DRT DRONE

DRT_NEXA1

Product Proposal



01 · FEATURES

Features

GPS

RTK system

MAXIMUM WIND RESISTANCE

8m/s



DIMENSIONS

Folded : 430 x 650 x 380
Unfolded : 1220 x 1160 x 380

MAXIMUM FLIGHT WEIGHT

25kg

CLEANING AREA PER HOUR

Up to 725m²/h

OBSTACLE SENSORS

LiDAR & Radar Sensor, Forward Cam

FLIGHT TIME

Approximately 30 minutes (hovering)

DRT_NEXA1

The all-in-one cleaning drone by DRT. Powered by our exclusive technology, make the impossible cleanable—from exterior walls and windows to solar panels

Product Point

01 Equipped with Lance Auto Sweep function

02 Multi-sensor architecture with LiDAR and radar

03 High-precision RTK GNSS system

04 Sensor-based position hold in GPS shadow zones and indoors

05 IPX5-rated water-jet resistant design

06 Equipped with a parachute system for fall prevention (optional)

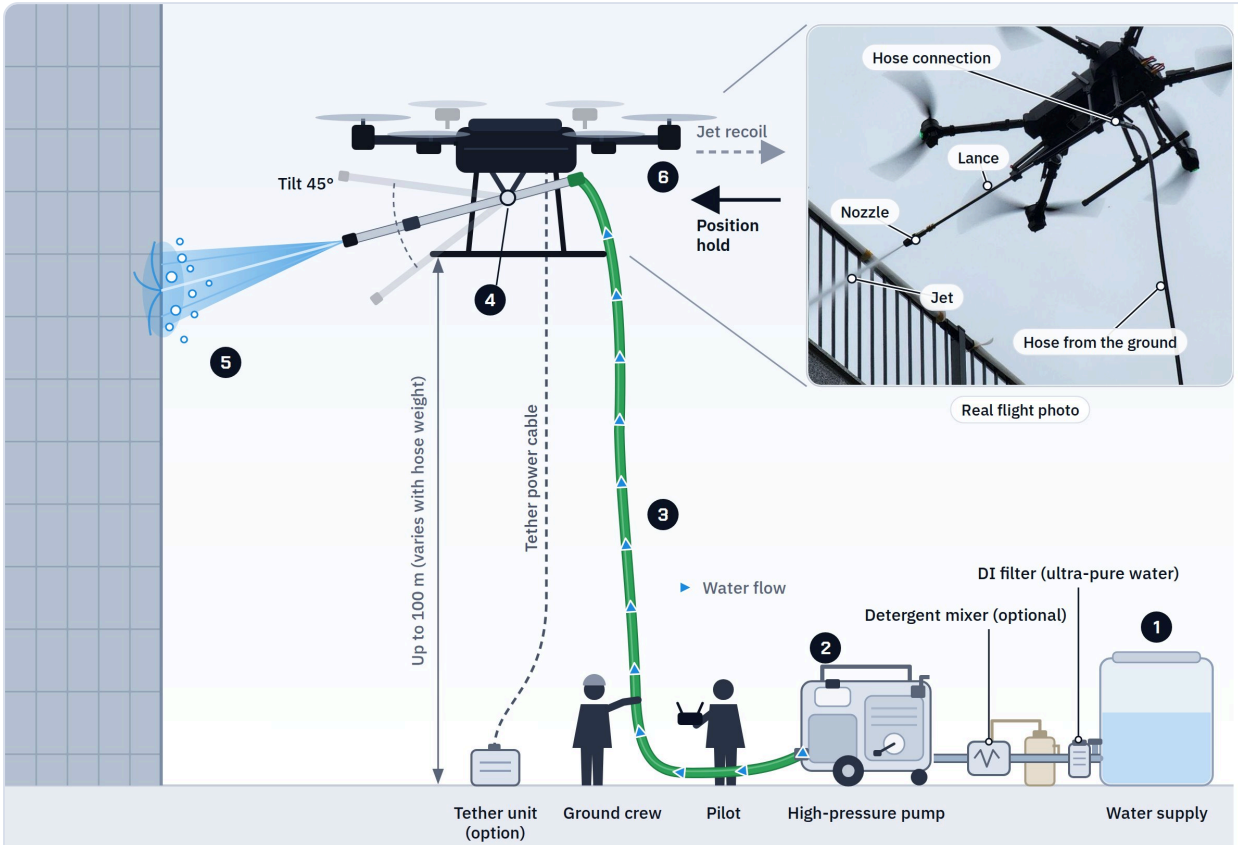
07 obstacle warning system with TTS/Beep

08 Check useful visual information through a dedicated application



How NEXA1 cleans a facade

Water is pumped up from the ground through a high-pressure hose — the drone carries no water tank.



1 Water supply
Mains water or a tank feeds the pump through a DI filter that produces ultra-pure water. Detergent can also be added with a mixer.

2 High-pressure pump (on the ground)
Pressurizes the water: up to 220 bar at 20 L/min, or 120 bar at 50 L/min. Spraying starts and stops with the pump.

3 High-pressure hose
Carries the water up to the drone. Working height up to 100 m; the actual limit depends on the weight of the hose. A ground crew member guides the hose.

4 Tilting lance
The lance tilts up and down over 45°. Auto Sweep moves it automatically, so each pass covers more wall with less drone movement, and pointing it down makes solar panels below the drone easy to clean.

5 Nozzle and jet
The nozzle sprays a high-pressure jet onto the surface: facades, windows, solar panels.

6 Holds position against the recoil
The jet pushes the drone backwards. NEXA1 measures its position and compensates automatically to stay in place.

Option: Tether
A light power cable converts ground power to DC and feeds the drone in flight: unlimited flight time, no battery swaps.

No water tank on board
Continuous water from the ground

220 bar
max. pressure (20 L/min pump)

725 m²/h
cleaning rate (up to)

~30 min
per battery, hovering
unlimited with the Tether option

Pump, hose, mixer and water supply: standard ground equipment chosen for each site.

drtdrone.com

04 · WATERPROOF CAMERA SYSTEM

Waterproof camera system

Waterproof

The IPX5-rated (water-jet resistant) design and water-repellent cover keep the view clear and the 1-axis gimbal stable while spraying water during cleaning





1080p IP camera

Experience ultra-low latency video streaming and recording in any situation with our optimized RTSP H.264 system. The 1080p camera, featuring a 160° ultra-wide-angle lens and a 1/2.7-inch CMOS sensor, delivers a crystal-clear view





Auto Sweep

Increase cleaning efficiency by up to 40% with DRT NEXA1's revolutionary Lance Control.

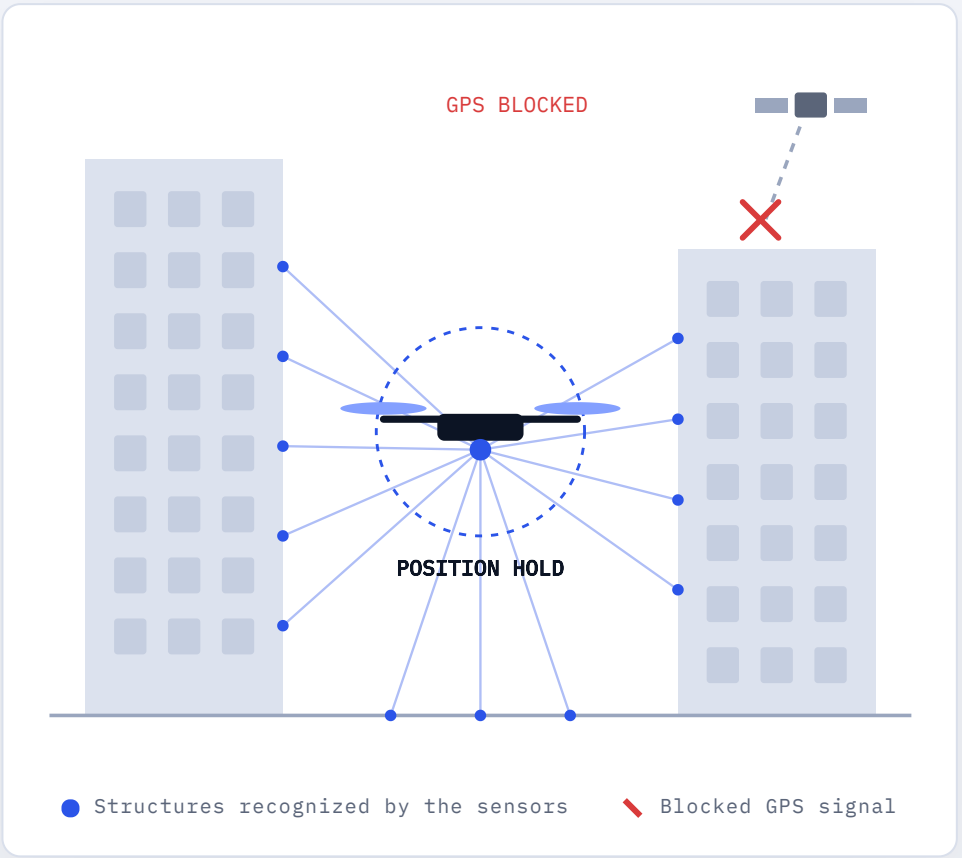
Its 45-degree tilting lance cleans where others can't—from high-rise facades to flat solar panels.

With the 'Auto-Sweep' function, you can clean vast surfaces in one smooth pass, eliminating needless drone movement

Holds position even where GPS can’t reach

NEXA1 uses its sensors to recognize the buildings and structures around it in real time and fixes its own position. Where drones that rely on GPS alone become unstable, NEXA1 holds its place, avoids obstacles in every direction and keeps flying steadily.

GPS shadow zones	Next to buildings, between high-rises, under bridges
Indoor flight	Flies indoors, with no GPS signal at all
Position hold	Recognizes nearby structures, so it does not drift
Obstacle avoidance	Sensors watch all around to avoid and warn

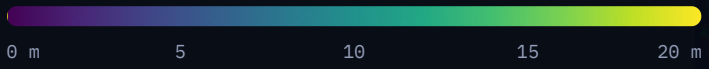


07 · LIDAR SLAM MAP

Real 3D maps recorded in test flights

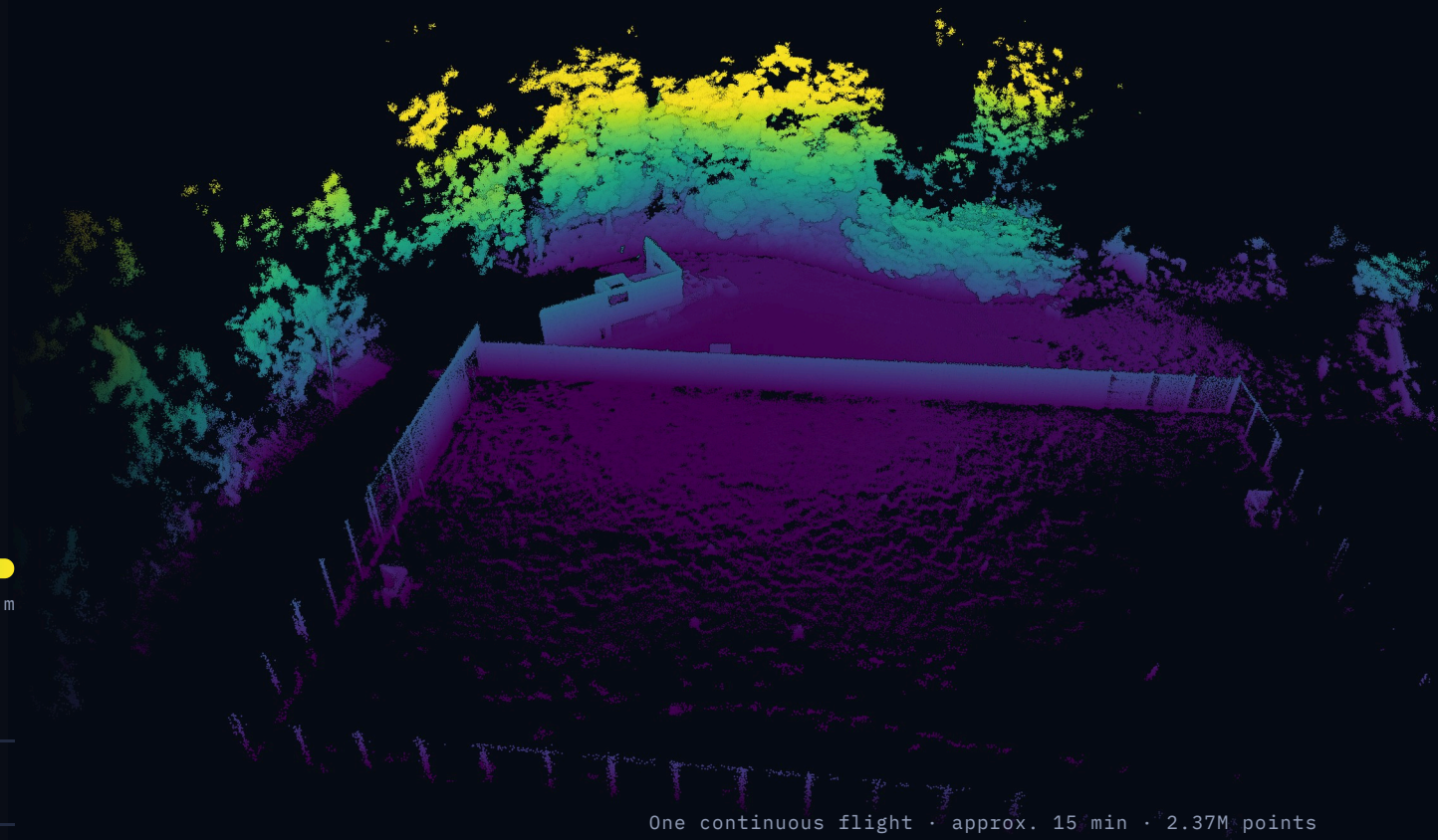
NEXA1 scans its surroundings with a 3D LiDAR and stitches the measured points together to compute a map of the area and its own position at the same time (SLAM). Every image on this page is drawn only from LiDAR measurements recorded in NEXA1 test flights.

COLOR = HEIGHT ABOVE GROUND

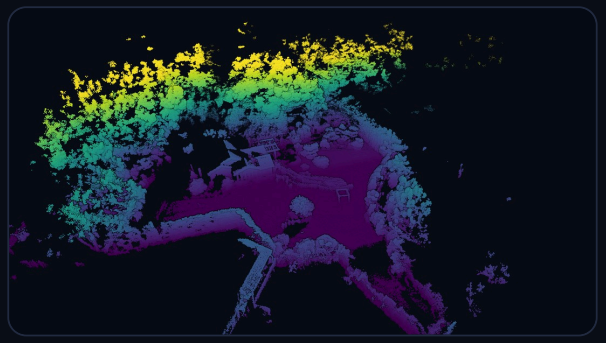


Purple ground · **Blue → green** approx. 5–15 m · **Yellow** 20 m and above · Black gaps are areas the laser did not reach

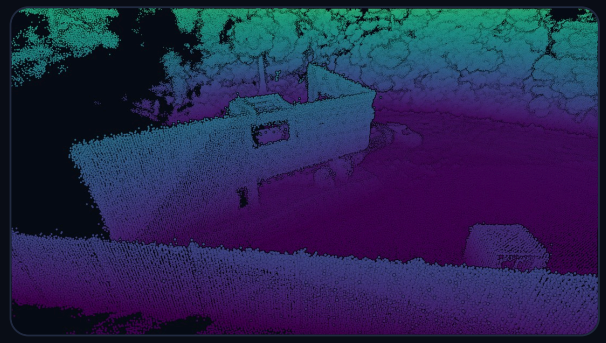
01	**Scan**	360° distance measurement with a 3D LiDAR
02	**Match**	Each new scan aligned with the map to compute the aircraft position
03	**Control**	Computed position fed to flight control in real time to hold position without GPS



One continuous flight · approx. 15 min · 2.37M points



Four flights merged · 1.30M points



Close-up · points recorded at 5 cm spacing

Rotate the 3D map yourself

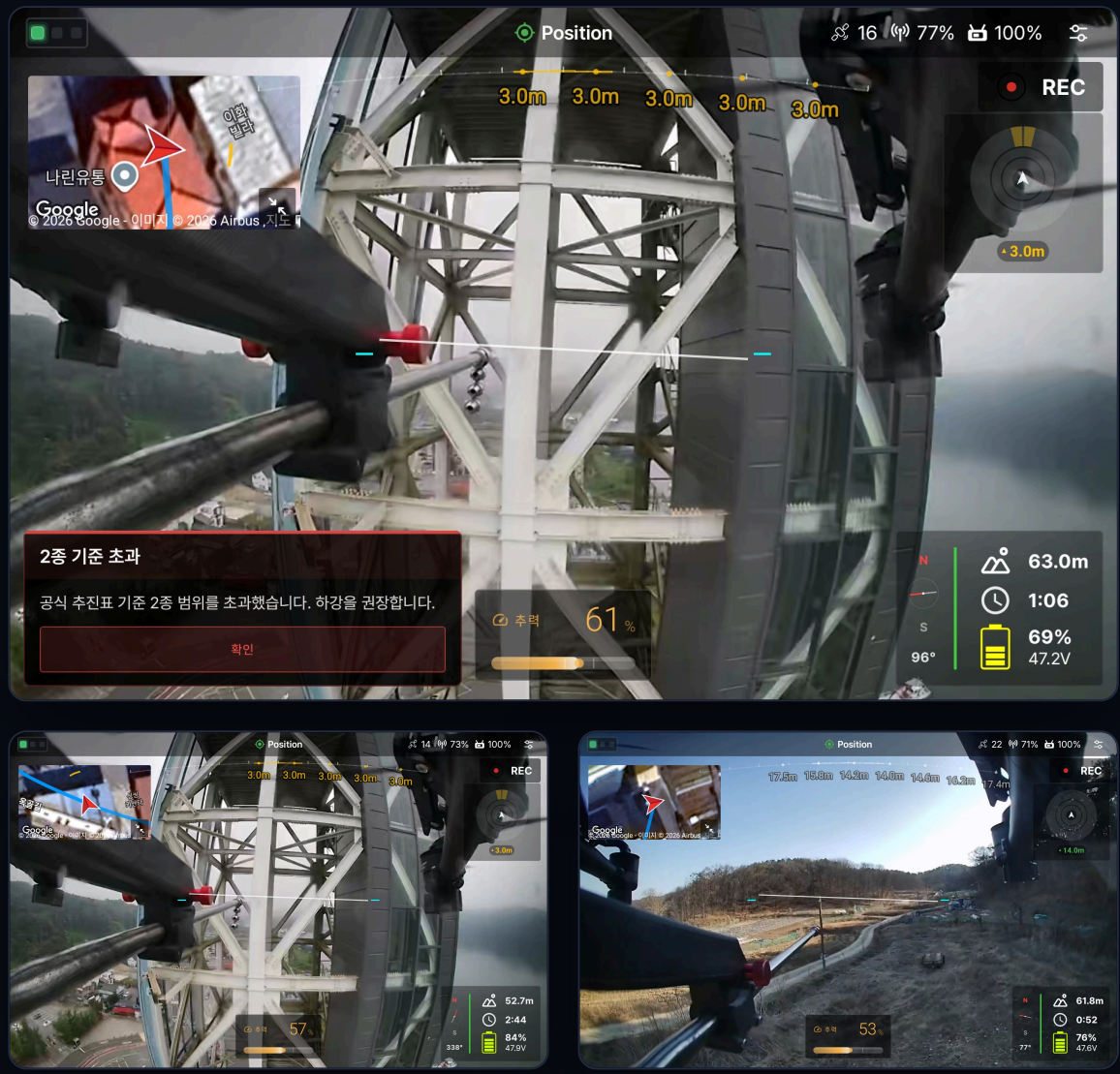
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Obstacle warning system

With DRT’s multi-sensor system, you never have to worry about obstacles during cleaning.

The dual LiDAR and Radar sensors precisely detect windows, buildings, and structures without missing a thing.

They continuously provide both visual and auditory alerts to keep the operator informed at all times.





Foldable Structure

Engineered for efficiency, the DRT NEXA1 features a proprietary folding structure that sets a new standard for convenience.

It collapses to less than a third of its operational size, ensuring unparalleled ease of transport and storage without compromising on performance.

Go from mission-ready to carry-ready in seconds.

UNLIMITED FLIGHT

Tether System

OPTION

DRT's proprietary Tether System removes the limits on flight time. An ultra-light power cable converts 220V ground power to DC and delivers it to the drone in flight, without interruption.

220V → DC	Real-time ground power conversion
Unlimited flight	Zero battery swaps, zero charging downtime
Non-stop operation	Complete large buildings in a single run

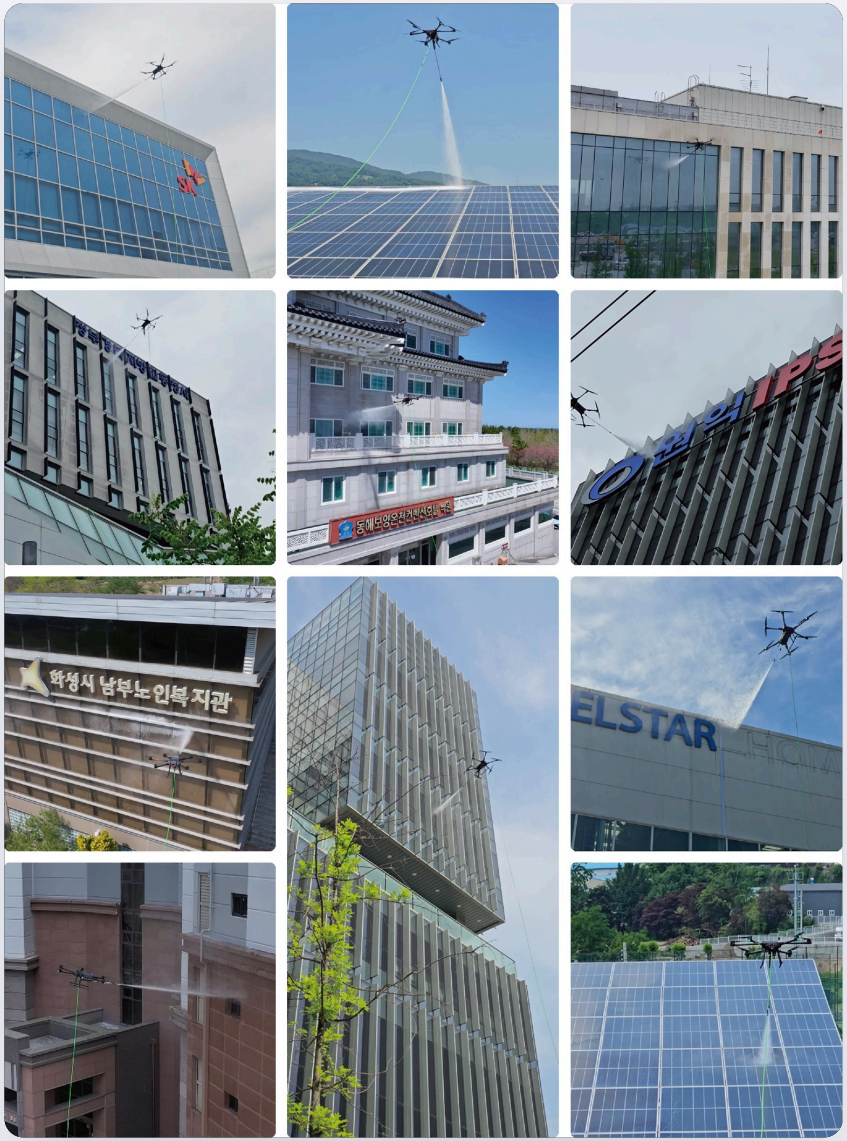


Beyond Risk, Make a Better World

The DRT NEXA1 is more than a promise. it's a proven solution, already transforming cleaning operations at diverse sites worldwide. We don't just test in a lab, we learn from the real world.

Every project, from commercial buildings to vast solar farms, provides crucial feedback that drives our innovation.

When you choose the NEXA1, you’re not just investing in a drone. You're investing in a platform that has been tested, trusted, and continuously perfected by industry leaders on the ground.



Specification

MODEL	DRT NEXA 1
AIRCRAFT WEIGHT	14 kg
DIMENSIONS (L×W×H)	Folded: 430 mm × 650 mm × 380 mm Unfolded: 1220 mm × 1160 mm × 380 mm
MAXIMUM TAKEOFF WEIGHT	25 kg
WIND RESISTANCE	Up to 8 m/s
FLIGHT CONTROLLER	In-house firmware based on PX4
GNSS	ZED-F9P (GPS + Galileo + BeiDou + GLONASS) GPS-denied & indoor: sensor-based position hold, omnidirectional obstacle avoidance
CLEANING EFFICIENCY	725 m²/h
MAXIMUM WATER PRESSURE	220 bar with 20 L/min pump 120 bar with 50 L/min pump
VIDEO SYSTEM	RTSP H.264 1080p, 160° ultra-wide lens, 1-axis gimbal
WATERPROOF	IPX5 (water-jet resistant)
BATTERY CAPACITY	44.4 V / 30,000 mAh / 12S LiPo
MULTI-SENSOR MODULE SYSTEM	Detection Range: Radar ~40 m, LiDAR ~40 m Measurement Accuracy: Radar ±0.1 m, LiDAR ±2 cm @ 10 m
ADDITIONAL FEATURES	Integrated parachute system for fall prevention Lance with vertical movement and automatic sweep function Tether System for unlimited flight time (optional)

Thank you

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