CASE STUDY
THE CU24 INSPECTION CAMERA CRANE AT SHELL PERNIS

"By using the CU24 inspection crane of Applus RVIS, for inspection of piping bridges and supports, we achieved enormous costs savings with 80% reduction relative to scaffolding, and another 50% compared to rope access while 3x faster."

Rowin Zonneveld, Maintenance Supervisor of corrosion under insulation, responsible for approximately 19 km of pipelines at Shell Pernis.

The maintenance team was looking for ways to improve the efficiency of regular maintenance of piping bridges and supports. Their main goal is to reduce costs and one way of achieving it is to speed up visual inspections. Normally they seek new technological solutions on the market and work with suppliers to adapt these to their needs. With Applus RVIS, it started with a drone test that led to customising an inspection camera crane, the CU24, specifically for pipe racks inspection. As early as during the proof of concept, the CU24 proved significantly faster than conventional inspection methods and savings on inspection costs looked promising. Since then, the CU24 inspection crane is being used daily to scan all piping bridges and supports off plot.

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CHALLENGE
The goal was to improve the efficiency of piping bridges and supports inspection thereby reducing maintenance costs. Maintenance teams seek innovative solutions that are faster and cheaper than conventional inspection methods.

CATALYST FOR CHANGE
Drones provide an attractive alternative for fast and remote inspections. However, testing proved that drones are inadequate for piping inspection. Current inspection drones have restricted visual access to a large part of pipe racks.

SOLUTION
Applus RVIS customised an inspection crane mounted with an HD camera, the CU24, for remote visual inspection of piping bridges and supports. It has also the capacity to carry other sensors such as for gas leak detection.

RESULT
- Inspection cost is reduced by 80% relative to scaffolding and another 50% compared to rope access.
- Inspection time is reduced to one third.
- The chance of safety incidents during visual inspections is reduced close to negligible.
- The CU24 wins the Commercial Success Award for generating enormous cost savings.
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The CU24 inspection camera crane won the Commercial Success Award at Shell Pernis in 2017 for generating enormous cost savings.

Inspection time is reduced up to one third of the time necessary to inspect by rope access. Remote visual inspection with the CU24 allows to set the long-term maintenance strategy while maximising the use of recourses. Remote inspections also improve compliance significantly. The chance of safety incidents is reduced to almost negligible since inspectors work safely from inside the control centre.

"Effective collaborations with suppliers such as Applus RVIS, bring together people with different expertise and skills with one common goal; to find innovative solutions that improve efficiency and reduce costs."

Rowin Zonneveld

**Working with Applus RVIS.**

Applus RVIS purpose is to improve the safety and efficiency of visual inspections and NDT by using technology. Cameras and other sensors are mounted on customised tools for remote inspections. Drones, ground tools or crawlers are used according to assets to be inspected and inspection goals. Systems are further developed to improve the efficiency of reporting and communication of results.

“In order to carry out effective maintenance, we have to innovate. Collaboration with our clients allows us to find innovative inspection solutions centred around the end user. We develop remote tools carrying HD cameras and sensors based on client inspection needs and where dangerous or repetitive work is required. We customise systems for reporting and communication of results. We aim at inspection solutions that are safer, faster and cheaper”.

Bas Pauw, Managing Director and co-founder of Applus RVIS.