

Legal name	EXPERANOS (private for-profit SME, independent)
PIC (Funding & Tenders Portal)	885333163 SME status: validated
Location	Athens, Greece (European Union) working EU-wide
Contact for proposals	info@experanos.eu (response within 6 hours)
TRL focus	TRL 4 (lab-validated) -> TRL 7-8 (operational demonstration)
Participation modes	beneficiary affiliated entity subcontractor FSTP third party

Company profile

EXPERANOS provides applied artificial-intelligence engineering to European research and industry. Its core mission is to industrialise research outputs: taking algorithms validated in the laboratory and delivering them as robust, secure, containerised systems demonstrated in operational environments. EXPERANOS acts as technology provider, pilot integrator and work-package leader in Horizon Europe, EIC and Digital Europe projects, and delivers the same engineering directly to industry clients. Every deliverable ships containerised, version-controlled, tested and documented, with a deployment path to the pilot site.

Fields of expertise

- **Privacy-preserving AI & applied cryptography:** cross-institution federated learning, fully homomorphic encryption (FHE), zero-knowledge machine learning (ZKML), secure multi-party computation, differential privacy - GDPR-compliant by construction.
- **Computer vision & edge AI:** image recognition, object recognition, multi-object tracking and pose estimation, optimised for NVIDIA Jetson with TensorRT (INT8 quantisation, pruning, distillation).
- **Robotics & autonomous systems:** ROS 2 perception and navigation, robotic manipulation (MoveIt 2), autonomous mobile robots, human-robot collaboration, simulation-first (Sim2Real) validation.
- **Generative AI & LLM systems:** sovereign retrieval-augmented generation (RAG), fine-tuning of open-weight models (LoRA, DPO), human-in-the-loop multi-agent systems, on-premises or EU cloud.
- **Digital twins & predictive maintenance:** IoT/vision sensor fusion, forecasting, energy optimisation and what-if simulation for manufacturing, energy and infrastructure (OPC UA, MQTT, FIWARE/NGSI-LD).
- **Trustworthy AI & MLOps:** explainability, robustness testing, model documentation and monitoring aligned with the EU AI Act; FAIR data management, open science, blockchain-anchored audit trails.

Typical work-package roles

- Core AI developer / technology provider; AI integration across partner components
- Technical architecture WP leader; technical coordinator
- Pilots & demonstrators lead: deployment rounds, pre-registered baselines, measured KPIs
- Privacy & security integration partner (FL / FHE / ZKML protocols, DPIA support)
- Requirements & use-case definition; dissemination & exploitation contributor

Programme fit

Horizon Europe: Cluster 1 (privacy-preserving health analytics), Cluster 3 (civil security, disaster resilience, infrastructure protection), Cluster 4 (digital & industry: AI, data and robotics partnerships, trustworthy AI, advanced manufacturing), Cluster 5 (energy & mobility, smart grids), Cluster 6 (environment & agriculture). Also: EIC Pathfinder and Transition, Digital Europe Programme, Eurostars and cascade-funding (FSTP) open calls of ongoing projects.

Pilot & demonstrator blueprints

Deployment architectures EXPERANOS instantiates in demonstration work packages, each with a defined stack, KPI framework and TRL path:

- **Federated clinical AI network (health):** multi-hospital training, data never moves; KPIs: quality vs centralised baseline, privacy budget, cross-site generalisation; TRL 4->7.
- **Edge vision quality inspection (manufacturing):** in-line defect detection integrated with the MES; KPIs: precision/recall, false-reject rate, latency, scrap reduction; TRL 5->8.
- **Autonomous inspection robotics (infrastructure):** ground robots with arm-mounted sensors, autonomous mission planning; KPIs: coverage, detection accuracy, cost/time vs manual baseline; TRL 4->7.
- **Wildfire & environmental early warning (civil protection):** camera towers, aerial patrols and satellite feeds fused with edge AI; KPIs: time-to-detection, false-alarm rate, surveilled area per euro; TRL 5->8.
- **Sovereign RAG for public administration (Digital Europe):** on-premises assistant over legislation and case files, citation-grounded, audit-logged; KPIs: groundedness, task time, zero data egress; TRL 5->8.
- **Digital twin for energy assets (energy):** live twin fusing IoT telemetry with predictive models; KPIs: forecast accuracy, energy savings, downtime reduction; TRL 4->7.

AI services for industry clients

Beyond research consortia, EXPERANOS delivers production systems directly to industry and the public sector: custom machine-learning development, generative AI and RAG assistants, executive dashboards and decision-support systems (DSS), vision and robotics integration, digital twins, AR/VR and interactive 3D, blockchain-anchored audit trails, and MLOps / EU AI Act compliance engineering. Engagement models: fixed-scope project, 2-4 week feasibility sprint, or embedded team.

Ready-to-paste participant description (free to reuse in proposals)

EXPERANOS (Greece, SME, PIC 885333163) is a deep-tech engineering company specialising in privacy-preserving AI (federated learning, homomorphic encryption, zero-knowledge machine learning), edge computer vision, autonomous robotics (ROS 2) and generative AI systems. EXPERANOS acts as a technology provider and pilot integrator in European R&I projects, advancing consortium technologies from TRL 4 to TRL 7-8 through containerised, documented and GDPR-compliant software components deployed in operational environments.

A longer (~220-word) version for Part B section 4 is available at <https://experanos.eu/eu-partner.html>

How to include EXPERANOS in a proposal

1. Add EXPERANOS in the EU Funding & Tenders Portal using PIC 885333163.
2. Email info@experanos.eu with the call identifier, draft concept and deadline.
3. Within 6 hours you receive a proposed role, task descriptions, effort estimate and tailored Part B text; we support proposal writing for our sections through to submission.

Building a consortium? info@experanos.eu

<https://experanos.eu/eu-partner.html>