CASE STUDY: Hertel Group, Rotterdam, The Netherlands

PROFILE

Company: Hertel Group

Web site: www.hertel.com

Description: Hertel Group is divided into four business segments:

- **Industrial Services** – engineering, construction, maintenance, modification, and dismantling of existing plants
- **Power Services** – Maintenance service, process equipment manufacturing, and decommissioning of nuclear stations
- **Defense and Offshore** – Planning, manufacture, and installation of accommodation and supply modules and manufacture of blast-proof accommodations
- **Special Services** – Industrial sealants, industrial maintenance components, water supply systems, industrial insulation products, and rotating equipment servicing

Employees: 10,000 worldwide

Industry: Process, Power & Marine

Country: The Netherlands

KEY BENEFITS

- Digital documentation management
- Faster, higher-quality plant handover
- Lower maintenance expenses with enhanced plant performance
- Easier compliance with regional laws

PRODUCTS USED

- PICODA
- SmartPlant® Isometrics
- SmartPlant Spoolgen®
- SmartPlant Review
- SmartSketch

HERTEL GROUP PARTNERS WITH INTERGRAPH® FOR COMPREHENSIVE PIPING MANAGEMENT SOLUTION

Intergraph Piping Technology Delivers Cost Savings to Owners

IDENTIFYING GOALS

Since its founding in 1895 by Alexander L. Hertel, Hertel Group has grown from an industrial insulation contractor to a vanguard company with a full range of services in the field of industrial plant construction and maintenance. As an industry leader, Hertel has witnessed a growing need to greatly improve the methods, workflows, processes, and tools for the piping discipline throughout the entire plant life cycle.

Disparate systems were in place for all phases of field engineering, fabrication, erection, documentation, and maintenance. However, due to the absence of common standards for data formats, contents, and interfaces, conventional data handover between contractors was usually paper-based. This obsolete methodology resulted in additional work, documentation errors, and expensive mistakes – even in a "successful" handover.

Because many different document templates are typically created in the entire project life cycle, the process was also difficult to control for overall project management. As a result, traditional methods often caused higher project costs, sometimes engendering lost time and unsatisfactory quality. In the end, surrounded by an ocean of automation, handover data to the O/O mainly consisted of an island of paper documents. Hertel Group set out to change all this.

After an exhaustive search and benchmark process, Hertel chose and collaborated with Intergraph and a major German O/O to develop an integrated, digital project execution system as a common piping industry standard.

OVERCOMING CHALLENGES

- Deliver accurate digital piping documentation to the end customer (O/O) after the project
- Execute piping maintenance activities based on the digital as-built data from the last project using the same integrated system
- Provide digital as-built documentation to plant changes
- Reduce costs

REALIZING RESULTS

Despite the fact that "out-of-the-box" Intergraph products covered many specified requirements, some desired functionality was missing for the adaptation of the solution in Hertel's overall piping project execution – both in the project and operations phases. Hertel's

missing pieces related to such issues as quality assurance and on-site revision, progress, and change management; welding documentation; change and pressure circuit management; and spool progress.

After two years in development, Hertel tested the system in live revamp and turnaround projects. Positive project experiences and excellent customer feedback prompted Hertel to also implement this concept for maintenance. Thanks to this innovative, comprehensive software solution, substantially better documentation can be handed over to owners on-site.

Hertel experienced a variety of benefits in the pilot phase, including:

- Digital documentation handover according to industry standards (PED and ANSI)
- Digital execution of all piping management processes during engineering, fabrication, erection, startup, documentation, and maintenance
- Increased effectiveness and profitability in projects and maintenance
- Excellent support for quality assurance and logistics systems
- High flexibility
- Integration with every established 3D system (ISOGEN®-based), all plant visualization systems, and laser scanning technologies
- Different output formats – SmartSketch®, MicroStation, and AutoCAD
- Potential to be an industry standard – thousands of companies worldwide use ISOGEN

Hertel and Intergraph entered a cooperative contract in which Intergraph took control of this solution, comprised mainly of PICODA (Piping Controlling Database), SmartPlant Isometrics, and SmartPlant Spoolgen. The solution is actively developed and offered worldwide as an industry-leading solution within the framework of a cooperative agreement between Hertel and Intergraph. Thanks to its flexibility, the innovative system technology can be implemented anywhere.

Whether for small repair orders in the maintenance phase, a major modification, or a greenfield project – the new piping technology always provides the same quality of digital as-built documents. The documentation is automatically generated out of the piping management system based on proven data. Piping data are continuously verified in terms of integrity, completeness, and correctness in the course of design, fabrication, erection, startup, documentation, and maintenance.

MOVING FORWARD

Numerous ideas for improvement are continually being incorporated from a variety of Hertel personnel, including construction and project managers, cost calculators, and accountants. This kind of knowledge helps meet the O/Os' quality requirements, increases Hertel's efficiency, and enhances Intergraph's solutions. This, in turn, generates valuable competitive advantages for all involved.

ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph PP&M provides enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

For more information, visit www.intergraph.com.

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Mr. Sadus is responsible for the development and implementation of integrated piping engineering systems, including installations of digital workflows for piping design, fabrication, erection, and documentation for project and maintenance construction sites at Hertel-Enning, Germany. He is also a member of Processnet Task Group "Pipes, Valves & Pumps" and "Computer-Aided Plant Design."