



coppilot



**Scale your
innovation
with up to
€200,000!**

Get up to €200,000 funding and
expert support through the
1st Open Call of COP-PILOT!

What is COP-PILOT Horizon?

COP-PILOT is a Horizon Europe Innovation Action developing a Collaborative Open Platform (COP) for end-to-end orchestration across cloud, edge, and IoT. By combining advanced connectivity, AI-driven tools, and secure, SLA-preserving automation, it enables services from different domains to seamlessly interact and scale. Through pilots in manufacturing, smart cities, energy, agriculture, and vineyards, COP-PILOT Horizon demonstrates how interoperable platforms unlock value and efficiency. Open Call winners can integrate and validate their solutions within this European ecosystem, accelerating real-world impact.

1st Open Call Details

Who can apply?

We are looking for projects from SMEs, startups, industry, research, and multidisciplinary teams ready to validate and scale their solutions in real-world pilots.

Application deadline: May 4th 2026, 22:00 CET

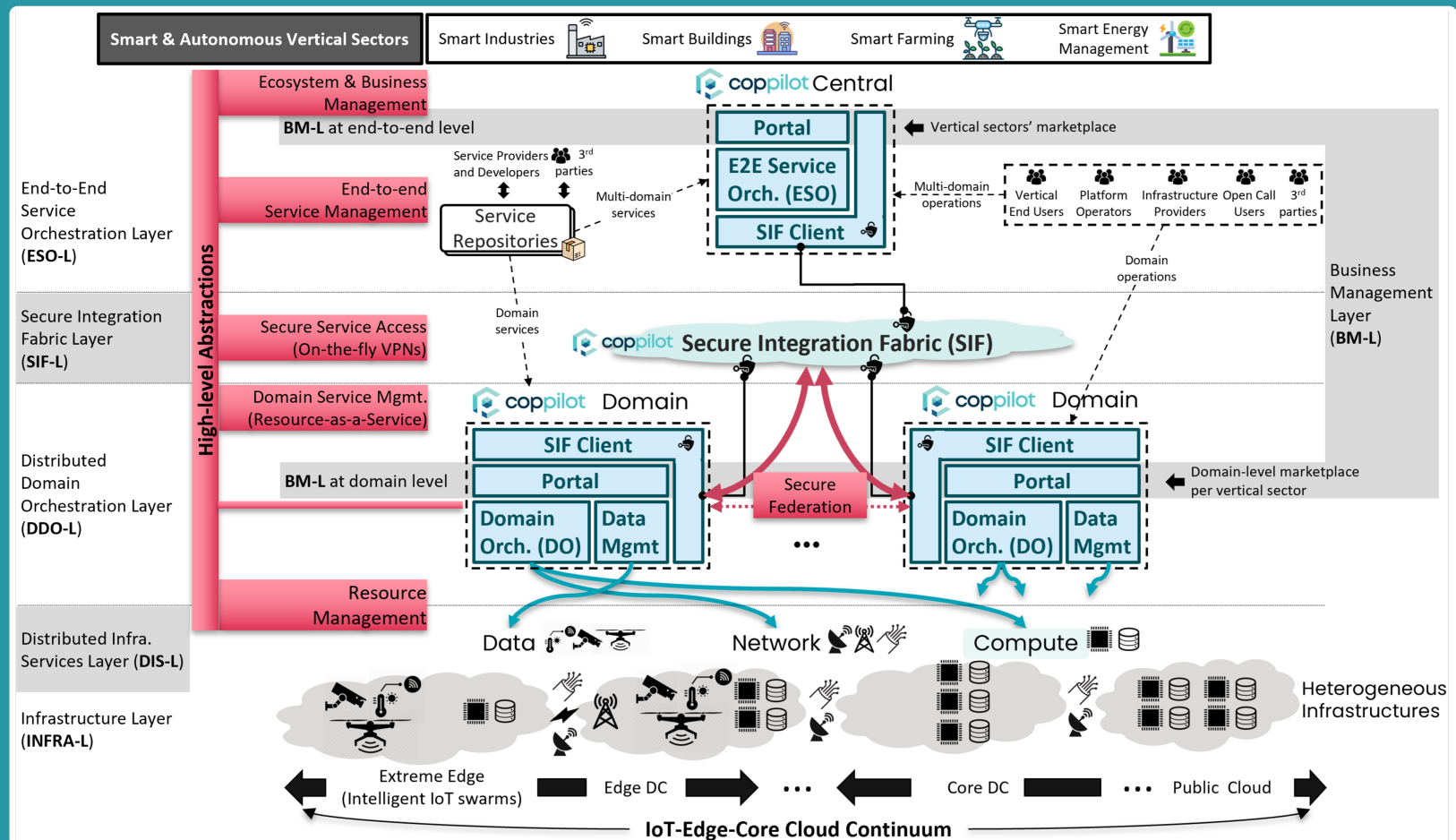
What support will you receive?

- 8 winners will be selected
- Up to €200,000 funding / winning project
- 8-month mentoring & technical support
- Access to European pilots and the innovation ecosystem
- Integration with the COP-PILOT platform

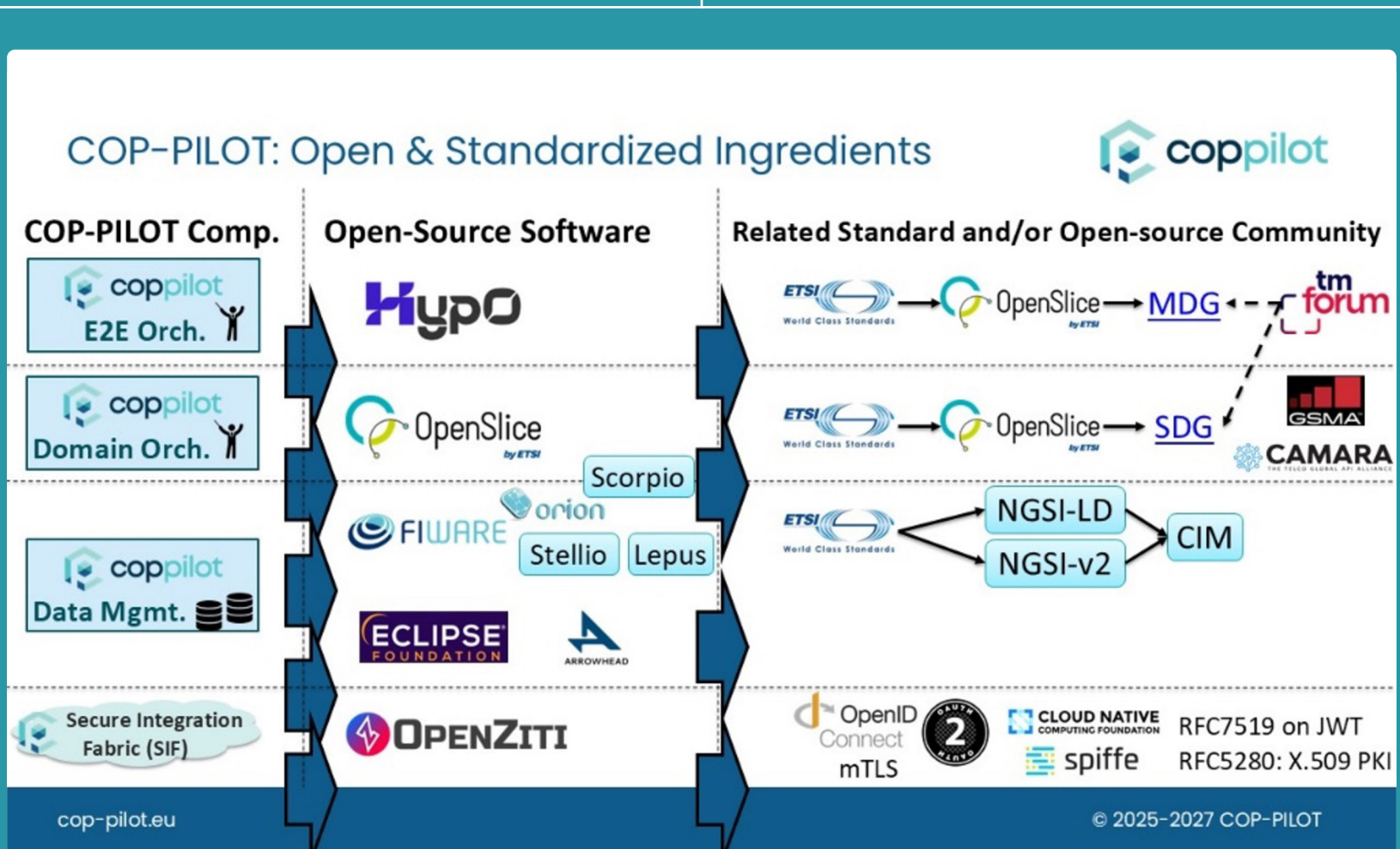
Why build on COP-PILOT?

- **Open Source** – Own Your Solution
- **Standards** – Ensure Interoperability
- **Join a Leading Network**

COP-PILOT Horizon Simplified Architecture



COP-PILOT Horizon Open-Source Components



COP-PILOT Key Documents



Guide for Applicants

A step-by-step guide with detailed information on the application and evaluation process.



Technical Guidelines

Contains the list and description of COP-PILOT challenges and technical requirements.



Proposals Guide

The mandatory guide for structuring your proposal.



Declaration of Honour

Required legal document.



SME Checklist

Document comproving you are an SME by EU definition.



Privacy and Ethics Annex

Document comproving you follow the need Privacy and Ethics consideration to be eligible for funding.



Consortium Agreement

Consortium Agreement (CA) following the DESCA model: a full version will be required from the winners, while only a simplified version is necessary for the proposal phase.



FAQ

A comprehensive list of questions and answers covering common issues that may arise during the application process.

COP-PILOT Horizon Clusters



CL1 - Industry
Business Integration in Mining



CL2 - Smart buildings/city
Smart Sustainable IoT Solutions
in Valencia



CL3E - Energy
Edge Intelligence for
Enhancing Grid Reliability in
RES-Rich Distribution Grids



CL3A - Agriculture
AgriTech Transformation and
Sustainability Initiative (ATSI)



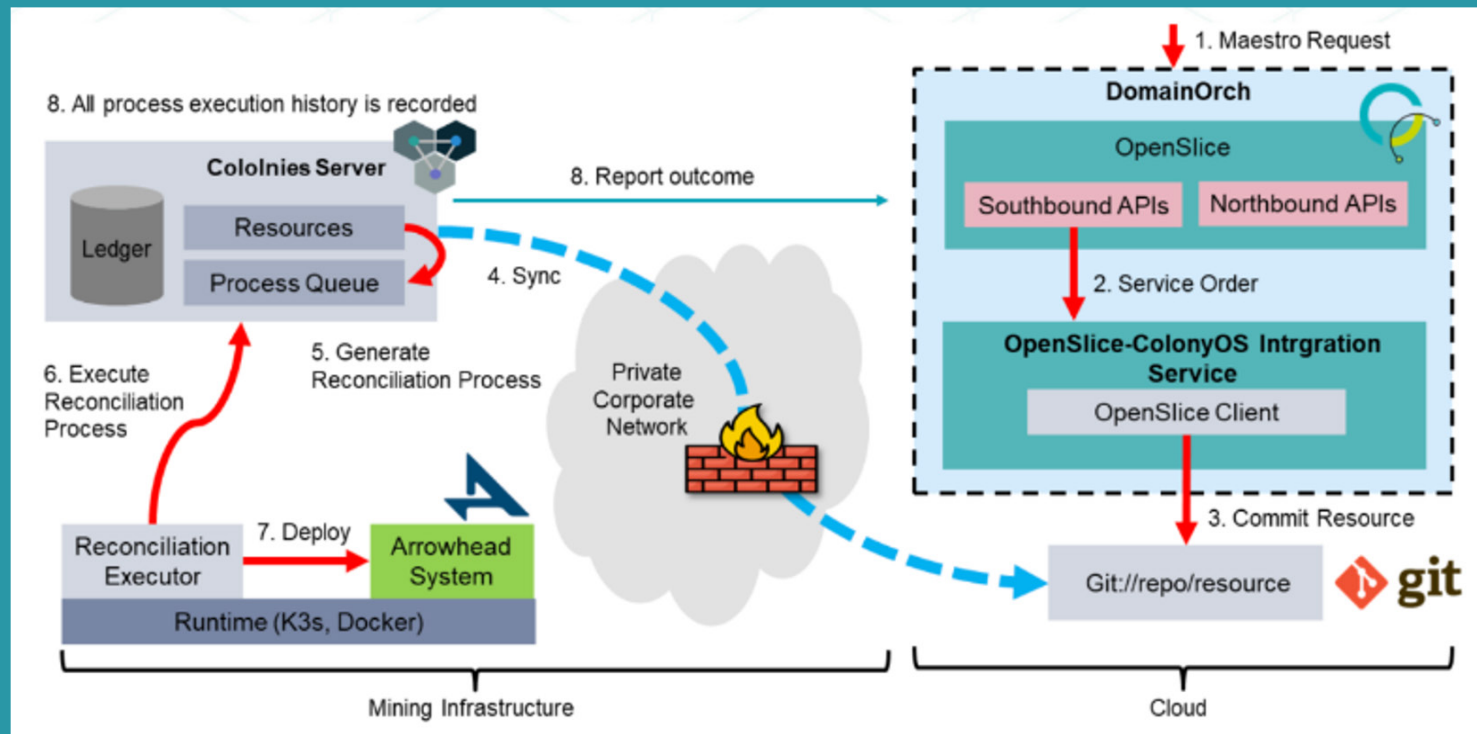
CL4 - Vineyards
Smart Vineyards & Sustainable
Winery Ecosystems



CLUSTER 1

Business Integration in Mining

In industrial settings like mining, manufacturing, and recycling, the COP-PILOT Horizon system uses IoT, UGVs, and edge-to-edge connectivity to cut response times by 40–60% and reduce chemical waste through targeted applications. It also trims operational costs by up to 30% via dynamic resource allocation, adds blockchain for traceability and smarter logistics, and strengthens safety with early seismic warnings.



Use Case 1.1: IoT Mining Seismics

This UC enhances underground mining safety by using micro seismic sensing and data processing to better understand rock mass behavior through a unified, interoperable edge-to-cloud workflow.

COP-PILOT benefits:

- Unified multi vendor workflow
- Low latency event detection
- High reliability
- Improved safety & productivity
- Flexible compute placement
- Lower operational costs

Use Case 1.2: Logistics of IoT

Through this use case, IoT-enabled smart rock bolts accurately track personnel, vehicles, and equipment underground, improving operational efficiency and reducing time lost locating assets.

COP-PILOT benefits:

- Dramatically lower deployment costs
- Real time asset visibility
- Reduced asset losses
- Automated status reporting
- Enhanced safety
-

Use Case 1.3: Condition Monitoring and Predictive Maintenance in Mining

UC1.3 uses data from IoT-enabled belt scrapers, Edge/IoT devices, and SCADA, to monitor components in belt conveyors to detect/predict damages, reducing failures and downtime. A scalable edge-cloud computing and analytics continuum is demonstrated.

COP-PILOT benefits:

- Early fault detection
- Predictive maintenance
- Reduced installation time
- Continuous material flow
- Lower maintenance costs

Use Case 1.4: IoT-Edge-Cloud Continuum For Digital Mines

Use Case 1.4 demonstrates a unified IoT-Edge-Cloud architecture for digital mining, enabling low-latency, scalable, and resilient operations by integrating earlier Cluster 1 use cases.

COP-PILOT benefits:

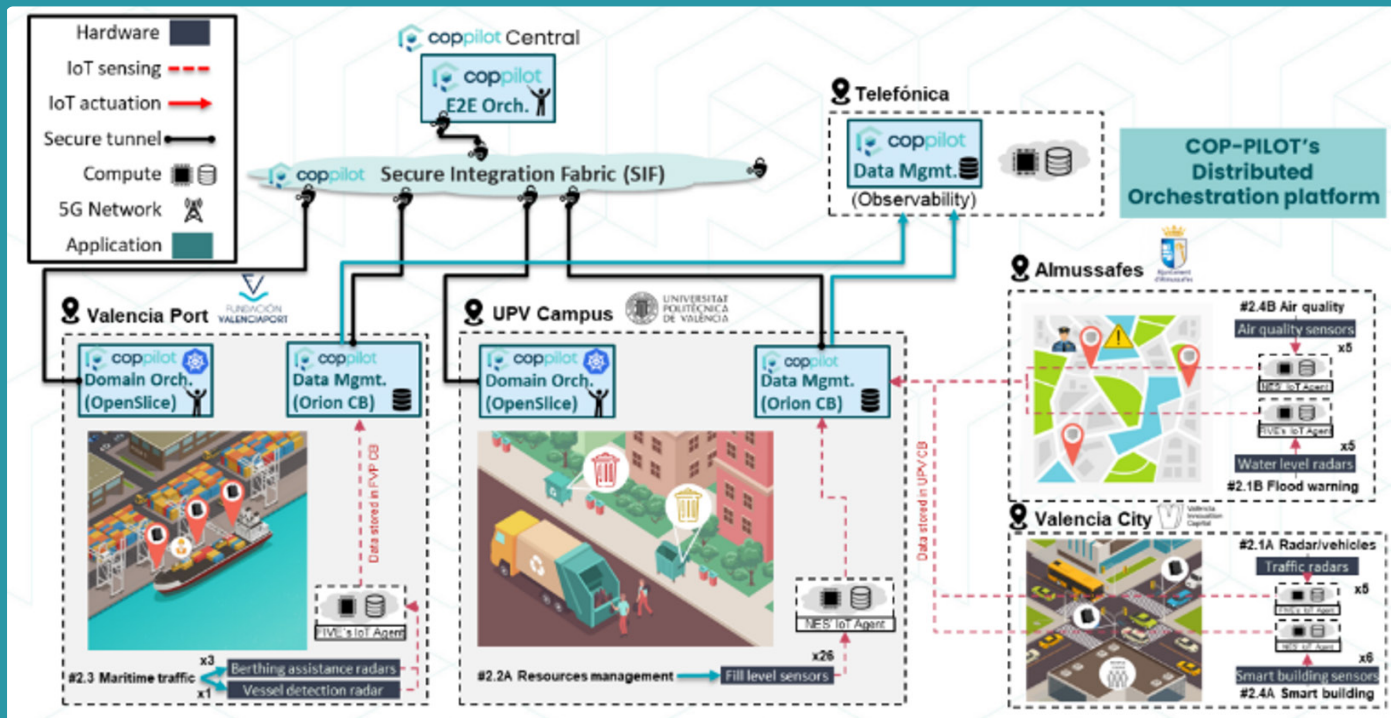
- Low latency & resilient operations
- Reduced IT overhead
- Federated orchestration
- Secure edge interoperability
- Accelerated digital transformation



CLUSTER 2

Smart Sustainable IoT Solutions in Valencia

COP-PILOT in Cluster 2 uses IoT, AI, and edge-to-cloud tech to connect city systems, giving planners better data for cutting emissions and easing congestion. For residents, that means smoother travel, cleaner air, and sharper public services. University campuses trim energy and water use; ports and logistics firms get safer, more efficient operations. Open APIs let developers and startups build new tools on top of it all. By showing how scalable smart infrastructure works in practice, the project maps out a practical path toward cities that are both more sustainable and better for people.



Use Case 2.1A: 5G-Connected Radars for Traffic Classification and Vehicle Counting

UC 2.1A uses radar-based vehicle classification with real-time AI analytics to improve traffic management, road safety, and urban mobility efficiency.

COP-PILOT benefits:

- Accurate vehicle classification
- From visualization to automation
- Unified sensor fusion
- Better urban outcomes
- Informed urban planning

Use Case 2.1B: Flood warning and mitigation systems through radar sensing

This use case monitors water levels through NB-IoT-connected radars for flood monitoring.

COP-PILOT benefits:

- Real time flood tracking
- Faster emergency response
- Higher accuracy with multi source fusion
- Optimized device efficiency

Use Case 2.2: Smart Resources Management in The UPV Campus

The use case establishes a smart, data-driven waste management system at UPV using fill-level sensors and IoT platforms to enable real-time monitoring, improve environmental assessment, and support informed.

COP-PILOT benefits:

- Real time fill monitoring
- Optimized collection logistics
- Lower environmental impact
- Scalable & modular
- Unified data management

Use Case 2.3: Maritime Traffic Monitoring and Berthing Assistance

Use case 2.3 uses radar-based tracking to deliver precise, real-time vessel positioning and orientation, improving port safety and efficiency.

COP-PILOT benefits:

- Precision beyond GPS/AIS
- Reduced accident risk
- Optimized docking & turnaround
- Automated event driven actions
- Cross use case synergy

Use case 2.4A: IoT – Driven Smart Building Management

This use case turns La Harinera into a smart building using IoT sensors for real-time monitoring of occupancy, comfort, and energy use.

COP-PILOT benefits:

- Real time visibility
- Proactive facility management
- Improved energy efficiency
- Scalable smart building model
- Interoperable by design

Use case 2.4B: IoT-Based Environmental Quality Monitoring System

Through this use case, a LoRaWAN network is used to monitor formaldehyde levels in real time, enabling alerts, emergency response, and improved industrial safety.

COP-PILOT benefits:

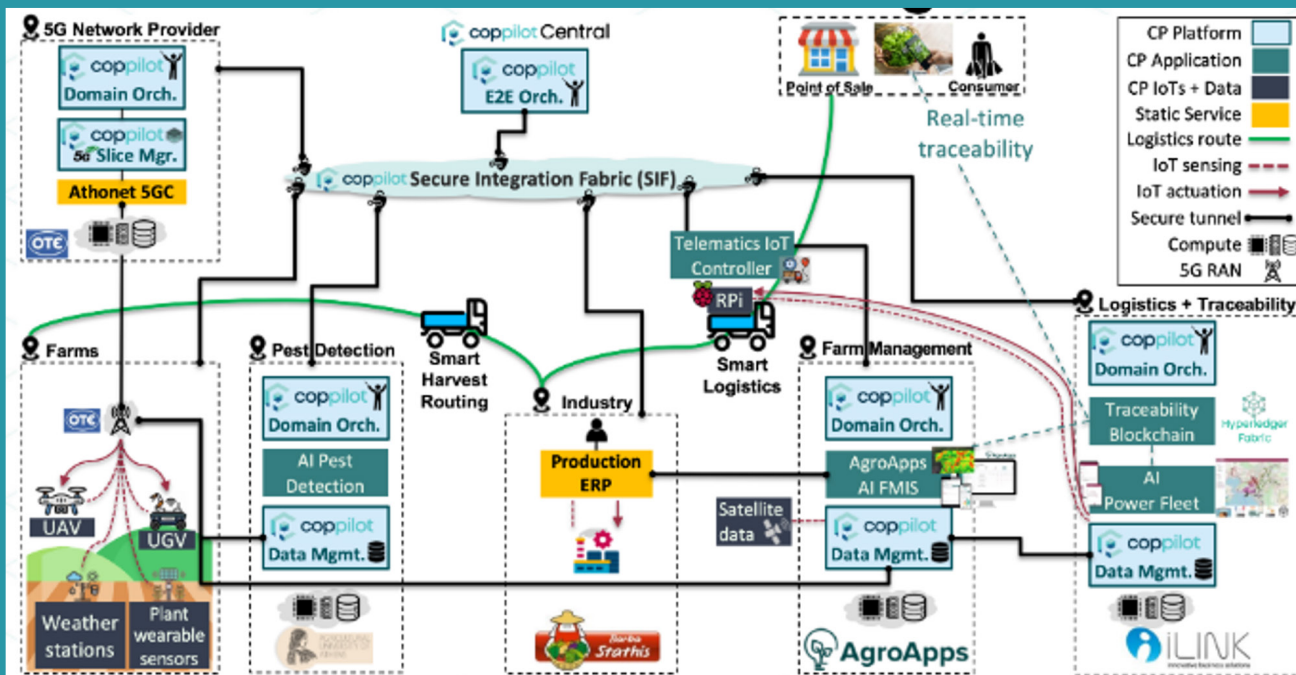
- Real time industrial safety
- Reduced health risks
- Transparent compliance
- Rapid deployment of sensors
- Future proof scalability



CLUSTER 3A

AgriTech Transformation and Sustainability Initiative

COP-PILOT in Cluster 3A stitches together IoT sensors, smart meters, and outside data like weather and market prices to help the agri-food chain run smarter. Edge-based analytics let it fine-tune energy use, balance on-farm power generation, and keep the grid stable — so farmers get better yields with less waste and lower costs. Agritech companies gain a unified platform to build on, supply chains cut waste through predictive routing and traceability, and consumers end up with fresher, more sustainable food. All backed by secure multi-cloud and blockchain setups, it's a practical step toward a more resilient food system from field to fork.



Use Case 3A.1: Integrated Precision Agriculture and Crop Monitoring

This use case supports precision spinach farming by integrating real-time IoT sensing, UAV imagery, and EO data to enable continuous crop and environmental monitoring, stress detection, and data-driven targeting of field operations, while improving data traceability across farm activities.

COP-PILOT benefits:

- Fused multi source intelligence
- Blockchain backed traceability
- Reduced inputs & labour
- Just In Time logistics integration

Use Case 3A.2: Advanced Agri-Robotics for Autonomous Intervention

The use case enables autonomous precision weed control by combining UAV monitoring, AI weed detection, and UGV-led spot spraying, reducing chemical inputs while improving field-level sustainability and efficiency.

COP-PILOT benefits:

- Fully automated UAV UGV intervention
- Reduced herbicide use
- Rapid detection to action cycles
- Lower labour costs
- Auditable compliance records

Use Case 3A.3: Secure Data Management and Interoperability

This use case enables secure and interoperable data integration and traceability across the agri-food supply chain, from primary production through processing, logistics, and distribution, by combining federated multi-cloud infrastructures and blockchain-based mechanisms to ensure data integrity, controlled access, and trusted data sharing among stakeholders.

COP-PILOT benefits:

- Tamper proof provenance
- Simplified partner onboarding
- Lower compliance costs
- Premium market access
- Real time trusted service

Use Case 3A.4: Smart Logistics and Supply Chain Optimization

This use case enables Just-In-Time logistics for perishable agri-food products by integrating vehicle telematics and AI-based analytics to optimize scheduling and routing, reducing delays, spoilage, and operational inefficiencies.

COP-PILOT benefits:

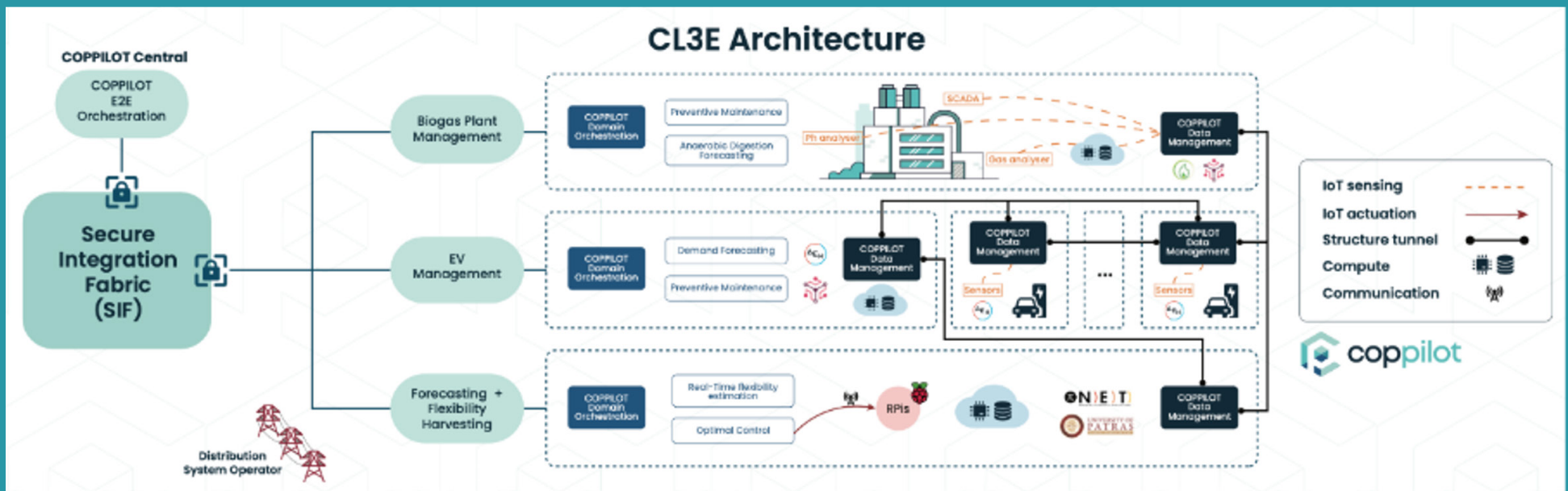
- Real time freshness monitoring
- Lower cost per delivery
- Dynamic risk response
- Service differentiation
- Reduced spoilage & penalties
- Modular & resilient



CLUSTER 3E

Edge Intelligence for Enhancing Grid Reliability In RES – Rich Distribution Grids

COP-PILOT in Cluster 3E tackles the headache of decentralized grids loaded with renewables. Using edge analytics and an open framework, it blends smart meter data, IoT, and outside inputs like weather and market signals to manage demand and grid stability in real time. Distribution operators deal with fewer outages and less congestion; EV chargers stay balanced; biogas plants cut costs and catch faults early; aggregators forecast better and earn from flexibility. Consumers get a steadier, cleaner power supply with fewer blackouts. All together, it's a practical, scalable blueprint for Europe's energy transition.



Use Case 3E.1: Harvesting Real-Time Flexibility from Active Electricity Grids

This use case shows a cloud-edge platform enabling real-time, low-latency flexibility management in active distribution grids.

COP-PILOT benefits:

- Unified real time orchestration
- Low latency edge decisions
- Automated, not manual
- Scalable DER integration
- Bidirectional grid interaction

Use Case 3E.2: Ensuring Uninterruptible Power Supply for Fast EV Charges

The use case uses edge-enabled analytics and AI to monitor EV fast-charger health, forecast demand, reduce downtime, and optimize power use.

COP-PILOT benefits:

- Predictive maintenance at the edge
- Real time load forecasting
- Reduced operational costs
- Higher charger availability & customer satisfaction
- Scalable deployment

Use Case 3E.3: Predictive Maintenance and Monitoring of Anaerobic Digestion in a Bio-gas Plant

Use case 3E.3 uses real-time monitoring and predictive analytics to improve biogas plant reliability, stabilize output, and reduce unplanned downtime.

COP-PILOT benefits:

- Continuous real time AD monitoring
- Reduced unplanned downtime
- Dispatchable renewable power
- Replicable across facilities
- Stronger ESG performance



CLUSTER 4

Smart Vineyards & Sustainable Winery Ecosystems

COP-PILOT in Cluster 4 mixes IoT, AI, and sovereign data governance rooted in GAIA-X and Network-as-Code, letting different sectors share data securely without tripping over transatlantic privacy rules. It's running in smart water management for agriculture, healthcare waste optimization, winery operations, and energy-aware farm scheduling. Farmers and wineries get predictive maintenance and data-driven irrigation; manufacturers cut down time; healthcare and supply chains save through IoT sensor reuse; regulators get hard numbers on resource use and waste. All in all, it's a real-world example of how digital sovereignty and practical sustainability can work together across domains.



Use Case 4.1: Recycling, Maintenance, and Logistics of IoT Sensors

This use case shows a cloud-edge platform enabling real-time, low-latency flexibility management in active distribution grids.

COP-PILOT benefits:

- Closed loop sensor lifecycle
- Automated maintenance & recycling
- Regulatory compliance
- Cross sector reusable model

Use Case 4.2: Water Utilisation Efficiency

Aquaview is a sensorless soil-moisture system using satellite and weather data to provide high-resolution maps, predictions, and virtual moisture readings, helping optimize irrigation, reduce costs, and protect soil health.

COP-PILOT benefits:

- Sensorless & cost effective
- High resolution insights
- Daily alerts & virtual probe
- Scalable across regions
- High automated recovery

Use Case 4.3: Sustainable Optimised Winery Production Lines

The IoT Wine Platform use case digitizes a winery bottling line with real-time monitoring, anomaly detection, and predictive maintenance, unifying machine and system data to improve efficiency, reduce downtime, and support compliant, data-driven decisions.

COP-PILOT benefits:

- Unified end to end visibility
- Anomaly detection & predictive maintenance
- Reduced manual work & error
- Lower operational costs
- Modular & replicable
- Sovereign & compliant

Use Case 4.4: AI-Driven Green Energy Vineyard Management

Green Energy management in isolated locations is critical for service deployments when it is the only energy available.

COP-PILOT benefits:

- Continuous service availability
- Real time energy monitoring
- AI driven proactive planning
- Remote device control
- Reduced operational costs
- Scalable & replicable



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**Discover more on our
first open call here!**

For any questions, write at
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