



CUSTOMER CASE STUDY

Hanla NMT drives business growth with AVEVA™ E3D Design and laser scanning

Hanla NMT - www.hanlanmt.com
Industry - Shipbuilding

Goals

- Reduce time and costs of ballast water treatment systems (BWTS) retrofits
- Desire for integration between drawing/modeling and conversion from scanned data to 3D data
- Improve quality outcomes
- Enhance job satisfaction for design team

Challenges

- New regulations drove the need for retro-fitting ships with BWTS
- Large numbers of customer orders had to be completed efficiently, particularly in the short-term
- Eliminate unnecessary processes and optimize system integration to streamline operations
- Avoid duplication of work during projects

Solution

- AVEVA E3D Design
- AVEVA™ Point Cloud Manager

Results

- 30% savings in time at the project planning and design phase
- Manage increased demand from a large customer base
- More efficient retrofit allows team to address high customer volumes
- Readiness of retrofit vessels ensured with SOx SCRUBBER (EGCS)
- Streamlined process from point cloud data to 3D modeling
- Minimized duplication through integrating design stages
- Easy adoption - no specialized computer hardware required

Hanla IMS is a South Korean-based specialist manufacturer and supplier of marine technology solutions. Hanla NMT, an affiliate of the company, manufactures sensors and ballast water treatment systems. Over the last three decades Hanla NMT has established a strong reputation for environmental responsibility both in its own operations and in the solutions it provides to its customers.

Five years of business growth ahead

After the International Maritime Organisation (IMO) issued its ruling on ballast water treatment systems (BWTS), which came into force in 2019, Hanla NMT identified expansion opportunities to retrofit its EcoGuardian™ ballast water management (BWM) system.

Industry estimates suggested that thousands of ships of 400 Gross Register Tonnage and above would require retrofitting with an approved on-board ballast water treatment system, as the IMO BWM Convention took effect.

To be successful, Hanla NMT had to efficiently complete large numbers of customer orders. Korea accounts for approximately 55% of global BWTS business. All ships within the specification set by the IMO must be equipped with a BWTS by 2024.



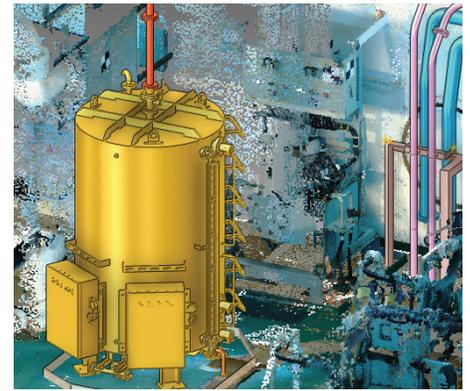
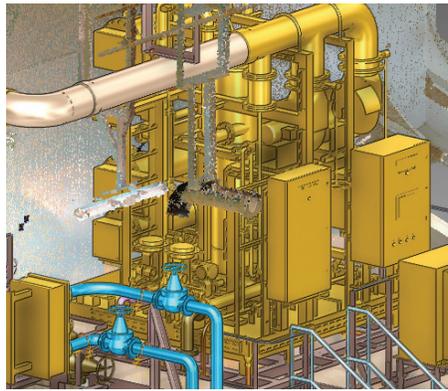
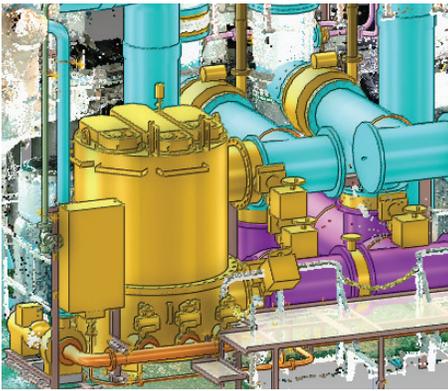
Building competitive advantage in a growth market

Hanla NMT's short-term goal was to offer BWTS retrofitting services to 150 ships per year, and more than 250 ships were expected per year as the retrofit process built momentum. This was a critical period in a market that only recently expanded to cope with this new specification. Competition among specialist solution providers such as Hanla NMT was intense in the early months.

Hanla NMT set out to raise its profile in the market and win business through cultivating a reputation for reliability and efficiency. As an essential part of ensuring that the company was as streamlined as it could be, Hanla NMT decided to eliminate unnecessary processes and drive optimum integration between its systems.

With integrated processes, the company could turn projects around more quickly. The team also wanted to avoid any duplication between the conversion of scanned as-built vessel data to 3D data and the drawing and modeling part of each project.

By streamlining the entire BWTS retrofit process, Hanla NMT would meet, both its customer requirement for rapid project completion, and its own objective to take on more customer orders.



The solution: making the complex become simple

Hanla NMT's integrated technical team leader, Heo Yong-Seok, explains the management decision process that led to their asking AVEVA to provide a proof of concept (PoC) to show alignment and integration of AVEVA E3D Design with Hanla NMT's existing working practices.

During the PoC, Hanla NMT found three aspects of the solution to be highly relevant to their process rationalisation requirements.

- **The use of point cloud modeling:** AVEVA E3D Design's modeling capability delivers 'real-world' representation quality, combining 3D graphics and laser scanning point clouds.
- **Handling point cloud data on drawings:** the 2D drawing capability is fully automated and integrated with the 3D model. The Trusted Living Pointcloud enhances the digital asset, providing a 3D, fully-synchronized representation for optimal asset intelligence.
- **Zero-clash modeling:** the integration with laser scanning point clouds for dimensional control in construction. Direct integration of laser scan data into 3D engineering tools boosts efficiency, minimizing on-site issues and helping deliver projects on budget and on schedule.

“We needed to demonstrate the efficiencies that AVEVA E3D Design could bring to the essential foundation process involved in any retrofit project: bringing scanned data into the drawing and modeling stage. Our designers needed to easily understand and adopt the processes involved in using AVEVA E3D Design before we could confidently change the way we worked. This change was necessary but we could not spend long periods of time testing, integrating and implementing.”

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Heo Yong-Seok,
Integrated Technical Team Leader, Hanla NMT





Working better together

Another important consideration for Heo Yong-Seok was to deliver solutions to the team that would inspire them, accelerating the way in which they could realize their creativity and insight on the screen in front of them. They should no longer be held back by a frustrating lack of high-quality data.

With a more motivated team and unnecessary design barriers gone, with better accuracy and higher-quality data from bringing scan information directly into the 3D model, Hanla was able to complete projects 30% more quickly. By using AVEVA E3D Design, Hanla NMT was in a strong position as the market for BWTS expanded.

“AVEVA E3D Design enables us to streamline the BWTS retrofit process, by handling laser scan point cloud in the 3D modeling, avoiding unnecessary work. We also found the solution easy to deploy, since AVEVA E3D Design does not require advanced workstations. All these factors gave us 30% IT savings compared to the previous system used for such work”

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Heo Yong-Seok,
Integrated Technical Team Leader, Hanla NMT

“While there were some issues in terms of saving costs of BWTS retrofit projects, there were also some job satisfaction concerns from our designers, mostly around the separation of disciplines caused by using two solutions suites and two specialist design teams. One program was for drawing and modeling, the other encompassed the conversion of scanned data to 3D data. Using AVEVA E3D Design, the team is now motivated by working with a fully-integrated solution that brings laser data and 3D models together and helps them work together efficiently.”

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Heo Yong-Seok,
Integrated Technical Team Leader, Hanla NMT