

SPIDER

a cyberSecurity Platform for vIrtualiseD 5G cybEr Range services

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ERICSSON

cnit



THALES Atos

UBITECH



SingularLogic



SPIDER Overview

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SPIDER General Information

Project Coordinator: ERICSSON TELECOMUNICAZIONI (ERICSSON), Italy

Start Date: 01/07/2019

Duration: 36 months

Type of Action: Innovation Action (IA)

Total Cost: € 5,746,595.00

Consortium: 19 partners (4 industry, 7 industry, 3 research, 3 academic)



SPIDER Consortium

Industry

- ERICSSON
- TELEFONICA
- THALES
- ATOS

Research

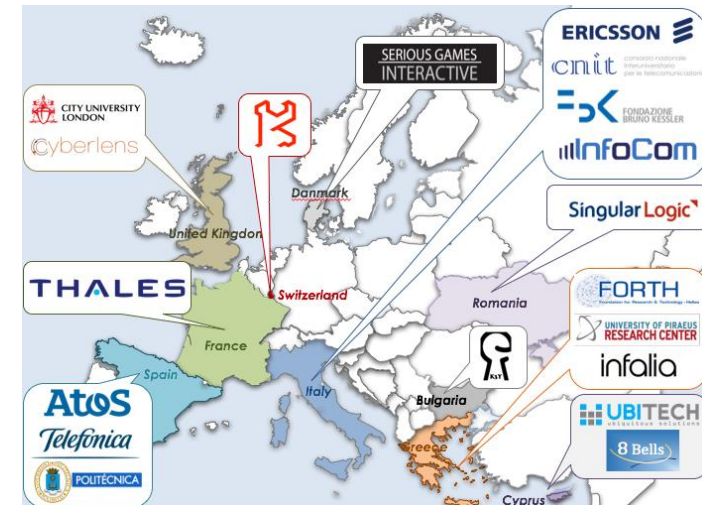
- CNIT
- FONDAZIONE BRUNO KESSLER
- FORTH

SMEs

- UBITECH
- SERIOUS GAMES INTERACTIVE
- SINGULAR LOGIC
- INFALIA
- INFOCOM
- 8BELLS
- CYBERLENS
- SPHYNX
- K3Y

Academic

- UNIVERSIDAD POLITECNICA DE MADRID
- UNIVERSITY OF PIRAEUS
- CITY UNIVERSITY OF LONDON



SPIDER for Digital Security

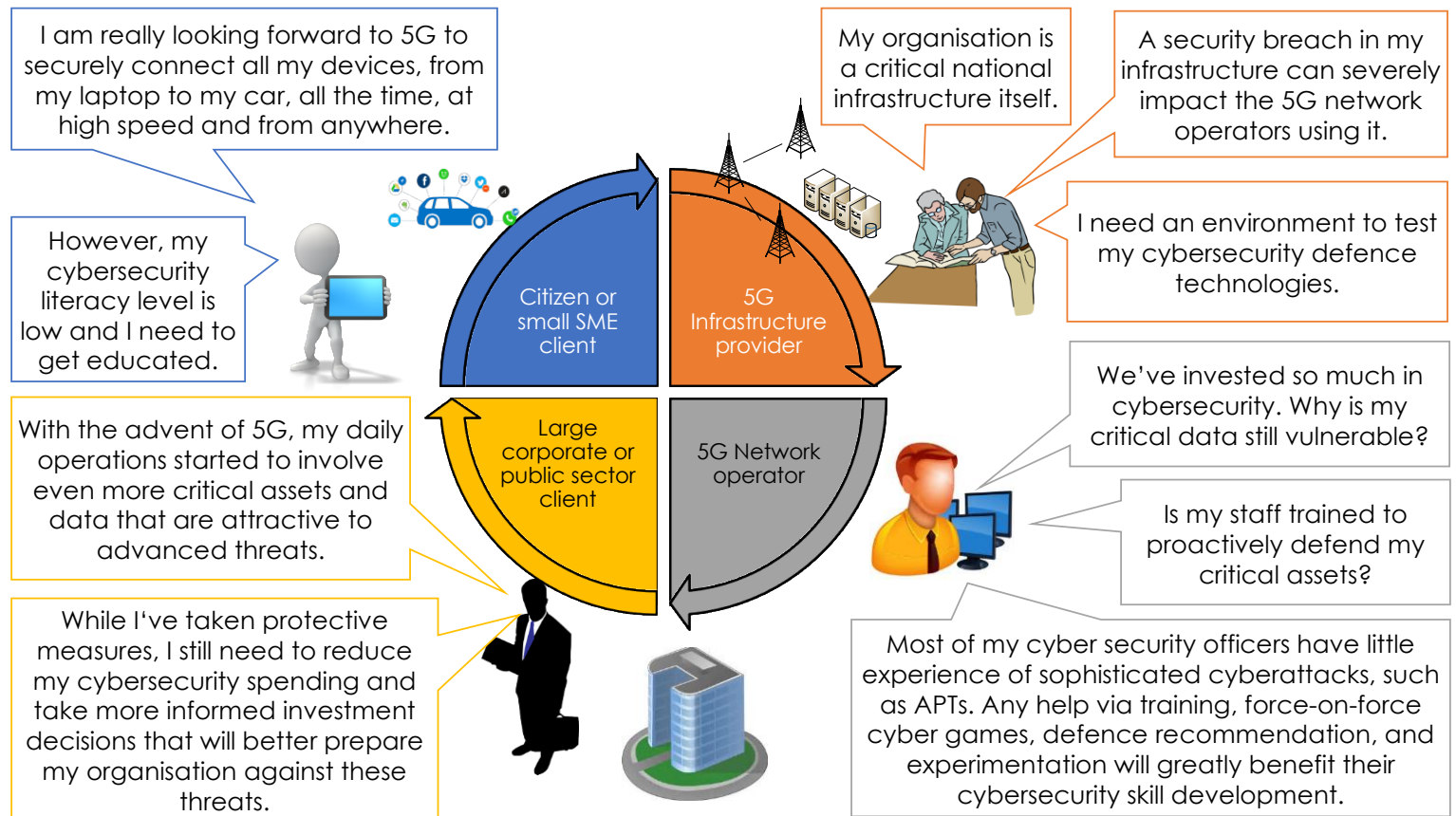
SPIDER aims to deliver a **next-generation, extensive, and replicable cyber range** platform for the telecommunications domain and its **fifth generation (5G)**, offering cybersecurity emulation, training and investment decision support.

SPIDER main objectives:

- Develop advanced **emulation** tools,
- Deliver novel **training methods** based on active learning
- Establish **econometric models** based on real-time emulation of modern cyber-attacks.
- Provide a **serious gaming repository** for multiple stakeholders to share training material and deliver complex cyber exercises.



SPIDER Actors



SPIDER Concept

SPIDER aims to:

- manage security across **virtualized** networks
- **train** cybersecurity teams
- support the **cybersecurity investment** decision making

The SPIDER solution is based on six pillars:

- I. **5G virtualization** platform
- II. **Network configuration** and **attacker emulation** mechanism
- III. **Administration** platform
- IV. Digital gamified and **serious game-based** learning environment
- V. **Risk analysis** and **cybersecurity economics** mechanism
- VI. **Monitoring** and **reporting** layer



SPIDER Pilot Use Cases (PUCs)

PUC1. Cybersecurity Testing

- Cybersecurity Testing of 5G-ready applications and network services
- Cybersecurity of Next Generation Mobile Core SBA

PUC2. 5G Security Training

- 5G Security Training for Experts
- 5G Security Training for Non-Experts

PUC3. Cybersecurity Investment Decision Support



SPIDER Work Packages

No	Title	Lead
1	Project management	ERICSSON
2	Requirements Analysis,Architecture Definition and Pilot Use Cases	UBITECH
3	Cyber Range Infrastructure and Supporting Technologies	THALES
4	5G Cyber Security Training	SGI
5	Economics of 5G Security	CITY
6	SPIDER Cyber Range Integration and Testing	SLGRO
7	Demonstration and Evaluation	UPRC
8	Dissemination, Communication and Exploitation of Results	8BELLS



SPIDER Innovation - I

WP3. Cyber Range Infrastructure and Supporting Technologies

- 5G Virtualized Infrastructure Management
- Secure Orchestrator of the 5G Services
- Network Configuration and Attacker Emulation
- Cyber Range 5G Security Mechanisms
- Data Collection and Visualization

WP4. 5G Cyber Security Training

- Virtualized Security Operations Center
- 5G Threat Knowledge Base
- Cyber Exercises
- 5G Gamification Awareness Training
- 5G Serious Game Security Skills Training



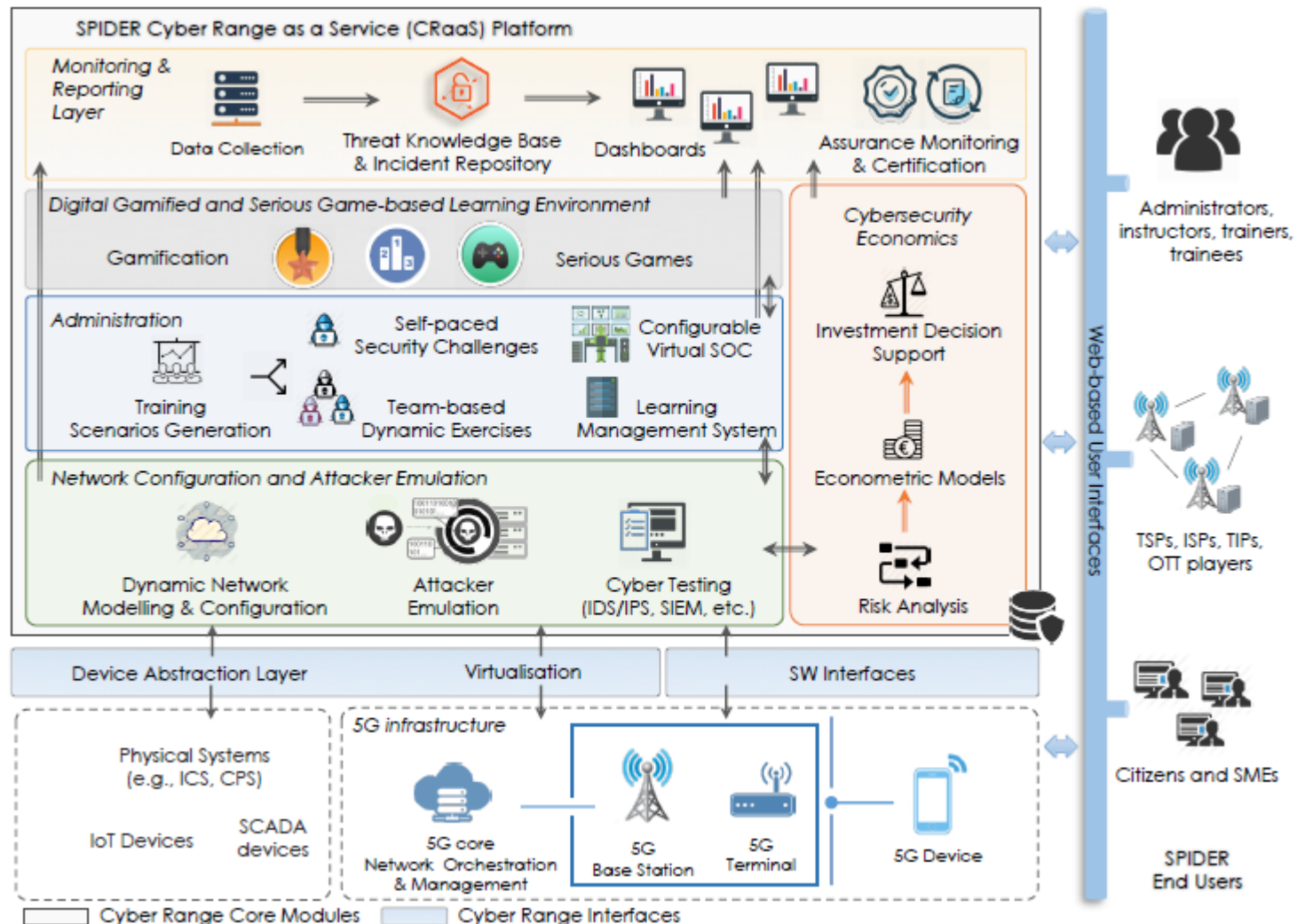
SPIDER Innovation II

WP5. Economics of 5G Security

- Continuous Risk Analysis
- Continuous Assurance Monitoring and Certification
- 5G Asset Pricing and Impact Loss Analysis
- Cyber Econometric Models
- Cybersecurity Investment Decision Support



SPIDER Platform



SPIDER Exploitation & Dissemination

Exploitation

- High quality solutions to be exploited by telecommunications providers and 5G stakeholders.
- Delivery of a partly open-source version of SPIDER
- Business plan to exploit the final services

Dissemination

- SPIDER website and social media accounts
- Workshops to demonstrate SPIDER outcomes to academia
- Seminars and online courses to showcase SPIDER achievements
- Participation at EU events
- Liaison with other projects
- Publications in scientific journals



SPIDER Impact & Benefits

- Preparedness of professionals towards the detection and mitigation of emerging 5G cyber-attacks
- Improved risk analysis models
- Development of 5G-related cybersecurity solutions tailored to the actual needs of the end-users.
- Appropriate econometric models for informed managerial decisions
- Improved resilience of 5G infrastructures
- Better preparedness to put in place cybersecurity measures.





Thank you



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