



EU TOOLBOX FOR 5G SECURITY

A set of robust and comprehensive measures for an EU coordinated approach to secure 5G networks

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#Cybersecurity

5G: a new technology

While 3G made mobile internet possible and 4G allowed mobile broadband, 5G is expected to become the connectivity infrastructure that will pave the way for new products and services and affect all sectors of society. Benefits will include:



E-HEALTH

- Remote monitoring of health, patients' records and smart diagnosis
- Utilising robots to help surgeons and improve medical outcomes



SMART ENERGY GRIDS

- Highly efficient power lines and fewer outages on a smaller scale
- Easier deployments with lower environmental impact



FACTORIES OF THE FUTURE

- Better control over time-sensitive internal processes
- Remote control access to warehouse machinery



MEDIA & ENTERTAINMENT

- An amplified viewing experience such as virtual reality
- Ultra fast high-bandwidth applications such as video streaming



MOBILITY

- Enabling Connected and Automated Mobility with the goal of zero accidents
- Enabling connectivity in all modes of transport

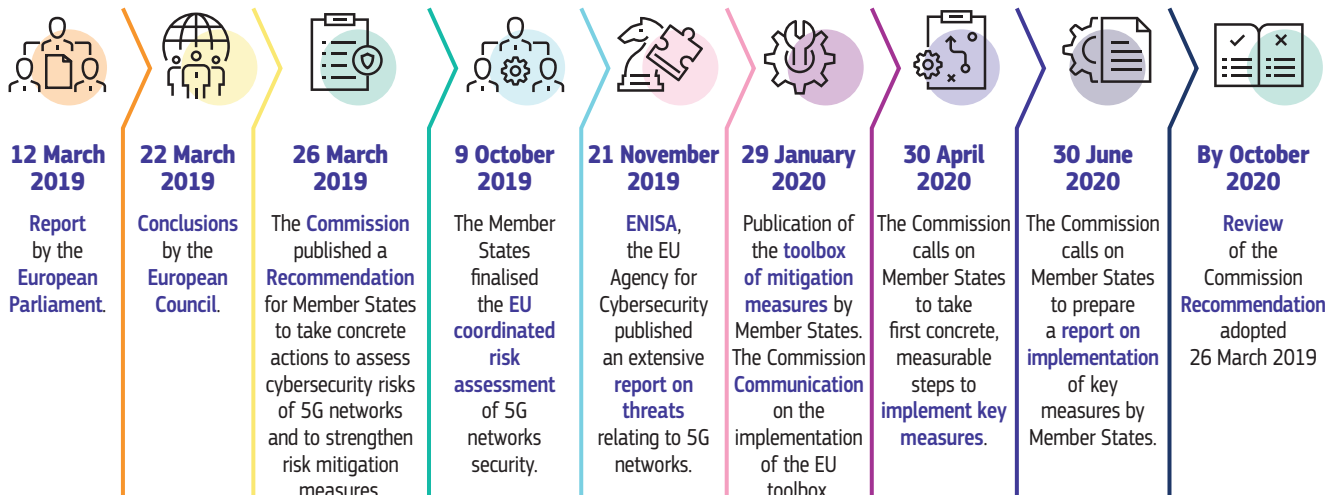
Europe is one of the most advanced regions in the world when it comes to the commercial launch of 5G services, with an investment of €1 billion, including €300 million in EU funding. By the end of this year, the first 5G services are expected to be available in 138 European cities.

Cybersecurity of 5G: an imperative precondition

5G networks are the future backbone of our increasingly digitalised economies and societies. Billions of connected objects and systems are concerned, including those used in critical sectors such as energy, transport, banking, and health, as well as those used in industrial control systems which carry sensitive information and which support safety systems. Ensuring the cybersecurity and resilience of 5G networks is therefore essential.

At the same time, due to a less centralised architecture, smart computing power at the edge, the need for more antennas, and increased dependency on software, 5G networks offer more potential entry points for attackers.

Timeline



EU Toolbox for 5G Security

Based on the EU coordinated risk assessment of 5G networks security, the toolbox lays out a range of security measures, which allows to mitigate risks effectively and ensure secure 5G networks are deployed across Europe. It sets out detailed **mitigation plans** for each of the identified risks and recommends a set of **key strategic and technical measures**, which should be taken by all Member States and/or by the Commission.



STRATEGIC MEASURES

- Regulatory powers
- Third party suppliers
- Diversification of suppliers
- Sustainability and diversity of 5G supply and value chain



TECHNICAL MEASURES

- Network security – baseline measures
- Network security – 5G specific measures
- Requirements related to suppliers' processes and equipment
- Resilience and continuity

Risks Mitigation Plans

For each of the nine risk areas identified in the EU coordinated risk assessment report, the toolbox identifies and provides risk mitigation plans. They consist of possible combination of measures based on their effectiveness.

EU Toolbox conclusions: key measures

Member States: they should have measures in place and powers to mitigate risks. In particular they should address these aspects:

- strengthen **security requirements** for **mobile network operators**;
- assess the risk profile of suppliers; apply relevant restrictions for suppliers considered as high risk, including necessary exclusions for key assets;
- ensure that each operator has an appropriate **multi-vendor strategy** to **avoid** or **limit** any **major dependency** on a single supplier and avoid dependency on suppliers considered to be high risk.

The **European Commission** together with Member States should take measure to:

- maintain a **diverse** and **sustainable 5G supply chain** in order to avoid long-term dependency, including by:
 - making full use of the existing EU tools and instruments (FDI screening, Trade defense instruments, competition);
 - further strengthening EU capacities in the 5G and post-5G technologies, by using relevant EU programmes and funding;
- facilitate coordination between Member States regarding **standardisation** to achieve specific security objectives and developing relevant EU-wide **certification schemes**.

In addition, the mandate of the **NIS Cooperation Group Work Stream** should be extended to support, monitor and evaluate the implementation of the toolbox.