



ORION: Resilient AI for Rapid Infrastructure Readiness Verification

Reducing systemic time-to-confirm under hybrid and degraded-connectivity conditions

Manual readiness verification

- On-site physical inspection
- Radio / phone confirmation
- Environmental checks (CO₂, utilities)
- Static data validation

Test result (ideal conditions):

~25 minutes

VS

Test result:

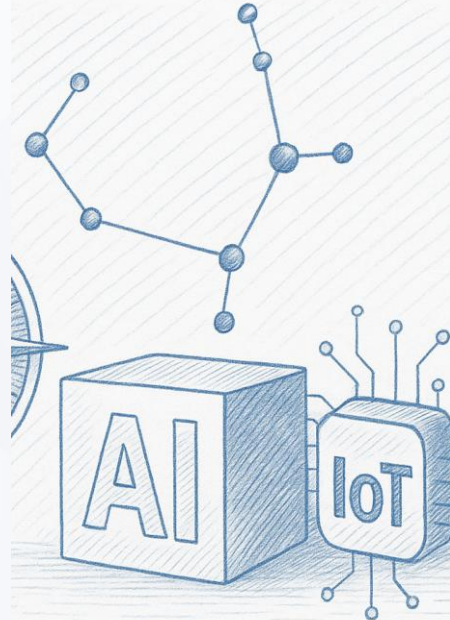
3–5 minutes

Real-world scenario:
30–60 minutes

Fully on-premise.
Operates under Internet isolation.

In hybrid and degraded-connectivity scenarios, operational latency becomes a critical vulnerability

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MVP Validated – Successfully Tested Under Simulated Crisis Conditions

Validation conducted under hybrid disruption and complete digital connectivity outage scenarios.

Data Layer

- Aggregation of real-time IoT telemetry (energy, water, heating, air quality)
- Integration of structured facility data (“facility passport”)

Decision Layer

- Context-aware local AI (LLM + deterministic logic)
- Automated anomaly detection
- Procedure-aligned operational interpretation

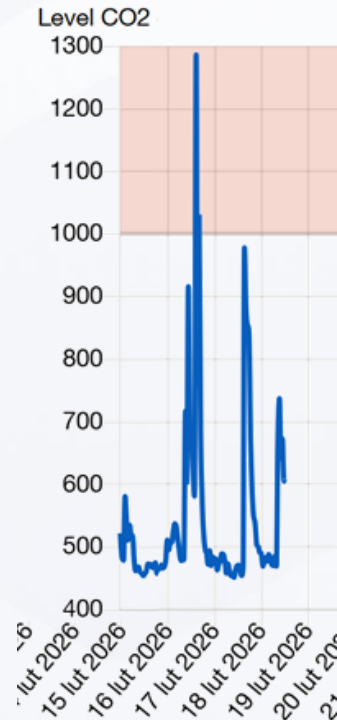
Resilience Layer

- Fully on-premise architecture
- Operational under full Internet isolation
- Local operational communication (chat / voice / secure data exchange)

VALIDATION

- Simulation-based crisis exercise – University of Łódź
- Benchmarking against traditional manual verification
- Measurable and repeatable evaluation methodology

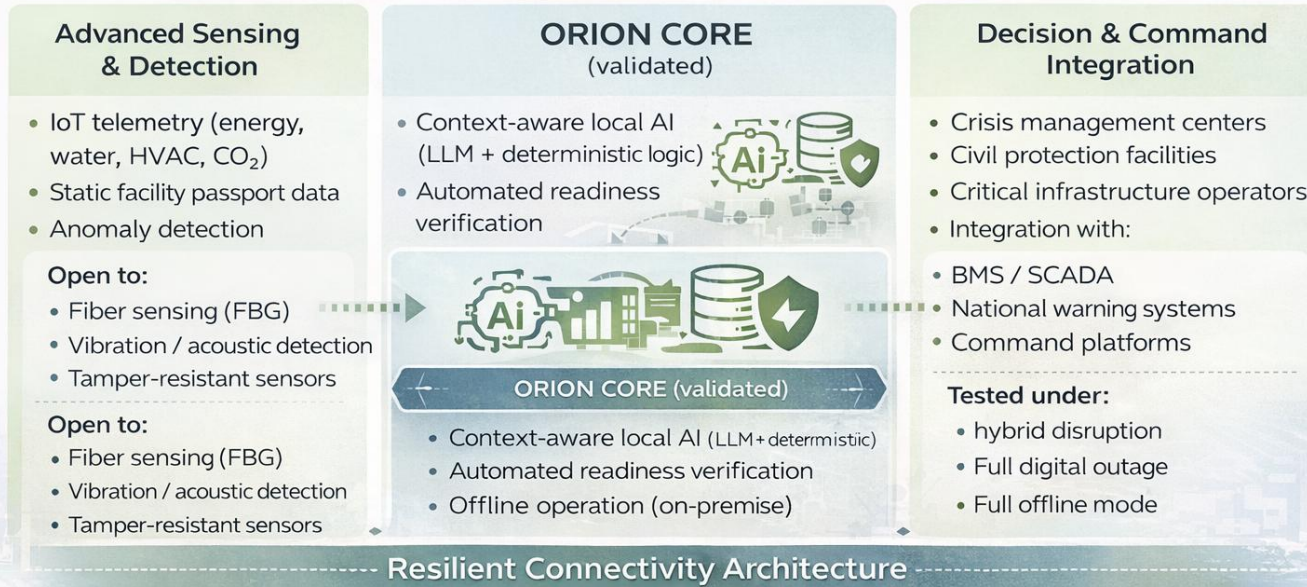
This is not a concept. It is a tested operational system





Modular architecture ready for joint R&D extension

ORION core validated – open interfaces for research partners



Private 5G / LoRa



Edge / Satellite fallback



Full offline mode



Research Gap & R&I Challenges What We Want to Solve Together

ORION is our validated baseline.

Horizon Europe is the opportunity to solve these challenges at European scale

1 Deterministic vs Probabilistic AI in Crisis Decision Support

How to balance calculation-based validation with LLM-driven contextual reasoning - without compromising reliability under pressure?

2 Trusted Sensing Under Manipulation How to design detection layers resilient to:

- sensor tampering
- signal spoofing
- degraded physical infrastructure
- extreme environmental conditions

3 Resilient Hybrid Communication Architectures- How to ensure:

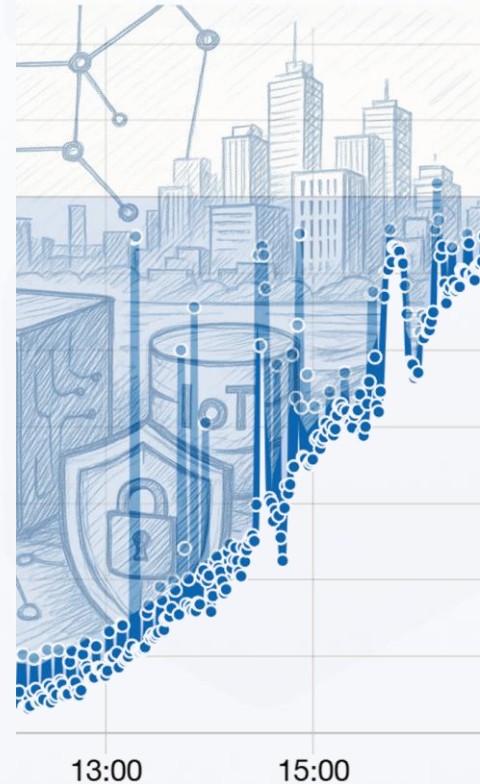
- cross-site coordination
- inter-building mesh continuity
- satellite fallback
- sovereign operation without public cloud dependency

4 Explainable AI for Command-Level Decisions

How to provide transparent, auditable, procedure-aligned recommendations that can be trusted by public authorities and operators?

5 Measurable Impact - How to quantify improvement in:

Time-to-confirm readiness, response coordination, anomaly detectability, operational continuity under isolation





Consortium Partners We Are Looking For

Research & Technology Teams

- Fiber sensing / photonics (FBG, distributed sensing)
- Trusted sensing & anti-tampering technologies
- Resilient communication architectures (mesh, satellite fallback, edge networks)
- AI explainability & safety in mission-critical systems

System Integrators & Infrastructure Experts

- BMS / SCADA integrators
- Energy and utility infrastructure specialists
- Edge computing & secure deployment architects

Public Authorities & Facility Operators

- Civil protection facilities
- Municipal infrastructure operators
- Regions willing to host operational pilots
- Institutions responsible for continuity-of-operations planning

Consortium Leadership & Coordination

- Experienced Horizon Europe coordinators
- We are flexible: ready to co-create, co-lead, or join a strong consortium

We bring a validated operational baseline.

We are looking for partners to scale it into a European R&I demonstrator.

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About the Liki Team & Contact

Liki Mobile Solutions

Applied AI & IoT engineering company
Focused on resilient, mission-critical digital systems
Operational deployments in industrial and public-sector environments
Based in Poland | Operating across EU
Experience in Horizon 2020 projects
Partner in EU-funded consortium developing emergency response solutions (Energy Eye / RAMSES – 112 support systems)

Jan Ekiel

CEO | Applied AI & Resilient Systems
Background in AI-driven operational platforms and infrastructure systems
Focused on continuity-of-operations and sovereign digital architectures

Let's Connect

jan.ekiel@likims.com

+48 501 355 227

LinkedIn QR code here



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