

Thank you Carol for your kind introduction.

It is said that the phrase “May you live in interesting times” can be interpreted as both a blessing and a curse. My notion – and I’m sure it is not original – is that the determining factor of whether those interesting times are good or bad derives from how you approach them. Understanding and acting on those so-called “interesting times” is a far better recipe for the blessing than ignoring or denying the realities of the world around us. There is one thing that is for certain – in the place where technology, security, and economy meet – in short, the world of export controls – these are indeed interesting times.

I would like to spend a few minutes on three areas that are “interesting” to the Bureau of Industry and Security lately and where we are spending a great deal of time and effort. Those areas are emerging technology, foreign direct investment, and recent policy initiatives in the U.S.

If couldn’t tell from the signage, the agenda, or from the messages from various speakers, let me be Captain Obvious for a minute to remind you all that our theme for this year’s conference is emerging technology. Given that, it’s worthwhile to spend a moment on the research and development trends occurring in the U.S. at this time. There is no question that the pace and breadth of technology advancement is occurring at a breathtaking rate. The scientist and writer Arthur C. Clarke is quoted as saying “Any sufficiently advanced technology is indistinguishable from magic.” It is starting to feel like that. Innovations in areas such artificial intelligence, robotics, and nanotechnology are enabling advancements which have the power to improve human lives across the globe. And while I am citing a decidedly U.S. perspective in discussing these trends, it’s important to note the international collaboration underpinning these advancements. No one country has a monopoly on technology development. And while the civilian benefits of these and other technologies are apparent in everyday lives, their impacts and applications in the national security space cannot be ignored and must be addressed.

Not very long ago, most advanced technology development that had relevance to national security came out of the national security establishment. Government labs, research agencies, and the military services drove the innovations that served in the first place our national defense priorities, with civilian applications following behind. As a result, export control agencies had a predictive grasp on the major trends in emerging technology and thus better insight to what controls were necessary. This is no longer the case.

According to the U.S National Science Foundation, total spending on research and development in the U.S. surpassed \$500 billion dollars last year, the largest amount the U.S. – or any single nation – has spent on R&D in a single year. What is also notable is the breakdown of this spending. While the \$500 billion total represents an historic high, the federal share of the total spending is 23 percent – a historic low. Private sector R&D spending accounts for nearly three quarters of the total. This is consistent with the innovation shift I spoke of, from government to civil. What is encouraging about this spending – in addition to the sheer volume – is the focus of each. The U.S. federal spend is primarily devoted to basic research, while the private sector spend is devoted to applied research. This division of financial resources is efficient, mutually beneficial, and encouraging. For all the well-placed concern over adversary nations threatening

to overtake U.S. technology leadership, it's gratifying that the U.S. R&D establishment achieves this equilibrium naturally, and not through government intrusion.

The implication of this for export controls is apparent – having insight to the tremendous volume of private technology development is remarkably difficult. Identifying technologies of interest that are “in the cradle” and not the result of any federal initiative can only succeed with the help and awareness of those doing the developing. Adding to the challenge is also a dynamic which can cause these technologies in the cradle to become known to foreign entities – again, well before an export control can even be considered. This trend is the quest for investment. In an environment where the federal investment in such research is declining, researchers and innovators may and often do cast their gaze off of U.S. shores for investment dollars, creating further pressure on the export control establishment to constructively engage earlier in the technology life cycle.

Once identified, the U.S. export control system is geared to accommodate these emerging technologies. Our commodity classification system is a well-honed process that can be used to find a so-called “home” for a new technology – or technology use – on the Commerce Control List or other control regime. Our 0Y521 control is specifically designed to be applied to emerging technologies. It enables us to place an immediate control on a specific technology, and then triggers a process within a limited time-frame to obtain relevant multi-lateral regime consideration of the item and whether a control is necessary.

So while the system is enabled to control emerging technology, the challenge for us lies in the words “once identified”. When it comes to identifying early state technologies for national security consideration, classification and possible control, we need to improve our vision. BIS is “focusing” our efforts in several ways to accomplish this. In the first place, we are adapting our Technical Advisory Committees, which are groups of outside experts organized around specific technology areas that help us understand and shape our licensing policies. We have a specific TAC dedicated to emerging technologies, and have challenged the other TACS to dedicate their attention to emerging technologies within their domains as well. TAC members have security clearances, work hard, and are essential to our ability to make sound licensing decisions. Also, we are actively recruiting TAC members who come from enterprises that drive early stage technology development.

Further to this point, BIS is adapting its outreach capability in this area. We are specifically targeting the small to medium enterprises that are frequently fertile ground for emerging technologies, but that may also be unaware of export controls. This outreach extends to colleges and universities as well, many of which are extraordinarily sophisticated about export control systems – and many of which are not. Helping these enterprises is core to the mission of BIS.

Two other aspects of the export control system are relevant to the emerging technology trend and are worth mentioning. The first concerns deemed export policy, which is the requirement to treat technology transfers of controlled information to foreign nationals within the United States – in essence, “deeming” such communications exports in need of a license. The deemed export policy is a frequently used tool in enterprises where new technology advancements occur as a standard course – universities, labs, and company-sponsored research departments, for example. BIS is

currently reviewing our deemed export policy for possible changes to accommodate these latest technology trends.

The second related aspect concerns Intangible Technology Transfer. As you all know, and as is the case with deemed exports, the traditional control function of physical borders is not applicable in these cases. In the U.S., an important part of the Export Administration Regulation is its ability to control intangible aspects of technology – by defining technology to include oral communication, designs, electronic media, and so forth, we have established ground rules to govern a growing aspect of technology transfer. The U.S. has worked to harmonize definitions in this area between The Commerce Control List and the ITAR list. BIS has also established criteria to refine what does and does not require a license in the cloud computing space.

Furthermore, we have a responsibility to educate those less familiar with export controls on this feature – in particular, our policy makers and elected officials. Currently in the U.S., there is a common perception that technology “know-how” is being lost to foreign adversaries because of a weakness in the export control system. This is certainly not the case. While know-how is not a defined term, most of the references to it could certainly fall in the category of intangible technology. As with emerging technologies, our ability to define what should be controlled in the intangible space is the challenge – since once it is identified, it is subject to control. Nevertheless, concerns over the loss of so-called know-how are driving a policy discussion around the second topic I mentioned: direct foreign investment.

The U.S. is the recipient of the largest amount of foreign direct investment – or FDI - in the world. In 2017, the amount of FDI totaled more than three and half trillion dollars. 57 billion of that fell into the advanced R&D sector. Clearly FDI has been, is, and must continue to be, a critical part of the U.S. economy. That said, the fastest growing sources of FDI to the U.S. certainly fall outside the category of the largest and most traditional sources - such as the U.K., Canada, Japan, and Germany. Not surprisingly, China is among the fastest growing sources. The statistics on China would be undoubtedly higher were it not for U.S. mechanisms which limit foreign investments in areas of concern to national security. The primary mechanism by which the U.S. places such limits is known as the Committee on Foreign Investment in the U.S. or CFIUS.

These trends that I just mentioned are underscored in the record number of cases CFIUS is considering. The increased case load, combined with concerns over technology transfer and the dynamic around know-how mentioned earlier, have generated a significant amount of interest from U.S. lawmakers in this area.

There are two legislative initiatives in the U.S. Congress that should be discussed today. On CFIUS, legislation in both the House and the Senate would amend the law governing CFIUS to increase its scope. The legislation, the Foreign Investment Risk Review and Modernization Act or FIRRMA would take a number of steps that would address long time gaps in the CFIUS jurisdiction. Foreign investment transactions have become more complex and varied, which would alone be enough to modernize CFIUS. But we must acknowledge that those who would appropriate U.S. technology by any means have become bolder in their efforts yet more evasive of current restrictions. As a result, the legislation would create mandatory filings for certain

transactions – versus the voluntary system currently in place, and would broaden its jurisdiction to include transactions which may not result in direct foreign control of a U.S. company, but would include enough foreign participation to cause a concern. The bill would also allow coverage of real estate transactions that are concerning to national security because of the real estate's proximity to sensitive U.S. assets. Of further import is the bill's provision to allow greater information sharing with other countries on particular CFIUS cases. International collaboration has long been a hallmark of effective export controls, and such collaboration with like-minded countries on FDI strategies could have similar benefits.

Later this morning, I'll be joined on this stage by Heath Tarbert, the Assistant Secretary of the Treasury for International Markets and Investment Policy. We will specifically dedicate our discussion to the latest state of play on the CFIUS legislation, and take your questions – so I'll save the details until then.

The second policy initiative, which the Department also supports, concerns the effort to modernize and reauthorize the Export Administration Act, the law which underpins the U.S. export control system. This law has been expired since 2001, resulting in BIS requiring an emergency executive order to function as though the law were in place. The very fact that this effort is underway in Congress is not only an acknowledgement of the importance of export controls, but also of the need to modernize them as well. The legislation, which has been introduced in the House of Representatives, would codify many of the key aspects of the current system, such as the interagency process, and address issues I've already mentioned, such as the need to control emerging technologies. Both bills are moving quickly, and BIS is engaged on both to ensure that the on-the-ground realities of export controls are considered as the legislation moves forward.

At the outset of my remarks, I mentioned the interesting times confronting BIS, and the need to boldly tackle them. That posture has resulted in some amazing developments that I'd like to share.

For many months – years really – the Departments of Commerce and State have been engaged in an effort – first started under Export Control Reform – to move three categories of items from the USML to the CCL. These items are firearms, guns, ammunition, and related articles and I'm pleased to announce that the proposed rule accomplishing this shift – known as Categories One through Three, otherwise known as the gun rule – was published yesterday. This effort will result in a smarter, safer, and more efficient approach to controlling these items, and will remove many unnecessary obstacles to American manufacturers and exporters as they seek to grow and expand to new international markets.

You also heard the Secretary mention an infrequently used authority under the Trade Expansion Act known as Section 232. Like CFIUS, 232 investigations are national security reviews that leverage the technology, materials, and industry expertise BIS brings to bear every day in the licensing process. While steel and aluminum reflect the most recent and high profile exercises of the 232 statute, the need for such investigations in other areas is likely to continue.

And while there is justifiably a great deal of attention being paid to the ZTE case, it must be pointed out that BIS – both in the policy and enforcement arena – is making meaningful contributions to the safety and security of our telecommunications and cyber supply chain every day – in addition to the national security, non-proliferation, and human rights efforts that are reason the tremendous team in BIS show up to work every day.

I want to thank you for your attention, and most importantly your presence here today, because in so doing you are a part of the effort to protect American technology while we ensure it is the best in the world.