

ASSURE

Future Proofing of ICT Trust Chains: Sustainable Operational Assurance & Verification Remote Guards for Systems-Of-Systems Security And Privacy

Mission

The **ASSURED** project is aimed at developing a formally verified runtime assurance framework for securing CPS supply chains.



This will allow long-term **security, privacy** and **operational assurance**: A universal distributed solution will be developed for the transformation of CPS into distributed safety-critical solutions, hosting multiple mixed-criticality applications.

Approach

ASSURED will enhance the security and privacy posture of all heterogeneous devices comprising safety-critical supply chains. It relies on the following core pillars:

- Remote Attestation of properties
- Dynamic Real-time Risk Assessment
- Enforcement of Self-Learning Adaptable Security Policies
- Blockchains for enhanced knowledge sharing
- Direct Anonymous Attestation

This will enable ASSURED system to generate a **secure root of trust** for a wide range of CPSoS.

Use Cases



Smart Manufacturing: safe human-robot-collaboration in automated assembly lines



Smart Cities: secure, cross vertical collaboration of “platforms-of-platforms” for enhanced public safety



Smart Aerospace: to increase the trustworthiness of all internal aircraft components



Smart Satellites: to secure the communication between all involved entities; protect keys on satellites and ground stations

Standardisation

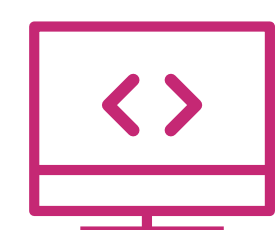
Planned outcomes include the development of **standardisation** proposals to push the state of the art in **remote attestation, lightweight cryptography, dynamic real-time risk assessment,** and enhanced and **accountable knowledge sharing of operational threat intelligence data flows.**

They will involve the technical committees of relevant standards bodies:



TCG, ISO/IEC JTC 1/SC 27, ISO TC 307, EASA, CEN, EUROCAE, ETSI

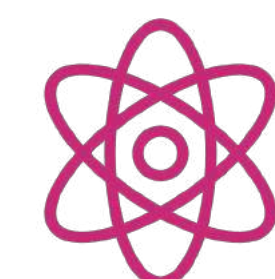
Main Goals



Distributed Attestation-enabled CPS Orchestration



Blockchain-based Supply Chain Control Services



Trusted Computing & Lightweight Crypto as means of assurance



Run-Time Risk Assessment and Vulnerability Analysis



Contact Information

Web: www.project-assured.eu

Email: elju@dtu.dk



@Project_Assured

Project Coordinator and Scientific Lead:
Technical University of Denmark



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 952697.