ARGOS

IIOT NETWORKS: END-TO-END SECURITY & SUPERVISION

WHAT IS ARGOS?

ARGOS is a demonstration platform that highlights security problems in industrial systems and existing security tests. This platform provides an industrial network composed of a PLC (Programmable logic controller) and two emulated industrial systems. It helps carry out different attack scenarios involving Modbus RTU protocols and presentation of a security solution for industrial networks along with its deployment in a device network. The ARGOS solution has been developed during the "IIoT security" project undertaken within the scope of IRT Nanoelec's PULSE program.

APPLICATIONS

- Security of industrial networks, factories and health systems
- Digital twin of an electrical network: security deployment in an industrial or IoT network
- Critical systems and predictive maintenance
- Intelligent city/transport, drone fleets, energy generation and distribution, and home automation.
ARGOS is a 3-in-1 solution that includes:

- **A secure proxy** for:
  - Securing existing industrial networks initially based on insecure communication protocols
  - Securing the system right from its design
  - Limiting attacks through denial of service
  - Detecting attacks in real time.

- **A supervision solution**, with end-to-end secure communication protocol, that simplifies deployment of a configuration in an IIOT network via a mobile phone.

- **“Hardware in the loop” architecture** integrating simulation of industrial processes and specific attacks.

### WHAT’S NEXT?

CEA-Leti teams are continuing their research work to:

- Improve ARGOS security integrating state-of-the-art countermeasures to ensure in-depth defense
- Secure deployment and management of keys throughout the system life cycle via a supervision interface and integration of post-quantic cryptography schemes for the communication protocol.

### PUBLICATIONS


### COMMERCIAL CONTACTS

**Commercial contact:**
Marion Andrillat
marion.andrillat@cea.fr
+33 4 38 78 46 51

**Technical contact:**
Pierre-Henri Thevenon
pierre-henri.thevenon@cea.fr
+33 438 789 807

---

**CEA-Leti, technology research institute**
Commissariat à l’énergie atomique et aux énergies alternatives
Minatec Campus | 17 avenue des Martyrs | 38054 Grenoble Cedex 9 | France
www.leti-cea.com

© CEA-Leti - Photo credits: CEA-Leti; © Skórzewiak-AdobeStock - 2020/10