ETSI Research Conference

Maximizing the Impact of European 6G

Research through Standardization

Holistic, Omnipresent, Resilient Services for Future 6G Wireless and Computing Ecosystems (HORSE)

Fabrizio Granelli (CNIT, Univesity of Trento)

07/02/2023

1. Project Overview

- **Project Name:** Holistic, Omnipresent, Resilient Services for Future 6G Wireless and Computing Ecosystems (HORSE)
  - **Project website:** horse-6g.eu

- **Stream:** SNS Phase 1 (2022) Stream B

- **Members:** CNIT, ATOS, Ericsson, UPC, TUBS, Telefonica, NKUA, Suite5, EFACEC, ZORTE, 8-BELLS, HOLO-LIGHT, STS, Martel

- **Other:** 6G infrastructure operation for smart connectivity and service management, 2 use cases: light transportation & extended reality

2. Technical Information

- ## Project Key Objectives:

- Comprehensive analysis of foreseeable 6G scenarios

- Designing the necessary end-to-end security solutions

- Development of a human-centric, holistic, omnipresent, and resilient smart services management and operation programmable platform

- Deploying AI technologies driving a completely predictive approach to security management, fully addressing high services, systems, risks, and threats dynamicity

- Characterize the user profile and the 6G system as a digital twin, to feed the AI distributed decision processes

- Designing the system interface to be intent-based to implement the role of the "Human-In-The-Loop"

- Deploy, demonstrate and validate HORSE in selected use cases

- Creating impact and promoting of open access to the HORSE platform for broad and sustainable exploitation of results

- ## Key technologies used/investigated:
Intent-based Interfaces, Platform Intelligence, Secure and Trustable Orchestration
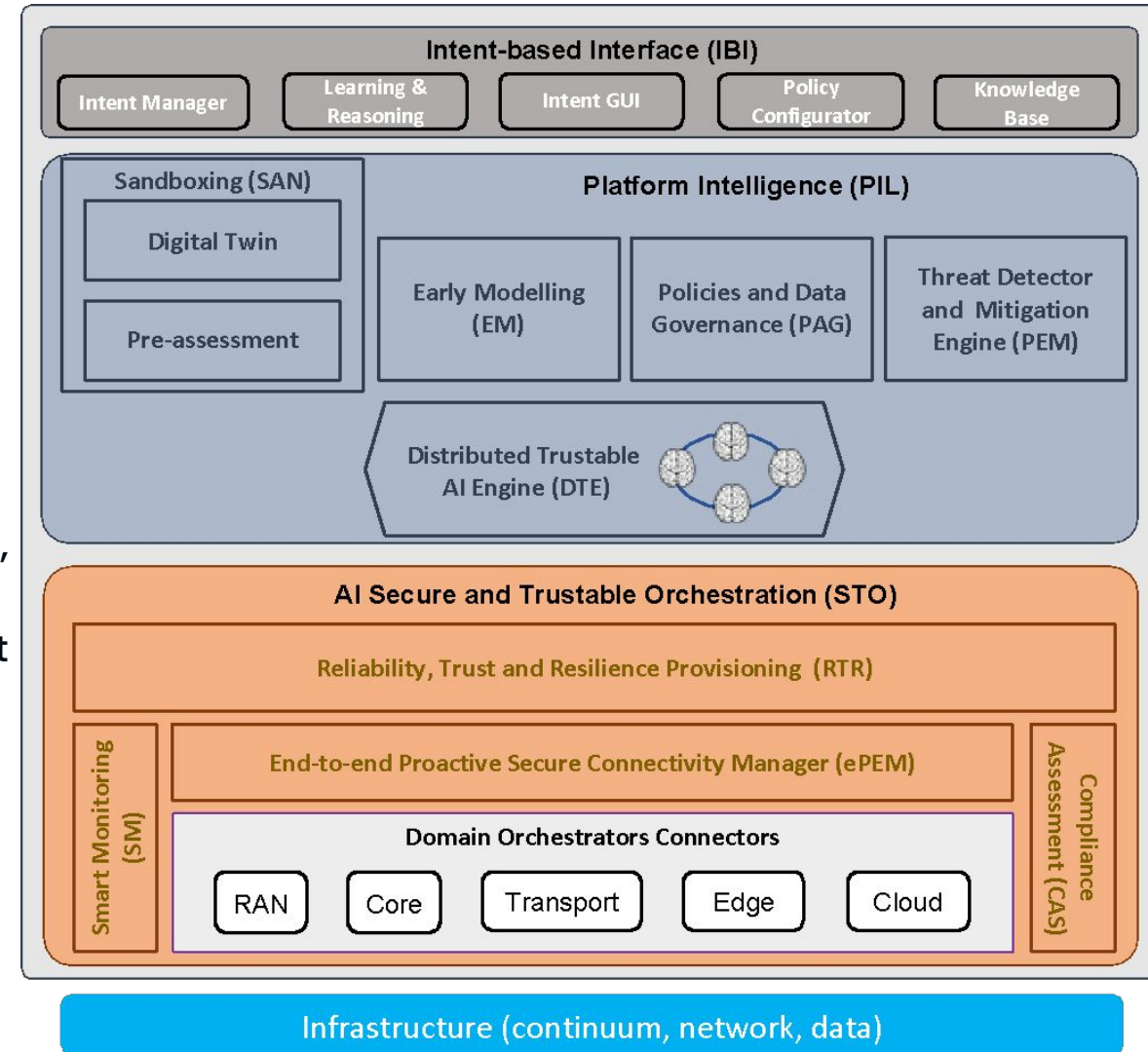
3. Planned Standardization Activities

- **Standardization plans / objectives:**

  - The project will seek for all kinds of collaboration, from the direct contributions to specifications or code bases to applicability statements and proof-of-concept demonstrators to assess the viability of proposed solutions.

  - HORSE will take part in EC clustering initiatives and develop cooperative liaisons with related EC-funded projects, with special focus on those supported by the 6GIA (Pre-Standardization and Security groups) and the SNS JU.

- **Project activities / technologies that may lead to standardization:**

  - Smart open security management and monitoring

  - Edge technologies

  - NFV secure orchestration

  - AI-enabled network management techniques & Digital Twins

  - Network service total automation / Autonomous Networks

  - Security implications of applying AI

3. Planned Standardization Activities

- **Potential targeted standardization bodies / groups:**
- IETF WGs (I2NSF, SACM, ACME, PPM)
- ETSI MEC, NFV, ENI, ZSM, SAI
- 3GPP, SA3 (security) and SA5 (management aspects)
- ITU-T FGAN (Focus Group on Autonomous Networks)
- Open source: Linux Foundation ONAP, Akraino, Anuket, ETSI OSM and TFS
- Open source / open specs: OpenConfig, O-RAN
- **Standardization planning and estimated time plan:**

Stage 1 (M01-M09) Awareness creation, and communication foundation

Stage 3 (M24-M36) Global outreach and sustainable impact

Stage 2 (M10-M23) Community outreach, initial results dissemination

M1   M9   M23   M36

SUCCESSFUL IMPACT ACHIEVEMENT