MDR-01 / Design prospectus

MIRA

Solar-assisted mini drone and docking system



Hardware design

MIRA is our mini autonomous observation drone system in development and testing. Its design explores an integrated protected-fan body, recessed optics and safe carrying grips. Its intended routine observes assigned areas and returns to MIRA Point before the next approved task.

Regular observation starts with a place to return.

For recurring local observation: assign an area, an observation interval and a return point before planning the next task.

Overall size

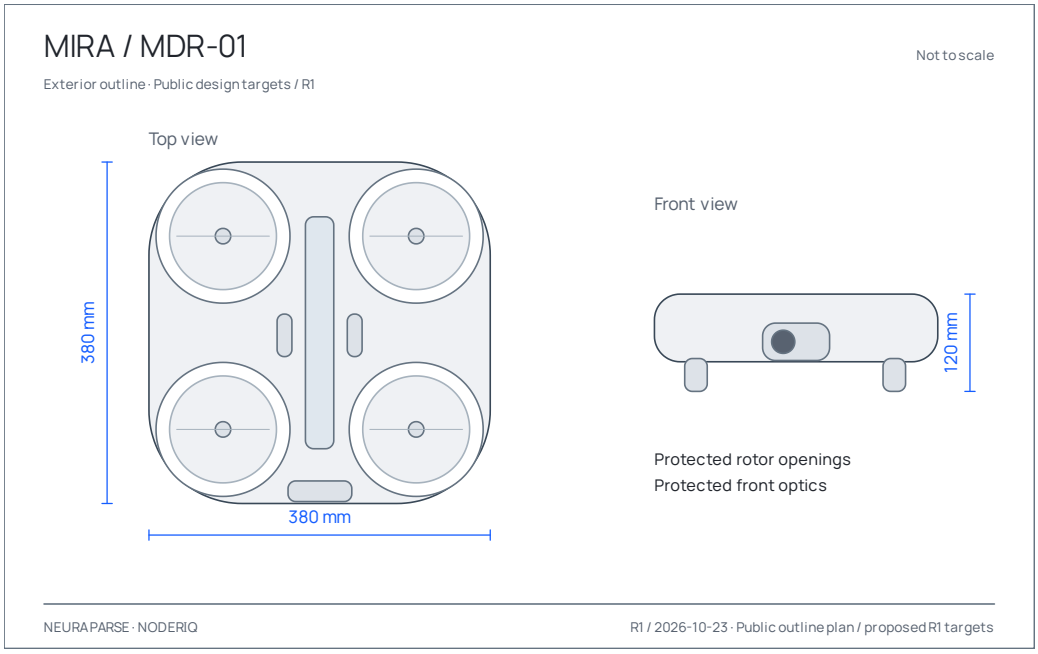
380 × 380 × 120 mm

Development and testing

Hardware tests are ongoing.

MIRA / Device plan

Exterior dimensions and a place to prepare.



R1 dimensions are proposed design targets. The drawings describe exterior relationships, not manufacturing details or approved operating clearances.

Design priorities

Assigned monitoring areas

Define the observation region, revisit schedule, permitted route and sensor task. Autonomous routines are intended to operate within explicit limits and human authority.

Return and park

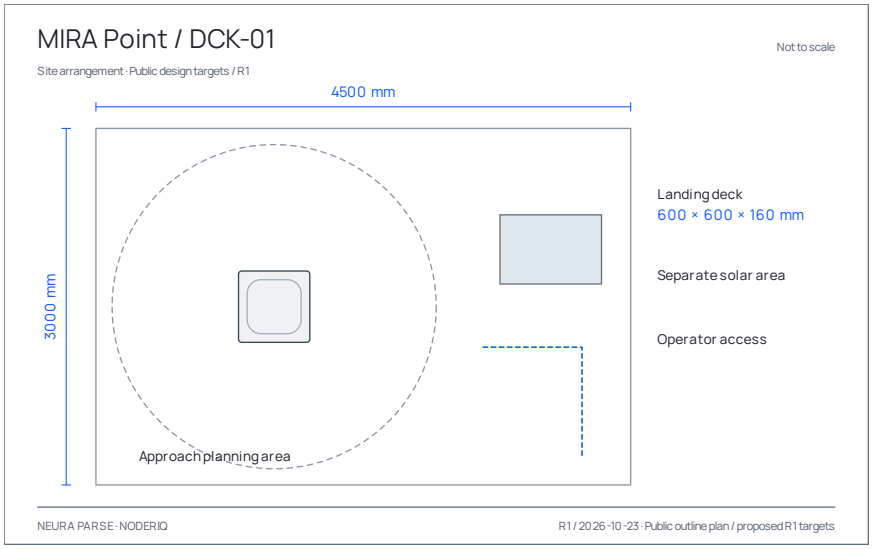
Assign a MIRA Point before release. Approach, landing, charging readiness and an unavailable or occupied point are part of the test scope; docking is not treated as a verified capability yet.

Energy-aware scheduling

Combine solar assistance, stored energy and point availability when planning the next task. A small panel does not establish continuous flight; energy reserve and weather affect the schedule.

MIRA / Site and routine

MIRA Point placement



Landing deck

600 × 600 × 160 mm

Site allocation

4500 × 3000 mm

Planning space only; the actual site and operating clearance require assessment.

01

Assign a region and point

Set the area, observation interval, mission limits and return point under operator authority.

02

Observe the planned area

Collect the selected sensor record with location and capture time within the approved route.

03

Return and reconcile

Return to the assigned point; verify the landing and observation record. An unavailable point requires a defined fallback.

04

Recharge and review

Check stored energy, device condition and any exceptions before releasing the next scheduled observation.

MIRA / Evaluation and next steps

From an observation to a decision.

Intended uses

Mapping and satellite context

Connect local observations to a geographic reference and, where available, licensed satellite map layers. Capture time, location, source and resolution need to stay visible when comparing observations.

Environmental observation

Observe defined areas over time: vegetation, water boundaries, agricultural plots or changes in a landscape. Choose and test the sensor and ground-reference method for each question before interpreting a change.

Timely field data

Bring useful observations into the mission while they are still relevant. Delivery depends on sensing, processing and connectivity. A lost link or an old frame must remain visible to the operator.

Observation with a purpose

Choose the area, collection frequency and sensor for the question. Assess site access, noise, wildlife sensitivity and unnecessary repeat visits as part of each proposed monitoring plan.

Built towards NODERIQ

The intended connection brings device observations into NODERIQ mission context. NowFlow provides the workflow and human review layer; NeuraOS provides the edge execution foundation. Hardware integration is part of the testing work.

Hardware tests are ongoing.

Neura Parse is developing and testing these devices for intended use with NODERIQ. The current pages describe the device direction and planned uses. Detailed operating specifications and acceptance results will follow the relevant tests.

The test programme must establish the operating envelope, observation quality, energy budget, connection recovery and return behaviour. Published results will need to support any later coverage, endurance, latency or environmental performance claim. NODERIQ integration and physical operation each require acceptance.

Reference and next discussion

neuraparse.com/products/noderiq/devices/mira
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Technical context and sources: NASA / Scientific Balloon FAQs · ESA / Earth observation