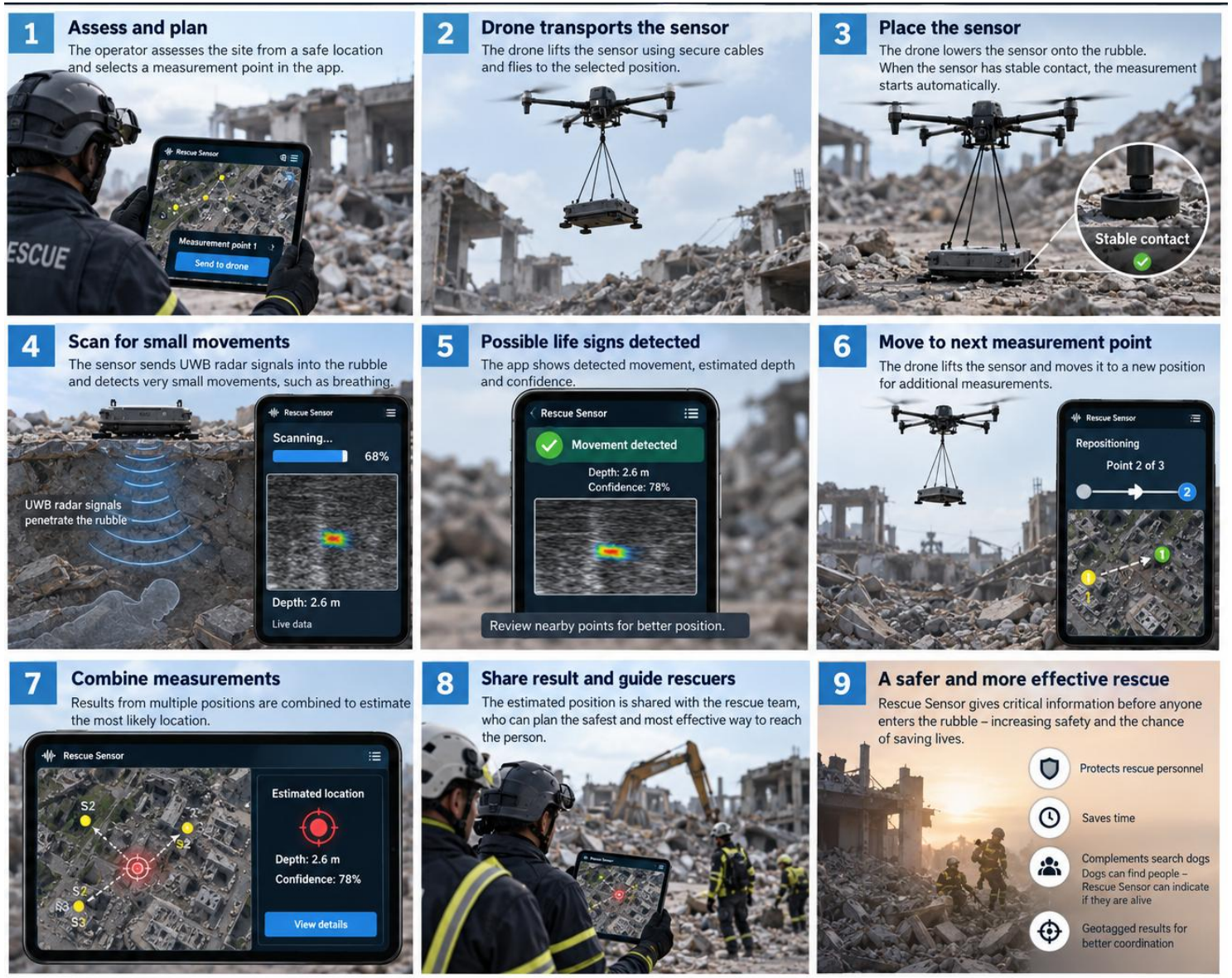
RADARBOLAGET · RESCUE SENSOR

Locate life-sign movement in collapsed structures before rescuers enter

Drone- or hand-positioned, contact-coupled coupled UWB radar for search and rescue in in rubble and obstructed environments.



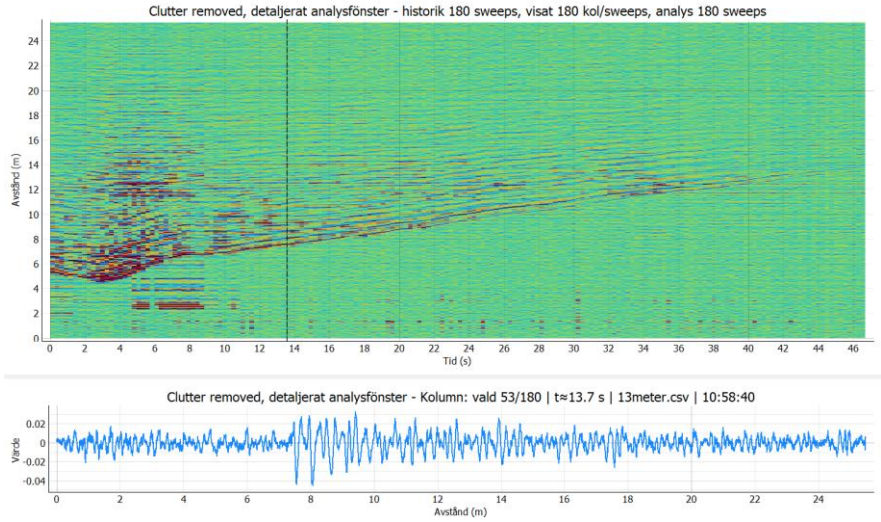
From drone placement to a geotagged movement indication



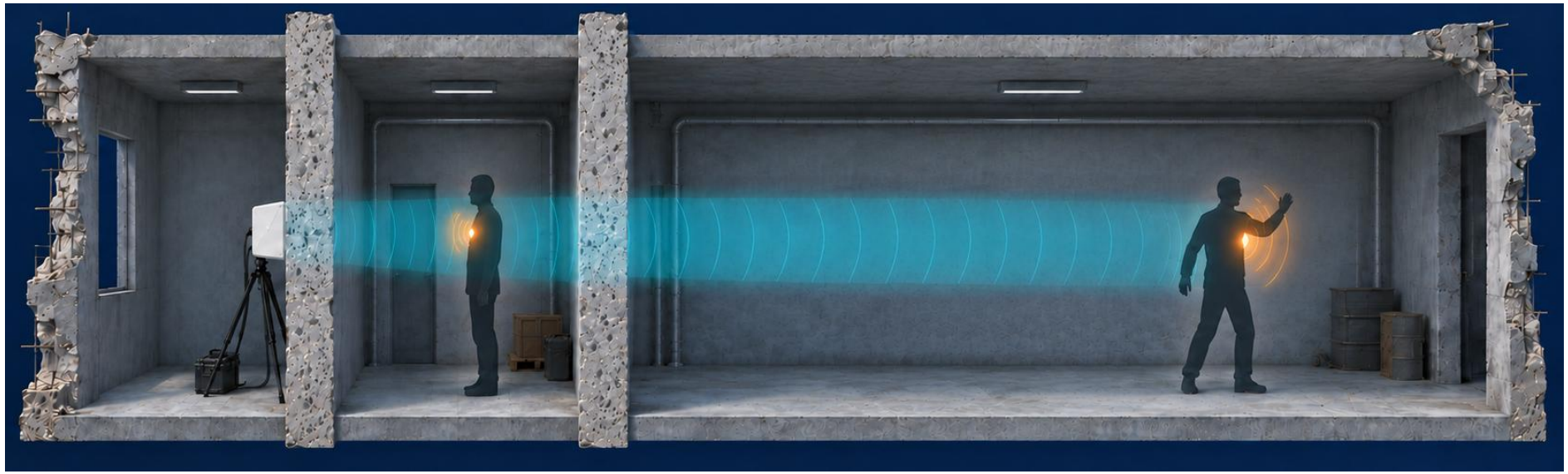
Mock up test 1· Breathing motion detected through obstructions



Breathing detected



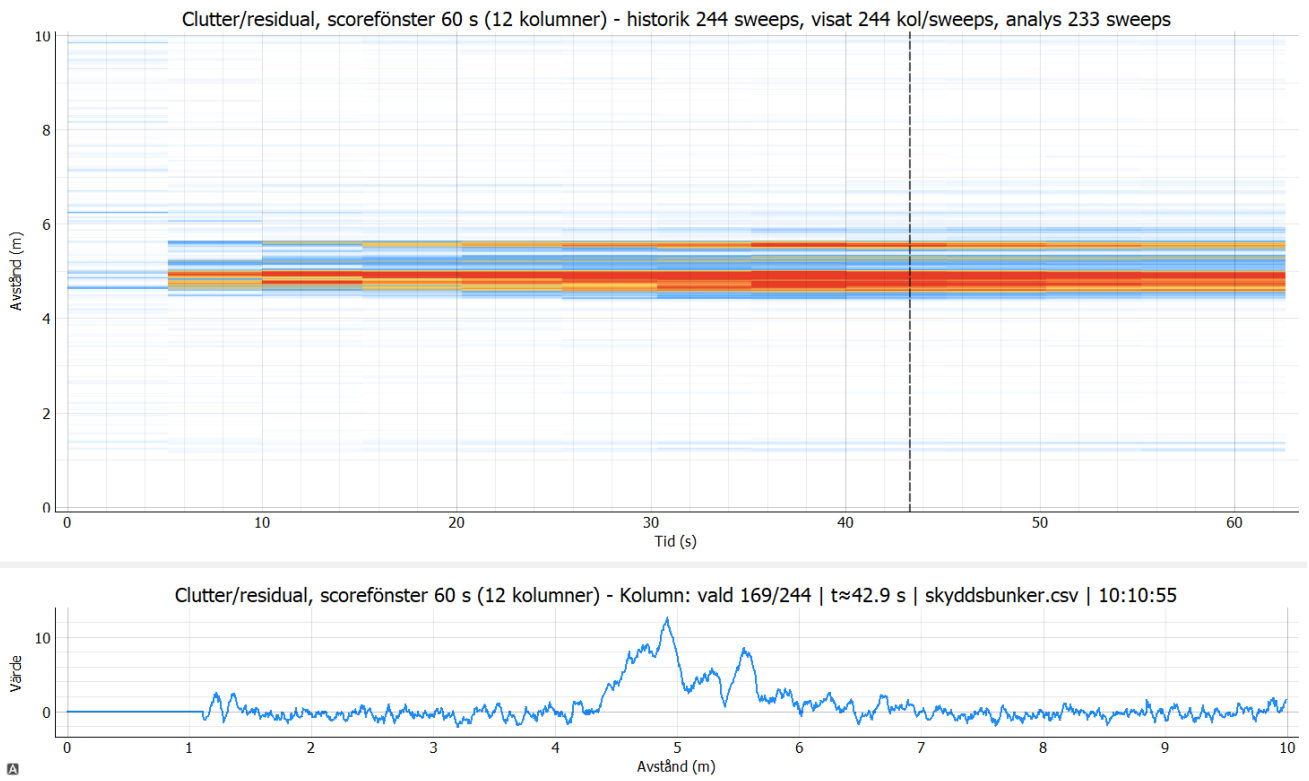
Movement response observed up to ~15 m through two walls



Mock up test 2· Movement response from an underground shelter

A shelter approximately three metres below ground.





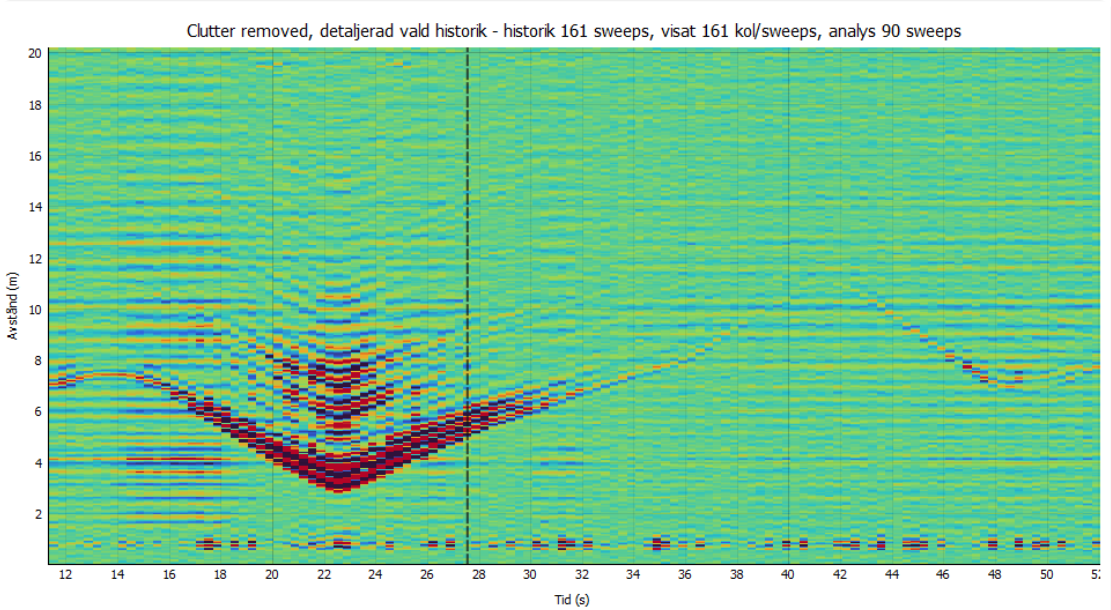
A movement response appeared from the shelter area after clutter/residual processing.

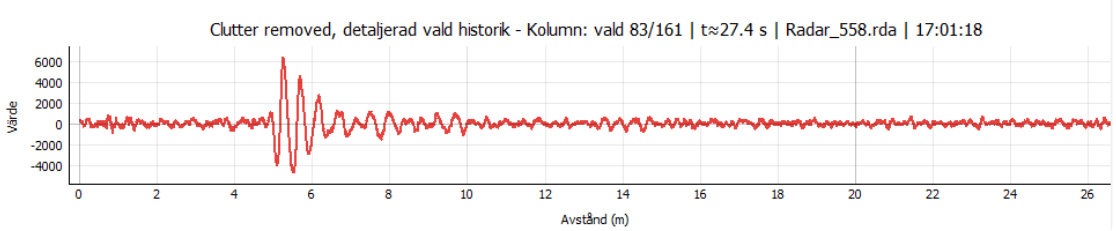
Mock up test 3· Movement remained visible through a one-metre stone wall

TEST SETUP



MEASURED RESULT

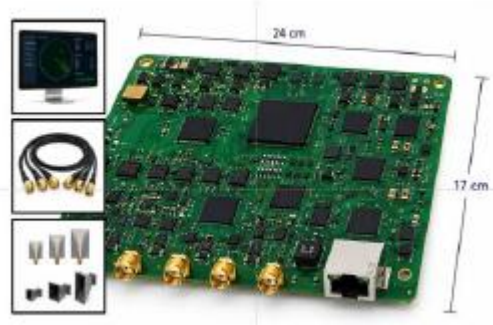




A coherent trace appears after stationary clutter is removed.

A proven radar platform to build on

Radarbolaget · Gävle, Sweden



20+

YEARS OF DIGITAL UWB

A configurable radar platform built and developed in-house.

01 **Digital by design**

Fully digital UWB architecture with configurable radar parameters.

02 **Complete signal chain**

Radar processor, antennas, visualisation and filtering software.

03 **Adaptable platform**

Compact, connected technology for fixed, mobile or unmanned concepts.

Proven in demanding industrial material measurements

From mockup to a field-ready rescue prototype

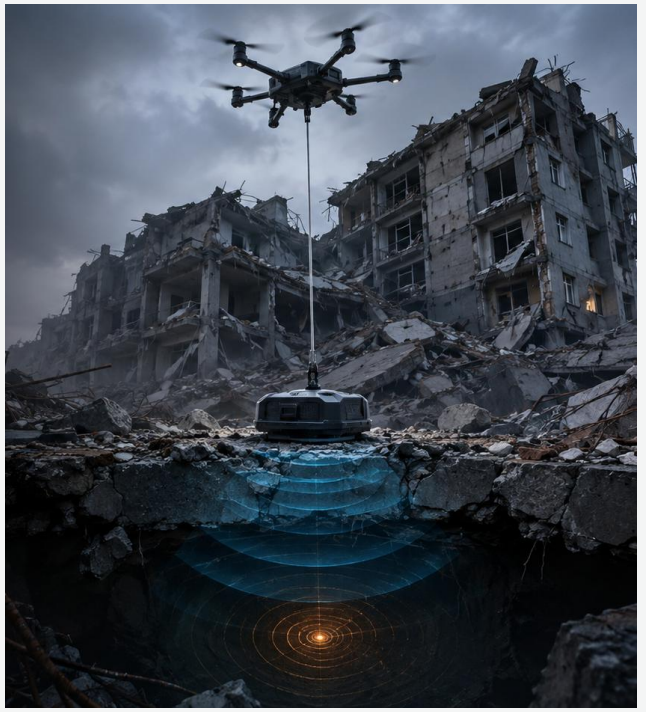
The sensing principle has been demonstrated. We are now working to turn it into a deployable rescue system.



Current mockup

Watch the mockup in action:
https://www.youtube.com/shorts/QZefTVefTVfOe4k

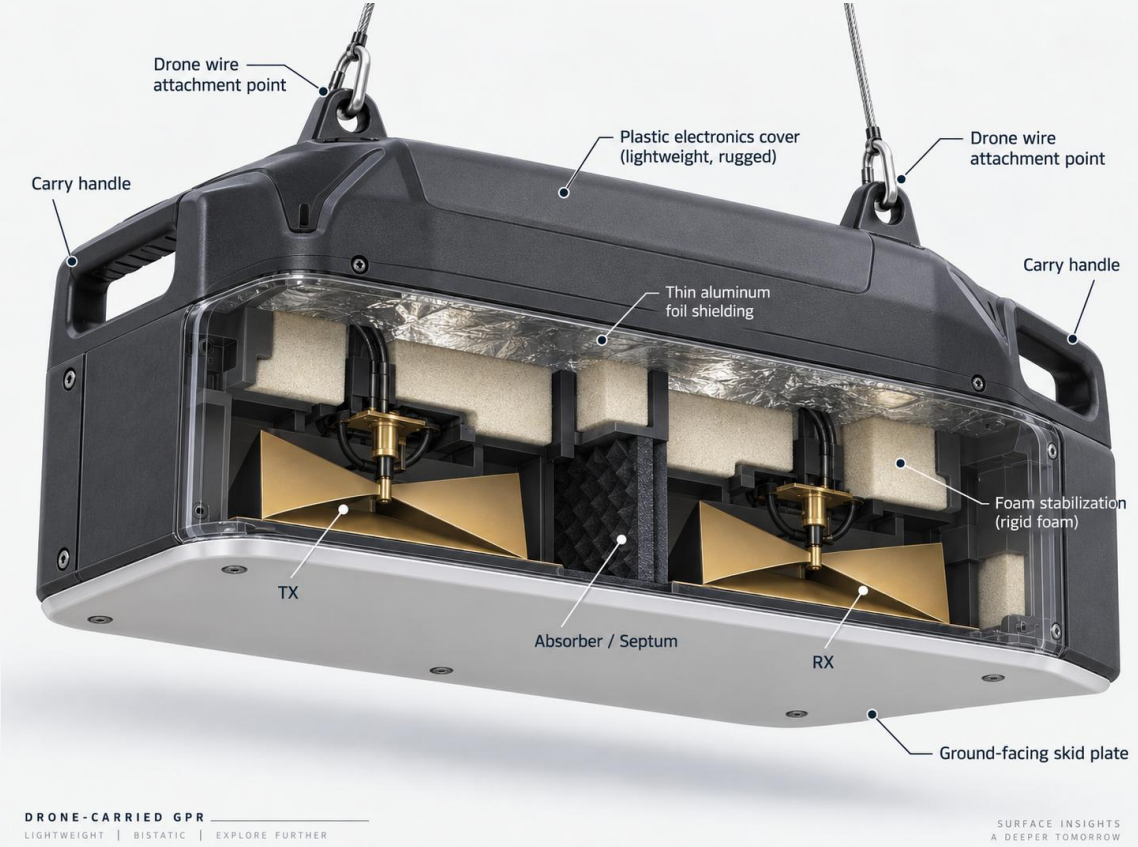
- **Ruggedised mechanics**
  Lightweight printable plastic housing, handles, drone attachment points and replaceable field parts.
- **Rescue-specific RF**
  Shielded cavity and antennas tuned for downward coupling into rubble rather than lab convenience.
- **Operator workflow**
  Mobile app for quick decisions; PC software for radargram review and post-analysis.



Field prototype

Design requirements for the first prototype series

A sensor rescuers can deploy, repair and trust in the field.



Weight target	3-5 kg per unit so a drone can reposition the sensor and a person can carry it.
Repairable housing	Printable plastic parts, simple fasteners and replaceable modules.
Connectivity	Wi-Fi communication and GPS position for each measurement point.
Ground-coupled RF	Improved TX/RX antennas tuned to push more energy into rubble.
Shielded enclosure	Thin aluminium shielding and absorber so energy goes downward and interference is reduced.
Operator interface	Simple mobile app for rapid field decisions; PC software for detailed analysis.

Target: complete, testable prototype sensors.

ARE WE ON THE RIGHT TRACK?

We have demonstrated the sensing principle. Now we want to make sure we develop the right product.

---

1. **Is this capability relevant for rescue operations?**

   Could it add value in actual search-and-rescue missions involving collapsed structures or obstructed environments?

2. **Does the proposed way of using it make sense?**

   Drone or manual placement, contact measurement, repositioning, and combining several measurement points.

3. **If yes, what should we focus on in the first prototype?**

   Weight, ruggedness, operator information, battery life, repairability, deployment speed, and test scenarios.

Your feedback would help us decide whether — and how — to take the next step.