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# All Eyes on Critical Technology in the EU

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The European Commission's Recommendation on critical technology areas for the EU's economic security, issued on October 3, 2023, kick-started an urgent risk assessment by policymakers and private sector stakeholders across the European Union. While this work will be completed over the next few months, policymakers have already given a strong indication that four technology areas – advanced semiconductors, artificial intelligence, quantum technologies and biotech – are critical for the EU's economic security. Expect not least tightened foreign investment reviews down the line.

## New strategy for European economic security

The European Commission's Recommendation forms part of the EU's new European Economic Security Strategy, adopted in June 2023 and developed further at the EU summit in Granada, Spain. The strategy is based on a three-pillar approach: promotion of the EU's economic base and competitiveness, protection against risks, and partnership with the broadest possible range of countries to address shared concerns and interests. The strategy identified the following four broad and nonexhaustive categories of risks for further assessment:

1. Resilience of supply chains, including energy security.
2. Physical and cybersecurity of critical infrastructure.
3. Technology security and leakage.
4. Weaponization of economic dependencies and economic coercion.

Analysis and policy initiatives will follow in each of those areas, but the European Commission's Recommendation concerns the third.

## Initial steps to implement the EU's strategy

The European Commission first conducted a preliminary analysis of technology areas across three dimensions:

- The enabling and transformative nature of the technology.
- The risk of 'dual-use' civil and military fusion.
- The risk that the technology could be used in violation of human rights.

Based on this analysis, 10 critical technology areas for the EU's economic security were identified – with the following four areas identified as highly likely to present the most sensitive and immediate risks related to technology security and technology leakage:

- **Advanced semiconductors** – including microelectronics, photonics, high-frequency chips and semiconductor manufacturing equipment – due to their enabling and transformative nature and their use for civil and military purposes.
- **Artificial intelligence** – including high-performance computing, cloud and edge computing, data analytics, computer vision, language processing and object recognition – due to their wide range of dual-use applications and importance for processing large amounts of data and making decisions or predictions based on this data-driven analysis.
- **Quantum technologies** – including quantum computing, quantum cryptography, quantum communications, quantum sensing and radar – due to their ability to transform multiple sectors by enabling new technologies.
- **Biotechnologies** – including techniques of genetic modification, new genomic techniques, gene drive and synthetic biology – due to their enabling and transformative nature in areas such as agriculture, environment, healthcare, life sciences, food chains and biomanufacturing.

The European Commission and EU Member States will next collectively conduct risk assessments on the above four areas **by the end of the year** to identify and analyse vulnerabilities of a systemic nature, as well as their

impact on the EU's economic security. The European Commission stressed that it was not possible at this stage to specify the nature of any risks, and that any risks will be precise and proportionate measures to promote, partner or protect on any of these technology areas.

# Comment

The European Commission's Recommendation on critical technology areas for the EU's economic security constitutes one of the first steps toward implementing the EU's new European Economic Security Strategy. Several additional initiatives will follow, and many of these can be expected to have profound impact on 'doing business in – and with – the EU'.

The European Commission's identification of four highly likely critical technology areas is not surprising as such, given the potential of these technologies. Further policy initiatives are expected around those areas, depending on the outcome of the ongoing urgent review by Member States and the European Commission, and such initiatives are likely to enable – as well as restrict – business opportunities. For instance, foreign investment reviews across the EU Member States affecting, for instance, semiconductors and biotech have been closely scrutinized in recent years. Given the increasing importance of foreign investment review, along with the implementation of the EU's strategy, it is expected that future transactions involving the four areas now identified for analysis will face even closer review. Watch this space.

For further information on these developments, please do not hesitate to contact the authors listed below.

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