



*Ministero dell'Istruzione,  
dell'Università e della Ricerca*



# **Il programma Orizzonte 2020. La sicurezza nei programmi di ricerca e sviluppo**

**Francesco Scialla**

# **sommario**

- 1. Descrizione H2020 con focus su Security*
- 2. Attività MIUR*
- 3. Approccio Delegazione*

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# security come prioritata' trasversale

## Part III: priority 'Societal challenges':

- (a) Health, demographic change and well-being;
- (b) Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy;
- (c) Secure, clean and efficient energy;
- (d) Smart, green and integrated transport;
- (e) Climate action, environment, resource efficiency and raw materials;
  
- (f) Inclusive, innovative and secure societies.
  
- (f) Europe in a changing world - Inclusive, innovative and reflective societies;
- (g) Secure societies - Protecting freedom and security of Europe and its citizens.

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to achieve a cleaner, safer, more secure, accessible and more efficient intermodal and multi-modal transport system in the  
Union

# **security come prioritá' trasversale**

**Pertanto:**

- esigenza cooperazione fra delegazioni (ambito MIUR)**
- opportunita' per partecipare presente in varie aree**

## **security: capability driven vs technology driven**

**All the activities shall take a challenge-based approach, which may include basic research, applied research, knowledge transfer or innovation, focusing on policy priorities without predetermining the precise choice of technologies or solutions that should be developed. Non-technological, organisational, systems innovation and public sector innovation will be given attention in addition to technology driven solutions. The emphasis shall be on bringing together a critical mass of resources and knowledge across different fields, technologies and scientific disciplines and research infrastructures in order to address the challenges. The activities shall cover the full cycle from basic research to market, with a new focus on innovation-related activities, such as piloting, demonstration activities, test-beds, support for public procurement, design, end-user driven innovation, social innovation, knowledge transfer and market take-up of innovations and standardisation.**

**pertanto:**

**- maggiore coinvolgimento “end-users” (MIUR e partecipanti)**

## **security: challenge**

**The threat of large-scale military aggressions has decreased and security concerns are focused on new multifaceted, interrelated and transnational threats. Aspects such as human rights, environmental degradation, political stability and democracy, social issues, cultural and religious identity or migration need to be taken into account. In this context the internal and external aspects of security are inextricably linked. In order to protect freedom and security, the Union requires effective responses using a comprehensive and innovative suite of security instruments. Research and innovation can play a clear supporting role although it cannot alone guarantee security. Research and innovation activities should aim at understanding, detecting, preventing, deterring, preparing and protecting against security threats. Furthermore, security presents fundamental challenges that cannot be resolved by independent and sector-specific treatment but rather need more ambitious, coordinated and holistic approaches.**



# **security: challenge**

## **Considerazioni:**

- innovazione**
- dalla scoperta alla comprensione alla prevenzione;**
- dinamicita' dei rischi, delle minacce, delle debolezze, ecc. imporra' una elevata attenzione alla evoluzione di Horizon 2020, in termini di piani di lavoro specifici**

## **security: focus**

- (a) fight crime, illegal trafficking and terrorism, including understanding and tackling terrorist ideas and beliefs;**
- (b) protect and improve the resilience of critical infrastructures, supply chains and transport modes;**
- (c) strengthen security through border management and maritime security;**
- (d) provide improve cyber security;**
- (e) increase Europe's resilience to crises and disasters;**
- (f) ensure privacy and freedom, including in the Internet and enhance the societal dimension legal and ethical understanding of all areas of security, risk and management;**
- (g) Enhance standardisation and interoperability of systems, including for emergency purposes.**

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**Incremento ruolo centrale del Ministero**

**Sinergia fra vari Dicasteri**

**Attivazione strumenti dedicati (cfr., fra l'altro, sistema snello per condivisione info fra delegati e capo dipartimento: Eurodel)**

**Riunioni periodiche dei delegati con il Capo Dipartimento**

## **esempi di contributi a livello generale**

# **"Secure Societies"**

*The specific objective is to foster secure European societies in a context of unprecedented transformations and growing global interdependencies and threats, while strengthening the European culture of **freedom** and justice. (hermitage)*

*In order to anticipate, prevent and manage these threats, it is necessary to develop and apply innovative technologies, solutions, foresight tools and knowledge, stimulate cooperation between providers and users, find civil security solutions, improve the competitiveness of the European security industry and services, **including** ICT, and prevent and combat the abuse of privacy and breaches of human rights in the Internet, and elsewhere, while ensuring European citizens individual rights and freedom. (not only ICT: Terahertz, X-ray, ...)*

**Azioni a livello strategico: predisposizione documento di strategia (in fase di completamento per successiva approvazione).**

**Introduzione. Le sfide di domani si affrontano oggi.**

**Area chiave 1. Terrorismo e criminalità organizzata.**

**Area chiave 2. Frontiere.**

**Area chiave 3. Infrastrutture critiche, località particolari, personalità, eventi.**

**Area chiave 4. Il cyber-domain.**

**Azioni a livello strategico: predisposizione documento di strategia (in fase di completamento per successiva approvazione).**

**Area chiave 5. Lo spettro elettromagnetico.**

**Area chiave 6. Simulazione e Formazione.**

**Area chiave 7. CBRN (Chemical, Biological, Radiological, Nuclear).**

**Area chiave 8. Disastri naturali**

**Raccomandazione generale.**

**Collegamento con gli esperti ed i responsabili in altre tematiche (spazio, energia, ecc.).**



## **Azioni a livello operativo: prima, durante e dopo “call”**

### **Prima della “call”:**

**proposte alla commissione per topic.**

### **Durante “call”:**

**conferenze illustrative in Italia (cfr. attività dello scorso anno a La Spezia).**

### **Dopo le “call”:**

**sostegno a proposte di interesse italiano (cfr. liste di riserva)**

**exploitation (conferenze, abstract inviati, ecc.); in corso di approfondimento.**

## **Azioni a livello operativo: prima, durante e dopo “call”**

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### **ESEMPIO**

**“3.1) Fighting crime and terrorism**

**Law Enforcement Technologies**

#### **Forensic technologies of the future**

**The aim of the project is to collect the recent and future developments based on the available capabilities and excellences to implement new methodologies and protocols for investigations in the fields of fire Arms and projectile identification, Gunshot residue (GSR), Ballistic, Explosion investigation and explosives, drug analysis and biometric analysis**

#### **Developing techniques and tools for forensics in the cloud.**

**Forensics in Cloud deals with evidence collection and forensic investigation of criminal activity in the cloud. In this context, by digital evidence it is meant any information of probative value that is either stored or transmitted in a digital form. Etc.”**

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**Squadra:**

**MIUR + Difesa + CNR + industria + Min. interno? + ?  
(siamo aperti a ricevere e a collaborare)**

IT  
Strategy + Objectives



*H2020*  
*(objectives, call, ...)*



IT research center  
IT universities  
IT industry and SME  
IT end-users

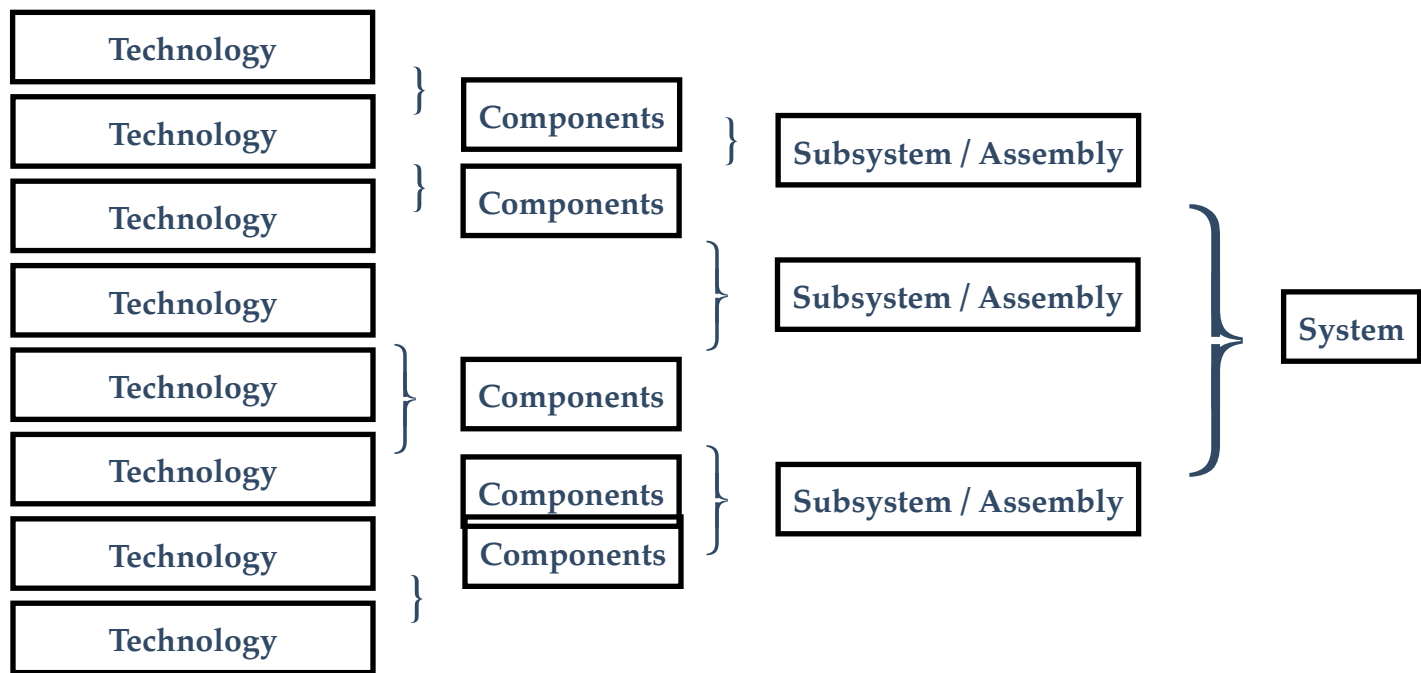


TRL = technology readiness level (NASA)

- ❖ inventato negli anni '70 alla NSA per gestire il processo di nascita e maturazione delle tecnologie abilitanti
- ❖ utile come strumento di comunicazione fra ricercatori e decisori
- ❖ utile come strumento per il risk management

1.	2.	3.	4.	5.	6.	7.	8.	9.
<p>Basic principles <b>observed</b> and reported</p>	<p>Technology concept and/or application <b>formulated</b></p>	<p>Analytical and experimental critical function and/or characteristic <b>proof of concept</b></p>	<p>Component and/or system validation in <b>laboratory environment</b></p>	<p>Laboratory scale, similar system validation in <b>relevant environment</b></p>	<p><b>Engineering/pilot-scale, similar (prototypical) system</b> validation in relevant environment</p>	<p>Full-scale, similar <b>(prototypical) system</b> demonstrated in relevant environment</p>	<p>Actual <b>system completed</b> and qualified through test and demonstration.</p>	<p>Actual <b>system operated</b> over the full range of expected conditions.</p>

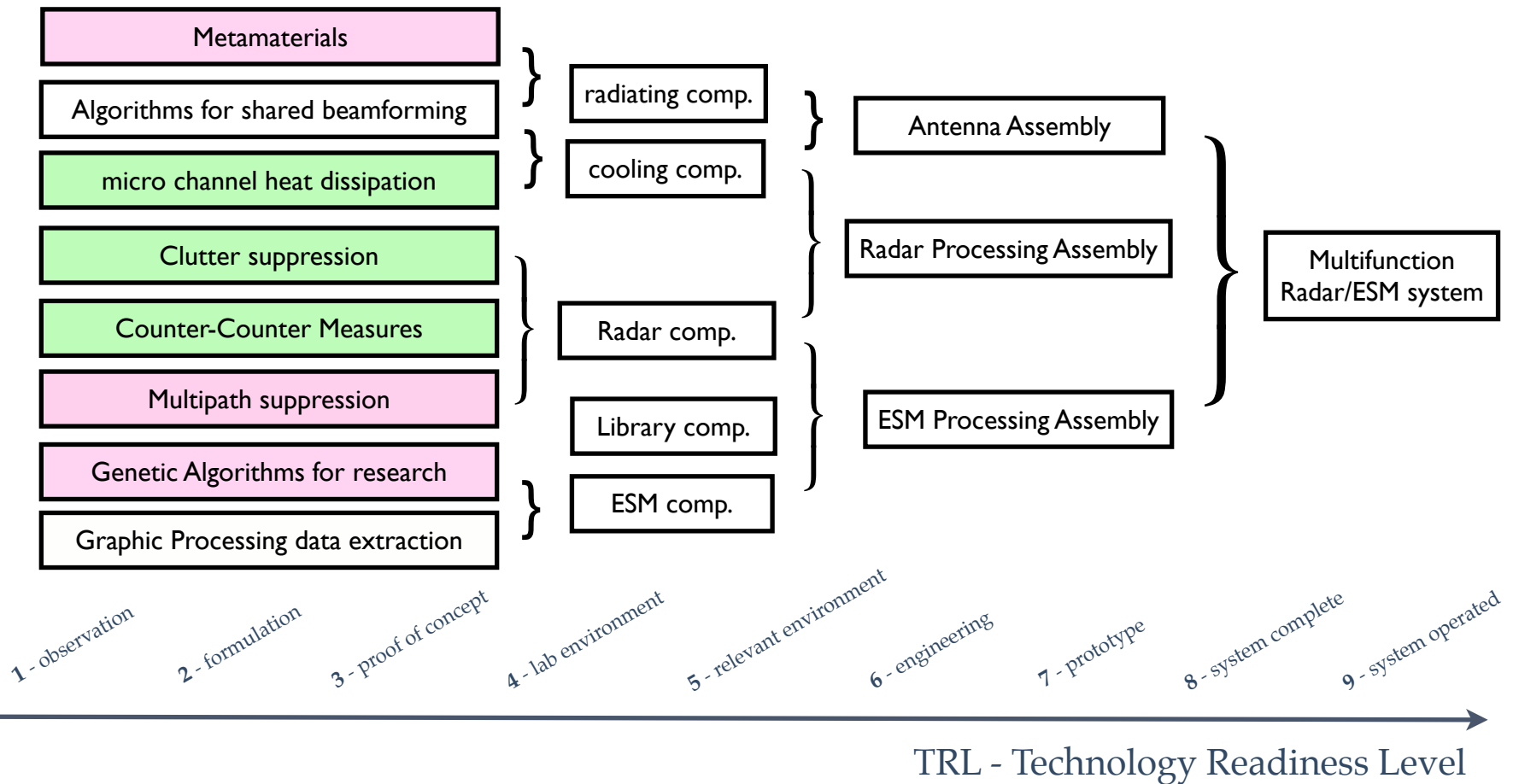


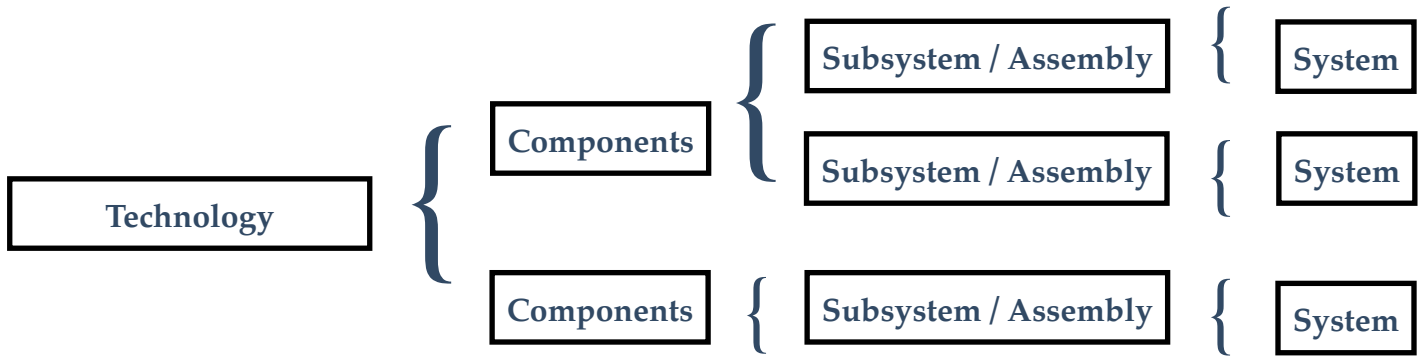


1 - observation      2 - formulation      3 - proof of concept      4 - lab environment      5 - relevant environment      6 - engineering      7 - prototype      8 - system complete      9 - system operated

TRL - Technology Readiness Level

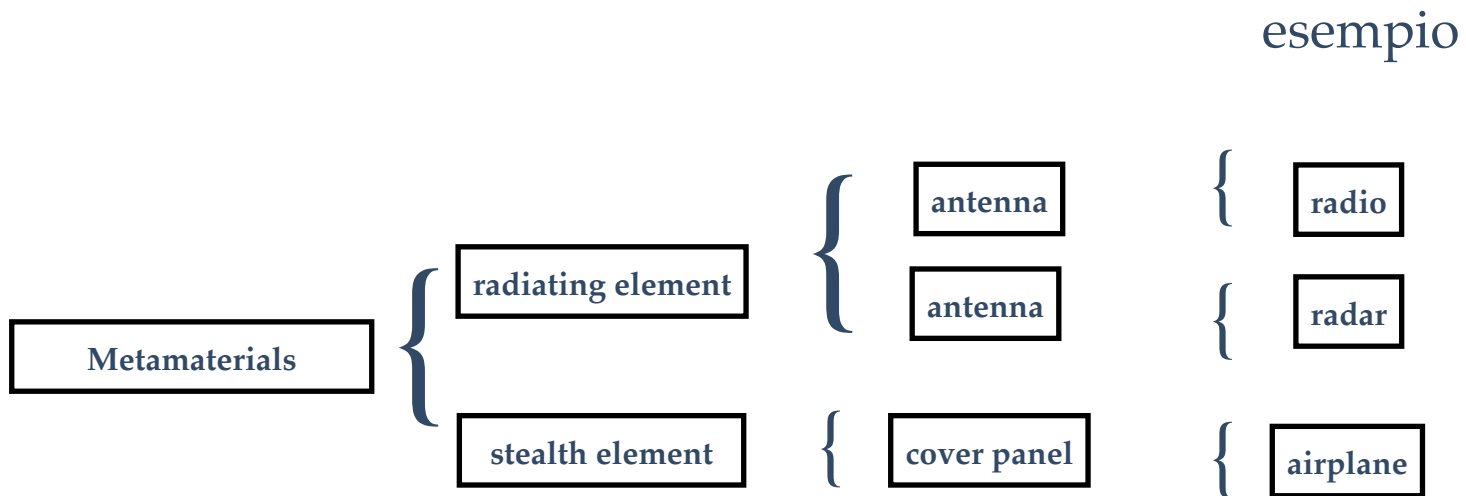
esempio





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TRL - Technology Readiness Level



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*grazie per l'attenzione*

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