

# Intelligent Security and Pervasive Trust for 5G and Beyond



**INSPIRE-5Gplus**

[www.inspire-5gplus.eu](http://www.inspire-5gplus.eu)



**Horizon 2020 Project**

# Key Targets

**INSPIRE-5Gplus** makes a revolutionary shift in the 5G and Beyond security vision by progressing 5G security and by devising a smart, trustworthy and liability-aware 5G end-to-end security platform for future connected systems.

INSPIRE-5Gplus will allow the advancement of the security vision for 5G and beyond through the adoption of a set of emerging trends and technologies:

- Zero-touch security management
- Software-defined security and trust models
- Smart end-to-end security orchestration through Artificial Intelligence
- Liable and trusted security management

**INSPIRE-5Gplus** will ensure that the provided security level is in conformance with security requirements by legislation, standards, and verticals. Trust and liability will be fostered through integration of novel mechanisms supporting confidence between parties and compliance with regulation:

- Trust and Reputation Manager: assigns trust and reputation values to monitored entities
- Service Trust Manager: implements smart-contracts calculating trust and reliability of a cloud infrastructure or its services
- End-to-End Trust Management: provides cross-domain versions of trust functions

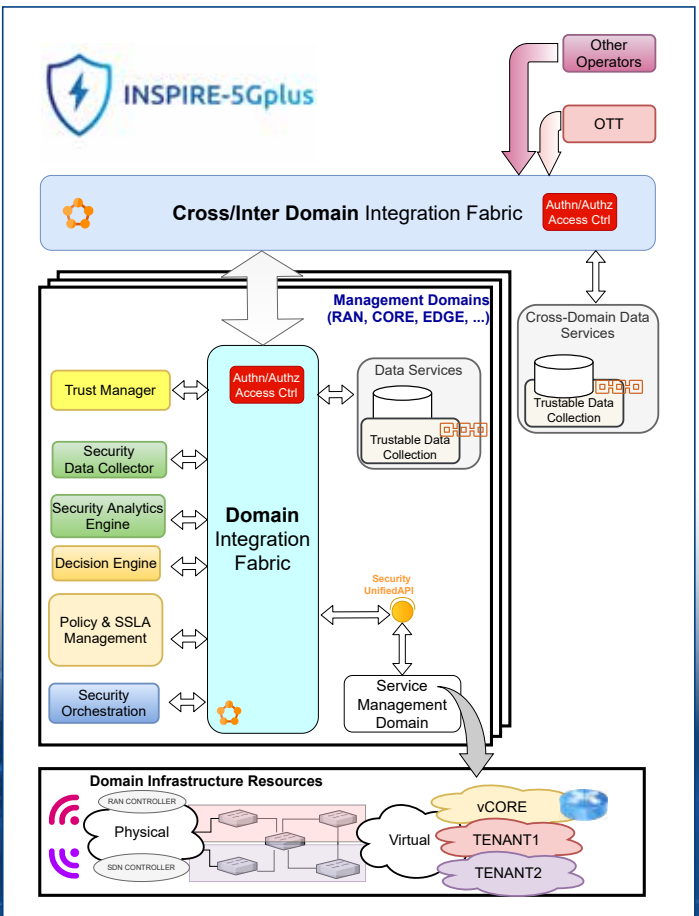




# High-Level Architecture

The **INSPIRE-5Gplus** architecture is designed to support fully automated end-to-end network and service security management in multi-domain 5G environments. The architecture empowers protection, trustworthiness, and liability in managing virtualized network infrastructures across multi-domains: radio, edge, and core segments.

Each Security Management Domain (SMD) is responsible for intelligent security automation of resources and services within its scope. INSPIRE-5Gplus' end-to-end SMD manages security of services that span multiple domains such as end-to-end slicing. Each SMDs comprises a set of functional modules, e.g. security intelligence engine, security orchestrator, and trust manager, that operate in an intelligent closed-loop way to enable software defined security orchestration.



# Main Results

- A comprehensive report on the current security landscape of 5G networks and the foreseen evolution trends of this landscape, either regarding security threats or security requirements.
- Intelligent and autonomic end-to-end cybersecurity architecture that can detect and mitigate both existing and new threats targeting 5G networks.
- Evolved and new security assets taking advantage of artificial intelligence and state-of-the-art techniques with a focus on trust and liability across 5G infrastructure and services.
- An integration and experimentation framework, with the objective of validating the project's developments in nine specific 5G security test cases.

## **INSPIRE-5Gplus at a Glance**

### **Horizon 2020 Work Programme Topic:**

ICT-20-2019-2020: 5G Long Term Evolution

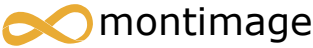
### **Start Date:**

1 November 2019    End Date: 31 October 2022

### **Consortium:**

14 partners from 8 countries

## INSPIRE-5Gplus Consortium Partners



*Project coordinator:* Uwe Herzog (Eurescom, Germany)

*Technical Coordinator:* Dhouha Ayed (Thales, France)

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