

US Aerospace Exports: The Case for Further Controls

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Mr. Chairman, I want to thank you and the ranking member for inviting me to speak today on the critical issue of how we should control U.S. aerospace exports. My general recommendation is that it would be a mistake to allow more US aerospace exports to go license-free or to further reduce our ability to track them. Instead, this Committee and the our government should

- ***Clarify what should be controlled before authorizing any further decontrol of US aerospace exports,***
- ***Consider new ways the US might share the benefits of controlled technology without transferring the technology itself,***
- ***Strengthen rather than undermine critical multilateral aerospace control efforts, such as the MTCR,***
- ***Encourage the State and Commerce Departments to meet current guidance regarding export licensing efficiency, predictability, and transparency rather than relieve them of their need to improve by simply decontrolling more goods.***

These recommendations are based on the following findings:

1. US aerospace exports warrant more, not less control.

Conventional wisdom has it that we need higher fences around fewer goods that truly need protecting rather than a large number of ineffective controls over a large number of goods that hurts our aerospace industry's ability to compete. Yet, after 911 and at least three Post-Cold War rounds of decontrols, over 99.5 percent of the goods subject to Commerce Department regulations are already being exported license-free. Meanwhile, the U.S. last year sold at least ten times more munitions items than any other country (and captured over 68 percent of the world arms market). These munitions items, moreover, remain under State Department munitions control and are clearly of sufficient military importance to warrant the kind of close tracking and subsequent U.S. consent for retransfer that individual validated licensing (IVL) requires. Under no circumstances should Congress reduce controls over subcomponents of fully assembled military systems by shifting their control over their export to Commerce Department. If adversaries of the US can get their hands on subcomponents of known complete weapons systems, they can build any number of threatening weapons themselves. If anything, growing concerns about terrorist use of dual use and low technology warrants a review to tighten, rather than loosen U.S. export controls over critical aerospace technology. Such a review is needed to assure that such goods are not transshipped illegally out of the U.S or allowed to go unmonitored when shipped abroad. Either misstep could allow these goods to end up in

the wrong hands with no notice at all. A case can and should be made for expediting and making more transparent the licensing of militarily sensitive goods to our closest allies. But this calls for having State and Commerce follow existing Congressional guidance rather than having Congress authorize more decontrols that would relieve the Executive of their legal responsibility to make the licensing process more efficient, transparent, and expeditious.

2. At the high end, there still is plenty aerospace technology that the US should only export with the greatest care and only in support of the most critical security alliance and cooperative undertakings. These technologies include:

- **Software source codes** relating to U.S. weapons systems. These codes capture years of U.S. taxpayer-paid experimentation and modification of our most important weapons systems and are essential for modifying and upgrading U.S. weapons systems. Under no circumstances should this technology be exported without an IVL, which requires the tightest post-export monitoring procedures nor should this technology be exported to any state unless it is necessary for military cooperation to maintain a critical U.S. military security alliance relation. This technology is often missile production technology, which under The Missile Technology Control Regime (MTCR), is banned from being exported except for foreign programs exempted by superseding treaties in force among the original members of the MTCR.

- **Aerospace black arts skills** or systems integration insights usually are the domain of systems engineers and are critical for making complex aerospace systems, such as satellites, rockets, and advanced jet planes work. These complex systems have many subsystems that are subject to a variety of worrisome stresses that can produce system failures unless the builder and operator have access to the integration insights of experienced builders. Much of this “black art” can and is conveyed in face-to-face meetings between skilled practitioners and novice engineers. This can and does happen in the normal course of special skills training, specialized instruction, and consultancy visits. Each type of visit or exchange listed should require prior governmental consent and the closest oversight and monitoring.

- **Satellite technology** relating to design, integration, and satellite sub-systems (if it is on US military satellites) is among the crown jewels of America’s ability to use and command the ultimate high ground of space. In the late 1980s and early and mid 1990s, the US risked sharing this know how with China with disastrous results. As a result, our military (including our naval battle groups) will be targeted with more precise maneuverable conventional Chinese ballistic missiles and more reliable, accurate nuclear-

capable missiles. More could yet be gained from U.S. export of such goods to China and other countries in the name of “peaceful space launch and satellite cooperation”. Some of the candidates for such space cooperation are hardly close military allies and are known to have shared U.S. missile technology with states such as China, Iran, Iraq, and Libya. This technology often is missile production technology whose transfer is prohibited under the MTCR to most states.

- ***Unmanned air vehicles*** and related ground equipment and technology. These and their related subsystems are one of America’s key comparative military advantages in fighting both large conventional wars and in combating terrorist operations. It is critical that the US preserve its lead in this field. Again, the MTCR requires a strong presumption of denial to the export of large unmanned air systems and their related subsystems.

- ***Stealth technology and penetration aids.*** Staying ahead in these technologies and keeping them from spreading are also critical to America’s ability to command battle airspace and to assure our missile defense systems are not defeated. Many of these technologies are not currently controlled under the MTCR but the US has the greatest interest in preventing their illicit transfer.

- ***Advance missile and air defense systems.*** These and their related subsystems are becoming critical to dealing with emerging missile states, e.g., Iran and North Korea, and to defend our NATO allies and South Korea, Australia, Israel, the GCC states, Taiwan, and Japan. The largest of these systems are category one missiles under the MTCR and their export is subject to a strong presumption of denial under the MTCR.

3. These military critical systems and their related subsystems are still difficult for our adversaries to acquire anywhere else and continued controls make those who export them illicitly subject to arrest.

- Each year there between 50 to 75 federal prosecutions of individuals attempting to export these items illicitly out of the US to states such as Iran and China. These prosecutions would be most unlikely were it not for licensing of these exports.

- So long as key military systems and their subsystems require licenses, the tracking of these items’ export will continue to be much more difficult to defeat or obscure than would otherwise be the case.

4. After 911, the transshipment of dual use and military technology directly from the US has become much greater security concern.

Bin Laden managed to buy a surplus T 39 US military transport plane that he subsequently used to ferry weapons and to transport al Qaeda personnel from Khartoum to Nairobi, and other areas in East Africa. Even after this event, our government wanted to decontrol the export of such aircraft.

- This year, the Government Accountability Office legally purchased and transshipped variety of Commerce and State controlled dual use and military goods that we know terrorist state agents and terrorist organization have attempted to buy from the US. These goods included an F-16 aircraft computer, gyro chips that can be used to precisely guide crude unmanned aircraft, and accelerometers suitable for use in smart bombs.
- Meanwhile, neither State nor Commerce has yet to reassess what a complete list of items that terrorists might be seeking.

5. Those most interested in reducing controls over U.S. aerospace technologies and goods are not those most heavily vested in strengthening U.S. and allied military capabilities. Conversely, those most interested in keeping controls on US aerospace technology are.

- EU-based consortiums that operate throughout the EU and with US no longer have as high an interest after the Cold War in investing heavily to develop defense capabilities. As a result, they are falling further and further behind the US in key leading military-related technologies (see the list above) and have a clear interest in gaining access to this technology without having to pay for the research and development themselves.
- These same EU-based vendors were among those most interested in decontrolling military exports to China several years ago. In the end, the US said no because of such sales could reduce the security of the U.S. and its allies. These same EU-based vendors, however, knew that they could make such sales to China without directly increasing security risks for Europe.
- Japan, in contrast, has long been worried about possible arms technology transfers to China. Moreover, Japan is vitally interested in strengthening and in investing in strengthening its military capabilities visa vis China and North Korea. Having suffered the embarrassment of the Toshiba case during the Cold War, Japan is relatively tighter in its export controls than the EU and currently is cooperating closely with the US on a number of cutting edge defense projects.

6. In theory, eliminating export controls to our closest military allies seems attractive but, in practice it would be self-defeating. In fact, sending them militarily significant technologies and goods license-free would only increase

- Demand from states that are not close US military allies to get similar treatment,
- the risks of transshipment from these locations to our adversaries “without a trace”.
- The inclination of other countries to decontrol key goods that could harm the U.S. as well. Here, I have been approached by at least one major allied government warning that it would be forced to decontrol its aerospace exports, if the US did so, even though it otherwise would not be inclined to do so.

7. Although those pushing for decontrol give specific examples of export control excesses, they offer only general descriptions of what they want to see decontrolled and how much this might profit the U.S.

- Instead of describing how much security and commerce the US might lose by further decontrolling aerospace exports, they give vague descriptions of how much commerce decontrol might assure.
- Instead of specific examples of sales they want to make, they give only broad categories of aerospace technology they wish to free from licensing requirements.
- Thus, some talk about wanting to export satellite systems. Yet, this could include whole satellites, key subsystems used on US military satellites, or integration technology that is critical to validating the design of ICBM capable rockets, etc. You would hope the broad category of “satellite systems” would not include any of the above specific categories, since if it did, it would be a relatively small step to calling for the building of US-designed satellites in places like China – something the industry quietly argued for back in the 1990s but that the Congress wisely rejected.

8. Recommendations:

- ***Clarify what should be controlled before authorizing any further decontrol of US aerospace exports***
 - o What specifically might be shipped under decontrols needs to be specified by industry before government pushes to change broad categories to “reform” the export control system.

- A proper review of what low and medium-technology items might need to be controlled more carefully is required make sure any export reform prevents exploitation of the control system by terrorists and other potential adversaries.
- ***Consider new ways we might share the benefits of controlled technology without transferring the technology itself***
 - The US can launch satellites for others without giving them space launch technologies (aka. MRBM and ICBM-capable rockets controlled by the MTCR).
 - This is also the case regarding the information that can be collected with unmanned surveillance drones, the learning that space science research can foster, and the security missile defenses through unified US operations or turnkey US contracted services in situ can afford.
- ***Strengthen rather than undermine critical multilateral aerospace control efforts, such as the MTCR,***
 - US and its allies have an interest in increasing controls over space launch vehicles (and related technologies), stealth, pen aides, and UAV technologies. Such controls would help to curb missile proliferation, strengthen our missile defense capabilities relative to offensive missiles threats, and prevent non-state theft or exploitation of unmanned systems.
 - Consider developing a multilateral effort to limit the transfer of lower tech and smaller missile related systems to prevent terrorist exploitation.
- ***Encourage the State and Commerce Departments to meet current guidance regarding export licensing efficiency, predictability, and transparency rather than relieve them of their need to improve by simply decontrolling more goods.***
 - Follow current law, which favors expedited procedures for the licensing of exports to allies
 - Meet clear deadlines
 - Make the computer systems and processes work to let industry know what is happening to their licenses in real time
 - Contract out more and hire more government officials, where appropriate, to help make this happen.