

# 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

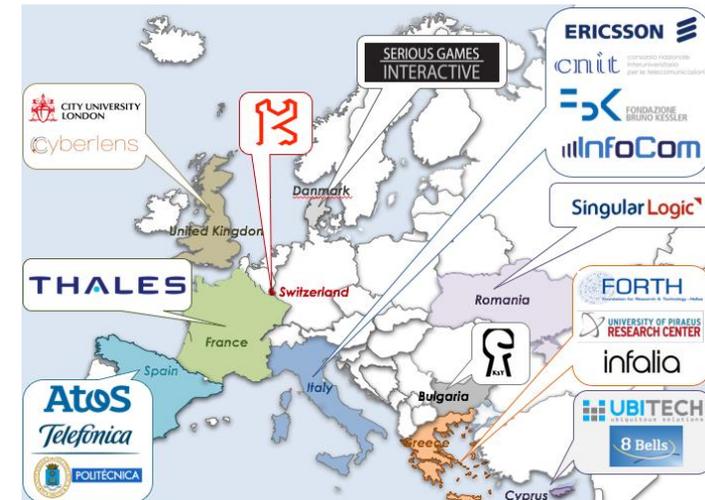
- CNIT
- FONDAZIONE BRUNO KESSLER
- FORTH

## 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

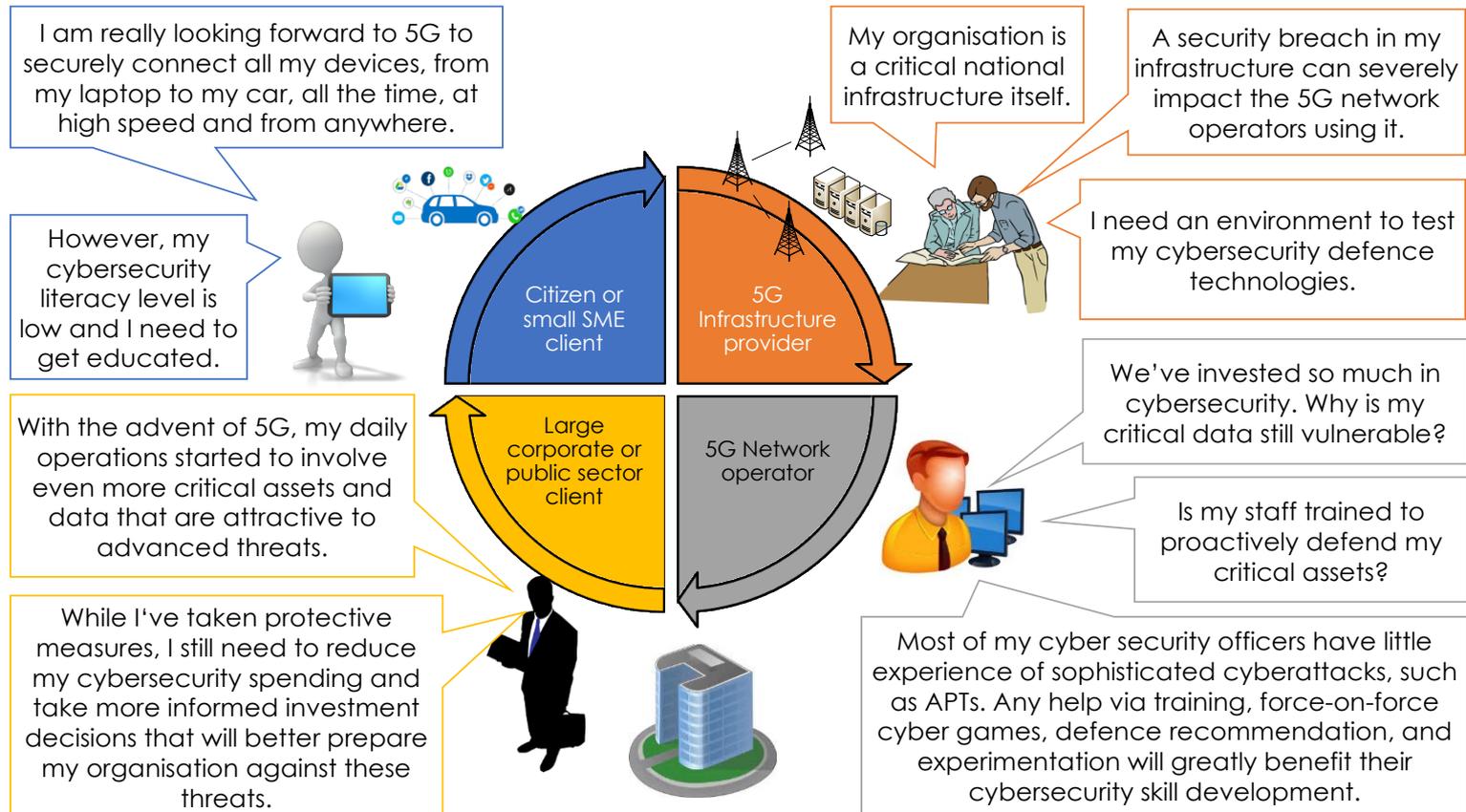
SPIDER aims to deliver a **next-generation, extensive, and replicable cyber range** platform for the telecommunications domain and its **fifth generation (5G)**, offering cybersecurity emulation, training and investment decision support.

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	SIGI
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



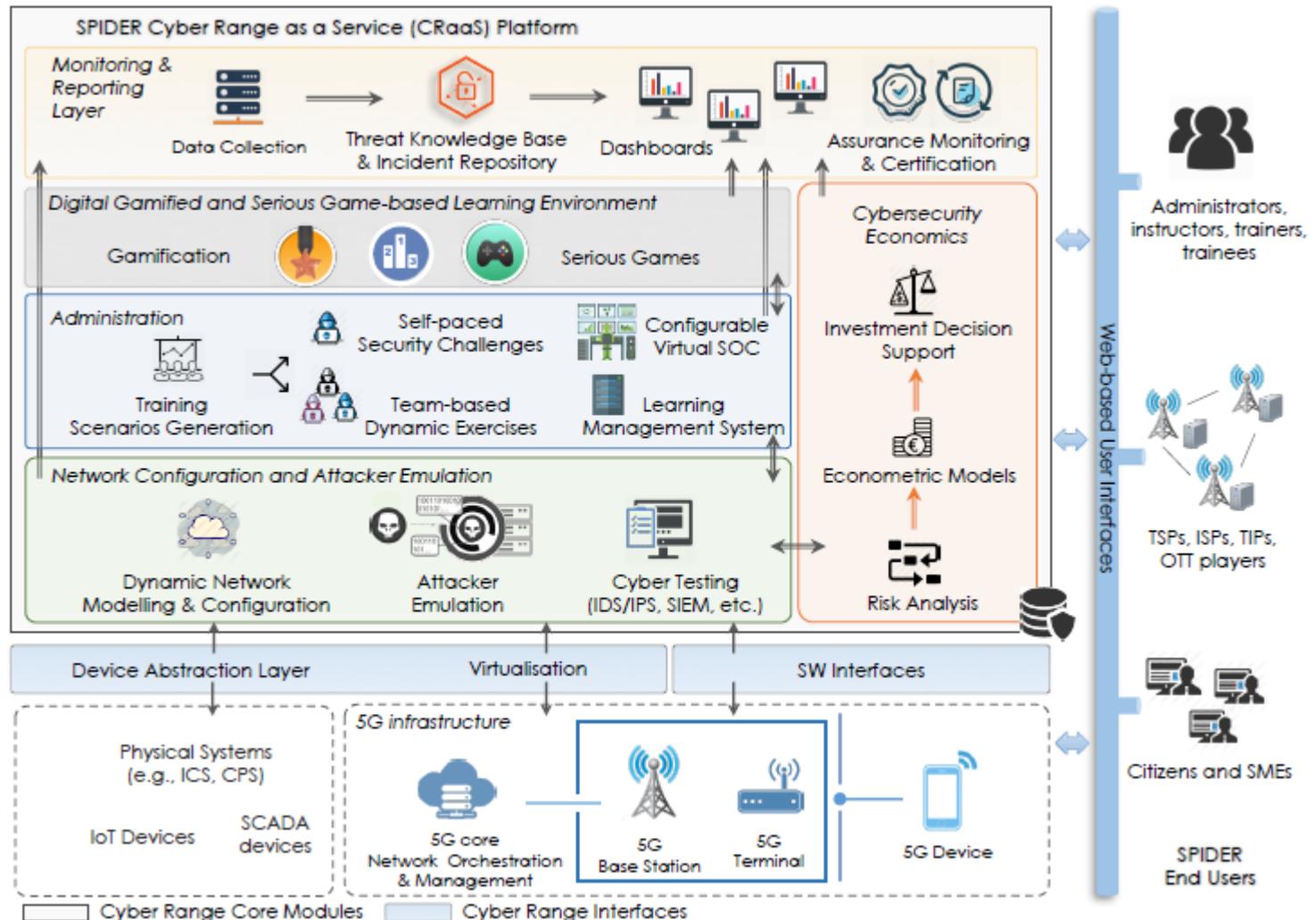
# SPIDER Innovation II

## **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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