



October 27, 2020

Mr. Matthew Borman, Deputy Assistant Secretary  
Bureau of Industry and Security  
U.S. Department of Commerce  
Regulatory Policy Division  
14<sup>th</sup> street and Pennsylvania Ave, Room 2099B  
Washington, D.C. 20230  
Via email at Matthew.Borman@bis.doc.gov

Re: RIN 0694-AH80-Identification and Review of Controls for Certain Foundational Technologies

Dear Mr Borman:

The Association of University Export Control Officers (AUECO) respectfully submits this letter in response to the call for comments on the U.S. Department of Commerce, Bureau of Industry and Security (BIS), advance notice of proposed rulemaking, Identification and Review of Controls for Certain Foundational Technologies, RIN 0694-AH80 (8/27/2020).

AUECO is an association of over 340 export control professionals with compliance responsibilities at over 200 institutions of higher education within the United States. AUECO is committed to monitoring changes in the administration of export control laws and regulations that may affect the unique nature of higher education and academia, including academic and research collaborations.

AUECO recognizes the importance of national security and the unique role educational institutions play in helping to maintain the security of the United States. We appreciate the opportunity to comment on this notice and urge the department to not place controls that are very broad or have the unintended consequence of restricting development and innovation.

AUECO notes that while we are submitting our own letter, we do concur with COGR's letter in this matter as well.

#### **Fundamental Research, Use, and EAR99**

We urge BIS to keep the current fundamental research exception, as is proposed. Changing the definition of fundamental research or altering the scope of the fundamental research exception to address the regulation of foundational technologies could have a devastating impact on university research, stymying research in such critical areas as medicine, computer technology and the environment, or adding significant amounts of administrative burden to such work.

Additionally, any changes to the definition of "use" to address regulation of foundational technologies would have a deleterious effect on research and services provided by universities. Many universities utilize the "use" definition to allow foreign staff to operate controlled instrumentation, but not "use" said instrumentation, which would require obtaining a deemed export license. Any change to the definition of

“use” could require lab managers to rethink who conducts what tasks in their labs and increase administrative burden on the lab and the university as a whole.

We remain concerned over the possibility that any proposed rule could include EAR99 items being subject to foundational technology requirements. EAR99 items and technology form the basis of the equipment utilized in many research labs by both U.S. and foreign nationals in pursuit of pure research goals. Any restrictions on EAR99 items could cause potentially devastating effects on research enterprises at universities.

### **Impact on Research and Economy**

Casting a broad net on foundational technology could ultimately hurt the U.S. in comparison to the rest of the world. If BIS chooses to regulate certain foundational technologies, fundamental research conducted at U.S. universities based on foundational technology could be impacted severely resulting in (1) increased administrative burden for licensing and management of research in labs, (2) additional constraints on publication of research findings (i.e., publication restrictions), (3) reduced ability to collaborate with key international researchers and (4) reduced ability to attract international researchers and students.

If BIS chooses to regulate products that include foundational technology, international commercial/consumer sales of these products could be significantly impacted. For example, if BIS decides to regulate internal combustion engine technology, sales of U.S. manufactured automobiles, generators, lawn equipment, earth-moving equipment and locomotives could fall dramatically, potentially placing extreme hardship on those companies as well as additional administrative burden. The gap in those international sales would likely be filled by foreign manufacturers, potentially manufacturers from countries like China, Russia and Iran.

### **Definition**

“Foundational” is defined “as forming the base from which everything else develops.”<sup>1</sup> Therefore, foundational technologies are technologies from which other technologies are derived. To be foundational technology means it is ubiquitous in society; the technology is readily available, global and is easily accessed in the public domain. Regulating foundational technology could likely mean regulating information that is in the public domain, which is in direct opposition to 734.3(b)(3)(1) and 734.7(a), which specify that information or technology in the public domain is not subject to the EAR.

Foundational technologies (more properly, foundational science and technologies) are by definition those that can enable progress and applications in a variety of problem domains. Even in a military or national security context, it is rare that research on foundational technologies is entirely classified. Work on foundational technologies is mostly unclassified, or else classified work and unclassified work on such technologies happen contemporaneously. Lastly, useful applications based on a foundational technology often take a long time to emerge. Even then, one foundational technology may be used in combination with other technologies, both foundational and specialized, to create useful applications.

Foundational technologies have been incorporated into products that have been commercially available globally for years if not decades. Therefore, trying to regulate something that has already been in global distribution for years is trying to control something that can no longer be controlled. Isaac Newton famously said, “If I have seen further it is by standing on the shoulders of Giants.” Restricting foundational technology would be like removing those giants from current scientific development.

We urge BIS to carefully consider any definition that might be utilized. Broad, open-ended, or difficult to comply definitions could effectively stymie development and innovation. A multilateral approach to such controls combined with review and comment periods prior to implementation could help to minimize potential issues.

A potential strategy for developing a definition is to develop a list of items the government considers foundational technology, determine which of those it thinks should be regulated and develop a definition based upon the characteristics of those items that the government wants to control.

A second strategy would be to control technology based upon the established definitions of end use and end users (including military end uses and military end users), rather than develop a new definition for foundational technology, which could be overly broad. An overly broad definition could place additional restrictions and increased administrative burden on academia, industry and service providers.

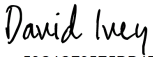
### **Conclusion**

We request that any definition of foundational technology not be overly constricting or limit research and innovation, and should support the current "use" definition to allow these technologies to continue to be utilized in campus research. Additionally, we ask that BIS make clear how foundational technology is identified and provide ample comment time in the rulemaking process.

AUECO appreciates the opportunity to provide the Department of Commerce with the above comments and will be glad to provide further comments if it would be helpful.

Respectfully,

DocuSigned by:

  
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David Ivey

Chair

Association of University Export Control Officers

Website: <http://aueco.org>

1 Cambridge English Dictionary definition

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