

Survey of underground water tanks

Gemini 720is Multibeam Sonar

Application of sonar technology to survey underground water tanks in the grounds of York Minster.



Image courtesy of CDMS Sub Surface Engineering

Features & Benefits

- Significant cost saving over alternative solutions
- Ideal for use in zero visibility conditions
- Up to 100m range
- Provides high resolution, real-time imagery
- Safe alternative to diver deployment

▼ Grass area adjacent to the minster, beneath which the tanks are located

Gemini 720is installed on a Rovtech Micro Seaker ROV

Operator: CDMS Sub Surface Engineering, York

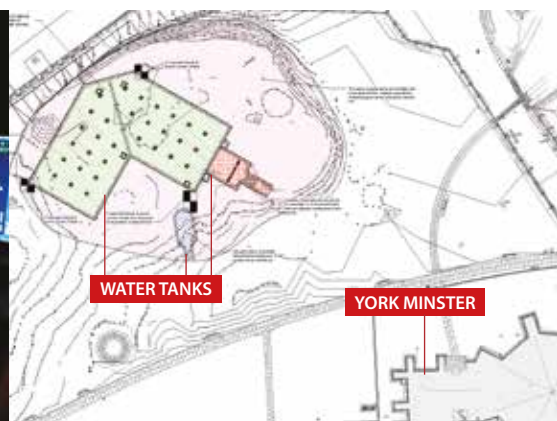
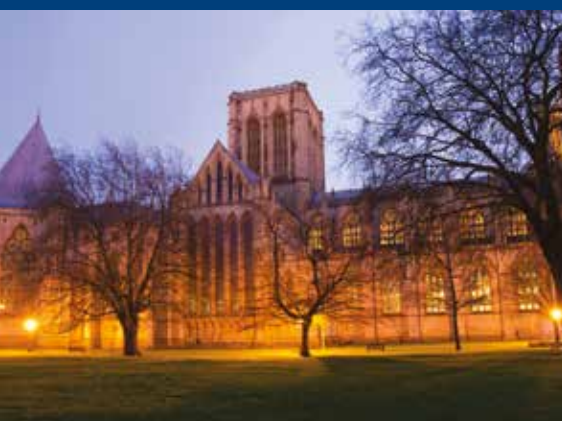
Location: York Minster, York, UK

Overview:

York Minster is the cathedral of York and is one of the largest of its kind in Northern Europe. During the Second World War underground water tanks were installed adjacent to the minster, in case the building was bombed. Remarkably, there is no sign of the presence of these tanks above ground and access to the tanks is by means of a hatch. CDMS employed the use of an ROV fitted with a Gemini 720is to conduct a survey of the water tanks.

▼ Video and sonar together for optimal vision and navigation

▼ Plan showing position, location and size of tanks adjacent to the minster



Images courtesy of CDMS Sub Surface Engineering

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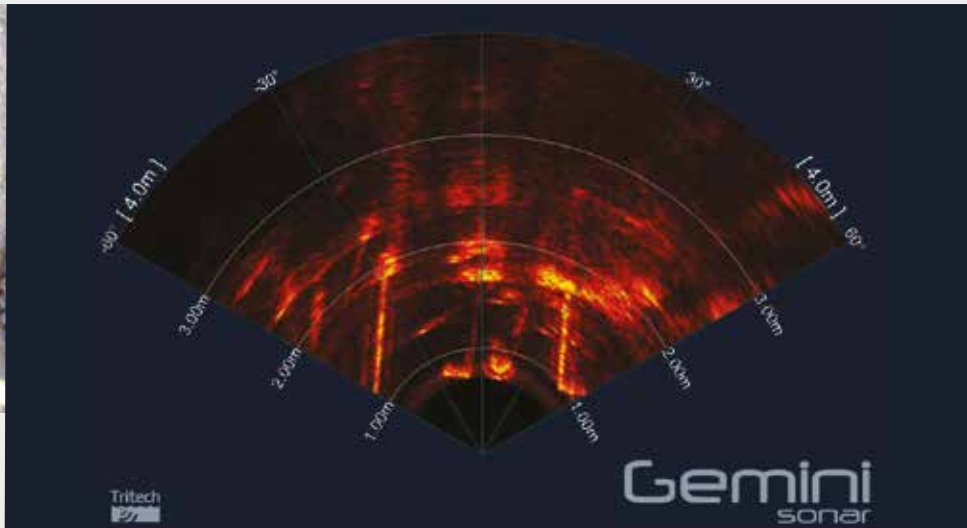
1. Titanium model, 4000m depth rated
2. Anodised aluminium model, 1000m depth rated



▼ Sonar image showing internal structure of tanks



▲ The ROV deployed via the access hatch



Images courtesy of CDMS Sub Surface Engineering

Applications

- ROV/AUV navigation
- Obstacle avoidance
- Target recognition
- Search and Rescue (SAR)
- Salvage operations
- Subsea monitoring and inspection
- Object detection

Summary

The ROV was fitted with a video camera, however it was only able to see what was within its field of view at short range. The sonar was able to visualise the internal structures within the water tanks and display the data, in real time on screen. This enabled the ROV pilot to navigate around the internal areas of the tanks, avoid any obstacles that may be present and record the data for review.

Client Feedback

"The Gemini 720is together with the sonar imagery, provided an enhanced ability to navigate around the vertical support columns. With limited light, the ability to see using Trittech's sonar technology, allowed the project to be carried out quickly, safely and efficiently."



Mark Dobson, ROV Pilot, CDMS SSE Ltd

Specification subject to change in line with Trittech's policy of continual product development

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