Intel's Public Comments Regarding Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification
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A. Background on Intel

Intel is one of the world's largest semiconductor manufacturers and is the only remaining U.S. company to both design and manufacture leading-edge semiconductors. Semiconductors are America's fourth largest export, and no other semiconductor company has a more positive impact on the American economy than Intel. Intel semiconductors are essential to modern life and future innovation, including today's networks and computers, as well as next-generation technologies such as 5G, artificial intelligence, quantum computing, and autonomous vehicles. Intel depends on digital trade to facilitate much of its work.

Unlike its main competitors, Intel maintains the majority of its intellectual property in the United States. Intel also concentrates its research and development (R&D) and manufacturing in the United States, with additional manufacturing sites in Europe and Israel. Intel has invested in U.S. manufacturing for over 50 years and continues to be a leading contributor to U.S. R&D and capital investment, ranking sixth among U.S. investors in both areas. These investments support tens of thousands of U.S. jobs, including about half of the more than 120,000 Intel employees worldwide (versus about 9% in Europe or China). Additionally, each Intel job in the United States supports an estimated 13 additional jobs, meaning Intel directly or indirectly supports more than 700,000 full-time and part-time American jobs. Intel directly contributed $25.9 billion to U.S. GDP in 2019, and the total direct and indirect GDP impact on the U.S. economy that year—$102.0 billion—accounted for one half of 1 percent of U.S. GDP.

Intel's commitment to U.S. manufacturing is demonstrated by the over $43.5 billion in new capital expenditures announced by the company within the last year. In 2021, Intel announced over $23.5 billion in new U.S. capital expenditures to build and expand manufacturing and packaging facilities in Arizona and New Mexico, as well as an additional $20 billion investment in two new manufacturing facilities in Ohio—with the potential to grow the Ohio investments to $100 billion over the next decade. These investments will create tens of thousands of additional jobs in the United States, including Intel jobs, construction jobs, and jobs throughout the supply chain ecosystems that take root following the construction of new Intel facilities.

B. General Comments

Intel appreciates the opportunity to comments on the Bureau of Industry and Security Interim Final Rule published on October 13, 2022, *Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification*. While Intel strongly advocates for the use of multilateral export controls over unilateral controls, we recognize that the national security of the United States is the U.S. government's primary responsibility and that unilateral controls are occasionally required. We hope that the U.S.

government will work with allies to align on multilateral controls, and be open to modifying certain portions of the Interim Final Rule where necessary to gain such alignment.

C. Engagement with U.S. Industry

This rule is likely the most complicated export control rule ever published and the overwhelming majority of the transactions it impacts are legitimate commercial transactions between global companies, and their local and regional partners, in an interconnected global supply chain for computers and microelectronics. Given its broad scope, it is even more important that the U.S. government understand the current state of the activities it seeks to regulate to anticipate the intended and unintended impacts on legitimate business transactions, particularly for U.S. and internationally headquartered companies and their supply chains. The U.S. government must weigh the full consequences of its actions on the economic security of the United States to understand the true impact on our national security.

The U.S. government has extensive resources at its disposal to understand and anticipate these impacts. The most important is direct engagement with the U.S. business community, including with vetted and even cleared industry members through the government's export related advisory committees. The Bureau of Industry and Security has several Technical Advisory Committees, made up of technical and export control regulatory experts from across U.S. Industry who hold U.S. government security clearances, can provide information and guidance to the U.S. government on sensitive matters in closed session. The Administration has not renewed the President's Export Council, or is subcommittee on Export Administration, which have also been critical sources of industry information in the past. But these resources are not useful if they are not used and not valuable if decision makers do not consider their input.

While there will be emergencies that require swift action without time for industry consultation, the U.S. government, and particularly the Bureau of Industry and Security, should endeavor to conduct meaningful engagement with industry, and specifically their relevant Technical Advisory Committees, whenever possible. It is critical that BIS prioritize and meaningfully leverage this engagement when a rule of this breadth and complexity is under consideration.

D. Savings Clause

The savings clause for deemed exports and deemed reexports of technology and software related to ECCNs 3A991.p and 4A994.l allowed companies to continue to operate without major disruptions while EAR99 technology was reviewed and classified and new licenses were drafted and submitted to BIS. This level of attention to detail was welcome and shows that the Bureau of Industry and Security was seeking to ensure that these new controls had minimal disruption on normal business activities.

E. Foreign Direct Product Rules

The new Foreign Direct Product Rules (FDPRs) create significant complexity when manufacturing products outside the United States using U.S.-origin technology, software, or tools. Previously, a non-U.S. manufacturer needed only to know the Export Control Classification Number (ECCN) of any technology, software, plant, or major component being shipped from the U.S. and, if necessary, the ECCN of the items being manufactured. In 2020, non-U.S. manufacturers also needed to know if their item was for specific customers. With the Russia rules this past Spring, additionally complexity was

added, but it was ultimately not relevant as most companies halted exports to Russia after the invasion of Ukraine. However, with the three new FDPRs, a non-U.S. manufacturer using U.S. technology, software or equipment must now know whether the item 1) is for one of thirty-eight new "Footnote 4" companies on the Entity List, 2) is or contains an advanced IC that meets ECCN 3A090 or 4A090, other is their related software or technology, and is ultimately destined for the PRC, 3) will ultimately be used in a "supercomputer" in the PRC, or 4) will be used in the development or products of an item that will ultimately be used in a "supercomputer" in the PRC. Based on the broad definition of "knowledge" in the Export Administration Regulations (EAR), a non-U.S. manufacturer must apply these new FDPRs if they have a "reason to believe" they may be true.

This complexity will make compliance with the EAR difficult for non-U.S. manufacturers, many of whom will not comply, not out of maliciousness, but simple ignorance or misunderstanding. These new FDPRs can extend U.S. export control jurisdiction to basic commodities, including items like screws, nuts, and bolts, if they are made using a piece of equipment that was built from controlled U.S.-origin technology, including cryptography. These types of items were clearly not the target of this rule, but that is not a proper basis for non-compliance. Further, if the U.S. government does not enforce the EAR in these unintended areas, it will encourage companies, US and foreign, to conduct their own subjective assessment of the intended and unintended targets of the regulations and undermine the credibility and effectiveness of the EAR.

Expanding the U.S. export control jurisdiction to less sensitive items also drives foreign partners away from U.S. technology, software, and tool suppliers, as those are the basis on which BIS hangs its expanded jurisdiction. The United States and U.S. companies derive significant benefit from the U.S. being the supplier of first choice, particularly for technology, software, and tools to produce other items. It drives U.S. led standards and interoperability. It also aligns partner economies with the United States. Therefore, the PRC-focused FDPRs should be narrowed to apply only to specific products that are listed on the Commerce Control List with a license requirement to the PRC, and should never apply to EAR99 items or Anti-Terrorism (AT)-only controlled items.

F. Model Certificate

The Model Certification for the Purposes of the Advanced Computing FDPR is a great innovation that will help U.S. industry engage with their international suppliers, customers, and partners. BIS should issue similar model certifications and due diligence questionnaires to drive consistency and clarity for BIS' expectations on U.S. exporters.

G. **Temporary General License**

The Temporary General License (TGL) was critical for maintain continuing operations and avoiding major business disruptions. Complex supply chains, involving integration, assembly, inspection, testing, quality assurance, distribution, and other critical steps in the PRC, have been built and optimized over many decades. The TGL allow most of these activities to continue. However, by forcing the termination of non-listed activities that had already been occurring in the PRC, the U.S. government caused disruptions and supply chain related delays. These disruptions appear to have been unnecessary, at least where the activities did not involve any additional technology transfer to the PRC. As noted above, fulsome engagement with the U.S. business community in advance of publication could have helped identify these unintended consequences and allow solutions to be developed in advance.

The TGL should be extended for at least one year to allow time to build the capacity to relocate supply chain activities outside of the PRC. The industry is already dealing with the relocation of the unlisted activities, is in a cyclical downturn in revenue, and is already investing in advanced semiconductor fabrication capabilities in the United States and Europe. As a result, it will be difficult to quickly recreate the capacity that will be lost in the PRC.

H. Restrictions on Activities of U.S. Persons

For the first time, BIS has used the Export Administration Regulations (EAR) to inform all U.S. persons around the globe that certain specific activities of U.S. persons are not regulated because they could support prohibited weapons of mass destruction activities in the PRC. The regulated activities all involve shipping, transmitting, transferring (in-country), or servicing, or facilitating the shipment, transmission, or transfer (in-country), certain items that are "not subject to the EAR" to or within the People's Republic of China (PRC). The application of these new controls will be complicated, as U.S. person status is not widely maintained by non-U.S. employers. However, these new controls raise certain specific practical implementation concerns.

Published information and the technology and software that result from fundamental research are "not subject to the EAR" under Sections 734.7 and 734.8. U.S. persons sharing published information and the results of fundamental research for any reason are generally regarded as protected First Amendment activities. BIS should clarify that sharing published information or the technology or software that arise during or result from fundamental research are not within the scope of U.S. person activities regulated under the new 744.6(c).

BIS should also issue guidance that activities of U.S. persons in support of licensed activities by their employer are excluded from the scope of the controls. It would be unfortunate for a U.S. person to unintentionally violate the EAR because the items subject to the EAR that they are exporting or reexporting subject to a BIS license happen to include an item that was actually not subject to the EAR, such as bundled software or a spare part.

The licensing policy for the newly regulated activities of U.S. persons is a presumption of denial, unless the end-user in the PCR is headquartered in the United States or an A:5 country. The basis for the control on the activities of U.S. persons is the potential support for WMD related activities in the PRC. Therefore, BIS should allow potentially impacted U.S. persons to engage in such activities when they can establish that the results of the U.S. person's activities will not support WMD related activities in the PRC.

I. Supercomputer and Semiconductor Manufacturing End Use Controls

The Supercomputer and Semiconductor Manufacturing End Use Controls including five different end use controls with five different product scopes. These end use controls are laid out in a fashion that makes them more difficult to understand. BIS should revise Section 744 to create an end-use license requirement for each of the different end use controls in current Section 744.23.

One of the end use controls in Section 744.23 creates a license requirement for any items subject to the EAR for the development or production in the PRC of any parts, components, or equipment specified under ECCN 3B001, 3B002, 3B090, 3B611, 3B991, or 3B992. However, 3B001 and 3B991 specify masks for integrated circuit fabrication, and the control extends much higher than the specific controls on

exports to, or U.S. person support for, fabs in China. The GDSII file is for the development and productions of the masks for the integrated circuits that will be made from it. The mask is essential to produce the integrated circuits. Therefore, this controls puts in place an end use control on the use of legacy node fabs in the PRC to manufacture integrated circuits. This would be a major impact to the production of older integrated circuits, of the kinds that are essential for the production of cars and consumer electronics. If this was intentional, it should be have been identified specifically and described in the preamble. If this was unintentional, BIS should immediately revise section 744.23.

J. Closing

Intel thanks the U.S. government and Bureau of Industry and Security for the opportunity to comment on this rule. As noted above, this rule is likely the most complex export control rule ever issued and a significant policy change that will have far reaching impacts to both the PRC and the U.S. semiconductor industry, including impacts that we have been able to anticipate yet. We restate this to ask that you consider the impact of this rule on the U.S. semiconductor industry as the U.S. government considers other regulatory and policy actions with respect to the PRC. Balancing the economic security and national security of the United States requires appreciating not only the direct impacts of regulatory and policy decisions, but also the cumulative impact on industry and the disruption caused simply through uncertainty.