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## Beyond 'normal' export control and sanctions: Emerging tech and other challenges to the status quo

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Coming of age? The new rules of engagement for US federal projects

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Exploring the EU Dual-Use Regulation as a model for third countries

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# New directions and departures: Beyond ‘normal’ export control and sanctions



In last month’s *WorldECR*, (‘COCOM’S Daughter?’) Kevin Wolf and Emily Weinstein set out the argument for a move away from reliance on multilateral export controls alone – suggesting that plurilateral controls would inevitably be developed in response to a breakdown in international consensus. Here, Sanjay Notani and Harleen Sandha take a *tour de horizon* of current developments in export controls, noting potential points of departure and change.

Recent years have witnessed a surge in the application of export controls in part driven by the continuing advances in technology and its application – which have wide-ranging ramifications for both exporting and importing countries. As a necessary corollary to this, the policy purpose for maintaining such export control regulations has also shifted, from controlling e.g., nuclear proliferation and chemical and biological weapons, to a closer exploration of the interface of such threats with new and emerging technologies, while national security goals have now broadened to include economic security and human rights concerns.

## EMERGING AND FOUNDATIONAL TECHNOLOGIES: NEED FOR REGULATION

Significant technological advances in fields such as artificial intelligence (‘AI’), information and communications technology, quantum computing, biotechnology, nanotechnology, machine learning and robotics, continue apace.

At the heart of such technologies is the gathering, processing and analysing of enormous amounts of data.<sup>1</sup> While each brings its own set of social and economic benefits across a host of sectors, it also falls, potentially, into the ‘dual-use’ category – i.e., such technologies can be used for both dangerous or malicious purposes as they can be used as tools for social and economic development, thus rendering their control and regulation much



more challenging,<sup>2</sup> and as such are highly vulnerable and prone to exploitation.

In a 2019 working paper published by the Carnegie Endowment for International Peace, the writer observed, ‘Today’s technological advances are deemed disruptive not only in market terms but also in the sense that they are provoking disruptions of legal and regulatory orders and have the potential to disturb the deep values upon which the legitimacy of existing social orders rests and on which accepted legal and regulatory frameworks draw’.<sup>3</sup>

In times of greater economic integration and connectivity through international trade, the effects of such advancements are no longer localised and pose a

threat to the global world order combined. In this light, an integrated regulatory framework and a cooperative collaborative approach is the need of the hour in order to manage the subsequent risks.

## EXPORT CONTROL REGIMES AND THEIR OBJECTIVES

Export controls are typically defined as a set of laws and regulations prohibiting or regulating the export of certain goods, which are not only limited to tangible movement of goods across borders but also certain intangible transfers and in some cases also between individuals of different citizenship.<sup>4</sup>

Export control regimes have been put in place on account of the potential threat that



the transfer of these sensitive technologies might pose and the resultant need to regulate the same. Advances in technology mean that the scope of these export controls has broadened to encompass the export of what are described as 'emerging and foundational technologies'.

One of the foremost objectives of such controls is to curb the rise of 'digital authoritarianism' which sees surveillance technology used, for example, to track the activities of journalists and dissidents, censoring public information and shaping public opinion,<sup>5</sup> or as the US government puts it, 'to stifle dissent; harass human rights defenders; intimidate minority communities; discourage whistleblowers; chill free expression; target political opponents, journalists, and lawyers; or interfere arbitrarily or unlawfully with privacy.'<sup>6</sup>

For the United States, another key driver of the perceived need to control emerging technology is Beijing's 'Made in China 2025' policy, which threatens to give China military and economic ascendancy if unchallenged. This has seen Washington dynamically reorienting and merging its controls on foreign direct investment into the United States with its export control regime.<sup>7</sup>

## RECENT EXPORT CONTROL MEASURES

### US initiatives

The US export control framework is largely focused on the regulation of key US exports of goods, software and technology and is regulated by government agencies like the Bureau of Industry and Security ('BIS'); Directorate of Defense Trade Controls ('DDTC') and Office of Foreign Assets Control ('OFAC'), each of which is tasked with the administration and enforcement of a particular aspect of export control regulation.<sup>8</sup>

The primary law codifying export control procedures in the United States is the Export Control Reform Act of 2018 ('ECRA'), replacing the earlier Export Administration Act 1979, which expired in 2001.<sup>9</sup> Certain sensitive technology areas have been identified with reference

to ECRA: 'Biotechnology; artificial intelligence and machine learning; position, navigation, and timing technology; microprocessor technology; advanced computing technology; data analytics technology; quantum information and sensing technology; logistics technology; additive manufacturing (e.g., 3D printing); robotics; brain-computer interfaces; hypersonics; advanced materials; and advanced surveillance technologies.'<sup>10</sup>

The United States has been making significant headway in curbing its exports of sensitive technologies. In 2019 and 2020, the agencies focused their enforcement measures on Chinese companies (such as Huawei, which, it alleged might make its equipment and infrastructure available to the state for spying and malicious purposes, and Zhongxing

**FOR EMERGING TECHNOLOGIES, THERE ARE OFTEN NO AGREED TECHNICAL STANDARDS DEFINING THOSE QUALITIES RELATED TO PROLIFERATION CONCERNS.**

Telecommunications Equipment Corporation for violating US export regulations by evading the US embargo of Iran.<sup>11</sup>)

On 16 December 2021, OFAC identified eight Chinese tech companies that were involved in assisting surveillance of religious and ethnic minorities in the Xinjiang province of China and designated them to the Non-SDN Chinese Military-Industrial Complex Companies list.<sup>12</sup>

Further, in its bid to curb human rights abuses and genocide against Muslim minority groups in Xinjiang, the US added entities located in these regions to the Commerce Department's Entity List which will essentially prevent them from accessing US technology.<sup>13</sup>

In this vein, the US has also been taking action against other countries. In November 2021 it designated NSO Group,

Candiru of Israel, Russia's Positive Technologies and Singapore's Computer Security Initiative Consultancy PTE for the development and supply of spyware technologies, misusing and trafficking cyber tools, thereby threatening the privacy and security of wide-reaching individuals and organisations.<sup>14</sup>

In addition, BIS announced an interim final rule for controls on certain cybersecurity items that authorises exports under a new licence exception and authorised cybersecurity exports to most destinations with certain exceptions, which came into effect on 7 March 2022.<sup>15</sup>

At the same time, in order to boost its domestic semiconductor industry, the US is currently working on developing various programmes to incentivise its domestic manufacturing of semiconductors. It is recognised that semiconductors are the essential building blocks for most of the emerging and foundational technologies, viz., artificial intelligence, quantum computing, next-generation communication, among others.<sup>16</sup> This is important, given that currently, the major global concentration of semiconductor manufacturing and distribution is limited to countries such as Taiwan, China and South Korea.<sup>17</sup>

### EU initiatives

Dual-use trade controls in the EU primarily 'control the export, transit, brokering and technical assistance of dual-use items...'<sup>18</sup> The critical regulation governing EU's export control regime is Regulation (EC) No 2021/821 which creates common export control rules, a common list of dual-use items, common provisions for end-use controls, brokering and technical assistance, controls on goods in transit, applicable to and by each of its Member States.<sup>19</sup> (There are four types of export authorisations under the EU export control regime.<sup>20</sup>)

The predecessor to Regulation 2021/821 was Regulation 428/2009,<sup>21</sup> which included a definition of the term 'export' that was later expanded by an amendment to Regulation 1334/2000, thus broadening the scope of export

controls by including 'the transmission of software or technology by electronic media, fax or telephone to a destination outside the Community.'<sup>22</sup> Subsequently, recognition of concerns around human rights and their adoption as a policy goal were incorporated, enabling Member States to enforce additional export controls for the protection of human rights concerns.

An additional provision specified that any person who provided or transmitted a software or technology, fully aware that any person outside the EU is electronically obtaining the technology, could be held liable as an exporter.

Regulation (EU) No 2021/821, also referred to as the 'Recast Dual Use Regulation',<sup>23</sup> came into force in September of that year and was the culmination of a long-standing initiative to modernise the EU export control system by the European Commission.<sup>24</sup>

The 'new' export control regulation aims to strengthen the existing export control framework and enables EU Member States to respond effectively to security risks in connection with new and emerging technologies. It is intended to not only enhance export control regulations on dual-use items, but also improve compliance and cooperation between Member States and the Commission along with international players.<sup>25</sup>

### Joint initiatives

#### Export Controls and Human Rights Initiative

The Export Controls and Human Rights Initiative was launched at the 'Summit for Democracy' as a cooperative collaboration between the United States, Australia, Denmark and Norway. The initiative is aimed at stemming the rise of increasing misuse of technology by authoritarian governments and thereby promoting a democratic vision and application of technologies. The group under the initiative will develop a 'voluntary written code of conduct intended to guide the application of human rights criteria to export licensing policy and practice.'<sup>26</sup>

### Quad leaders' summit – Statement of Principles on Technology

The 'Quad' leaders (i.e., the respective leaders of the United States, Japan, India and Australia), issued a 'Statement of Principles on Technology'. This will be supplemented by renewed efforts to help advance usage of critical and emerging technologies anchored on shared democratic values and respect for universal human rights.

The working group on critical and emerging technologies has coordinated its responsibilities around four areas: 'technical standards, 5G diversification and deployment, horizon-scanning, and technology supply chains.'<sup>27</sup>

### US-EU – Trade and Technology Council meeting

The US and the EU have determined areas and principles for cooperation on export controls. This will include enhancing the capabilities of developing and least developed countries for their participation and support in multilateral export control regimes, prior consultations on current and upcoming legislative and regulatory developments and developing convergent control approaches on sensitive dual-use technologies.<sup>28</sup>

Both countries acknowledge that significant advancements in AI technologies have been made; however, at the same time, it is important to ensure that such potent technologies are used and deployed in a safe and democratic manner owing to the enormous risks they pose. It is stated that 'The European Union and the United States affirm their willingness and intention to develop and implement AI systems that are innovative and trustworthy and that respect universal human rights and shared democratic values.'<sup>29</sup>

Pursuant to this, working groups have been established in order to facilitate coordination and cooperation in critical and

## A NEW APPROACH TO EXPORT CONTROLS MIGHT BE TO EFFECTIVELY UTILISE NEW SOFTWARE AND HARDWARE TECHNOLOGY TO BETTER TRACK THE USE OF EXPORTED ITEMS.

emerging technology standards such as the Technology Standards working group, Information and Communications Technology and Services working group, Misuse of Technology to Threaten Security and Human Rights working group, Export Controls working group, etc.<sup>30</sup> Each working group is tasked with its own set of mandates, all of which are centred on standard-setting and coordination efforts.

### OPPORTUNITIES AND GAPS

#### Joint /multilateral approach

A joint approach is perhaps the only way to exercise meaningful controls, and this requires the alignment of interests, policies and procedures. Inter-regime dialogue on export control challenges – such as intangible transfers of technology, trans-shipment and operational methods of procurement attempts – are not new ideas and can be applied to the issue of emerging technologies. It has been one of the potential advantages highlighted by those advocating an overarching regime structure and has already been implemented in an ad hoc fashion between some of the regimes.<sup>31</sup>

In the same vein, it offers its own challenges which need to be addressed. States need to agree both on the threat and the need and the appropriateness of export controls before moving to identify and decide on specific list items and technical parameters.<sup>32</sup> However, for emerging technologies, there are often no agreed technical standards defining those qualities related to proliferation concerns.

#### Digitising export controls

A new approach to export controls, as outlined in a paper presented by William Alan Reinsch and Emily Benson, might be to effectively utilise new software and hardware technology to better track the use of exported items and to restrict access to authorised users.<sup>33</sup> Access-restricting technologies such as faceprints, voice identification, or thumbprint identification could be used to ensure that the technology is only used by intended operatives, while tracking the activities of the exported product. Another innovation might lie in the

employment of a 'kill switch' that would permit the exported item to be turned off remotely, restricting access to sensitive technologies. Moreover, the integration of these features into one single technology stack could bring about greater transparency and traceability of sensitive exports.<sup>34</sup>

It is an interesting prospect – but one with myriad potential challenges in attendance, such as 'hackability', privacy, data-combing, etc. Clearly, if the cost of the solution increases the cost of the end product beyond the point sustained by market demand, this could dampen the technology's desirability. The European Union's General Data Protection Regulation<sup>35</sup> prevents the outflow of personal data to non-EU countries, meaning it is possible that the EU would need to be involved at some level for this technology to function if it permitted the outflow of personal data and in the absence of a Privacy Shield equivalent. Thus, a lack of coordination between the exporting and the recipient country on data protection could pose a challenge.

### CONCLUSION

With the recent sanctions imposed on Russia by a host of countries including the US, the EU, Japan, South Korea and others, the export control regime, particularly with regard to technologies, is already impacting the global supply chain, and the consequences are set to be more far-reaching still, with export controls potentially emerging as trade barriers, in effect.

Blurring between military and commercial uses of emerging and foundational technologies is likely to cause greater uncertainties for business, while lack of uniformity between the export control (and enforcement) regimes could see manufacturers gravitate towards jurisdictions where the cost of compliance is less.

Export controls have a huge role to play in the global economy, given their importance as a tool in potentially addressing concerns relating to security, privacy and human rights, but will only yield results if efforts are coordinated, and viable.

Sanjay Notani is the Senior Partner and co-heads the International Trade and Customs Practice at Economic Laws Practice in Mumbai, Harleen Sandha is an Associate in the International Trade and Customs Practice.

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