



LIVE DIG RADAR

UK's FIRST LIVE TRIAL

LYNCH

SKANSKA

RODRADAR

MACHINETECH



BACKGROUND

With over **60,000 underground utility strikes recorded in the UK each year**, the need for safer excavation is clear. That's why Lynch has formed an exclusive partnership with **RodRadar** and **MachineTech** to introduce **Live Dig Radar® (LDR)** technology to the UK.

As the sole UK rental supplier, Lynch is giving our customers access to **real-time underground detection** that supports safer excavation. The technology helps teams identify potential **buried services and utilities** before contact is made, reducing the risk of costly and dangerous utility strikes on live infrastructure projects.

As part of Skanska's commitment to safer excavation practices on the **Lower Thames Crossing (LTC)** project, they partnered with Lynch to take part in the **first UK trial of LDR technology**. The trial supports Skanska's care for life value, centred on ensuring everyone returns home safely at the end of every day.



THE TECHNOLOGY

The **LDR technology** is comprised of four core components — the **LDR bucket, operator tablet, connection box and cabling** — working together to detect underground objects in real time as excavation takes place. Using **radio frequency waves**, the bucket scans the ground and converts returning signals into live visual data, allowing operators to see the depth and position of **buried services and utilities** before and during digging. While based on the same principles as **Ground Penetrating Radar**, the system uses advanced electronics to deliver reliable performance in live site conditions.

As the machine travels, the technology generates a **continuous 2D scan image**, with signal patterns highlighting material changes beneath the surface. This enables operators to identify **utilities, buried services, voids, rocks and soil variations** that would otherwise remain hidden. By turning subsurface data into clear, actionable insight, the **LDR technology** supports safer excavation and more confident decision making on site.

THE TRIAL

As part of a trial on a package of ground investigation works, Live Dig Radar (LDR) was used to support the excavation of trial pits to depths of up to 4 metres, where conventional excavation methods created both operational and safety challenges.

Under Skanska's safe digging procedure, excavation is limited to 300mm increments before re-scanning with CAT and Genny, and any excavation deeper than 1.2m requires temporary works such as stepped edges or trench support before entry is permitted. For this particular trial, however, the pits needed to remain unsupported and maintain a precise shape, as they were filled with water and monitored over several shifts to assess drainage performance. These results directly informed the final design development of the project.

Because no temporary works or stepped access could be introduced, personnel were unable to enter the excavation to carry out repeated scans in the conventional way. Live Dig Radar provided a safe and practical solution, allowing underground anomalies to be detected continuously from the machine during excavation while maintaining compliance with site safety procedures.

During the trial, several anomalies were identified through the radar system, enabling the team to make informed decisions to relocate excavations where potential buried services were suspected.

Skanska highlighted the ease of adoption, with trained operatives finding the system straightforward and user-friendly to interpret in live site conditions.



THE RESULTS

During the trial scans, the LDR technology generated 41 high severity alerts and one medium severity alert, providing early visibility of potential buried services and utilities and allowing the project team to relocate their excavations.

Results summary:

- Safe excavation achieved to 4m depth without compromising pit design or safety compliance
- Potential buried services identified early, reducing risk before excavation progressed
- Continuous in-machine scanning removed the need for repeated manual re-scanning
- Critical drainage data captured to support final project design decisions

“The Radar bucket was the only way we could complete this package of works while still satisfying our safe digging procedures. The team trained on interpreting the scans found the system to be straightforward and user friendly.”

Paul Skelton, General Foreman, Skanska

SAFETY

Safety 1st Mindset is one of Lynch's core strategic pillars, shaping how we operate across every part of the business. We are committed to delivering industry-leading safety standards that protect our people, support our customers and raise expectations across the sites we work on. Safety is not an add-on to our service — it is embedded in our culture, our equipment and our decision making.

Through continuous investment in innovation and training, we aim to proactively reduce risk and create safer working environments. By providing technologies such as LDR to Skanska, we are actively supporting their Care for Life value, which is centred on ensuring everyone returns home safely at the end of each day. Partnerships like this demonstrate how collaboration and innovation can drive meaningful improvements in site safety.

Our role goes beyond supplying machinery; we work as a delivery partner, sharing responsibility for safer outcomes on major infrastructure projects. By aligning our Safety 1st Mindset with our customers' values, we help build a culture where safety leadership is visible, measurable and continuous — protecting people while enabling projects to progress with confidence.



SAFETY 1ST MINDSET

We provide **industry-leading** safety practices for our people and customers.

**HELPING OUR
CUSTOMERS BUILD
BRITAIN'S INFRASTRUCTURE.**

