

## 5G can be an EU success story - under certain conditions

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Opinion

There is huge potential in the 5G rollout, under certain conditions, writes Martina Werner.



**Martina Werner** | *Photo credit: European Parliament audiovisual*

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By 2025, we need to have created a gigabit society in Europe. The importance of fast, digital infrastructure for the economy and society is too great for us to waste any time. 5G is a key element of the gigabit society.

Even the current generation of mobile technology, 4G, has revolutionised the digital mobile industry. The technological leap to 5G now means that new applications and business models are totally feasible, for example, autonomous driving and eHealth.

Given further developments in machine-to-machine communication (M2M) and progress in the Internet of Things, experts believe that data traffic on mobile networks will grow by a factor of 1000

by the year 2020.

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The European Commission anticipates that the expansion of the 5G network could ultimately create up to two million jobs - for major businesses as well as medium-sized companies and innovative start-ups. Interest in new technology that sets new standards in terms of upload/download speed, latency and reliability, extends far beyond the classic telecommunications sector.

For example, in the 5G Automotive Alliance, businesses of the automotive value chain have joined forces with IT companies and telecommunication companies. Similar developments can be seen in the energy sector, healthcare, the cloud computing market and the entertainment industry.

This broad range clearly shows that Europe should not leave it up to Korea, China, the US and Japan and instead must take a leading role in the development of technology. The timetable proposed by the Commission - 5G trial runs and national development plans by 2018 and commercial launch from 2020 - therefore has to be our benchmark. This ambitious roadmap is more than just a question of economic competitiveness.

5G also has great potential in tackling of major socio-political challenges: the increased energy efficiency of technology reduces our consumption, improvements can be made in traffic management, and there are possible solutions for comprehensive healthcare.

That was the theory. In practice, there are still a number of obstacles to overcome in politics, industry and science. 5G will need a dense network of base stations and stations will need to be connected via fibre optic cables.

The resulting costs give us reason to believe that comprehensive 5G coverage will be a major challenge, particularly since there is already a gap between the 86 per cent coverage of 4G in urban areas and the totally inadequate 36 per cent coverage in rural areas.

If 5G is only partially introduced, we could face a greater digital divide between urban and rural areas and business models based on an extensive network would be hampered.

The funds necessary for developing and rolling out 5G will, to a large extent, have to come from the private sector - where necessary, intelligently supplemented by public money. The public-private partnership for the development of 5G is a good example of this collaboration.

In the parliamentary resolution, we see a need for improvement relating to the structure of the 5G public-private partnerships (PPP). We believe that citizens should benefit most from the introduction of 5G technology and development should focus on this. We cannot merely assemble business and science representatives in the PPP. We need to include representatives from consumer protection

organisations and civil society.

Besides the matter of financing, we also face several technical challenges. The global telecommunications standardisation committee 3GPP (ETSI being the European committee) is working on the complex technical specifications and also dealing with the problem of high frequencies not penetrating walls properly. This raises the question of how other technologies such as Massive MIMO and WiGi can meaningfully be considered for development.

It will be interesting to see which technologies will be able to contribute to the development of 5G. Just a few weeks ago, the European Space Agency (ESA), together with companies from the aviation and aerospace industries, launched an initiative called Satellite for 5G, in order to sound out and promote the potential of satellite technology in the context of 5G.

However, there are also still political issues to resolve. I'd like to address two points. There is still a lack of political will among the member states for more European coordination in the allocation of frequencies and national timetables and schedules.

A coordinated and Europe-wide roll-out of 5G is essential so that applications can be introduced onto the market consistently throughout the EU. A 'hotchpotch' of 5G technology would result in a lack of incentives to invest.

Secondly, I'd like to remind everyone that healthy competition is fundamental for long-term incentives in innovations and investments. When changing to the 5G generation, it is vital to preserve well-functioning competition on the mobile communications market.

If the European Union is to remain at the forefront of developing 5G technology and if the revolution in mobile telecommunications is to be a success, we need to observe three principles in the process: We need to think more European, follow the principle of competition, and consider 5G as technology that benefits all Europeans.

## About the author

Martina Werner (DE) is Parliament's S&D group shadow rapporteur on internet connectivity for growth, competitiveness and cohesion

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