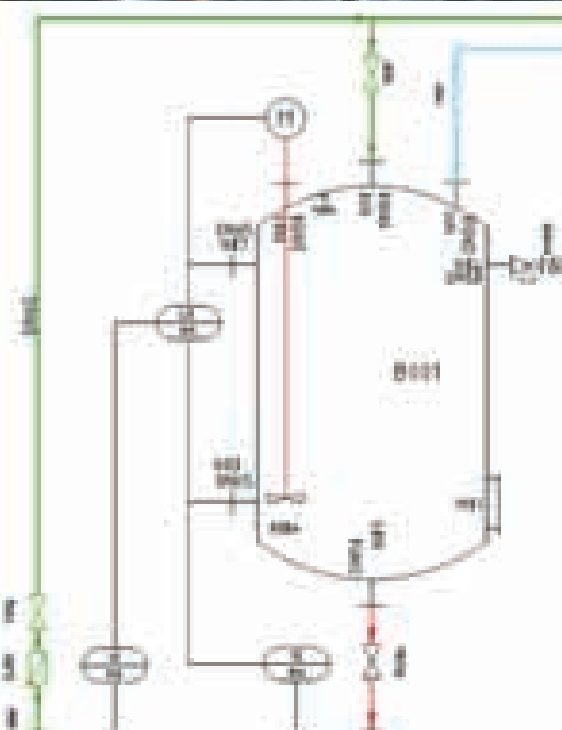# CADIS⬡N® WORLD

New functionality in P&ID module to achieve Speed & Accuracy of Process Documentation

Improved User Experience in Report Generation & Isometrics

Index

https://www.linkedin.com/company/cadison

https://www.xing.com/companies/itandfactorygmbh

https://www.youtube.com/user/ITandFactory

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Prashanth Chunduri

Dear Customers,

Welcome to CIC 2019! And to CADISON® R19!

For Release 19 (R19) development list, we took a different approach this time and spent time to understand the challenges of the Process department and the need-gaps for the CADISON User. What we learnt brought a focus on improving performance of some existing capabilities through technology upgradation and this can be best seen in our Isometrics, Report Generation and Database Cleanup tools in CADISON R19.

We also improved the UI in Project Engineer & PDM functions and based on feedback from the Users, we plan to further improve the UI for all Designer modules in the next release. The focus is on 'User Experience' and will remain so for CADISON R20 also.

Our big news in this release (CADISON R19) is the introduction of Process Documentation capability in our P&ID Designer module. This will transform how Process documentation is done by Process Engineers or by the P&ID Users. An example of Speed & Accuracy at work, the CADISON way.

To summarize, CADISON has now become the best-value Plant Engineering, Design and Documentation tool in the industry. ITandFactory added 30+ new customers in the last one year and we remain independent of financial pressures to pursue our passion of becoming & remaining the best value Plant Engineering Solution in the industry. Our Visio based P&ID tool and our Electrical Designer module is also getting good traction in the market place.
Have a great time learning more about CADISON and we look forward to have you join us for the CADISON Night Dinner on 19th November.

Warm Regards,
'The CADISON Executive Team'

Top 10 Features of CADISON R19

Faster & Accurate Process Documentation with CADISON P&ID Designer

Chemical

FW Freshwater

Hot Water

01 Cleaning filter
with this steps you clean filter with
Fresh water
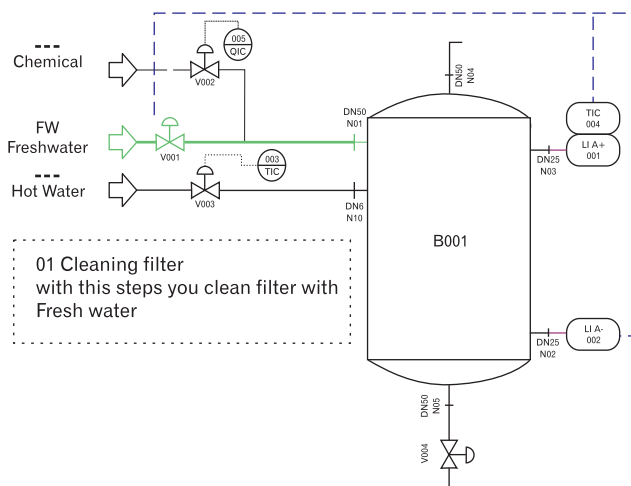
It is always a time consuming task for the User to define the process, the steps involved and the pipeline routes along with the status (open / closed) of control points (valves, instruments, etc.). Also managing changes and redrafting the entire Process Document (manually) takes a lot of time.

CADISON has now introduced Process Documentation functionality to create multi-page pdf documents from CADISON P&ID Designer. With the help of "Process steps definition wizard" its now possible to add required information in process documents from P&ID module itself. The information attached to the (intelligent) P&ID is automatically picked up by the new function to generate the Process Documents more easily. In case of changes in P&ID, the User can re-run the document process to automatically update the changes in the Process Document. Read the article for further description of the function.

Performance (speed) improvement in 'Report Generator' significantly reduces time to generate complex reports

With the technology upgradation of existing CADISON Report Generator now the User can generate complex reports (with thousands of objects & their properties) much faster (<50% time). The upgradation with OpenXML not only improved the overall speed of generating Word & Excel format reports but also eliminates the need of MS Office on the client / user system. In addition, now the CADISON Report Generator can also support LibreOffice Writer (word processor) and Calc (spreadsheet) open-source modules of LibreOffice software package. The performance improvement is realized significantly while printing complex reports with cascading sheets or queries.
Overall time saving can be from 10% (for simple reports) to 60% (for very complex reports).
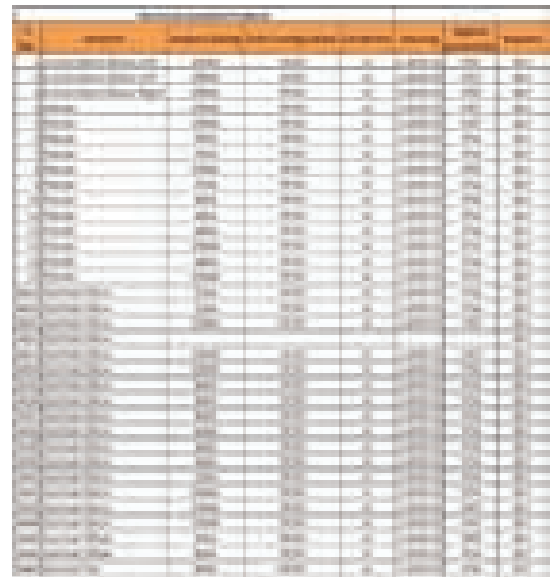
Standardization and Distribution of catalogs across global teams (geographically distributed teams) made Easier & Better
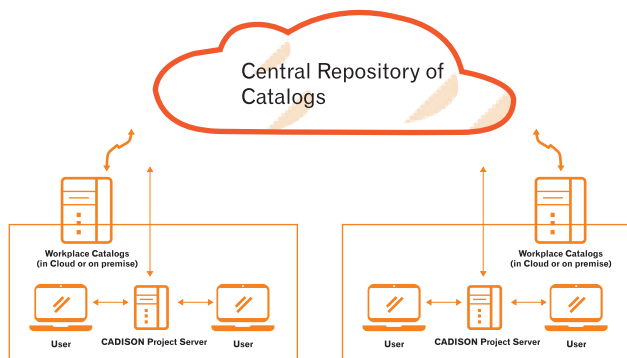
Since longtime some of our large customers with a global presence have been requesting a way to have standardized & approved central database for Catalogs, which can be used by all their distributed (different locations) design centers. This is now possible with CADISON R19 functionality to create a centralized storage (in cloud) of standard approved Catalogs to be used by all their design / engineering offices. There is a notification feature included which notifies all offices about changes or addition of Catalogs. Only approved Catalogs can be posted in the centralized Catalogs database.

Technology upgradation to provide better Isometrics in CADISON

CADISON implements I-Configure tool that simplifies the ISOGEN Styles creation process and helps Users to unlock the latest and powerful capabilities in a user-friendly way. It further simplifies the customization setting of Pipeline Isometric drawings and reports for project delivery.
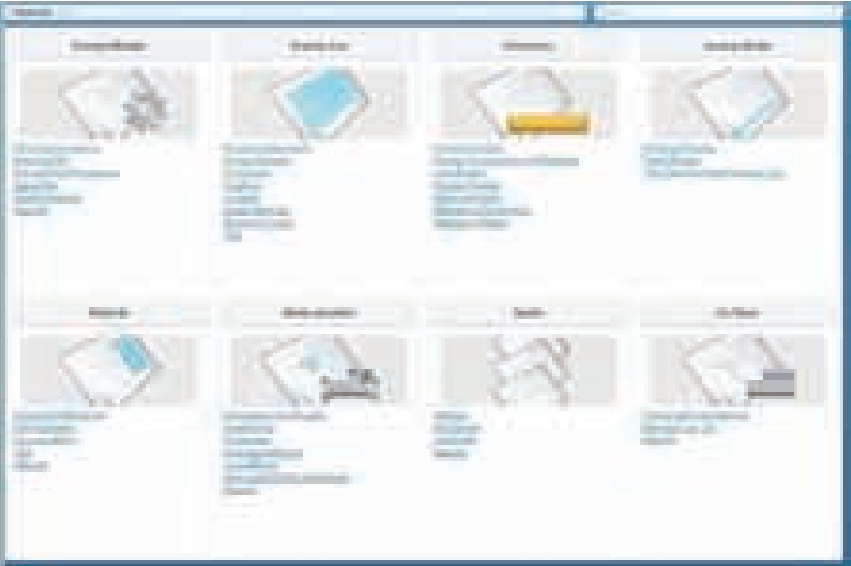
The new CADISON IsoStyle Manager has been developed with an interface that can integrate with the industry standard I-Configure tool. Further, it gets integrated with CADISON Isogen which provides an intuitive and visual approach in setting Isometric style properties.

With this, its possible to create automated Isometrics quicker with all required configuration, so that manual fine tuning can be drastically reduced.

New Cable Tray System with Logical Structure and Automated Cable Routing makes life easier for Plant Electricals

The new Cable Tray System is the collection of Cable Tray Structural elements to assign tagging (numbering) to sub elements. This also enables to generate BOM reports at Cable Tray System level. The new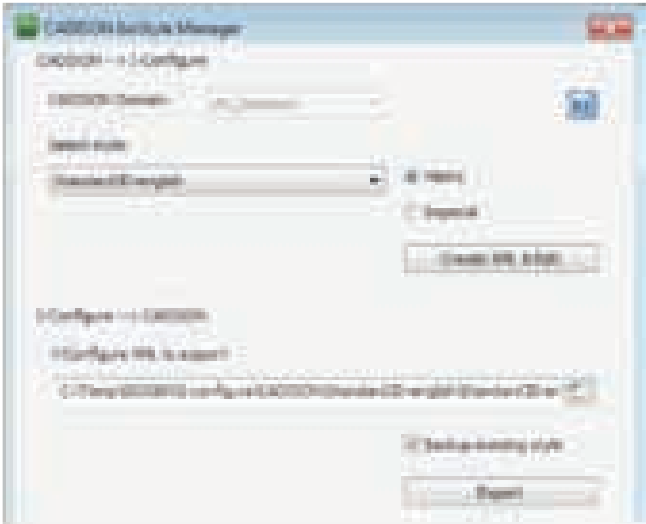 centerline object is defined as parent object for Cable Tray as well as for cables (passing through the Cable Tray). An association between the cable passing through the tray and Cable Tray Object, enables to calculate the fill factor at every segment and object level.

With the new functionality, it is now possible to route Cable Tray with a number of branches in a Single Tray System. It is also possible to create a new branch and mark it as a separate tray system or continue the new branch in an existing tray system. With the new Cable Scheduler UI, Users can assign start (from) and end (to) points of Cable in 3D to which the cable is connected. The new functionality also automatically creates the route based on the selection of entry and exit points of Cable Trays.

The new Cable Tray System enables the User to generate the Cable Schedule, Cable Tray capacity (fill factor), effective planning of Cable Tray utilization and the Bill of Material, all in one system.

Top 10 Features of CADISON R19

New Dockable Search and Edit Function in Project Engineer simplifies the CADISON Tree Search and Edit capabilities

"CADISON Tree Search and Edit functionality" is further enhanced with an easy-to-use context sensitive User Interface which enables the User to finish tasks much faster. The ability to search improves search function, by using the Search & Edit Ribbon and Dockable User Forms. Based on the root element of CADISON Tree / object type selected in ribbon the searched objects will be made available for information review and update in user forms. One-click button for quick search of the specific type of objects eliminates the need for filters. Overall this simplifies and saves time of the Users to review and revise the CADISON objects in the Project Engineer.

Button for 1 click search

User form for quick preview and easy update
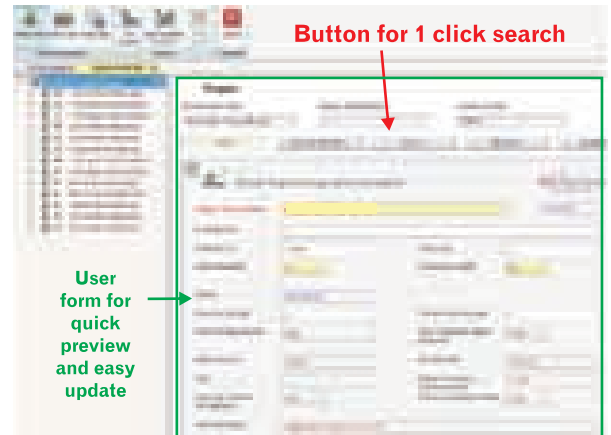
New Wizard in Steel Layout Module for creation of Spiral Staircase

This new functionality can create Single Raise or Multi Raise with Spiral Staircase platform. Its simple UI & minimal inputs makes it easy-to-use yet intuitive for the User. The configuration capabilities enable to define the control parameters as per any standard or organization guidelines. The validation of parameters with reference to the limits defined in the configuration ensure the validity of the created structure which in turn avoids rework. The edit structure command allows the User to edit the already created Spiral Staircase by using the new functionality in the Steel Layout Module. With the addition of this capability, it now saves more time for the creation of complex staircase which comprises hundreds of steel profiles and can also generate BOMs.

Achieve Intelligent & Automated repositioning of Nozzles placement on Modified Vessel

The Vessels are created using "Vessel Assistant and Nozzle Assistant" wizard which is used to attach nozzles to a Vessel so that pipes can be connected to the Nozzles for the continuous Pipe routing. However, the Users have to use two wizards for the revision of Vessel dimensions and reposition of Nozzle as per the revised.

Now with the intelligent Vessel and Nozzle integration, the redesigning of Vessel gets unified in a single step. Based on the revised dimensions of Vessel, CADISON automatically adjusts the Nozzle in suitable position. This is also possible in case of the change in types of Vessels (top / bottom). This intelligent integration will eliminate manual efforts and improves productivity.
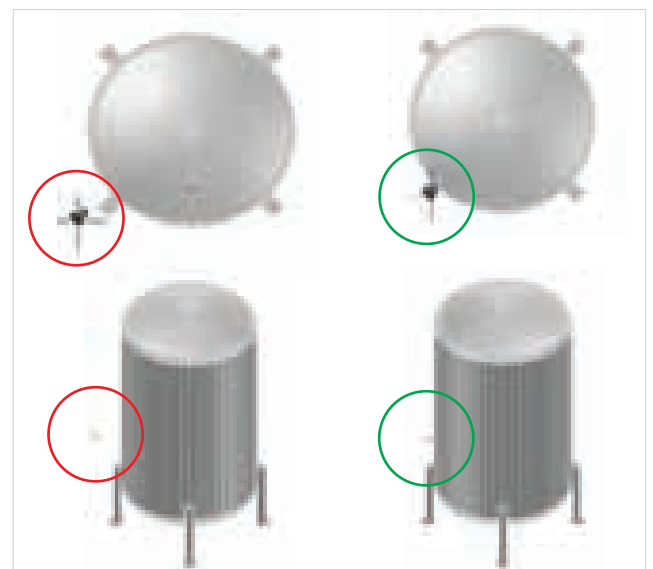
Placement of Flow arrows in CADISON Designer Model is automated

This new CADISON command in R19 "Place ISOGEN layout objects along the pipeline" enables the automatic placement of flow arrows. This eliminates the need of manual insertion of the flow arrows in the Model for representation of flow arrows in the Isometric drawings. Also if a change is made in the Model (e.g. change in pipeline location or routing) it will automatically reflect in the Model as well as in the Isometric drawings.
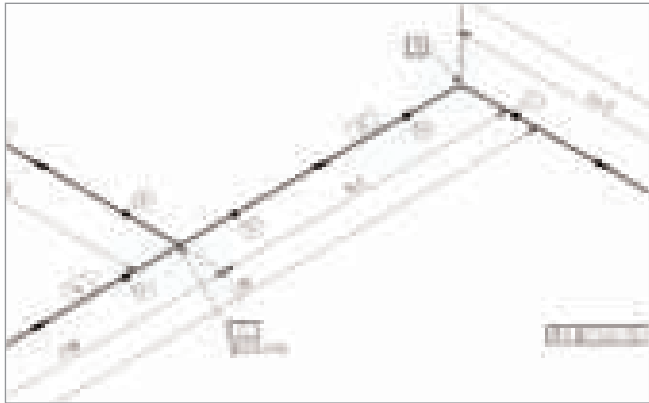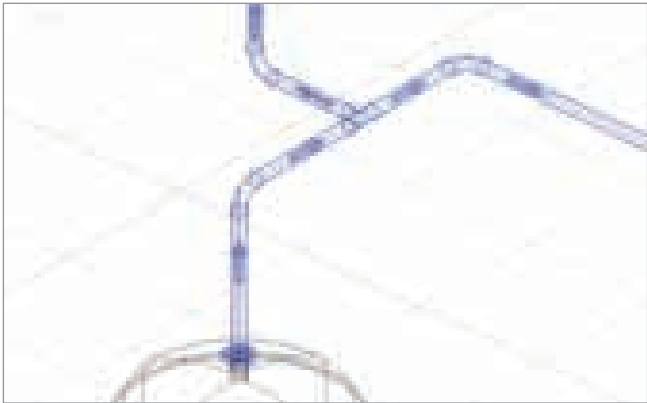
Now its possible to View CADISON Objects attribute in DWF viewer

DWF viewer is a free tool used for viewing CADISON 3D Models for the design review in an external environment (outside of CADISON). During the review, it is always beneficial to view the basic attributes of objects for better communication. With this enhanced 3D DWF exporter it is possible to export CADISON attribute information along with the Model as per the defined configuration. Flexibility to configure the parameters to be exported will help the User to decide the attributes to be visualized in 3D DWF for the Model review. This improves the efficiency of review and communication.
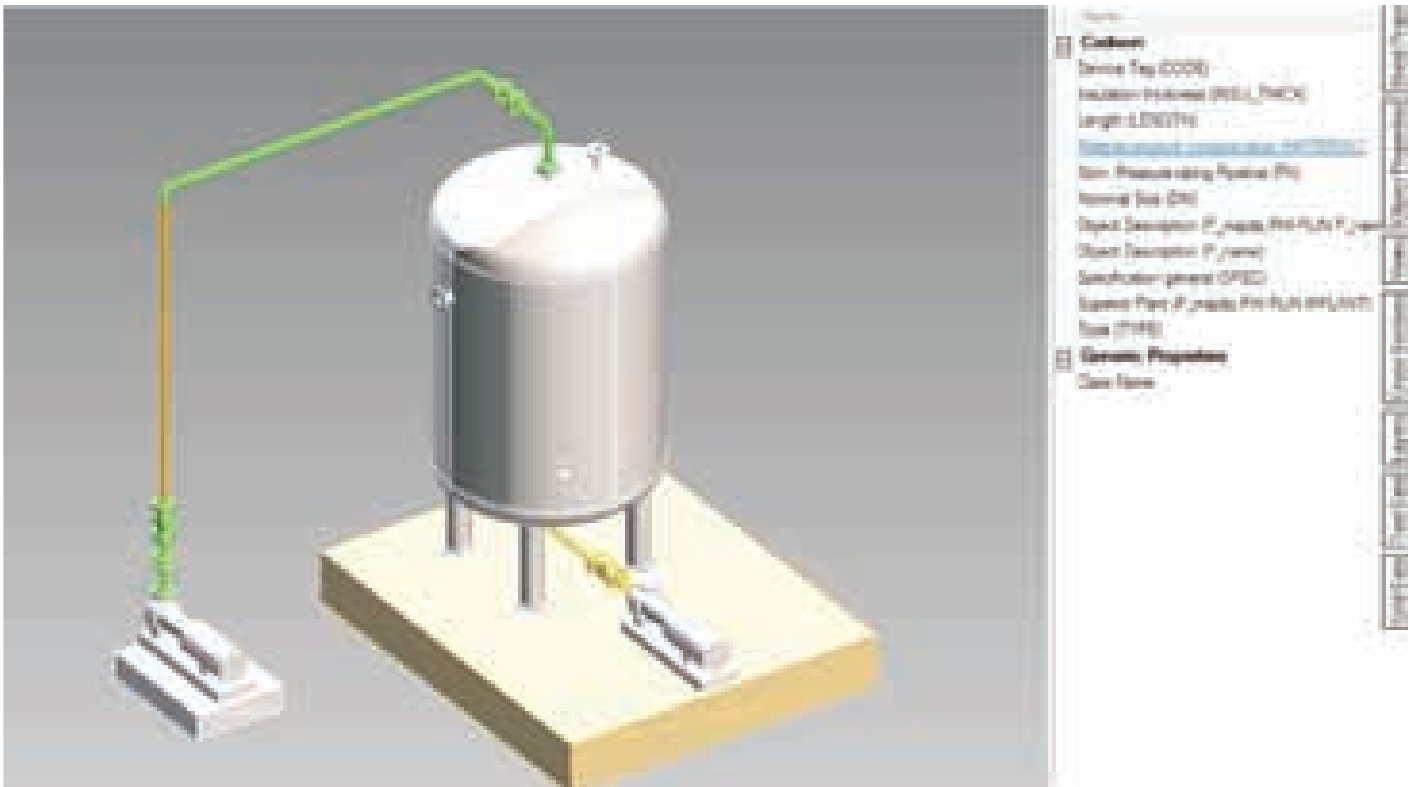
Steuler Anlagenbau finds Change Management and Supplier Co-ordination much Easier & Faster with CADISON

Accomplishes customer-specific large scale projects in CADISON

Steuler Anlagenbau designs and supplies complete plant systems for the treatment of metal surfaces and treatment of industrial waste water with the recovery of raw materials and water. The company is also an expert in systems for the catalytic, thermal, physical and chemical removal of pollutants from exhaust gases.

Steuler Anlagenbau belongs to the Steuler Group. It operates many worldwide leading brands with innovative technologies in the fields of plant engineering, linings and tiles. Founded in 1908, the medium-sized company today employs over 2,800 people at 25 international locations.

> "Before using CADISON, we spent weeks comparing P&IDs with the various lists. With CADISON, this is now reduced to the maintenance of the shared database."
>
> **Achim Trumpler** - Absorption Technology & Flue Gas Cleaning

Working with CADISON

Steuler Anlagenbau uses CADISON Project Engineer primarily for project management. CADISON helps in the generation and processing of meaningful reports based on the P&IDs, (e.g. electrical or instrument lists, piping systems reports). The CADISON P&ID Designer supports the CAD department in creating P&ID flow diagrams. The equipment data, which is important for the P&IDs (labeling and info fields) or lists (fittings list, electrical consumer list, instrument list, equipment list and nozzle list) are easily stored into the single database.

CADISON facilitates Steuler Anlagenbau to design highly customer-specific and individualized plants, especially in the field of pickling plants for steel and stainless steel, flue gas scrubbing and desulphurization as well as catalytic flue gas cleaning. The construction of these plants are often major projects with contract values of between €500,000 and €20 million. In the meantime, the company has also started to process their standardized systems for flue gas denitrification and catalytic flue gas cleaning in CADISON. During the allocation of suppliers, there are various changes and revisions happening during the engineering and procurement phase, but with CADISON the change management becomes an effortless job. The structure and the data become specific during these project phases. The centralized database enables the data of the P&IDs and lists to be consistent. In addition, several Users from different departments can process different parts / components of the plant at the same time. For Steuler Anlagenbau this is one of the major added value of working with CADISON. CADISON has planning, design, documentation and data / project management, all in one system.

Tasks management in CADISON (using Task Container) Improves Project Planning, Tracking and Co-ordination

Project co-ordination / management has now become easier with the implementation of Task Container feature in CADISON. The container in CADISON enables Project Leads to plan, create and monitor the project tasks in an engineering environment. Group of tasks specific to a discipline or to be executed by an individual can be assigned using Task Container feature.

At the beginning of a Project the Project Manager or Team Leader defines the tasks for the project member, creates a description and sets the start date and end date. By default, the project members get an overview of their tasks list when they start the work in CADISON.
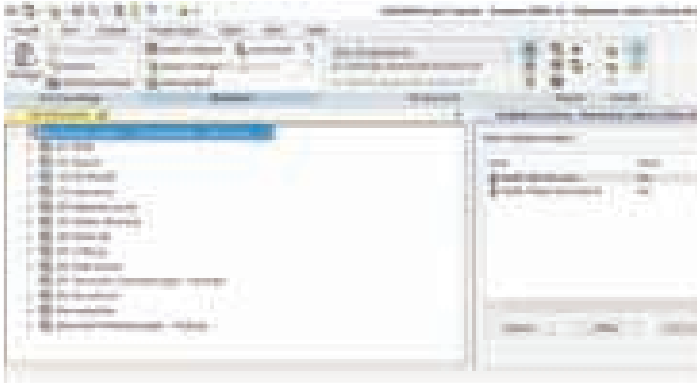
Each Task will have a notification attached whether its new or work in progress or completed. The User also has the ability to change the flag which indicates the status. The task description can also be specified by the Project Manager or Lead or User and it is easy to get access to the object to be modified from the Task Container itself.

In the task list, you have a listing of all objects which has to be modified along with task description and start & end dates. It is easy to search for tasks that are open or completed or which have a problem or dependency.
The Team Member or User can work directly from this table to modify the objects and change status depending on the progress. Completion dates can also be captured automatically from the last change date.

From the PDM module the Project Manager or Project Lead can also check all active projects (not just one) and get an overview using various search options available.
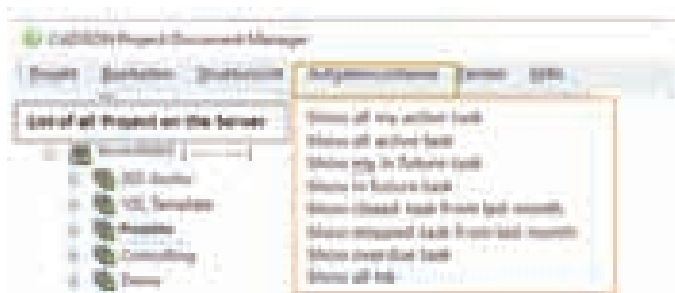
As shown above, after selecting 'show overdue task' the Project Manager or Team Member can get a list of overdue tasks from all projects.

With the Task Container Function the project manager gets a complete overview for all projects in the company.

CADISON 'Process Documentation' Functionality in P&ID Designer

Process definition and steps

The Process Documentation is the key for early stage process engineering function which is essential to a quality project outcome. The Process and Instrumentation Diagram (P&ID) provides the foundation of design on which the rest of the project relies. T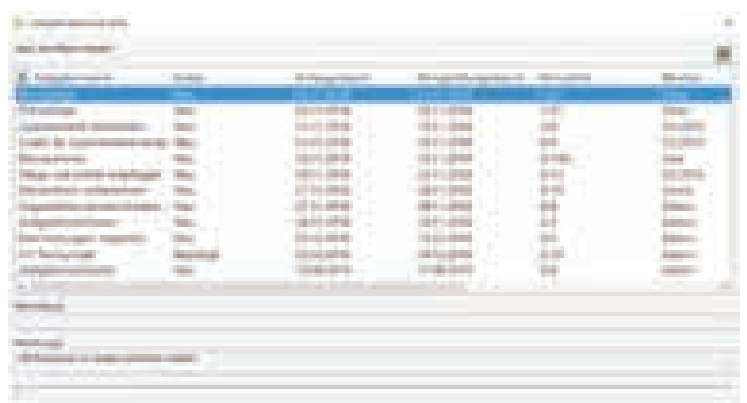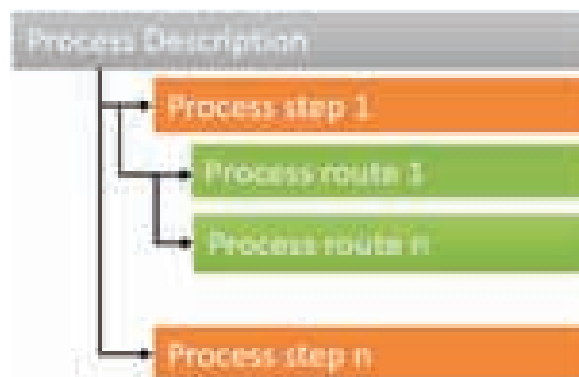hus, the P&ID is the Master Document for all process plants. The process workflows are indicated using different graphical symbols, which denote specific useful information about the process and its related instrumentation.

A schematic overview of the Process Documentation structure

It is the responsibility of Process Engineers to describe the process along with the different measures such as pressure, flow, level, etc. and their respective control schemes in relation to the elements of the plant and its interconnected pipes. Defining this entire process with all interconnected details is known as process definitions and steps. A process plant can have multiple processes, and the processes will have different process steps where detailed descriptions of equipments, valves, measurements, etc. need to be taken care.

For example: A filter has pipelines for the water entry, drainage, valves and measurement for level information with the different interconnected objects and different functionalities which complete the entire plant process.

A short graphical example which shows the achievable results:

In this P&ID all the pipelines, valves, etc. are in black.

With the Tree Structure View, the User can view and edit the processes, process steps & process routes and can describe the details for different steps.
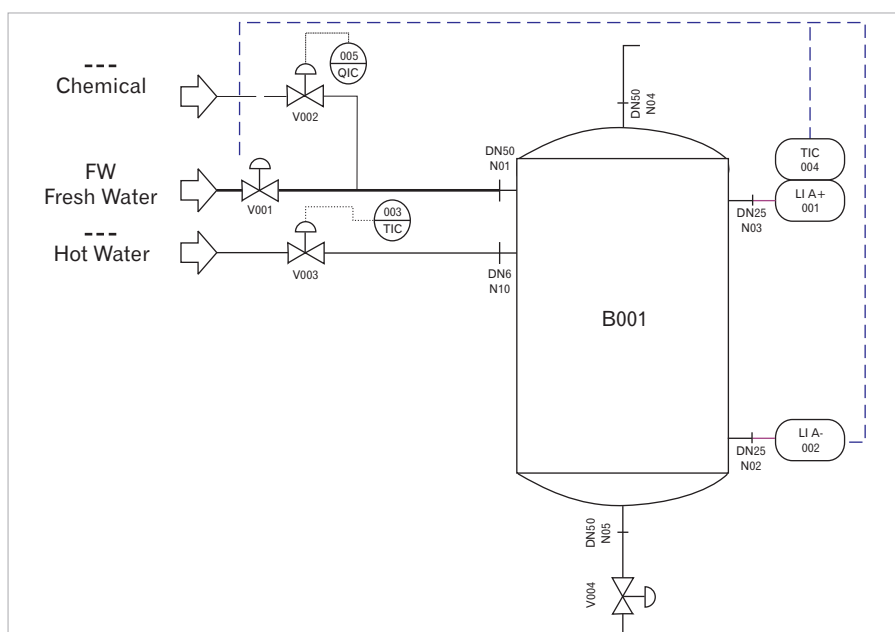
Based on a P&ID, the newly introduced functionality can be used to define the processes that are mapped in it. To achieve this, a process is first created, e.g. 'Washing filter', then a number, a name and a description need to be specified for the process introduced in the P&ID. After that, every individual process step must be defined for this process such as 'start cleaning', 'open drain' and 'end of washing'. For each process step, multiple number of process paths can be defined, based on a graphical selection from the P&ID. Different graphical parameters can be defined for each such path, e.g. color, line thickness, line type, etc. Further to this, a status can also be specified for each component that belongs to a route.

Process Description 'Cleaning Filter'

Below are the required steps:

Now the User can create all the required process routes to describe the process steps in detail with which the User can generate the Process Documentation.

Each generated PDF sheet will have the title and detailed description of the process steps.
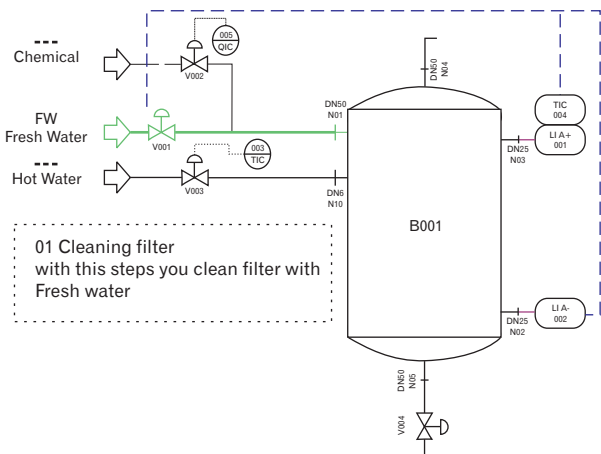
For process visualization:

- The process route will be highlighted in color

- A status flag can be specified for each control component that belongs to a specific process route

- The status flag can be an abbreviation (e.g. 'x1') and also a description (e.g. 'valve fully open')

If the processes, steps and process paths are defined by using the new functionality, then a multi-page PDF file can be automatically created from the P&ID, which helps in visualizing the individual process step. The multi-page PDF file can then be exported and stored outside the CADISON system.

There is another possibility to generate a report in MS Excel Matrix template for the process steps and the components used.
In the columns, from left to right, the processes and process steps are displayed. In the rows, from top to bottom, the components of the plant are shown (tagging and possible object description).
The results in the matrix can then be used to define which component is required for which process step. The status of the component is displayed in this matrix (for example, 'x1' as described in process visualization steps) like a cause-act diagram.

All defined status values of components can be generated as a report in an additional sheet in the Excel file. The internal abbreviation and the descriptive text are outputted for this purpose.
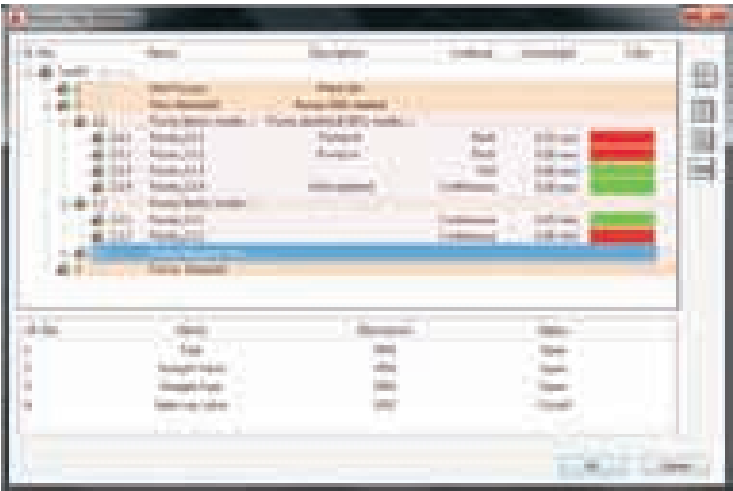
Plant Design & Equipment Engineering Solution

CADISON® Project Engineer: A non–CAD solution for Project Planning, Cost Estimation, Engineering Information & 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.

CADISON® P&ID Designer: A comprehensive spec-driven module for the 'creation of Intelligent PFDs / P&IDs' and 'Instrumentations (measurements & hook-ups)'. It has the ability to 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 also allows Users to adapt company standards and reporting formats. Pre-configured design rule-based checks for Data and Drawing Validation, built-in capabilities such as construction-set, Auto Legend and Auto Tagging, etc. significantly reduce the drafting efforts.

CADISON® 3D Designer: A complete 3D plant design module for Plant Layout, Pipe Routing, Equipment Modeling, General Arrangement & Isometric Drawing creation and Report Generation (BOMs, MTO & Datasheets). It provides the Users with various time-saving wizard / design assistant such as Section Box for GA drawing creation, 'Tank Assistant' & 'Nozzle Assistant' for creating 3D vessels and tanks. Its ability to synchronize and validate the information with P&IDs caters to process design safety and consistency.

CADISON® Electrical Designer: A comprehensive solution for Electrical Engineering Design, Documentation and Management. Its a unique combination of 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 and Reports Generation (BOMs, MTO & lists) reduce the drafting time.

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. Its SDNF export interface enables the Users to export steel structure data to Tekla and Advance Steel for further detailing. It is configurable to adapt any standard and custom guidelines for validation of parameters and steel profiles and thus reduces design errors.

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. Database of Templates, Piping Component Libraries from various Design Standards and an extensive list of Catalogs from prominent vendors are available for ready to use. User Management with Revision Management of Master & Working Catalogs enables to standardize and maintain versions (replica and extended replicas) of catalogs at the organization level.

CADISON® Pipe Support Modeler: An intelligent wizard for Standard Pipe Supports which assists 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 reduce the documentation efforts. It can further be used for Electrical Cable Trays, HVAC Ducting Systems and Bus-ducts Supports as well.

CADISON®

For Improving your Engineering Efficiency by 30%

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® ROHR2 Interface: It has the potential to transmit all pipeline systems created with CADISON® 3D Designer to ROHR2 for the quick and accurate static and dynamic analysis of piping system. All the required information will be completely transmitted in the form of NTR files for analysis.

CADISON® CAESAR II Interface: This interface has the ability to export the pipeline or selected pipe data from 3D Designer to neutral ASCII format .cii file. It takes into account the several load parameters like weight, pressure, thermal, seismic and other static and dynamic conditions 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 gives the ability to import & update an object from the Inventor original / updated model.

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

CADISON® modules

CADISON® modules

How CADISON as an integrated software solution fosters the Digitization of the engineering process for plant design and beyond

The key to Digitization is the integration of the entire engineering process which helps to enhance the market competitiveness and get prepared to face the future challenges. This is particularly true for plant designers and plant operators. However, to take the planning process to the next level, the individual phases, work steps in the planning and project management process must be automated or digitized.

Horizontal integration

Horizontal integration supported by an appropriate software solution can contributes to simplify the conventional working methods and workflows. This is not just a matter of saving pure planning time (for example creating a P&ID pipeline or instrument flow schema) the advantages go far beyond this. It increases the quality of planning data and ensures the plant safety. Other important aspects are avoidance of errors (like collision check and data is entered only once with an integrated tool), the chance of multiple use of plants once being planned and the possibility of parallel planning across different disciplines & time zones. Thus, the full implementation of an appropriate engineering software will lead to saving costs and increasing efficiency.

Plants designs must be made by accurate calculations, perfect planning, building, and operation. During the course of this process, a multitude of data is created for e.g. process data, drawings, graphics, specification sheets of the manufacturers or plant documentation. The digitization of processes is not limited to 3D models or process control technology. On the contrary; it encompasses the holistic integration of all processes and supports BIM (Building Information Modeling) for Plant Engineering.

During all phases of the planning and construction process as well as operation, a major challenge for the Project Users / Members is to be able to access all the relevant information or the possibility of parallel information (transparency). Horizontal integration is needed for such transparency.
Conventional tools like MS Excel, MS Office products, ERP systems, CAD systems cannot map dependencies. Besides this, co-ordination between the specific departments often does not take place, data entries are made several times, making it difficult to keep an overview. Therefore, it often happens that the same process data is processed several times (repetitive) and transferred to the respective systems manually. The necessary quality inspection of this manually entered data is very time-consuming. In addition, different CAD systems are used in different phases and processes, makes effective co-ordination at this level almost impossible.
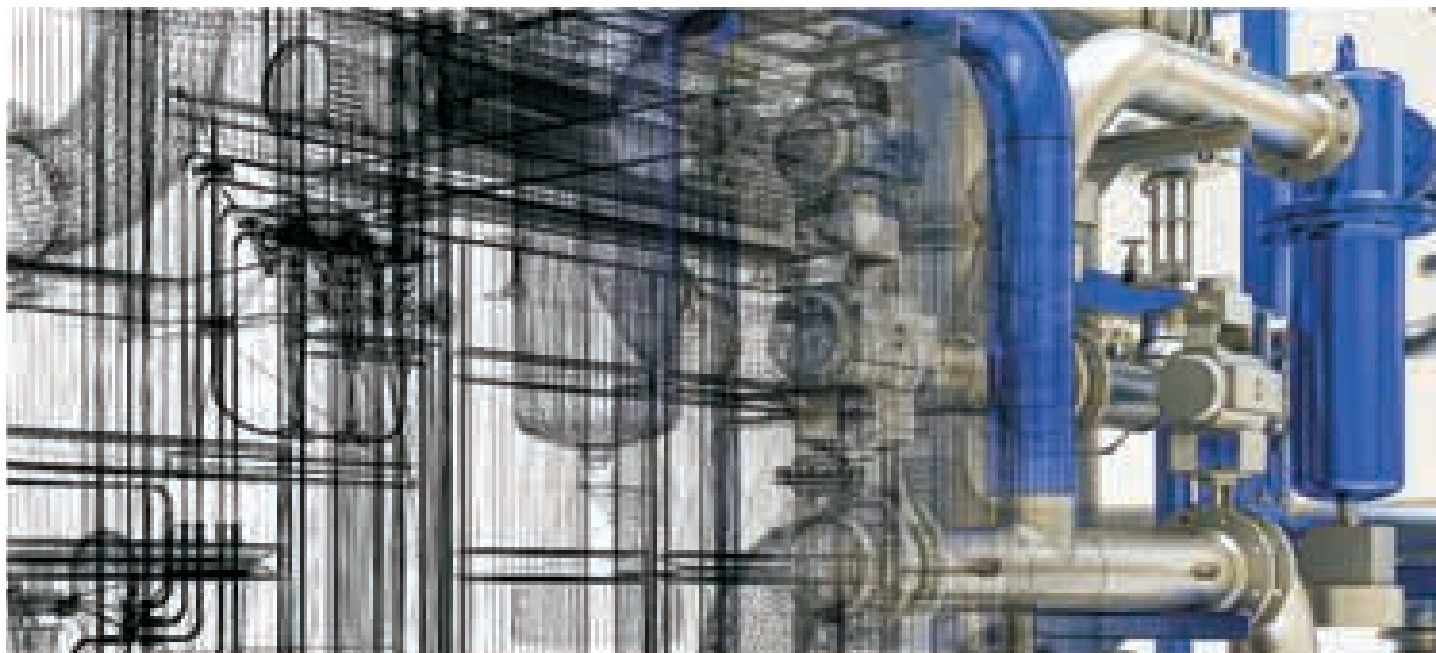
10 steps for simplifying the planning process

To what extent can the full implementation of an integrated system like CADISON contribute to simplifying the previous working methods and workflows, increasing the quality, reducing the pain points & time consumption and ensuring the plant safety? How can the project management i.e. the collection and modification of process data, data transfer to higher-level systems and document creation can be automated?
By following a 10-point-program supported by an integrated engineering software – the factory planners can get a head start on the Digitization of their project management processes:

1. **Create a digital workflow**
2. **Standardize as much as possible**
3. **Use interdisciplinary assemblies**
4. **Simplify process steps through modularization**
5. **Improve cross-system documentation**
6. **Professionalize your document management**
7. **Switch to paperless documentation**
8. **Automate your quality management**
9. **Ensure IT security**
10. **Reduce manual work through meaningful data interfaces**

This approach is based on the **i² PIM** methodology (intelligent and integrated "Plant Information Modeling"). It will increase efficiency and significantly reduce the planning costs. A further added value is that the plant operator will be able to continue using the process data during the entire plant lifespan.

Advantages of an integrated engineering software

The advantages of an integrated engineering software like CADISON for plant constructors, engineering consultants and operators are obvious, because it
- **shortens the planning time**
- **simplifies the project management**
- **improves the communication between the different areas**
- **reduces additional work due to system breakdowns**
- **contributes to error minimization**
- **is a necessary preliminary stage for BIM**

Over the entire life cycle of a plant, all data is collected in a single database. This is another added value of an integrated engineering software solution, that the data available there can be used not only for plant planning but also for ongoing plant operation. It provides support in administration, document management, costing and supply chain management, as well as expansion and maintenance.

Switch from popularly known platform to intelligent P&ID System of CADISON

Who we are:

The Desmet Ballestra Group is a world leader in developing, engineering and supplying technologies, processing plants and proprietary equipment for the business areas of Food & Feed, Oils & Fats, Oleo Chemicals & Biodiesel and Detergents, Surfactants & Chemicals. The Desmet Ballestra Group is present in all major markets of the world through its integrated business units located in America, Europe, Asia & Far East Asia with India Business Unit (FDSBG) as Global Design Centre, and thus supports all other Business Groups around the globe.

FDSBG Engineering Services, Bangalore as an Indian Arm of Desmet Bellestra is responsible to support its clients with advanced technology & customized plant solution. It is committed for improving and optimizing its customers' quality of products and processes which helps increase manufacturing capacity. All of this needs a system with which Desmet can meet all market demands and also be faster and accurate than earlier.

Why We Choose CADISON:

With an expansion of business and market presence, Desmet needed an efficient system with accuracy and ease of use. Hence we started looking for the solution which is based on AutoCAD specifically. Though the existing system based on Microstation platform was in use, Desmet's workforce was comfortable working with the AutoCAD based tool. In pursuit to shift to a reliable and user friendly solution, Desmet defined a criteria of an intelligent & configurable tool with flexible Data Exchange capability and was ready to move from in-use homegrown DB tool to a centralized database system.

After evaluating various products in the market, the search ended upon CADISON which is an Intelligent, Flexible and Integrated 3D Plant Design Solution. As CADISON is on the AutoCAD platform, it becomes quite an easy effort to adopt the tool and streamline the induction. Our organization was able to standardize various Reports & Templates and automate the workflow as per the company standard with minimal efforts. As defined in selection criteria, Desmet has its own built-in MDB tool which has to be integrated seamlessly

for exchange of data with CADISON database system. Which was one of the major roadblock for using Microstation platform based Solution. With CADISON and its support from CADISON Helpdesk, the journey to accomplish the data exchange between home grown database systems into CADISON became smooth like never before and this data can be used easily for the project execution. Not only just data exchange, but it transferred all the co-related information of data sets at one go without any complications.

Three Key reasons for CADISON selection:

- Interested to reutilize / maximize present skill sets rather than learning entirely new skill set of new authoring tool of CAD.
- Among various available solutions in market CADISON was the only solution to cater to unique requirements of Desmet.
- Able to maximize / utilize existing investments, methodologies, workflows with Data exchange capability from in-use home grown DB tool into a centralized database system.

Adopting across geographies

With the trained CADISON Key Users and the expereince gained during the implementation for the India territory, FDSBG got the confidence to roll out the CADISON implementation in its Malaysia Design Centre. It was quite a journey of unifying the workflows, setting up databases for synchronization so that both the team can work on single project from different geographies. With this experience, our organization is ready to expand to more locations if required in future.
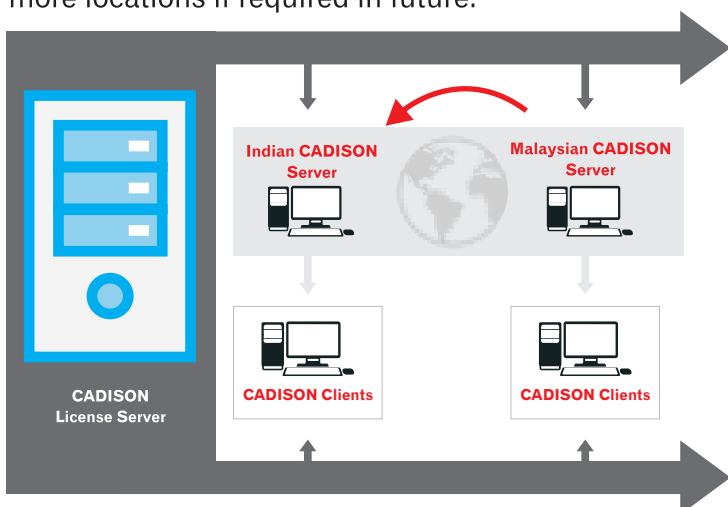
Key Benefits Harnessed by Implementing CADISON:

- Reduction in drafting, project planning and data management time
- Prevented from reworks / redundancies and project errors completely
- Reusability of data (Projects / Drawings / Templates) for future projects
- Automatic tagging and labeling helped them to map huge number system for both hierarchical and modular data
- Direct and easy access to specifications & data ensures a higher rate of standardization
- Customization achieved at the organization-level for Report & Templates / Catalogs / Data & Drawings
- Reduction in time for creation of Reports and 'Check & Validation' of drawing objects

We were very much impressed with the flexibility, intelligence and adoptability of CADISON. Neilsoft (India)'s approach & methodology to build partnership in a true professional way beyond product sales made them a unique solution provider. They in fact built the whole library for us, listened to all the points / queries carefully & provided adoptable solution to all the queries.

"With full support from Neilsoft, commitment from FDSBG, we were able to implement & institutionalize the system in a record time."

Effektivplan finds good value in CADISON for Planning and Change Management

Sees Work Efficiency improvements each year with CADISON
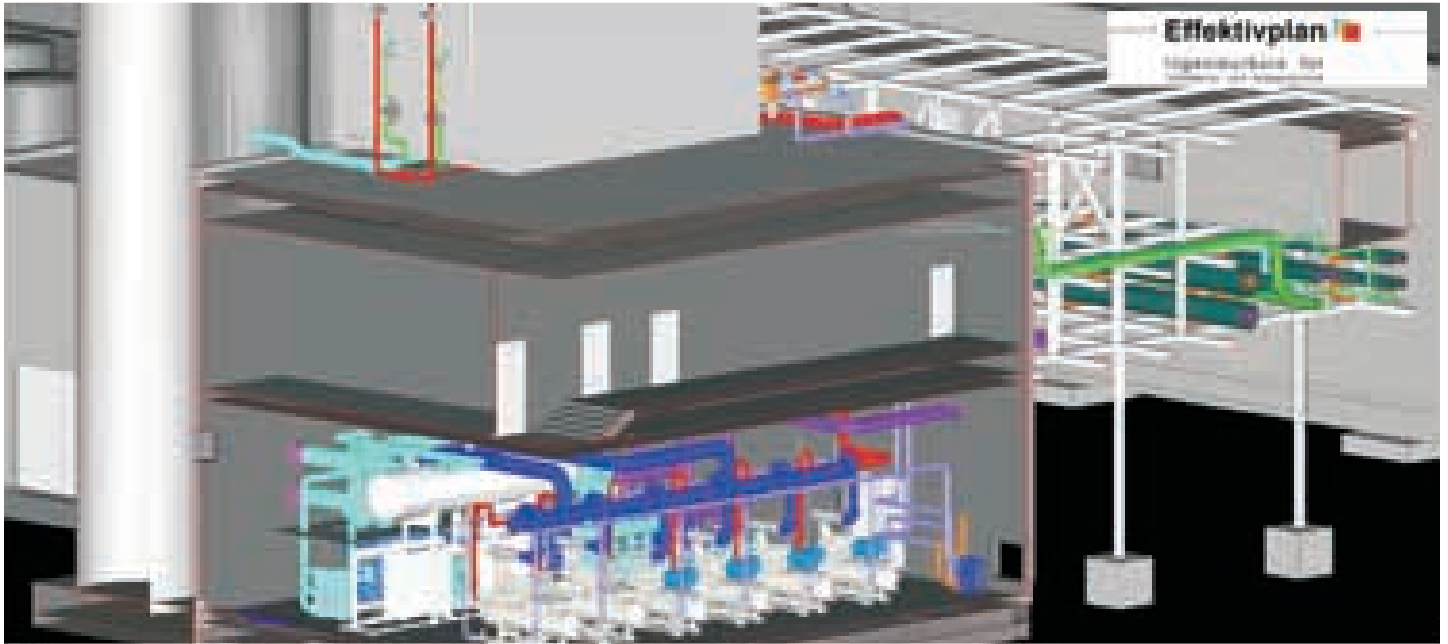
Effektivplan is an engineering company specializing in process and plant engineering since 1997. We have more than 25 years of experience in the planning, commissioning and operation of process engineering plants for food and chemical industries. For project execution, the company uses state-of-the-art technologies in order to provide eco-friendly, economical and cost-efficient solution to its customers.

It offers a broad range of engineering services for complex projects in the field of plant construction or rebuilding - from planning, conducting feasibility studies, tendering, supervision of the installation to acceptance testing and the final documentation.

> "The great advantage of CADISON lies in its database, which combines all relevant components and these components only need to be specified once. We have been working with the engineering software since 2000 – and we can no longer imagine plant planning without this program support."
>
> **Peter Tünte,** General Manager

Effektivplan uses CADISON primarily in the field of plant planning for industrial refrigeration systems. The different CADISON modules i.e. P&ID Designer, 3D Designer, Project Engineer and MATPIPE are applied in different phases of the plant life-cycle. CADISON stores and combines all planning steps in a central database - whether for creating detailed P&IDs, flow diagrams, 3D pipeline plans or generating reports (e.g. in the form of stock lists).

Effektivplan has been working with CADISON for 19 years now. As per the Users, CADISON has added value with the capability to create extensive plants within the framework of complex, large-scale projects with only one consistent plant planning software. All relevant data (object-related) is stored and updated in real-time. Therefore, changes and specifications of the data for all components have to be made only once and are readily available to all the Users.

In addition, the central database enables all the departments / divisions to work on one project from different locations. For all these advantages, Effektivplan describes CADISON as a solution which is an indispensable part of everyday planning.

With Industry Foundation Classes (IFC) Interface CADISON can read and write data in IFC format
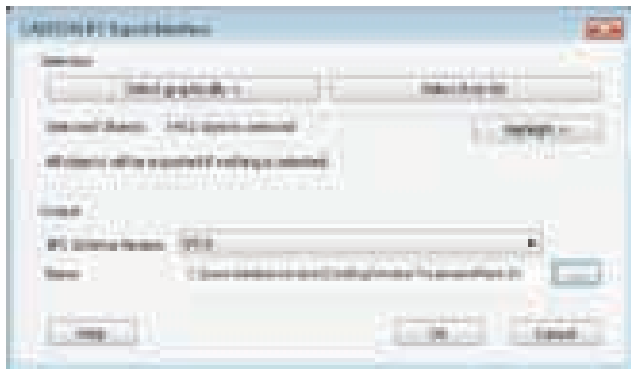

IFC is an object-based file format with a data model developed by building SMART to facilitate interoperability in the Architecture, Engineering and Construction (AEC) Industry. The IFC model specification is an open source and easily available. It is registered by ISO with an official International Standard i.e. ISO 16739:2013. With the new IFC interface in CADISON R19 Plant Design Model, CADISON can now make seamless integration with AEC world.

Ability to configure project details, along with the configuration option to define the objects and properties to be exported; and thus mapping made it a versatile tool to use with any system that supports IFC Import and Export. Easy-to-use and simple UI for import and export functionality of CADSION helps to complete the entire process with the minimum number of clicks.

Option to select the objects which needs to be exported graphically from the list, and verification of selected objects with the highlight option made the selection intuitive and thus this eliminates the rework.

This bidirectional interface allows to import any IFC model (in addition to export) for referencing in CADISON as well as to have the final (as-built) model of complete plant with AEC components in the Process Plant Model Environment. The capability to export the CADISON 3D model in IFC format and import the IFC model into the CADISON 3D Designer also assists the team for better co-ordination in a heterogeneous design environment.
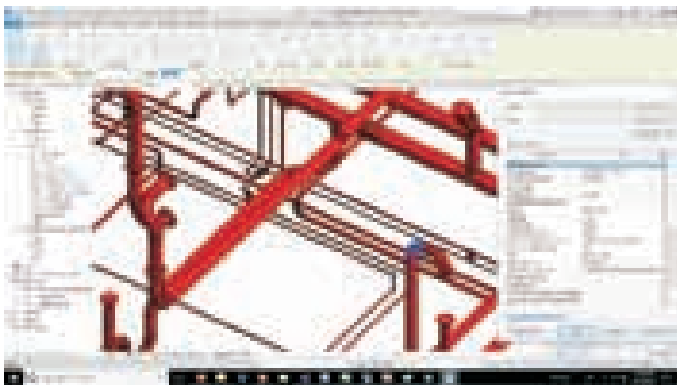
E.g. CADISON Model in Revit with Attributes
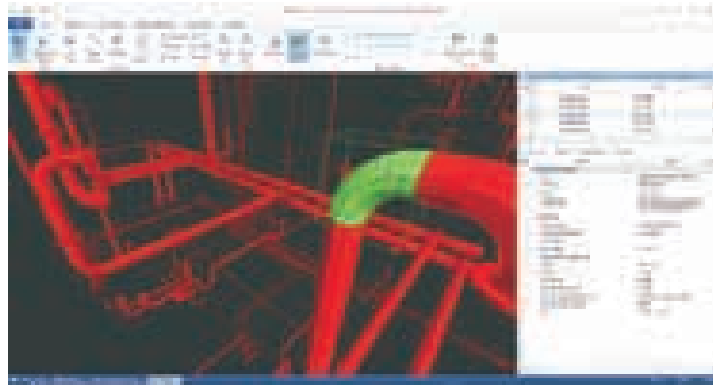
CADISON Model in IFC viewer with Attributes

Additional alternatives to configure export & import options with IFC versions such as IFC 4 or IFC 2X3, file formats such as *.ifc, *.ifcxml, *.ifczip, makes it most generic and imperative interface. Option to define the geometric quality as 'Small', 'Medium', 'Large' will give control to the User to define the final file size, as these options are used in creation of the mesh entity to control the file size.

The option "Repair Geometry" is used to remove the duplicate points and also create single surface from multiple facets, which helps to reduce the clutter & the file size and improves the speed of operations such as rotate, move, zoom in / out, etc.

The imported IFC components in CADISON will be converted as AutoCAD mesh entity formats and corresponding IFC classes as CADISON objects (e.g. IFC Beam and IFC Valve). These can be created with necessary attribute information for further usage as well as report generation using CADISON Report capabilities.

VAMED AG Implements CADISON Electrical Designer and Project Engineer for Health Projects, finds Data Management and Cable Tray System planning better in CADISON

CADISON Modules: Electrical Designer & Project Engineer

VAMED AG is an Austrian company based in Vienna, a global provider for hospitals and other facilities in the healthcare sector. The VAMED portfolio ranges from project development, planning and turnkey construction via maintenance, technical, commercial and infrastructure services to the total facility management of healthcare facilities.

For more than three decades, VAMED has implemented around 850 health projects in more than 80 countries worldwide and provides around the globe tailor-made services for hospitals and other healthcare facilities. They create efficient models for the construction and modernization, as well as the technical operation of hospitals.

The General Hospital (AKH) Vienna is one of the largest university hospitals in Europe with 29 clinics and institutes, and an important customer for VAMED with a long-term existing partnership. VAMED was seeking a solution for the AKH Vienna to replace its age-old cable planning system called ARKADE and found CADISON as a perfect fit solution for VAMED's every requirement.

> "CADISON is an information source for us or let´s say it rather serves as the basis for our conversions."
>
> **Peter Hibnar**

VAMED opted for CADISON Electrical Designer as a system solution for electrical engineering redevelopment & reorganization, and for data migration of cable and terminal planning since 2001. As CADISON Electrical Designer has its own Intelligent Symbol Library which helped creating electrical layouts and circuit diagrams effortlessly. VAMED AG further created custom symbols for telephone switchboards, cable tray, circuit diagrams (for Fire Alarm System).
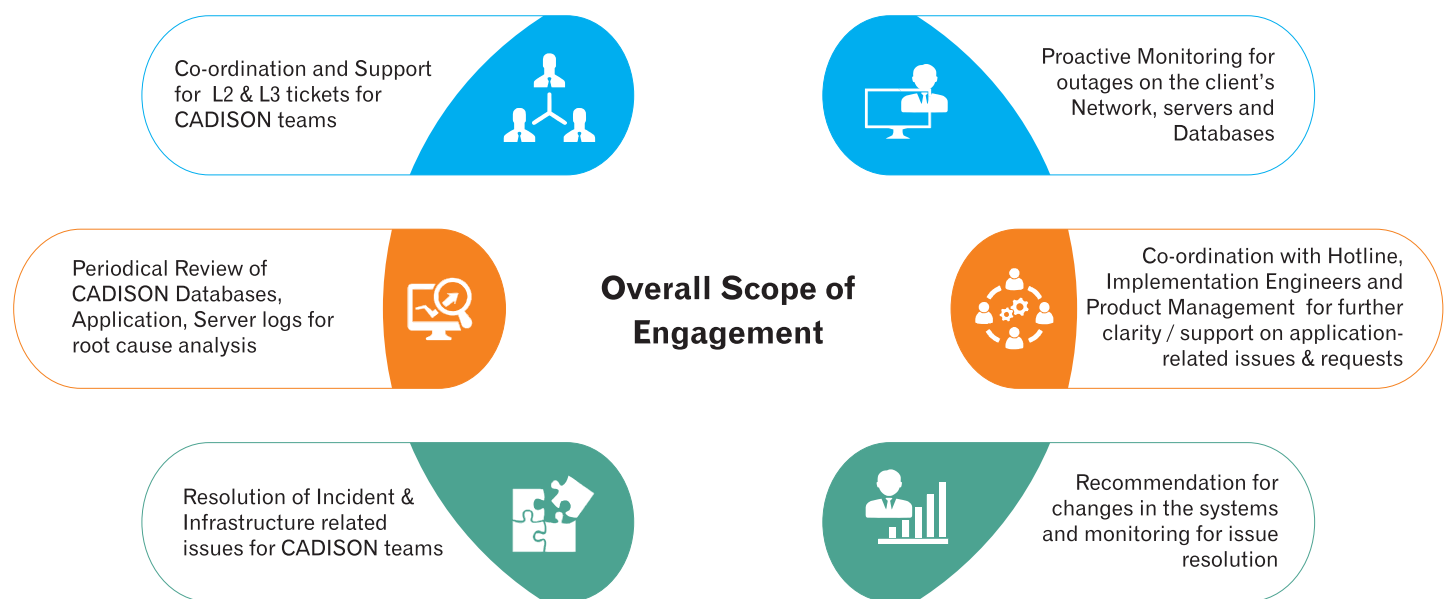
VAMED wanted an AutoCAD based documentation tool with built-in database, especially for the management planning, execution planning and documentation. We found CADISON Project Engineer an apt tool for our data management, re-planning and re-scheduling needs. This association of 17 years has been possible because of the continuous efficiency and innovation CADISON brings to our system.

Global Support for Productivity of Engineering Teams

Any global organization with multiple teams across geographies or a larger team in a single location always needs an efficient system / process for resolving the issues raised by the engineers, so that the unproductive time (waiting time for solutions, trials and errors) is restrained and authenticated solutions are made available from experts. Typically, this responsibility falls on the Key Users, whose invaluable time is better spent on projects than on the co-ordination and execution of fixing such issues.

ITandFactory introduced the CADISON Global Support Team which has in-depth knowledge of CADISON and can bring inside-out expertise to the End Users. The globally located (Germany & India) CADISON team not only increases support time coverage but is also able to setup the dedicated support team for a specific customer to work as their extended team. With further agility to adapt customer specific tools for tracking tickets / issues, defining customer specific workflow and providing POC makes the support team an asset to the End Users.

With well-defined SLAs, periodical (monthly) meetings with the end customer for monitoring all the issues, their progress status and resolutions with quick response time; all added accountability and value measurement in the overall process. The Global Support Team also co-ordinated with CADISON Hotline, Implementation and Product Management teams for further clarity / support on application-related issues.

Co-ordination and Support for L2 & L3 tickets for CADISON teams		Proactive Monitoring for outages on the client's Network, servers and Databases	
Periodical Review of CADISON Databases, Application, Server logs for root cause analysis	**Overall Scope of Engagement**	Co-ordination with Hotline, Implementation Engineers and Product Management for further clarity / support on application-related issues & requests	
Resolution of Incident & Infrastructure related issues for CADISON teams		Recommendation for changes in the systems and monitoring for issue resolution	

In our continuous endeavour for improved usage of CADISON, we are pleased to announce our new extended Global Support Service for new and existing customers. Get in touch with us to find out more.

Customer Speak:

With our special global support agreement with ITandFactory, we are able to solve issues raised by our teams much faster and saved significant time of our designers. The synergy of ITandFactory and Neilsoft has not only addressed all technical queries but also working with local teams of two different geographies (Europe & India) helped us to get support in different time zones for different geographies. This also improved the overall health of CADISON systems (project DB server) with proactive monitoring by experts from the solution team. The support team shared the typical work load of co-ordination of issues logged in our support ticketing system from the Key Users so that they can focus more on projects and design aspects.

PDS (Plant Design System) P&ID Import - PDS to CADISON Legacy Conversion

Typical brown field project ends up converting legacy data from one format (old system) to other format (newly adopted system). Every conversion do has to go through the pain of data loss.

Moreover reusability of converted data is one of the biggest concern. Any data imported into a new system has to be editable / modifiable to continue working on the current state of needs, just the basic refer / view option is not sufficient. PDS P&ID import capability of CADISON is built on the concept of continuation of new / modification of design on the imported drawings from PDS. This will not only help the organization to get a hold of legacy data but to reuse the same legacy data as much as possible, without paying a heavy price on data loss issues during the conversion.
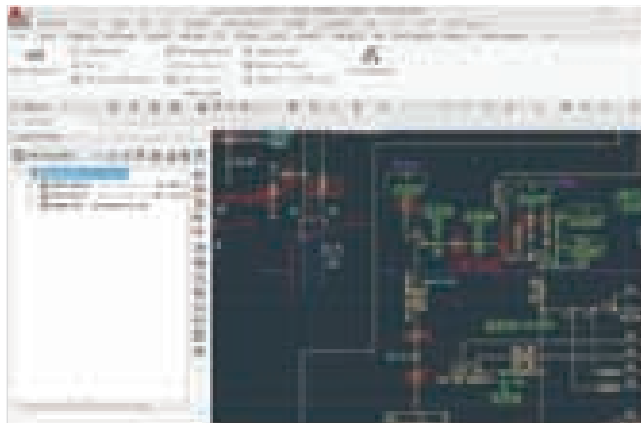
Imported PDS drawing in CADISON® P&ID Designer

The PDS P&ID import function process requires the following input data:
- Database dump files from the PDS Oracle database (files with .dmp file extension)
- PI&D drawing files in Microstation drawing format (with the .pid file extension)
- Manually converted AutoCAD DWG drawings from PDS Microstation drawing files (.pid format) along with SHX font files created using the 'DWG export' function in Microstation

The accuracy of imported data result depends on the up-to-date synchronized PI&D drawings with the database. Failure to synchronize within PDS or not able to get up-to-date data with drawings might leads to the failure of linking P&ID graphics in a drawing with the objects / data from the database.
Typical project do have multiple P&IDs, hence in order to import all the data at one go the User has to save the PDS P&ID drawing files (.pid or .dwg) along with the database dump files in a 'PDSImport' folder. This enables the User to drag the entire 'PDSImport' folder and drop on Project node of CADISON Tree.
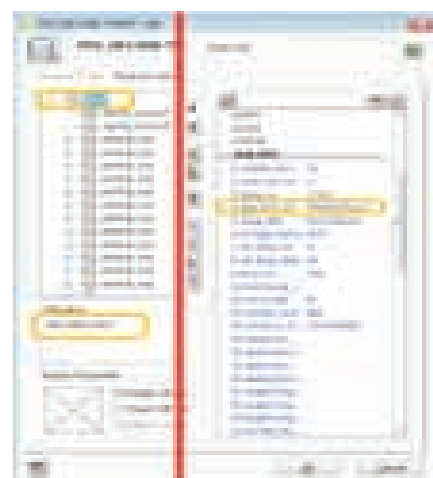
Three steps process to create intelligent CADISON P&ID from PDS
1) Drag and drop complete folder to import all P&IDs along with synchronized date at one go
2) CADISON automatically create objects along with new structure view 'PDS-Import'* to store the hierarchy of the imported objects
3) Drag and drop PDS-DWG Record object into new CADISON P&ID drawing to get the CADISON version of PDS P&ID

*The structure view hierarchy can be defined as per User needs in configurable file named as PDS_IMPORT.tdf.

Linked CADISON version of P&ID with .pid and PDS-DWG Records

The purpose of the PDS PI&D import function is to view PDS P&IDs with attribute information in CADISON and generate reports in CADISON report formats. The same drawings can further be updated with CADISON Intelligent objects in case of any modifications required. The update process is as intuitive as it is done in CADISON, the User can replace (deleted and re-created as native CADISON elements) imported PDS (original graphic) objects by using standard CADISON commands.

CADISON Workshop - Germany

CADISON User Conference - India

CADISON®

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