CASE STUDY

Engineering contractor successfully creates process deliverables on a tight schedule using Facets P&IDWorx

Key facts:

Company: Ludan Engineering

Website: www.ludan-group.com

Industry: Power & Utilities

Country: Israel

Octave products used: Facets P&IDWorx *(CADWorx P&ID Professional)*

Key benefits:

- Easy customization
- Quick start-up
- High usability
- High flexibility
- Comprehensive tool set

Ludan Engineering is a multidisciplinary engineering organization based in Israel. It contracts EPC (turnkey) projects and provides EPCM services for industrial projects worldwide, including technological solutions, engineering, scientific regulatory and strategic consultancy, for the private and public sectors.

Identifying goals

Ludan Engineering was involved in a basic engineering project of a new wastewater treatment plant in Russia. As one of the most diversified providers of integrated solutions for industrial development and plant optimization in Europe, the company was in charge of the engineering project. Multiple advisory and design teams from around the world participated in the project, while Ludan Engineering was responsible for integrity of the final deliverables to the client.

The project had a very tight schedule, and the time between receiving the information from partners to the delivery of final documents to the client was extremely short. This required the use of very powerful design tools with high customization flexibility to incorporate the client's format requirements. Ludan Engineering decided to use the Facets P&IDWorx tool set. Before this project, Ludan Engineering used AutoCAD® as its standard tool.

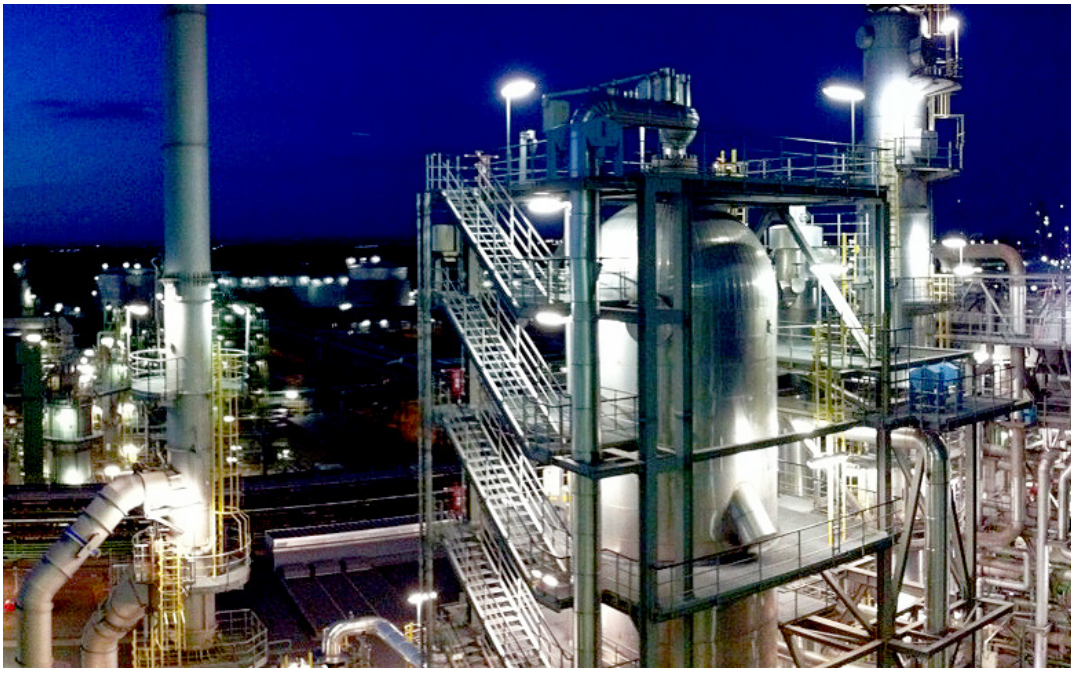
Overcoming challenges

The client sent extensive procedures for document numbering, as well as for the tagging of equipment, lines, valves, fittings and instruments, plus the required drawing symbols and line patterns – all of which are available in PDF. Thanks to extremely easy customization functionalities, all of these symbols and line patterns were defined in Facets P&IDWorx with little effort from the drafters' side. All deliverables in this project were bilingual in Russian and English. The flexibility of Facets P&IDWorx enabled the project to have equipment descriptions in both languages that were shared in Process Flow Diagrams (PFD), Piping & Instrumentation Diagrams (P&ID) and Instrument Datasheets and Equipment List.

To shorten the design time, each participating advisory team worked in its own document and drawing formats. The simple and transparent database systems provided by Facets P&IDWorx made it easy to incorporate incoming materials into the solution's database.

"The benefits of the tool were very apparent from the beginning and included easy customization - no programming skills are required. "

Boris M. Solovyev, Ph.D.
Senior Process Engineer,
Ludan Engineering



Realizing results

Facets P&IDWorx allowed Ludan to work smartly at any design stage. The interface made it possible to define equipment items in block diagram and then use these definitions later during the PFD and P&ID design stages. The interface facilitates the definition of equipment items through a block diagram. This defined information becomes valuable in subsequent stages of design, particularly in the creation of PFDs and P&IDs. Moreover, users have the option to pre-define equipment in a database prior to drawing creation. Subsequently, this pre-existing database data can be seamlessly incorporated during the drawing creation process.

The drawing creation process automatically generates the project database behind the drawing elements. However, the flexibility of the Facets P&IDWorx allows users to repeatedly unlink and link back the drawing elements to and from the database with a simple click. In other words, it's possible to use Facets P&IDWorx as ordinary AutoCAD as well as the universal drawing creation tool. Many experienced AutoCAD users will like the lisps and macros provided by Facets P&IDWorx.

For novice users, Facets P&IDWorx is easy. The solution works with the following three external database formats: Microsoft Access®, SQL® and Oracle®. Facets P&IDWorx allows users to add custom created database tables at any project design stage and repeatedly link and unlink any drawing element to these tables. This database customization is extremely easy to perform and doesn't require the user to possess any previous special database knowledge or programming skills.

Thanks to live bi-directional links to a database, the company can easily integrate Mass & Heat balance tables presented in Block-Diagram/PFD with the calculated results from HYSYS®, CHEMCAD™ or PIPENET®. And with the ability to store the coordinates of each drawn element in the database, it's possible to generate the PIPENET input file based on the AutoCAD drawing.

Boris M. Solovyev, Ph.D. Chemical Engineering and Senior Process Engineer at Ludan Engineering explains, "It's possible to work 'smart' from the Block Diagram project stage and a very full tool set:

- Datasheet module
- Internet publisher
- Data inheritance
- Piping specifications, control, etc.

Time savings can also be significant, depending on the type of project. For instance, if the project has multiple instruments and control loops, the Instrument Index is generated automatically with the P&ID progress, as well as equipment and instruments datasheets. This case corresponds to 90% time savings, in comparison to the conventional instrument and equipment data filling. If the project is drawing creation itself, for an AutoCAD novice user, Facets P&IDWorx can save 50% of time."

Facets P&IDWorx also proved itself as a great conversion tool of ordinary AutoCAD drawings to intelligent ones, incorporating all available project documentation: data-sheets, equipment and lines lists, etc.

Moving forward

Ludan Engineering is broadening its project portfolio and has used Facets P&IDWorx in nine projects and plans to further standardize the use of the tool in its increasing portfolio. In the near future, the company also plans to train 15 staff members to use the tool. Thanks to its Facets P&IDWorx success, the company will also be looking into other solutions in the Forte 3DWorx design suite (formerly CADWorx Plant Design Suite).

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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