Institute of Communication & Computer Systems

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Senior Researcher | Team Leader

SNS R&I Work Programme 2026

General Facts

Institute of Communication and Computer Systems

Among the top 20 European Organisations (Academia, Research, Industry, SMEs) in terms of funding from competitive research projects.

~200 People

> 100 / 70 Ongoing/Finished Projects

~200 Partners

6G SNS IA Full Research Member

CCAM

ETSI World Class Standards Participant

MEC, ZSM, ENI, NFV ISGs

i-SENSE GROUP

National Technical University Athens

Institute of Communication & Computer Systems

Technology Areas & Verticals

i-SENSE GROUP

CCAM | Smart Manufacturing | SMAS | Logistics | **INS** | Circular Economy | XR | Earth Observation | Health | CMSS

Intelligent Networks & Services (INS)

- sprinter — *CL4-2021-DE-01-06* — Industry 4.0
- 6G-VERSUS — *SNS-2024-STREAM D* (Tech. Managers) — SOS — PPDR
- HIDRIVE — *DT-ART-06-2020*
- 5G IANA — *ICT-41-2020*
- ENELOPE — *SNS-2023-STREAM D* (Coordinators)
- CONNECT CCAM TRUST & RESILIENCE — *CL5-2021-D6-01-04*
- Education
- 5G BECOME — CEF-DIG-2023-5GSMARTCOM-EDGE-WORKS
- 5GLOGINNOV — *ICT-42-2020* — Logistics / Port operations
- XGain — *CL5-D6-01-03* (Coordinators) — eHealth Farming
- CASTOR — HORIZON.2.3.3 - Cybersecurity — Cyber-security
- Automotive

Research Areas

Predictive QoS (pQoS)

- **3GPP**-compliant implementation
  - QoS Sustainability, DN Performance
- **LF CAMARA**-compliant APIs
  - Connectivity Insights…

Multi-connectivity

- AT-SSS implementation
- NBI exposure
- Support for MPQUIC

Extreme/far edge service orchestration

- 5G NR PC5 – Sidelink
- Relaying, D2D

MLOps for Federated/Split Learning services

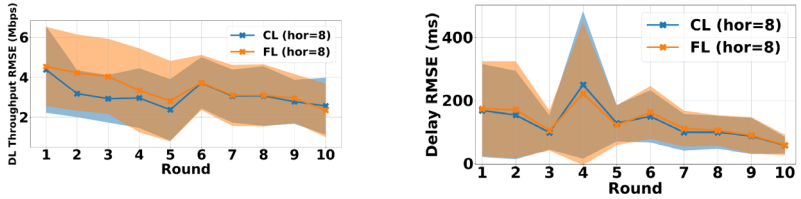
- Drift Management
- Geofencing
- Client Selection
- XAI

- **STREAM-B-01** — **STREAM B/C**

  Collection, Generation and Validation of Datasets suitable for training AI Models for 6G Networks and for AIaaS

- **STREAM-C-01**

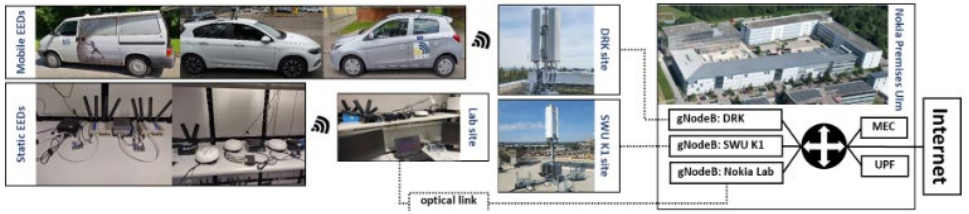
  SNS experimental infrastructure



Service Orchestration at the Extreme-Edge: An Experimental Investigation Over a 5G Testbed

Georgios Drainakis*, Panagiotis Pantazopoulos*, Konstantinos V. Katsaros*, Vasilis Sourlas*, Thanos Xirofotos†, Nehal Baganal-Krishna‡, Amr Rizk‡, Robert Horvath§,

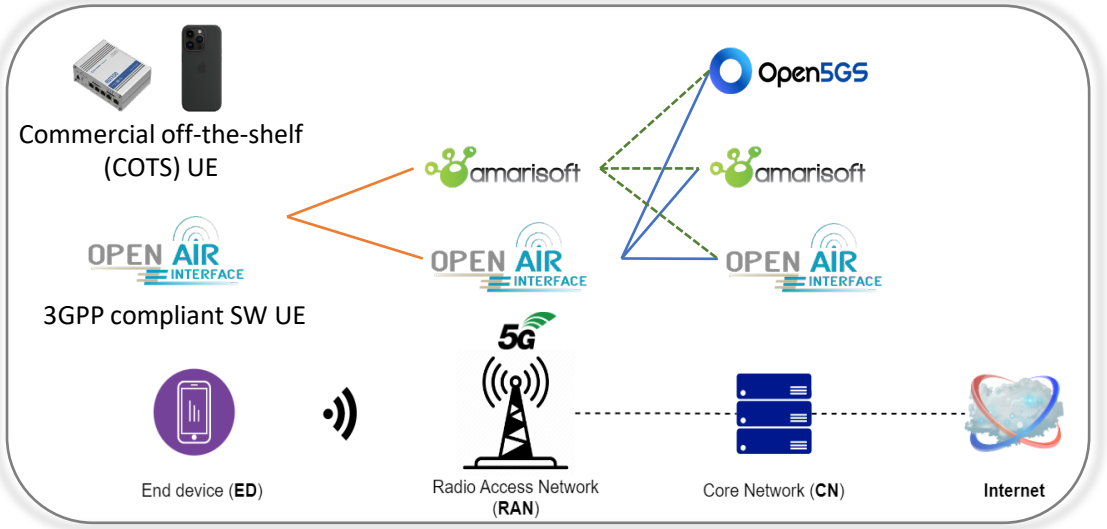
IEEE ICC 2025



ICCS B5G/6G Testbed

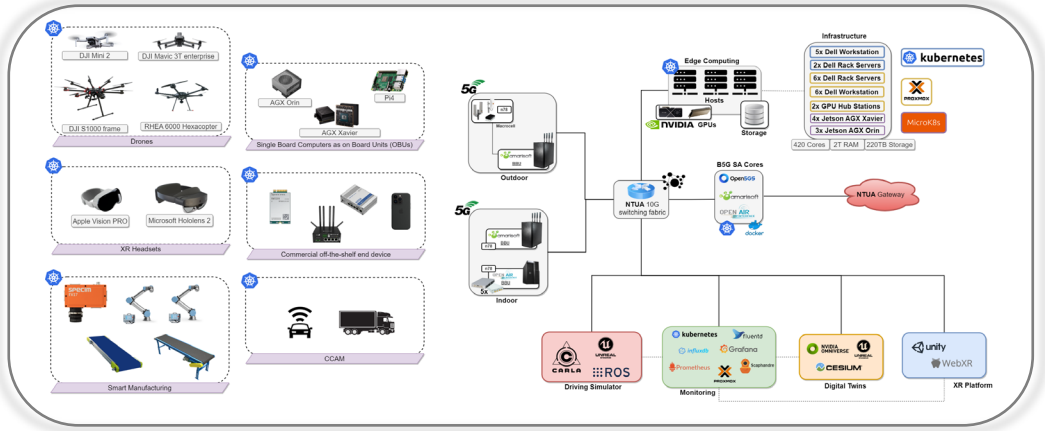
- Eight (8) cell 5G-SA
- Rich AI/ML HW support
- Drones (heavy-/lightweight)
- Quadruped robot

Zografou Campus



5G BECOME

Additional campus-wide commercial grade deployment on-going through CEF2 (see next)



- **STREAM-B-01** — **STREAM B/C**

  Collection, Generation and Validation of Datasets suitable for training AI Models for 6G Networks and for AIaaS

- **STREAM-C-01**

  SNS experimental infrastructure

STREAM-B-01

Collection, Generation and Validation of Datasets suitable for training AI Models for 6G Networks and for AIaaS

Predictive QoS Real World Datasets

Data *(indicative)*

- **RAN**: RSRP, RSRQ, num cell users, UE throughput, etc.
- **Core**: UPF throughput/packet loss rate, SMF session QoS, etc.
- **Edge**: CPU/GPU/RAM utilization, etc.
- **UE**: RSRP, RSRQ, etc.; app. level metrics: RTT, velocity, etc.

Verticals

Automotive

- 20-30 5G-enabled OBUs
- *Teleoperation Service*

Education AR/VR

- 10-20 headsets
- AR/VR-enabled courses
- 6 NTUA Schools
  - Civil Engineering
  - Mechanical Engineering
  - Electrical and Computer Engineering
  - Chemical Engineering
  - Rural, Surveying and Geoinformatics Engineering
  - Naval Architecture and Marine Engineering

Campus-wide commercial grade deployment on-going through CEF2

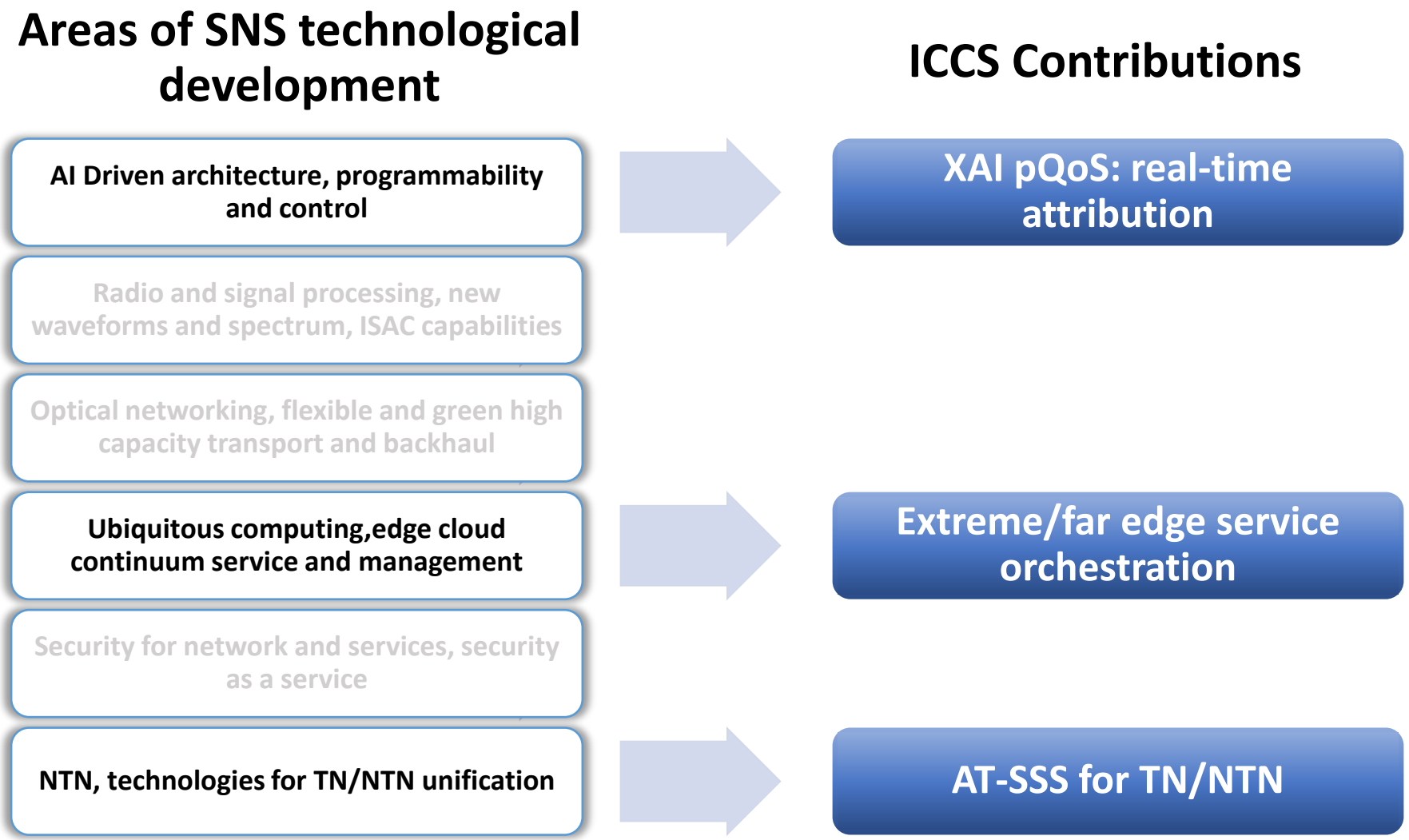
- Real MNO subscribers [> 500]
- 6 outdoor / 3 indoor cells
- NEF, GPU-ready edge w/ UPF

3GPP Services (TS 23.288)

- QoS Sustainability
- DN Performance Analytics
- Service Experience Analytics
- Network Slice Performance Analytics

STREAM-C-01

SNS experimental infrastructure



Thank you!

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