to achieve this task, such as:

- the introduction of a special calling plan for the operator with the obligation to provide universal service intended for persons with modest means;
- drawing up a map of universal service coverage, finding areas with lowest penetration, which require intervention;
- stimulating the improvement of the availability of this service by the designated operator;
- striving to open up universal service to investment by new entrants;
- separating the regulation of universal service from the regulation of retail services; this activity will require amendments to the Telecommunications Law, which means that achieving this will require the involvement of legislative bodies

MEASURE[2]

1 Order completion time for connection to universal service by the designated operator

2 Maximum waiting time for connection to universal service

CURRENT VALUE OF THE MEASURE

1 Order completion time is 23 days for 95% of orders and 55 days for 99% of orders (nationwide average values achieved by the designated operator in 2007)

2 The maximum waiting time for connection is 10 months

TARGET VALUE OF THE MEASURE

1 The objective of the President of UKE for 2010 is 20 days for 95% of the orders and 21 days for 99% of the orders

2 The maximum waiting time for connection is to be 6 months in 2010

[2] The measures concern one of the activities described above: „stimulating the improvement of the availability of this service by the designated operator".

Increasing the availability of universal service: implementation timetable	
Introduction of a calling plan for universal service for persons with limited means	mid 2008
Drawing up a national universal service coverage map and finding least urbanised areas	2009
Improving access to universal service in less urbanised areas through the designated operator	2008-2010
Opening up universal service to investment by/operations of potential new designated undertakings	2009-2010
Separating the regulation of universal service from the regulation of retail services – amendments to the Telecommunications Law	2009

4.1.2. Increasing the availability of broadband Internet and of new services and packages by:

a) Implementing procedures, which allow the introduction of LLU and promoting LLU more than other offerings

As the experience of other European countries shows, the introduction of effective mechanisms, which allow access to the incumbent's infrastructure, is one of the most effective ways of stimulating competition on the market. These mechanisms are conducive to lower prices and a greater variety of products available to consumers. This is why ensuring the introduction of LLU in Poland will be one of the key strategic activities of the President of UKE. This objective will be achieved by:

- enforcing compliance with the current reference offer and the principles for LLU introduction to minimise attempts at delaying or blocking access to the local loop;
- reviewing the reference offer for the co-location of alternative operators' equipment in the network of the incumbent;
- an analysis of WLR, BSA and LLU price lists with a view to revise offers so as to ensure the right proportions between these services and, in particular, to ensure that investment in LLU is profitable;
- comparison and adjustment of price levels to best EU benchmarks;
- developing principles of migration between WLR, BSA and LLU so as to give operators more flexibility in devising their offers and stimulate investment intended to expand infrastructure for LLU purposes.

MEASURE

Percentage of customers using unbundled local loops.

CURRENT VALUE OF THE MEASURE

Currently, there are 130 unbundled local loops in Poland.

TARGET VALUE OF THE MEASURE

Minimum 10% of the incumbent's loops to be unbundled by the end of 2010[3].

Implementing procedures, which allow the introduction of LLU and promoting LLU more than other offerings: implementation timetable	
Enforcement of compliance with current reference offer	Ongoing
Review of reference offer for access to ducts for LLU purposes	Q2 2008
Introducing principles for migration between WLR, BSA and LLU in reference offers	Q3 2008
Implementing price mechanisms promoting LLU usage	Q4 2008
Assessment of reference offer (for LLU)	Q1 2009

b) Extending wholesale BSA and WLR offers plus the introduction of the Service Provider (SP) model

The extension of wholesale BSA and WLR offers is crucial for stimulating competition and ensuring a diversity of offerings and prices. This activity should also contribute to reducing prices on the fixed telephony and Internet access markets. However, achieving these goals will require:

- ongoing monitoring and effective enforcement of compliance with existing BSA and WLR regulations;
- enforcement of the current WLR reference offer and decisions;
- extending the wholesale offer by introducing the Service Provider (SP) model. This model has become very popular in many EU countries, e.g. UK and Germany. It makes it easy to quickly begin providing Internet access or fixed telephony services, while minimising start-up costs. Undertakings operating according to the SP model do not need to build their own infrastructure. Such operators only sell services with their logo in their own distribution networks. An undertaking wishing to operate as a virtual operator, only needs to buy direct Internet access, while all the traffic to the end-customer is routed via the network of the dominant operator. Introducing the virtual operator model in broadband services requires forcing the dominant operator to allow interconnection with its network directly at the Internet access level, i.e. behind the IP network. The example of the UK shows that the greatest possible simplification of procedures involved in changing one's broadband Internet provider is crucial to the success of the SP model. Given the existence of BSA and the promotion of LLU services, this model requires great care in the elaboration of the financial terms for this service, to preserve the regulatory

[3] 10% LLU share is based on the experience of several Western European countries.

priorities, especially with regard to the service, which better serves the development of infrastructure.

Work on the issues discussed above will be accompanied by activities intended to introduce more detailed SLAs in reference offers.

The next important element will be to consider introducing new technologies into reference offers, e.g.:

- Gigabit Ethernet;
- technologies enabling triple play services (multichannel, multicast);
- higher speeds;
- other.

This measure will bring competition to the markets of the more innovative products, which have so far remained outside the reach of alternative operators, e.g. triple play services.

Moreover, like in Denmark, naked DSL with prices reflecting the actual costs will be introduced in reference offers. The cost of this service will be clearly lower than that of the combination of PSTN and DSL services.

The success of this activity will be evaluated using the measure in the form of the share of customers using BSA or WLR and the SP market share.

MEASURE

Share of BSA lines and lines sold under the SP model in the total number of DSL lines.

CURRENT VALUE OF THE MEASURE

1 Currently, some 130,000 people are using BSA, which represents about 5% of all DSL lines.

2 Currently, there is no wholesale offer for the SP model.

TARGET VALUE OF THE MEASURE

Joint share of BSA and DSL lines sold on the market under the SP model to represent about 25% of all DSL accesses.

Extending wholesale BSA and WLR offers plus the introduction of the SP model: implementation timetable	
Enforcement of the current BSA reference offer and WLR decisions	ongoing
Introduction of the SP model in wholesale offers (BSA+WLR)	June 2008
Extended SLAs in reference offers	June 2008
Consultations on introduction of new technologies into wholesale offers, inter alia: Gigabit Ethernet, enabling the provision of triple play services (Multichannel, Multicast, higher speeds) and other	July 2008
Introduction of NDSL wholesale offer following Danish example (NDSL with a clearly lower price than combination of PSTN and DSL)	Q4 2008

4.1.3. Increasing the availability of mobile services through price reductions on the mobile telephony market

The President of UKE will monitor price levels and operators' activities on the retail market to assess the need to impose retail price regulation on this market. Even though prices on this market are falling, which is a good thing, they are still considerably higher than in other EU countries. It is therefore necessary to speed up their reductions. Among other ways, this will be achieved by reducing MTRs. The President of UKE will strive to achieve these reductions sooner than originally planned. In 2010 the transition will be made to MTR calculation based on LRIC. By lowering MTR rates the President of UKE intends to improve the proportions between MTRs and FTRs, which will contribute to enhancing competition between mobile and fixed telephony, as well as to a reduction in F2M call prices.

MEASURE

Maximum MTRs

CURRENT VALUE OF THE MEASURE

Currently, the maximum MTR is PLN 0.40 per call minute.

TARGET VALUE OF THE MEASURE

The maximum target MTR for 2010 should not be higher than PLN 0.15 per call minute (with the proviso that operators' cost requirement and current price situation in the EU will be taken into account).

Increasing the availability of mobile services through price reductions on the mobile telephony market: implementation timetable	
Implementation of retail price regulation if required by the circumstances	ongoing
MTR reductions	May 2008 - May 2010 -
Changes in proportions of MTRs to FTRs in favour of FTRs	2009
Transition to LRIC-based MTR calculation	2010

4.1.4. Increasing the availability of competitive offerings by eliminating barriers and reducing the costs associated with changing one's provider of telecommunications services

Ensuring that a customer can efficiently change his telecommunications provider is one of the essential conditions for the existence of competition on any market. This is why the President of UKE will strive to:

- reduce the costs of number portability and streamline porting processes, to cut down their duration to European standards;
- introduce a system for the migration of customers between access services based on migration authorisation codes. This is an efficient system, which minimises the customer's effort and cost involved in changing his Internet access provider. The system is based on the current provider's obligation to provide a migration authorisation code to the customer within 5 working days. The code enables the client to change his provider during the next 30 days. The change of the provider is effected by transmitting the migration authorisation code to the new provider. The code may be supplied to the new operator using channels convenient for the customer, e.g. via Internet, by phone or at a POS. The customer’s involvement ends with the transmission of the migration authorisation code to the new provider. The change of the provider takes place within 6-10 working days, where only the former and the new provider are involved, without any involvement on the part of the customer. The period during which the customer is left without active service is minimised (typically several hours). It might be also worthwhile to consider a similar mechanism for number portability.

The effectiveness of these activities will be assessed on the basis of a consumer poll, in which consumers will assess how difficult it is to change the suppliers of different services.

MEASURE

Assessment of problems involved in the change from the current, principal operator to another (on a 5-point scale, where 1 would mean “the change will involve no problems”, while 5 would mean “the change would involve major problems”) on the basis of a customer poll. The final assessment will be the one selected by the majority of respondents.

CURRENT VALUE OF THE MEASURE

The current assessment is 3

TARGET VALUE OF THE MEASURE

The target assessment is to be 1

Increasing the availability of competitive offerings by eliminating barriers and reducing the costs associated with changing one's provider of telecommunications services implementation timetable	
Reducing number portability costs	December 2008
Implementing simplified migration procedure based on British migration authorisation codes	June 2008
Streamlining number portability processes (cutting down time to European standards)	2008/2009

4.1.5. Increasing the availability of new services by maximising frequency utilisation

Frequency management is one of the fundamental duties of the President of UKE. This is a very important function, which contributes to network development and thus, to increasing the availability of services to the population. Appropriate frequency management determines the number of providers present on the market and their offerings, which influences competition. Moreover, it contributes to the development of new products by providing new frequencies required for new products and by making some frequencies available for research on new solutions.

The implementation of this task will involve, among other things:

- developing an action plan intended to ensure efficient frequency utilisation, taking account of new technologies and the implementation of this plan; it will include activities such as the development of the frequency management plan, including a timetable for freeing up frequencies and their refarming, frequencies for new technologies, e.g. digital radio or frequencies allocated to research and testing. An important task within the action plan will be the creation of conditions for the deployment of terrestrial television and digital radio, including their types intended for mobile reception. Moreover, the plan will provide the assumptions for promoting technologies, which ensure efficient spectrum usage, such as spectrum sharing, limited out-of-band emissions, greater resilience to out-of-band emissions, higher capacities;

- making new frequencies available, below 10 GHz, in particular for developing broadband Internet access, especially in less urbanised areas. This task is principally about making available the remaining frequencies in the 3.7GHz band, with preferences for local self-governments, which will be able to use funding from structural funds to roll out telecommunications infrastructure in locations, which telecommunications operators find unattractive. Also in connection with this task, the President of UKE intends to hold a tender for the assignment of frequencies in the 2.300-2.350 GHz and 2.500-2.690 GHz bands. The latter band should be particularly attractive from the perspective of increasing competition and extending the offering for end-users on the telecommunications market, as well as because of advances in its harmonisation at the European level. Frequencies shall be assigned according to the principles of technological neutrality and usage flexibility;
- developing mechanisms and instruments allowing public access to information on the state of spectrum utilisation. To this end, the President of UKE will strive to set up an Internet information system, which will also handle processes associated with frequency management, as has been done in Canada.

In addition to the activities discussed above, there are a number of other steps to be taken to improve the efficiency of spectrum utilisation, which remain outside the authority of the President of UKE. Such steps include:

- the introduction of frequency auctions (multi-stage tendering);
- introducing an intermediate regime, something in-between using the free use of frequencies and reservations - light licensing, which would considerably simplify the procedures associated with operators' access to the spectrum. For frequency bands under this system, the system will be based on the obligation to inform UKE about plans to take up free spectrum by a telecommunications undertaking. Such a solution will significantly cut down time and costs required to start using frequencies, contributing to a significant acceleration of investment projects, greater number of telecommunications undertakings, enhanced competition and a greater availability of telecommunications services;
- one of the objectives of the President of UKE will be also to reduce spectrum usage fees.

Implementing the above changes will require the involvement of other bodies of national administration – the Council of Ministers and the competent minister, among others. Within the limitations of the Office, the President of UKE will initiate and support all work on legislative changes required for their implementation.

Pursuant to the Broadcasting Law and the Telecommunications Law, both UKE and KRRiT have powers with regard to the digital switchover. Intensive co-operation will continue with a view to launch terrestrial digital DVB-T broadcasting soonest and to begin switching off analogue stations.

The plans for the transitional period provide for putting all the FTA programming of the public television and analogue channels of commercial broadcasters on the first nationwide digital broadcasting network, to ensure that the existing audiovisual services remain universal and to guarantee compensation for analogue broadcasting rights that the existing broadcasters had obtained earlier, in the form of a guarantee

that the broadcasting of this programming will survive in digital technology. The programming offer in this network should be available to all and free.

The second nationwide broadcasting network, which in the transitional period (i.e. until the beginning of the switching off of analogue stations) will cover about 91% of Poland's area and 92% of the population (fixed reception with an aerial outside the building). The position of the President of UKE is that this network should be distributed by a contest for new broadcasters, to attract competition and reinforce social motivation to go digital. This multiplex would be intended both for DVB-T purposes and HDTV in the more distant future, as an FTA (financed with advertising), payable or mixed offering.

Moreover, work will continue on the implementation of DVB-H, initially (2008) in an insular mode covering 31 cities and, after the digital switchover, on a nationwide scale.

MEASURE

Amount of spectrum used. The target value of this measure is estimated on the basis of the completion of the tendering plans of the President of UKE concerning frequency assignments to interested parties. This value concerns nationwide bands.

CURRENT VALUE OF THE MEASURE

The current value of the measure is 1,347.5MHz

TARGET VALUE OF THE MEASURE

The goal of the President of UKE is to achieve the value of 1,695.5MHz by 2010.

Increasing the availability of new services by maximising frequency utilisation: implementation timetable	
Making new frequency bands available below 10GHz (especially for broadband systems) in the entire national territory	2009
Making information about the status of spectrum utilisation available to the public and providing instruments allowing the use of this information	2008
Developing an action plan intended to ensure efficient frequency utilisation, taking account of new technologies	2008
Additional activities requiring legislative changes	
Allowing frequency auctions (multi-stage tendering)	2008
Reducing spectrum usage fees, especially with a view to promote investment in rural areas – legislative action	2008
Introducing an intermediate regime, something in between the free use of frequencies and a reservation, i.e. light licensing	mid 2009

4.2. Activities difficult to measure (indirect)

4.2.1. Improving the quality of services and customer protection on mobile, fixed and Internet access markets

Monitoring QoS is a very important issue in a situation of a dynamically growing penetration of telecommunications services. The activities of the President of UKE will be aimed at improving quality for customers. Mechanisms of periodical and random inspections will be introduced to check on the quality of services provided on the markets of fixed and mobile telephony and Internet access. The results of the tests performed by the President of UKE will be published in the form of comparative information.

Along with the development and changes on the market of telecommunications services, plans are made and steps are taken to adapt QoS inspections to current needs. This applies to enabling testing and measurements of:

- calls from the PSTN network to mobile networks (GSM) and between mobile networks (these tests are scheduled for the second half of 2008);
- telecommunications services provided in IP technology, with regard to broadband Internet access and voice telephony – VoIP (testing phase in networks of selected IP operators is to be completed by mid-2008. The results obtained and experience gained will enable UKE to start testing the full scope QoS parameters in IP networks still in 2008);
- cable lines with regard to parameters associated with xDSL broadband data transmission (all UKE's regional offices will be equipped with appropriate meters for testing subscriber lines by mid-September 2008);
- coverage of mobile networks and measurements of voice and data transmission quality according to ITU T P.862 recommendation (UKE will have the necessary equipment by August 2008).

Another important element of activities related to improving the quality of services, will be the development of a catalogue of reference quality indicators, which will initially be a reference standard for comparing the quality of telecommunications services and, in the future, it may become the basis for the work of the minister competent for telecommunications, intended to draw up an ordinance, in which the minister may lay down, by way an of an ordinance, the requirements for the individual services, or at least the content, form, dates and methods of the publication of information by service providers, using the need to provide end-users with access to exhaustive and transparent information as guidance.

The President of UKE has already submitted the preliminary catalogue of such indicators to industry consultations. Implementing such regulations should make it possible to gather and present data on the quality of services provided in the networks of the individual operators in a comparative form.

4.2.2. Increasing customer awareness and education about available products and customer rights

Increasing customer awareness and education about the products available is an important element conducive to the achievement of the Information Society and increased penetration of telecommunications services. Also, educating consumers

about their rights is important for consumer protection. The President of UKE will use all available media and instruments to further the achievement of these tasks. This will be done, inter alia, by expanding UKE's website and posting detailed information about available products, their benefits and customer rights. UKE will also run information campaigns in the media, develop publications and information leaflets for customers.

In 2007, UKE established a Consumer Information Centre (CIK), where consumers can quickly, efficiently and without any costs obtain information about using operators' services, as well as legal advice on how to pursue their claims, if they have problems with operators. The CIK is now highly popular. It handles about 70 calls per day and this number is rising. CIK analyses consumer problems reported by telephone or mail and develops solutions to these problems also in the form of proposed legal changes. CIK is continuously implementing measures designed to streamline its operations. The President of UKE plans to expand the Centre to meet customers' growing needs.

4.2.3. Improving the transparency of offers for telecommunications services and their compliance with law

The transparency of offers made to clients is a key element of competition. Thus the need for special consumer protection against abuse or irregularities with this regard. The activities of the President of UKE will contribute to improving the understanding of the offers by the customers, as well as their chances to compare offers, to select the best one. There will be a regular monitoring of the level of the understanding of telecommunications offerings by customers. Rules and regulations for service provision, as well as specimen contracts for the provision of telecommunications services will be monitored for compliance with law and transparency of contractual conditions. Moreover, there will be publications comparing offers for telecommunications services, which will be distributed to customers to facilitate the choice of the most suitable service. Furthermore, it is the intention of the President of UKE to set up a website allowing comparisons between the prices of the individual operators, latest by 2009.

4.2.4. Activities aimed at attracting investors to the Polish telecommunications market and promoting domestic investment, pro-investment activities by the Ministry of the State Treasury and local self-governments

Increasing the number of investment projects in the telecommunications sector and their quality is one of important objectives facing Poland. This is an activity, which requires the involvement and collaboration of many parties, inter alia legislative bodies, ministries, self-governments and other government agencies and NGOs. The President of UKE appreciates the significance of the need for investment in the telecommunications sector and will stimulate it to the best of its ability. The President of UKE has no powers allowing the Office to take direct action, which is why the President of UKE will focus on indirect support for solutions, which are friendly to investors. The President of UKE will promote and support the elaboration of legal and organisational solutions, which are beneficial to investors. The elimination of legal and administrative barriers to investment will be also one of the objectives of the President of UKE. The President of UKE will collaborate with financial institutions

(EBRD, World Bank, investment funds) to encourage them to finance telecommunications investment in Poland. Collaboration with government agencies and NGOs involved in stimulating investment in Poland, PAIiIZ in particular, will be another element of this activity. A number of information activities will be launched. The President of UKE will promote Poland at conferences, fairs and exhibitions and take part in investment missions. Information campaigns will be launched, using available media, to encourage investment in the telecommunications sector. UKE's website will be extended to include information about investment conditions in Poland and new opportunities derived from frequency assignments. Information will be also disseminated through advertisements in industry press, industry catalogues, industry reports, information materials for embassies and flyers.

The President of UKE will continue its broad co-operation with local self-governments dealing with the support of telecommunications investment by self-governments. The activities of the President of UKE fall within the group of programmes related to the informatisation of the state. These programmes are co-financed with EU funds (e.g. Operational Programme for Eastern Poland, Innovative Economy Operational Programme). The roll-out of telecommunications infrastructure based on self-government initiatives will be the driving force behind the process of delivering state-of-the-art telecommunications services to areas at risk of digital exclusion. The President of UKE will continue to organise tenders for frequency bands, in which it is possible to provide broadband Internet access for the needs of self-governments and SMEs (small and medium enterprises). Moreover, a special manual will be developed for local self-governments, which will provide guidance on managing telecommunications investment projects.

5. Forecasted effects of strategy implementation and estimated condition of the Polish telecommunications market in 2010

5.1. Fixed Telephony

The patterns currently observed on the Polish fixed telephony market will continue in the years 2008-2010:

- fixed mobile substitution;
- falling prices;
- increasing market competition;
- convergence of services.

Parallel to the patterns listed above, the following long-term changes should be taking place:

- increased geographic availability of fixed-line telephones - reduction in the number of customers waiting for connection;
- introduction of new bundled offers by operators;
- bundling as many services as possible into monthly subscription;
- development of new services and increased attractiveness of services offered.

The analysis of market development in other countries and the action plan, which the President of UKE intends to implement, afford a preliminary assessment of the key values describing the Polish telecommunications market (at the end of 2010):

Market competition:

- **Number of unbundled LLUs** – 7-10% of incumbent's lines
- **Number of lines resold on the wholesale market (LLU+BSA**) – 20% of incumbent's lines
- **Share (%) of subscribers using alternative operators** – 30%
- **Share (%) of subscribers changing their operator** - about 7-10%
- **Time to port a fixed number to another operator** – up to 10 working days

Price reductions:

- **LLU price** - about 8 EUR
- **Average price of a domestic call minute** – 1.75 eurocents
- **Average price of an F2M call (from fixed to mobile network**) – proportionately to the reduction of MTRs, not more than 13 eurocents/min.

Service availability:

- **Average waiting time for number assignment** – shortened to 10 working days

There is ample evidence that despite a fundamental decline of consumers' interest in fixed telephony, its attractiveness may increase due to the implementation of

solutions supporting market competition. One of the main ways to remain profitable in this sector will be for an operator to provide many new services. This will apply both to the incumbent and alternative operators.

5.2. Mobile Telephony

The patterns currently observed on the Polish mobile telephony market will continue in the years 2008-2010:

- increased market competition;
- falling prices;
- continuing increase in mobile penetration.

The activities of the President of UKE aimed at mobile telephony will consist in monitoring and reducing MTRs, as well as in providing indirect support to new MVNOs contemplating starting business operations on the Polish market.

The analysis of market development in other countries and the action plan, which the President of UKE intends to implement, afford a preliminary assessment of the key values describing the Polish telecommunications market (at the end of 2010):

Market competition:

- **Number/share of MVNOs in the mobile telephony market (in terms of market value[4])** - 5-10% of the market
- **Number/share of MVNOs in the mobile telephony market (in terms of the number of subscribers)** - 10-15% of the market
- **Share (%) of subscribers changing their operator** – 7-9%
- **Time to port a number** – up to 3 days

Price reductions:

- **Average MTR** – PLN 0.15
- **Average price of an M2M call per minute** – 30% lower than current average

5.3. Internet

The patterns currently observed on the Polish Internet access market will continue in the years 2008-2010:

- increased market competition;
- increased broadband access penetration;
- falling prices;
- greater number of technologies allowing the use of broadband Internet access.

Parallel to the patterns listed above, the following long-term changes should be taking place:

[4] The Play network was included in the estimate of MVNOs' share.

- development of new services and increased attractiveness of services offered;
- increased geographic availability of fixed-line telephones - reduction in the number of customers waiting for connection;
- continuing development of convergent offerings, allowing seamless transition between technologies and proposing Internet access bundled with telephone calls (fixed and mobile).

The analysis of market development in other countries and the action plan, which the President of UKE intends to implement, afford a preliminary assessment of the key values describing the Polish telecommunications market (at the end of 2010):

Market competition:

- **Number of customers using BSA and SP** – 25% of the whole DSL market

Broadband Internet access availability

- **Broadband Internet access penetration** – 20%

Prices:

- **Average price for broadband Internet access on the retail** market – 15-20 EUR (currently 43.49 EUR)

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These assumptions are fully achievable. However, one needs to say that not only the activities of the regulator influence competition on the Polish telecommunications market. Given the current state of the Polish telecommunications market and the modus operandi of bodies of state administration, maximising benefits to the citizens will require combining the efforts of government agencies and focusing their activities on the same objectives for the benefit of Poland's society. This will make it possible to magnify the planned effects of the strategy, especially those, which depend on many government agencies. Numerous examples from other countries from around the world and a number of analysed, success stories of telecommunications markets prove that only the joining of forces of various government agencies and using available funds under a unified management will make the dynamic growth of the Polish market possible. This will also result in limiting the level of imperfection of the available infrastructure and in increasing the awareness of state-of-the-art telecommunications technologies in the Polish society.

Abbreviations used

ADSL – Asymmetric Digital Subscriber Line
ATM – Asynchronous Transfer Mode
BSA – Bitstream Access
DSL – Digital Subscriber Line
DVB – Digital Video Broadcast
F2M – Fixed to Mobile
FTTx – Fiber To The x
FWA – Fixed Wireless Access
LLU – Local Loop Unbundling
M2I – Mobile to International
M2M – Mobile to Mobile
MTR – Mobile Termination Rate
MVNO – Mobile Virtual Network Operator
NDSL – Naked Digital Subscriber Line
NP – Number Portability
PAIiIZ – Polish Information and Foreign Investestment Agency
SP – Service Provider
UE – European Union
UKE – Office of Electronic Communictions
VoD – Video on Demand
WLR – Wholesale Line Rental