



# Export Control at Fermilab

# Agenda

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- What is Export Control?
- How does it apply to Fermilab?
  - Aren't we an open lab??
- Fermilab's Export Control Policy
- What is your role in Export Control?
- Resources
- Quiz

# What is Export Control?

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- Laws and regulations that:
  - Restrict ability to freely send or share certain types of
    - Goods
    - Technology
    - Information

*outside* the U.S. *or* with non-U.S. nationals *inside* the U.S.
  - Prohibit certain transactions due to trade sanctions or other restrictions
- *Unless* licensed or cleared

# Why does the government control exports?

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Certain technologies are strategically important for:

- National Security Reasons
- Nuclear Non-Proliferation Reasons
- Missile Technology Controls
- Anti-Terrorism
- Chemical & Biological Controls
- Regional Stability
- Crime Control Measures
- Anti-boycott Reasons
- Economic Sanctions

## Who Administers Export Control?

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- **Department of Commerce** - Export Control Administration, DDTTC, 22 CFR 120-130
  - Primary licensing agency for dual-use exports
  - Administers the Commerce Control List (CCL)
- **Department of State** – International Traffic in Arms, BIS, 15 CFR 730-774
  - Licenses defense articles and services
- **Department of Treasury** – Office of Foreign Assets Control, 31 CFR 500
  - Administers economic sanctions (embargoes)
- **Department of Energy** – 10 CFR 810
  - Controls the export of unclassified nuclear technology and assistance.

# Fundamental Research Exemption from Export Control

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- Basic and applied research in science or engineering
- Results ordinarily published and shared within scientific community
- No restriction on federally funded fundamental research if no national security classification

*BUT ... \*\* VERY IMPORTANT\*\**

Exemption applies to research *output* only. Technology and equipment used or accessed during research may be export controlled even if the results will be published.

## **Exporting is *not* just shipping something out of the U.S.**

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- Mail/Email controlled technology or information
- Social media
- Photography/videography
- Uploading code or data to a website
- Visual inspection that reveals technical data
- Conferences
- Hand-carried items: laptop, flash drives, cell phones, paper
- Sharing software / technical information with foreign nationals, even in the U.S. (“deemed export”)
- Talking! (Face-to-Face or by Phone, Skype, etc.)
  - Ex: discussing radiation tolerant circuit board design

**These activities may require license from Commerce, State or OFAC**

## What is a Deemed Export?

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**Deemed Export** - *Releasing, furnishing, showing or disclosing export controlled technical information or source code to a Foreign National, even in the US*

- Examples of a deemed export:
  - Visual inspection of controlled technology
  - Oral exchange of technical information
  - Guidance on the practice or application of a technology

## Dual Use Technology: Export Control Considers Both

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Technology that can be used for peaceful & military aims

<b>Technology</b>	<b>Peaceful Use</b>	<b>Military Use</b>
Carbon Fiber	Tennis Rackets	Ballistic Missile Nose Cones
Rocketry	Spaceflight	Missile Propulsion
GPS	Navigation	Guided Weapons Systems

# Fermilab Dual Use Technology – Imaging Devices

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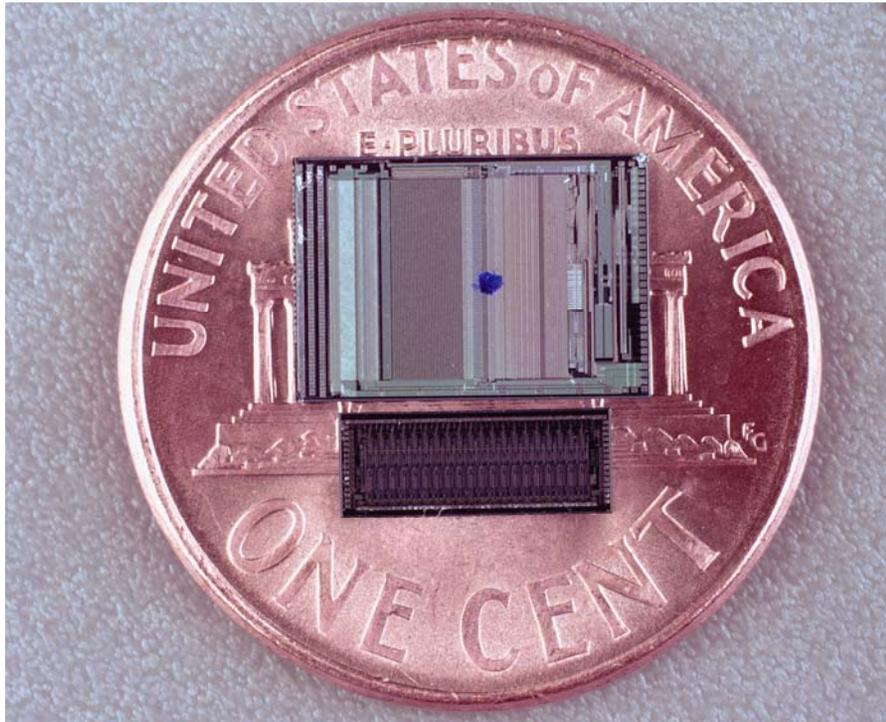
Image Intensifiers



Helmet Mounted Integrated Targeting

Patent Application # 62151535

# Fermilab Dual Use Technology – Microchips



Particle Tracking



Electronic Warfare Countermeasure

## How do export controls affect laboratory research?

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- Research materials and technology may be export controlled
- Procured items may need limitations on sharing within lab
- Licenses may be needed for foreign students/researchers/visitors participating on a project
- Licenses may be needed to bring items abroad for research
- May not be able to publish information about some of the technology used in research

*This does not mean that Fermilab cannot work with international colleagues using export controlled items!*

- Exceptions/licenses may be available with advance notice

## What's the risk?

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- Former University Of Tennessee Professor John Reece Roth
  - Worked with national laboratories
  - 4 year prison sentence for illegally exporting military research data (2012)
- During course of a contract:
  - Allowed 2 foreign students to access export controlled data and equipment
  - Foreign students took some data to China
- *“This sentence communicates the importance of export compliance to academia and industry, especially in the research and development communities.”*
  - U.S. Attorney William Killian

## Why does Fermilab need export controls?

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- It's the law – applies to federal laboratories
- **Prime Contract Clause I.101C (flow down)**
  - DEAR 970.5225-1 (NOV 2015)
- Consequences of non-compliance
  - Civil penalties (\$250,000 - \$1M per violation)
  - Criminal penalties (fines; jail for individuals!)
  - Loss of prime contract/Negative publicity
- Process and documentation are key to compliance and protection of lab's interests

## Why is Export Control important to Fermilab?

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- Good question! Isn't Fermilab an open laboratory?
  - *Yes and we do not intend to change that philosophy!*
  - Sharing of scientific results and international collaboration
- Fermilab hosts thousands of users and visitors from hundreds of institutions around the world
  - More than 35% of our users are from outside of the USA
- Research often uses technologies that are export controlled
  - The scientific results may be openly shared
  - Sharing of information on design, manufacturing, or "use" of technology may be restricted to some foreign nationals
- **Unless** you have a license
  - We have a process for this!

## Fermilab Policy

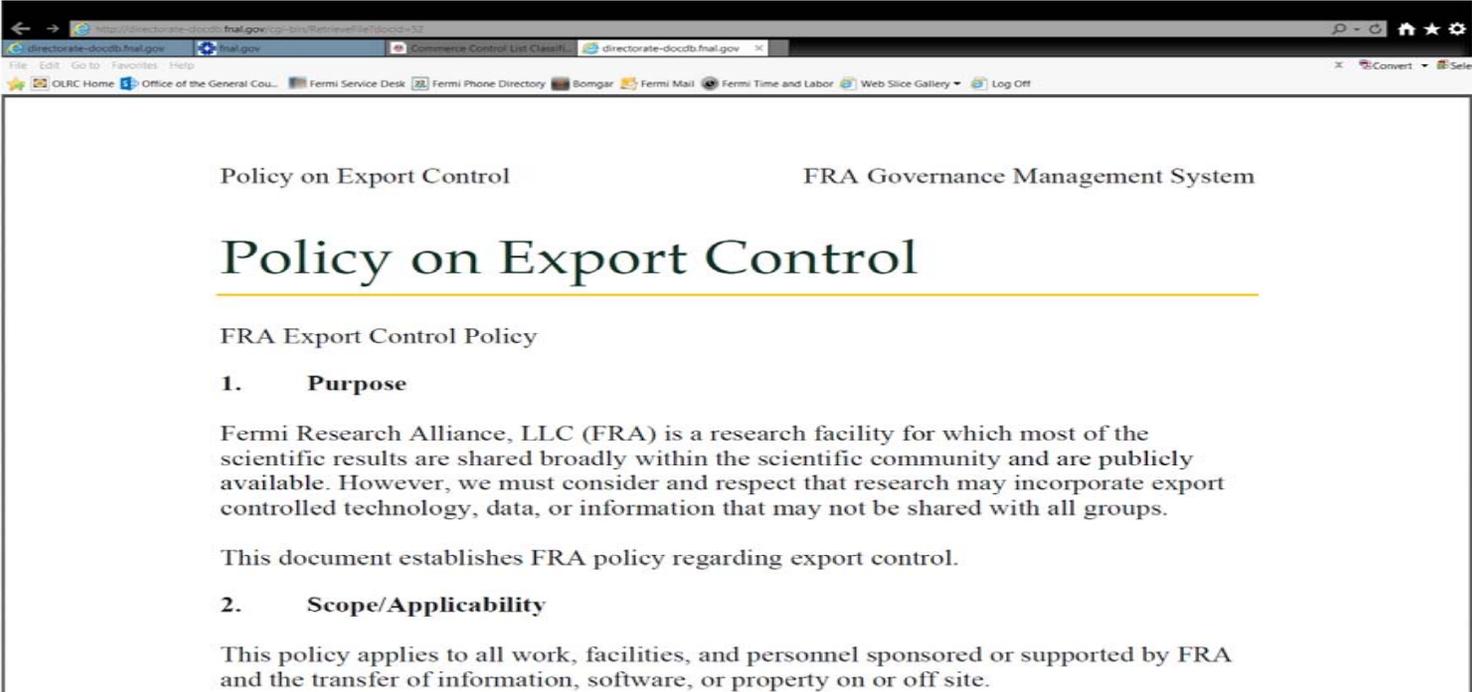
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- Export control policy and process has been in place for years
- Process is important to:
  - Comply with law
  - Protect the laboratory's interests
  - Maintain openness of laboratory

# Fermilab Policy

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- Strict adherence to export control laws and regulations
- Applies to all work, facilities, and personnel and the transfer of information, software, or property on or off site
- [Policy](#) – 12/31/16



The screenshot shows a web browser window with the URL <http://directorate-docdts.fnal.gov>. The page title is "Policy on Export Control" and "FRA Governance Management System". The main heading is "Policy on Export Control". Below the heading, the text reads "FRA Export Control Policy". The first section is "1. Purpose", which states: "Fermi Research Alliance, LLC (FRA) is a research facility for which most of the scientific results are shared broadly within the scientific community and are publicly available. However, we must consider and respect that research may incorporate export controlled technology, data, or information that may not be shared with all groups." This document establishes FRA policy regarding export control. The second section is "2. Scope/Applicability", which states: "This policy applies to all work, facilities, and personnel sponsored or supported by FRA and the transfer of information, software, or property on or off site."

## Fermilab Policy – Roles and Responsibilities

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- Directorate – ultimate responsibility for compliance
- Division/Section Heads/Managers/Project Leads/Hosts
  - Line management responsibility to engage the process/compliance
- Logistics/Property Control Service
  - Analysis, submit documents for approval, clearance, license
- Partnerships and Technology Transfer (OPTT)
  - Analysis and review for protected technologies

## Fermilab Policy – Roles and Responsibilities (cont'd.)

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- WDRS
  - Immigration and Visas, international visits/users
- Office of General Counsel
- Procurement
  - Interface with suppliers/subcontractors
- Office of Communications
  - Tours and photos/videos at Lab

## Fermilab Policy – Roles and Responsibilities (cont'd.)

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- All Employees
  - Support compliance
  - Ask questions or engage the export control review process
  - You can send questions or requests for review to:  
[Exportcontrol@fnal.gov](mailto:Exportcontrol@fnal.gov)

Or contact any of the export control team members listed at the end of these slides

## Steps Export Control Team Takes

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- Identify affected individuals and verify
  - Nationality (non-U.S. citizens or non-lawful permanent residents)
  - Home institution (some subject to controls, even if an individual's nationality is not)
- Visual Compliance
  - Database search
  - [Commerce Control List Index](#) (found on BIS website)
- Identify technology and information to be accessed
- Determine if technology or information is pre-classified
- Determine if exception applies
- Determine if license required to permit access to foreign national
- Apply for license (can take up to several months for clearance)

## Process

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- Early engagement of Export Control Team is key
  - Better compliance with the law and prime contract
  - Helps avoid delay in projects and research
  - Clearance/licenses available, given enough time
- Touch points to engage the process:
  - Invitations/recruitment of international visitors/employees/users
  - Procurement planning
  - Project staffing/planning
  - Partnerships planning (CRADAs/SPPS/others)
  - Onboarding international visitors, employees, and users

## Resources/Engage the Export Control Process

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[Exportcontrol@fnal.gov](mailto:Exportcontrol@fnal.gov) – goes to Export Control Team

Logistics & Property Control:

*Brian Niesman* ([bniesman@fnal.gov](mailto:bniesman@fnal.gov) or x6399)

OPTT:

*Aaron Sauers* ([asauers@fnal.gov](mailto:asauers@fnal.gov) or x4432)

Global Services:

*Griselda Lopez* ([griselda@fnal.gov](mailto:griselda@fnal.gov) or x6304)

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