

## **We want to be the European leader in 5G**

In the European Union, there is an ongoing debate on the deployment of 5G network. Global economies face a new industrial revolution, which will be based on mobile ICT technologies. Digital economy will lead to dissemination of artificial intelligence technology, which will accompany us in our everyday work and entertainment. The primary resource will be information, and the most important competence will be the capability to aggregate and process it. 5G will be the main tool of a revolution that will change the way we live.

Poland takes challenges related to 5G very seriously. We want the new technology to become a springboard that will allow our economy to jump to a higher level. It is a great opportunity for both the European community and Poland. We are capable of becoming one of the leaders of the digital revolution.

Polish companies and operators have rich experience in implementing innovative mobile solutions. 3G networks were deployed quickly and on a large scale, which made widespread access to fast mobile Internet connection possible. It was Poland where the fourth LTE network in the world was deployed. At the same time, this was the world's first LTE1800 network. In Poland, LTE deployment resulted in development of mobile applications and services based on the cutting edge technology. This builds up our ambition. We

want to be among the pioneers of 5G deployment – one of the first European Union Members States to introduce such solutions.

Ours is a large country with a developed transport network, industry and a large number of consumers open to new services – these characteristics provide us with obvious areas for the application of the new technology. In order to do so, we have to create an environment that is friendly to 5G device testing in a shortest time possible, to make Poland attractive for operators and providers of infrastructure and solutions based on that technology, so our country is selected for the earliest tests and deployment. This is a great opportunity to develop and use our potential. Poland is one of the leaders in digital affairs in the EU, we cannot afford to lag behind in the incoming communications revolution.

### **What is 5G?**

The development of 5G network will accelerate and disseminate high quality Internet access in locations that have been deprived of appropriate infrastructure do date. 5G consists of the three basic pillars:

1. eMBB (enhanced Mobile Broadband) – means primarily fast data transfer and mass-scale near real-time information processing. The 5G network will be much faster and of higher capacity – high bandwidth (about 1 GB/s) will be available with many more users. This will allow them e.g. to watch a football match in 4K quality with

the custom camera setting option. Businesses will be capable of processing large quantities of data anywhere in Poland. Users will not have to worry about memory in their phones – all data will be saved in the cloud on a running basis.

2. mMTC (massive Machine Type Communications) – will allow users to connect nearly 100 times more devices than today with the bandwidth nearing 1 Gb/s and minimum latency. 5G will make it possible to build smart cities, which will generate large savings in management costs due to smart grids and Intelligent Transport Systems.
3. URLLC (Ultra-Reliable Low Latency Communications) – a technology that allows users to establish real-time connections due to minimum latency at 1 ms. Its reliability will enable it to be used in critical roles. This will accelerate the development of autonomous vehicles that have to receive and respond to signals from the surroundings without delay, and sensors installed in roads will ensure maximum safety. In this aspect, 5G also means automation of industry (more efficient and reliable production systems), medicine (e.g. surgical operations not involving physical presence of the surgeon), and improved safety due to the police and fire brigades being able to respond immediately without the need to manually notify them of danger.

The development of the 5G network will be a catalyst of new investment and innovation that will increase the availability of new communications services to the public. With the provision of access to high performance network to every citizen and every business, the competitiveness of the economy will increase.

### **5G in European Union agenda**

Two years ago, the European Union developed the Digital Single Market strategy. Within its framework, the European Commission presented the 5G Action Plan. The review of that strategy published in May this year confirmed the importance of the 5G Action Plan and called on all stakeholders to implement it quickly to make Europe the global leader in this technology. First development projects supported by EU funds have already been implemented.

The successful development of the 5G network will also depend on the cohesion of the policy at the level of the entire EU, including the possibility to develop new standards and build the network on an equal footing with other European countries. This will allow Polish entrepreneurs to fully participate in the Digital Single Market on equal basis with their competitors from other countries. Therefore measures to reduce overregulation and 5G deployment cost in Poland compared to other countries are so important.

Poland is an active participant in the EU decision making. We fully support action aimed at the universal deployment of 5G as the new mobile connectivity standard.

Milestones set by the European Commission are clear – Member States ought to draw up national 5G deployment schedules by the end of 2017, they should also identify at least a single large city where a 5G network will function on commercial basis by the end of 2020. On the other hand, all urban areas and main transport routes should be covered by the new technology in 2025.

### **5G in Poland**

Despite the final 5G network and device standards are still in development, there are ongoing preparations to deploy 5G networks in Poland. The key issue is the relevant spectrum resources. In its first development stage, the 5G will be based on three main frequency bands: 700 MHz, 3.4–3.8 GHz, and 26 GHz, which will provide appropriate range and high bit rates. In order to achieve this, we are working on legal issues and provision of relevant resources for 5G networks both at the international and the national level. One of them is the change in allocation of the 700 MHz band, chosen as the basic one, which provides appropriate coverage for the 5G technology. Further changes include the amendment to the Ordinance on the National Frequency Allocation Table, which was published in May this year.

On the European and global level, we take part in work by international telecommunications organisations aimed at determining whether regulatory and technical conditions for the currently harmonised (and available) frequency bands are flexible enough to allow 5G to be deployed efficiently. Poland is also actively involved in action aimed at harmonising (at the EU level) as much radio spectrum resources as possible, which is a sine qua non condition of high performance 5G connections.

To stay among the European 5G leader, we have much to do on the national level, in areas other than the radio frequencies. One of such areas is allowing investments necessary for the deployment of 5G network. Due to the fact that the so-called Mega-law has been passed, we reduced barriers to fixed-line network development. From the technological perspective, optic fibre networks are a particularly important element of infrastructure, because they form the basis for access not only to broadband Internet but also for mobile and WiFi networks. Mobile networks are another step and challenge. This requires strong involvement of the private sector and the understanding and full support by the government as well as openness to discussion on all submitted proposals.

**“5G for Poland” agreement**

Today, we establish the agreement on the “5G for Poland” strategy addressed to all interested parties: telecommunications operators, economic chambers, providers of telecommunications services, equipment and solutions, research and development institutions, and technical universities and Polish start-ups. The aim of the agreement is to develop the “5G for Poland” strategy by the end of the year, which will be later adopted by the Council of Ministers. This is the first step that will let us become the European leader in 5G deployment

Anna Streżyńska, Minister of Digital Affairs