



DIMRP

The Autonomous Industrial
Safety Ecosystem

AUTONOMOUS INDUSTRIAL SAFETY FOR EXTREME ENVIRONMENTS

Eliminating the "Silent Gap" via Edge AI & Off-grid Mesh Networks

1. THE PROBLEM: THE "SILENT GAP"

Annually, there are **340 million workplace accidents globally**. In high-risk environments (deep mining, heavy logistics, tunnels), legacy networks fail exactly where the risk is the absolute highest. This connectivity deficit creates a "**Silent Gap**"—a fatal delay between an accident and the emergency alert, leading to critical rescue times being exceeded.

The Impact: Beyond the tragic loss of human life, a mandatory operational halt following a single fatal accident in megaprojects can generate up to **\$500M in financial losses** and severe ESG violations.

2. THE SOLUTION: VITALMESH

DIMRP developed **VitalMesh**, a proactive intelligence ecosystem that operates continuously even during complete IT blackouts.

- **Millisecond Edge AI:** TinyML algorithms process behavioral data locally on the wearable device for millisecond risk detection (falls, impacts, immobility), triggering alerts without requiring cloud round-trips.
- **Autonomous Mesh Network:** A proprietary, self-healing P2P communication protocol that dynamically routes data between organic nodes, ensuring 100% independence from legacy infrastructure.

3. BUSINESS MODEL & TRACTION

- **Capital-Efficient HaaS:** Hardware is deployed via a commodatum (lending) model, eliminating CapEx friction for enterprise clients, while generating **>99% margins** on recurring SaaS software subscriptions.
- **Validation & IP Moat:** Defended by global patents for universal hardware (**BR102025013885-9**) and network protocol (**RPC 512025006180-3**).
- **Current Status: TRL 5 (Validated).** The core technology has been successfully validated. The objective of this Pre-Seed round is to finance the industrialization of the pioneer batch and execute our first commercial B2B pilots.

4. THE OPPORTUNITY & THE ASK

Raising: €350,000 Seed Round

Capital allocation to transform technical validation into certified industrial readiness (TRL 8) over an 18-24 month runway.

- **40% Industrialization:** Tooling, plastic molds, and Altium printing for the pioneer batch.
- **30% Regulatory & Certs:** Securing the CE mark and ATEX preparing structural prerequisites for compliance.
- **30% Operations & Traction:** GTM execution, pilot scaling, and establishing the operational base in Coimbra, Portugal.

5. THE EXECUTION ENGINE

Aristides Cardoso | Founder, CEO & CTO

Visionary architecture of the VitalMesh ecosystem and holder of the global IP. Drives fundraising and the innovation roadmap.

João Azevedo | Automation & IoT

Agile/SixSigma expert coordinating the TRL 5 to 8 industrialization roadmap and hardware-software integration.

Demóstenes Farias | Strategy & Marketing

Leads GTM positioning, B2B funnel expansion, and institutional / CapEx SaaS pricing structures.

Barros Junior | PMO & Grants

Maps non-dilutive funding, enforces manufacturing timeline discipline, and oversees data governance.

Calvin Comolo | AI & Backend

Focuses on optimizing TinyML algorithms and structuring resilient databases/APIs for the VitalMesh system.