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EU Issues 2025 Update to Dual-Use Control List

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The 2025 update to the European Union (EU) dual-use export control list came into effect on 15 November, following its publication in the Official Journal of the European Union. The update introduces controls on several emerging technologies, including quantum systems, semiconductors and high-performance electronics.

This Cooley alert outlines the main changes introduced by the update, highlighting the entries most likely to affect companies operating in technology-heavy sectors. It also sets out the practical steps businesses should take now to ensure compliance, particularly as the expanded controls may bring certain products, research and development (R&D) activities, and supply chain arrangements within scope for the first time.

Key additions and changes

The 2025 update, which amends Annex I to Regulation (EU) 2021/821, represents one of the most substantial revisions in recent years, expanding the scope of EU controls over several strategic and emerging technologies. The most important changes include:

- **Quantum technologies:** The European Commission has added controls covering quantum computers and a range of components that enable quantum operation, such as cryogenic-temperature electronics, parametric signal amplifiers, cryogenic cooling systems and cryogenic wafer probers. These additions expand coverage of the hardware that underpins quantum processing and quantum-enhanced systems.
- **Semiconductor manufacturing and testing equipment:** Controls have also been extended to a broader suite of fabrication and inspection tools in the semiconductor manufacturing and testing sector. This includes atomic layer deposition equipment, lithography equipment, extreme ultraviolet pellicles, masks and reticles, scanning electron microscope equipment and etching equipment. These amendments capture a wider segment of the semiconductor supply chain than previous versions of Annex I.
- **High-performance integrated circuits:** Controls on high-performance integrated circuits now expressly capture certain advanced computing devices, such as Field Programmable Logic Devices.
- **High-temperature coatings:** The update introduces entries for high-temperature coatings designed for use in extreme thermal environments. Such coatings have a wide variety of applications, including in aerospace, energy and specialist manufacturing.
- **Additive manufacturing:** New controls are in place for metal 3D printing systems and associated feedstock materials, including high-entropy alloys and refractory metal/alloy powders.
- **Peptide synthesisers:** The update also controls modern synthesisers, which can produce peptides at high purity and in sequences relevant to pharmaceuticals, diagnostics and advanced biological research. As such equipment can be used to generate peptides of concern from a biosecurity perspective, the EU has brought these instruments into Annex I to ensure their export, transfer and technical use are subject to appropriate oversight.

The update also introduces a series of technical revisions across Annex I. These changes do not create entirely new controls but refine the operation of existing ones. They include adjustments to performance thresholds, such as revised numerical limits for sensing, processing or material strength capabilities where advances in engineering have rendered previous benchmarks outdated.

The European Commission has also updated and standardised definitions, clarifying terminology used in key areas, such as aerospace, electronics and manufacturing entries. Additionally, several item descriptions have

been rewritten or reorganised to clarify what is and is not captured, particularly where earlier formulations risked unintentionally broad or narrow readings.

Practical implications for companies

The 2025 update is now the operative control list for all exporters in the EU. While further administrative guidance may follow at national levels, companies should review their activities to assess whether these changes affect their products, software, technology or R&D. Businesses should ensure their compliance procedures are aligned with the amended Annex I.

Key actions include:

- Notifying supply chain partners where changes may affect procurement, manufacturing or distribution
- Reevaluating classifications for items that may fall under the new or modified entries
- Assessing existing export authorisations to confirm whether amendments or new licences are required
- Updating internal compliance processes, including controls over intangible transfers (e.g., remote access, cloud-based engineering tools, R&D collaboration)
- Monitoring EU Member State guidance, particularly in jurisdictions with active export control authorities or national-level measures that interact with Annex I

These additions are also consistent with the controls on advanced technologies and materials that have been introduced by the US and UK in recent years.

Given the breadth of additions and the number of sectors concerned, we expect that many organisations may face new compliance obligations for the first time. If you would like any assistance or have any questions on export controls, please contact any of the Cooley lawyers listed below.

Cooley trainee Ram Sabaratnam also contributed to this alert.

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