



# 5G-ENSURE Project

1st International Workshop on 5G  
Security Standardisation

Sophia Antipolis, June 16, 2016

Petteri Mannersalo



# Project facts

- Duration: 1/11/2015-31/10/2017 (24 months)
- EU funding (5G PPP Phase 1): 7 584 046 € and 783.5 PM
- Coordinator: VTT (Timo Kyntäjä)
- Technical Manager: THALES (Pascal Bisson)

## 16 Partners

**Operators:** Orange and Telecom Italia Information Technology

**Manufacturers:** Nokia Bell Labs, Ericsson (EAB & LMF), NEC, Thales (TCS & TS) and Thales Alenia Space

**SMEs:** b<>com, Nixu and Trust-IT Services

**Research institutes:** VTT and SICS

**Universities:** Southampton (IT Innovation) and Oxford



# The partners



# Advisory board



3GPP TSG WG3  
(Security)

Anand Prasad



Nina Olesen



ETSI TC CYBER

Charles Brookson



United Nations  
Interregional  
Crime and Justice  
Research  
Institute

Francesca Bosco



Agence  
nationale de la  
sécurité  
des systèmes  
d'information

Benoit Michau



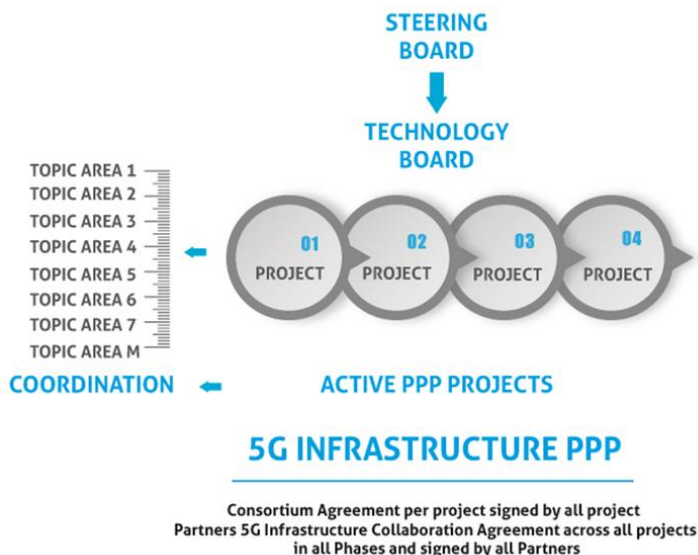
5G  
Infrastructure  
Association  
and ETSI NFV

Diego Lopez



# 5G-PPP (<https://5g-ppp.eu/>)

- The 5G Infrastructure PPP is a joint initiative between the European Commission and the European ICT industry.
- The 5G PPP is planned to be organised in three phases: research (current stage), optimisation (2017-2018) and large scale trials (2019-2020)



## 5G-PPP Work Groups:

- Architecture
- Network management & QoS
- Pre-standardization
- SDN & NFV
- Security
- SME
- Spectrum
- Vision and Societal challenges

# 5G-ENSURE objectives

- ❑ Master **5G Security needs**
- ❑ Advance **5G Security Architecture**
- ❑ Specify, develop and test an initial set of **security enablers for 5G**
- ❑ Demonstrate and validate enablers in a **security test bed**
- ❑ **Advertise** 5G PPP community and beyond on Project's results and offering
- ❑ **Foster 5G-PPP Security Vision** by delivering a 5G Security Roadmap showing the next steps
- ❑ Act as **pre-standardization** consensus builder



# 5G-ENSURE pillars

## Management/Usability

Make security solution usable, extensible/scalable and not intrusive

## Trust & Privacy

Ensure all user and stakeholders feel comfortable with 5G services

## Security Enablers

Technical solution for infrastructure and services (assurance, protection, detection..)

Security Architecture Foundations

Standards

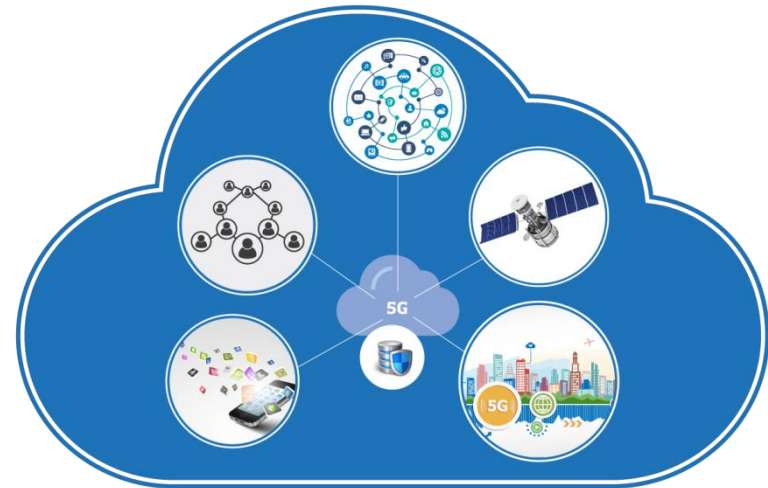
Regulation

Legislation



## 5G use case clusters

- ❑ **Identities, Authentication, Authorisation and Privacy:** provide adequate protection to sensitive identifying information (like device and user digital identities)
- ❑ **Software Defined Networks, Virtualisation and Monitoring:** establish trusted relationships between 5G actors
- ❑ **Availability, Reliability and Integrity:** provide robust network services with availability guarantees
- ❑ **Lawful Interception (LI):** provide a common LI function





# 5G-ENSURE Security enablers



**AAA:** 5G support for IoT and satellite systems & enable trust and liability levels.



**Privacy:** Creation of services and business models on top of 5G.



**Trust:** Trustworthy dynamic 5G multi-stakeholder system.



**Security Monitoring:** Resilient 5G system to implement new services.



**Network Management & Virtualisation Isolation:** Mitigate security threats in SDN.



## More information



5G-ENSURE: <http://www.5gensure.eu>



5G-PPP: <https://5g-ppp.eu>



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@5GEnsure





This research has been performed within 5G-ENSURE project ([www.5GEnsure.eu](http://www.5GEnsure.eu)) and received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 671562.

