BRIEFING

European Parliament

Dual-use export controls as tools of EU economic security

From coordination to a proactive EU approach

SUMMARY

The European Union controls the export of dual-use items and technologies that can be utilised for both civilian and military purposes. This stems from international obligations to counter the proliferation of items with potential military use. Entities planning to export these items need to obtain authorisation. These controls are administered and enforced at Member State level.

Current Regulation (EU) 2021/821 sets common rules on the control of exports, brokering, technical assistance, transit and transfer of dual-use items. Annex I to the regulation, based on internationally agreed controls, lists the dual-use items requiring export authorisation. The Commission periodically amends the list of dual-use items through a simplified delegated regulation. Apart from this annex, which is binding in all EU Member States, the Commission publishes two other lists of export control measures to be taken by Member States. This parallel system means that the EU lacks a uniform, timely and effective control framework, required more than ever during these times of war on Europe's borders.

At the same time, evidence shows that Western dual-use items are still feeding Russia's war machine, and the aggressor is hampering expansion of the scope of multilateral non-proliferation agreements. These factors led the Commission to include in its 2025 Annex I update items Russia prevents from being controlled multilaterally. Many experts consider this move an indication that the EU is consolidating powers in export controls to overcome this obstruction. The European Parliament has until 8 November 2025 to raise any objections to the new annex.

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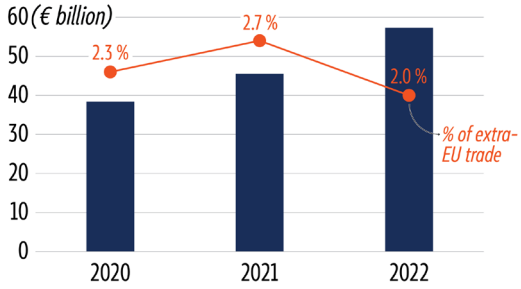
Context

Export controls refer to the supervision of EU trade in dual-use items. These are defined by EU law as 'items, including software and technology, which can be used for **both civil and military purposes**, and includes items which can be used for the design, development, production or use of nuclear, chemical or biological weapons or their means of delivery'.[1] They also include all items which can be used for non-explosive purposes that assist in the manufacture of nuclear weapons or other nuclear explosive devices. While these items are intended mainly for civilian purposes, they could clearly also benefit military or terrorist organisations.

Due to the risk of such misuse, goods that are dual purpose require controls when exported from the EU. Which mandatory requirement applies depends on the **type of commodity** in question, the **destination country** and the **end user** of the exported goods. The list counts over 1 800 dual-use items classified in 10 categories. These dual-use items relate to more than a thousand commodities from the customs nomenclature, including for example chemicals, metals and non-metallic mineral products, computers, electronic and optical products, electrical equipment, machinery, vehicles, and transport equipment. These typically fall at the high-tech end of this large, mixed commodity area. Unlike the US and China, which impose export controls on products they deem strategic for their economy, the EU mainly imposes export controls on dual-use items anchored in the multilateral export control regimes.[2] The dual-use export controls can cover goods strategic to the economy, such as semiconductors.

Figure 1 – Value of authorised dual-use items trade



Source: European Commission.

The **value of authorised dual-use items trade** has been rising (see Figure 1), with the most popular destinations being **China and the United States**. Analysts highlight that the export of dual-use items is concentrated in the areas of **telecommunications and information security**, including 'not only commercial civil hardware and technologies, but also those for surveillance and interception on land, at sea and in space'.

EU framework

The need to control trade in dual-use items is based on a **general international obligation** to counter the proliferation of weapons of mass destruction and other items with potential military use.[3] The EU regime for export controls on dual-use items constitutes an integral part of the common commercial policy under Article 207 TFEU. The EU has been legislating in this field since 1994, with the goal of **coordinating Member States' export control systems** instead of using one trade control system implemented by a single EU authority. Current Regulation (EU) 2021/821 was adopted to modernise the previous Council Regulation (EC) 428/2009, taking into account evolving and new security risks, rapid technological and scientific developments, and transformations in trade and economic processes.

The regulation defined types of items considered to be dual use and listed them in Annex I, which is based on internationally agreed controls. These include:

- nuclear materials, facilities and equipment;
- special materials and related equipment;
- materials processing;
- electronics;

- computers;
- telecommunications and information security;
- sensors and lasers;
- navigation and avionics;
- marine;
- aerospace and propulsion systems.

Entities planning to export these items need to **request authorisation**. The regulation stipulated common EU rules for controlling the export, brokering, transit and transfer of such dual-use items. It established several possible authorisations – and the conditions under which they can be requested and granted or refused.[4] Traditionally, the system was designed to mitigate **military risks**, but the current regulation introduced **human rights** and **cyber-surveillance** considerations as valid reasons to consider export controls. It also added provisions on 'brokering' and 'technical assistance', to clarify the application of controls in specific cases involving software and technology, subsidiaries of EU companies and third-country nationals. The controls are administered and enforced at Member State level. The European Commission mainly plays a coordination role by supporting cooperation and exchange of information and providing guidelines, recommendations and reports on the implementation of export controls to the European Parliament and Council. Member States impose consequences for non-compliance, which include monetary penalties, criminal sanctions and broader reputational damage.

Export controls on military equipment and technology

This category of items includes, for example, war vessels, missiles, chemical agents and other equipment and technology specifically designed or modified for military use. Member States are allowed to take measures deemed necessary for the protection of their essential security interests, including in export policies. The Union maintains the EU Common Military List, which outlines items and technologies subject to export controls. The list must be transposed into national legislation and may be supplemented by additional provisions at national level. Member States have discretion over whether to enact and enforce their own national controls. Each State assesses the export licence applications for items on the list against the criteria outlined in the EU Council Common Position on Arms Export Controls.

Economic security policy and the war in Ukraine

The pandemic and the war in Ukraine, coupled with the rise in hostile economic actions, cyber and infrastructure attacks, foreign interference and disinformation, and the intensification of global geopolitical tensions, led the EU to adopt its first-ever economic security strategy in 2023. This resulted from growing awareness of the considerable risks arising from economic links with third countries – a case in point being reliance on Russian energy. With its high level of integration in the global economy, the EU is particularly exposed to such risks. To mitigate these, the strategy proposes three areas of action: (i) **promoting** European competitiveness; (ii) **partnering** with like-minded countries; and (iii) **protecting** the EU from economic security risks.

Export controls are a key element of the third pillar of the strategy, which focuses on identifying and addressing the risks through a wide range of policy instruments. The **'protect' pillar** covers: addressing the weaponisation of economic dependencies and economic coercion, screening of inbound investments affecting security and public order, ensuring technology security and preventing technology leakage, protecting critical infrastructure, and monitoring outbound investments in strategically important sectors, such as emerging technologies. While the multitude of policies reflects the complexity of ever-changing challenges and threats, the EU cannot be fully protected without an efficient system of export controls. This is even more the case due to Russia's war of aggression on Ukraine, which changed the global context for export controls.

One of the EU and its allies' main responses to Russia's attack was the deployment of sanctions and the imposition of export controls on dual-use and sensitive items that may be used to support the aggressor's war effort. It is worth mentioning that, while both serve to hamper Russia's ability to wage war, the EU sanctions regime and EU dual-use export control framework are separate instruments with different legal bases, objectives and decision-making processes. In response, Russia started obstructing the multilateral export control regimes to prevent the adoption of new controls (see box). Importantly, according to the Commission, the EU does not have the 'necessary legal provisions' to adopt Union-wide uniform export controls (also called autonomous controls) independently from those adopted in the multilateral regimes. The exception is cyber surveillance items. This is because the Member States are parties to these international regimes, not the Commission in its own right.[5] Hence the decisions and commitments taken within the framework of the international non-proliferation regimes and export control arrangements – including the Wassenaar Arrangement – form the basis of a common list of dual-use items ('EU control list') in Annex I of the EU's Dual-Use Regulation. Items in the annex must be controlled in all Member States. It is typically amended at least once each year via a Commission delegated act.

The Wassenaar Arrangement

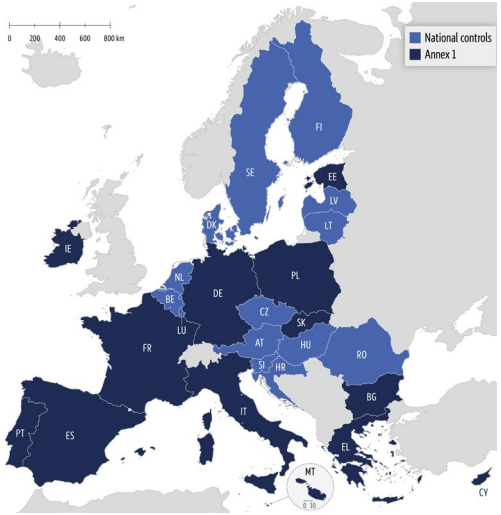
The Wassenaar Arrangement (WA) is the only multilateral regime for controlling dual-use technologies. Established in 1996, it aims to increase regional and international security and stability by promoting transparency and responsibility in transfers of both conventional arms and dual-use goods and technologies. To achieve this, participating states apply export controls to all items on the List of Dual-Use Goods and Technologies and the Munitions List. They also regularly exchange information and are required to report arms transfers and transfers/denials of certain dual-use goods and technologies to destinations outside the WA. They have agreed to carry out their national policies while observing the guidelines, elements and procedures of the agreement. However, the WA is not legally binding and its decisions are taken by consensus, which constitutes a weakness as Russia is a member. This has led to discussions on a possible 'Wassenaar minus one' coalition as an alternative.

Inefficiencies of national controls

Furthermore, the Commission publishes two sets of documents related to controls at Member State level: an annual information note stipulating all national measures notified to it by the Member States and the EU compilation of national control lists. The latter gives other Member States the possibility to apply such controls directly to their exporters. They can also decide to make the items listed in the compilation by the other Member States subject to national authorisation. However, the system has its shortcomings, as outlined in the 2024 white paper on export controls, which analyses deficiencies in the export control regime and proposes improvements.

The white paper underlines a lack of transparency and insufficient consultation because Member States are not required to inform and consult each other or the Commission prior to the adoption of national controls. Secondly, there is no certainty about how or when other Member States may adopt the controls published in the compilation of national control lists. National legislation may even prevent – fully or partially – such a move. This has been accompanied by a rise in **unilateral export controls at national**

Figure 2 – Countries using national controls in addition to Annex I



Source: European Commission, 2024.

level in the EU, as well as globally (as exemplified by US curbs on semiconductor exports to China). More than half of EU Member States, particularly those closer to Ukraine and Russia geographically, use additional export controls on top of Annex I which is binding across all 27 (see Figure 2).

The Commission concluded that 'it sees a risk that the existing coordination mechanism among Member States [under their national control lists] cannot deliver the uniform, timely and effective controls system that the EU needs'. This creates the risk of an **incoherent patchwork of national rules** and enables '**forum shopping**', whereby a Member State without export controls on a specific dual-use item may import it from another EU country to export it outside of the EU. As more technologies are developed that are key to national security and subject to national controls, possible divergences between Member States could weaken the economic security of the EU and the integrity of the single market.

Export controls against Russia and efforts to tackle their circumvention

Evidence shows that export controls against Russia do not fully prevent the flow of technology and items used for the war. Numerous reports and analysis of customs data and Russian military objects confirm that Western components are still being used in the aggressor's war machine despite sanctions and export controls. Components from the United States are identified most frequently, but items (particularly microelectronics) from other non-EU countries, such as Japan, South Korea and Taiwan, are also flowing into Russia. EU-produced items originate from Austria, Germany, France, Ireland and the Netherlands. The components continue to reach Russia through complex and purposefully opaque trade networks involving intermediaries and countries such as China, Hong Kong, Türkiye and the United Arab Emirates, but also immediate neighbours like Kazakhstan. Closing these **circumvention channels** is very challenging and the debate on how to do it is ongoing. Export controls are a piece of a bigger puzzle, and efforts against circumvention are likely to include measures such as increasing corporate responsibility, harmonising restrictions across the sanctions coalition, directly targeting the third countries involved and strengthening enforcement institutions and cooperation among countries imposing sanctions.

Policy responses

The white paper proposed a mix of short and long-term actions to address the inefficiencies in the EU export control framework. In the longer term, it suggested accelerating the evaluation of current Regulation (EU) 2021/821, originally envisaged for between 2026 and 2028. This could lead to new proposals remedying the shortcomings in effectiveness and efficiency.

In the shorter term, the Commission delivered two initiatives announced in the white paper. Firstly, on 16 April 2025, it adopted a recommendation that introduced a coordination mechanism enabling Member States, on a voluntary basis, to identify similar risks and **coordinate when preparing national control lists**. Member States can share draft lists with the Commission and other Member States (electronically), requesting feedback before their formal adoption. The recommendation contains provisions facilitating information exchange among Member States and the Commission prior to and after the adoption of the national control lists.

Secondly, the Commission decided to propose an immediate solution for the obstruction of the multilateral export control regimes by 'certain members', particularly Russia (see box). It concluded that the best way was through **expansion of Annex I** to Regulation (EU) 2021/821. The modified annex includes those items that were not adopted in the multilateral framework but which were supported by Member States. The current regulation delegates the amendment of Annex I to the Commission, provided that the conditions for the use of delegation are met – in particular that such an amendment reflects international commitments taken by the Member States on added items.

On 8 September 2025, the Commission adopted a delegated regulation updating Annex I of Regulation (EU) 2021/821. As planned, the update brings the list in line with decisions taken in the multilateral export control regimes in 2024.[6] It also includes commitments taken by Member States

as members of the Wassenaar Arrangement to control additional items uniformly.[7] Importantly, this recent update added new categories of dual-use items, including:

- quantum technology, including quantum computers and electronic components;
- semiconductor manufacturing and testing equipment and materials, including those used for lithography;
- advanced computing integrated circuits and electronic assemblies;
- coatings for high temperature applications;
- additive manufacturing machines and related materials;
- peptide synthesisers; and
- modification of certain control parameters and update of certain technical definitions and descriptions.

The updated EU control list will enter into force after the two-month examination period for the Council and the European Parliament.

Expert views

Legal experts see the latest update of Annex I as 'more than a technical revision of individual parameters and specifications. It is a step in the EU's effort to expand export controls into a broader economic security toolkit, which treats quantum technologies, semiconductors, advanced materials and biotechnology as strategic domains rather than neutral industrial sectors.' It is also consistent with chips and quantum technology being designated as strategic sectors for economic security in the 2023 strategy, which merit coordinated risk assessment and dedicated protective measures.

Other legal commentary sees the update as a sign of the EU's strong commitment to properly implement export controls on dual-use items. It is 'particularly significant given the growing dysfunction in consensus-based governance systems', (as exemplified by Russian vetoes in the Wassenaar Arrangement).

Similarly, PricewaterhouseCoopers sees the new delegated regulation as a sign of a change in thinking. Traditionally viewed as a compliance tool, export controls are now considered 'a pillar of economic security and foreign policy'.

The Financial Times reasons that, with the latest update of Annex I, the Commission has taken on new powers. The items agreed by Wassenaar would now be added automatically with the new updates, removing the requirement to first be adopted at national level. A more centralised and uniform approach should help shield individual Member States from pressures exerted by major players, such as the US and China. Some policy analysts even float the idea of using export controls on items American industry relies on (extreme ultraviolet lithography, precision instruments and machinery, industrial lasers, robotics, specialty polymers, composites, and chemical catalysts) to defend the EU from aggressive moves by the Trump administration.

McKinsey analysts argue that the EU has also applied extraterritoriality to export controls. In November 2024, the Council updated its frequently asked questions (FAQs) on sanctions against Russia and Belarus, citing the 'best efforts' obligation under Article 8a of Council Regulation (EU) 833/2014. It states that: 'Natural and legal persons, entities and bodies shall undertake their best efforts to ensure that any legal person, entity or body established outside the Union that they own or control does not participate in activities that undermine the restrictive measures provided for in this Regulation'. In its FAQs 7 and 8, the Commission considers an EU entity to breach the best efforts obligation if its non-EU subsidiary supplies goods subject to EU export controls under EU sanctions to Russia or Belarus.

Researchers from the Vrije Universiteit Brussel argue that, while the Union's export control regime has been moving towards stronger harmonisation and coordination, the obstacles to achieving a truly common unified policy are significant. These include the fact that controls are dictated by both single market governance (strong EU role) and security policy (strong Member State role), and issues such as vested interests and concerns by influential stakeholders. These are likely to make progress slow and incremental, despite a growing political willingness and a precedent for expansion of EU competences in this field.

ASML and US export controls on chips

Dutch company Advanced Semiconductor Materials Lithography (ASML) provides world-leading lithography technology to chipmakers. ASML and the Dutch government cooperated with the US authorities, which sought to limit China's access to semiconductor technology using export controls. They restricted the sale of ASML's most cutting-edge equipment to China in 2019 and January 2023.

Surprisingly, in October 2023, the US unilaterally expanded its export controls to include two older generations of lithography equipment manufactured solely by ASML. This move was extraterritorial and legally uncertain, causing increased calls for an EU-level approach to export controls. The Commission confirmed in the white paper that 'the lack of a common EU voice exposes individual Member States to geopolitical pressures'. Dutch tech commentators considered that the 2025 Annex I update indicates a move towards stronger EU controls, shielding European countries and companies such as ASML from geopolitical pressure.

The European Council on Foreign Relations (ECFR) think-tank argues that the EU can apply its export controls to key strategic technologies since many of these are inherently dual use. This could be helpful in navigating intensifying geopolitical tensions connected to technological competition. The ECFR sees the current system as unfit for the present era, as commercial and military technologies converge, technology trade is increasingly weaponised and multilateral regimes become dysfunctional. It proposes that the EU develop a joint risk framework for export controls, similar to the 5G security toolbox, and agrees on common economic security considerations that underpin national controls. It should also add a strategic technology control instrument to its toolbox to cover items that are neither dual use nor military but whose export would pose security risks, by providing foundational technology for military developments, for example.

Looking outwards, the EU should work towards establishing a Wassenaar interim arrangement with all WA members willing to work together and add additional technologies to a control list. It should also forge an economic security alliance to examine how strategic technology developments are affecting collective security, and if necessary to align export control standards to mitigate any identified risks. The ECFR also recommends the creation of an EU Economic Security Network bringing together Member States and EU institutions. The network would work on implementing instruments of economic statecraft, including broader export controls on strategic technologies.

Role of the European Parliament

Article 18 of the current Dual-Use Regulation stipulates that the power to adopt delegated acts by the Commission will expire on 9 September 2026, unless revoked earlier by the Council or the European Parliament. The Commission must notify the two institutions as soon as a delegated act is

adopted. A delegated act may enter into force only if the Parliament and the Council have not expressed any objections within two months of notification, or if, before expiry of that period, both institutions inform the Commission that they will not object. This period can be extended by two months at the initiative of the European Parliament or the Council. The initial period for examining the Annex I delegated act expires on 8 November 2025.

The European Parliament has already voiced its opinion on the export controls on numerous occasions. In its resolution of 9 November 2023 on the 'Effectiveness of the EU sanctions on Russia', the Parliament highlighted the key role of China in supporting Russia in the trade of dual-use goods, hampering the impact of EU sanctions. MEPs highlighted that Russia continues to import critical Western components through alternative suppliers and routes. The resolution mentions that several non-sanctioning countries, such as **China, Kazakhstan, Kyrgyzstan, Türkiye** and the **United Arab Emirates**, as well as some countries from the **South Caucasus** and **Serbia**, have become hubs through which Russian entities reroute the products they import from the EU towards Russia or provide alternative routes for imports of dual-use goods and foreign-made technology and equipment.

In its resolution of 19 September 2024 on 'Continued financial and military support to Ukraine by EU Member States', MEPs called on the Council to maintain and extend its sanctions policy against Russia and Belarus and non-EU countries and entities that provide the Russian military complex with military and dual-use technologies and equipment. It also asked for the monitoring, review and enhancement of the EU policies' effectiveness and impact. Parliamentarians urged Member States to further broaden and strengthen the sanctions regime against Iran and North Korea in view of these countries' military support for Russia. The resolution proposed adding additional Chinese entities and individuals to the EU sanctions list for their support to Russia's defence and security sector. The European Parliament underlined the need to prevent critical components produced in EU countries from reaching the Russian military industry, considering it essential to strengthen controls on the export and maintenance of high-tech equipment produced in the EU. This should be accompanied by stronger law enforcement measures and cooperation to prevent sanctions circumvention. MEPs urged the Council to systematically tackle circumvention via a new horizontal sanctions regime, addressing particularly the issue of Western-designed components being used in Russian weapons and military equipment.

MAIN REFERENCES

European Commission, Exporting dual-use items, 2025.

Gehrke, T. and Ringhof, J., The power of control: How the EU can shape the new era of strategic export restrictions, European Council on Foreign Relations, 2023.

ENDNOTES

1 As defined in Article 2(1) of Regulation (EU) 2021/821 on the control of exports, brokering, technical assistance, transit and transfer of dual-use items.

2 Apart from dual-use items based on the multilateral framework, there are also specific export controls on conflict minerals, rough diamonds, cultural goods, and non-military security and police equipment. These aim to counter the financing of armed conflict and prevent this material and equipment from contributing to prohibited activity.

3 As enshrined in the United Nations Security Council Resolution 1540 (2004), the Chemical Weapons Convention (1993) and the Biological Weapons Resolution (1972). The EU system is also aligned with international rules and commitments made by the following: Australia Group, Missile Technology Control Regime, Nuclear Suppliers Group, and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies.

4 They are EU general export authorisations, national general export authorisations, individual and global licences, and large projects authorisations. More information can be found on the Commission's website.

5 Except for the Australia Group.

6 The Commission mentions specifically the Wassenaar Arrangement, Missile Technology Control Regime, Australia Group and Nuclear Supplier Group.

7 The participating states of the Wassenaar Arrangement are: Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, India, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Türkiye, Ukraine, United Kingdom and United States.

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