



# Dual-use Technologies: EU funding opportunities

*Webinar*

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1. Intro on dual use technologies & policy context
2. Funding opportunities in Horizon 2020
3. Other funding opportunities
  - ✓ ESIF
  - ✓ COSME
4. Other actions and initiatives

# INTRODUCTION



# European Defence Action Plan

- Focus on defence capability needs and support to the European Defence Industry
- Three main pillars
  - ✓ **Launching a European Defence Fund**
  - ✓ **Fostering investments in defence supply chains**
  - ✓ **Reinforcing the single market for defence**

## Fostering investments in defence supply chains

- Access to finance for SMEs and investments in the defence sector [COSME]
- Strengthen the support of EU funds to investment in defence [ESIF]
- Encourage the development of regional clusters of excellence
- Supporting skills in defence

## What is dual use?

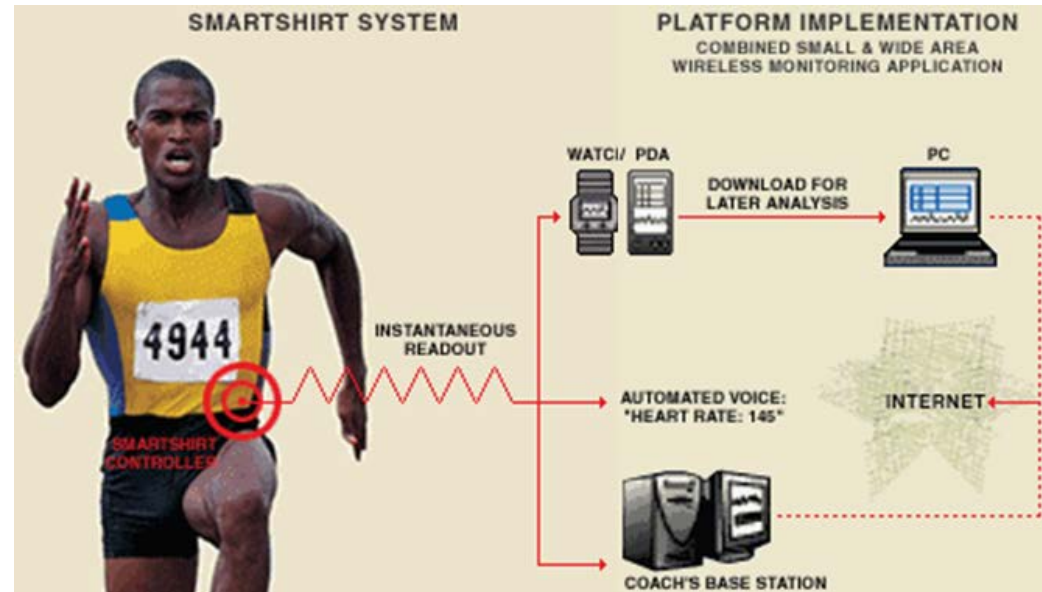
*Dual use products, services and technologies  
can address the needs of  
both defence and civil communities*



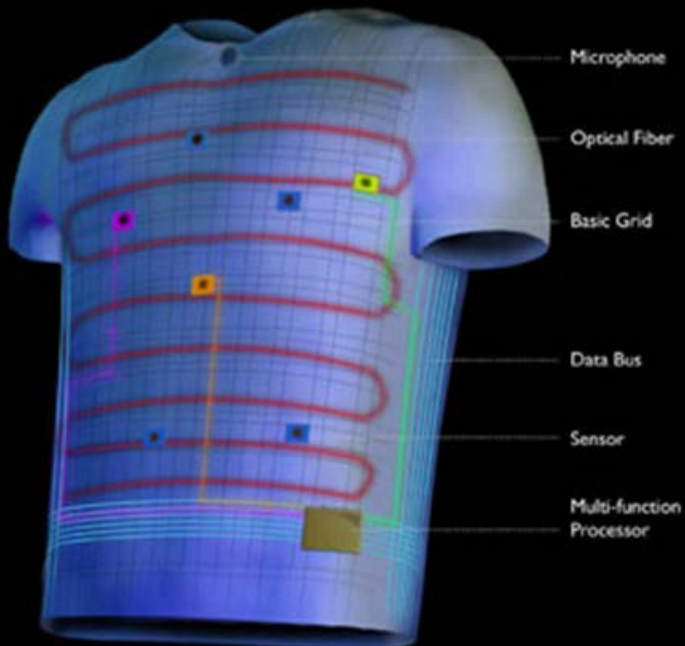
**Dual use guide available in English,  
French, German, Italian and Spanish –  
online & printed**

[http://ec.europa.eu/growth/sectors/defence/industrial-policy/smes/index\\_en.htm](http://ec.europa.eu/growth/sectors/defence/industrial-policy/smes/index_en.htm)

# Smart textiles



Smart Shirt Sensory Architecture



- Sports & fitness
- Healthcare
- Automotive & Transport
- Protection & defence

# Turning 2D images into a 3D world



- Movies, animation, video games
- Medical applications
- Defence (simulations)

## Meet the Exoskeletons



- Health care
- Construction
- Fire-fighting & rescue
- Defence

*See example at  
<http://www.euronews.com/2017/03/24/business-opportunities-with-the-dual-use-trend>*



## Why dual use?

- SMEs participating in defence markets today are (almost) exclusively involved in dual-use activities
- Armed Forces rely increasingly on development of civil industrial products and technologies
- Growing # of research & technologies for multiple applications: nano-electronics, unmanned systems, synthetic biology, big data, 3D printing, etc.
- In 2013 licensed exports of dual use products amounted to €48 billion. This represented 3.1% of total extra-EU exports.

# FUNDING OPPORTUNITIES IN H2020

## Three priorities of H2020



**Excellent  
Science  
(ES)**

**Industrial  
Leadership  
(IL)**

**Societal  
Challenges  
(SC)**



## H2020 Regulation & dual use

*Research and innovation activities carried out under Horizon 2020 shall have **an exclusive focus on civil applications** (art.19).*

*Dual use technologies can be funded*

*Context of Dual Use Export Regulation*

### **Guidance note**

*[http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide\\_research-dual-use\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-dual-use_en.pdf)*

# Examples of relevant FP7 Projects

## ***Security Research***

*AntiBotABE (Neutralizing antibodies against botulinum toxins A,B,E, 2010-2015)*



*TIRAMISU (Humanitarian Demining Toolbox, 2012-2016)*



## ***Health research***

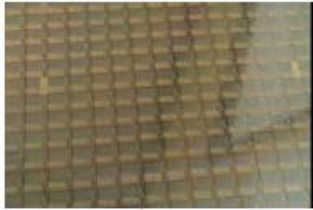
*ANTIGONE (ANTicipating the Global Onset of Novel Epidemics, 2011-2016)*





# KETs for Dual Use

## SEMICONDUCTOR GaN



## INFRARED & TERAHERTZ UNCOOLED BOLOMETER IMAGING



## MICRO FUEL CELL



## HIGH PERFORMANCE COMPUTING (HPC)



## ABSOLUTE MAGNETOMETERS SWARM



## VERY HIGH PERFORMANCE COOLED INFRARED DETECTORS



## THERMOELECTRIC SYSTEMS



## ORGANIC PHOTOVOLTAIC (OPV)



## Examples of KETs with dual use application potential

Microelectronics

Nanotechnologies

Advanced materials

Photonics

Biotechnologies

Advanced manufacturing



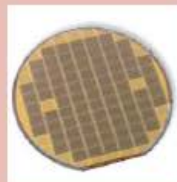
An example of KETs for dual use: Cadmium-Tellure cells for demining robots as well as medical imagery



## Technological value chain

### Common part

### Sectorial part



Materials,  
new chemistries

Cells

Modules

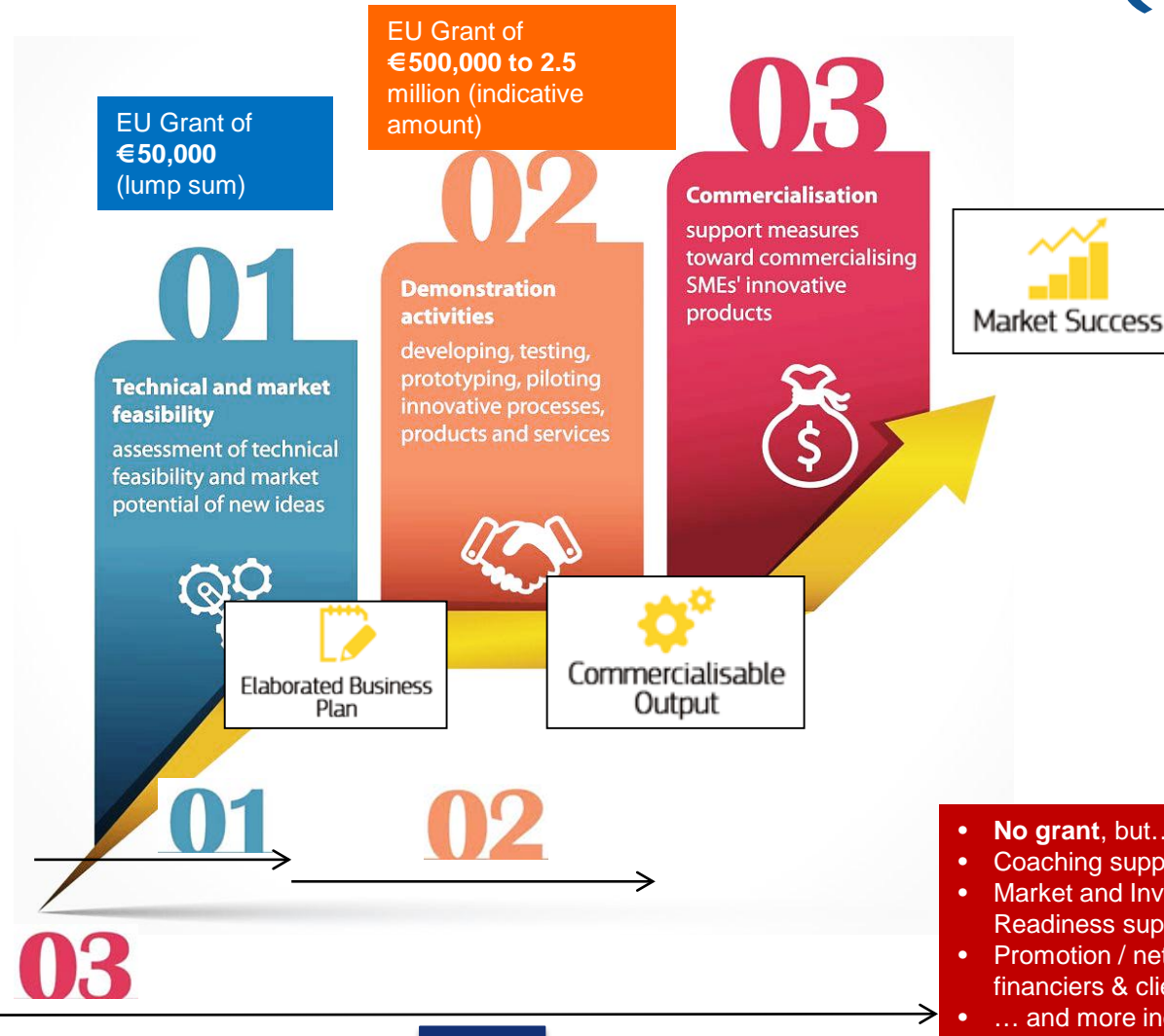
Systems

**KET4DUAL three objectives:**

- **Complete RO-cKETs mapping of innovation fields**  
*Especially concerning space, nuclear, security and defense fields*
- **Identify innovation fields with significant dual use potential**  
*Innovation fields that address both civilian and defense markets*
- **Provide highlights on maturity and potential impacts of dual use fields**  
*Maturity: both technology and European manufacturing readiness*  
*Impact: economic / industrial impact in EU of bridging the “valley of death” for the given field*

<https://bookshop.europa.eu/en/study-on-the-dual-use-potential-of-key-enabling-technologies-kets--pbEA0716118/>

# Horizon2020 - SME Instrument (1)



- **No grant, but...**
- Coaching support
- Market and Investment Readiness support
- Promotion / networking with financiers & clients
- ... and more indirect support!



# Horizon2020 - SME Instrument (2)

- For all types of **innovative SMEs** (EU-28 + H2020 AC) showing a strong ambition to develop, grow and internationalise
- Administered through a **single and permanently open call** (until end of H2020), implemented by EASME (EU Executive Agency for SMEs)
- **13 different** (mostly broad) **call topics**
- **Single company** applications and support possible
- From idea to market through **three phases of continuous support**
- No obligation for applicants to sequentially cover all three phases
- **70% funding** (as a general rule)
- **Mature ideas** with a clear **European dimension**
- Anticipated **EU budget** for **2016-2017: ca. €750 million** (> ca. €500 million in 2014-2015)
- **Total budget** for SME instrument close to **€3 billion over 2014-2020**



# EUROPEAN STRUCTURAL & INVESTMENT FUNDS (ESIF)

- ESIF may be used in defence sector as long as they contribute to objectives of the fund
- ERDF may fund defence activities and dual-use activities in research and innovation, as part of a smart specialisation strategy
- Commission will promote funding opportunities through ESIF to the benefit of defence stakeholders & prepare a guidance paper



EUROPEAN NETWORK OF  
DEFENCE-RELATED REGIONS

- Forum for regional organisations & clusters to exchange information and share best practices
- Info on access to funding at EU level
- Organisation of events



# EUROPEAN NETWORK OF DEFENCE-RELATED REGIONS

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- [EVENTS](#)
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Map Custom Style

# www.endr.eu



ENDR brings together regional authorities, clusters and business to share experiences and best practices on dual use activities.

[JOIN ENDR](#)

## BULLETIN BOARD

## EVENT



"DRONEDAYS" 2017 TO LINE UP DUAL USE STAKEHOLDERS



REGIONS COMPARE DUAL USE CYBER STRATEGIES



MARITIME DUAL-USE INNOVATION

4 Apr 2017

Southampton, United Kingdom

- ❑ Dual use Cyber security strategies symposium
  - *Rennes, 23-24 November 2016*
- ❑ EDAP's new opportunities for regions workshop
  - *Brussels, 9 March 2017*
- ❑ Maritime and Defence Dual-use conference
  - *Southampton, 4-5 April 2017*
- ❑ Dual-Use Conference 2017 – Drones & Space
  - *Aarhus, 4-5 May 2017*



- ❑ Roadmap (*collect best practices, way forward*)
- ❑ Technical workshop for ENDR members – 26 October 2017
- ❑ Possible extension and strengthening of activities ENDR 2018-2019

# COSME



# COSME Financial Instruments

- Budget: **60%** - over **€1.3 billion**
- Overall target is to provide support to up to **330 000 SMEs**
- Debt and equity financial instrument for SMEs:
  - **Loan Guarantee Facility (LGF)**
  - **Equity Facility for Growth (EFG)**

See <http://access2eufinance.ec.europa.eu>



## European Strategic Cluster Partnerships

- Support to existing and new ESCPs

→ Call open until 23 May 2017

More info:

***<https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/cosme/calls/cos-clusint-2016-03-01.html>***

- Support to partnerships in area of dual use:

→ Call expected for Q3 2017

**EEN**

# Enterprise Europe Network - Services for SMEs

## International Partnership Services

- Business cooperation, technology transfer, innovation and research projects – and related activities: matchmaking events, technology brokerage and company missions;
- Partnership Opportunities Database with 10 000 cooperation demands and offers.

## Information & Advisory Services

- EU policies, legislation and programs;
- Innovation support services, Intellectual Property Rights (IPR);
- Access to international markets;
- Access to finance;
- Horizon 2020 participation, SME Instrument;
- Resource efficiency.

**Feedback from SMEs concerning EU initiatives, EU legislation**



# EEN Global Presence



## EU Member States

Albania	Montenegro
Iceland	Turkey
Armenia	Moldova
FYROM	Serbia

625 partner organisations  
4.500 professional advisers  
450.000 companies helped / Year  
2.500 signed agreements / Year

## Buss. Cooperation Centres\*

Russia	Indonesia
New Zealand	Canada
Japan	Argentina
China	S-Korea
Switzerland	United States
Brazil	Peru
Norway	India
Egypt	Serbia
Israel	Mexico
Singapore	Tunisia
Taiwan	Belarus
Bosnia-Herz.	Chile
Paraguay	Ukraine



\*not funded by EU

full list on: <http://een.ec.europa.eu>



- Develop brochures and video clip to show successful cases of SMEs taking advantage of EU funding for dual use
- Raise awareness among SMEs and other stakeholders & highlight increased funding opportunities presented by EDAP
- Disseminate via Enterprise Europe Network in 2<sup>nd</sup> half of 2017

# SKILLS



## European Defence Action Plan

*... need to retain key skills and acquire new ones to be able to deliver high-tech defence products and services ...*

## New Skills Agenda for Europe

*... need for sector-specific skills solutions ...*

→ Blueprint for Sectoral Cooperation on Skills

→ Defence is one of the pilot sectors



## → **Sector Skills Alliances project (Erasmus+)**

Expected to set up an industry-led European defence skills partnership and solve imminent skills gaps (call for proposals, €4 M / 4 years)

## → **COSME project on defence-related skills**

Expected to complete data, deliver the sector's strategy on skills and engage stakeholders (call for tenders, €800,000 / 1 year)

## → **ESIF: actions are expected to roll-out at national level (e.g. European Regional Fund)**

[http://ec.europa.eu/growth/sectors/defence/industrial-policy/skills\\_en](http://ec.europa.eu/growth/sectors/defence/industrial-policy/skills_en)



**Thank you for your attention!**

**European Network of Defence-related Regions**

*<http://www.endr.eu>*

**European Commission Defence SME-pages**

*[http://ec.europa.eu/growth/sectors/defence/industrial-policy/smes/index\\_en.htm](http://ec.europa.eu/growth/sectors/defence/industrial-policy/smes/index_en.htm)*