


Skid Design benefits from Smart Integrated CADISON System

Improved Digitalization and Change Management





ENPRO, a leader in the design and manufacture of mechanical fluid systems and process equipment, has chosen the CADISON software suite as its Engineering Deliverable Management System. With the help of CADISON, ENPRO expects to see a 40% reduction in plant design time, significantly improving its competitive strength.

By Dr. Bernhard D Valnion

Like many forerunners, the renowned Indian company, ENPRO Industries Pvt. Ltd. had embarked on a comprehensive digital transformation journey, which got accelerated due to the global pandemic situation. To improve its order fulfillment timeline, the ENPRO Industries extensively implemented the CADISON engineering suite provided by ITandFactory (a Neilsoft company), headquartered in Bad Soden, Germany. “Smart Spec-driven P&ID capabilities with tight integration of P&ID and 3D model design, and an extensive library of components were key differentiators of CADISON compared to other engineering software products,” says Anuj Karkare, Executive Director with ENPRO, stressing the pros of the new engineering suite.

ENPRO stands for ‘enduring promise’ – and this is not a vague statement of intent. ENPRO has different fields of expertise much appreciated by its clients: manufacturing of mechanical fluid systems and process equipment, corresponding engineering services needed to address end-to-end engineering deliverables in order to eliminate time delays and cost overruns during project processing. The Group operates successfully in a highly competitive business environment with challenging expectations. It is a world leader in design and manufacture of mechanical fluid systems for oil &

gas, power, fertilizer, and chemical industries — over 4000 mechanical fluid systems have been commissioned in over 50 countries worldwide (export rate is over 70%). The firm focuses on all kinds of skid-based systems like lube oil consoles, gas-seal panels, and chemical injection skids. Generally speaking, skids are massive assemblies consisting of a lot of components and interconnecting piping. The design is driven by specifications based on the project requirements. “We were looking for software specialized to deal with our skid design activities” as Mr. Karkare explains. Since as detailed as big plants, but on a small footprint, clash-free piping and tube routing is crucial for skids. “This is an area in which we found that CADISON has outstanding capabilities,” e.g. with its 3D Designer module, the reusability of components is supported by a comprehensive library. “In the past, we were using AutoCAD to generate P&IDs and Autodesk Inventor for 3D modeling. However, the P&IDs were not ‘smart’ in the sense that they were not referenced to the corresponding 3D models, leading to many miss-outs and errors when there were revisions. Moreover, the generation of isometrics was very time-consuming while documentation was generated manually and prone to error,” says Mr. Karkare, recalling the situation before CADISON had been introduced.

Each of the projects comes with a different set of challenges, such as different kinds of complexity due to variations and requirement changes from clients during skid manufacturing. Therefore, end-to-end revision management capabilities were mandatory when it came to choosing a new engineering package. It was also important to consider existing employee skill sets and the current engineering environment. To overcome the challenges at various levels of the involved decision-makers, key requirements of ENPRO were:

- It should be a Spec-driven solution
- It should help to perform spatial optimization within the skids
- It should have ability to Re-use and Modify existing skid designs
- Easy and transparent change management - right from the concept phase to commissioning

CADISON, with its object-oriented approach and all information that is stored in a single database, offers tight integration of P&ID and 3D model design, a massive library of components and a project document management system (with the Project Engineer module) – all seamlessly integrated in the same solution.

Mr. Karkare adds that the ITandFactory/Neilsoft team had been extremely supportive in helping to create the library of components and piping specifications, saying: “There were quite a lot of default objects in the provided library. With the help of the ITandFactory/Neilsoft team we created many new objects – representing very supplier specific designs. The entire configuration & implementation took only close to six months. This timeframe is required to get the software and library customized

and configured correctly. The support team continues to assist us with all our queries, doubts and suggestions – be it minor or major. We are expecting further efficiency improvements in our design process and a lot of mistake-proofing.”

Ongoing digital journey with CADISON

The Executive Director leaves no doubt that ENPRO is ‘just scratching the surface’: “CADISON offers a lot of features & modules which we are yet to explore, and we are looking ahead to a fruitful partnership with ITandFactory/Neilsoft in the future.” One of the declared goals is to increase step by step the footprint of offered value chain with the help of CADISON. Around 60 to 70 projects are processed every year – rising tendency.

The business-aligned implementation of the engineering suite also helps to meet requirements from Bureau Veritas comprising ISO 9001:2015 for Quality, BS OHSAS 18001:2007 for Health and Safety and ISO 14001:2015 for Environment Management, with which ENPRO has been certified.

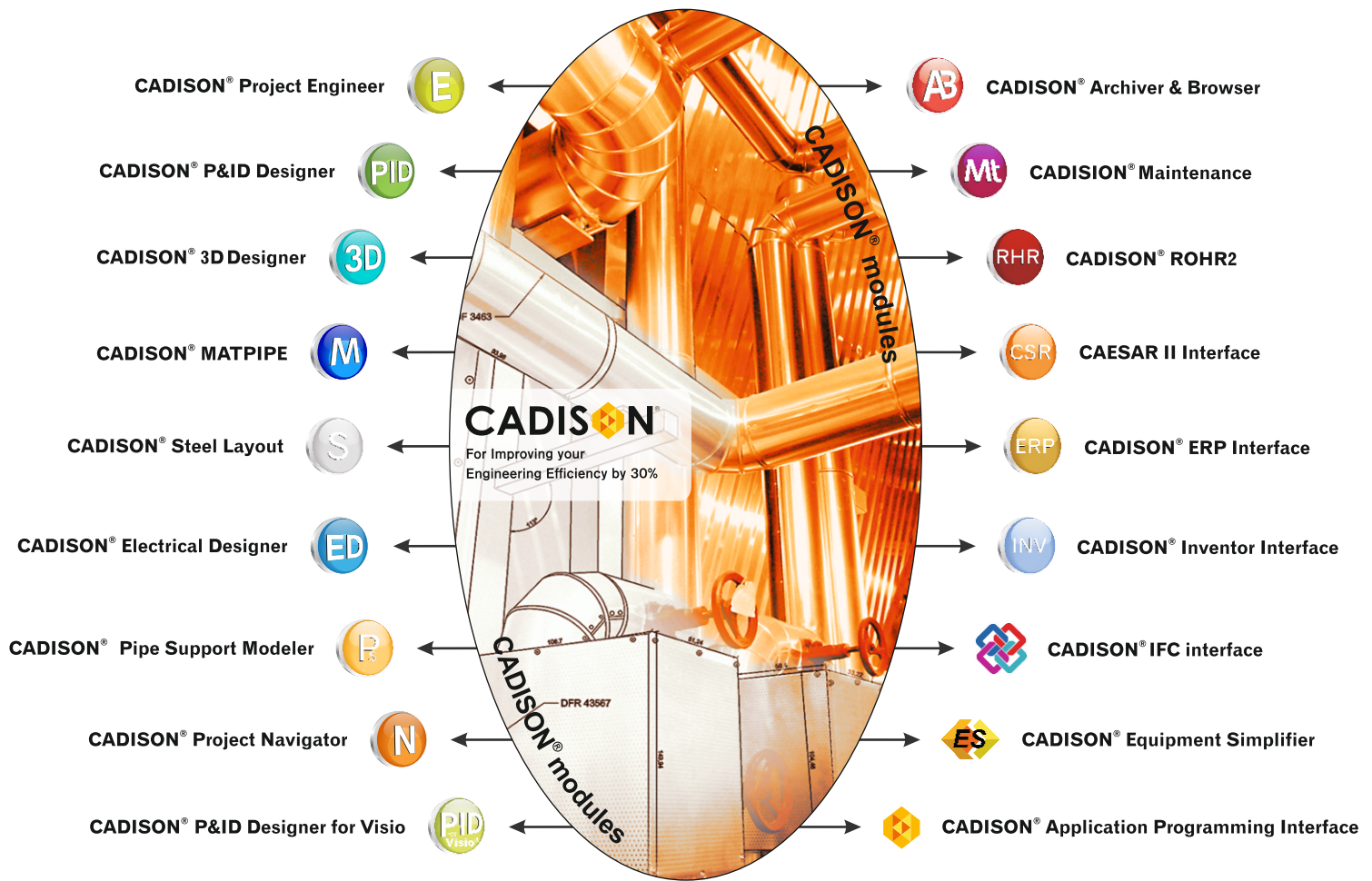
“In future, we will extend the usage of CADISON to integrate with our ERP and Project Lifecycle Management System (Microsoft Project). We will also comprehensively apply CADISON for Proposal generation and Cost monitoring. Over time we expect our CADISON usage to bring about efficiency improvements of 60% in our engineering / documentation / ordering activities,” Mr. Karkare says. The Executive Director also assumes that the change management will be noticeably simplified and thus more transparent.

“The time now taken to create a 3D model, drawings and reports has been drastically reduced. With the help of CADISON, we expect to see a 40% reduction in design times for our skids and drastically reduce errors at the same time,” Mr. Karkare says emphatically.



Mr. Anuj Karkare
Executive Director

CADISON® Modules



CADISON is a fully Integrated Multi-disciplinary Engineering Solution that combines the entire engineering workflow in one system and unites engineering data & graphics (schematics & 3D), to deliver the latest updated information of the project in all views across all disciplines.

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