

CADISON WORLD

EXPERIENCES & NEWS

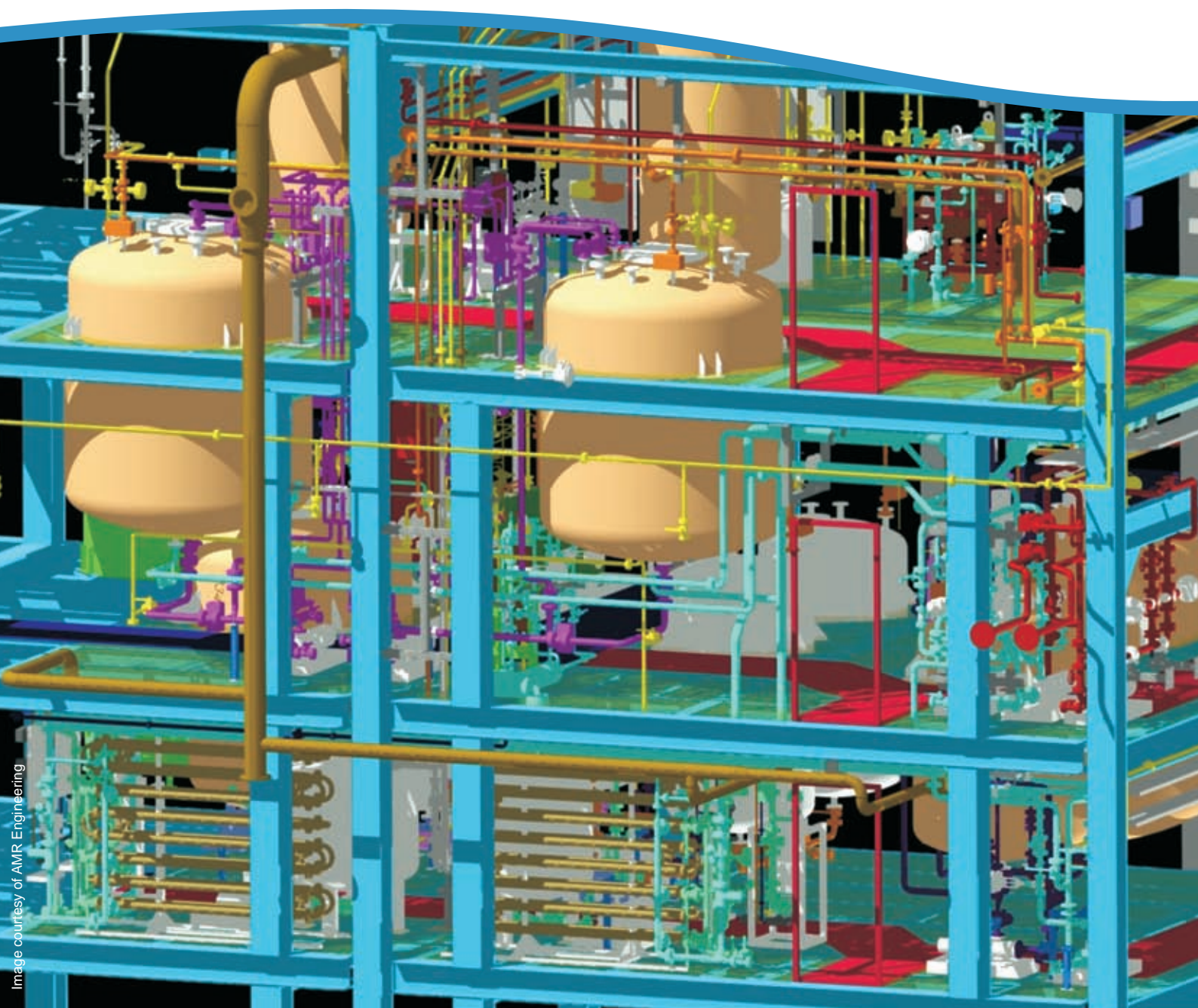
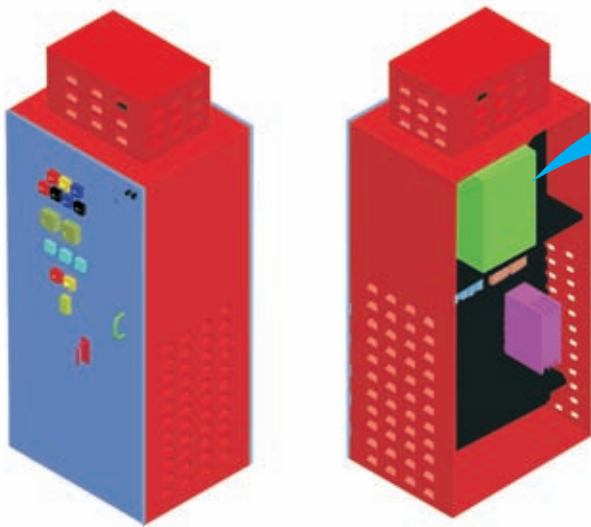
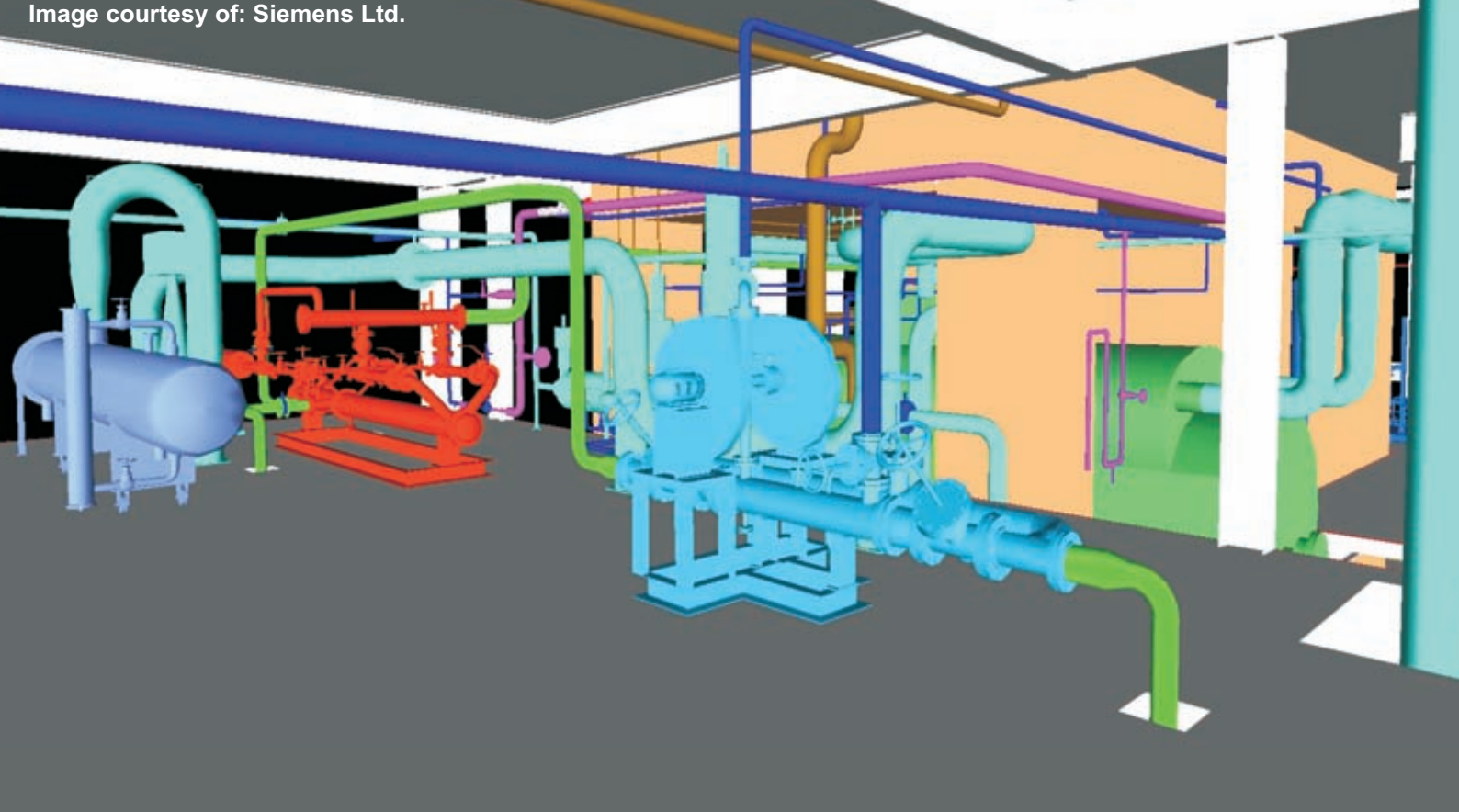


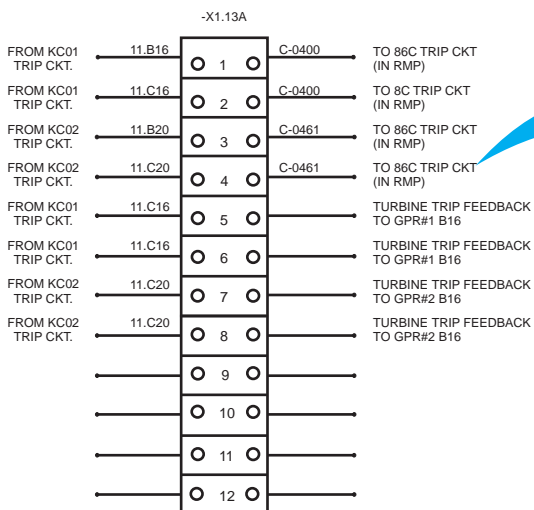
Image courtesy of AMR Engineering

Welcome to CADISON® R13
The Best Release till date !
Come On-Board



Availability of 3D E&I Equipments, Meters, Panels, Ducts enable creation of Layouts linked with 3D Model for clash detection.

Automatic cable routing and extendable cable tray library.



Drag & drop and dynamic menu features to create and update terminal diagrams.

Automatic creation of terminal drawings.

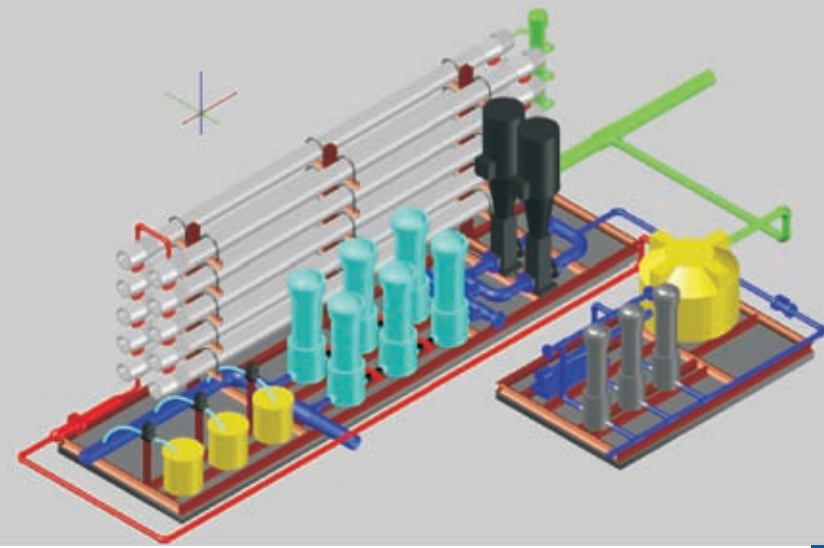


Image courtesy of: Aqua Matrix

“We are delighted to introduce our CADISON® R13 release... [The best CADISON® release till date.](#) In R13 release, we have made 105 improvements and it is a testimonial of our commitment to make CADISON® more effective for your project needs.”



Ralf Lehmann

Welcome...

Thank you for being part of this CADISON International conference (CIC 2013). We look forward to interact with you all and receive your suggestion for next year’s CADISON® release.

In the past 2 years we had accelerated our product development and testing efforts and the result is there to see in our R12 and now R13 releases. We are proud of our development and support teams who have worked very hard to make such good progress with CADISON® Release 13.

Moving forward, we now go back to our One Release per Year policy. Our commitment to you to continuously improve your ‘project engineering efficiency’ through our tools and services remains. We are the best integrated multi-disciplinary design and document management tool with a single (common) database and this advantage of CADISON® continues.

In 2012, we added many customers in the Power and Water segments. We also added Siemens (India) as a major customer and with their inputs our ‘Electric Designer’ offering is substantially enhanced. We also made many enhancements to our ‘Pipe Support’ modeler and it will now save you many hours on each project.

CADISON® is a ‘tool for engineers, by engineers’ and in the coming years you will see even more of this.

Ralf Lehmann
Vice President - Europe Sales

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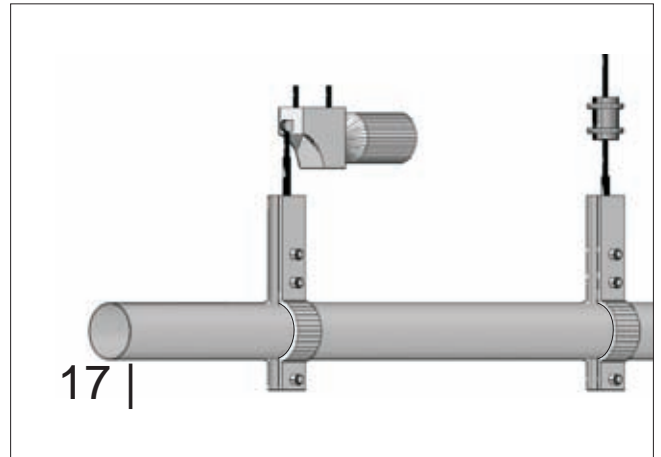
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Parametric Pipe Hangers in MATPIPE



ITandFactory @ ACHEMA 2012

CiC 2013

21 - 22
February
2013

RAMADA Hotel
Königsteiner Straße 88
65812 Bad Soden

CiC 2013 at RAMADA Hotel, Bad Soden



Ajit Joshi

CADISON® Mission and Direction

CADISON® celebrates its 15-year journey this year. Right from the beginning, its unique design philosophy & architecture and engineering data-driven solution approach has been a core strength. It allows seamless unification of data, objects and workflows – naturally yielding the ‘Single Version of Truth’ throughout the project life-cycle across various stakeholders of the enterprise, be it different disciplines or sites or suppliers.

Four years back, we embarked on a Mission to further improve the Project Engineering efficiency of our customers by 30%. We doubled our R&D investments over 4 releases and with CADISON® R13, we believe we have achieved our goal of increasing your project engineering efficiency by 30%. The improvements have been across the board, resulting in: increased stability, new interfaces, new modules and increased functionality, improved project management and document management and several productivity enhancing automations. CADISON® R13 release has been ported on AutoCAD 2013 and in the coming months will also support AutoCAD 2012 and AutoCAD 2014. It is the ‘Best’ valued fully-integrated multidisciplinary plant & equipment engineering solution in the market place around the globe.

Today, we find CADISON® users in 18 countries, and it is used in diverse sectors like Process Equipment, Chemicals, Oil & Gas, Power, Water, Food & Beverages, Metals & Mining, Pharma, Environment, Electrical, etc. across the end-user base of Equipment Manufacturers, Engineering Consultants & Service Providers, EPC Contractors & Owner-Operators.

Moving forward – In R14, we intend to add automations in steel structures area, make improvements in our GUI, tweak some existing functionality based on user inputs and further automate the generation of 2D GA drawings from finalized models. In 2011, we added an English language hotline support desk. Today we have a growing team of CADISON® consultants, technical support, implementation support and catalogue development experts to serve the English speaking market.

Finally, we would like to thank all CADISON® customers and partners for your continued support. We remain committed to our mission of improving the engineering efficiency of our customers and being the ‘Best Value’ platform for Plant & Equipment engineering.

Ajit Joshi
Managing Director - ITandFactory

Faster and Better Proposals with CADISON® Project Engineer

One of the big challenge for any organization is to get its Costing and Proposals as accurate as possible and remain competitive in the marketplace. Most CAD systems and plant design solutions on the AutoCAD platform do not have the capability to assist in this process. CADISON® does. The CADISON® Project Engineer module enables faster and better proposal creation through its conceptual engineering, cost estimation and report generation capabilities.

Below we define the first few steps explaining how to go about doing this:

1. Create new Project Database

Using Project Engineer create a new project database which automatically creates an empty structure along with essential CADISON® objects, report formats. Use project edit wizard to set all project and cost related details.

Or Copy an existing project database and revise all the project and cost related details that need changing to establish the new proposal project structure.

2. Create Sections and Logical plants

Divide the entire project into sections such as compressed air section, filtration section, water treatment section, boiler section etc (as shown in the picture). Create logical plant structure for these sections using object manager of CADISON® Project Engineer or copy sections and logical plants of previous project.

3. Add Object Catalogs and Document Structure to a logical plant

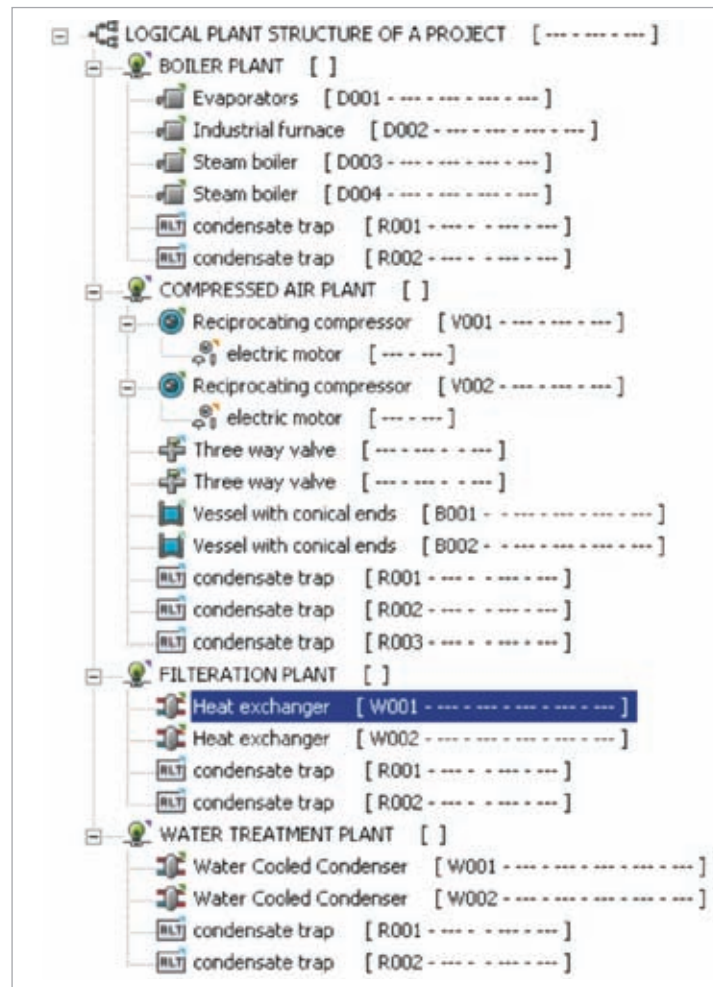
Add object catalogs like equipments, vessels, valves, pumps and instruments which are required for the respective logical plant. Update objects with price for purchase, testing cost and transportation costs, etc either using ERP interface or manually. Prepare a drawing scheme with symbols and assemblies from existing library. Add the document structure applicable based on the logical plants.

4. Use Quotation Scheme of Project Engineer for calculations

Attach quotation object for each logical plant using object manager. This will calculate total cost of all major objects like equipment, vessels, valves and pumps, etc at logical plant level for report generation.

5. Create reports

Define or modify Word, Excel report templates as per project needs. Generate reports in techno commercial format using predefined report



CADISON® Tree Structure

templates, like valve lists, equipment lists, submittal reports etc at logical plant level or get aggregated report at project level using CADISON® Report feature.

6. Save project as a Template for reusing in future

Copy and save the project which contains number of logical plants with object data including price to reuse in subsequent phase of projects. Any logical plant of a saved project can be used as an independent set, for reusing in future proposals. This can also be used for cost analyses at the end of project.

ITandFactory @ ACHEMA 2012



ACHEMA 2012 brought 212 qualified leads (enquiries) for CADISON®. Many visitors showed interest in the new developments of CADISON® Electrical Designer and the wizards-driven 'Pipe Support Modeler'. The full integration of all disciplines in one common database and engineering data driven conceptual engineering capabilities continue to drive interest in CADISON®.



Bid Calculation

The Best Practice workshop series **"BID Preparation"** demonstrates how you can achieve bid preliminary calculations in CADISON®. This workshop is divided into 3 main sections.

Part 1: Basic Principles (Covered in previous issue)

Part 2: Calculation with spreadsheets Part 2.1

Calculation with spreadsheets Part 2.2 (will be covered in following issue)

Calculation with spreadsheets part 2.3 (will be covered in following issue)

Part 3: Enquiry, Bid Report (will be covered in following issue)

How to calculate the cost for bid preparation is broken down into three sections: section 2.1 will provide the overview, section 2.2 discusses the calculation factors and section 2.3 will complete the calculation part with an example.

Introduction:

A sample example will be shown as an overview on how one can perform project preliminary costing within CADISON®. How to continue using the initial calculations in later stages for revision management, or utilize for capturing actual cost for better tracking of project.

The first question the user asks is how and where should I start? CADISON® "Commercial Extension" expands the CADISON® object model properties, which enables execution of the tasks for commercial and administrative purpose. User needs to check whether the "Commercial Extension" (which is included as part standard installer) is activated and CADISON® is re-initialized, if not activate and reinitialize .

CADISON® Commercial Extension provide the functionality, which is essential to execute simple cost arrangements and calculations. Furthermore, customer-specific adjustments can be made based on the available basic functionality and standardization at any time.

CADISON® supports two types of objects, graphical (eg. Valves, Fittings) and non-graphical objects (eg. Logical plant, Quotation). For the calculation you need both. A calculation framework you create with a costing structure under which you assign these objects can be summed up.

User needs to create CADISON® tree structure containing the non-graphical and graphical elements which represent the cost structure break down and the logical division of the project. CADISON® uses this cost structure break down later to produce the bid reports at various levels of the tree elements. Each object has essential properties required for calculations, that will help you to get a more accurate description of the object. For e.g: this order text can be assembled from available properties as shown in Figure 3.

700-price	
Alternative fix price	0,00
Chapter feature	.04.01.01
Currency	EUR
Discounted list price	1800,00
Discounted list price total	1800,00
Item text long	
Item text short	
Item text short Int.	
Later purchase price form ERP	0,00
List price	1800,00
List price / unit	1800,00
List price total	1800,00
Order-text 1 (fixed)	
Order-text 2 (var)	
Price to use	Latest purchase price form ERP
Product group neutral	
Project Discount	0.0%
Purchase Price	1800,00
Purchase Price total	1800,00
Quantity 1PCS	
Relevancy for costing	Transmit to Costing program
Relevancy for quotation	Transmit to quotation
Sales price	0.00
Sales price currency	EUR
Sales price total	0.00
Sort-criteria for positions/components	1
Sort-criterial for export	1
Supplier Discount	0.0%
Text-from for Quotation	

Figure 1: Calc Sheet (Object Properties)

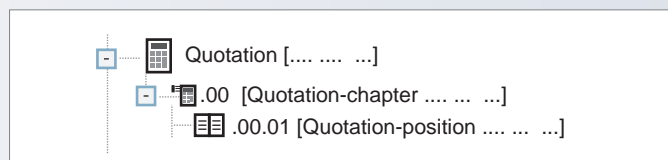


Figure 2: Basic Structure Calc

The tree view displayed in the Figure 3 shows the objects cost individually and the summed up cost of all sub elements at root element level. These can be adjusted individually.

In our case, the top level shows the overall costing of project, level 2 shows the next lower level, and the subsequent lower level shows the sum of the cost of CADISON® elements.



Figure 3: Simple Calc Structure

In the example below, all the objects listed are required for a calculation of the pumping station

Description	Planning	Object Class
Engineering Hours	not graphically	Time Object
Pumpe	graphically	Mechanical Object
Motor	graphically	Electrical Object
Screw material fort he pump mounting	not graphically	Material Object
Additional mounting material pump frame	not graphically	Installation material

Preparation:

Start the Project Engineer and open new window. Then apply "Quotation & Pricing" structure view filter to the right window. Now create a costing structure and you can build the same structure as you have modeled in Excel.

Principle Procedure:

Using Object Manager insert quotation object, insert quotation-chapter below quotation. Insert quotation position, other CADISON® elements under quotation-chapter to build structure as shown in Figure 2.

Below the quotation-chapter, additional objects can be linked/added. Simply drag the Objects from the left window into the right window in the corresponding tree position.

Task:

Create the below pump assembly as shown in Figure 4 in PID designer or alternatively create pump structure in the Project Engineer. This pump assembly should be constructed in such a way that it can be inserted into bidding report structure as an element. A request from the manufacturer should be necessary to create an enquiry specification (report function).

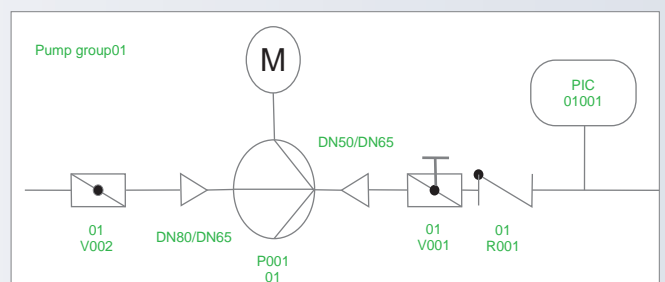


Figure 4: Example: Pump group

Now assign the pump group and a corresponding tree element to define the graphical and non-graphical components, assign the components to the prevailing market price. You should now see a price in the tree element for the pump station.

The next section 2.2 will discuss the calculation factors in the next issue.

Integrated Digital Plant Model

CADISON® Project-Engineer: The basic tool for Process Engineer and Project Manager. User may create plant work breakdown structure and calculate cost in non-graphical environment such that the detailing is possible in stages without data redundancy. This is what we call "Conceptual Engineering". Can handle total project change management without CAD interface, create and control project data, users, document management and work flow management.

CADISON® P&ID-Designer: The CADISON® P&ID-Designer plays a decisive role in design, construction, commissioning and maintenance and has an enormous effect on the complete lifecycle of a plant. In this case the preliminary project engineering will be integrated with Basic and Detail Engineering and 2D layout planning.

CADISON® Electric-Designer: The module for creation of intelligent electrical schematics (such as single line diagrams, circuit diagrams, terminal drawings, loop wiring diagrams), panel layouts, 3D cable tray and bus duct routing. CADISON® tree structure enables creation of detailed work break down (WBS) in non graphical environment to use the Electric-Designer from bidding stage onwards. Drag and drop, synchronization features to guide designer in developing schematic, 3D drawings from WBS to drawing generation and reports creation. The common database to access data of all disciplines of a project allows user to combine workflow of electrical engineering with process engineering.

CADISON® 3D-Designer: Installation and pipeline planning in the 3D model are in the competence of the 3D-Designer. Normally this module is used for access to data from Basic Engineering or P&ID. Efficient assistants are available for installation planning: For instance, isometrics can be automatically generated from the planned pipeline systems.

CADISON® MATPIPE: Independent module for development and management of pipe classes, creation of parameterized 3D components, preparation and integration of manufacturer catalogues, import and export of data plus examination of existing catalog data to ensure up-to-dateness.

CADISON® Archiver: The CADISON® Archiver allows you to swap and archive complete project from the CADISON® productive environment. Archived projects can be rapidly and easily viewed with CADISON® Archiver-Browser without the need to retrieve them from the productive environment. Data and documents of completed projects can be accessed directly. Archiver enables the user to refer/utilize knowledge of archived projects in active projects.

CADISON® Engineer2Web: E2W is a web-based solution which enables users to gain access to CADISON® data over the Internet. Plant data generated using CADISON® Project-Engineer, P&ID-Designer, 3D-Designer etc can be visualized, new objects can be inserted & updated over a standard web browser, and documents of all types can be generated & viewed and added to a document group. E2W can be configured in a manner that the user can access it via Intranet or Internet depending on the requirement of an organization.

CADISON® Pipe Support Modeler: Pipe Support Modeler assist users in creation and updating of secondary supports in an easy and intelligent way. 'Create and Edit' wizards for secondary support speed-up the entire process of modeling pipe supports, generation of reports for material take-off and generation of production drawings. Has provision for ten types of predefined supports with additional flexibility to create multiple combination of profiles, orientations, offset etc.



CADISON® Project-Navigator: The Project-Navigator is a pure "Viewing Tool" for your access to all engineering data of your projects. It has the same user-interface like the Project-Engineer and is an indispensable tool for operation and maintenance of your plant.

Visio® PID Designer: This process engineering solution is very useful for conceptual design and proposal generation. It's a tool for process engineers and business development professionals who are not interested in working with CAD systems.

CADISON® ERP-Interface: The bidirectional CADISON® ERP-Interface combines the ERP and engineering workflow for creation of a highly integrated system. For instance, orders can be directly released and controlled from the engineering workflow. During plant operation, the technical specifications can be adjusted and the maintenance processes can be initiated. Company-specific standards may be presented individually.

CADISON® Steel: It has basic features for creating steel structures in CADISON's 3D environment. Along with CADISON® Pipe Support Modeler, the user will also have full capabilities to develop secondary supports. For complex structure with joint details and where fabrication drawings are required, we recommend using the optional Advance Steel Module from Graitec. CADISON® Steel has built-in report generation capabilities for Bill of Materials, Material take-off, etc.

CADISON® Inventor Interface: Inventor Interface enables users to import an Inventor Part or Assembly in to CADISON® environment as CADISON® object. Add on menu in inventor will assist user in exporting Inventor Part or Assembly file into SAT and XML format. There is a provision to define connection point to planar face of any shape in Inventor as well as in CADISON® import wizard. User can Import object with or without connection points. Update feature enables the user to revise the exported component as per revised Inventor Part/Assembly.

CADISON® MS Project Manager Interface: Project Manager Interface is a bidirectional tool to plan and track the project status in CADISON® as well as in Microsoft Project 2007 or 2010. This enables project managers to synchronize the project plan between CADISON® and MS Project. This empowers the team to plan and track the project, update project status in design environment. New tool named 'Task Viewer' updates the status of tasks assigned to a user in CADISON® environment without use of standard tools like MS Project.

CADISON® ROHR2-Interface: The ROHR2-Interface of CADISON® makes it possible to transmit all pipeline systems created with CADISON® 3D-Designer to the Pipe Stress Analysis software. All required information will be completely transmitted to ROHR2 in the form of NTR files for analysis. Weak points are recognized and can be iteratively eliminated.

CADISON® CAESAR II Interface: CAESAR II interface adds the ability to export pipeline or selected pipes data to neutral ASCII-format .cii file from CADISON® 3D-Designer to be imported into CAESAR II interface. CADISON® object model "ITF-CWIN" contains the essential CAESAR II properties required to ensure accurate data transfer between systems and allows the user to customize to the needs of the project.

CADISON® Navisworks Interface: CADISON® Navisworks Interface for visualization and clash detection, export project model (along with attribute data) created in CADISON® to Navisworks.

CADISON® Application Programming Interface (API): The CADISON® API allows you to optionally integrate your CADISON® engineering workflow in your business workflow. CADISON® API offers you a high rate of flexibility – not only for external access to data, contents, structures and points of view of CADISON® but you can use it even for dynamic data exchange. New objects can be generated and existing objects can be modified or even deleted. Thus, you have a new quality of openness and accessibility of database content. CADISON® API can be used by all customers as free-of-charge supplementary module.

CADISON® MS Project Manager Interface

A bi-directional tool to plan and track the project status in CADISON®

Key Features:

Define tasks, users and assignments in Project Engineer or Microsoft Project. Project management reports can be created using CADISON® report feature or Microsoft Project report feature.

CADISON® Project Engineer tree structure with Object filter enables viewing the tasks/assignment and review their progress as in Microsoft Project. CADISON® Task Viewer visualizes the assignment in gantt chart format along with progress.

Synchronization of project plan between Microsoft Project and CADISON® using MS Project UID enables to rename, rephrase task description without changing task ID.

Report at the end of synchronization session will let user know the details of new task, resources which are added or updated between sessions.

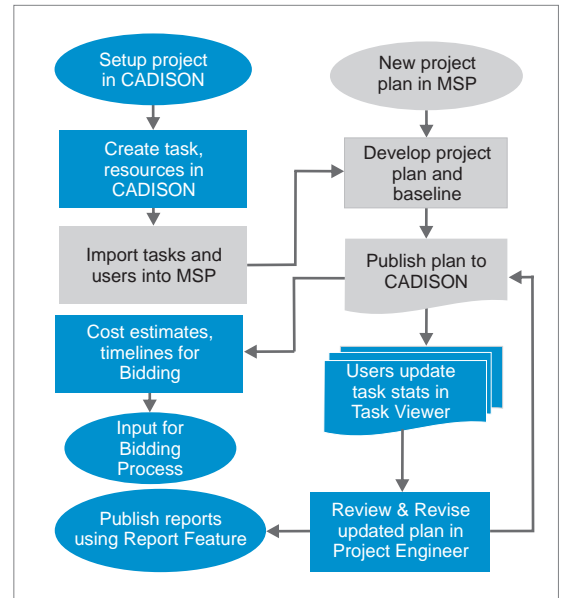
Active project mechanism will enable Microsoft Project user to select project and perform all activities in active project as it is in CADISON® core modules.

CADISON® Task Viewer is a tool to update the status of tasks assigned to a user in CADISON® environment. This enables managers to track the project progress in CADISON® environment, can fetch the real-time input from the designers (CADISON® users) without Microsoft Project Software.

The intra session's filters mechanism allow the user to apply customized filters such as:

- Tasks assigned to specific user
- Task to be started in specific period
- Tasks to be completed in specific period
- Starting or ending on specific date etc.

With CADISON® R12/R13 releases, we have improved the ability to plan, track, view project status and tasks, simplified the interface with MS Project and provided filters where you can view tasks of a specific user or you can view tasks based on Start and End Dates selected. With the Interface a customer can buy x number of Task Viewers for users at a low cost, saving the cost of buying higher number of Project Engineer licenses.



Project Management work flow

Needs Microsoft Project (MSP) 2007 or 2010.



Task Viewer in CADISON®

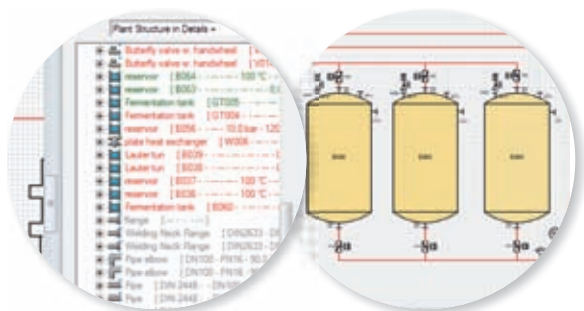
Visio PID Designer for Proposals and Conceptual Design

Microsoft Certified. Connectivity with CADISON®. AutoCAD format output option.

A rules-based process engineering solution that assists the user to accurately plan the process and stipulate the correct planning decisions. In addition to P&I diagrams, the user can also create block flow charts and process flow diagrams (PFD's).

Key Features:

- Drag & Drop known components from the catalogue (DIN, EN, ANSI, ISO 10628)
- Rapid and simple changeover between different standards and freely defined identification systems (DIN, KKS, etc.)
- Placement of pre-defined sub-assemblies.
- Simple preparation and management of symbols and sub-assemblies.
- Easy preparation of objects.
- Dynamic generation of control circuits.
- Cross references spread over a certain number of drawings.
- Cross-trade object navigation with visual highlight functions.
- Status-dependent examination and approval of modifications.
- Flow direction control and consistency check over a # of drawings.
- Automatic breaking-up of crossing lines.
- Integral report preparation.

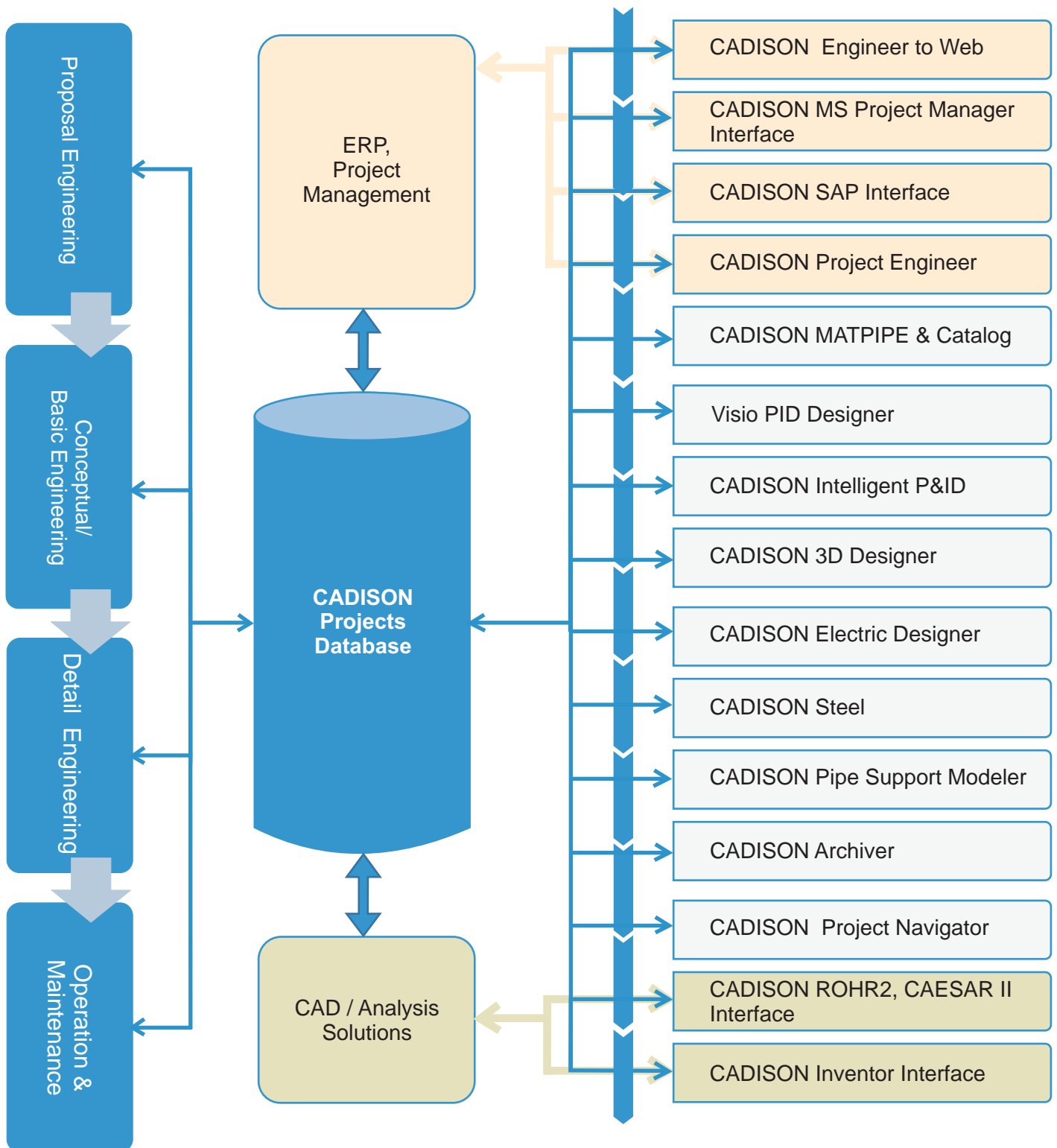


Intuitive, Simple and Rapid Application
(No AutoCAD required. Requires Visio Professional)



Road shows in Germany and Switzerland in 2012 generated a lot of interest.

CADISON® for the enterprise



Integrated Object Oriented Database System for Plant & Equipment Engineering

The Development and Technical Support Leaders Behind Such A Good Release... CADISON® R13.



Michael Bruckner
Pre & After Sales Support



Stefan Kraus
Product Development



Boris Mebarek
Hotline & Consulting

Many of the comments received from CIC 2011 are implemented in CADISON® R12 and R13. With R13, we now have the confidence to say that you will save several hundred hours on a project compared to R11 and earlier versions. R13 was a very big effort which made it necessary to even shift our CIC conference and R13 release dates. In hindsight, it was worth it!

The next CIC 2014 conference is scheduled for April 8-9, 2014 and CADISON® R14 release is scheduled for May 7th 2014.











2014



Sharing with you some of the CADISON® R13 Improvements

- ⇒ Automatic Legend Creation
- ⇒ Automatic Terminal Strip Drawing
- ⇒ Devices with distributed representation (Relay Contact-Set)
- ⇒ Automatic Device Tagging and Wire Numbering
- ⇒ ETAP-Interface

Automatic Legend Creation

	Angle stop valve		Butterfly valve
	Three way valve		Vessel
	four way cock valve		Nozzle
	Reducer symmetrical		Diaphragm pump
	Media		electric motor

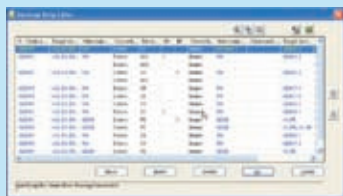
Automatic legend command enables the user to create the legend in a drawing.

Flexibility to configure the templates, select appropriate table suite to type of drawing and unit system, facility to filter or limit the type of objects to be displayed increase the ease of use.

User can specify the location of legend at run time to utilize available free space in a drawing.

Automatic Terminal Strip Drawing

Terminal strip drawing shows the details such as connected wires, cables and destination component etc of all the terminals in Terminal Strip along with TO and FROM connected objects.



New set of intuitive symbols for Terminal objects enforce the discipline during creation of various types of connections in circuit diagram. Data required for Terminal strip drawing will spread across multiple drawings such as different circuit diagrams,

Manual efforts required to fetch data from multiple location is eliminated with this feature.

Terminal strip editor rearranges, re-numbers of terminals in an easy to use GUI, facilitates review & modification of all the information related to Terminal Strip in table format.

Converting Visio drawings to 'intelligent' CADISON® AutoCAD drawings

This feature removes all barriers of format difference between Visio and AutoCAD.

Enables the user to create high level P&ID (typically created in the proposal or conceptual engineering stage) and transfer it into AutoCAD environment to continue elaborating the P&ID with 3D designer.

ETAP-Interface

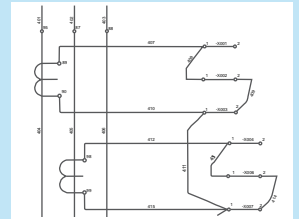
The .xls file generated by CADISON® can be imported into ETAP using "Data Exchange" module.

Mapping of ETAP objects with CADISON object is part of Excel template and adds flexibility to revise mapping as per the future requirements.

Exported excel sheet can be inserted into CADISON® database, add to object or add to document group to get benefit of document revision management as it is in CADISON report functionality.

Automatic Device Tagging and Wire Numbering

CADISON® capability of manual device tagging according to DIN and KKS standard is enhanced for auto tagging.



It is possible to select numbering style for devices and wires by selecting the appropriate option at project level, separate numbering styles can be selected for device and wire tagging.

Device and wire numbering can be defined with the help of formula specified at project setting.

Multiple options for auto numbering viz., Project wise, Drawing wise, Logical Plant wise, Location wise.

Objects Designation in Layout

Automatic designation feature improves the ease of object designation in a view port.

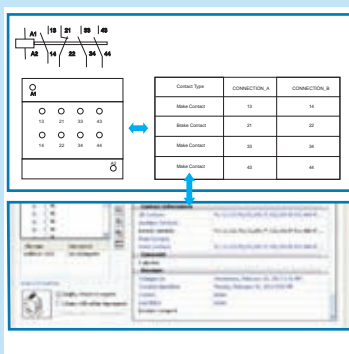
Reduces drawing clutter by filtering the objects and defining the patterns to be used for leader line by adding designations manually for first two objects.



- ⇒ New version (8.0.2) of Versant database
- ⇒ New version of user interface library
- ⇒ CADISON® is now a multi threaded application which allows to run background process which improves the performance
- ⇒ Supporting report generation using 32-bit Office 2010 on Win7 64-bit machine

Devices with distributed representation

'Generate Contact Sets' command eases the process of creating, selection of contact set while inserting contact in drawing, track and assignment of contacts to devices such as relay. Auxiliary contact blocks can be created for augmenting capacity of relay/contactors; it is possible to add additional Auxiliary contact block to devices as well.



Drag and drop relay into circuit diagrams will auto generate contact set representation with references of contact set location across the drawings. Inserting/adding contact into drawing is easier now.

Hookup Drawings for secondary support

Hookup drawing features of Pipe Support modeler enables the user to automatically create production drawing of selected type of support.



Typicals can be modified in hookup drawing to suite organization needs thus increasing adaptability for changing requirements of projects.

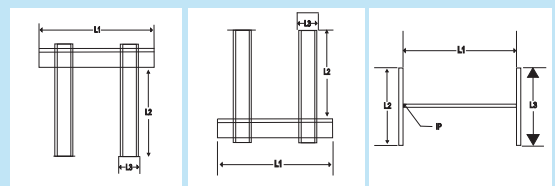
Parametric Pipe Hanger in MATPIPE

Around 160 basic elements required for configuration of various hangers have been added.

Around 15 constant efforts supports,

30 variable efforts configured in default catalogs delivered with installer to be used as reference for configuring additional pipe hangers as project requirements.

Enhancement of Pipe Support Modeler



New types of supports added in addition to existing seven types of supports.

Pipeline Designation

New command "Designate Pipeline" added under CADISON common designation is useful for designating pipes in viewports with number of pipelines and reduce efforts in selection of pipes manually. This command will improve ease of designating by identifying the pipelines by drawing line, with provision to add the designations on selected end of the line.

Visio Improvements

Improved Visio performance by 30%.

Visio menu options are distributed as per their usage and now will be available in two different tabs called "PID Settings/Tools" and "PID Edit".

Options to create new "Media" and "Pipe Specifications" adds flexibility to use Visio P&ID in conceptual design stage while adding pipe media, specification at runtime etc.

Socket Welded Joint type

New Joint type named "Socket Welded Joint" is added in addition to existing joint types. New joint details will auto transfer to ISOGEN with appropriate symbol.



CADISON® For EPC Contractors

Today many Engineering & EPC firms use different tools for engineering of multiple disciplines, separate tools for procurement, project management & construction.

PIDs are drawn in 2D CAD tool; data sheets, equipment lists, line lists, valve lists, Instrument lists are manually prepared in MS Excel, equipment, pipelines & civil structural in 3D modeling software.

For Stress Analysis, Caesar II, ROHR2 or equivalent software programs are used.

For Electrical Designs, Excel programs for sizing & MTO, Auto CAD for SLDs & lay outs, ETAP for system studies are used.

For procurement either there are special programs that are used or MS Word & Excel sheets are used for preparation of material requisitions, tracking of procurement activities for each equipment, costing & budget control etc.

However all these different software programs are not seamlessly connected or sometimes not even connected at all, leading to duplication of data. This leads to huge efforts in integrating manually & manage the changes, not to mention that it leads to lot of errors.

Many projects have been executed using CADISON® which is a solution which suffices all the key requirements for the integration that is required for the entire project life-cycle.

Here is how it helps in having an integrated approach:

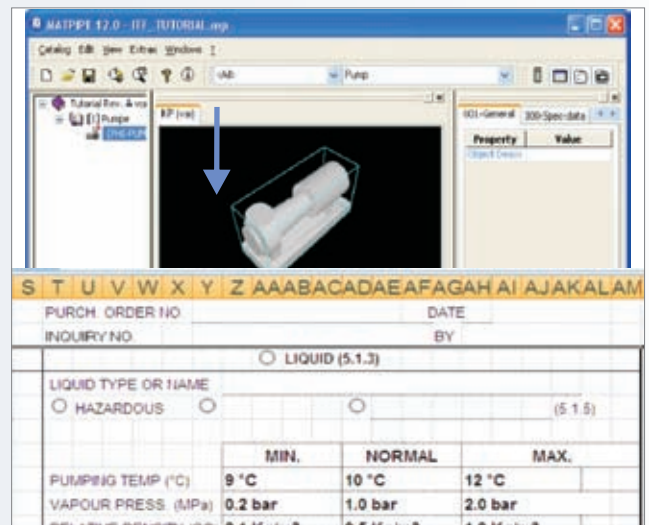
Engineering:

Conceptual / Basic Engineering:

The PFD's & PID's are made in CADISON® are intelligent, this means that all the process specifications for equipment, instrumentation & pipeline are entered in to the database. All this information is linked to the individual equipment or

'tagged' items.

All process datasheets, equipment lists, line lists, instrument list is extracted from the database. All these process deliverables are truly linked to PIDs and changes in PIDs are reflected in these documents on real time basis.



Detailed Engineering:

The entire plant is built in CADISON® 3D; the equipments, pipelines, pipe supports, foundations, buildings, platforms, cable trays, panels etc. The PIDs are synchronised with the 3D model. Hence the same information which is available in PID, is also available in 3D model. This has also eliminated the chance of 'missing' a component or any other human errors.



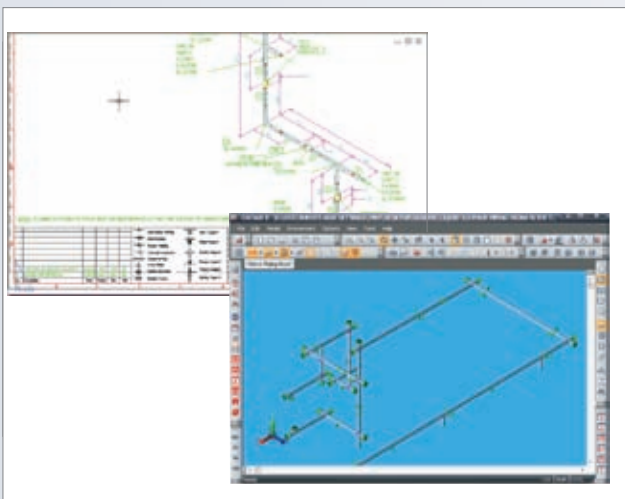
The 3D model is used along with its interface to stress analysis tools like CAESAR II to perform stress analysis of critical lines. This again provided a seamless integration of not only the geometry of pipe line but also process parameters of fluid which are required for stress analysis which will be transferred to CAESAR II automatically.

All the lay outs for construction are extracted from 3D model. All the isometrics & BOQs are also extracted from the 3D model. Thus all the components in PIDs are transformed in isometrics through the 3D model ensuring a seamless integration.

We have the material take off available on isometrics as well as in a separate Excel sheet, which is customised for procurement purpose.

The Electrical-Designer module of CADISON® is used to build SLDs. SLD and layouts are synchronised, hence it was easy to build an error free 3D model. The bill of material, procurement specifications are extracted from CADISON®.

The intelligent 3D model is used for clash detection purpose, for walkthrough. The operation team of owner was able to see the entire plant in 3D before it is built, gave valuable inputs in terms of operability, maintenance and plant safety.



Procurement:

These datasheets with material requisitions generated by CADISON® along with detailed standard specifications are sent to vendors for obtaining quotations.

Procurement through CADISON® ensures that the procurement is happening to the latest revisions of the equipment datasheets. A lot of information in the datasheets is to be filled in by vendors and submitted back along with the quotation.

The vendor quotations are stored inside CADISON® and are attached to the respective CADISON® object. The information filled in the datasheets by the selected vendor is stored in the database and is reflected in reports. This eliminates avoiding duplication of work of updating the database manually.

The vendor information like drawings, calculations, inspection certificates etc is attached to the equipment in the database. This information is used by the piping engineer, structural engineers & electrical engineer during detailed engineering phase.

Construction:

Once the site activities start, the Navisworks 3D model of the entire plant is provided to the site team which use the 3D model to clarify the queries of the contractors. The site mark ups are made on the Navisworks model making the as built documentation easy.

The as built model is used by the owners of the plant for the asset management.

Project Management:

All the engineering activities, procurement cycle & construction progress is monitored through MS Project, CADISON® MS project Interface.

Having all the project stages & all the disciplines of engineering in single platform is providing a truly integrated approach to EPCm projects!

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ITandFactory is one of the largest providers of complete solutions in the field of process engineering. We supply our customers with solution and process-oriented IT tools plus associated concepts.

Higher efficiency in plant planning, integration of plant construction and intelligent plant documentation with high-efficiency IT tools are the focus of our solution CADISON®. The growing international orientation of our organization create synergies with the cross-linked and global way of thinking of our customers. It is our target to ensure the maximum benefit for the customer through utilization of latest technologies, so that our customers will profit from the maximum return-on-investment.

