



INCA FIRE PATROL ROVER™

Unmanned. Unstoppable.
Always On Patrol.

INCA Fire Patrol Rover™ is the ground workhorse for fire prevention, detection and response. Rugged, autonomous and intelligent – built to protect what matters most.

100 kg payload. Total reliability.
Connected to WFS®.



RUGGED & RELIABLE

Built for extreme terrain and all conditions.



100 KG PAYLOAD

Carry the sensors, tools and equipment you need.



INCA BRAIN™ INSIDE

Intelligent autonomy and smart decision-making.



CONNECTED TO WFS®

Seamless integration with the INCA WFS® Management Command System.



BUILT FOR FIRE SAFETY

Patrol, detect, monitor and respond – day and night.



AUTONOMOUS
OPERATIONS



ALL-TERRAIN
CAPABILITY



100 KG
PAYLOAD CAPACITY



REAL-TIME DATA
& VIDEO



LONG RANGE
ENDURANCE



INCA BRAIN™
INTELLIGENCE



CONNECTED TO
INCA WFS® SYSTEM

INCA Fire Patrol Rover™ and INCA WFS®
Working together for a safer future.

inca | **WFS®**

INCA FIRE PATROL ROVER

Adaptive Intelligence for Unmanned Fire Response

Capability Statement

Ground and aerial robotics, resilient communications, and real-time tactical command — one intelligence platform, adapted to any hardware and any mission.

The Fire Patrol Rover

The rover is our ground workhorse: a robust unmanned vehicle with a 100 kg payload capacity, controlled by an INCA Brain and connected to WFS®.

Telepresence

The baseline capability is full remote operation. The operator sees live video from the rover, hears its surroundings, speaks through its loudspeaker, and drives it in real time from the WFS map interface

on any computer or phone. Multiple safety layers — including automatic motor stop on any loss of communication — ensure the vehicle always fails safe.

Autonomous Fire Patrol

Beyond direct control, the rover patrols a defined area autonomously, searching for signs of fire. It follows patrol routes across a field or perimeter, monitors continuously, and alerts the command map the moment something is detected — at which point an operator can immediately take over by telepresence to investigate.

Mission Payloads — 100 kg

The payload bay is configured to the mission. Typical configurations include:

Water tank — first-response suppression capacity carried directly to the fire line.

Extended batteries — multiplying patrol endurance for long-duration or wide-area coverage.

Drone box with investigation drone — a self-contained hangar carrying a drone that launches on command, flies to a suspected fire, and streams aerial video for rapid verification before crews are committed.

Drone box with suppression drone — a drone carrying fire-suppressant hardware that is dropped directly onto an incipient fire, stopping it before it spreads.

Rover and drone dimensions are not fixed — platform sizes are selected per customer, based on terrain, payload requirements, and operating doctrine.

Aerial Systems

INCA's drones are Brain-equipped aircraft flying autonomous missions under WFS® command. Our autonomous flight capability is built on proven open flight-control technology, with the Brain handling mission logic, communications, and command integration.

Drones serve three roles in the system: rapid aerial investigation of suspected fires detected by patrol rovers or reported by personnel; direct fire suppression by precision delivery of suppressant payloads; and communications relay, described below. As with the rovers, airframe size and capability are matched to each customer's requirements.

Resilient Communications — Anywhere

Fires do not respect cellular coverage maps. The system therefore operates over a tiered communications architecture that delivers the best possible link in any environment:

Tier 1 — Cellular (4G/5G)

Where mobile coverage exists, the Brain uses it directly. This provides high-bandwidth video telepresence with no additional infrastructure.

Tier 2 — Satellite Base with Drone Mesh Relay

Beyond cellular coverage, we deploy a transportable base station equipped with Starlink or equivalent satellite backhaul. To carry high-bandwidth data from the base station to rovers operating kilometres away, a swarm of relay drones forms a Wi-Fi mesh in the air between base and rover. The swarm positions itself automatically for optimal link quality and geometry, and rotates autonomously: when a relay drone's battery runs low, a freshly charged replacement launches from the base, takes its position in the mesh, and the depleted drone returns to recharge. The link stays up continuously, without operator involvement.

Tier 3 — Long-Range Radio Fallback

As the final fallback, every asset carries LoRa long-range radio, built on open-source hardware, with a range of up to 10 kilometres. Bandwidth is modest but the link is extremely robust: it carries positions, status, basic command and control, and single still images — enough to keep every asset tasked, tracked, and safe even when every other link is down.

Delivery Model

INCA does not sell a fixed catalogue product. We deliver mission capability, built from proven modules and adapted to each customer:

The INCA Brain — the common intelligence across every asset, hosted on hardware chosen for the environment: phones, Raspberry Pi, or industrial edge computers.

Platforms sized to the mission — rover and drone dimensions, payload configurations, and fleet composition are engineered per deployment.

Infrastructure independence — self-hosted command on low-cost hardware, no cloud dependency, and communications that reach beyond any coverage map.

An open, extensible foundation — built on open standards and open-source technologies, avoiding vendor lock-in and keeping lifetime costs low.

From a single patrol rover connected to a fire station's WFS® map, to a full deployment of rovers, drone boxes, relay swarms, and satellite base stations covering a fire-prone region — the system scales with the customer's needs, on the customer's terms.

WFS® — The Tactical Command Platform

WFS® is INCA's real-time tactical map for incident command and training. Multiple users — commanders, operators, instructors — connect to the same shared map and see the same live picture: vehicle positions, fire zones, evacuation zones, sector boundaries, and every Brain-equipped rover and drone in the field.

From the map, an operator can select any rover, see its live camera feed, take control, and drive it — from the next room or the next continent. Fire zones can be drawn directly on the map, with built-in fire spread prediction driven by live weather data. Route planning, sector management, and instructor tools for training scenarios are integrated.

WFS® is fully self-hosted and runs on small, low-cost hardware such as a Raspberry Pi. It requires no cloud services and no external dependencies, which means it keeps working when internet connectivity is degraded — a deliberate design choice for emergency operations — and it can be deployed at a fire station, in a vehicle, or in a temporary field headquarters.

INCA AB

Adaptive intelligence. Any hardware. Any mission.

