

ECOPHOS INDUSTRIAL SERVICES, BELGIUM

Key Facts

Company: Ecophos Industrial Services

Website: www.ecophos.com/industrial-services

Employees: 120

Industry: Process, chemical & petrochemical, pharmaceutical, synthetic materials processing, energy distribution, automotive, metal

Country: Belgium

Products Used:

- CADWorx® Plant Professional
- CAESAR II®
- OrthoGen

Key Benefits:

- 40% time saving on creating permit layouts
- Ability to generate deliverables (i.e. BOMs, layouts) automatically

ECOPHOS INDUSTRIAL SERVICES SAVES 40% OF TIME IN CREATING PERMIT DRAWINGS

The engineering and project services company within Ecophos group improves engineering efficiency with CADWorx® & Analysis Solutions

Ecophos Industrial Services is the engineering and services company within EcoPhos, a world leading solution provider of technological solutions for the major challenges of the phosphate industry.

IDENTIFYING GOALS

Within the Ecophos group, a world leading provider of technological solutions for the phosphate industry, Ecophos Industrial Services offers engineering and project services, both for Ecophos' internal projects and external customers. Ecophos group is also an active industrial producer of phosphate products for the animal feed business and a distributor of related animal feed ingredients, carrying these operations under the Aliphos brand.

Ecophos Industrial Services had recently designed and built a new plant for Aliphos in Dunkirk, France. The facility produces up to 220,000 tons of animal feed grade phosphate. Ecophos Industrial Services' most recent goal was to update the existing permit drawings to create an as-built permit dossier, that subsequently would save plant personnel time during future maintenance projects. The company needed a software solution that would automatically generate new permit layouts when changes to the model occurred.

OVERCOMING CHALLENGES

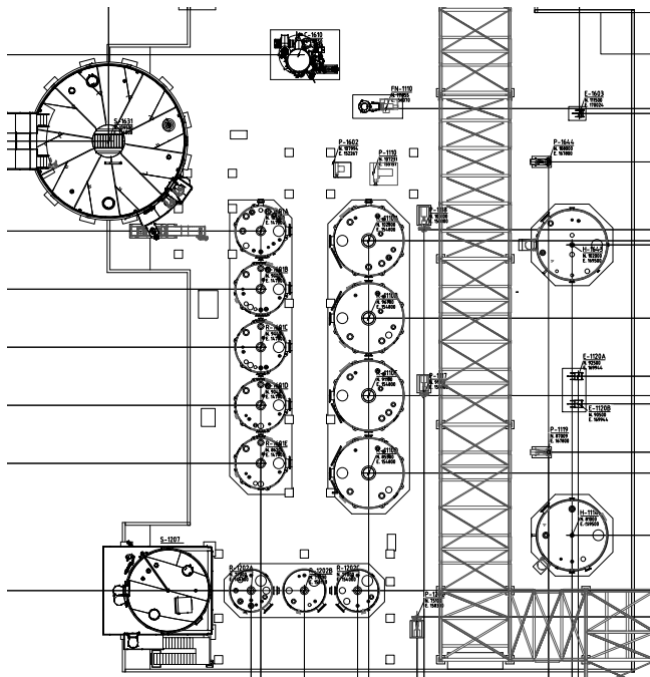
One of the key challenges for the project was the tight schedule: Ecophos Industrial Services was expected to deliver the new drawings within one month. To meet the short deadline, Ecophos Industrial Services decided to standardize permit drawing layouts to ensure that all the deliverables would be automatically up to the standards of both the client and Ecophos Industrial Services.





A picture of the new Aliphos Dunkirk plant, taken with a drone during construction.

CADWorx & Analysis Solutions, more specifically OrthoGen, were chosen for the project to reduce time needed for producing the drawings. Being quick to implement, learn and configure, Ecophos Industrial Services were able to start creating permit drawings from their 3D models just two weeks after purchasing OrthoGen.



A top view from the "permit layout", created with OrthoGen.

REALIZING RESULTS

During the Aliphos Dunkirk project, Ecophos Industrial Services used CADWorx & Analysis Solutions for design, piping, mechanical and structural design as well as for stress calculations. CADWorx Plant Professional was used to design all the piping in 3D, which gave both Ecophos Industrial Services and the client a total overview of the project.

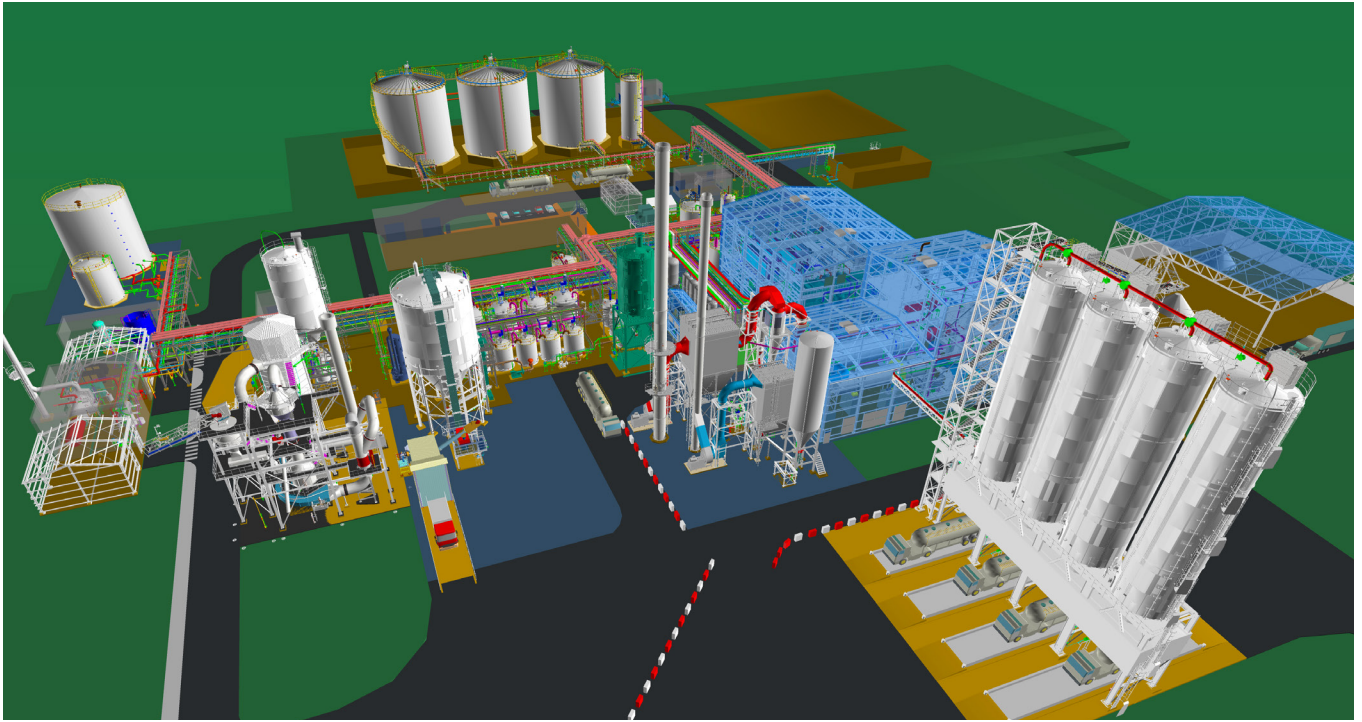
During the design, Ecophos Industrial Services could extract all the necessary data, such as bills of materials, isometrics, layouts, etc. for price inquiries, construction and as-built dossiers.



CADWorx offers a true WYSIWYG solution. All the components that are created with CADWorx already have all the required information to construct these components, saving user's time. We estimate that we've saved around 40% of time by using OrthoGen."

Dhario Pibiri

3D Engineer, Ecophos Industrial Services



A view of the Aliphos Dunkirk plant's 3D model.

Ecophos Industrial Services also used CADWorx Equipment to design all the equipment in 3D. With CADWorx, Ecophos Industrial Services could easily introduce and add the required CADWorx intelligence when receiving 3D equipment models from external parties.

CADWorx Structure was used to design all the structural steel items, such as platforms, secondary steel and pipe racks. Having this information available in 3D enabled Ecophos Industrial Services to avoid clashes and improve project efficiency.

Ecophos Industrial Services used CAESAR II to calculate and analyze the pipe stresses. As the software is compatible with the CADWorx suite, pipelines were exported from CADWorx directly to CAESAR II and back to CADWorx to update the 3D piping model post-analysis, which saved time and helped to avoid mistakes.

For the creation of the as-built dossier, the first step was to create drawing styles in accordance with Ecophos Industrial Services' company standards, which were used to automatically generate orthographic drawings. The company started with the style configurations provided as part of the OrthoGen software, and adapted these to meet both their internal requirements and the client's specifications. Ecophos Industry Services created multiple varied views of the plant on their drawings, and automatically generated layout information per view.

The final step was to check the dimensions and tag numbering of the permit drawings and finish them by adding some additional information manually. Previously,

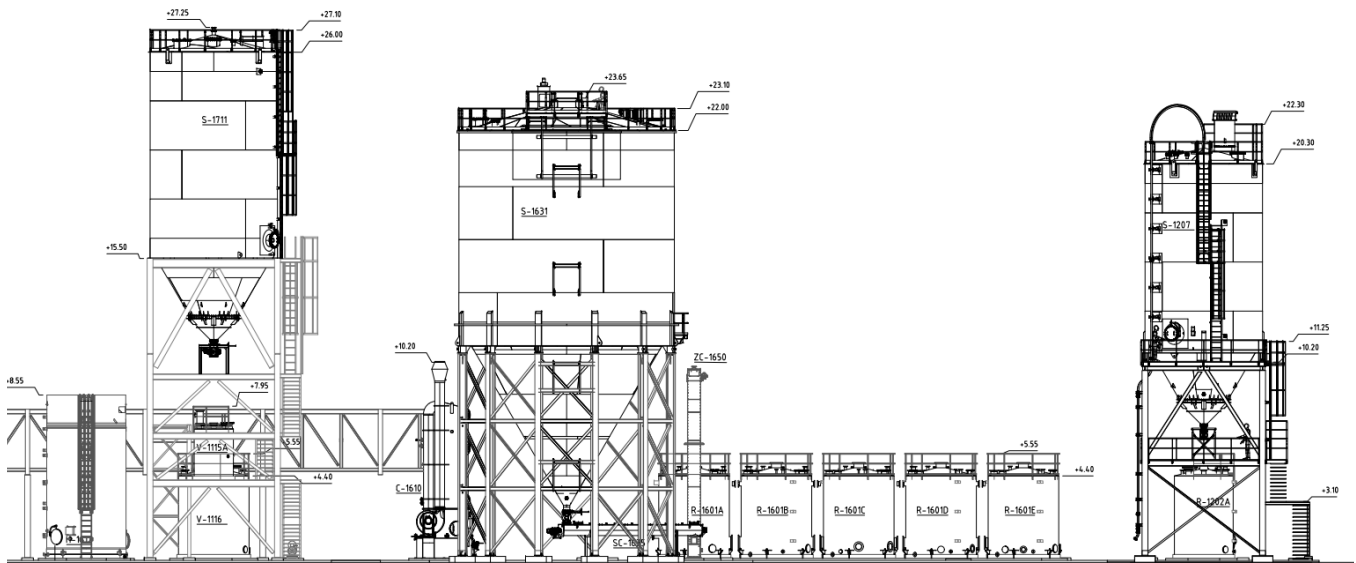
the layouts were created by taking snapshots of the 3D plans, but as these could not be edited, the process involved an excessive amount of redrafting work.



A rendered view of the 3D model showing some details such as piping, equipments, steel structure, supports and secondary steel that's created with CADWorx.



The Aliphos Dunkirk plant in 3D vs reality.



A picture of the new Aliphos Dunkirk plant, taken with a drone during construction.

MOVING FORWARD

One of the key benefits realized during the project was substantial time savings provided by different features of the Hexagon PPM solutions.

Firstly, multiple disciplines were able to work simultaneously as data could be exported between different project phases and disciplines.

Secondly, the ability to design the basic study phase in 3D lessened the time needed for design later whilst the ability to automatically generate and update deliverables (such as isometrics, bills of materials, layouts) improved efficiency by cutting down the time needed for redesign or fixing errors.

When asking about using CADWorx & Analysis Solutions during the project, Dario Pibiri, 3D engineer at Ecophos Industrial Services commented: "CADWorx offers a true

WYSIWYG solution. All the components that are created with CADWorx already have all the required information to construct these components, saving user's time. We estimate that we've saved around 40% of time by using OrthoGen and that we'll continue to save around 25% of time for any similar project in the future as we've now created the company standards."



OrthoGen was chosen for the project to reduce time needed for producing the drawings and Ecophos Industrial Services were able to start creating permit drawings from their 3D models just two weeks after purchasing the solution."

ABOUT HEXAGON PPM

Hexagon PPM (formerly Intergraph Process, Power & Marine) is the leading global provider of engineering software and project control solutions. We transform unstructured information into a smart digital asset, empowering our clients to visualize, create, and manage the life cycle of facilities and structures of all complexities. For more information visit HexagonPPM.com.

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