Export Controls and its Impact on U.S. Innovation

Overly restrictive regulation on dual-use technologies, create business, research, and workforce barriers that limit U.S. leadership in science and technology. Well-written, precise regulations that take into account international availability of the technologies controlled are key to U.S. companies’ ability to compete in the global market place.

**Why this matters:** Optics and photonics is an exciting growth area based on light. Photonic components, optics, sensors, fibers, lasers, photodetectors, light modulators, lasers etc., themselves make up a substantial global product market of more than $150 billion, with around 700,000 jobs. When the basic photonic products are added (such as displays, the optical telecommunications hardware, equipment for precision production and metrology for manufacturing, cameras and light based medical instruments) the product market is calculated at $500 billion with 2.2 million jobs worldwide. The overall global market for infrared (IR) imaging was $6.43 Billion in 2015 according to a July 2016 report from marketsandmarkets.com, which also projects the market will grow at a CAGR of 8.32% between 2016 and 2022 to reach $11.36 Billion in 2022.

Advances in photonics are key to the future of consumer brand name companies such as Google, Facebook, and Apple as well as hundreds of small and mid-size companies innovating the technology which provide society with many solutions to everyday problems and tasks, including realizing solutions to familiar diseases.

**Export Control Reform: USML Category XII and CCL Category VI**

SPIE supported the overhaul of U.S. export controls to save American jobs and better protect our most sensitive military items through the Export Control Reform (ECR) initiative that was launched in 2009. However, SPIE had great concerns with the first proposal for Category XII released in 2015 and felt that it strayed from the principals of ECR. Overarching concerns with this first proposal included proposed performance parameters that intruded on the commercial market or at the very least capped technologies at the current edge of capabilities, a major issue for a technology space that is advancing rapidly.

Due to an outpouring of concern via the comment period for the first proposal, the second proposed rule for this category, which was released in February 2016, was fundamentally different and vastly improved, and this led into a final regulation for Category XII and corresponding Commerce Control List (CCL) that overall, industry and universities saw as a positive step in the right direction.

SPIE also supports the increased use of “specially designed” in the final regulations. This approach was taken in instances where performance parameters that uniquely describe a military item could not be
found or agreed upon. The “specially designed” criteria are also a more appropriate evaluation to apply to technologies that are continuing to advance and expand into new markets and applications.

**The Specially Designed Criteria**
One of the goals of the ECR Initiative was to create a regulatory definition for the term “specially designed” to streamline an inquiry as to whether an item is “specially designed” for a military item and therefore subject to ITAR controls. The Department of Defense and the Department of Commerce agreed upon a definition, which was finalized on October 15, 2013. The definition, particularly when applied to components, helps ensure that dual-use items are not considered munitions items, by clearly stating that components used in both a military item and commercial item are not purely a munitions item and therefore controlled under the Export Administration Regulations (EAR), not ITAR.

**Notice of Inquiries (NOIs)**
Despite the regulations being finalized on December 31, 2016, these Notices seek the public’s opinion on proposed changes to the recently finalized Category XII of the U.S. Munitions List and Category 6 of the Commerce Control List.

The public comment period for the NOIs closed on March 14th. From reviewing the public responses to the Notices, it appears that companies generally would like to see the regulations, that went into effect on December 30, 2016, to remain as written rather than add additional performance parameters that don’t describe a military item, but do describe advanced technology.

The State Department’s NOI contained proposed parameters to replace usage of “specially designed” in Category XII. Many commenters found the proposed control structure listed in the notice confusing and one that would limit future growth in the technologies listed. The Commerce Department’s NOI proposed additional controls for dual-use infrared detection items. The vast majority of the commenters stated that additional controls were not warranted based on the international availability of the items listed in this NOI. It is unclear at this time if any further action will be taken regarding the proposed language in the NOIs.

**Wassenaar Arrangement**
The Wassenaar Arrangement was established in 1996 in order to contribute to regional and international security and stability, by participating countries agreeing to specific conventional arms and dual-use goods and technologies that should be controlled. There are 41 participating countries, including the U.S. and our European allies. Every year participating countries meet in Vienna and decide what technologies should be controlled, and additionally whether these items are considered to fall under the list of dual-use item or the Munitions List. Each country then promulgates their own regulations to control the agreed upon list.