Intangible Technology Transfer Challenges and Solutions

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Intangible Technology Transfer

- Intangible Technology Transfer (ITT) is the export or transfer of technology from one entity to another via non-physical (intangible) means

- Transfer of intangible technology can occur as:
  - Exposure to technical data as part of research or work
  - Practical skills experience working with technology
  - Visual inspection of hardware and software
  - Meetings, discussions, and other personal interactions
  - Briefings, presentations, teaching, training, and seminars

Intangible Technology

- Technical data (hard copy and electronic) is tangible and export-controlled
- Intangible technology includes the "know-how" needed to effectively use export-controlled items and data and is also export-controlled
- Both tangible and intangible technology can be transferred through intangible (non-physical) means

Tangible vs Intangible Technology Transfers

- Tangible technical data
- Tangible or intangible transfer

- Intangible technology
- Intangible transfer

The Importance of ITT Controls

- Proliferators increasingly seek to acquire knowledge and training for their programs
- Proliferators require intangible technology to establish engineering, design, and manufacturing capabilities
- Trend corresponds with increasing focus on indigenous production of missiles, WMD, and military equipment
- Acquiring information and technology via intangible means can provide an attractive way to support programs of concern

ITT Challenges

- ITT is low cost and indirect, making circumvention of export controls to obtain it is fairly easy
- Once an individual has intangible technical knowledge and skills, he/she can pass it to others
- No "paper trail" of controlled technology transfer exists as possible evidence for enforcement action

Examples of Scenarios Where Intangible Technology Transfers Can Occur

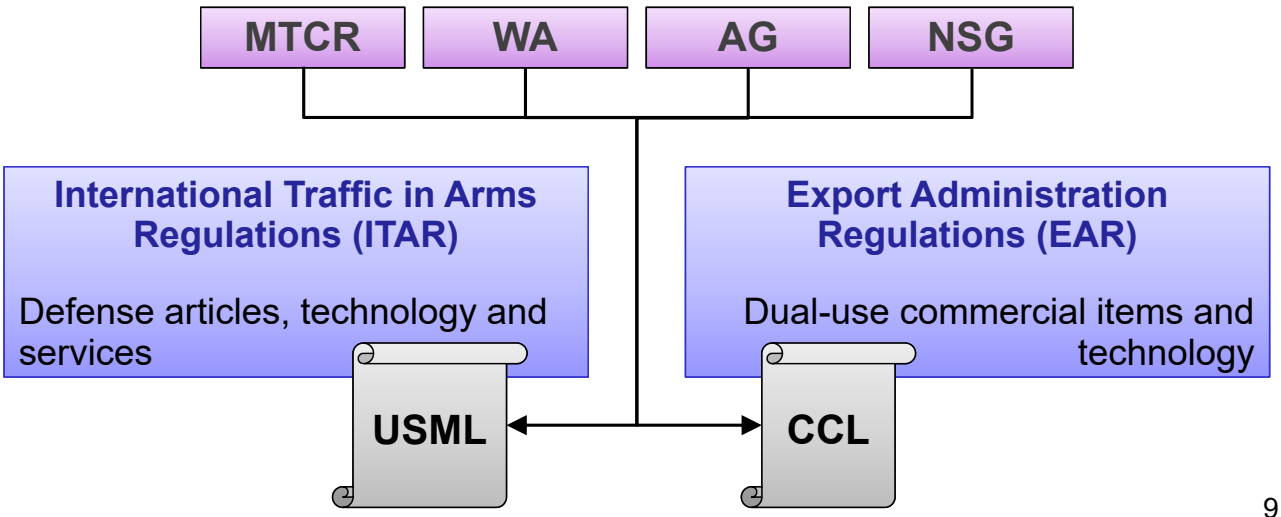
- Employment in a pharmaceutical production facility that uses fine-grain powder grinding equipment
  - The machinery is controlled under the MTCR because it can be used to produce rocket fuel components
  - Knowledge and expertise operating and maintaining this equipment is intangible technology and subject to export controls
- Attending a conference on aircraft propulsion to deliver a presentation
  - Although attendee's presentation may not pertain to export-controlled technology, interactions with other attendees may lead to exchange of intangible technology
- University project developing autonomous UAV systems and software
  - The software may be subject to export controls if capable of controlling a UAV that is subject to export controls
  - Technology for developing autonomous UAV control software and systems can be tangible (algorithms, engineering and design documents) and intangible (practical experience coding, integration, and testing)
  - Export controlled if applicable to development of export-controlled UAVs

U.S. Solutions for Controlling ITT

- Export licensing
- Visa vetting (workers, academics, visitors)
- Foreign person employment screening
- Outreach to industry, academia, and national laboratories and research centers
- Promote ITT awareness among international partners

U.S. Export Licensing

- Technology associated with regime-controlled items is also controlled
- Listing, classification, and licensing requirements are the foundation of effective technology export control



U.S. Export Licensing

- All technology subject to the ITAR or EAR, including technical data and intangible technology, may require an export license
  - Technology directly associated with a multilateral regime-controlled item is also controlled and subject to licensing, enforcement, and penalties
- If a license is required, businesses must obtain export licenses regardless of transfer method
- Government interagency group reviews each license request on a case-by-case basis, considering item, end-use, and end-user

Visa Vetting

- The United States has a multi-layered vetting process
- One of the newer tools in the nonproliferation toolkit
- Officials review visa applications to assess nonproliferation risks, including the risk of unauthorized ITT

- Augments/complementary to export controls and license review
- Visas may be denied under the U.S. Immigration and Nationality Act (INA)

  INA §212(a)(3)(A)(i): persons are ineligible to receive visas and to be admitted to the United States if reasonable grounds exist that the applicant "seeks to enter the United States to engage solely, principally, or incidentally in any activity to violate or evade any law prohibiting the export from the United States of goods, technology, or sensitive information"

Foreign Person Employment and Deemed Exports

- Nexus between licensing and visas
- Applies to:
  - Non-U.S. citizens employed in the U.S. with a valid visa
  - Who needs access to technology controlled under either the ITAR or EAR for job duties
- The employer must apply for an export license so U.S. government interagency can fully vet the employee
- USG export control officials process these licenses similar to visa cases
- Applicant provides academic and professional background as well as information on travel, affiliations, and contacts
- Screening officials must be proficient in reviewing both visas and export licenses

Outreach to Industry & Academia

- Industry, academia, national laboratories are the first line of defense in preventing unauthorized ITT
- Many different parts of USG are involved in outreach activities, including State, Homeland Security, and Commerce Departments as well as the FBI
- Provide information on U.S. ITT laws and regulations, establish relationships, encourage self-regulation, and answer questions

- Industry, academia, and national labs take export controls seriously
- No reputable firm or research center wants to be responsible for unauthorized transfer of sensitive technology

Examples of Outreach Efforts

- Department of Homeland Security
  - Project SHIELD America: Outreach to universities, manufacturers, and holders of dual-use technology
  - Focused on raising awareness of export control requirements, spotting red flags, and building relationships
- Department of Commerce
  - Focused on keeping exporters current on export control regulations and providing practical support
  - Conducts outreach on risk awareness and complying with laws and regulations
- Department of State
  - Advises universities and USG labs on export control and visa rules
  - Participates in academic and scientific events
    - i.e. International Genetic Engineered Machines (iGEM)
- Federal Bureau of Investigation:
  - Targets researchers and academics in conference and workplace settings
  - Focuses broadly on managing dual-use risk, complying with laws and regulations, and building relationships

Engagement with Partners

- The United States encourages stronger ITT controls and enforcement by engaging in multilateral and bilateral dialogues and forums to share how we:

Summary

- Proliferators are actively seeking knowledge and expertise, including via ITT.
- Preventing unauthorized ITT requires vigilance and partnership with industry and academia.
- Tools for addressing ITT include outreach, education, raising awareness, and engagement with industry, universities, national laboratories and international partners. These complement traditional ITT controls such as export licensing and visa vetting.