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# THE FRAUNHOFER-GESELLSCHAFT

## THE 25TH ASIAN EXPORT CONTROL SEMINAR

BRANISLAV ALEKSIC,  
EXPORT CONTROL OFFICER AND LEGAL COUNSEL

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# THE FRAUNHOFER-GESELLSCHAFT

## AGENDA

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- Who We Are
- International Cooperation
- Export Control Activities
- Technology Transfer

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# THE FRAUNHOFER-GESELLSCHAFT

## WHO WE ARE

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## Joseph von Fraunhofer (1787 – 1826)

### Researcher

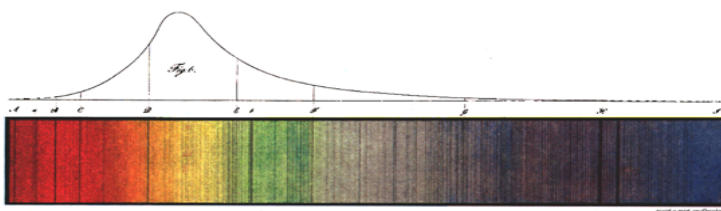
Discovery of “Fraunhofer Lines”  
in the solar spectrum

### Inventor

New methods of lens processing

### Entrepreneur

Head of royal glass factory



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# Fraunhofer Research and Business Models

## Contract Research

- Applied research and development for industry
- On specific requests of our customers, exclusive

## Joint Research

- Forefront and applied research (demonstrators)
- Funded by European Union and national funding bodies

## Fraunhofer Forefront Research

- Setting new standards, technologies (prototypes)

## Patent / Technology / Product Licensing

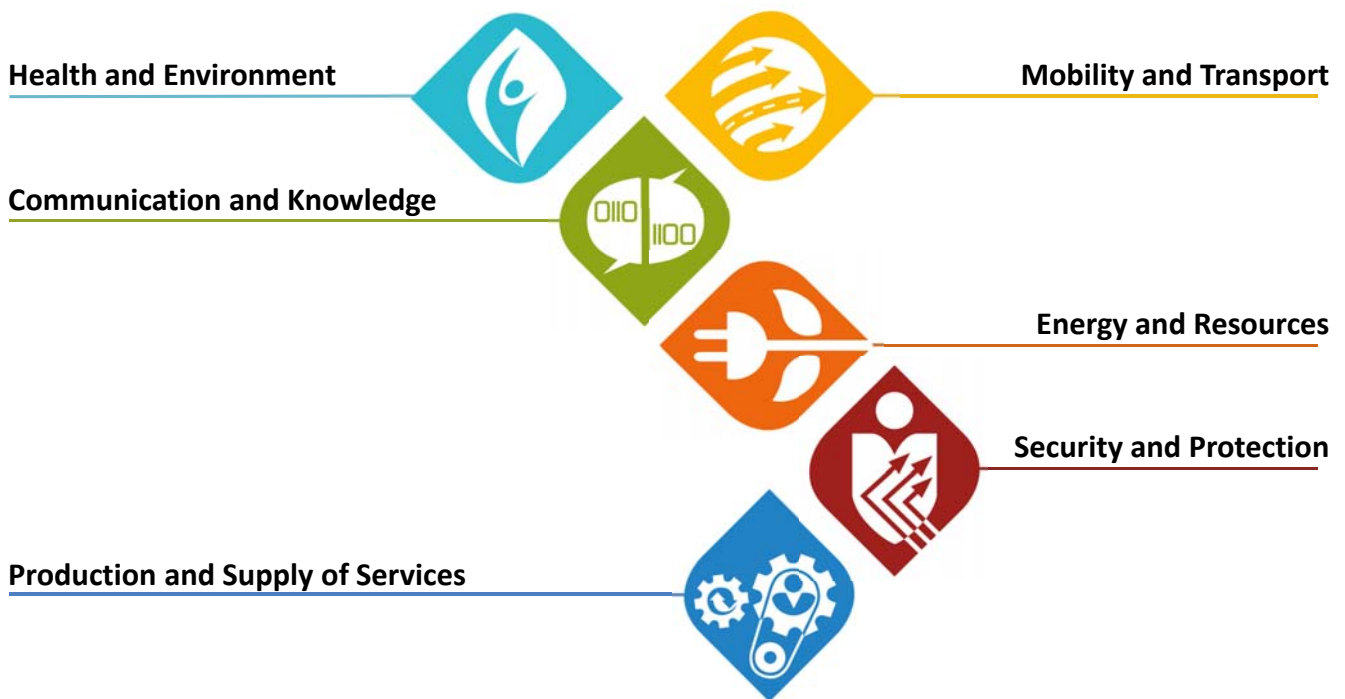
- Worldwide, preferably non-exclusive



## Fraunhofer-Gesellschaft, the largest organization for applied research in Europe

- 72 institutes and research units in Germany
- 25,000 staff
- 608 patent applications in 2016
- € 2.3 billion annual research budget totaling. Of this sum, more than € 2 billion is generated through contract research
  - Roughly two thirds of this sum is generated through contract research on behalf of industry and publicly funded research projects
  - Roughly one third is contributed by the German federal and state governments in the form of base funding
  - 300 million foreign revenues

# Fraunhofer fields of research



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## Pooling expertise Fraunhofer Groups



Institutes working in related subject areas cooperate in Fraunhofer Groups and foster a joint presence on the R&D market. They help to define the Fraunhofer-Gesellschaft's business policy and act to implement the organizational and funding principles of the Fraunhofer model.

- ICT
- Life Sciences
- Light & Surfaces
- Microelectronics
- Production
- Materials and Components – MATERIALS
- Defense and Security VVS

























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# Pooling expertise

## Fraunhofer Alliances

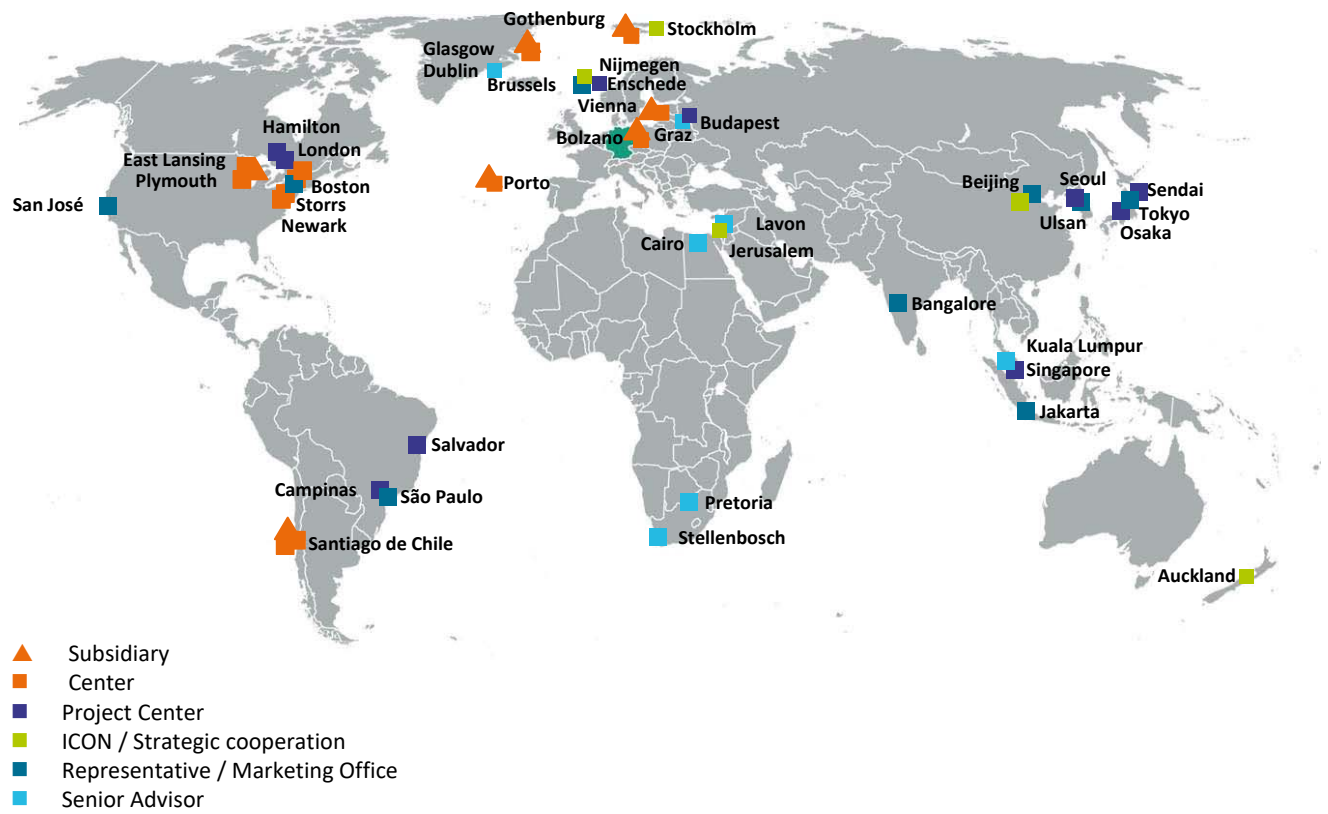
The Fraunhofer Alliances facilitate customer access to the services and research results of the Fraunhofer-Gesellschaft. Common points of contact for groups of institutes active in related fields provide expert advice on complex issues and coordinate the development of appropriate solutions.

- |   |  |  |
|---|--|--|
|  Adaptronics             |  Cleaning Technology    |  Photocatalysis             |
|  Additive Manufacturing  |  Cloud Computing        |  Polymer Surfaces           |
|  AdvanCer                |  Digital Media          |  Simulation                 |
|  Ambient Assisted Living |  Embedded Systems       |  Space                      |
|  AutoMOBILE Production   |  Energy                 |  Technical Textiles         |
|  Battery                 |  Food Chain Management  |  Traffic and Transportation |
|  Big Data                |  Lightweight Structures |  Vision                     |
|  Building Innovation     |  Nanotechnology         |  Water Systems (SysWasser)  |

## THE FRAUNHOFER-GESELLSCHAFT INTERNATIONAL COOPERATION



# Fraunhofer Worldwide

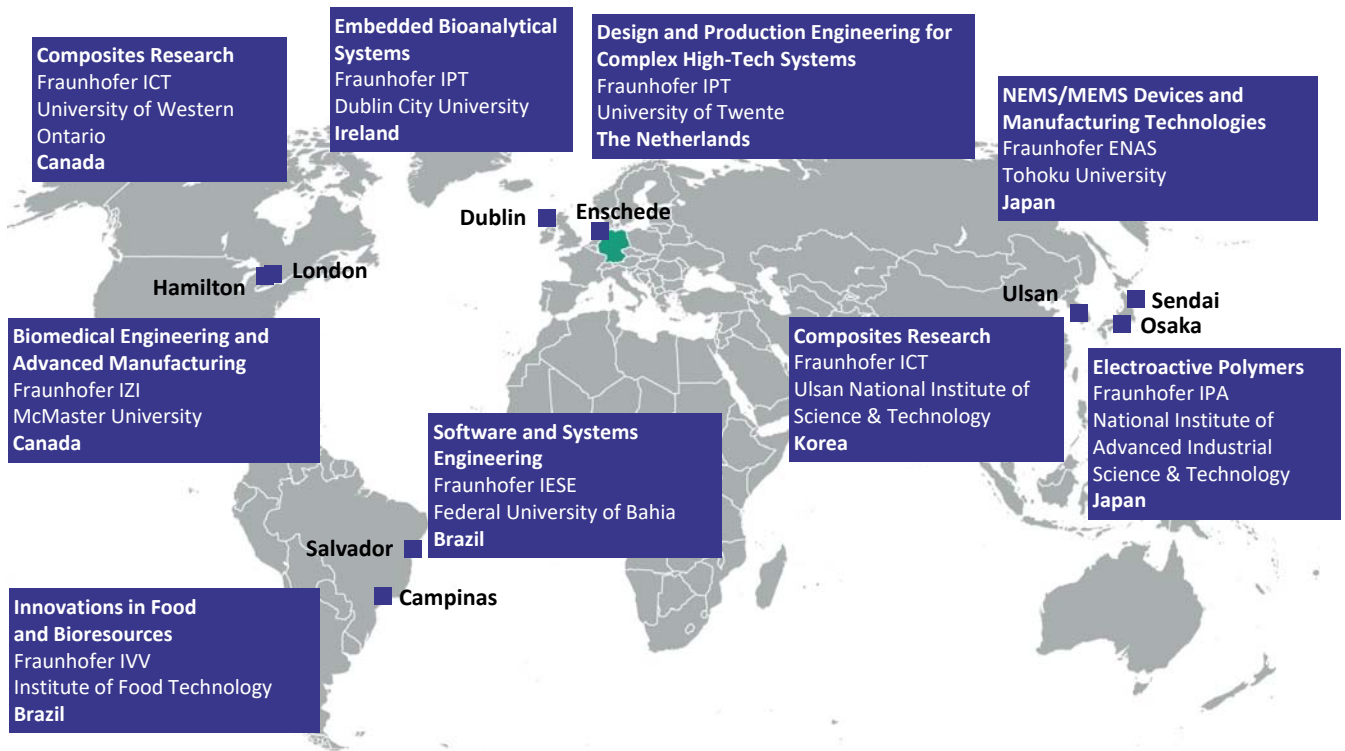


## In 2017 Fraunhofer has carried out projects in more than 80 countries





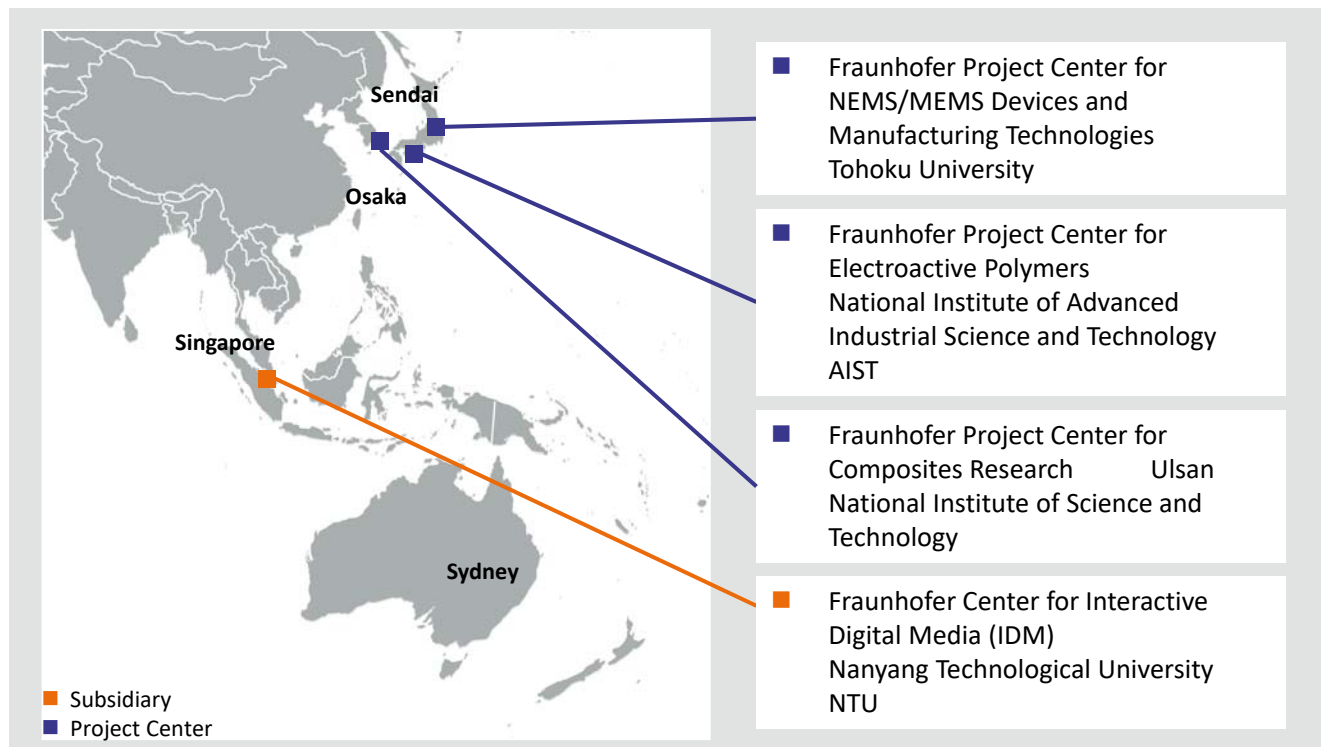
# Cooperations with Excellent Research Institution Worldwide – Fraunhofer Project Center



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## Fraunhofer Activities in Asia



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# Fraunhofer Representative Offices and Senior Advisor in Asia



■ Representative Office Japan
Hideya Miki
■ Representative Office Korea
Dr. Byeungkwan Park
■ Representative Office Beijing
N.N.
■ Representative Office India
Anandi Iyer
■ Representative Office Indonesia
Dr. Kesawa Narayana
■ Senior Advisor Malaysia
Dr. Ahmad B. Ibrahim

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## Hannover Messe 2016: Mass-produced underwater vehicles



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Autonomous underwater vehicles are essential for tasks such as exploring the seabed in search of oil or minerals.

Fraunhofer researchers have designed the first robust, lightweight and powerful vehicle intended for series production.

Dual-Use Nr. : 8A002 (marine systems).

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# Remote-controlled robot inspects suitcase bombs



© North Rhine-Westphalia State Office of Criminal Investigation

Abandoned items of luggage are frequently found at airports and train stations. This is a case for the emergency services, who have to assume that these items might contain bombs. They must assess the potential threat quickly, avert any possible danger, and preserve evidence for criminal proceedings.

In the future, police will have the support of a remote-controlled sensor system as they go about their duties. Fraunhofer researchers are developing this sensor suite in cooperation with industry partners and criminal investigation authorities.

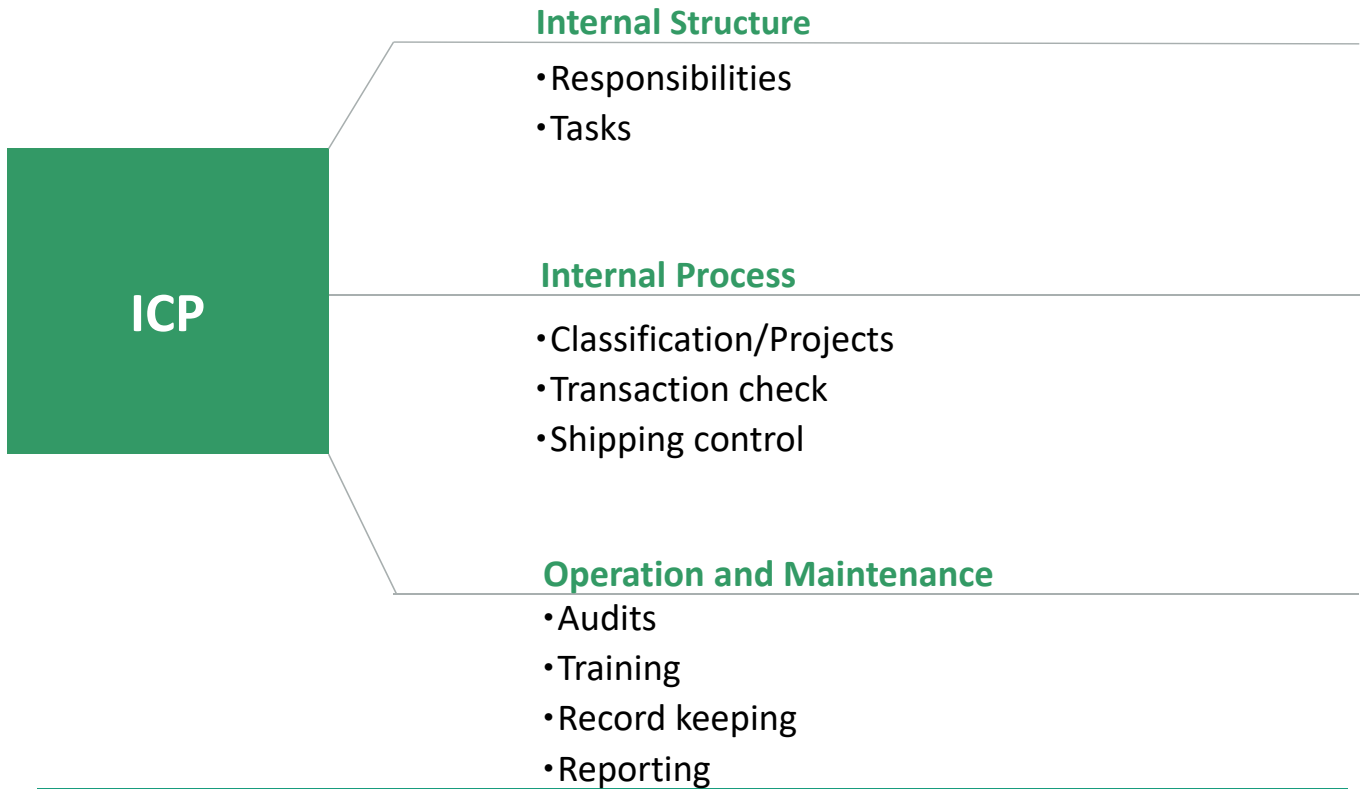
## Export Control in Fraunhofer-Gesellschaft

### Key facts:

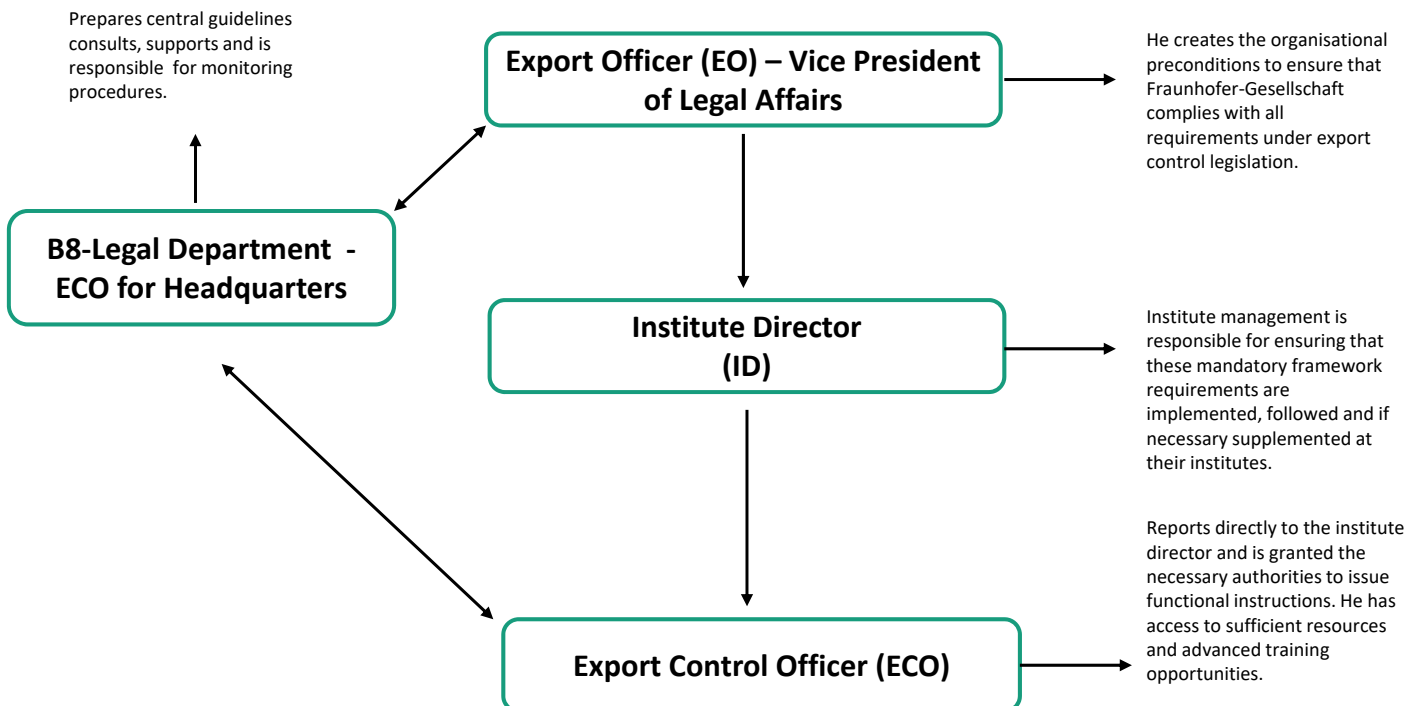
- Strong commitment to complying with all requirements under export control legislation
- Internal compliance program (ICP) was first implemented in 1994 and has been inscribed in Fraunhofer's organisation instruction since then
- ICP consists of 3 key elements:

- Structure of the internal export control
- Process of the internal export control
- Operation and Maintenance

# Key elements of Fraunhofer-Gesellschaft's ICP



# Export Control Structure in Fraunhofer

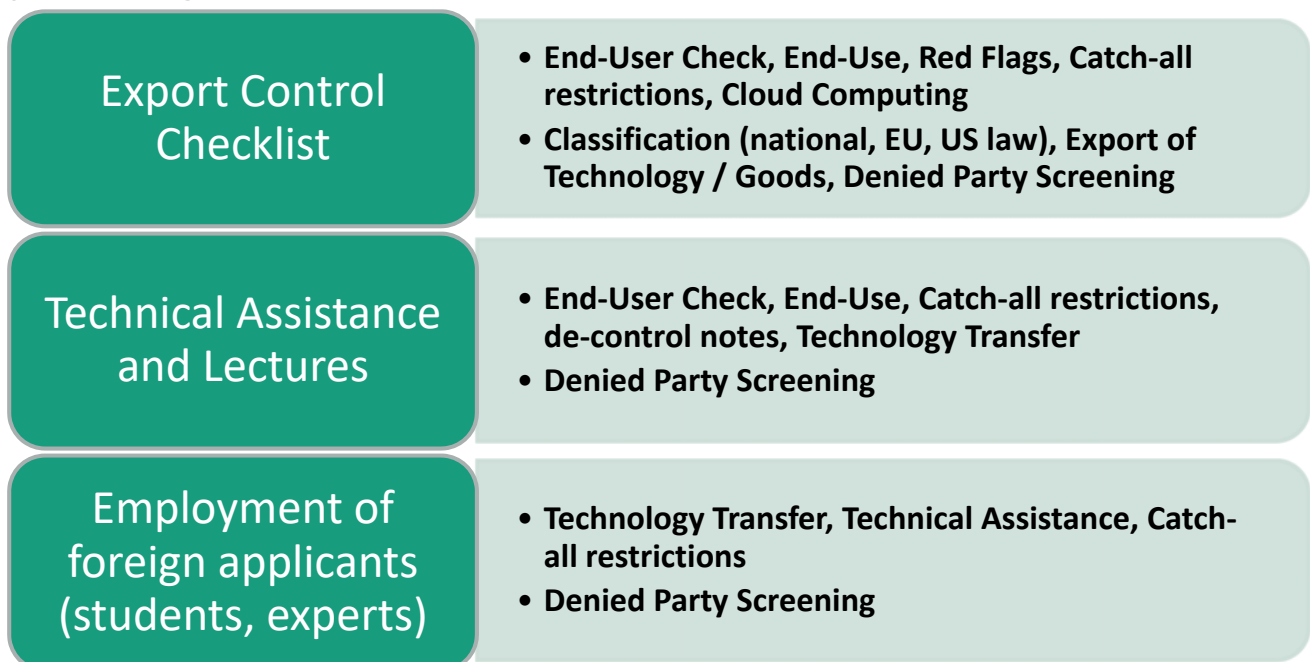


## Chain of responsibility for internal processes



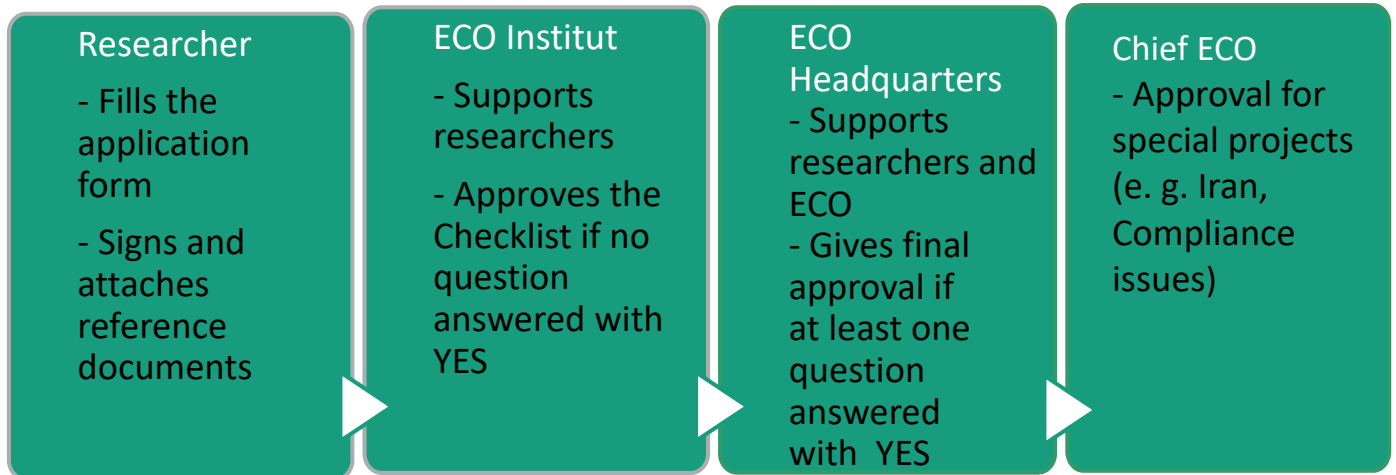
## Application forms for all foreign projects

The application form / checklist must be submitted, prior to providing an offer.



# Application Approval

## Requirements for the institutes and for the Head Office:



# Technology Transfer

Export of Technology

Cloud Computing

**Electronic  
Application  
Forms**

Technical Assistance

Access to Controlled  
Technology

## Major challenges for research organisations in EU

- Organizational structure of research organization differs significantly from industry sector
- No ERP system for research organizations
- Ongoing development of entirely new technology increases complexity of compliance
- “Culture clash”– Freedom of research vs. Export Control Regulations. Scientists feel restricted in their research work by Export Control Regulations.
- No tailored guidelines for researches and academic institutions
- De-control notes of “basic scientific research” and “public domain” requires more clarification and should be addressed to the international export control regimes

## Export Control Culture at Fraunhofer



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**ありがとう – VIELEN DANK – MERCI BEAUCOUP –  
MILLE GRAZIE – THANK YOU!**

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