



# RE-THINKING THE WAY CYBERSECURITY RESEARCH IS PERFORMED IN EUROPE (SPARTA)

**Fabio Martinelli**

National Research Council of Italy

@sparta\_eu | [sparta.eu](http://sparta.eu)

# OVERVIEW

- ▶ The approach
- ▶ The structure
- ▶ SPARTA research programs
- ▶ SPARTA partnership
  - ▶ SPARTA associates
  - ▶ SPARTA monthly events
  - ▶ Joint Competence Centre Infrastructure (JCCI)
- ▶ Conclusion





# Russians Win Race To Launch Earth Satellite

## Man On Threshold Of Space Travel

By DANIEL F. GILMORE

United Press Staff Correspondent

LONDON (UP)—The pulsating radio "beep" of the first manmade earth satellite signalled today to the world that man had crossed the threshold into the age of travel through space.

The Soviet Union announced it had won the race into space by launching an earth satellite Friday, a 184-pound, 22-inch globe now orbiting the earth at 18,000 miles an hour, 560 miles up.

Millions of persons throughout the world heard the "beep...beep...beep..." rebroadcast today by local stations and realized that man

## How To Spot Satellite

By UNITED PRESS

Here's how to look for the Russian earth satellite which will be whizzing through the sky at 18,000 miles an hour.

The best time to spot it is at dawn or dusk when the sky is semi-dark. There is a chance that it could be seen if it travels across the face of the moon at night.

The best instruments to use are ordinary binoculars or telescopes. Powerful telescopes won't pick it up because of their narrow fields.

Through optical instruments, the satellite will look like the

## U.S. May Sp Up Satellite Program

By JOSEPH L. M

United Press Staff Cor

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— WEATHER —

WEST VIRGINIA—Partly cloudy

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STRATEGIC SURPRISE

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Risky and complex developments

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Concrete and transformative results

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## U.S. May Spurn Up Satellite Program

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WASHINGTON (UP) — Scientists, caught flat-footed by Russia's epic launching of a man-made moon, indicate the United States may be launching its own earth satellite program.

Leaders of the U.S. space program also said that Russia rocketed its 184-pound satellite into a low orbit with a rocket from an intercontinent...

## — WEATHER —

WEST VIRGINIA—Partly cloudy



THIS IS IT

## Re-imagining the way cybersecurity research, innovation, and training are performed in Europe

- **Develop unique but concrete innovation paths**
- **Setup shared and virtual spaces for collaborations**
- **Strengthen certification, outreach, and training capacities**
- **Pull together European, national, and regional ecosystems**

**Contribute *inter alia* to the objective of European strategic autonomy**

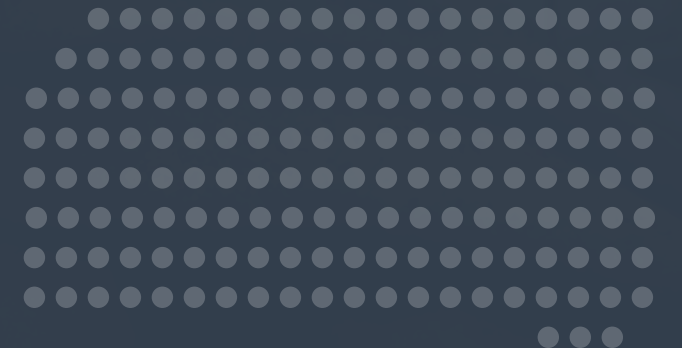
# SPARTA

## Structure

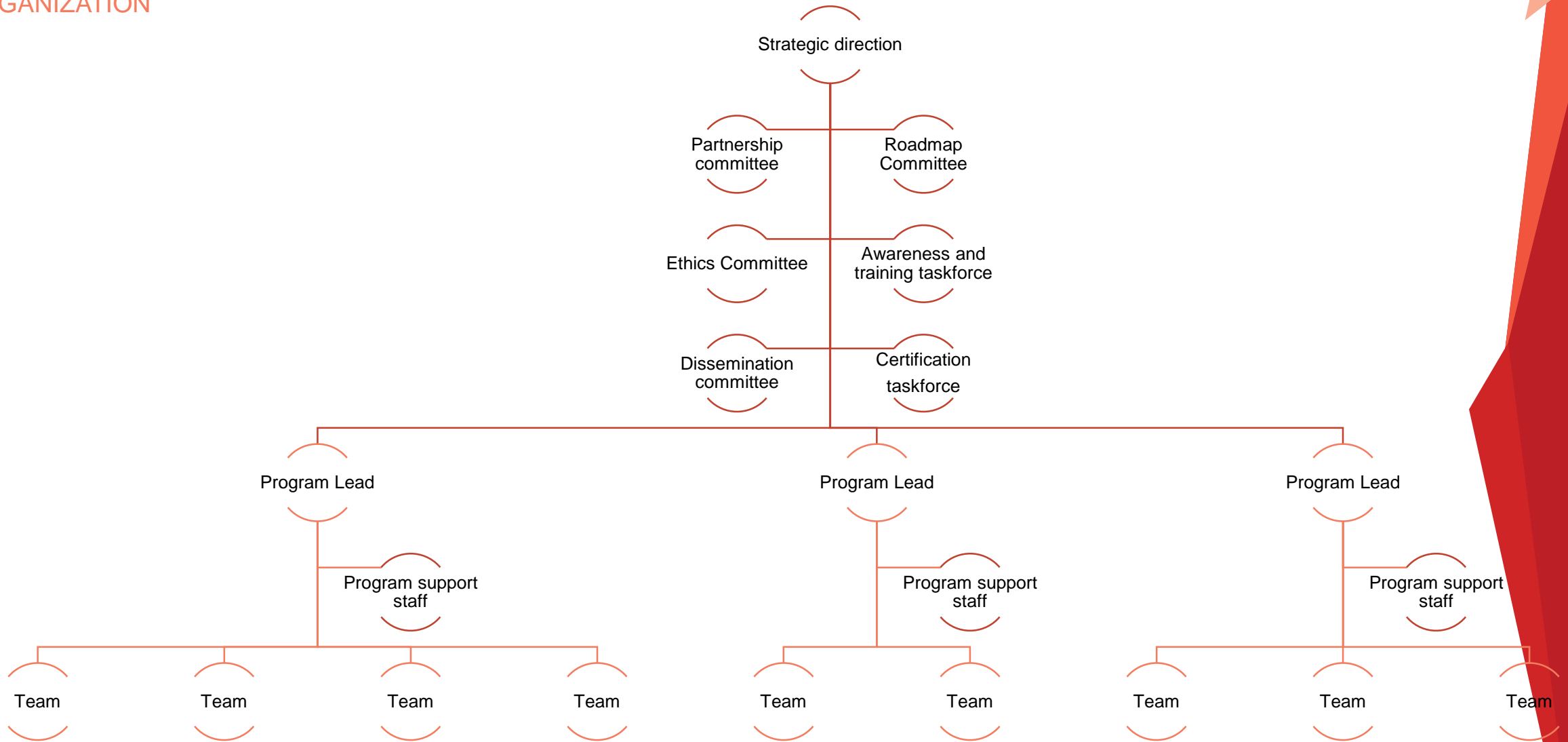
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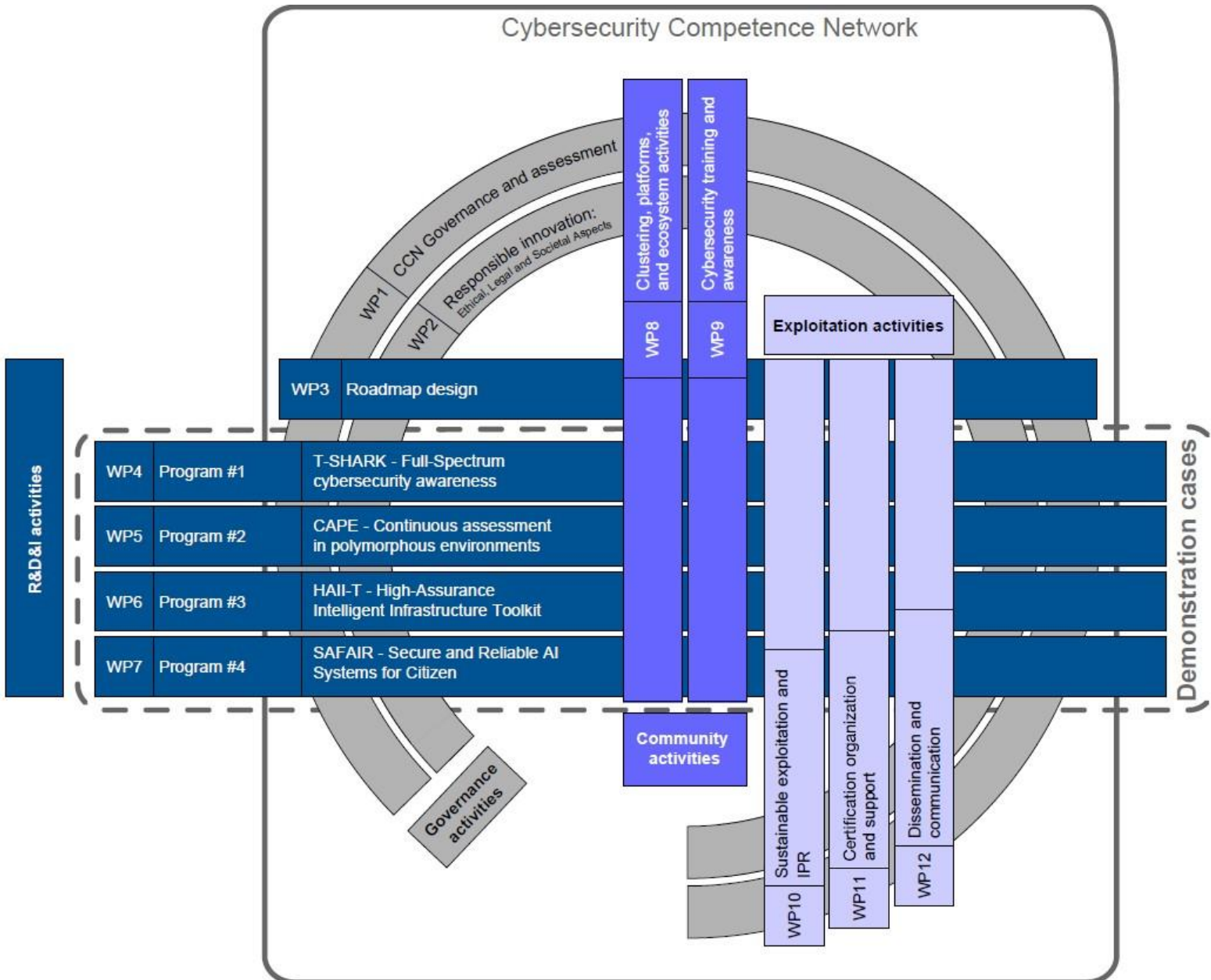
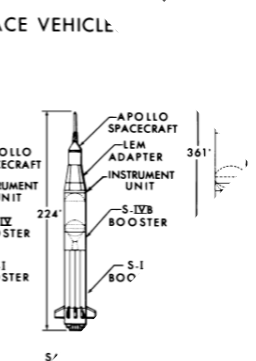
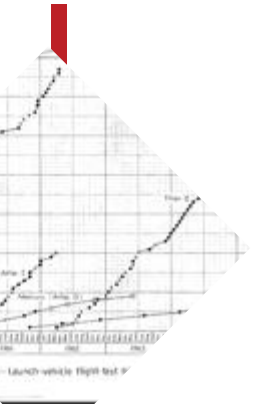
The performance of the defenders at the the Battle of Thermopylae is used as an example of the advantages of training, equipment, and good use of terrain as force multipliers and has become a symbol of courage against overwhelming odds



# ORGANIZATION







University
RTO
Company / SME
Centre
Gov/Auth



EE	UTARTU
Tartu Ülikool	
University	

LV	LMT
Latvijas Mobilais Telefons	
Company	

LT	KTU
Kauno Techn. Universitetas	
University	

LT	L3CE
Liet. kiber. nusik. komp. ir tyr. centr.	
Centre	

LT	LKA
Lietuvos Karo Akademija	
University	

LT	MRU
Mykolo Romerio Universitetas	
University	

PL	ITTI
ITTI	
SME	

PL	NASK
Naukowa i Akad. Sieć Komputerowa	
RTO	

PL	PPBW
Polska Platforma Bezp. Wewnętr.	
Centre	

CZ	CESNET
CESNET	
RTO	

CZ	BUT
Vysoké Učení Technické v Brně	
University	

CZ	NIC
CZ.NIC	
Gov/Auth	

AT	JR
Joanneum Research	
RTO	

AT	TNK
Technikon	
SME	

EL	KMR
Κέντρο Μελετών Ασφάλειας	
Gov/Auth	

EL	NCSR
Demokritos	
RTO	

LU	LIST
Luxemb. Inst. of Science and Tech.	
RTO	

DE	FTS
fortiss	
RTO	

DE	FHG
Fraunhofer (ISI)	
RTO	

DE	SAP
SAP Software Solutions	
Company	

DE	TUM
Technische Univ. München	
University	

LU	SML
Securitymadein.lu	
Gov/Auth	

DE	UBO
Universität Bonn	
University	

DE	UKON
Universität Konstanz	
University	

BE	CETIC
Centre d'Excel. en TIC	
RTO	

BE	UNAM
Université de Namur	
University	

FR	CEA
Commissariat à l'Énergie Atomique	
RTO	

FR	ANSSI
Agence Nationale de la SSI	
Gov/Auth	

FR	IMT
Institut Mines Telecom	
University	

FR	INRIA
Inria	
RTO	

FR	TCS
Thales	
Company	

FR	YWH
Yes We Hack	
Company	

PT	INOV
INOV	
RTO	

ES	EUT
Eurecat	
RTO	

ES	INDRA
Indra	
Company	

IT	CINI
Cons. Interuniv. Naz. per l'Informat.	
University	

IT	CNIT
Cons. Naz. Interuniv. Telecom.	
University	

PT	IST
Instituto Superior Técnico	
University	

ES	TEC
Tecnalia	
RTO	

ES	VICOM
Vicomech	
RTO	

IT	CNR
Consiglio Naz. delle Ricerche	
RTO	

IT	ISCOM
Ist. Sup. del Com. e del Tecno.	
Gov/Auth	

IT	LEO
Leonardo	
Company	

## A STRONG BASIS OF EXCELLENCE

44 partners spanning academia, industry, institutions, grassroots  
Pragmatically anchored in member states

## STRATEGIC PROGRAMS

## THE STAKES OF EUROPEAN AUTONOMY

Design a long-term roadmap and network of competence centers

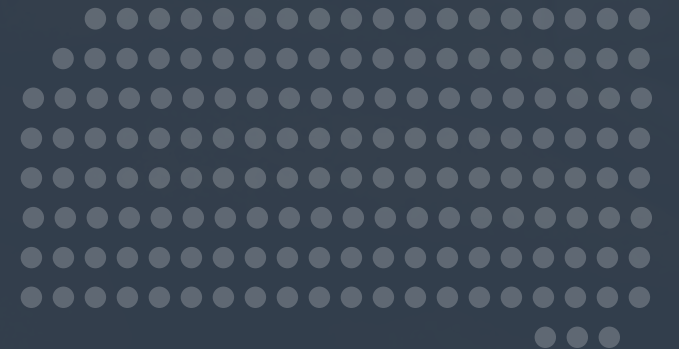
# SPARTA

## Research Programs

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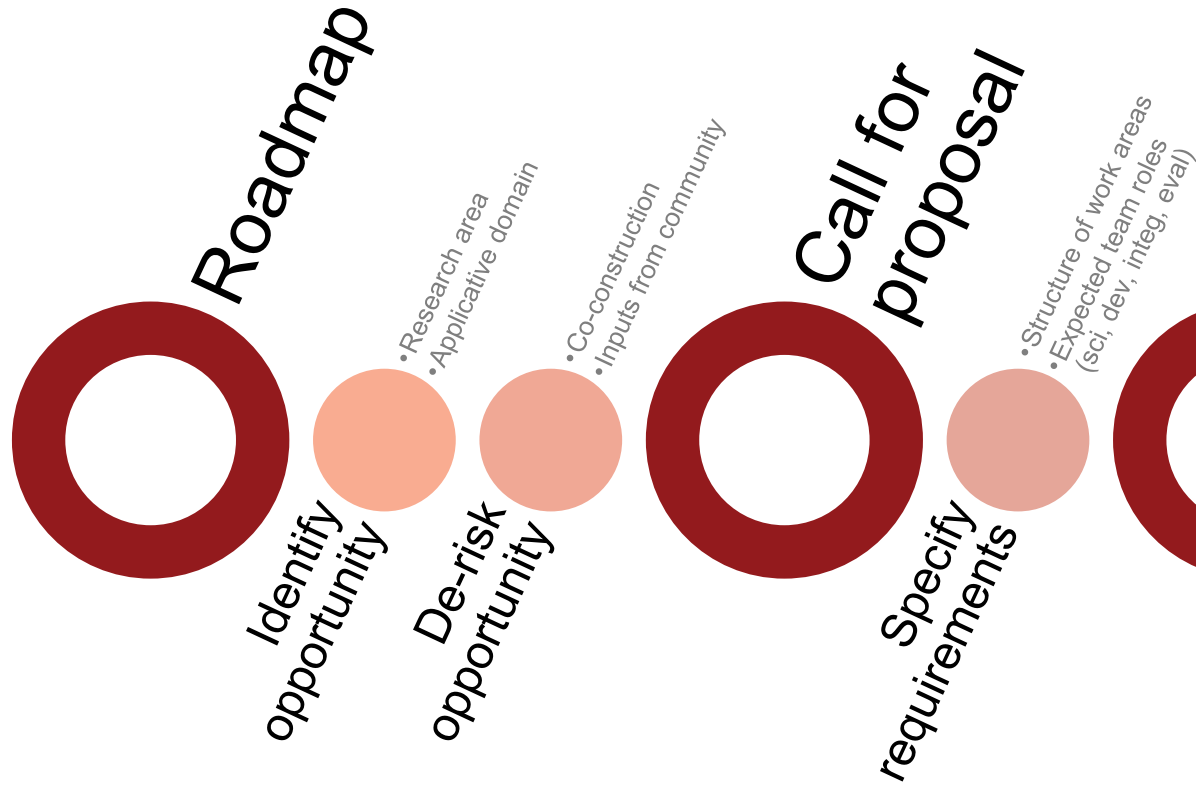


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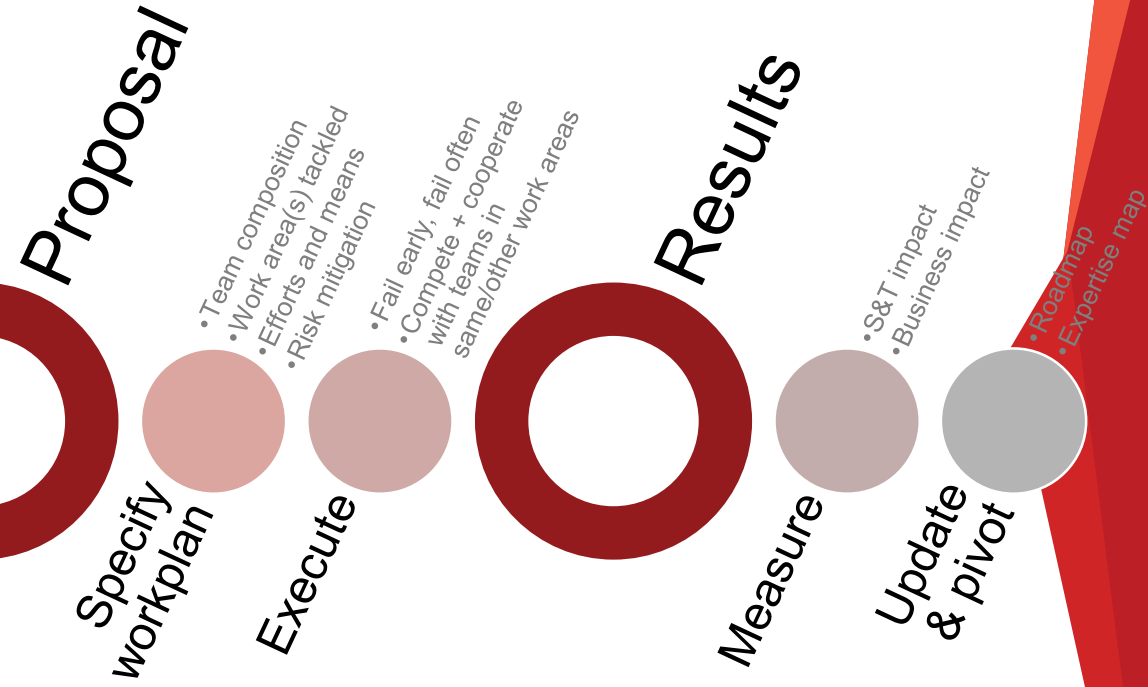




PRE-SUBMISSION



PROJECT



• Roadmap  
• Expertise map



## • T-SHARK Full-spectrum cybersecurity awareness

- **objective** : expand the reach of threat understanding, from the current investigation-level definition, up to strategic considerations, and down to real-time events
- **requires** : collection of heterogeneous data, models and predictions for multi-level security, AI and visualization
- **strengths** : regulation encouraging information-sharing (NIS directive, French OIV law, ...), strong culture of data protection (GDPR, cryptography, ...)
- **aims at** : providing decision-making tools, fostering a common cyber security culture, raising preparedness for possible disruptions and attacks
- **capabilities** : thoroughly supervise critical systems including when they are not provided / integrated by EU actors, raise awareness and citizen involvement

## • CAPE Continuous assessment in polymorphous environments

- **objective** : enhance assessment processes to be able to perform continuously over HW/SW lifecycles, and under changing environments
- **requires** : binary and code verification, scalable monitoring, network reaction, HW/SW roots of trust, dynamic assurance cases
- **strengths** : one of the best evaluation ecosystem in the world (Common Criteria, smart cards, ...)
- **aims at** : building tools for continuous trust in sovereign and foreign-sourced components, systems, and services
- **capabilities** : drastically increase evaluation capabilities in a world where most of the components are developed outside of the EU, prepare future certification

## • HAI-T High-Assurance Intelligent Infrastructure Toolkit

- **objective** : manage the heterogeneity of the IoT by providing a secure-by-design infrastructure that can offer end-to-end security guarantees
- **requires** : formal security models, application security, verification and validation, verified and scalable cryptography, secure OS
- **strengths** : building on EU's lead position on formal methods for safety and security
- **aims at** : providing a full verified software stack from applications down to the system software and SW/HW interface, which can serve in a variety of IoT devices
- **capabilities** : simplify the the deployment of IoT applications ; facilitate their certification

## • SAFAIR Secure and fair AI systems

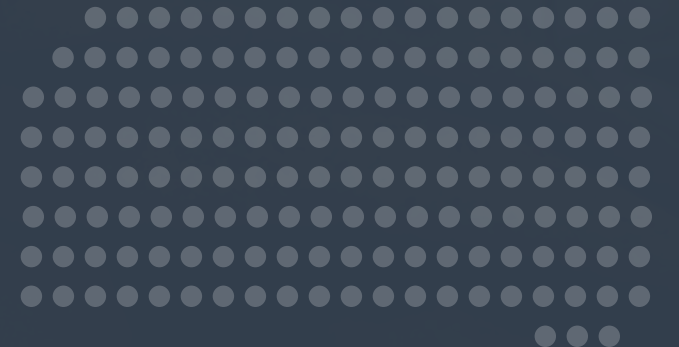
- **objective** : Evaluating security of AI systems, producing approaches to make systems using AI more robust to attackers' manipulation. Furthermore, the goal is to make AI systems more reliable and resilient through enhanced explainability and better understanding of threats
- **requires** : adversarial machine learning, data from different AI application domains
- **strengths** : increasing adoption of AI technology in various information systems within EU, recent strategy of EU member states to collaborate on Artificial Intelligence
- **aims at** : providing methods and tools for analysis and assessment of security threats for AI systems, and solutions for protection
- **capabilities** : exploratory

# SPARTA

## Partnership

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14 European member states

44 partners

more than 50 Associates

**SPARTA associates**

**EC, JRC, Fellow ICT 03 Pilot Projects**

**And more !!!**



**Other EU projects for roadmapping  
as CyberWatching, AEGIS, EUNITY,  
Standard ICT, ...**

**Outside EU activities,  
international dimension  
(e.g. US/Japan)**

***EU agencies as ENISA, EC3, EDA, ESA, ...***

**EU organizations as ECSO, ERCIM, IFIP, ...**

# ASSOCIATES

- ▶ Access to SPARTA Infrastructures and platforms
- ▶ Contribution to the Roadmap
- ▶ Access to results of SPARTA programs
- ▶ Attending Bi-yearly SPARTA meetings
- ▶ ...



SPARTA  
PARTNERSHIP



SPARTA  
ROADMAP



SPARTA  
PROGRAMS



SPARTA  
ASSOCIATES

# ASSOCIATES

## Include actors from

- Large groups and SME
- Local, National, European clusters
- Regional authorities
- Close academic and industrial entities

## Access to

- Roadmap and early program results
- Networking with council and SPARTA members

## Contributions to

- Training, certification, and industry capability maps
- Territorial animation
- Incubators

## Eligible to complementary late-stage project funding

Next Workshop in Spain (Madrid, April 23/24 YWH)

		Large groups	SME	Clusters	Region authorities	Universities
Roadmap design and results		X				X
Early program results		X	X			
Networking		X	X	X	X	X
Capabilities maps	Training	X	X			X
	Certification	X				
	Industry	X	X	X		
Territorial animation			X	X	X	X
Incubators		X				X





# MONTHLY ASSOCIATE WORKSHOPS

- Each month at least one local SPARTA event involving the associates!
  - Comment on roadmap
  - Spread the SPARTA results
- A country represented in SPARTA is involved
- Opportunity to cluster and shape the local ecosystem and integrate it with the European one (SPARTA ecosystem).

► Btw, sparta means also “sow”/ “spread the seeds” in greek



# APPLY TO JOIN THE SPARTA PARTNERSHIP

- ▶ Send an email to [Fabio.Martinelli@iit.cnr.it](mailto:Fabio.Martinelli@iit.cnr.it) (SPARTA Partnership Director)
- ▶ Subject: “[SPARTA Partnership]: request to join”

## JOINT COMPETENCE CENTER INFRASTRUCTURE

Digital, physical, virtual.  
What makes a platform?

### Reference location for teams

- availability of infrastructure and technologies for startups and SMEs
- update of a catalogue, managed with local clusters and authorities
- initial catalogue a deliverable of the project, so as the identification of the themes and partners that could be involved in the first run

### Reference experimentation platform for research

### Reference facility for training curricula



OPERATOR

PILOT

PLATFORM

TYPE

DISCIPLINES

EXCELLENCE

INFRASTRUCTURE

ECOSYSTEM

LICENSING

VISIBILITY





THIS IS IT







SPARTA

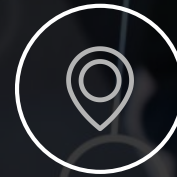
THANK YOU  
FOR WATCHING!



[sparta.eu](http://sparta.eu)



[contact@sparta.eu](mailto:contact@sparta.eu)



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*This project has received funding from the European Union's Horizon 2020  
research and innovation programme under grant agreement No 830892*

