



### FACTS AT A GLANCE

**Company:** CosmoTechnica Corporation

**Website:** <http://cosmot.co.jp>

**Description:** Established in 1983, CosmoTechnica Corporation (CosmoTechnica) is a leading Japanese design company that specializes in the design of chemical plants. Rather than a focus on sales, the company is built on its deep relationships within the industry and business development.

**Industry:** Chemical

**Country:** Japan

### PRODUCTS USED

- EYEPIPE®
- EYEVIEW-LT®
- EYExport3D®
- EYESUPT®

### KEY BENEFITS

- Automatic clash check between piping (including insulated), equipment, structural, ducting, and maintenance room
- Quick and easy production of piping spool drawings and bills of materials (BOMs)
- Greater consistency between piping drawings, spools, and BOMs
- Piping route issues can be easily located and checked

## COSMOTECHNICA DRIVES 3D PRODUCTIVITY WITH INTERGRAPH® EYECAD®

**3D plant design software aids in the design of chemical plants**

### IDENTIFYING GOALS

CosmoTechnica is a Japanese design company that specializes in the design of chemical plants. Since its establishment in 1983, the company has witnessed the transition from traditional pencil-and-paper engineering drawings, to 2D Computer-Aided Design (CAD), to 3D CAD, which is widely used today.

The transition to 3D CAD has been a rapid – and recent – one, and today 3D CAD jobs make up 70 percent of CosmoTechnica's business. 3D CAD has several advantages over 2D CAD, including improved design quality and greater accuracy, which reduces the need for costly on-site modifications when the plant is operational.

To cope with the demand for 3D-CAD, CosmoTechnica implemented Intergraph® EYECAD® 3D plant design system in 2007.

### OVERCOMING CHALLENGES

In the move from 2D CAD to 3D CAD, CosmoTechnica was able to address successfully the challenges outlined below.

#### Reconsideration of design check items

2D CAD design checklist items were analyzed and some new items were added for 3D CAD, helping to minimize errors. The checklist covers Piping Material Standard (PMS), equipment (nozzles), structure (parts – material and placement), piping (flow or clash), spool (final step or overall piping), and assembly (overall efficiency of parts).

#### Retraining of designers

Retraining designers in 3D CAD can be a complex undertaking, given the vast amounts of information available. CosmoTechnica found that the use of manuals and face-to-face training with an expert were ultimately unsuccessful in this task. Instead, EYECAD was used to produce a series of training videos – so designers could learn at their own pace – and the response was excellent. 11 videos have been produced so far on a range of topics related to 3D, and some have even been made available for external use on the company's website.

## Complex sanitary piping

Sanitary piping in chemical plants often involves complex and unique parts. Additionally, some areas are steep and it can be difficult to produce a 3D model of those areas when adding the model input load and joint between parts.

However, CosmoTechnica discovered that EYECAD handled the modifications and special considerations required of sanitary piping with ease.

## REALIZING RESULTS

CosmoTechnica quickly discovered that EYECAD's various features helped to reduce project work hours and costs, and provide better results for the customer.

"EYECAD allows our designers to review the design visually and address issues at an early stage, which has increased our overall productivity," said CosmoTechnica President, Kazuo Oshiro.

In particular, Oshiro singled out the following features as being particularly useful:

- Quick and easy production of piping spool drawings and BOMs.
- Greater consistency between piping drawings, spools, and BOMs.
- Piping route issues can be easily located and checked.

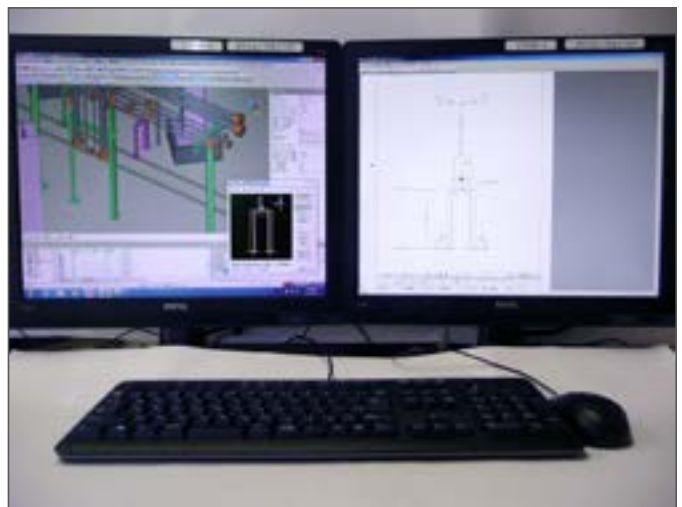
"EYECAD is the ideal solution for projects that involve high-pressure pipelines in chemical plants – it's a must-use to minimize on-site design modifications," said Oshiro.

CosmoTechnica also implemented piping support design solution EYESUPT®. Previously, the design team used EYECAD for detailed design and 2D CAD for piping support design. However, many customers reported on-site conflicts between piping and piping supports after the completion of construction. EYESUPT virtually eliminated these conflicts.

## MOVING FORWARD

Going forward, CosmoTechnica plans to focus on the design of piping support with EYESUPT and also on the production of additional training videos for its staff. The company is also in the process of evaluating another Intergraph product, leading pipe stress analysis software CAESAR II®, and will implement the solution if a new contractor requires it.

"Given our positive experience with Intergraph software and support to date, we expect that EYECAD and CAESAR II will integrate seamlessly," said Oshiro.



3D model and its drawing produced from EYESUPT

## ABOUT INTERGRAPH

Intergraph helps the world work smarter. The company's software and solutions improve the lives of millions of people through better facilities, safer communities and more reliable operations.

Intergraph Process, Power & Marine (PP&M) is the world's leading provider of enterprise engineering software enabling smarter design and operation of plants, ships and offshore facilities. Intergraph Security, Government & Infrastructure (SG&I) is the leader in smart solutions for emergency response, utilities, transportation and other global challenges. For more information, visit [www.intergraph.com](http://www.intergraph.com).

Intergraph is part of Hexagon (Nordic exchange: HEXA B; [www.hexagon.com](http://www.hexagon.com)), a leading global provider of design, measurement, and visualization technologies that enable customers to design, measure and position objects, and process and present data.

