



European Parliament

AFET Foreign Affairs Committee

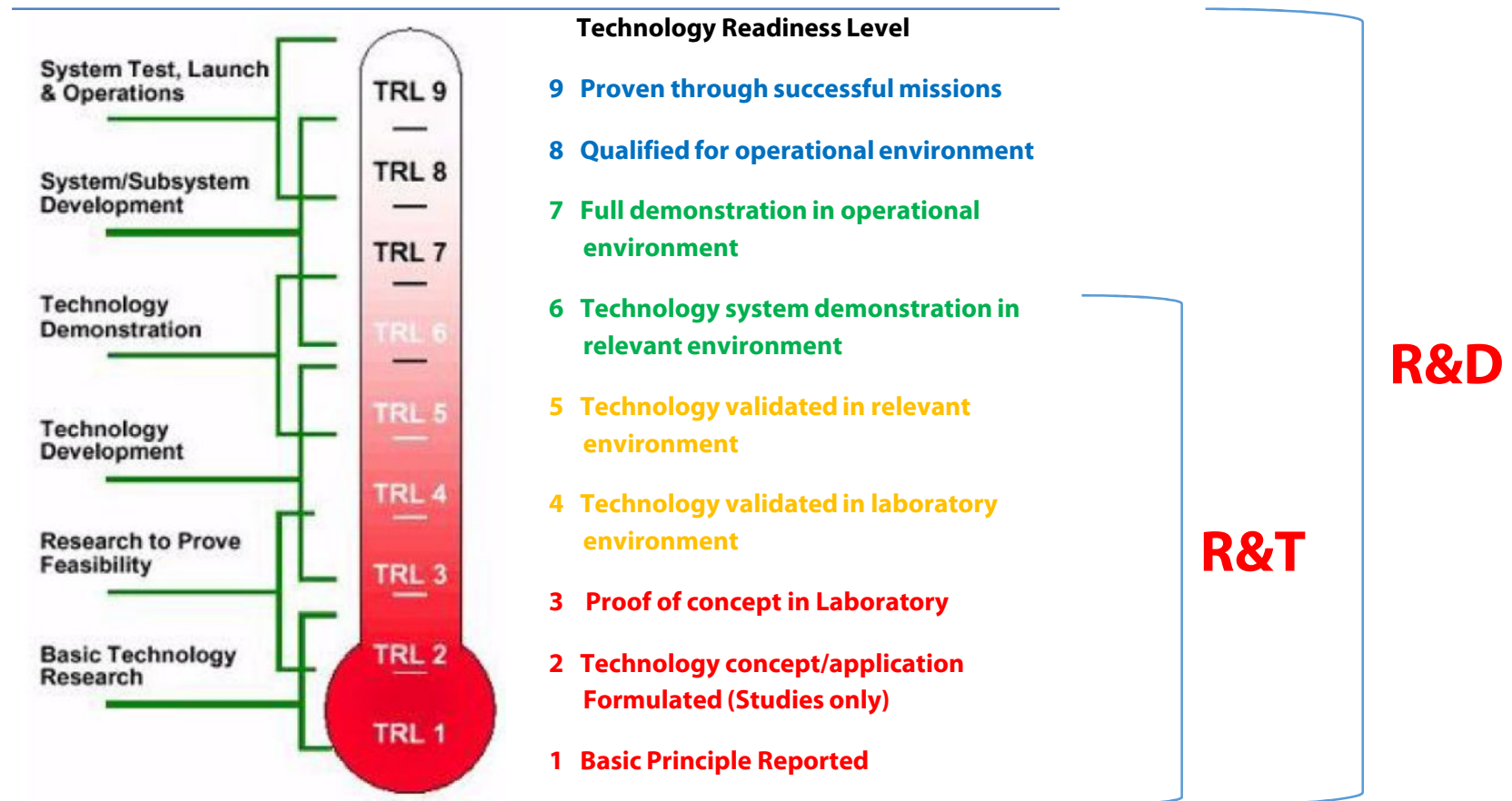
SEDE Security and Defence

Wednesday 16 March 2016

## **The future of EU Defence Research**

**Me Frederic Mauro – Prof. Klaus Thoma**

# Defence Research: what are we talking about?



Source: European Defence Agency definitions used for R&T and R&D expenditure

# European defence and security research is coming to an end

## Defence research

- **2006-2013 free fall**
  - Defence R&D: from EUR 10.6 bn to 7.5 bn (**29 %**)
  - Defence R&T: from EUR 2.9 bn to 2.1 bn (**28 %**)
  - European collaborative R&T: a mere €168 million (**8%**)
- **High level of concentration on three countries** : FRA, UK, D (**92 %** of Defence R&D, **86 %** of defence R&T)

## Security research

- Security Research Strategy
  - Preparatory action                      €65 million                      2004
  - ESRA    €200 m per year (3%)      FP7 2007-2013
  - H2020:    €164 m per year                      2014-2020
- Security is a **third level priority** only

## An example of the gap between US defence R&D and EU R&D:

### UCAS (Unmanned Combat Air System Demonstrator)

First flight of Boeing X 45's: **2002**



First take on/take off from an Aircraft carrier of Northrop Grumman X 47's: **2013**



First in-flight refuelling of a X 47: **2015**



# An example of the gap between US defence R&D and EU R&D as it stand today: UCAS copy cat

First flight of Dassault's Neuron: **2012**

**+ 10 years**



**2013** First flight of BAE's Taranis

**+ 11 years**

# What shall the Union do ?

## Business as usual is not an option

- In ten years time the European defence industry will be a niche industry out of touch of with the main cutting edge technologies (robotics, I.A., lasers etc.)
  - Economically: loss of high value industries and jobs
  - Politically: 'strategic autonomy' = empty word
  - Militarily: no more 'freedom of action' for CSDP missions

## The Union has already started to react

- |   |                    |
|---|--------------------|
| • Commission Communication                            | July 2013          |
| • Parliament's Pilot Project                          | Autumn 2014        |
| • Commission's Preparatory Action                     | 2016               |
| • <b>A future European Defence Research Programme</b> | <b>2021-2028 ?</b> |

## Would a European Union action have an added value?

- The Union is the only entity capable of gathering the **critical mass** needed for defence research activities
- The Union can provide **budgets with greater certainty** and **predictability** than Member States
- The Union can bring up **efficient governance** in the field of defence research and **better value for money**
- A Union budget will ensure that all European countries **share responsibility** in defence research programmes
- A Union action plan will **narrow the defence research gap** among European Countries and facilitate the **networking** of Research and Technology Organisations

# What should be the size and the scope of an European Defence research programme (EDRP) ?

- EU strategic allies and competitors :

|                   |                 |                              |
|-------------------|-----------------|------------------------------|
| ➤ US              | €67 bn per year | 'Third offset initiative'    |
| ➤ China           | €20 bn          | estimate                     |
| ➤ Russia          | €3.5 bn         | X 2 in the last five years   |
| ➤ EDA countries : | €7.5 bn         | €2.1 bn R&T per year in 2013 |

- Wales summit commitments:

|                       |   |
|-----------------------|---|
| ▪ + €72.3 bn per year | on defence expenditure (2% of GDP)      |
| ▪ + €22.3 bn          | on equipment (20 % of def. expenditure) |
| ➤ + €4.1 bn           | R&D (20 % of equipment)                 |
| ➤ + €1.2 bn           | R&T (5.6 % of equipment)                |

- **Size of a future EDRP ?** There is no technical answer to a political question

Political decision

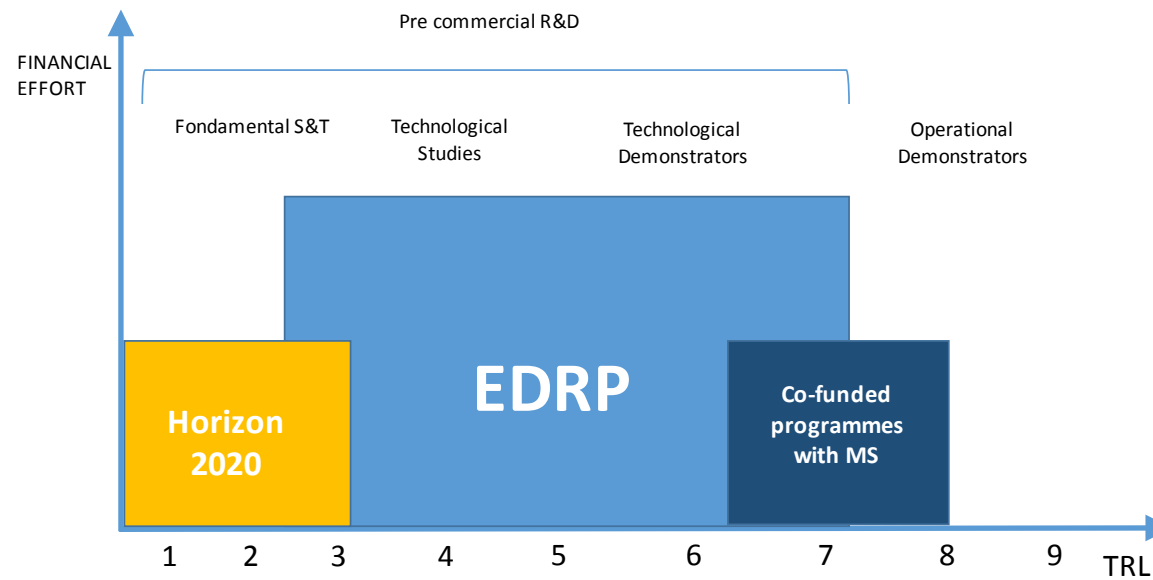
€3.3 bn per year on R&T = **Maximum** effort of the MS: €2.1 + €1.2

€0.5 bn per year on R&T = **Minimum** size (UK: 0.5 D: 0.54 FRA: 0.75)



- **Scope of a future EDRP ?**

- ❖ 2021 might be too late: make sure that a significant amount of Horizon 2020 is dedicated to **dual use** in 2018 2019 and 2020 budgets
- ❖ **Focus EDRP on defence from TRL 3 to TRL 7**
- ❖ Consider the possibility of **co-funded programmes** at later stage (2023 upwards)



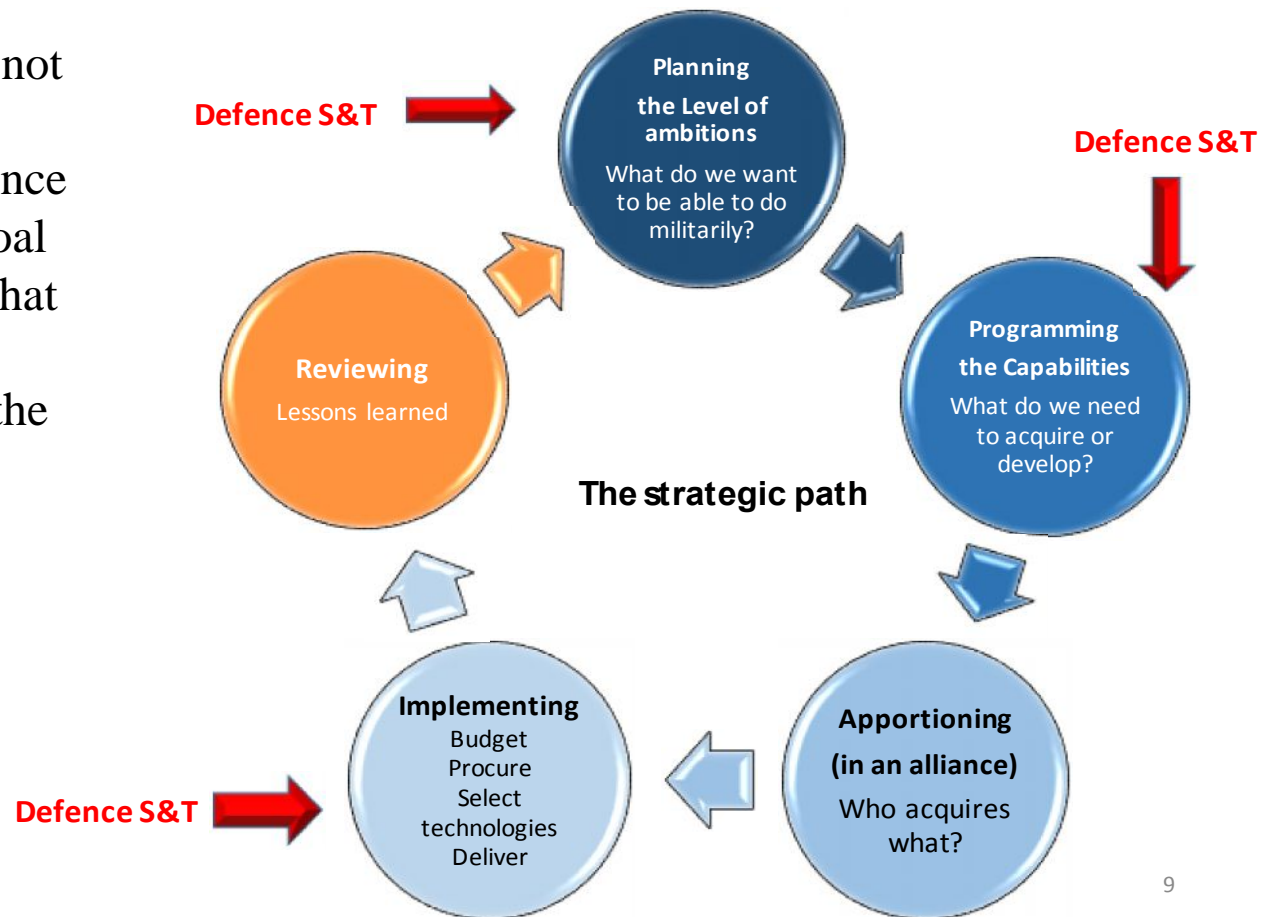
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# How to include the EDRP within a comprehensive defence action plan ?

## ➡ 1. Connecting EDRP with capability needs

Defence research does not occur in a vacuum.  
It is the result of a defence planning process the goal of which is to define what the capabilities needed are, in order to satisfy the level of ambition

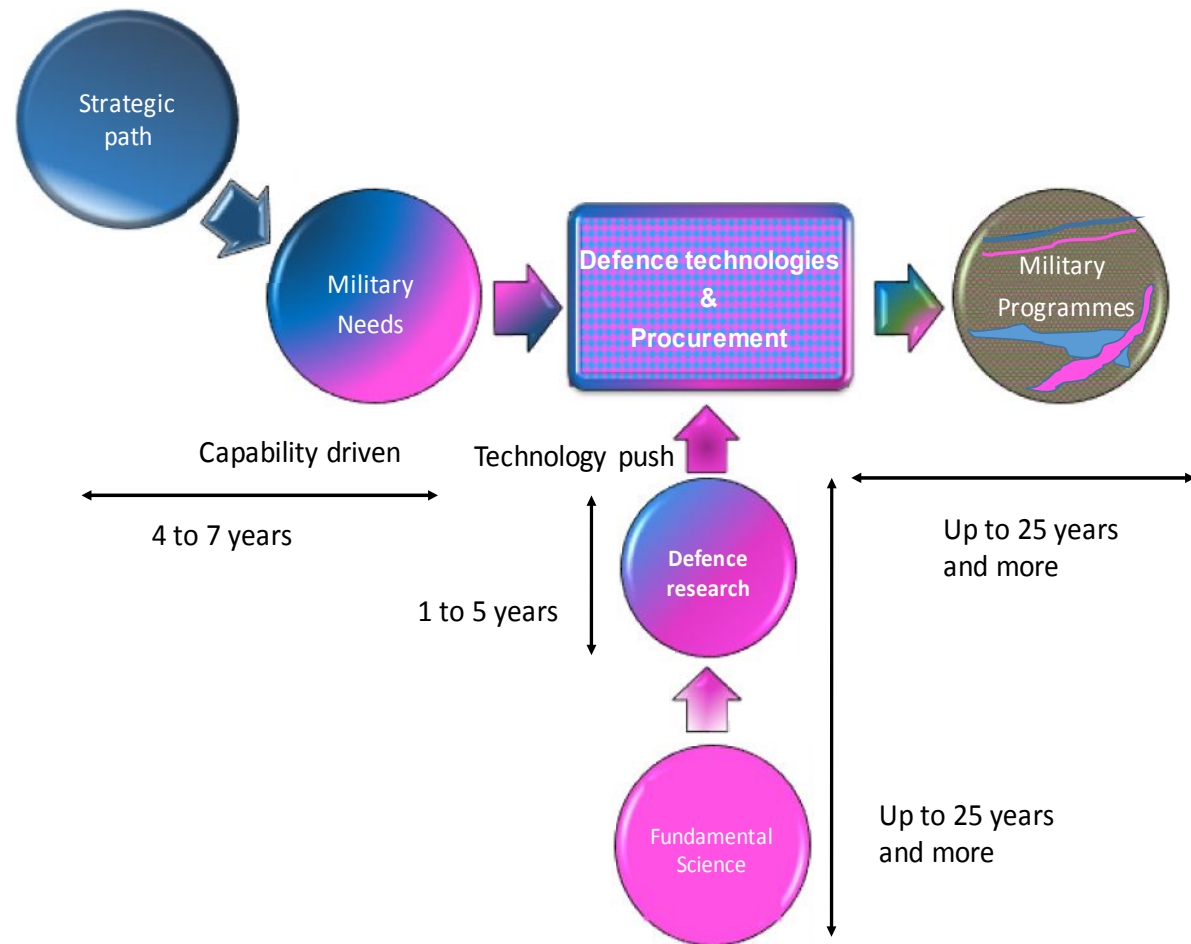
**Defence Research is capability driven**



The Procurement process must take into account the 'technological push'

This technological push is increasingly important due to a new nexus between civilian and defence research

**Defence Research is technologically pushed**



*'Technology solutions and capability needs are the yarn and the weft of the defence fabric. Once the fabric has been weaved, it is impossible to discern what is what'*

## **EDA as it stands will not be able to support a large programme**

Setting the orientations and selecting the projects is critical and has to be done in the **common interest** of all, not according to the unanimity rule

**EDA's budget** is out of proportion with EDA's missions:

|           |                 |  |
|-----------|-----------------|--|
| EU EDA:   | 129 personnel ; | budget €30 million (operational budget: €6m) |
| US DARPA: | 219 personnel ; | budget €2.7 billion                          |

**If the Union wants to utilise EDA - which we recommend – then the Union has first to modify EDA and then to set the size of the EDRP**

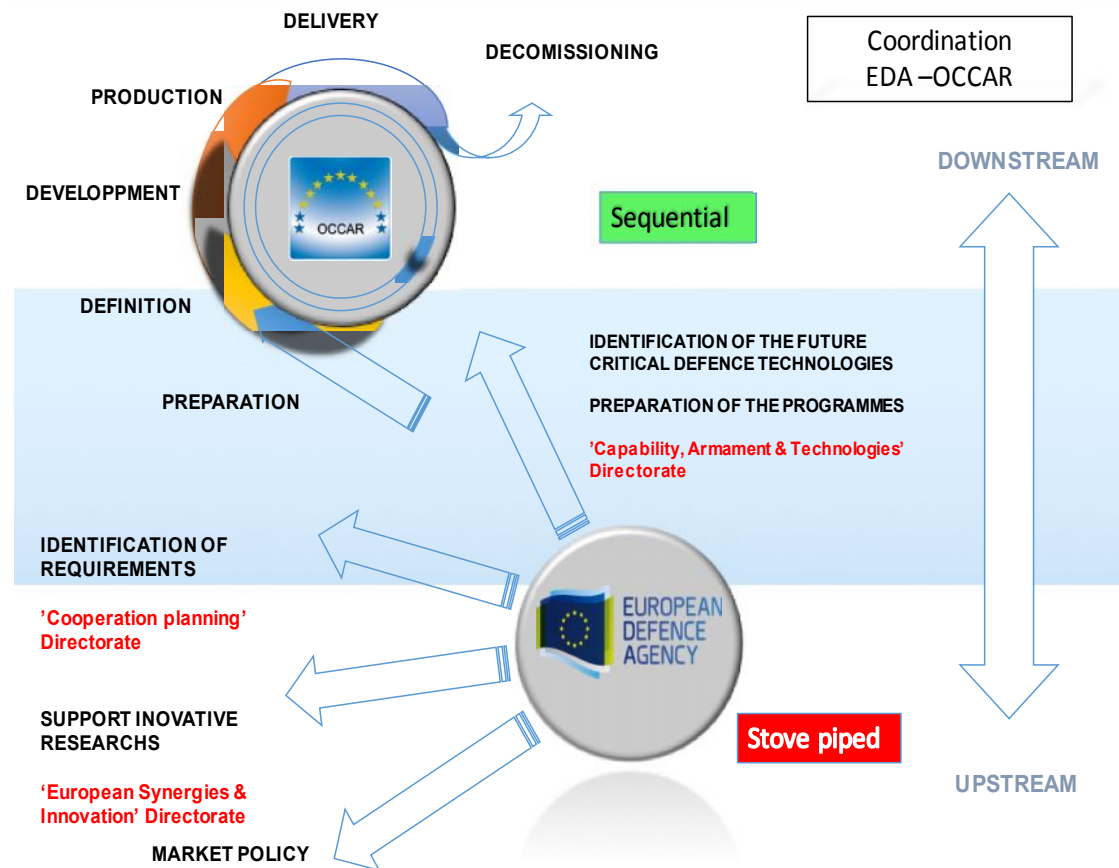
**If the Union is not capable to modify EDA then it has to consider other solutions:**

Set an ad hoc **Joint Undertaking/Joint Technological Initiative**

Create a **Defence research General Directorate/Defence research Commissioner**

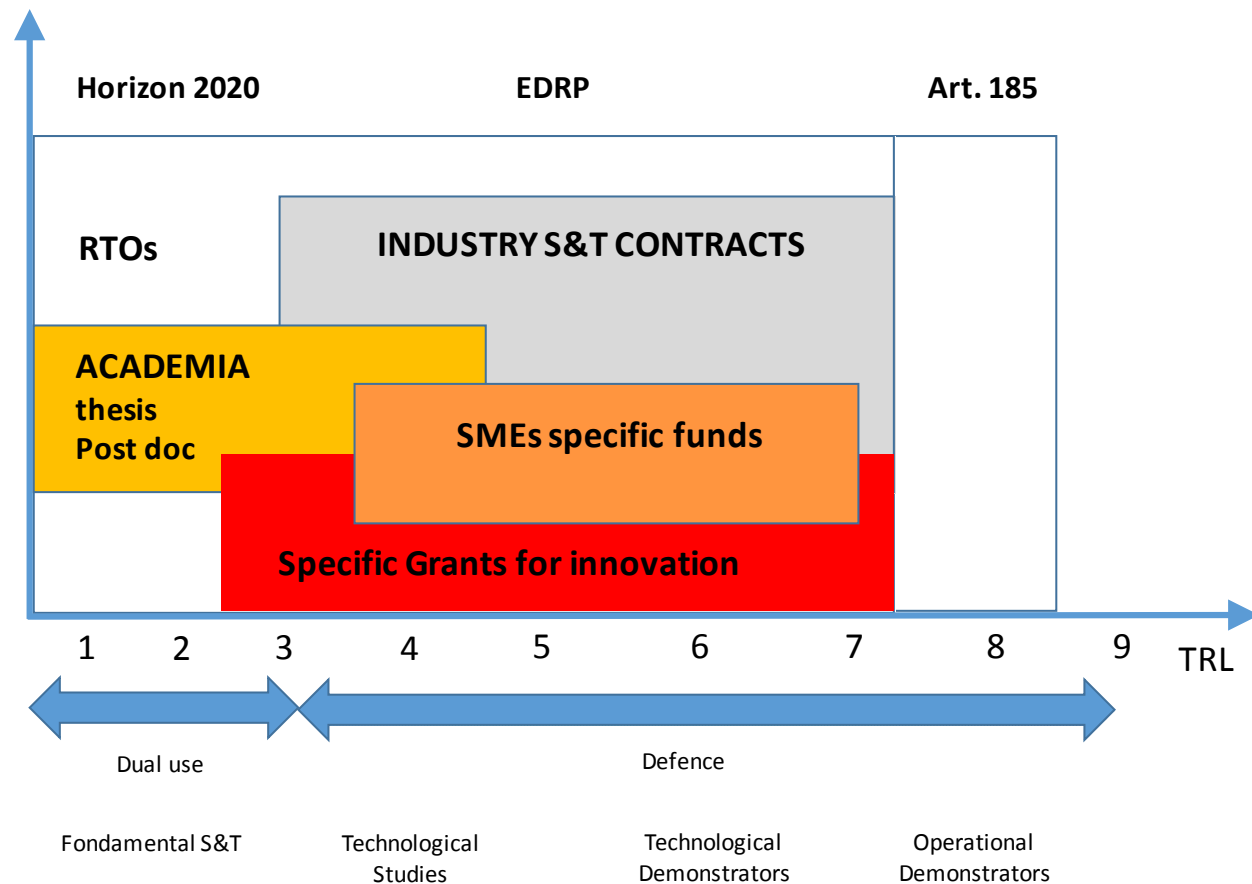
## ➡ 2. Connecting EDRP with armament programmes

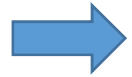
- Co-finance some major projects with the Member States
- **Merge EDA, OCCAR and Lol-FA**
- Enable the Union to acquire dual assets



### ➡ 3. Involving Member States in the EDRP

- Invest in the industrial sectors that are crucial for **strategic autonomy**
- Help the Member States to maintain their **most fragile links** in defence research
- Make EDA a **centre of excellence** at the disposal of the Member States





## 4. Incentivising European industries to play the game

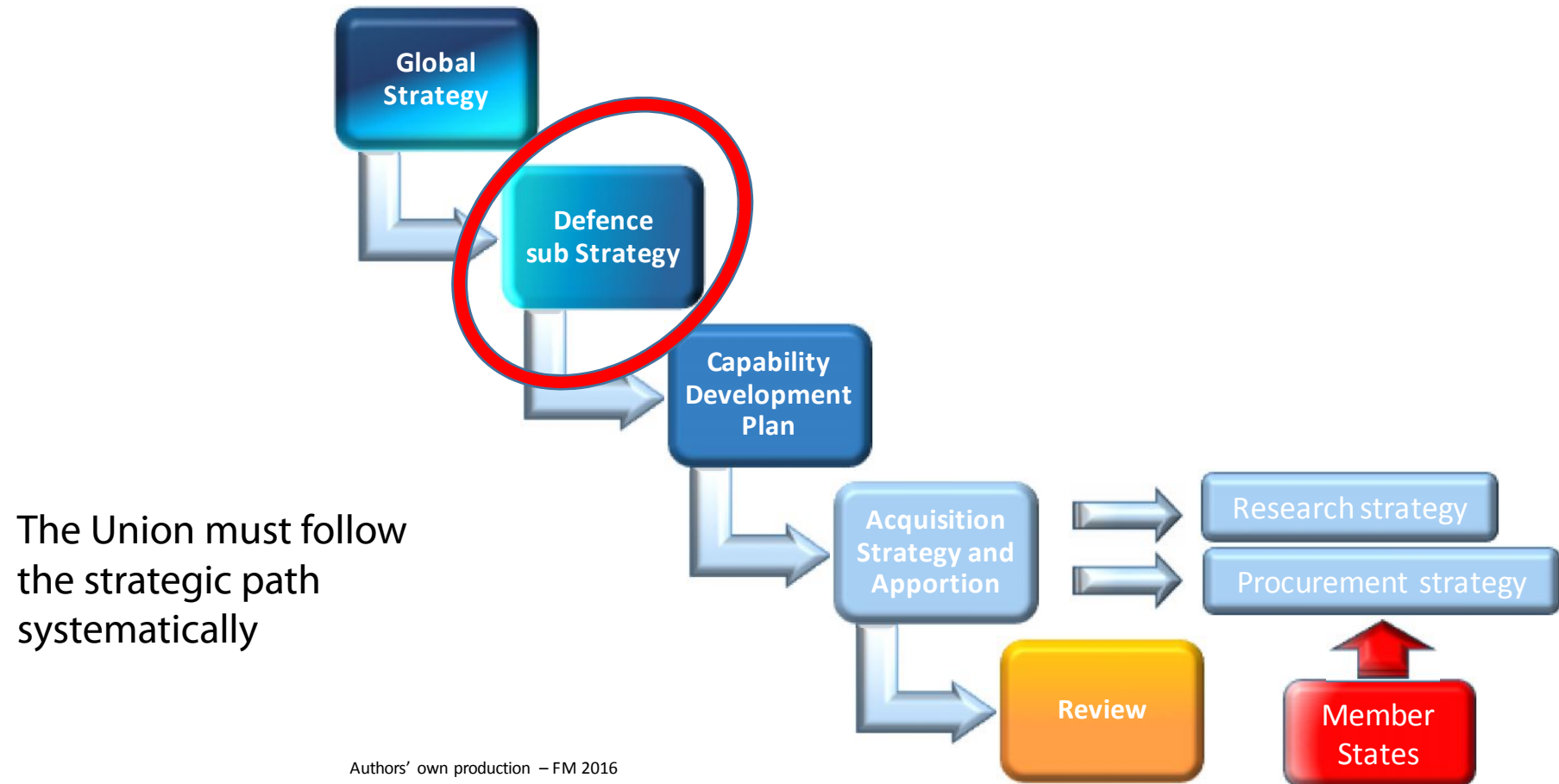
### Address industry's fears

- Fear of the spread of **Intellectual Property Rights (IPR)** and possible creation of copy cat companies
- Lack of trust with regard to **confidentiality rules**

### Address the demand side of the market

Industry's leaders must be sure that the investments they decide will be followed by sound armament programmes

➔ **5. Connect the capability needs with the strategic planning**



Authors' own production – FM 2016



## Conclusion

Viewed from **Europe**, a vigorous and immediate action is a necessity if the Union wants to keep open the doors towards **strategic autonomy**.

Viewed from **NATO** and the US a significant defence research programme in the EU shall be **most welcomed**.

Viewed from the **European Member States** it might be the last chance to preserve their **freedom of action**, in a concrete and efficient way.

Its launch in itself will be a rare **moment of truth**, a '**pragma**' which means in ancient Greek the proof by action.

'United we stand. Divided we fall'



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### **Questions & Answers**