

Roma 5G & 5G4SEAN

From Smart City to AI-Native Network

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The Starting Point: the Jubilee 2025 challenge

Why Rome Needed Dense, Neutral 5G

- 2.75M residents + 4.2M in Greater Rome area
- 22M+ tourists/year — 37M projected for Jubilee 2025
- Existing network: insufficient for mass events
- Jubilee 2025: ultra-dense coverage along pilgrim routes
- PNRR — Piano Italia 5G: public funding to bridge gap

The Response: #Roma5G —Public-Private Partnership Model

- INWIT → Builds state-of-the-art neutral host infrastructure
- Municipality of Rome → Rapidly provides spaces & installation permits
- Mobile Operators (included Vodafone) → Activate services on shared infrastructure
- Coverage timeline: 2023 → 2027 (phased rollout)





Roma 5G: Key Numbers

End-to-end infrastructure — from radio to the cloud

1

850 +

Free Wi-Fi
hotspots across
100 plaza

2

2,000

5G-connected
cameras
for urban security

3

250 km

Fiber optic cable
deployed

4

83

Metro stations
4G/5G
Lines A, B, B1, C

5

7

Public buildings
indoor 4G/5G

6

1,800+

IoT sensors + 150
air quality probes

Roma Goes AI: Julia

Rome's AI citizen assistant — live on 5G

What Julia Is

- Virtual assistant for Roma Capitale
- 80+ languages
- Real-time: transport, permits, events, emergencies
- Launched for Jubilee 2025 — millions of verified interactions

Who It Serves

- Residents AND tourists
- First responders
- Julia is the human face of Rome's digital transformation

Why 5G Makes the Difference

- Low-latency AI inference at the edge
- Network slicing: priority for city services
- IoT + Julia: sensors talk, AI responds in real time



Roma Capitale Joins 5G 4 Super Edge AI Network (5G4SEAN):

5G ROMA

A national 5G private network (MPN) connecting supercomputing and AI centres across Italy for training and inference.

In 2025, 5G4SEAN received the **European Union Seal of Excellence** – unfortunately, not the funding. But the recognition validated the vision.

The **Use cases** we intended to experiment were:

- **Healthcare:** connected hospitals, remote monitoring, AI-assisted diagnostics.
- **Energy:** smart grids, adaptive lighting, efficient public infrastructure management.
- **Production Units:** industrial IoT, predictive maintenance, autonomous logistics.
- **Smart Cities:** replicating the **Rome model** in other European art cities.

5G4SEAN OBJECTIVES

cnit



Coordinator

Beneficiaries



ROMA CAPITALE

Associated Partners



Roma 5G: Results & Learnings

What the deployment proved — and what it teaches

Demonstrated Results:

Jubilee 2025 — zero coverage failures at 40+ mass events
30% CAPEX reduction vs. single-operator deployment

Performance

99.9% uptime across metro lines A, B, B1, C
2M+ Julia interactions in first 6 months

Public-Private Partnership Model

Neutral host + shared infrastructure is replicable in any EU city. CAPEX shared, coverage maximized.

Fund projects like 5G4SEAN

Invest in the infrastructure that enables AI. The mobile network is not just connectivity – it's the backbone of continuous learning systems.

Sovereign AI Datasets and Infrastructure

Europe's digital sovereignty starts with infrastructure. Let's build it together.



THANK YOU

#ROMA5G