

M2 / EXPEDITION



AUTONOMOUS MOBILE ROBOT

Compact security robot for hard-to-access ground

 Tactical

 Border Control

 Defence

 Airport Security

PRODUCT CATALOGUE
2026

Tactical

A compact platform for overwatch where crews cannot stay.

Border Control

Ten hours on station across off-road and remote ground.

Defence

Perimeter patrol and inspection of remote installations.

Airport Security

Airside patrol along fences, aprons and service roads.

01

THE ROBOT

M2 Expedition

Compact security robot for hard-to-access ground

Supports security operations across off-road and hard-to-access environments depending on the configured payload.

- 01 Overview · Figures and applications
- 02 Main features · The specification, card by card
- 03 Small footprint, rough ground · On duty



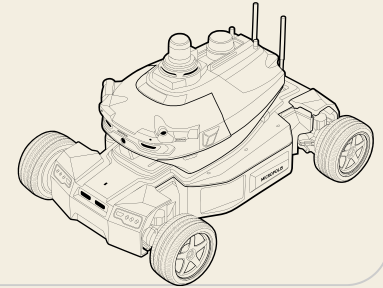


M2 / EXPEDITION



Supports **security operations across off-road and hard-to-access environments** depending on the configured payload.

W 1495 MM L 2110 MM H 1200 MM



Weight

450 KG

Max Speed
Software Limited

25 KM/H

NVIDIA-powered



10h Battery
2.9 h Charging time

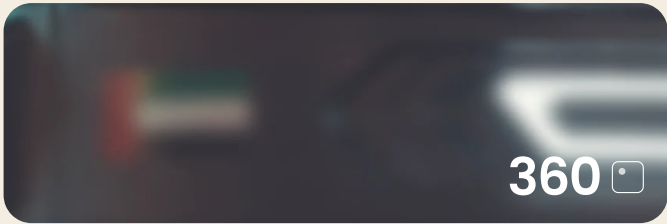


Built for hard ground, engineered to be compact

Every figure on these pages is the production M2 Expedition's — the same specification the website carries.

L4 Autonomy

for gated communities and areas



Obstacle Detection



6x Intelligent vision sensor

4x In-Wheel Motors



Double Steering



Crab Steering



INTELLIGENT SPOT



Payload

Up to



350_{KG}



160_{MM}

Ground Clearance



25°

Maximum Slope

Supported Connection



4G/5G

WIFI

RADIO

Operating Temperature



-10 ~ 70_C

Small footprint, rough ground

Off-road tyres and a 350 kg payload on a 450 kg platform: the M2 Expedition patrols the fences, tracks and service roads a full-size robot cannot reach, for ten hours on a charge.



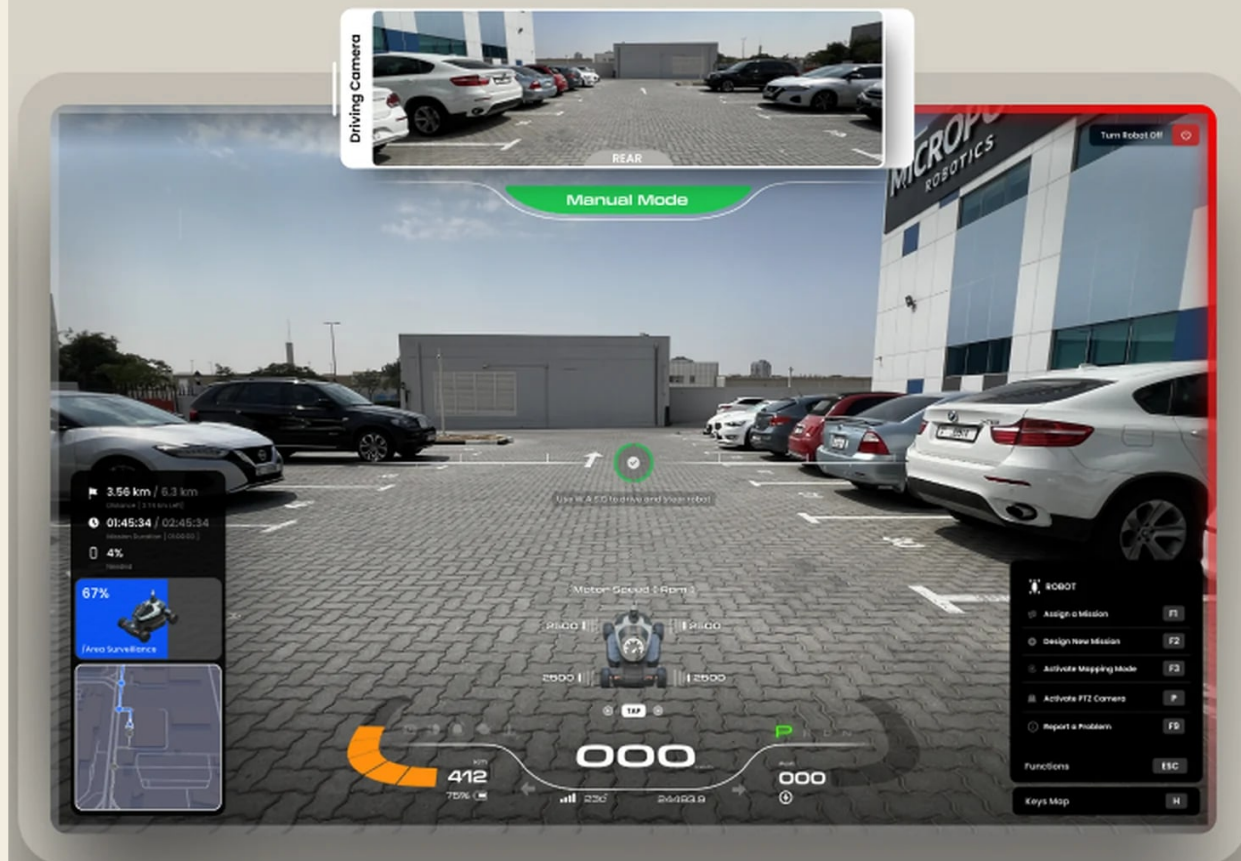
02

CORE TECHNOLOGIES

The ecosystem behind each solution

Five platforms, one autonomy stack — developed end to end in house and shared by every Micropolis robot.

- 01 Tele Operator** · Remote Control
- 02 Micro Pilot** · Autonomous
- 03 Mission Planner** · Business
- 04 Fleet Manager** · Large Operation
- 05 Micro OS** · Integrated HW



Tele Operator Remote Control

Command and control center that provides the operator with real-time access to the robot

TELE OPERATOR Live drive screen



Real-time **telemetry**



Onboard systems

Control



System **Health**



Live **surround** view



Safety **warnings**



Driving **modes**



Real-time **streaming**

Low latency

5G RADIO

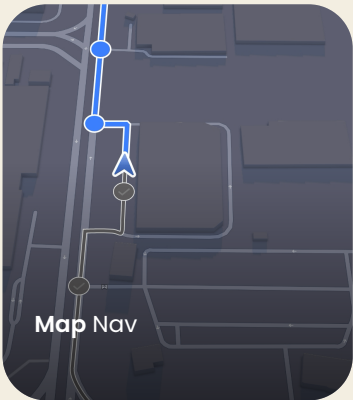
~250ms

PTZ Camera control



Multi-support RC inputs

- Keyboard
- Joystick
- Customized Station



Diagnostics



Micro Pilot Autonomous driving

The **autonomy system** behind our robots, developed end to end in house. Sensing, localization, perception, prediction, planning and control

- 01 Sensing
- 02 Localization
- 03 Perception
- 04 Prediction
- 05 Planning
- 06 Control



Gated Stack

Autonomous

Where the constraint isn't speed, it's people. Few traffic rules apply and nobody is obliged to follow a lane. The vehicle keeps continuous close-range awareness in every direction, holds onto objects through the moments they're obscured, and treats everyone nearby as free to change direction at any time. The result is a vehicle that moves smoothly through shared space rather than hesitating at every pedestrian.



Urban Stack

Autonomous

The stack reasons about intent, predicting how road users will move and how that meets its own plan. A road understanding layer establishes the rules in force at any moment, lane structure and right of way, by checking prior map knowledge against live observation rather than trusting either alone. Planning then works within those rules the way an attentive driver does, negotiating traffic instead of merely avoiding it.



Off-road Stack

Autonomous

Off-road there are no lanes, no boundaries and no map, so the vehicle reasons about the terrain instead. It continuously judges the ground ahead: what the surface is, whether it will hold the vehicle, and what else is moving across it. Routes are chosen on that basis rather than on road structure. The result is a vehicle that works in dust, over broken ground, and across terrain nobody has surveyed.

Operations, designed and scaled

Missions are designed once, run across the fleet, and every robot boots the same in-house operating system.

MISSION PLANNER Operations, designed

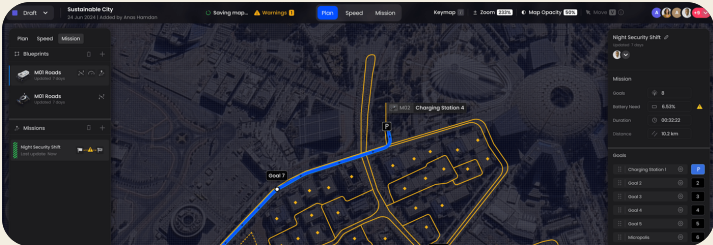
Enables operators to **design, schedule, and manage** autonomous vehicle missions

FLEET MANAGER Scale up with fleets

Centralized **visibility** and **operational oversight** across the entire robotic fleet

MICRO OS Orchestration behind the scene

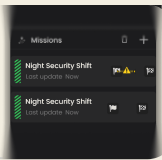
One operating system powers everything above. Our own robotics OS, shaped end to end, from the kernel to over-the-air updates



Route design



Mission schedule



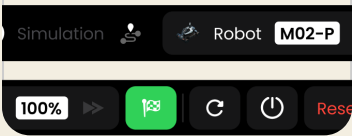
Add-ons

- Supports for different maps
- Multi-user route edit
- Customized rules per goal

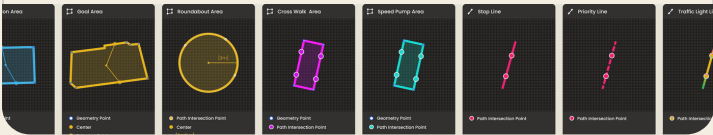
Rule-base goals



Mission simulation

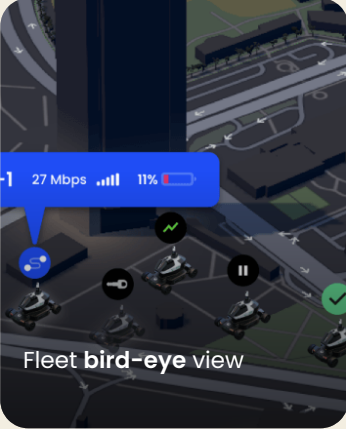


Custom traffic rules



Custom Integrations

- ERP systems
- Assets management
- Fleet management



Seamless robot onboarding



Maintenance Schedule



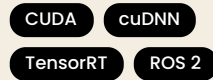
Purpose-built

Linux distribution

- One image per robot, built for its role
- Only what the application needs

Robotics at the edge

GPU accelerated



Every interface native

Kernel-level drivers

- CAN bus
- Serial & USB
- Ethernet

Fail-safe updates

Over the air



Built for developers

- SDK cross-compiled per robot
- Develop and test with no hardware in hand

03

RELATED HARDWARE PLATFORM

The platform beneath every robot

Every Micropolis robot **starts with a proven foundation** — a modular chassis engineered for its environment, payload and mission.

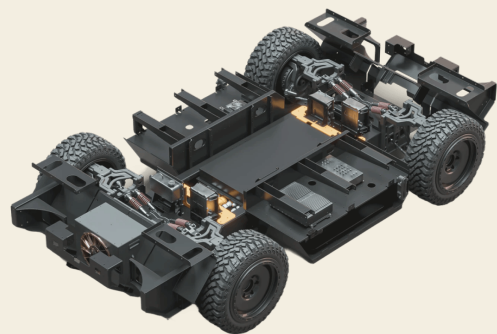


- 01 **M-Platform™** · Compact Off-road
- 02 **Mechanics** · Drive · Steer · Brake
- 03 **Electronics** · Vehicle control units
- 04 **Energy** · Battery architectures

M-Platform™ Mobility specific platforms

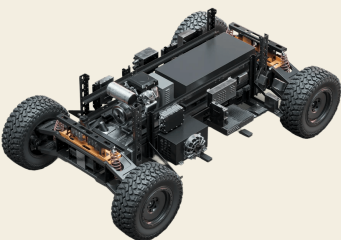
Every Micropolis robot **starts with a proven foundation** — a modular chassis engineered for its environment, payload and mission

MEGA SIZE URBAN



Maximum payload and duty cycle. A heavy-frame architecture engineered for industrial-scale loads, continuous operation, and demanding duty cycles.

FULL SIZE OFF-ROAD



Off-road and expedition-grade. A high-clearance chassis built for the harshest terrain, engineered for extended autonomous operation in unstructured environments.

FULL SIZE URBAN



The all-terrain workhorse. The flagship platform — balanced payload, range and agility for logistics, inspection, and security across mixed environments.

COMPACT OFF-ROAD

Under the M2 Expedition



Speed and precision. A lower-profile chassis built for fast deployment and tight maneuvering — ideal for urban autonomy and rapid-response missions.

One chassis, your mission

Configured for your payload · Supported end to end



Drive

4x in-wheel

System voltage

96 V

Battery pack

M2 · 16 kWh

Payload

up to 350 kg

Mechanics Drive, steering & braking

Proprietary **electric drive, steering and braking** — one vertically integrated mobility architecture, designed and validated in house

In-wheel drive

Hub motors · 4 to 22 kW

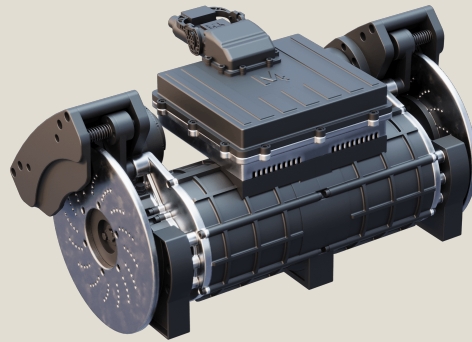
- Independent wheel control
- Torque vectoring
- Compact packaging



Mid-drive

High-torque units · 10 to 35 kW

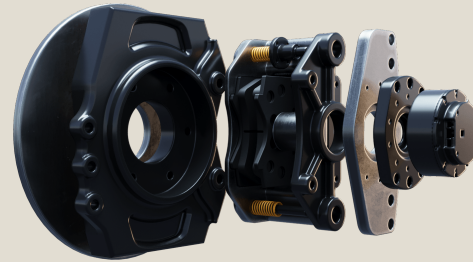
- High torque delivery
- Continuous-duty rating
- Industrial & off-road use



Brake-by-wire

Electric braking

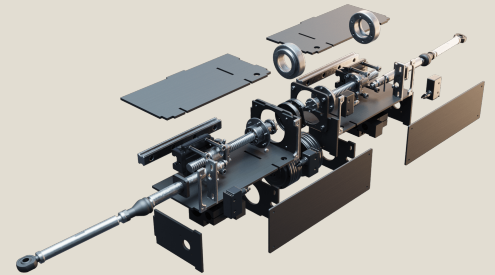
- Independent brake control
- Regenerative braking
- Fail-safe by design



Steer-by-wire

Multi-mode steering modules

- Independent wheel steering
- Multi-directional movement
- Autonomous trajectory control



Peak torque

Mid-drive, at the wheel

780 N·m

System voltages

Matched to each platform

96 V 400 V 500 V

One architecture

Full control of driving dynamics

UGV AMR OFF-ROAD

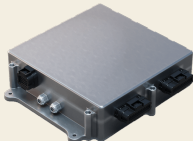
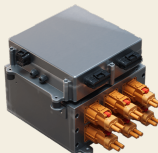
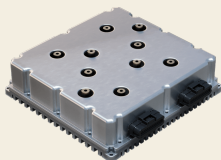
In-house, end to end

Designed, engineered, validated

DRIVE STEER BRAKE

Electronics Modularity is the architecture

Beneath every platform sits a **vertically integrated electronics stack** — power, control and compute on one deterministic CAN backbone

Master control MCU-1.1.0® - Real-time control algorithms - Multi-protocol communication - Full sensor acquisition 	Auxiliary control RCU-0.1® - Lights, locks & actuators - H-bridge motor control - Isolated I/O & CAN diagnostics 	Power management PMU-2.1® 24–48 V wide input - Multi-rail regulation - Sequencing & diagnostics 	Power distribution PDU 1.0® - One source, every circuit - Integrated circuit protection - Ruggedized connectors 	HV distribution HV-PDU 1.0® 400–800 V DC routing - Overcurrent protection - Automotive-grade connectors 	Motor drive MDU 1.0® - BLDC commutation - Controlled three-phase output - CAN-commanded torque 
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Energy Purpose-built power

Purpose-built battery architectures — LiFePO₄ chemistry, smart BMS and liquid cooling, engineered for mission-critical reliability

The battery platform
LiFePO₄ · Liquid-cooled · CAN



M2 pack 96 V system 16 kWh	M1.5 pack 96 V system 53 kWh	M01 pack 400 V high-voltage system 38.5 kWh	Inside every pack - Smart BMS — monitor & balance - Liquid-cooling loop - CAN telemetry - Multi-layer protection
Fail-safe protection Multi-layer OVER-CHARGE OVER-CURRENT SHORT-CIRCUIT	Fast charge Maximum charging current 280 A	Range extender EU5 & EPA certified V-twin 60 L TANK REMOTE START	

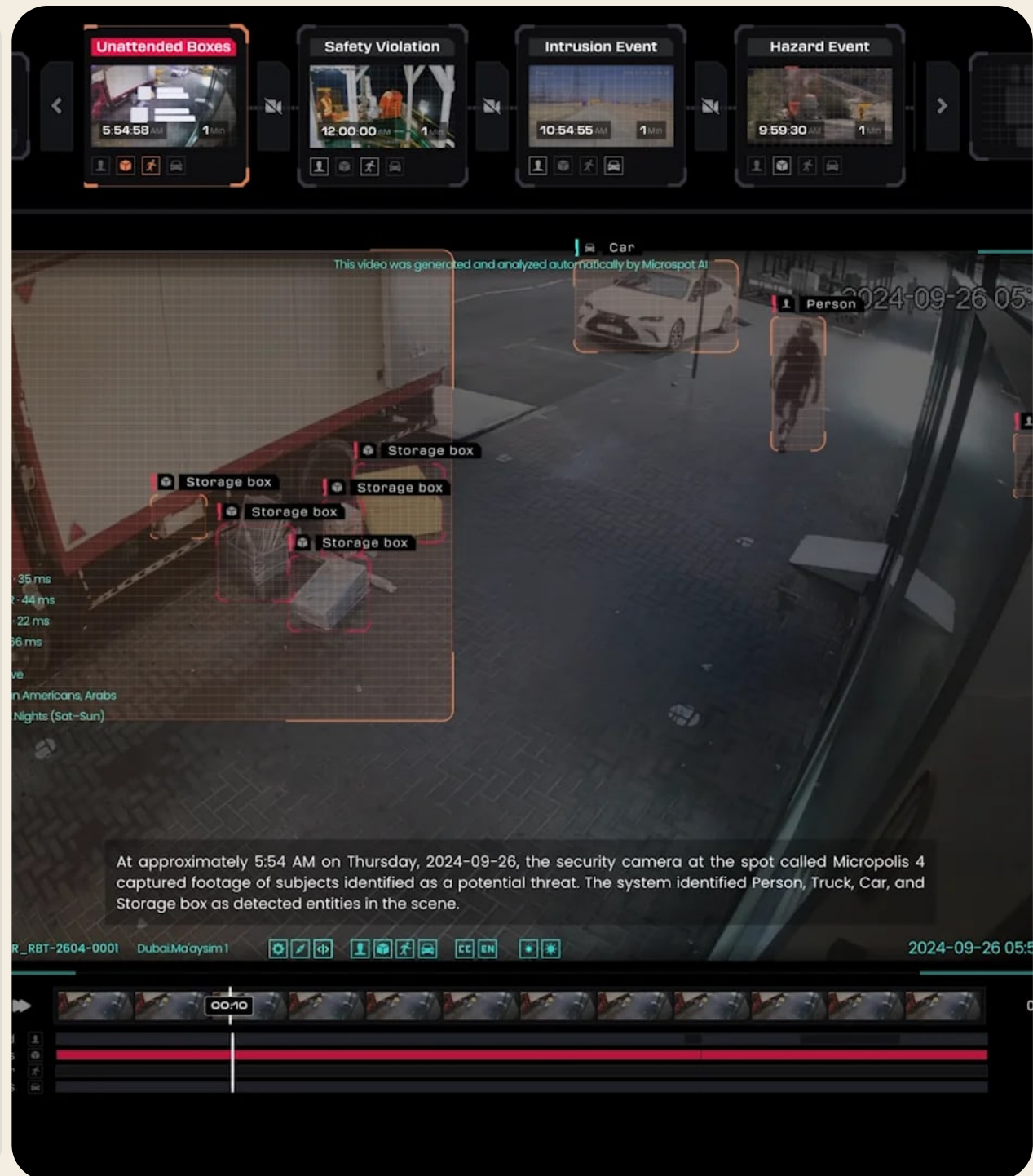
O4

INTELLIGENT SPOT

A customized AI suite for the robot's missions

AI perception and reasoning system that converts continuous video into a small number of structured, verified, and explainable events.

- 01 The platform** · What it connects and computes
- 02 Five layers** · Sixteen intelligences
- 03 In action** · Cases, and the M2 Expedition's missions



AI perception and reasoning system that converts continuous video into a small number of structured, verified, and explainable events.

Observes
Identifies
Interprets
Correlates
Documents

Connect

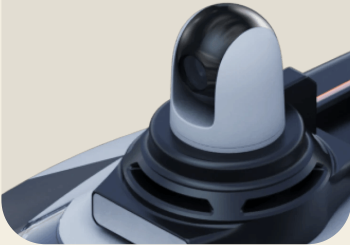


CCTV

Connect

IoT SENSORS

Micropolis Robots PTZ
Fully integrated



Command Support



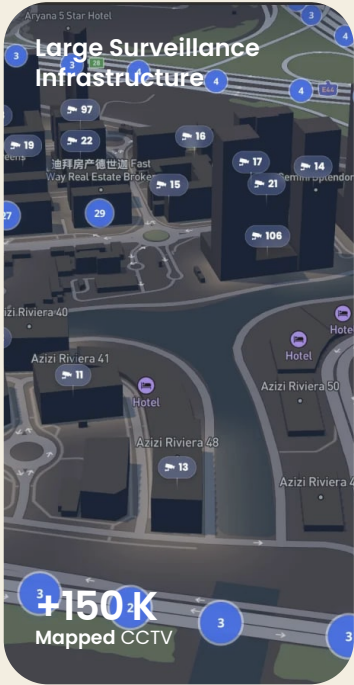
NVIDIA-powered
EDGE Computing



Area tree
Folder organizer



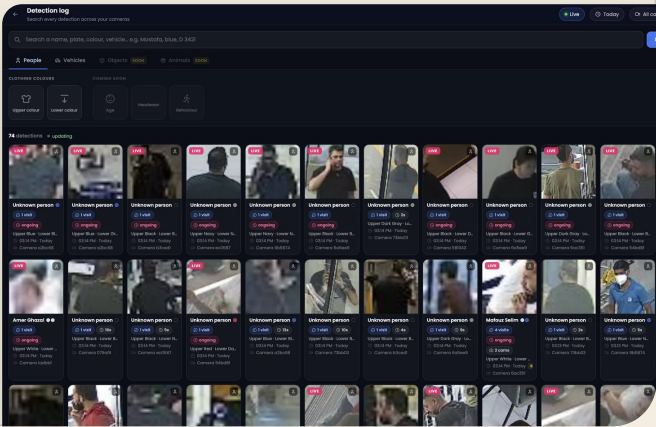
Large Surveillance
Infrastructure



EDGE Processing



Intelligent search
Historical detection logs



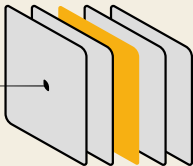
Add-ons

+ Customized event detection

+ Smart incident reporting app

+ SOP workflow builder

5 AI layers
One platform



The intelligence behind the scene

Layered technology, performance focused



Intelligence in action

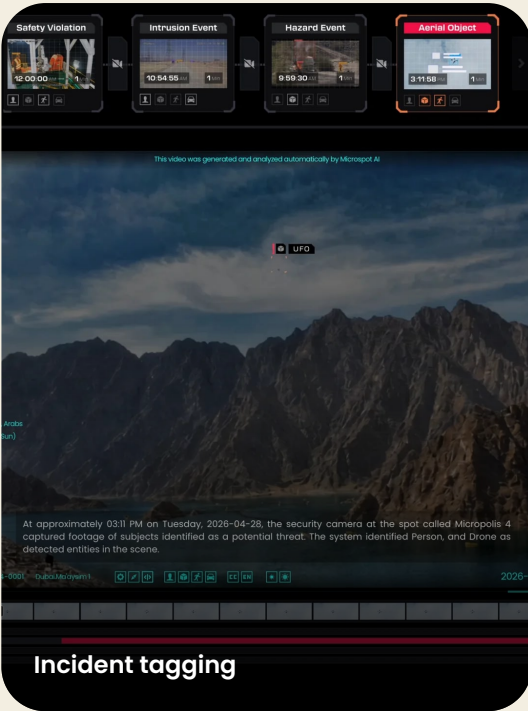
Some of many behavior and detection cases. Below, the layers tuned to the M2 Expedition's own missions.



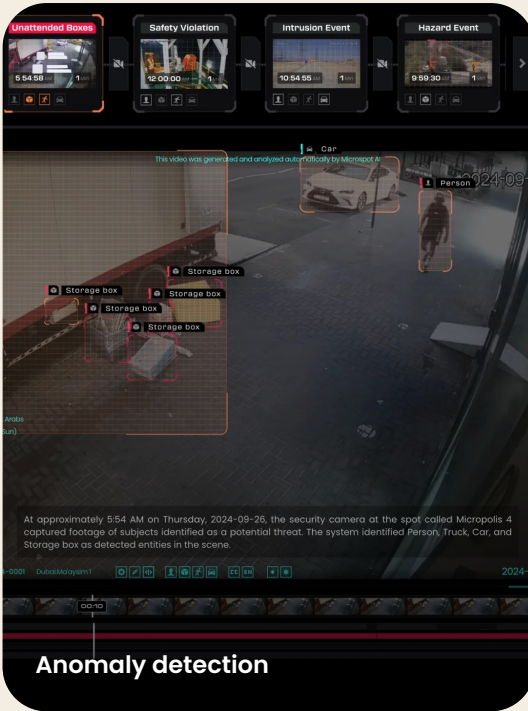
Real-time monitoring



Behavior analysis



Incident tagging



Anomaly detection

TUNED TO THE M2 EXPEDITION'S MISSIONS

Mission Perimeter patrol

- Intelligent Threat Assessment™
- Behavioral Intelligence™

Separating what matters from what merely moved, along the fence line.

Mission Airside security

- Vehicle & Access Intelligence™
- Scene Intelligence™

Every vehicle recognised, verified and accounted for on the apron.

Mission Border control

- Persistent Identity Continuity™
- AI Evidence Builder™

The same person recognised again, and every incident documented.

Mission Remote inspection

- Real-Time Situational Awareness™
- Adaptive AI Processing™

Operators see what the robot sees, running only what the mission requires.

Connects

- CCTV
- IoT sensors
- Micropolis robots

[Inquire about your cases](#)

Turn live video, sensor data, and robotic patrol inputs into actionable operational awareness.

05

 SPECIFICATIONS

Every figure, on one page

The full specification of the M2 Expedition, and how to reach us.

01 Specifications · At a glance

02 Talk to us · Contact



M2 Expedition at a glance

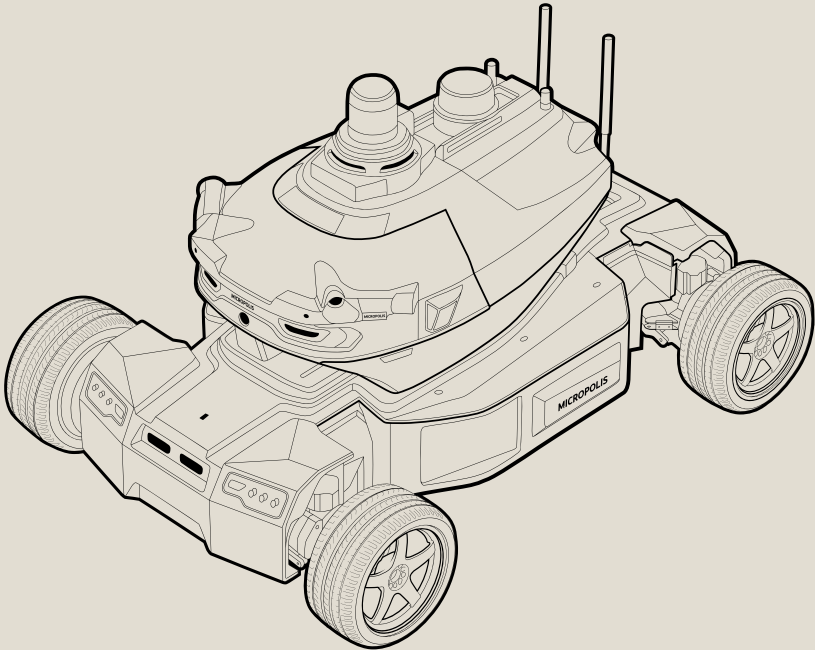
Specifications are subject to change without notice. Figures marked “software limited” are configurable per deployment.

Dimensions (W × L × H)	1495 × 2110 × 1200 mm
Weight	450 kg
Max Speed	25 km/h, software limited
Compute	NVIDIA-powered
Battery	10h runtime · 2.9 h Charging time
Steering	Double & Crab steering

Obstacle Detection	360° · 6x Intelligent vision sensor
Drive	4x In-Wheel Motors
Payload	350 kg
Ground Clearance	160 mm
Maximum Slope	25°
Supported Connection	4G/5G · WIFI · RADIO

Operating Temperature	-10 ~ 70 c
Battery pack	M2 · 16 kWh · 96 V · LiFePO ₄ , liquid-cooled
Braking	Brake-by-wire, regenerative
Autonomy	L4 · Micro Pilot Off-road Stack
Hardware platform	M-Platform™ Compact Off-road
Remote control	Tele Operator · 5G / radio, ~250 ms

M2 / EXPEDITION



W 1495 MM L 2110 MM H 1200 MM



M2 / EXPEDITION 

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