



PROMETHEUS
SPACE TECHNOLOGY
FOR PLANET EARTH

PROMETHEUS SPACE TECHNOLOGIES

Advanced Climate Intelligence

www.eo-prometheus.space

SOVEREIGN ENVIRONMENTAL DEFENSE INFRASTRUCTURE

Technical Overview for Government Bodies

Predict. Prevent. Protect.

< 10 MIN

Incident Detection

10-DAY

Forecast Range

10 m

Map Resolution

24 / 7

Live Coverage

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CONFIDENTIAL — Government Technical Overview



01 / EXECUTIVE OVERVIEW

Prometheus Space Technologies — Wildfire Defense Infrastructure

Prometheus Fire Guardian is the world's first **predictive wildfire defense grid** — a fully integrated environmental defense infrastructure combining orbital intelligence, ground-level sensors, AI-driven analytics, autonomous aerial and ground assets, and active suppression technologies. Designed for sovereign-level deployment, it gives civil protection agencies, fire departments, and government bodies end-to-end situational awareness, predictive capability, and coordinated operational response.

<p>DETECTION SPEED</p> <p>< 10 Min Target: under 1 minute</p>	<p>FORECAST HORIZON</p> <p>10 Days At 10 m resolution</p>	<p>COVERAGE SCALE</p> <p>National Scalable per 1,000 ha</p>	<p>SYSTEM UPTIME</p> <p>24 / 7 Satellite + ground redundancy</p>
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Wildfires and climate-driven disasters are accelerating in frequency, scale, and cost. Traditional reactive models and fragmented monitoring systems are no longer sufficient. Prometheus provides a **federated Environmental Defense Grid** — a sovereign national capability that predicts, detects, and prevents wildfires before they threaten lives, ecosystems, and critical infrastructure.

CORE STRATEGIC VALUE PROPOSITION

- **Predictive Intelligence** — AI-driven 10-day wildfire risk forecasting at 10 m resolution, enabling proactive resource deployment before ignition.
- **Real-Time Detection** — Multi-source data fusion (satellite, IoT, AI cameras, HAPS, drones) achieves detection in under 10 minutes — target under 1 minute.
- **Active Suppression** — Autonomous ground and aerial assets, dedicated fire trucks, and robotic response vehicles provide immediate coordinated suppression.
- **Field Coordination** — Resilient SATCOM-backed command dashboards enable real-time coordination across all operational units in degraded environments.
- **Scalable Sovereignty** — Modular architecture scales from a single forest zone to full national coverage — fully owned and operated by the client nation.

02 / SYSTEM ARCHITECTURE

Multi-Layer Environmental Defense Grid — Orbit to Ground

The Prometheus Environmental Defense Grid is organised into four mutually reinforcing layers: **Space & Aerial Intelligence**, **Ground Detection Infrastructure**, **Command & Communications**, and **Active Suppression & Response**. Each layer feeds real-time data into the central AI fusion engine, which synthesises inputs into actionable intelligence and automated response directives.

LAYER	COMPONENTS	PRIMARY FUNCTION
SPACE & AERIAL	Multi-orbital satellite mesh (GEO, LEO, VLEO) + Prometheus HAPS	Global coverage, persistent surveillance, atmospheric monitoring
AERIAL TACTICAL	Autonomous Drones (ISR & suppression), AI Camera Networks	High-resolution detection, thermal imaging, targeted response
GROUND INTELLIGENCE	Fire Weather Stations, IoT Sensor Networks (Silvanet), Mission Van	Environmental data capture, micro-climate monitoring, mobile command
COMMUNICATIONS	SATCOM backbone, resilient satellite mesh networks	Secure field-to-command data relay, operational continuity
COMMAND & CONTROL	AI Fusion Engine, Government Dashboards, Coordination Platforms	Unified operational picture, alert generation, resource coordination
ACTIVE SUPPRESSION	Dedicated Fire Trucks, Drone/Robotic Autonomous Systems, SUVs & Vans	Immediate fire suppression, autonomous first response

DATA FUSION ENGINE

All sensor streams are processed through Prometheus' proprietary AI fusion engine, integrating static variables (topography, land cover, infrastructure maps) with dynamic inputs (temperature, wind, humidity, live satellite feeds, drone imagery) to generate continuous risk scores, fire spread predictions, evacuation routing, and autonomous suppression dispatch signals. The system leverages machine learning models developed with academic and agency partners across Greece, the UK, and the EU.

03 / INFRASTRUCTURE AS A SERVICE (IaaS)

Physical Assets — Detection, Command & Suppression

Prometheus is deployed as a fully managed Infrastructure-as-a-Service model. Client governments gain access to a complete, sovereign-grade defense grid without multi-vendor procurement complexity. All hardware is integrated, calibrated, and maintained by Prometheus under a unified service agreement.

DETECTION & INTELLIGENCE ASSETS

ASSET	SPECIFICATION & ROLE
Prometheus HAPS (High-Altitude Platform System)	Stratospheric persistent surveillance platform operating at 18–25 km altitude. Provides continuous wide-area coverage with optical, thermal, and multispectral sensors. Bridges satellite revisit gaps with near-real-time imagery over regions of interest.
Multi-Orbital Satellite Mesh (GEO / LEO / VLEO)	Integrated constellation from geostationary to very-low-Earth orbit. Delivers planetary-scale environmental monitoring, fire hotspot detection, atmospheric data, and long-range forecasting inputs around the clock.
Mission Van (Mobile Command Unit)	Ruggedised mobile command and sensor deployment vehicle. Carries communications equipment, mobile AI processing units, edge servers, and field coordination interfaces. Operates as a forward command post in remote or disaster-affected areas.
Fire Weather Station	Professional-grade meteorological station capturing wind speed/direction, temperature, relative humidity, barometric pressure, solar radiation, and precipitation. Feeds real-time micro-climate data into the AI risk model. Deployable in remote terrain with solar power and SATCOM uplink.
AI Camera System (Smoke Detection / PTZ)	Long-range AI-powered optical and thermal cameras (e.g., Smoke D AI Camera, Manta FPS 61 HD PTZ) deployed across critical terrain. Detect smoke and thermal anomalies autonomously within minutes. Integrated with the central alert system for immediate notification and coordinate tagging.
Autonomous Drones (ISR & Suppression)	Multi-role drone fleet operating in Intelligence, Surveillance & Reconnaissance (ISR) and direct suppression modes. Equipped with thermal cameras, LiDAR, and payload options including fire retardant dispersal. Autonomous mission planning with real-time telemetry to command dashboard.
IoT Ground Sensor Network (Dryad Silvanet)	Distributed mesh of environmental sensors embedded in high-risk vegetation zones. Detect early combustion signatures (gas, temperature, humidity) before visible smoke. Ultra-low-power, long-range wireless network with multi-year battery life. Provides ground truth for AI models and validates aerial detections.

04 / COMMUNICATIONS & ACTIVE SUPPRESSION

SATCOM Backbone + Autonomous Response Technologies

SATCOM — RESILIENT COMMUNICATIONS INFRASTRUCTURE

All Prometheus field assets are connected through a resilient satellite communications (SATCOM) backbone, ensuring operational continuity in areas where terrestrial networks have failed or are unavailable — a critical capability during active wildfire events when ground infrastructure is typically compromised.

CAPABILITY	DETAIL
Satellite Uplink	Secure, encrypted two-way data relay between all field assets and central command
Redundant Links	Multi-orbit connectivity (GEO + LEO) ensures no single point of failure
Field Coverage	Operates in remote terrain, mountain zones, and coastal areas without terrestrial network dependency
Command Dashboard	Real-time data streams displayed on government-facing coordination interfaces with role-based access
Edge Processing	Mission Van and field units include onboard AI processing to function autonomously if connectivity degrades

ACTIVE SUPPRESSION — AUTONOMOUS RESPONSE TECHNOLOGIES

Prometheus integrates a layered active suppression capability combining dedicated vehicle-based systems with drone and robotic autonomous responders. This transforms the platform from pure intelligence into a **full-spectrum fire defense grid** capable of autonomous first response before manned crews arrive on scene.

ASSET	TECHNOLOGY	CAPABILITY
RoGO DropBlock (Advanced SATCOM & Team GPS Positioning)	Proprietary ruggedised satellite communications device (176–700 Kbps). Integrates SATCOM, GPS, IoT sensor relay, and tactical point-to-point messaging. John Dingell Act / DART compliant. Pairs with Kestrel 5500 weather stations. Powered by AA batteries, USB, or off-grid solar. Made in Colorado, USA.	Real-time GPS tracking of all firefighter personnel and equipment in cellular-denied and remote terrain; transmits live wind speed, wind direction, and weather data to Incident Command over satellite; enables targeted tactical messaging between ICP and field teams; supports ATAK, SARTopo, and CalTopo platforms anywhere; identifies potential burn-over situations before they develop; breaches information silos between agencies during multi-team response operations
Dedicated Fire Truck (Heavy Suppression Vehicle)	Purpose-built wildfire suppression vehicle integrated with Prometheus command dashboard, RoGO SATCOM uplink, and onboard GPS telemetry	Heavy-payload fire retardant deployment to active fire front; GPS-coordinated autonomous dispatch to detected ignition coordinates; real-time vehicle position displayed on command dashboard; operates in RoGO-tracked asset network for full Incident Command visibility
Autonomous Drone Suppression System	Multi-rotor and fixed-wing UAVs with fire retardant payload dispensers	First-on-scene aerial suppression within minutes of detection; autonomous flight planning; thermal targeting of active fire front; swarm coordination for large-scale containment
Robotic Ground Response (SUVs & Vans)	Autonomous or semi-autonomous ground vehicles equipped with suppression payloads and onboard AI	Penetrates terrain inaccessible to standard fire trucks; carries robotic suppression units to the fire perimeter; operates in smoke-obscured environments; equipped with sensors, cameras, and SATCOM uplink



ASSET	TECHNOLOGY	CAPABILITY
FireBlock / Suppression Agent Technology	Advanced fire retardant and humidity-increasing compounds (FireBlock Titan)	Surface cooling, humidity elevation, and controlled ignition prevention; deployable via aerial and ground platforms; non-toxic, environmentally safe formulations
Active Protection Grid	Sprinkler-based rain simulation and surface treatment systems	Pre-treatment of at-risk zones identified by AI forecast; reduces ignition probability in high-risk areas up to 10 days before predicted fire windows

05 / GOVERNMENT OUTCOMES & DEPLOYMENT MODEL

Operational Results, Procurement Options & Service Tiers

DEMONSTRATED & TARGET OPERATIONAL OUTCOMES

OUTCOME	METRIC	DETAIL
Incident Detection	< 10 minutes (current); < 1 minute (near-term target)	Multi-source sensor fusion eliminates blind spots; AI reduces false positives to operational noise
Predictive Forecasting	10-day wildfire risk forecast at 10-metre resolution	Enables proactive resource pre-positioning, evacuation planning, and preventive treatment of at-risk zones
Field Coordination	Real-time command dashboard with full asset visibility	All units — ground, aerial, autonomous — visible on a single operational interface with SATCOM-backed reliability
Cost Reduction	Prevention vs reactive: estimated 10:1 ROI at national scale	Governments spending €1B+ annually on firefighting can redirect resources to prevention infrastructure
Sovereign Capability	Nationally owned and operated defense grid	No dependency on foreign surveillance or commercial platforms; full data sovereignty and operational control

SERVICE & DEPLOYMENT TIERS

TIER	SCOPE	CORE COMPONENTS	MODEL
BASIC Monitoring	Municipal / Single zone	AI cameras, IoT sensors, satellite alerts, basic dashboard	SaaS subscription €30–80 / mo per 1,000 ha
PROFESSIONAL Defense	Regional / Multi-zone	Full detection stack, drones, SATCOM, advanced forecasting, coordination	IaaS + SaaS €80–150 / mo per 1,000 ha
ENTERPRISE National Grid	National / Sovereign	Complete stack: HAPS, satellites, Mission Van, fire trucks, autonomous suppression, full command	Financed IaaS Custom national contract

06 / PROMETHEUS GLOBAL GUARDIAN & COMPLIANCE

Open Intelligence Layer + Legal & Regulatory Framework

PROMETHEUS GLOBAL GUARDIAN — PUBLIC INTELLIGENCE PLATFORM

Prometheus Global Guardian (PGG) is the open-access environmental intelligence layer underpinning all Prometheus services. Aggregating data from NASA, ESA, Copernicus, and proprietary sensor networks, PGG provides real-time global hazard awareness accessible to governments, NGOs, media, and the public.

- **Live Global Dashboard:** Interactive real-time map of wildfires, environmental hazards, and risk zones worldwide
- **Daily Intelligence Briefs:** Structured situational reports delivered to subscribing agencies and government departments
- **Monthly Global Risk Index:** Published country and region-level risk rankings for policy planning and budget justification
- **API Integration:** Open API for integration with national emergency management platforms, GIS systems, and research institutions
- **Media & NGO Partnership:** Co-branded dashboards for national broadcasters, environmental agencies, and international organisations

INTELLECTUAL PROPERTY & REGULATORY COMPLIANCE

DOMAIN	STATUS
Patent Protection	Active patent filings in Greece, United Kingdom, and United States
Data Privacy	Full compliance with GDPR and applicable national data protection legislation
Drone Operations	Licensing framework in place; BVLOS and operational permits managed per jurisdiction
HAPS Operations	Regulatory engagement with national aviation authorities; EU airspace integration roadmap
Cybersecurity	End-to-end encrypted data pipelines; privacy-by-design architecture throughout
EU Alignment	Aligned with EU Green Deal, Horizon Europe, LIFE Programme, and Civil Protection Mechanism
Partner Frameworks	Mutual NDA and IP protection frameworks with all technology partners (Dryad, Mayday.ai, Smoke D, et al.)

07 / NEXT STEPS FOR GOVERNMENT ENGAGEMENT

Pilot Programs, Procurement & Official Briefings

Prometheus is actively engaged with civil protection agencies, fire departments, and ministries across Southern Europe, with pilot deployments underway. We invite government bodies to initiate formal engagement through the following pathways:

01

Request Government Briefing

Schedule a classified technical briefing with the Prometheus leadership team, including a live demonstration of the Global Guardian dashboard, detection capabilities, and the full suppression technology portfolio.

02

Download Technical Architecture Package

Full system architecture documentation, hardware specifications, data flow diagrams, integration requirements, and cybersecurity framework — available under NDA.

03

Pilot Program Participation

Prometheus offers structured pilot deployments for qualifying government entities, including full instrumentation of a defined zone, data validation, and a comprehensive after-action assessment report.

04

National Grid Procurement

For ministries and national agencies, Prometheus provides full tender support, EU funding alignment documentation (Green Deal, Horizon Europe, LIFE), and a financed Infrastructure-as-a-Service deployment model.

[REQUEST A GOVERNMENT BRIEFING](#)

[DOWNLOAD TECHNICAL OVERVIEW](#)

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