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CADISON® WORLD

EXPERIENCES & NEWS

The Magic of Data-Driven Engineering

Enhancing Collaboration and Consistency in Plant Design

NEW SmartShare Hub

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Dear CADISON Customers,

Welcome to the **CADISON International Conference 2024!** Our theme for this year is 'The Magic of Data-Driven Engineering'.

CADISON, with its unique and visionary Object-Oriented Database architecture, is an intelligent & integrated rules-based solution that enhances efficiency & quality with reduced costs. Be it seamless P&ID-3D synchronization, data reusability across various modules & disciplines, integration with other enterprise applications; users can perform real Engineering work coherently as against Drafting with traditional CAD systems. All of which seems just like magic!

We're excited to announce our latest magical product, '**SmartShare Hub**', an intelligent data viewer with review, search, & mark-up functionalities for both P&IDs and 3D models. With plug-ins available for Plant 3D and Revit, SmartShare Hub sets a new benchmark for world-class collaboration framework.

To further enhance collaboration, in addition to Citrix, CADISON can also be deployed in the Azure environment. Some of our customers have already implemented it successfully.

We are thrilled to share our strategic partnership with Rösberg. Together, we will be able to provide solutions for your integrated process & automation needs. Furthermore, as a founding member of the DEXPI industry forum, ITandFactory continues to drive standardization of P&ID interoperability alongside other industry leaders. Also, Security continues to be a key focus area, and we've implemented various initiatives to ensure robust data protection within ITandFactory and across our solutions.

In the past 12 months we've grown our global presence, adding new customers in Greece, Romania, Slovakia, Libya, Ireland, and Mali, expanding our customer base to 39 countries. Our teams, Globally and in DACH, have also grown in line with this expansion.

Looking ahead, we are beginning our foray into the Japanese market with launch of Japanese version of our E&I Electrical Designer by the end of November 2024. We have appointed a new representative in Saudi Arabia and have established a new 'Neilsoft Major Accounts Team' to further drive CADISON in the US, Europe and India markets. Additionally, we plan to setup new offices in Munich and Eastern Europe to better serve our European customers.

Sincerely,
The CADISON Executive Team

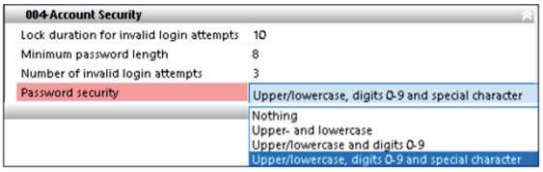
Highlights of CADISON R24 - Enhancements

The CADISON R24 continues to take you towards the Magic of Data-Driven Engineering, by enhancing the collaboration and consistency in Plant Design. This version boosts the usability enhancements, driven by insights from industry leaders, Key-user feedback and requests for enhancements, followed by the analysis of requests by CADISON teams, and the usability fixes for issues received through the CADISON Helpdesk.

Security and User Management

The security for CADISON database access has been improved with industry standard practices. Now CADISON R24 supports strong passwords and temporary lock of user accounts for data security:

- CADISON Admin can create strong passwords for users with minimum length and required complexity of a password by entering upper and lower case, numbers and special characters
- Define the number of invalid login attempts and the duration of temporary blocking of user accounts



Database Security

CADISON R24 optionally comes with an updated database engine where it is possible to encrypt communication between the client systems and the CADISON database server. With the updated database engine, a TLS 1.3 based encryption can be enabled, so that all the data which is transferred between the database server and the client system is encrypted.

New Installation for CADISON Server and Clients

The CADISON setup has been redesigned to ensure easier installation in larger environments.

- **Client installation**: The client setup now installs only the files which are required to run the CADISON applications and to connect to the CADISON data server
- **Server installation**: The server setup installs all files; Domain Data components and applications which are relevant for a CADISON data server and used from the server directly

CADISON R24 – A Short List of New Features and Enhancements

- Automatic loading on AutoCAD linetypes while loading MPL Styles
- Converting polylines to MPL elements - to convert polylines into CADISON MPL elements
- Changed behavior when connecting signal lines
- Retaining the object status when copying a Process way in Process Documentor
- Support to Export of custom Architectural Desktop (AEC objects) to GLB / 3D PDF
- Separate layer for insulation and collision geometry setting for Bended pipe
- Use of SAVEAS for drawing (duplication) with elements from Inventor / CAD import
- Enhancements to check the objects on Off and Frozen layers during IFC export
- PDF generation uses bookmarks for multi-page PDF files from AutoCAD drawings
- Automated shutdown / termination of inactive-open CADISON applications for Server data backup using ITFTOOLS
- CADISON Web Review - Added support for redlining of Isometric drawings and GA layouts
- Importing PDF comments with multiple replies attached to the same review comment

Get the CADISON R24 and Explore more - 150+ new enhancements in this release.

NEW !

Introducing SmartShare Hub: Design Review, Markup & Collaborate your Design Intent

At ITandFactory, we understand the challenges engineering teams face when managing complex Plant Designs and coordinating between various stakeholders. Fragmented workflows, limited accessibility, and the need for expensive CAD or other design review tools for simple tasks like review or mark up of designs are some major hassles. These issues can significantly slow down project timelines and lead to increased costs.

That's where our latest solution, '**SmartShare Hub**', comes into play. Designed to streamline and improve collaboration for Autodesk Plant3D / Revit / CADISON users, it enhances how teams review and markup 2D / 3D Designs. SmartShare Hub offers an all-in-one solution to generate & share lightweight format redlining 2D Schematics and 3D Models containing geometry as well as metadata linked to the source drawings. It allows to perform real-time markups, and seamlessly communicate with stakeholders.

SmartShare Hub

Web Based Viewer

Enable users to view drawings and models in any Internet browser on any device, add annotations and comments. Thus, eliminating the need for expensive CAD or design review software

Search and Filter

Users can search for objects by using data, like tag number, nominal size, etc. They can also filter the data of all components shown in a drawing

Measure

Users can measure distances, diameters and angles within 3D models and add comments, which can be imported back into the source CAD system

PDF Markup

Ability to generate PDF files directly from CAD systems for redlining. Users can annotate these PDFs with any pdf viewer like free Acrobat Reader, and the redlining comments can be imported back into the CAD systems, where they are extracted, stored, and made visible in the drawings

Web Markup

Allows users to create redlining comments in the web viewer itself and import them back into the source CAD systems. The 'Change status' of redlining comments in the CAD system is automatically reflected in SmartShare Hub server

Security

Unlike other tools available in market there is no need to upload the source file to a third-party cloud. SmartShare Hub delivers the tools to publish the drawing files. Users can decide, if they want to publish the designs on the local intranet or the global internet and share with partners

In summary, **SmartShare Hub** is a truly **CAD independent platform**, which enables Plant 3D / Revit / CADISON users and stakeholders to actively engage in the design review process, ultimately making collaboration process more accessible and efficient.

Independent Research Institute in the United States Leverages CADISON P&ID Designer for Visio to Enhance Plant Design Efficiency

Customer Overview

It is one of the oldest independent nonprofit research institute in the United States that supports over 4000 client projects with a dedicated team of more than 3000 staff members across 11 technical divisions. It provides innovative science, technology, and engineering services to both government and commercial clients worldwide. Offering various contractual options, the organization acts as an off-site research and development department as a prime contractor, subcontractor, or team member, delivering customized solutions tailored to each client's unique needs.

The Requirement: Improving Efficiency and Collaboration in Plant Design

The challenge faced by the Chemical Engineering Department Team at the institute stemmed from the need for efficient software solutions to initiate projects involving the design and fabrication of pilot plants for chemical, biochemical, and petroleum processes. The team required intelligent software capable of generating 'Process Flow Diagrams (PFDs)' and 'Piping & Instrumentation Diagrams (P&IDs)' with default symbols and a user-friendly interface. These basic documents are critical at various stages of project development, including design, engineering, machining, and fabrication.

They prioritized comprehensive functionality, seeking a solution that would empower their process engineers to develop P&IDs in compliance with Process Safety Management (PSM) standards, conduct hazardous operations analysis (HAZOP), and formulate safe operating procedures for new and existing processes. Thus, leading them to choose '**CADISON P&ID Designer for Visio**' smart solution to address their specific requirements.

CADISON P&ID Designer for Visio as an Ultimate Engineering Solution

The decision to choose CADISON was influenced by several key factors, stemming from an evaluation process that prioritized functionality, ease of use, and efficiency:

1. **Comprehensive Functionality:**

   The team sought a software that could facilitate the development of Process Flow Diagrams (PFDs) and Piping & Instrumentation Diagrams (P&IDs) for pilot plant operations and data verification. CADISON stood out by offering robust capabilities that aligned perfectly with their requirements. With CADISON, their process engineers could not only create P&IDs in accordance with Process Safety Management (PSM) standards but also conduct hazardous operations analysis (HAZOP) and develop safe operating procedures for new and existing processes.

2. **In-built Engineering Calculations:**

   CADISON's added benefit of inbuilt engineering calculations for pipe and pump sizing played a crucial role in the decision-making process. The team recognized the importance of accurate sizing in Plant Design and appreciated CADISON's ability to seamlessly integrate these calculations into the P&ID development process.

3. **Spec-Driven Approach:**

   CADISON P&ID's spec-driven nature was another compelling factor that influenced the decision. Unlike other solutions, CADISON offered a spec-driven approach that streamlined the design process, allowing for quick deployment with minimal training. This was particularly advantageous as it ensured rapid adoption by the process team, regardless of whether they were designing new facilities or converting manually drawn P&ID drawings into digital format.

4. **Ease of Deployment:**

   They valued CADISON's ease of deployment, recognizing it as a user-friendly and efficient solution. The software's intuitive interface and straightforward deployment process minimized the need for extensive training, enabling the process team to leverage its capabilities effectively from the outset.

Results and Benefits: Unveiling Efficiency and Accuracy

The implementation of CADISON yielded several significant benefits, addressing both business and technical challenges while enhancing overall operational efficiency:

It brought about transformative benefits, including streamlined design processes, efficient review mechanisms, tailor-made solutions, and tangible cost savings, thereby enhancing operational efficiency and effectiveness.

- **Streamlined Design Processes**: CADISON enabled the team to create instrumentation loop diagrams in a specified format tailored to meet their end customer requirements. This streamlined approach ensured consistency and compliance with project specifications, facilitating smoother project execution
- **Efficient Review Processes**: Utilizing CADISON's Product Data Management (PDM) tool, the project team could conduct important P&ID reviews, ensuring that P&ID designs met stated requirements. This streamlined review process enhanced collaboration and minimized the risk of errors or discrepancies
- **Tailor-Made Solutions**: CADISON provided the institute with tailor-made solutions, including customized templates and report formats for multiple drawings. This customization enhanced productivity by providing the team with efficient tools that precisely met their needs, reducing manual effort and improving overall workflow efficiency
- **Tangible Results**: The adoption of CADISON resulted in tangible outcomes for the institute, including a significant reduction in resource management costs. Additionally, the accuracy of drawings improved, with the team achieving accurate drawings on the first attempt. This not only saved time and resources but also minimized the need for costly revisions and rework, leading to substantial cost savings

> **Detailed attention to our requirement is a result of selecting CADISON. The job is done very professionally and by highly skilled engineers. CADISON leads the way for digital industrial Plant Design, in line with regulatory standards and other necessary compliance scenarios to deliver efficient engineering.**
>
> Sr. Research Engineer

CADISON Implementation Process: A Collaborative Endeavor

Their experience with CADISON has been characterized by collaboration, flexibility, and ongoing support. As the team embarked on their journey with CADISON, they found the solution to be flexible, utilizing both industry-standard objects and additional customizable elements. This flexibility enabled the team to tailor the CADISON solution to their specific needs, ensuring seamless integration into their existing processes.

Throughout the implementation process and beyond, the CADISON team demonstrated a commitment to understanding the institute’s requirements and providing solutions that met their evolving needs. The CADISON team's responsiveness and willingness to accommodate their requests contributed to a positive experience, fostering a strong partnership between the two organizations.

The institute’s decision to continue using CADISON solutions for future projects underscores the success of their collaboration. By leveraging CADISON's flexible and customizable platform, the team can consistently deliver high-quality solutions to their valuable customers while maintaining efficiency and effectiveness in their engineering processes.

The Magic of Data-Driven Engineering: Enhancing Collaboration and Consistency in Plant Design

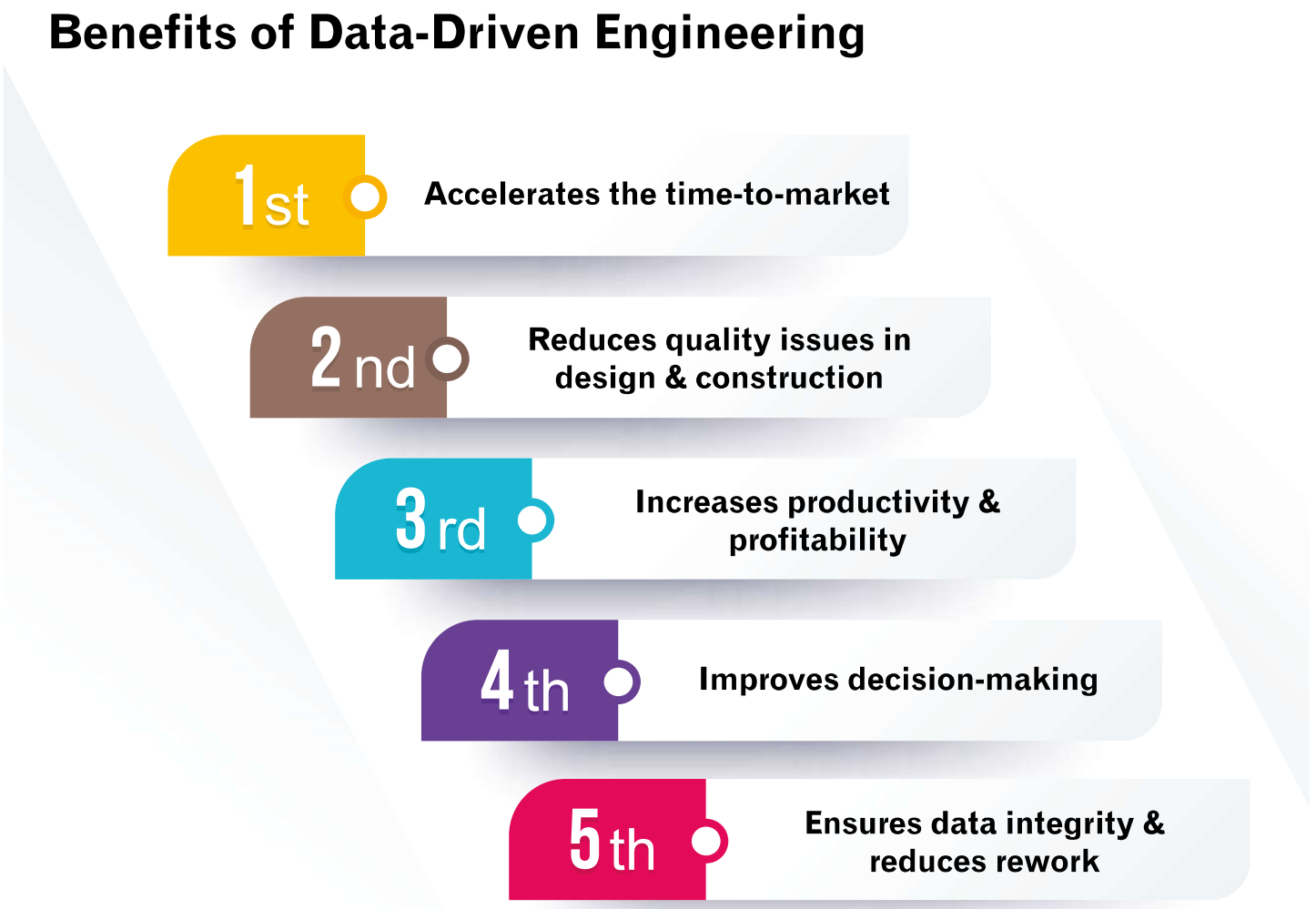
In the fast-paced field of Process Industry, where precision and coherence are of utmost importance, the magic of data-driven engineering is revolutionizing the landscape of Plant Design. Leveraging the power of data is not just a trend; it's a fundamental shift that promises to enhance collaboration and ensure consistency throughout the Plant Design process.

Understanding Data-Driven Engineering

The core of data-driven engineering is its ability to tap into vast amounts of data and extract information from it, thus enabling engineers to make informed decisions throughout the design process. Each design and construction phase begins with meticulous data collection which then gets stored in an easily manageable format in databases, making it readily available across all project phases, without any delays.

Benefits of Data-Driven Engineering

The advantages of data-driven engineering are manifold. It fosters close collaboration between diverse disciplines, integrates processes, and ensures end-to-end continuity by sharing real-time information from a single source. This approach not only accelerates time-to-market but also mitigates quality issues in design and construction, enhances productivity and decision-making while minimizing rework.



CADISON – Transforming the Plant Design with Data-Driven Engineering

CADISON stands at the forefront of revolutionizing Plant Design with its data-driven engineering solution. Its data-driven approach enables engineers to identify potential bottlenecks and optimize design for maximum efficiency. This not only expedites the entire design process but also reduces the amount of errors, bringing down the overall project costs.

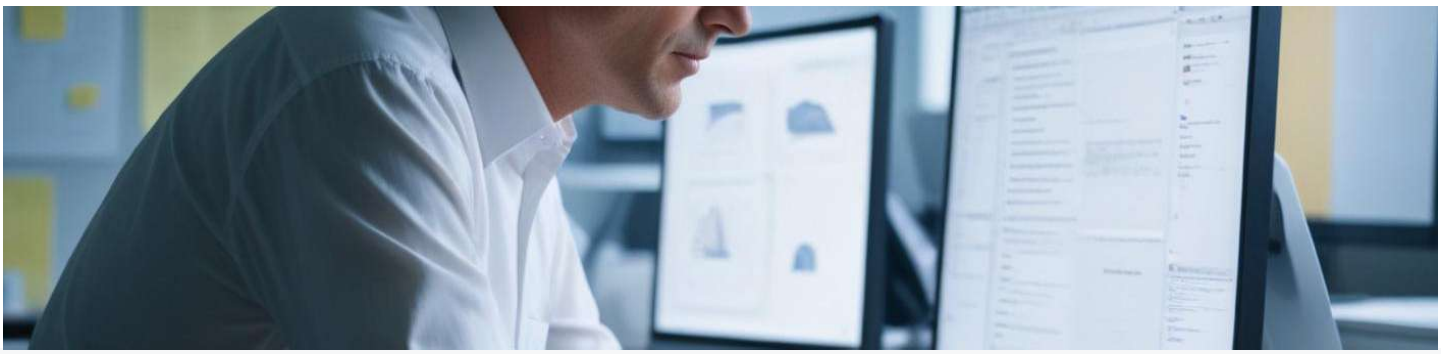
Streamlining Collaboration

In today's interconnected world, engineering projects often involve larger, cross-functional teams at the project level. CADISON's extensive features, centralized database along with the Web Review system facilitate seamless collaboration, allowing team members and other project stakeholders to work together in a cohesive environment.

Whether it's reviewing designs, or providing timely updates, CADISON covers it all! The latest PDF redlining feature of CADISON enables teams to collaborate and review 3D designs effectively by importing, accessing, and interacting with data effortlessly, resulting in faster project completion and higher-quality deliverables. Collaboration becomes more than just a buzzword; it becomes a tangible force driving innovation and projects forward.

Consistency through Standardization of Data

Furthermore, CADISON promotes consistency in design by applying industry approved standards and best practices in its projects. With built-in templates and an extensive symbol library, CADISON enables engineers and designers to leverage predefined design elements, reducing the likelihood of errors and ensuring compliance with industry standards and regulations. This not only streamlines the design process but also enhances the overall quality and reliability of the final Project Deliverables.



Summing It Up

In the era of Industry 4.0, nothing but data-driven engineering is the key to transforming the way we approach Plant Design. CADISON with its comprehensive set of integrated modules serves as a centralized hub, connecting and consolidating data from various engineering disciplines such as Basic & Detail Engineering of 2D and 3D Designs, Piping & Instrumentations, Electrical Designs, etc. This integration by bringing all stakeholders onto a common platform, eliminates data silos, enhances **data consistency** and promotes **interdisciplinary collaboration**, creating a unified, single source of truth which helps take informed decisions throughout the design process.

As the demands of the modern world continue to evolve, CADISON aims to keep bringing improved and innovative data-driven solutions that will play an increasingly vital role in driving collaboration and efficiency in Plant Design and beyond.

Plant Design & Equipment Engineering Solution

CADISON® Project Engineer: A non–CAD solution for Project Planning, Cost Estimation, Engineering Document Management, Workflow & Change management throughout the Plant Design Life Cycle. It enables managers / leads to plan conceptual engineering, generate bidding proposals and schedule tasks with or without MS Project. This helps to track and monitor the complete project data / information from Concept-to-Commissioning. CAD-independent 3D graphic preview feature is in-built in CADISON Project Engineer.
CADISON® PED add-in enables classification of the pipelines and equipments into the corresponding category of the Pressure Equipment Directive (RL 2014/68/EU) - including determination of the necessary assessment modules.

CADISON® P&ID Designer: A comprehensive spec-driven module for the 'creation of Intelligent PFDs / P&IDs' and 'Instrumentations (measurements & hook-ups)'. It can perform Pipeline Sizing and Utility Pump Sizing Calculations for optimum selection of equipment at the P&ID stage. It supports various standards (DIN, EN, ISO 10628, ISA 5.1, ANSI, etc.) and can be easily adapted to the company standards. Preconfigured-design rule-based checks for Data and Drawing Validation, built-in Symbols and Construction sets creation, Auto Legend, Auto Tagging, etc. and **PDF Redlining** for design reviews significantly improves the design process. The **Process Documentor**' feature enables the documentation of each Process steps, e.g., to define starting, cleaning or shut down of equipments / open and close of valves for operation & maintenance or to show media separation ways.

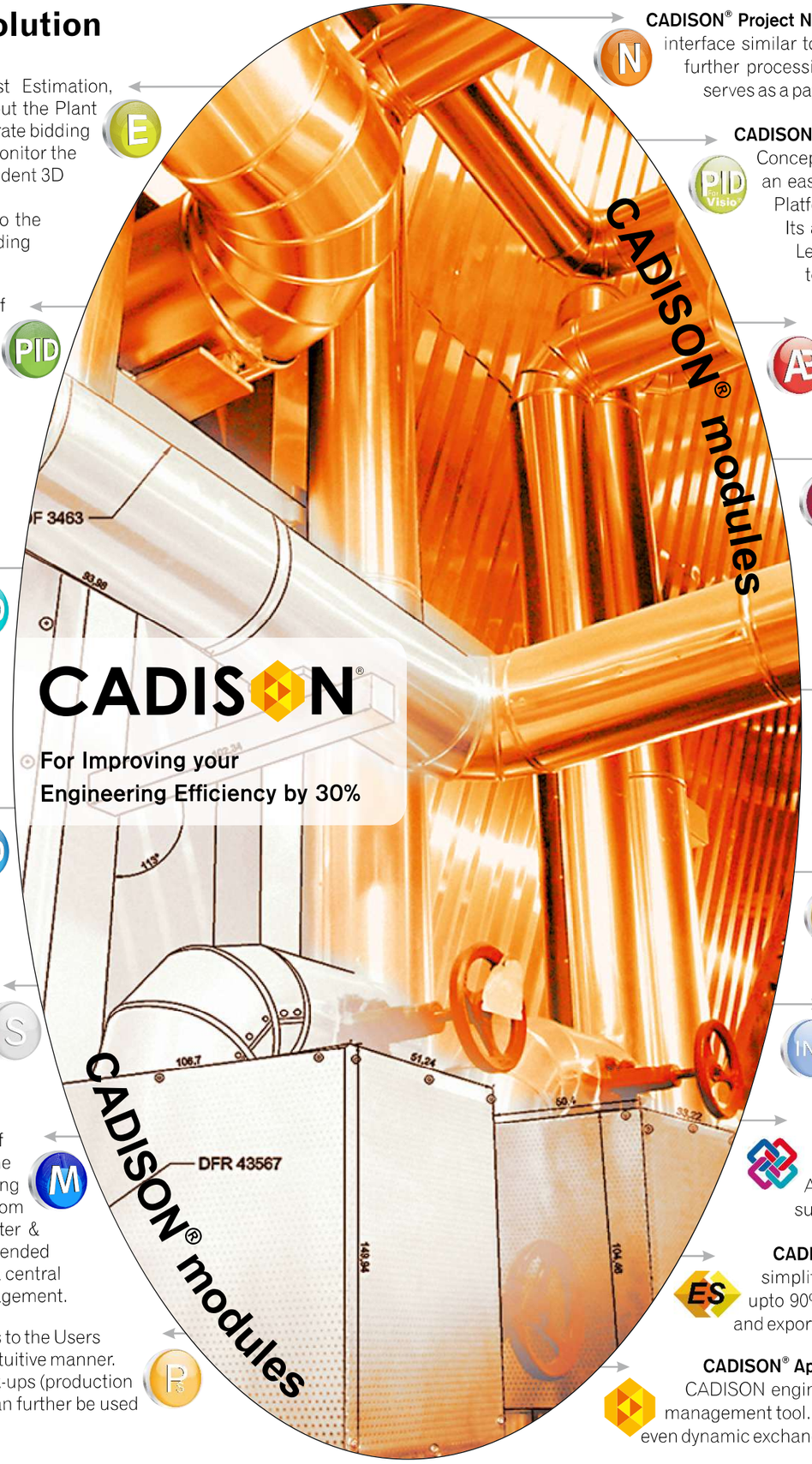
CADISON® 3D Designer: A complete 3D plant design module for Plant Layout, Pipe Routing, Equipment Modeling, GA & Isometric Drawing creation and Report Generation (BOMs, MTO & Datasheets). With various time-saving wizard and design assistant such as Section Box for GA drawing creation, 'Tank Assistant' & 'Nozzle Assistant' for creating 3D vessels and tanks. Data export /import in neutral formats and 'PCF import' of isometrics brings 3D Designer to the core of the Plant design. The ability to graphically synchronize and validate the 3D Plant data with P&IDs caters to design consistency & operational safety at all design stages. It is enhanced with **Web-Based 3D Model Redlining and Measurement** for review & collaboration.

CADISON® Electrical Designer: A comprehensive solution for Electrical Engineering Design, Documentation and Management. It is a unique combination of tools for 2D Schematics & Controls Designs; Sizing Calculations (Cables, Earthing, Transformers & UPS); with 3D Conduits & Trenches, 3D Cable Tray & Panel Layouts. Productivity tools such as automatic generation of Terminal Drawings, Contact Sets, PLC I/O Board Drawings, Reports (BOMs, MTO & lists), and PDF Redlining improves the design process.

CADISON® Steel Layout: A wizard-driven module for planning and creating 3D Steel Structures like Ladders, Staircases, Platforms, Handrails, Trusses, Water Tanks and custom assemblies such as Pipe supports, Spiral staircases, etc. It's SDNF export interface enables the users to export steel structure data to Tekla and Advance Steel for detailing. It is configurable to adapt design standard and custom guidelines for validation of parameters and steel profiles for improved designs.

CADISON® MATPIPE: A Parametric Catalog Engine for creation and management of Pipe Classes, 3D Catalog Objects and integration of Manufacturer's Catalog with the import & export functionality for maintenance. Database of Templates, Piping Component Libraries from Design Standards and an extensive list of Catalogs from prominent vendors are also available. User Management with Revisions of Master & Working Catalogs enable to standardize and maintain versions (replica and extended replicas) of catalogs at the organization level. The '**Catalog2Cloud**' feature enables a central Catalog Management System over the intranet or Internet for multi-site catalog management.

CADISON® Pipe Support Modeler: An intelligent wizard for Standard Pipe Supports to the Users to create and edit different types of pre-defined Secondary supports in an easy and intuitive manner. Users can also quickly create non-standard pipe supports manually. Automatic hook-ups (production drawings) creation and Reports generation reduces the documentation efforts. It can further be used for Electrical Cable Trays, HVAC Ducting Systems and Bus-ducts Supports as well.



CADISON® Project Navigator: A navigation tool to access engineering data of a project with a user interface similar to the Project Engineer module. It can be used for project review and also for further processing of project data during the plant operation and maintenance, which also serves as a paperless documentation platform.

CADISON® P&ID Designer for Visio: A spec-driven process engineering solution for Conceptual & Detailed Engineering that can be used for Proposal Generation. This is an easy and quick to use tool to create intelligent P&IDs and PFDs using MS Visio® Platform and still all the data is integrated with other CADISON modules in realtime. Its ability to export to AutoCAD, Pipe and Pump Sizing, Generation of Automatic Legend, Tagging, Report and integration with the 3D Designer makes it a powerful tool for the process industry.

CADISON® Archiver & Browser: An independent tool for Archiving of completed project databases from CADISON production environment. Archived Projects can be quickly and easily viewed with CADISON Archive Browser like a knowledge management platform. The archived projects can be re-activated or restored to work on future developments at any time.

CADISON® Maintenance: The CADISON Maintenance Management Tool is a tool for planning, managing and documenting technical inspection and notifications, schedule / planning of maintenance, repairs, and other measures for various objects in plant to maintain the operations efficient and reduce breakdowns. It also includes scheduling and tracking deadlines for next maintenance after the service is completed. It supports creation of test and inspection reports in different forms and management of the test history for corrective and preventive maintenance.

CADISON® ROHR2 / CAESAR II Interface: It has the feature and ability to export all pipeline systems created with CADISON 3D Designer to ROHR2 or CAESAR II for the quick and accurate static and dynamic analysis of piping system. All the required information will be completely exported in the form of .ntr files in ROHR2 or .cii file in CAESAR II for analysis based on user-defined variables and accepted industry guidelines.

CADISON® ERP Interface: CADISON provides interface with well-known ERP systems like SAP, Movex, Infor and others for dynamic data exchange. It establishes a mutual connection wherein Orders like purchase requisition can be directly released and also controlled within engineering workflow.

CADISON® Inventor Interface: It enables the Users to import an Autodesk Inventor part or assembly file along with the inventor properties in SAT and XML format into the CADISON environment as a CADISON object. It helps to import & update objects from the Inventor original / updated model.

CADISON® IFC interface: This provides exchange of graphics and data between AEC industry tools and CADISON 3D Designer with import revisions. The interface supports IFC2x3 and IFC4 configuration mappings for exchange. All object data in IFC can be imported into CADISON objects. Export process supports mapping of CADISON object properties with AEC objects.

CADISON® Equipment Simplifier: A customized wizard designed for the automatic simplification of large equipment models. It reduces the size and complexity of models upto 90% from different CAD formats with (interactive) manual or auto mode options and exports the results in DWG for CADISON.

CADISON® Application Programming Interface: CADISON API enables the Users to integrate CADISON engineering workflow with business workflow and organization specific document management tool. API developed for external access of CADISON data, contents, structures and even dynamic exchange of data / information.

Article

Data-Driven Engineering: Solution for Challenges in the Process Industry

Digitalization and data-driven engineering offer enormous advantages to the Process Industry, driving more efficient, sustainable processes that are crucial for future competitiveness. However, the successful implementation of digital transformation requires comprehensive change management capability and a clear strategic direction.

Current Challenges in the Process Industry

Production companies, the Process Industry and Plant Engineering firms face significant challenges such as high energy costs and the need to transition toward more sustainable processes. To maintain international competitiveness, companies must continuously optimize processes to increase operational efficiency. The integration of the entire engineering process on the basis of consistent digital data in Plant Design plays a key role here.

High Energy Costs and the Path to Sustainable Production

The Process Industry is highly energy-intensive, and transitioning to sustainable energy production, as required by government directives around the world, is a Herculean task. This transition will involve using environment friendly energy sources like hydrogen, ammonia and green ethanol. While technologies for sustainable production exist, they come with substantial costs, and industries continue to face pressure from high energy prices. Access to affordable renewable energy is therefore critical.

Digitalization and Integrated Engineering as Solutions

Digitalization, integrated engineering, and end-to-end data management offer numerous solutions to these challenges. They support the implementation of sustainability guidelines and enable the management, control, and optimization of all processes. Integrated engineering ensures seamless integration across all phases of the product and plant lifecycle - from development to dismantling. This approach is crucial for managing assets & investments efficiently, which are key to a company's success.

Digital Transformation Requires End-to-End Data Management

Traditionally, design data is transferred via drawings and tables during the Plant life cycle, leading to errors, information loss, and significant documentation effort. Additionally, the individual engineering disciplines in many companies work independently of each other and with various tools, resulting in inefficiencies, higher

costs, longer project timelines, and reduced quality, ultimately leading to lower margins.

In contrast, data-driven and integrated engineering solutions enable end-to-end data management across the entire asset lifecycle and various disciplines. By using a central data pool, information can be exchanged seamlessly between disciplines and systems, allowing everyone to work simultaneously on the same project and access current engineering data in real-time.

Levels and Complexity of Integration

Creating a common database is essential for effective end-to-end data management. However, a balance is needed between integrating functionalities and using specialized tools for different tasks. For example, integrating 3D models with piping and instrumentation diagrams (P&IDs) is effective, while simulations might be better handled by separate tools.

The complexity of integrating and optimizing digital processes requires robust data and information models, often specific to manufacturers. Standardized data models, like DEXPI for P&IDs, facilitate seamless data exchange between different systems, which is crucial for engineering companies to maintain a competitive edge and has increasingly become a distinguishing feature.

Hurdles for Digitalization

Digitalization in the Process Industry is uneven. While large companies are global leaders in digitalizing their supply chain and asset lifecycle, many SMEs lag, still relying on traditional methods like drawings and Excel sheets or incompatible tools. Overcoming the complexity of digitalization also involves replacing long-established workflows and learning new processes and systems. Resistance from employees often arises because the benefits of digital workflows and data-based engineering only become apparent later in the planning process.

Change Management as the Key to Successful Digital Transformation

Effective process change management is key to successfully implementing integrated, data-driven engineering solutions. Achieving quick wins can demonstrate the benefits of digitalization, helping to convince employees of the new methods. The success of digital transformation largely depends on how well the workforce is prepared for and involved in the change process. In practice, failures in digital transformation are often due to poor management of workflow changes rather than technological shortcomings. A clear vision and strong leadership are essential to guide the workforce through the transition and overcome resistance.

CADISON Drives Efficiency and Precision for ChemVap Engineering Pvt. Ltd.

ChemVap Engineering Pvt. Ltd. has established itself as a holistic solution provider for concept to commissioning of WTP, Zero Liquid Discharge, Evaporation, Solvent Recovery and Salt Recovery Plants globally. Committed to excellence, ChemVap Engineering Pvt. Ltd. prides in delivering high-quality service that addresses technical, behavioral, and cultural aspects of process operations to ensure unparalleled customer satisfaction.

With combined hands-on engineering experience of about 20 years, ChemVap Engineering Pvt. Ltd. team also offers a diverse range of Plant Design services that includes Basic & Detail Engineering, Piping, Instrumentation & Electrical drawings along with Site services for Erection & Commissioning activities as well as equipment manufacturing. The company aims to provide innovative solutions that are not only optimized for process efficiency but are environment friendly as well.

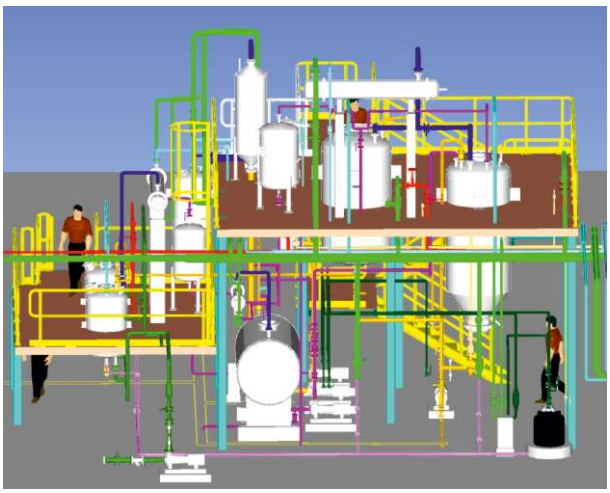
Business Challenges Faced by ChemVap

With a growing global clientele, ChemVap Team faced significant challenges in their engineering process workflows. One of the primary hurdles they faced was the extended timeline in their Piping engineering projects, coupled with inaccuracies in their engineering deliverables caused by heavy reliability on individual expertise. These issues prompted them to seek a solution that could streamline their engineering processes effectively. They needed a robust tool capable of ensuring consistency and precision across all their engineering designs.

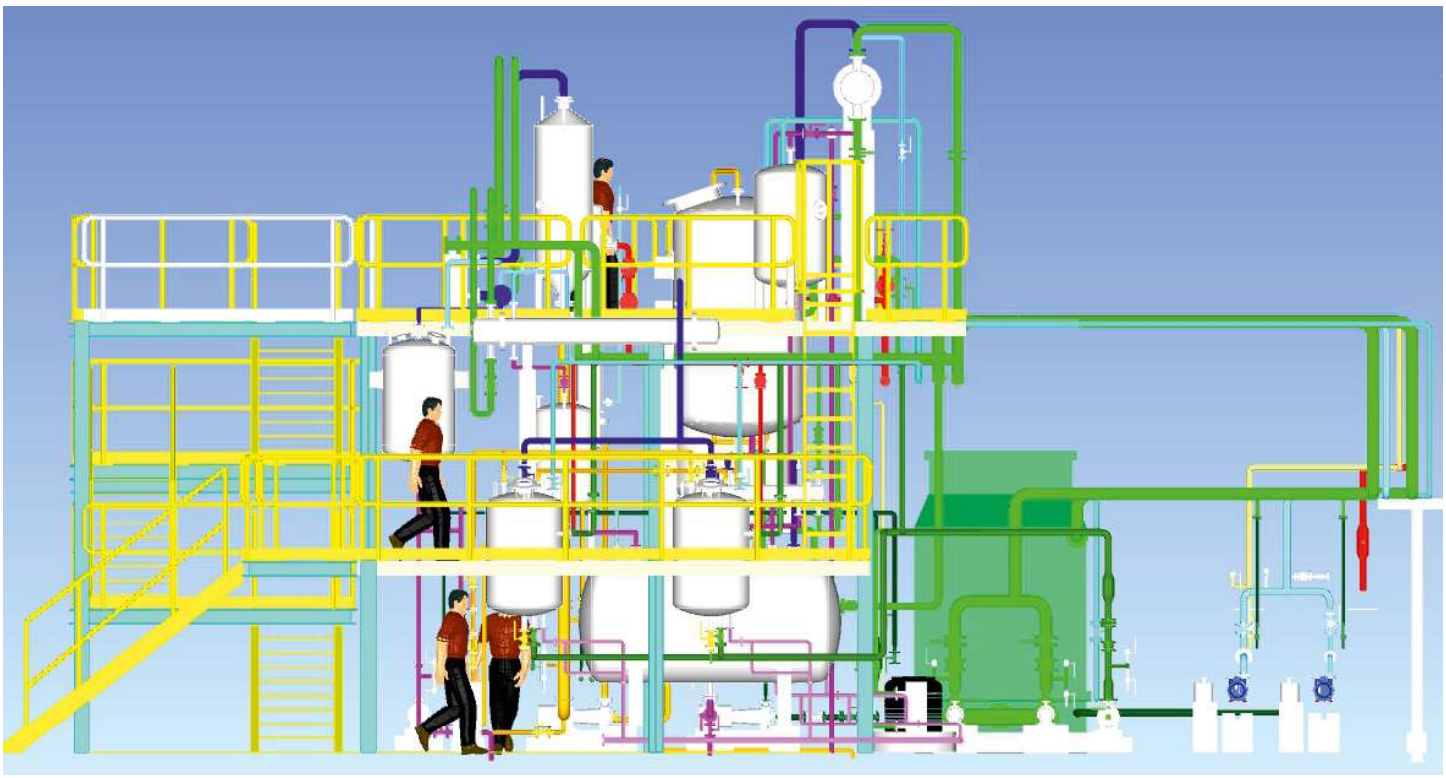
CADISON offered the perfect solution that could streamline their engineering workflows and enhance overall efficiency with its seamlessly integrated intelligent design tools, global renown and revolutionary features.

Key Features that Influenced their Decision in Favor of CADISON Over Other Solutions

- Seamless integration capability of CADISON with other drawing software during review stages
- CADISON's advanced logical error check and warning feature further solidified their decision



ChemVap realized that a lot of companies to whom they were providing commissioning services were already utilizing CADISON during detailed engineering phases. ChempVap was quick to spot that these companies reported more accurate Bill of Quantities (BOQ) and smoother piping isometric preparation, leading to streamlined erection processes and reduced commissioning timelines. This efficiency not only minimized project costs but also expedited production commencement, ultimately enhancing client satisfaction and revenue generation. And this was precisely what ChemVap was aiming to achieve!



CADISON Enhances ChemVap's Engineering Efficiency Seamlessly – The Outcome

Deploying CADISON proved transformative for the company right from the outset of their first project! ChemVap achieved an impressive 40% - 50% reduction in the time required for isometric drawing preparation and extraction. Such efficiencies were pivotal in compressing overall project timelines and achieving substantial cost savings. The generated BOQ was highly accurate, achieving their objective of reducing engineering time while increasing accuracy and cost saving in piping engineering during execution of project.

Journey with CADISON

Reflecting on their journey with CADISON, ChemVap praised the strong support they received from the CADISON team – from introductory meeting to the extensive training sessions. The CADISON team's expertise and responsiveness played a pivotal role in ensuring a seamless transition and maximizing the solution's utility within their operations.

Satyavan Bhumkar,
Managing Director

Rajaram Sharma,
Engineering Manager

"Our journey with CADISON from first meeting of introduction to training our team was fruitful, conclusive & user friendly. Entire CADISON team is knowledgeable about their products, always attentive & supportive. Team like this will always be the backbone of any organization."

CADISON has emerged as a cornerstone in ChemVap's quest to overcome engineering challenges, optimize project timelines, and achieve significant operational efficiencies. Our continued partnership underlines the transformative impact of advanced engineering solutions in today's competitive global landscape, setting a benchmark for industry excellence and innovation.

Cybersecurity Measures for CADISON: Ensuring Secure Plant Design

At ITandFactory GmbH, customer trust and data security are our top priorities. We understand the importance of safeguarding client data and ensuring the security of our processes. We are writing to assure everyone of our unwavering commitment to maintain the highest standards of IT security.

IT Security Measures in Place

- **Access Controls**: Strict access controls are in place to ensure that only authorized personnel have access to your data. Role-based access control (RBAC) limits data access based on job roles, significantly reducing the risk of insider threats
- **Data Encryption**: We use AES-256 encryption for all DevOps and customer data stored in our databases and during transmission. This ensures that even if data is intercepted or accessed without authorization, it remains unreadable
- **Firewalls and Intrusion Detection Systems (IDS)**: Our network is protected by advanced firewalls and IDS that monitor and control incoming and outgoing traffic based on predetermined security rules, detecting and mitigating suspicious activities
- **Anti-Malware and Anti-Virus Software**: We deploy regularly updated anti-malware and anti-virus software to protect against a wide range of malicious threats
- **Regular Software Updates and Patch Management**: All systems and software are kept up to date with the latest security patches, closing vulnerabilities that could be exploited by attackers
- **Multi-Factor Authentication (MFA)**: We require multi-factor authentication for all employees accessing sensitive information, adding an extra layer of security
- **Regular Audits**: Our systems undergo regular security audits and assessments by third-party experts to identify and mitigate potential vulnerabilities. Our most recent audit confirmed compliance with the latest security standards and found no critical vulnerabilities

Process Security Measures

- **Secure Development Lifecycle (SDLC)**: Our software development processes follow a secure development lifecycle, incorporating security best practices at every stage from design to deployment. We also use and invest in the latest Static code analysis tools (SCAT) with the DevOps platforms to automate code inspections, analyze source code in real time, facilitate peer code reviews, and extend the coding quality and security
- **Incident Response Plan**: We have a robust incident response plan in place to quickly address and mitigate any security incidents. Our dedicated team is trained to handle potential threats efficiently and enforce preventive measures for risk mitigation
- **Compliance**: We adhere to all relevant industry standards and regulations, including GDPR and ISO 27001, ensuring that our processes meet the highest security benchmarks

Progress Towards ISO 27000

We are actively working towards achieving ISO 27000 certification.

This involves:

- **Gap Analysis**: Conducting a thorough gap analysis to identify areas that need improvement to meet ISO 27000 standards.
- **Policy Development**: Developing and updating security policies and procedures to align with ISO 27000 requirements.
- **Training and Awareness**: Providing ongoing training and awareness programs for employees to ensure they understand and adhere to ISO 27000 standards.
- **Continuous Improvement**: Implementing a continuous improvement process to regularly review and enhance our security measures.

Sandeep Agrawal

Nitin Karnavat

Future Plans

Advanced Threat Detection: Investing in advanced threat detection technologies, such as AI and machine learning, to proactively identify and mitigate potential threats.

Enhanced Data Privacy: Implementing GDPR and additional data privacy measures to further protect customer data and comply with evolving regulations.

ISO 27000 Certification: Achieving ISO 27000 certification to demonstrate our commitment to the highest standards of information security management.

We are continuously improving our security measures to stay ahead of emerging threats and to provide you with the assurance that your data is always in safe hands.

The CADISON Impact on Technoforce's Engineering Processes

Technoforce Solutions, established in 1990, is a leading manufacturer of advanced process intensification solutions for the chemical industry. They specialize in technologies like Agitated Thin Film Evaporators, Dryers, Short Path Distillation Units, Liquid-Liquid Extractors, and Plug Flow Crystallizers. With state-of-the-art pilot plants and analytical lab facilities in India and the Netherlands, Technoforce ensures reliable performance before large-scale investments. They also offer automated equipment manufacturing and modular skid-mounted plants for efficient on-site setup. With over 1000 installations and 3000 pilot plant tests, Technoforce delivers plants with attractive payback periods.

Business Challenges

For 15-20 years, Technoforce relied on commonly used CAD platform for designing P&IDs and structural calculations. However, they faced challenges like excessive man-hours for P&ID drafting, 3D modeling, isometric generation, unusable report formats, and BOM preparation from 3D models. Their ERP system for BOM & manufacturing purposes was also dissociated from these tools, adding to the inefficiencies.

Key Issues Included

- Inefficient interlinking and revision control between documents
- High manual effort to maintain consistency and accuracy across the Plant Design process

These challenges led Technoforce to seek advanced solutions, ultimately choosing CADISON.

Evaluation and Selection of CADISON

Technoforce identified CADISON as the ideal solution for intelligent P&IDs, isometric generation, BOM, and customized report generation. They evaluated several critical parameters:

- **Integration Between P&ID and 3D Models**: Ensuring synchronization and consistency
- **Attachment of Catalogues/Data Sheets/Specification Sheets**: Facilitating quick 3D modeling of pipelines using custom data properties
- **Jacketed Pipeline Routing**: Efficient modeling and easy isometric drawing generation
- **Effective Change and Revision Control**: Integrating CAD, Data Management, and Project Management for seamless communication
- **Customizable Output Reports & ERP Integration**: Flexible report generation and ERP system connectivity based on EC class or material code

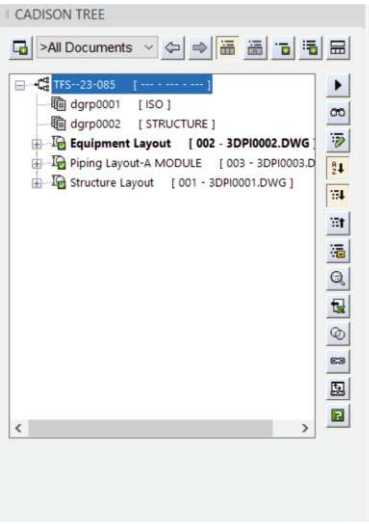
Factors Influencing their Decision in Favor of CADISON – The Tipping Point

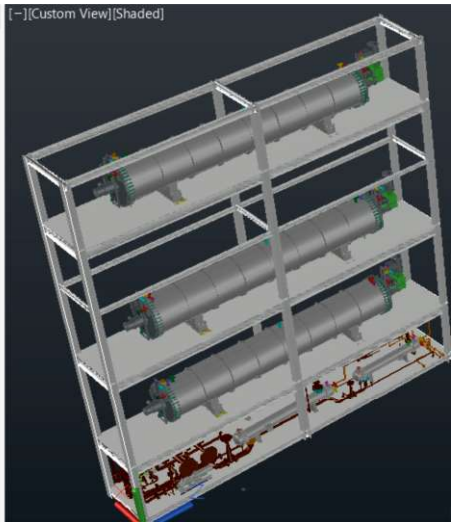
Technoforce previously used multiple tools for different needs, but CADISON's integrated approach, industry-specific features, and robust data management stood out. They chose CADISON for its compatibility with their existing base platform, minimizing training requirement and fast implementation. Its support for various input/output formats also enhanced interoperability.

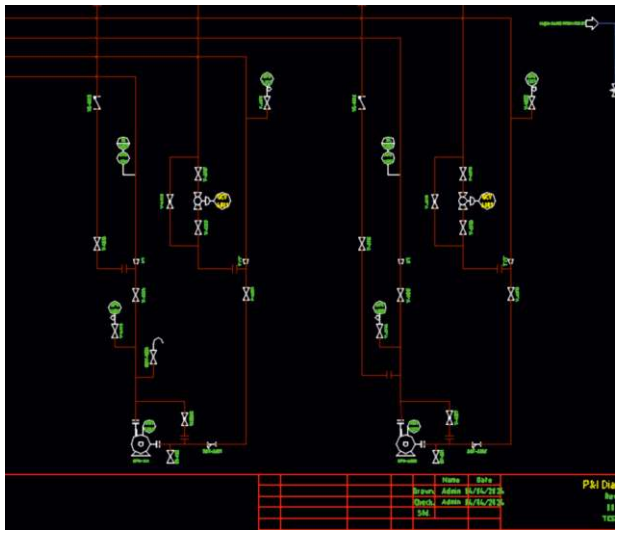
CADISON's Impact on Technoforce's Engineering Efficiency – The Outcome

CADISON's implementation led to significant improvements:

- **Reduction in Engineering Man-Hours**: A 35% - 45% reduction in man-hours for drafting P&IDs, 3D Modeling and BOQ extraction, streamlining processes and boosting efficiency
- **Faster Submission Timelines**: Automatic isometrics generation accelerated design submissions, enhancing project efficiency and reducing delays
- **Error Reduction**: CADISON reduced errors and inconsistencies in designs. Its advanced features helped identify and correct issues early, minimizing rework and improving design integrity







CADISON Support Team – An Additional Benefit

CADISON Team provided extensive support in creating a comprehensive library of components, piping specifications, and provided tailored training sessions. Their ongoing support addressed both minor and major queries with exceptional responsiveness.

"The entire setup, configuration, and implementation process spanned across 6-8 months. This period was essential to ensure accurate software and library configuration. Throughout the process, the CADISON team provided exceptional support and continues to assist with both minor and major queries."

Gaurav Bhosale,
Sr. Manager, Process & Projects

Future Outlook

Technoforce Solutions foresees a long-term partnership with CADISON, valuing the collaboration and continuous support. CADISON has transformed Technoforce's engineering processes, overcoming design challenges and enhancing project execution, setting a new standard for operational excellence.

Events 2023-24

A glimpse of the successful events that we participated in and hosted over the past year!

CIC 2023

28-29 September 2023

An annual event where we discuss emerging trends in the Process Industry and Plant Engineering, held in **Bad Soden, Germany.**

CADISON UNIVERSITY 2024

09-10 January 2024

An event showcasing the latest innovation and enhancements in the Process Industry, along with celebrating collaboration, learning, and community building, held in **Pune, India.**

A leading trade fair for showcasing Digital Transformation possibilities in the Hydrogen industry, held in **Poznan**, **Poland**.

H2 POLAND
CENTRAL EUROPEAN HYDROGEN TECHNOLOGY FORUM

24-25 April 2024

MEPEC 2024
MIDDLE EAST PROCESS ENGINEERING CONFERENCE & EXHIBITION

06-08 May 2024

The premier event in the Middle East for Process Engineering, held in **Dammam, Saudi Arabia**.

The world's leading trade show event for the process industries, held in **Frankfurt, Germany**.

ACHEMA2024

10-14 June 2024

CADISON®

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