

Wireless Robot Ultrasonic Testing

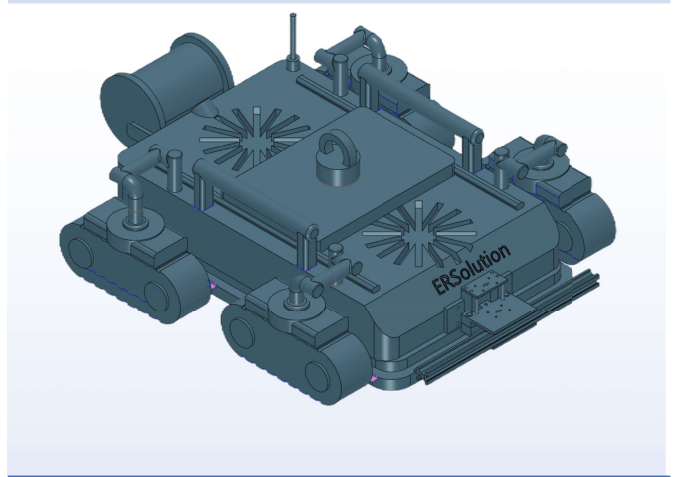
ERUT Robot A mobile robot that climbs vertical ferromagnetic walls while performing wireless ultrasonic NDT. With no cable connection, the robot is controlled wirelessly and streams inspection data, integrating camera, battery, and water supply into one unit for unmanned inspection of elevated and hazardous areas beyond worker access.

Magnetic Crawler type



- Permanent magnet-based drive system optimized for ferromagnetic curved surfaces (e.g., wind turbines, steel tanks)

Vacuum Chamber type



- Application of vacuum suction technology for non-ferromagnetic inspection targets.



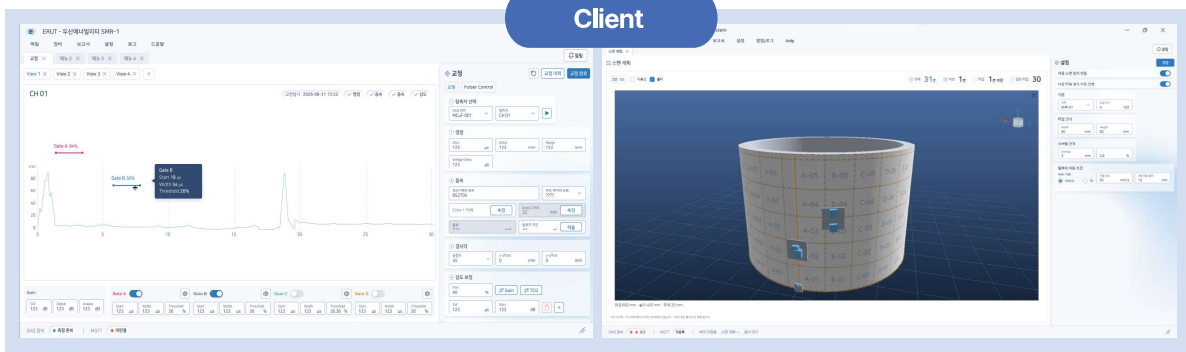
REAL-TIME STREAM



Specifications

Item	Specification	Remarks
Dimensions	510 × 350 × 170 mm	
Weight	7.5 kg	Excluding payload
Payload	15 kg (at 90°)	Max. 60 kg (at 85°)
Material	Stainless steel + aluminum alloy	Corrosion-resistant, lightweight
Locomotion	Permanent-magnet 4WD + vacuum adhesion (in development)	Neodymium magnets
Surfaces	Ferromagnetic / curved surfaces ≥ 2–3 m dia.\ (pipes, tanks)	Min. diameter confirmed on-site
Travel speed	0 – approx. 110 m/min (no load)	Low-speed precision travel
Runtime	Up to 2 hours	Battery: 24 V 20 Ah
Op. temp.	0 ~ 50 °C	
Inspection	Real-time wireless ultrasonic testing via ERUT	
Remote monitoring	Wireless real-time transmission— data acquisition at up to 70–100 m	Extendable by configuration
Position & travel log	Live distance, speed & position→inspection history	
Drive system	High-torque BLDC geared motors + precision speed control	
Probe alignment	Motorized probe alignment (vertical & lateral manual adjustment)	Vertical tilt: 30°
Couplant supply	Automatic couplant supply system	Water tank capacity: 2 L
IP rating	IP65 (planned)	

| ERUT Client & Cloud



An ultrasonic inspection program for freely arranging and analyzing scan results in **custom layouts**. From specimen, instrument, and inspection setup to **status monitoring** and **report generation** — the entire inspection workflow on a single screen.

Results View (Custom Layout)

- Custom-arrangeable scan views in the results screen
- Gate · Gain · TCG setup & calibration
- Custom split views & result analysis tools

Specimen Setup (Inspection Target)

- Rectangular, tank & other specimen types
- 3D preview of specimen geometry

Instrument Setup

- ERUT-MC/PA & probe configuration
- I/O setup: encoders, etc.
- Holder setup: 3D preview

Measurement Preparation

- Scan plan setup with plan previe
- 3D preview of measurement path
- Scan simulation (planned)

Instrument & Probe Monitoring

- Real-time status of AOS instruments & probes
- Channel & connection status checks

Reports

- Probe report: setup status & specifications
- Inspection reports generated from result data



ERUT provides **intuitive monitoring** of ultrasonic data through **Web & App** applications. **User-friendly UI/UX** and digital twin integration chart the course for enterprise **digital transformation**.

Dashboards & Real-Time Monitoring

- Unified visualization of sensor data from monitored facilities (oil & gas, shipyards, power plants, semiconductor fabs, etc.)
- Real-time flaw detection & alarm system

Asset & Data Management

- Enterprise asset & facility management data
- Management statistics & big-data structuring

Data Analysis & Reporting

- Automated AI-driven predictive maintenance reports from collected data
- Anomaly logs & historical data comparison

User Management, Collaboration & Permissions

- Collaboration tools per facility & department
- Access control for administrators, maintenance engineers, research institutes & other user roles

Digital Twin Integration

- Compare physical and virtual assets via digital twin models

Web/App-Based Remote Access

- Control-room Web dashboard
- User-facing App dashboard

