New embedded Systems architecture for multi-Layer Dependable solutions

**nSHIELD - providing new paradigms for Security, Privacy and Dependability for the embedded systems of the future**

**Driving ideas:**
Holistic approach (provisioning of SPD at every layer), all controlled by the Overlay
Dynamic composability (pieces of puzzle)
4 independent demonstration scenarios:
- Dependable Avionics
- Voice/Facial recognition
- Railways security
- Social mobility

**Proprietary Cognitive Network simulator**
GOAL: developing advanced cognitive algorithms for network security and dependability
HOW: by building a C++ simulator based that encapsulates relations between Cognitive Network Nodes
Particular attention: intelligent jamming and anti-jamming
Intrusion detection

**SPD-driven Smart Transmission Layer**
GOAL: provisioning safe and robust communication in critical channel conditions
HOW: by utilizing advanced concepts of Software Defined Radio (SDR) and Cognitive Radio (CR) technology
- On-the-fly reconfigurability of all transmission-related parameters
- Distributed and cooperative spectrum sensing
- Game theory cognitive algorithms