



FACTS AT A GLANCE

Company: Toa Industries

Website: www.toa-inds.co.jp

Description: Founded in 1945, Toa Industries provides engineering services related to plant construction across a range of industries

Employees: 360

Industry: Chemicals & Petrochemicals; Marine & Offshore; Metals & Mining; Oil & Gas; Power

Country: Japan

PRODUCTS USED

- EYEPIPE®
- EYESUPT®

KEY BENEFITS

- Reduction of conflicts and more accurate drawings
- Improved piping design and construction
- Reduced construction schedules
- Easy to learn and operate

EYECAD® BOOSTS CONSISTENCY AND EFFICIENCY FOR TOA INDUSTRIES

3D design tool improves accuracy for Japanese engineering company

IDENTIFYING GOALS

For 70 years, Toa Industries, Ltd. (Toa Industries) has provided high-quality plant engineering services to customers across a range of industries, including:

- General engineering and consulting services
- Facility and equipment design, production, procurement, and sales
- Equipment installation
- Facility operations and maintenance

Its clients range from some of Japan's leading owners, through to large and small engineering, procurement, and construction (EPC) companies.

In order to deliver the highest quality of services to its clients, Toa Industries is committed to striving for consistency between design and construction. This, in turn, minimizes costly on-site rework and delays.

OVERCOMING CHALLENGES

Toa Industries selected two products in the Intergraph® EYECAD® range of 3D plant design tools as part of its commitment to consistency: piping design tool, EYEPIPE®; and piping design support system, EYESUPT®.

"We selected these EYECAD products for several reasons," according to Seichi Kobayashi, engineering manager at Toa Industries. "They are the best tools on the market to ensure consistency between design and construction, and Intergraph also provides well-maintained documentation and exceptional support, which ensures ease of operation."

Once these two products had been implemented in the business, Toa Industries had three additional goals:

- 1. Ensure consistent quality of deliverables, without long term training and experience:** To address this requirement, Toa Industries created a 132-page manual of 3D design standards, which all staff were required to read and sign before starting any job. The first chapter of this manual outlines basic work standards, while the second chapter onwards outlines the detailed design standards relating to AutoCAD® design systems, equipment, building frames, piping layout and support, assembly, spool drawings, and review of deliverables.

2. **Optimize training for new and existing users:** To avoid users encountering similar problems to each other, Toa Industries staff have regular meetings to share information and improve design quality.

3. **Minimize design work when EYECAD data is used for a proposed weldless methodology:** Toa Industries has introduced Greenlee AutoBend 3D, which automates the process of bending the piping elbow by setting the specification of high-frequency wave bend equipment to EYECAD. This allows the easy implementation of weldless methodology, resulting in a reduction of weld quantity of approximately 25 percent dia-inch.

REALIZING RESULTS

Toa Industries has recognized three distinct benefits to the implementation of EYECAD and subsequent project to optimize usage:

1. Reduction of conflicts and more accurate drawings
2. Improved piping design and construction
3. Reduced construction schedules

The solutions are also incredibly easy to learn and use, according to Kobayashi.

"Staff members only require one week of initial training, followed by ongoing on-the-job training," he said. "Standardization on EYECAD has made things easier for all our designers - from beginners through to the most experienced staff."

MOVING FORWARD

The project to achieve standardization of design is an ongoing one for Toa Industries. The training materials will be updated constantly to reflect the requirements of new jobs, and reviewed regularly for accuracy and currency.

The company also plans to purchase Intergraph's EYELIST® materials management solutions and Spoolgen®, which is used to create piping isometrics.

KEY CONTACT

Kiyotaka Kuroda, Intergraph PP&M

+81 45 640 1193

kiyotaka.kuroda@intergraph.com



Toa Industries staff learning how to use EYECAD solutions

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