




**ACROSS** is a HORIZON-JU-SNS-2022 funded research project that designs and implements an end-to-end service deployment and management platform for next generation networks and services, aiming at unprecedented levels of automation, performance, scalability, and energy efficiency.

ACROSS project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101097122, as well as from the Smart Networks and Services Joint Undertaking (SNS JU).



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## Standardisation & Open Science at the Heart of 6G Innovation

For Europe to lead in next-generation networks, technologies must not only work, they must work together, securely, and transparently.


Standardisation ensures that devices, platforms, and networks speak the same language.

Open science ensures that research results are shared widely, accelerating innovation and trust.

Over three years, **ACROSS placed both at the core of its work**, delivering:

- Technical contributions shaping international standards
- Open-source software and reusable datasets
- Transparent and reproducible research
- Strategic protection of key innovations through patents

**Together, these actions strengthen Europe's technological sovereignty and support secure, intelligent, and trustworthy 6G networks.**



## Why Standards Matter for Europe's Digital Future

Every message sent, every streamed video, every factory robot relies on shared technical rules. Without standards, networks fragment into isolated solutions that cannot interoperate.

### ACROSS Active Contributions to Global SDOs

- **ETSI ZSM (Zero-touch network and service management)**  
Zero-touch automation models, telemetry integration, AI-assisted orchestration
- **ETSI ENI (Experiential Networked Intelligence)**  
AI-driven decision loops for intent-based networking
- **ETSI SDGs (OpenSlice & TerraFlowSDN)**  
Open-source reference implementations aligned with industry specs
- **3GPP SA5**  
Management & orchestration for 5G-Advanced and early 6G
- **IETF**  
Cross-domain orchestration & telemetry architecture proposals

### What ACROSS Delivered

- 85 SDO contributions
- 30+ open-source contributions aligned with standards
- 4 liaison statements supporting SDO coordination
- New Proof-of-Concept activities within ETSI ZSM

### Value in Everyday Terms

Standards make sure your devices work everywhere, your calls connect seamlessly, and networks remain secure as technology evolves.

## **Open Science: Innovation Everyone Can Build On**

Modern research thrives when results are shared; code, datasets, experimental methods, APIs. ACROSS embraced open science from day one.

### **What ACROSS Released Openly**

- 20+ public repositories (orchestration, AI modules, simulations)
- Synthetic datasets for manufacturing, healthcare & streaming
- Documentation, tutorials & developer guides
- Public APIs for orchestration, trust, telemetry & digital twins
- Open-source licenses (Apache 2.0)

### **Why Synthetic Data Matters**

Real telecom data often cannot be shared due to privacy and commercial sensitivity. Synthetic datasets from ACROSS enable:

- AI training & benchmarking
- Performance validation
- Secure experimentation without exposing real users

### **Value in Everyday Terms**

Open science helps startups and universities innovate faster, reduces duplication, and builds public trust in network technologies.

## Protecting European Innovation: Open Yet Strategic

ACROSS shows that Europe can be open and competitive at the same time.

While software, data, and documentation were openly released, strategically critical innovations were protected.

### 4 Patents Filed (PCT) on Key 6G Technologies

- Zero-touch orchestration processes
- Secure multi-domain telemetry
- AI-driven automation policies
- Cross-domain trust negotiation and verification

### Why This Matters

- Europe retains ownership of high-value technology
- Enables commercial exploitation by partners
- Strengthens EU industrial competitiveness
- Supports long-term innovation through evolving IP portfolios

## Open vs Protected Outputs

### Open Science Outputs

- Open-source software
- Synthetic datasets
- Developer guides
- Public APIs

### Protected Outputs

- Patents securing inventions
- Exclusive commercial rights
- Competitive licensing strategies
- Long-term exploitation plans

### Value in Everyday Terms

Europe leads in 6G while still sharing knowledge that benefits society.



## **The ACROSS Impact: Raising the Bar for 6G Research in Europe**

By combining standards, open science, and innovation management, ACROSS strengthened Europe's ability to build resilient, intelligent, interoperable networks.

### **ACROSS in Numbers**

- 85 SDO contributions
- 30+ open-source contributions
- 20+ public repositories
- 4 patents filed
- 3 global SDOs involved
- 4 real-world test cases

### **How ACROSS Fuels the Future**

- Provides a reference architecture for zero-touch automation
- Supports the SNS JU roadmap toward 6G
- Delivers open tools for industry & academia
- Demonstrates AI, telemetry & intent-based systems in practice
- Strengthens trust for secure multi-domain services

### **A European Asset for the Future**

ACROSS leaves a long-term legacy for standards bodies, operators, researchers, startups, and policymakers, supporting Europe's journey toward secure, intelligent, and efficient 6G networks.