



The Standards People

# ETSI Research Conference 2023

Maximizing the Impact of European 6G  
Research through Standardization

## Project Presentation: VERGE

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# 6G SNS

07/02/2023



# 1. Project Overview

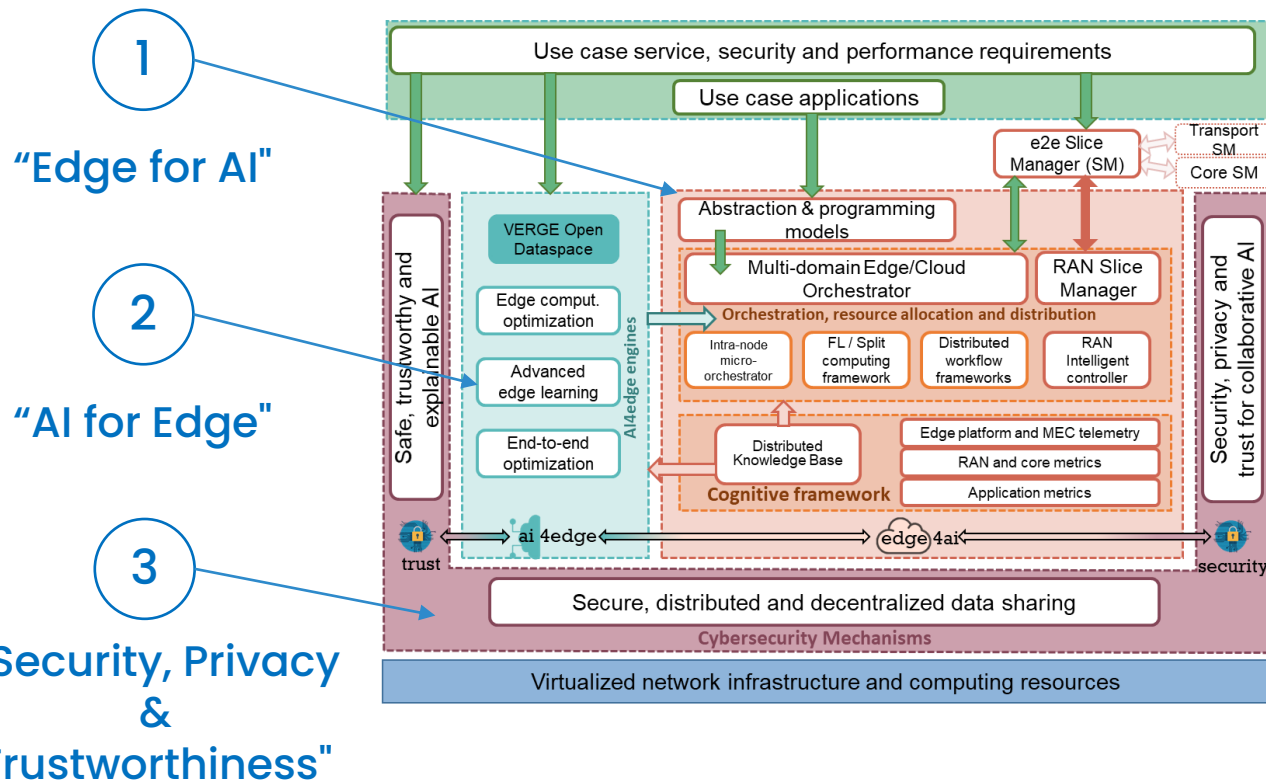
- **VERGE:** AI-powered eVolution towards opEn and secuRe edGe architEctures
- **SNS Stream:** A-01-05



# 2. Technical Information

## Objectives

DESIGN AN OPEN AND SECURED EDGE COMPUTING ARCHITECTURE sustained on 3 pillars



## VERGE Use Cases

### 1. XR-DRIVEN EDGE-ENABLED INDUSTRIAL B5G APPLICATIONS



### 2. EDGE ASSISTED AUTONOMOUS TRAM



- ✓ Zero-touch service orchestration & closed-loop automation
- ✓ Advanced split & distributed computing and learning algorithms for the edge
- ✓ AI-enabled network and application optimization
- ✓ Security, privacy and trustworthiness

# 3. Planned Standardization Activities

- **WP6: Dissemination, Standardisation and Exploitation / Task 6.4.- Standards tracking and contributions**
- Duration: M01-M30
- Task 6.4 will
  - analyse the standardisation potential of key VERGE innovations
  - identify standardisation targets and plan contributions to target SDOs
  - keep track of the open-source initiatives, identify relevant targets where the project can contribute and coordinate the contributions.

Activities expected to lead to open source contributions	Main involved partners
VERGE edge platform	BSC, INTEL, HIRO
VERGE orchestration layer	NBC, CTTC
Intra-node, split computing and distributed frameworks	CTTC,SRUK, BSC
VERGE cognitive framework for closed-loop automation	HIRO, NBC, INTEL, SRUK
Distributed task-based scheduling and computation offloading	SRUK, KCL, BSC
Federated split learning and robust federated learning	KCL
AI-empowered RAN resource management	CTTC, UPC
AI-empowered relay-extended multi-access RAN/edge	UPC
Multi-level multi-agent E2E AI solutions under edge constraints	UoO, SRUK, KCL
Security and privacy issues of AI4Edge	EBY
Secure Data sharing and DLT technologies	CTTC
Explainability and semantic AI	EAB, KCL, UPC

# 3. Planned Standardization Activities

- **Standardisation Manager: Dr. Valerio Frascolla (INTEL)**
- **For the standardisation activities VERGE will follow a multi-stage approach:**
  - Stage 1 – Identify SDOs, open-source communities and associations' groups relevant for key work items in the project. Such a list will be kept updated during the project lifetime.
  - Stage 2 – Constantly monitor the work of relevant SDOs so as to ensure that VERGE work is aligned with SDO work and identify the most relevant innovations and results of the project that can lead to SDO contributions.
  - Stage 3 – Drive the drafting of contributions to working groups and work items and support the development of SDO contributions leveraging on the experience of the partners that attend SDOs a can provide a concrete methodology on how to move from ideas, simulations, and results to SDO contributions.

# 3. List of identified SDOs and fora relevant for VERGE work

- ETSI ZSM (Zero-touch network and Service Management)
- ETSI MEC (Multi-access Edge Computing)
- 3GPP mainly the WGs Service and System Aspects (SA) and Radio Access Network (RAN)
- ONF (Open Network Foundation)
- NGMN 6G Use Cases
- O-RAN WG6.
- GSMA Operator Platform Group
- NGMN (Network Automation and Autonomy based on AI Working Group).
- AIOTI Standardization WG
- 6G-IA Pre-standardization WG



D6.1.- Plans for dissemination, communication, standardisation and exploitation  
(31/03/2023)