SNS JU Call 4 & 5 Projects Introduction Webinar

PAISES-6G

Privacy-preserving, AI-driven and quantum-safe security for 6G

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PIONEERING AI-ENHANCED SECURE 6G SERVICES FRAMEWORK

Co-funded by the European Union

6GSNS

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Why PAISES-6G, and who is in it

THE CHALLENGE: 6G OPENS NEW ATTACK SURFACES

Open, AI-driven networks
O-RAN, CAMARA and AI automation widen the attack surface

Sensing inside the network
JCAS brings new privacy risks

Quantum computing
Threatens today's public-key cryptography

Scarce security experts
Security has to be automated

Our vision

Secure, trustworthy, privacy-by-design 6G: built on European regulation, and helping to shape it

18 partners	**9** countries
36 months (to May 2029)	**€8.0M** EU contribution

Consortium **Coordinator: UC3M (ES) · Technical coordinator: NEC Labs Europe (DE)**

IMDEA Networks, Telefónica I+D, IKERLAN, Telecom Italia, CNIT, Nextworks, Telsy, Immanence, QTI, Real Wireless, Net AI Tech, TAGES, IS-Wireless, eBOS Technologies, Realworld Eastern Europe, Kyiv Aviation Institute

Key technological enablers

AI-driven security

- Explainable intrusion detection
- LLM-based cyber threat intelligence
- Automated threat mitigation

Trustworthy AI

- Ethics-by-design and human supervision
- Attestation and runtime verification of AI models
- Secure, confidential AI/ML lifecycle

Privacy by design

- Privacy beyond MAC randomisation
- Differential privacy for data sharing
- Privacy-preserving JCAS

Quantum-safe

- QKD-based protection (primary)
- Post-quantum cryptography (secondary)
- Quantum-secure communications

PAISES-6G Security Toolbox

Integrated, modular and AI-native: automated, privacy-preserving security capabilities for 6G

Validated end to end

in federated European 6G testbeds: Nextonic, Gotham, distributed accross partners

Expected outcomes and impact

PROJECT TARGETS

14
innovative solutions raised from TRL 1–2 to TRL 4–5

> 30%
less security-expert time thanks to automation

> 20%
less effort to make deployments regulation-compliant

Open source and standards

- Contributions to CAMARA
- 3GPP, O-RAN, ETSI and IETF

Ethics and legal by design

- AI Act and GDPR conformity guidance
- DPIAs, policy briefs, ethical guide

Exploitation

- Operator-grade Security-as-a-Service
- Plug-and-play security apps for O-RAN

Follow the project

paises-6g.eu · LinkedIn and YouTube

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