THE FUTURE OF EU DEFENCE RESEARCH & EU DEFENCE RESEARCH NETWORKS

Prof. Klaus Thoma

Fraunhofer Society

SEDE Meeting

Brussels

November 22

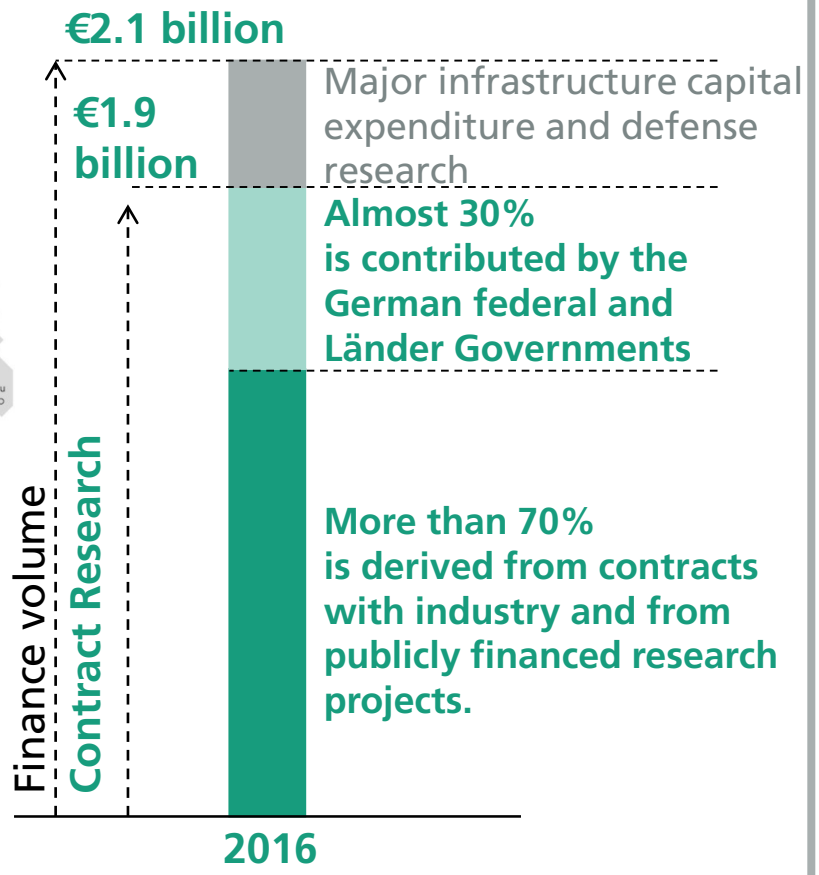
2017

The Fraunhofer-Gesellschaft at a Glance

The Fraunhofer-Gesellschaft undertakes applied research of direct utility to private and public enterprise and of wide benefit to society.

24,500 staff

69 institutes and research units



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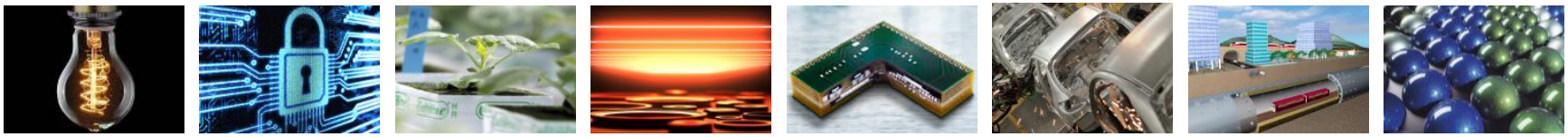
Pooling into Fraunhofer Groups



Institutes working in related subject areas cooperate in Fraunhofer Groups and foster a joint presence on the R&D market.

- Innovation Research
- Information and Communication Technology ICT
- Life Sciences
- Light & Surfaces
- Microelectronics
- Production
- Materials and Components – MATERIALS
- **Defense and Security VVS**

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European Defence Research:

Big Steps of a successful strategy

- **EU Global Strategy**
- **Group of Personalities (GoP Report)**
- **Pilot Project on Defence Research**
- **Commission's Defence Action Plan**
- **Preparatory Action (PA) und European Defence Research Program (EDRP)**
- **A Strategic Path for European Defence Research: 4 Pillar Concept**

A Global Strategy for the European Union

Our global environment is changing rapidly. That is why the European Union's Heads of State and Government decided to assess the challenges and opportunities that come with these shifts. In June 2015 the European Union's High Representative for Foreign Affairs and Security Policy, Federica Mogherini – presented her strategic assessment of the global context to EU leaders. They asked her to prepare an ***EU Global Strategy on Foreign and Security Policy*** to guide the European Union's global actions in the future. The Global Strategy, which will be presented to EU leaders by June 2016, will be developed in close cooperation with Member States, as well as with EU Institutions and the broader foreign policy community. Over the coming months, the High Representative will lead a broad based reflection phase on the strategic outlook for the European Union's global action to ensure that a wide range of views are taken into account.This website will present the key issues in the debate and outline the process of preparing the EU Global Strategy. It will update you on the broad outreach and consultation process, which takes place both online and offline. You will also find details on special events, comment & analysis as well as key policy documents in the respective sections of this site.

Group of Personalities Report

Übergabe des Berichts an
Kommissarin Bienkowska
23. Februar 2016

Brussels - 25 February, 2016

http://www.iss.europa.eu/publications/detail/article/report-of-the-group-of-personalities-on-the-preparatory-action-for-csdp-related-research/

In den Schlüsselempfehlungen wird das bisherige in wenige Aussagen verdichtet:

Key Recommendations

- Fostering **defence research cooperation** at the EU level will enable the Union to live up to its responsibilities as an effective **security provider** and a relevant and reliable **partner at the global level**.

- The PA and the EDRP should act as a catalyst for **European cooperation in key capability areas**, breaking down the barriers and overcoming the disincentives to cooperation that exist today.

- Close **cooperation** between **governments** (as sole customers), **industries** (as main suppliers) and **R&T organisations** is crucial for the success of the PA/EDRP.

- An essential goal of an EU-funded Defence Research Programme will be to sustain *an appropriate level of* **strategic autonomy for Europe** by maintaining its **defence technological and industrial base** in key capability areas.

Übergeordnete Ziele als Ergebnis der bisherigen GoP-Diskussion:

- **Achieve a European strategic autonomy** in
  - Critical Technologies
  - independent European supply chains
  - Interoperability & Standards

- **Europe as a SECURITY PROVIDER**
  Priovide capabilities + technologies to fullfill European defence missions –

- **Maintain and strengthen our defence industrial base.**
  Goal must be to promote a more integrated, sustainable and competitive industrial base in defence

- **Strengthen defence cooperation in Europe**
  via joint defence & security research programs

- **Contribute to Europe´s Resilience in a Globalized World**

The Future of European Defence Research

Suggestion:
A Research Framework based on 4 Pillars

The Future of European Defence Research

A Research Framework with the following Strategic Procedures & Components

I. Walk Strategic Path for **DEFENCE CAPABILITIES + R & D Programs**

II. Initiate European Research Program Part on **KEY Defence TECHNOLOGIES**

III. Create via the Research Program a framework for Establishment of

EUROPEAN CLUSTERS for Research / Development / Manufacturing

IV. Establish a **FORUM for STRATEGIC PLANNING**

The Future of European Defence Research

A Research Framework with the following Strategic Procedures & Components

Pillar I

I. **Walk down a Strategic Path!**

- derive European **DEFENCE CAPABILITIES,**
- initiate **programs for necessary research,**
- initate **programs for Demonstrator development**

Walk down the Strategic Path

From Global Strategy towards
Research, Development, Procurement

Authors' own production – FM

2016

The Future of European Defence Research

A Research Framework with the following Strategic Procedures & Components

Pillar II

II. Initiate a European Research Program Part on

KEY DEFENCE TECHNOLOGIES

- Strategic technologies
- Innovation
- Emergent defence technologies
- Disruptive technologies
- Basic technologies for industrial development programs

In particular in this context, **"innovators", such as universities, RTOs, SMEs** and **industry** should be addressed

BUT for all Partners/Actors :

To be able to compete with leading Defence Research Communities in US and Asia an important **“conditio sine qua non”** must be

- **Scientific Excellence**
- **outstanding Technology Background**
- **Proven Experience in Defence R&T**

R&I&T Areas (Research, Innovation & Technology)

Critical Defence Technologies:

within this Area it should be demonstrated that R&I&T at EU level can convincingly contribute positively to ensure future access to certain technologies that are critical for the defence sector.

Topics should aim at technologies at sub-system or component level (defence specific electronics, meta-materials, …), access to which is critical for the independent development of defence systems; mid to high TRL.

Future and Emerging Disruptive Technologies:

technologies, either emerging or available to other sectors, which have the potential to become "game changers" with a potentially ground-breaking impact on the future operational environment, are addressed in this Area;
low to mid TRL, including advanced manufacturing technologies typical of Industry 4.0 and beyond.

In view of the reform of the **International Traffic in Arms Regulations (ITAR),** an important part in this Area would be to launch a *stocktaking exercise of ITAR* related components in Europe's armament systems, including in future technologies.

DARPA like projects: Bridging the Gap

The Future of European Defence Research

A Research Framework with the following Strategic Procedures & Components

Pillar III

III. Create via the Research Program a framework

for the Development of **EUROPEAN CLUSTERS of Excellence**

for the actors in defence research (RTO´s, Universities)

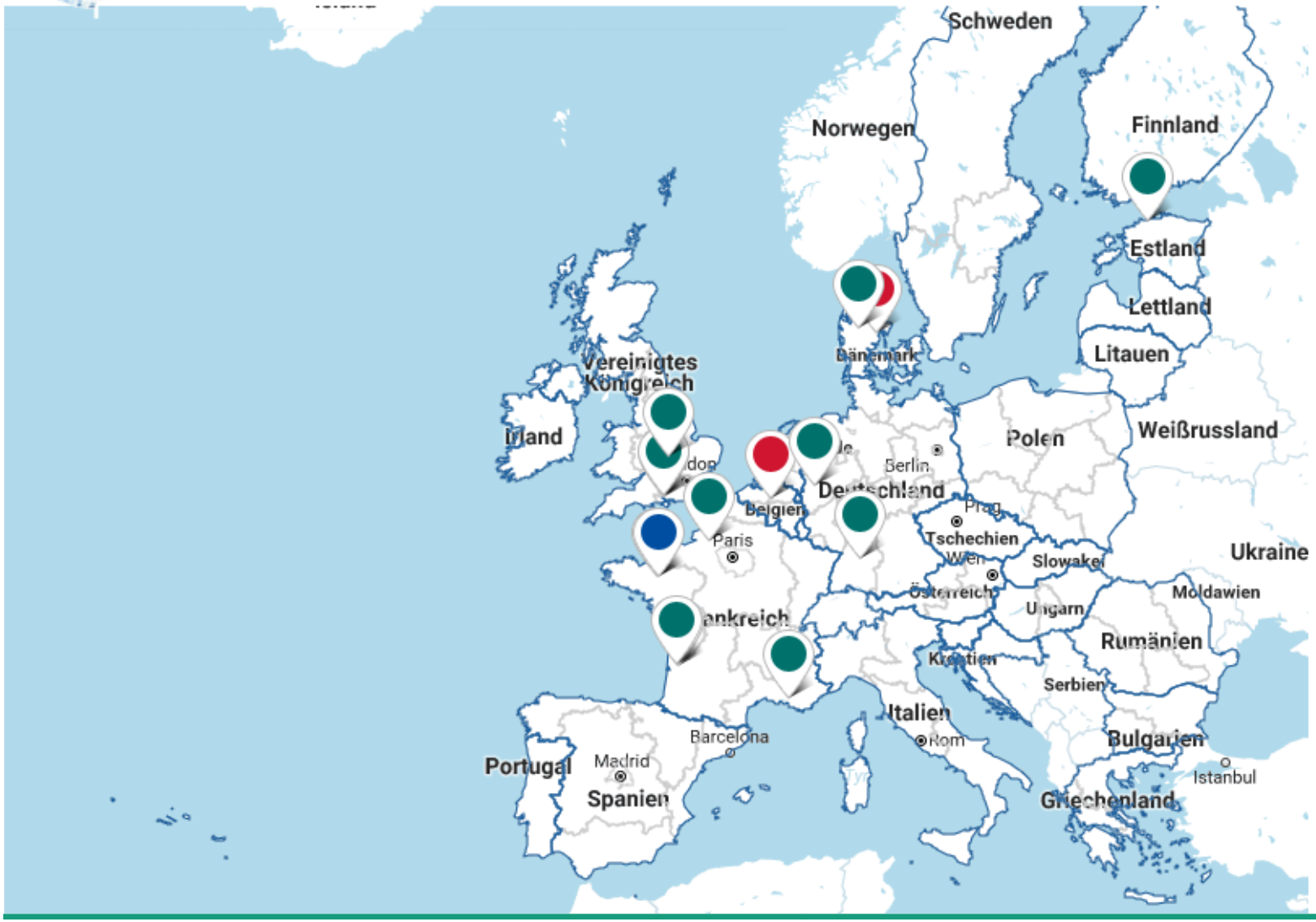
for defence industry, focus on SME´s, Technology Centers

Encouraging the development of regional clusters of excellence

Regional clusters specialising in industrial niches (also known as "clusters of excellence") allow large firms, SMEs and research centres to work in close geographic proximity in order to increase R&D collaboration and specialise in a specific technology area (e.g. aircraft engines).

While the decision to prioritise regional clusters rests in the hands of local and regional government actors, EU financing (including through EIB) could lead to successful technology demonstrator projects and the development of industrial and scientific partnerships between firms and research centres (44).

Remark:
Furthermore, the Commission has launched the European Network of Defence-related Regions (45) to support EU regions with important relevant industrial and research assets and to share best practices on integration defence-related priorities into their smart specialisation strategies. The Commission will encourage Member States to promote regional clusters of excellence, benefitting the defence sector.



Source: https://www.endr.de

Security Research: An example of sucessful Networks

INACHUS - Project Info

Title: **Technological and Methodological Solutions for Integrated Wide Area Situation Awareness and Survivor Localization to Support Search and Rescue Teams**

Topic: SEC-2013.4.2-1, Fast rescue of disaster surviving victims: Simulation of and situation awareness during structural collapses including detection of survivors and survival spaces

Type: Large-scale Integrating Project (IP)

Consortium: 20 partners from 10 EU countries

Budget: 10M € (EU contribution)

Starting date - Duration: 1/1/2015 – 48 months

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A Research Framework with the following Strategic Procedures & Components

Pillar IV

IV. Establish a **FORUM for Strategic Planning & Foresight Studies**

European Network for

- Horizon Scanning,
- Technology Watch
- Scenario-Based Scoping of EU-Funded Defence Research

to support the strategic foresight analysis of both MS and the EU, by following important

- geopolitical and security trends,
- emerging threats,
- technological developments, and
- assessing the military impact of such trends and technologies.

The Future of European Defence Research

A Research Framework with the following Strategic Procedures & Components

Thank You for your Attention

Klaus Thoma

Fraunhofer EMI