CONFIDENTAL 6G

CONFIDENTIAL6G

Confidential Computing and Privacy-preserving Technologies for 6G

SNS Lunchtime Webinar 3 – Introducing the SNS projects

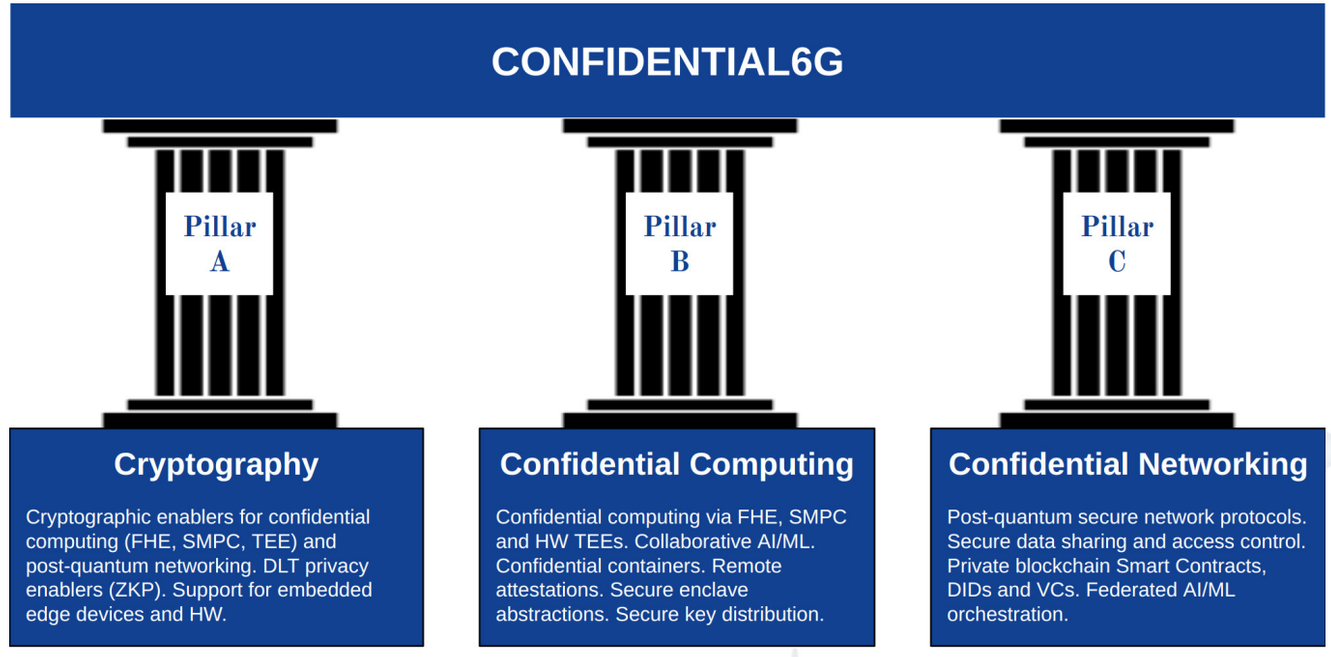
Vera Stavroulaki, WINGS ICT Solutions, Project Coordinator

Co-Funded by the
European Union GA
101096435

Project vision

6G infrastructure must ensure **reliability, trust and resilience on a globally connected continuum of heterogeneous environments** supported by the convergence of networks and IT systems, in order to enable new future digital services to flourish.

CONFIDENTIAL6G will **develop tools, libraries, mechanism and architectural blueprints for confidentiality in 6G**. These will include **cryptographic enablers**, which are the prerequisites for building more sophisticated software components, followed by **platforms and applications that will further secure and privacy-preserving compute and communication (network) processes, including secure multi-party computation and federated AI/ML orchestration**. The design of future systems will be supported by in-depth, state-of-the-art cryptographic quantum-resistant protocols and formal security proofs.



Co-Funded by the European Union GA 101096435

CONFIDENTIAL 6G

Key project facts

Topic ID: HORIZON-JU-SNS-2022-STREAM-B-01-04

Secure Service development and Smart Security

Project Number: 101096435

Duration: 36 months

Start Date: 01 Jan 2023

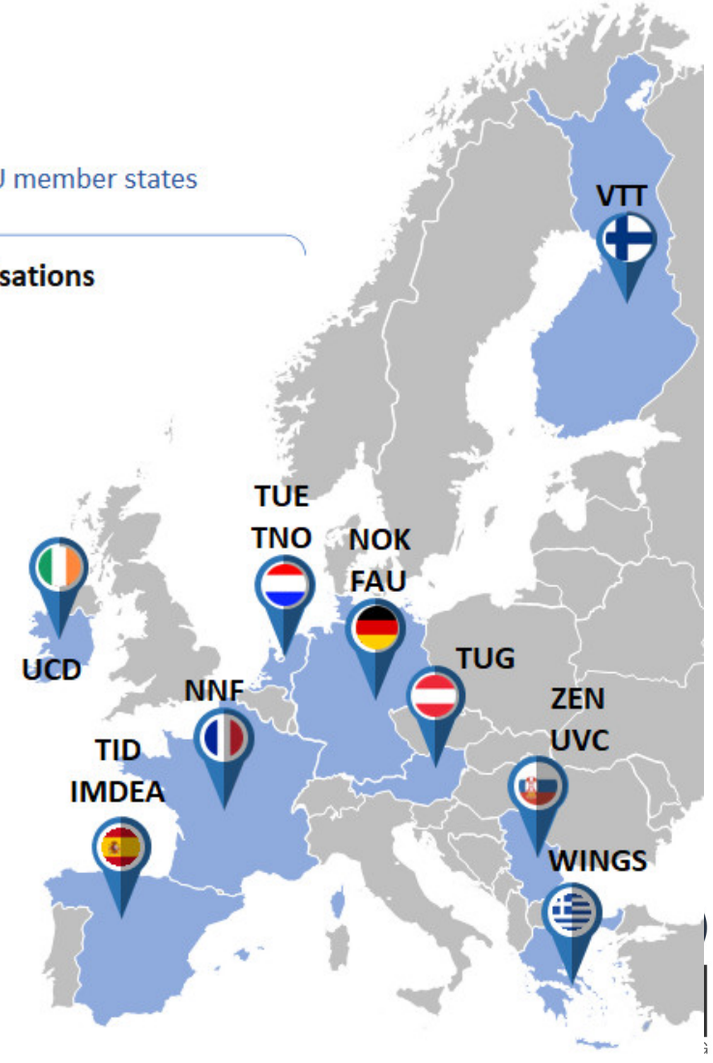
Total budget: €5,263,864.50

Project coordinator: Vera Stavroulaki (WINGS ICT Solutions)

Technical manager: Drasko Draskovic (Nokia Networks France)

13 consortium partners **8** EU member states

7 Academic & research organisations
3 Industrial partners
3 SMEs



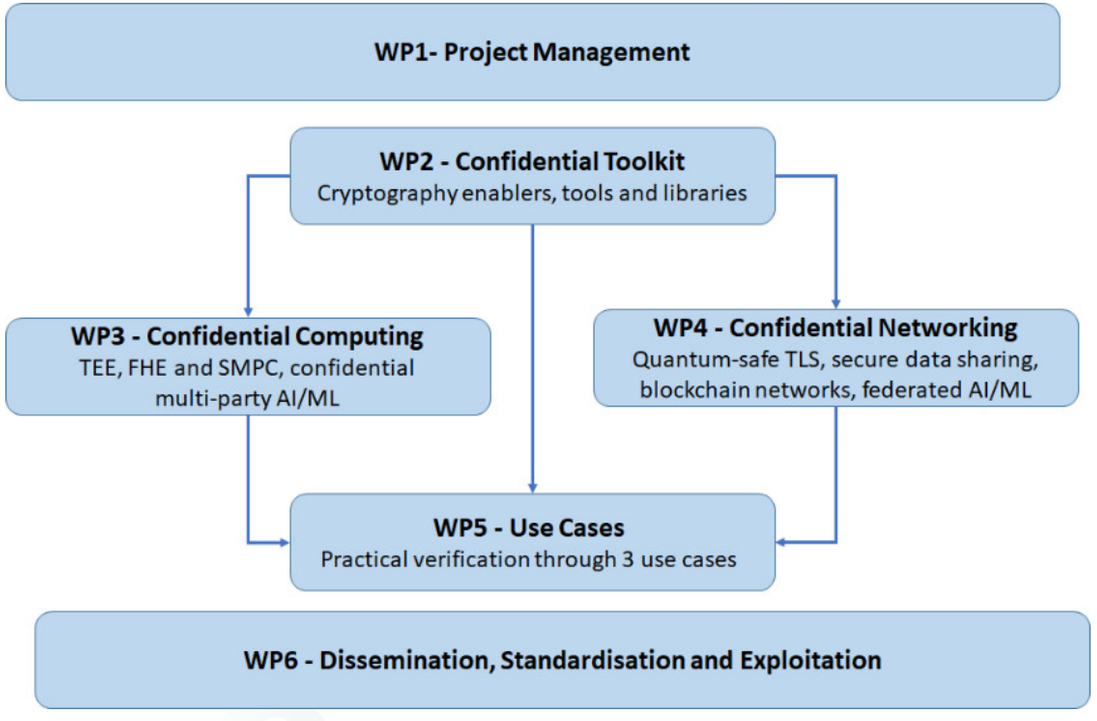
Co-Funded by the European Union GA 101096435

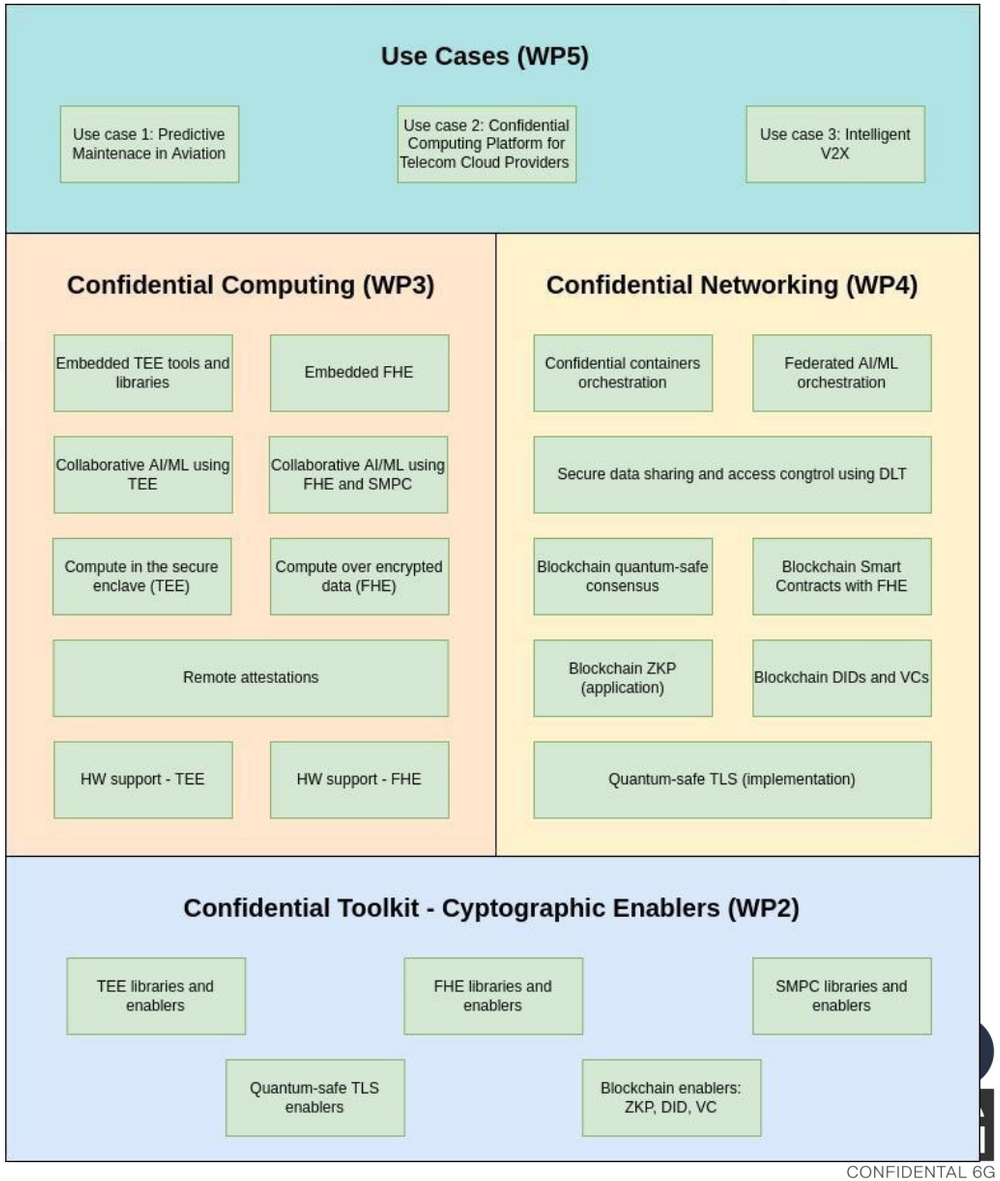
Project Objectives

O1	Explore and define modern, efficient **and quantum-resistant security enablers, cryptographic primitives, libraries and tools for confidential computing** (i.e. multi-party AI/ML) **and networking** (such as decentralised blockchain networks) **applicable in 6G and across a complete edge-cloud continuum**, addressing the challenge of open-source solutions developed in the context of multi-vendor interoperability.
O2	Prototype efficient, sustainable, attestable, GDPR compliant and secure **methods for confidential computing, based on both hardware and software mechanisms**, applicable on collaborative privacy-preserving AI/ML accessed by multi-stakeholders and tenants.
O3	Design and development of **secure and privacy-preserving edge-cloud networking** suitable for confidential collaborative computing orchestration, distributed and federated Machine Learning operations.
O4	**Integrate developed mechanisms, algorithms and tools** into a set of modular containerized framework, tested and evaluated in the predefined **B5G-relevant use cases.**
O5	To facilitate **6G security standardisation, exploitation, and dissemination** of the developed cryptographic and privacy-preserving libraries, tools, and mechanisms , and providing a clear strategy in relation to EU supply capabilities and opportunities in the context of a future cloud continuum.

Co-Funded by the European Union GA 101096435

Work structure and research areas





Co-Funded by the European Union GA 101096435

Use-Cases

Use Case 1: Predictive maintenance for airline consortium using blockchain-based data sharing platform and federated AI/ML orchestration

Use Case 2: Privacy-preserving confidential computing platform that enables mitigation of internal threats for telecom cloud providers

Use Case 3: Intelligent connected vehicle, mission-critical services, OTA updates, FL/ML and vehicle to infrastructure communication

To validate the constituent components that will be integrated into a unified fully-functional platform an iterative small-scale validation in 3 use cases will be organised.

Co-Funded by the European Union GA 101096435

CONFIDENTAL 6G

Thank You!

info@confidential6g.eu

www.confidential6g.eu

Co-Funded by the European Union GA 101096435

CONFIDENTAL 6G