

PLANT DESIGN SOFTWARE

CADMATIC

News

FOR ENGINEERING NETWORKS

**New Version 6
with advanced user
interface**

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**OWNERS / OPERATORS
ENGINEERING / PROCUREMENT / CONSTRUCTION COMPANIES (EPC)
ENGINEERING CONSULTANTS**



Packed with new features



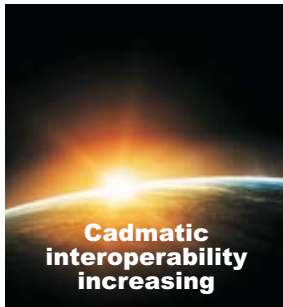
Large mining project in Brazil with Cadmatic



Wärtsilä distributes design



Chinese offshore business growing



Cadmatic interoperability increasing

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Our target is to improve our clients' profitability

Exciting years

In the engineering world the last two years have been some of the most exciting years in our history.

For our clients a keyword has been "change". How should strategies be renewed and business be focused to face new challenges and opportunities?

In Cadmatic we say that it is our business to improve our client's profitability. In these changing times the need for cost-efficient and cost-effective software has been enhanced.

Cadmatic has acquired more than 100 new customer organizations within the last two years from the oil & gas, chemical, petrochemical as well as power and marine industries. It clearly indicates that the Cadmatic software solution corresponds well to our clients' needs and future expectations.

Business development in Western countries is steady, but the Central and Eastern European and Asian regions are the most rapidly growing areas at the moment.

Cadmatic software is used more widely than ever, at the moment in 50 countries all over the world. There are certified local sales and support centres and services available in over 20 countries worldwide.

Flexibility and new innovations are key to improving our clients' effectiveness and productivity

Industry is looking for solutions to increase cost efficiency and productivity and cut costs. It is Cadmatic's goal to provide the best solution for these requirements and our rapidly growing customer base speaks volumes for the success that has already been achieved.

Cadmatic is continuously investing more time, money and resources in R&D and business development - to meet clients' changing requirements and demands. The most motivated and innovative people are key elements to achieve success – and long term cooperation with software users – our clients.

Cadmatic's key success factors has always been flexibility, the capability to keep up with clients' requirements and to find solutions that really improve our clients engineering activities.

Another success factor is innovation. Over the years we have been able to bring several new innovations to the market, often as a forerunner and first supplier. Our target is to frequently bring new innovations to the market - to improve our clients' competitiveness.

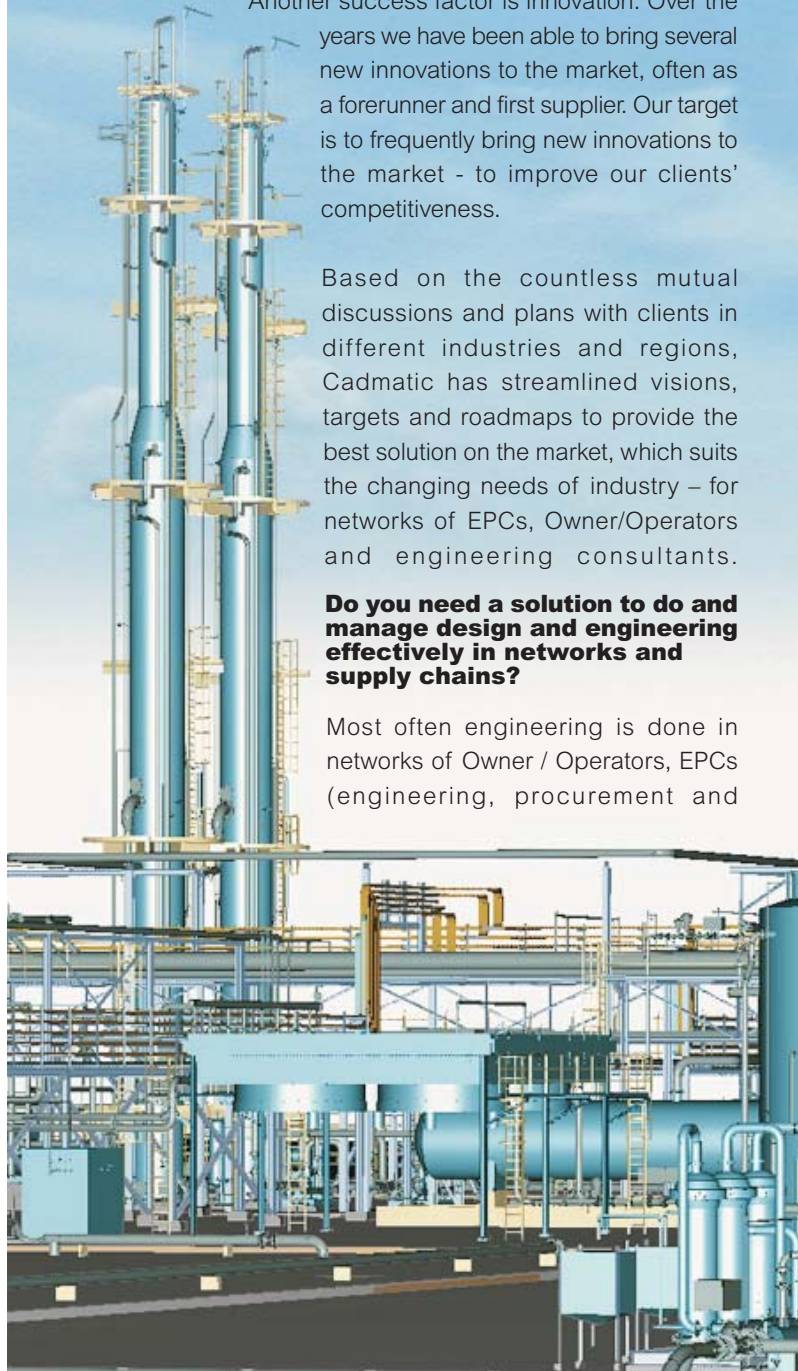
Based on the countless mutual discussions and plans with clients in different industries and regions, Cadmatic has streamlined visions, targets and roadmaps to provide the best solution on the market, which suits the changing needs of industry – for networks of EPCs, Owner/Operators and engineering consultants.

Do you need a solution to do and manage design and engineering effectively in networks and supply chains?

Most often engineering is done in networks of Owner / Operators, EPCs (engineering, procurement and




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construction) and engineering consultants by several companies and project parties. Our clients are looking for the most suitable and effective resources from different locations and offices all over the world. There are common needs for engineering, communication and data management, but, on the other hand, each project party has their own specific requirements.

One of the main targets has been to create software which is easy-to-use and administrate in the whole distributed supply chain and in all project phases, also in low cost countries and by both bigger and smaller companies. This also makes management and coordination of the supply chain easier for EPCs and O/Os.

The Cadmatic CoDesigner is the most modern application on the market for this purpose.

Interoperability and policy of openness gives engineering networks and owner / operators more freedom

Both engineering networks and Owner/Operators have a need to collect, use and combine data from different sources. This includes 3D models, 2D drawings, MTOs and other relevant data in different formats and systems. The key questions are how to use the freedom, flexibility and effectiveness that comes from using different software solutions and how to collect and combine the data for reuse by other users?

Owner / operators need to use data especially for asset management – to manage the invested plant capital for 30 years after engineering and construction of the plant.

EPCs and engineering consultants need to manage and coordinate the engineering, procurement and construction. These clients also have a need to collect and deliver data in a package that is usable for other project parties and for owner/operators.

The interoperability question comes to the fore in both revamping and in green field projects.

One of the key features of Cadmatic has always been the capability to transfer geometry and product data between Cadmatic Software and other 3D and data management applications

Another important target has been to keep the software open for all required data transfers and integrations in both directions, to Cadmatic and from Cadmatic. We actively follow standardization developments (e.g. ISO 15926) and also flexibly develop specific integrations.

Cadmatic ePublisher is a Cadmatic interface (API) that makes it easy to create integrations and compatibility between Cadmatic and other 3D Software. It includes options to transfer 3D data both for review and design purposes. One of the latest developments is the capability to import PDS models and data into Cadmatic.

Are you an EPC looking for an integrated solution for plant design and engineering?

A plant investment is a challenging multi-disciplined project. People, design software, analysis applications and data management tools are all key elements of success.

Cadmatic focuses on the development of the best plant design software on the market that suits the needs of EPCs. The provided solution includes integrations to the most important other design and engineering disciplines and the target is to avoid all forms



of double data input and modelling and to manage data transfer and design changes between different disciplines in a coordinated manner. The most important ready-made integrations are available to the most effective software applications to integrate process plant design and other disciplines, e.g two-way intelligent integration with TEKLA Structures for integrated process plant design and civil engineering. Laser scanning, stress analysis, material management and document management are also included. Due to the policy of openness, the total solution can be also customized based on the customer's needs and wishes.

Are you an Owner/Operator looking for an integrated solution for Asset Management?

The Owner/Operators are the ones who pay the bills. They need to manage and coordinate the plant investment and build a plant that produces the planned end product as effectively, reliably and safely as possible. A further target is to create facilities that are easy to maintain. Maintenance and revamping data which is created by EPCs and engineering consultants is of crucial importance. Owner/Operators want to use 3D and other plant design data for asset management and to be available for technical management, maintenance and project personnel.

Cadmatic has developed the unique functionality to publish design and engineering data from design systems for asset management purposes and to integrate 3D models and data with other technical data. A virtual 3D model is an excellent user interface to find and visualize data from different sources and locations. This includes integrations, among others, to preventive maintenance management, document management, risk analysis and process analysis software

Cadmatic is a forerunner in the development of virtualisation solutions for asset management of Owner/Operators based on 3D design and engineering information. The first applications were conducted already in the end of the 1990s for M-real / SAPPI.

Added value from digital engineering data for information management

Clients can create a lot of added value by utilizing the digital data created by designers and engineers for different purposes. The data is required for communication between different design offices to agree about design interfaces, for procurement, for manufacturing and installations and for asset management.

Cadmatic has the capability to save models and data in compressed formats that are easy to share with all project parties. The information can be shared over the Internet and easily integrated with other data management tools and used e.g. for procurement and construction tasks by EPCs and for asset management by Owner /Operators.

Cadmatic applications can be used for communication between all project parties in engineering networks, to publish design and engineering data and 3D models in digital formats to all project parties, and for Owner/Operators to utilize the data for asset management.

Cadmatic eBrowser is an excellent example of Cadmatic's web-based information management applications.





Version 6

Packed with new features that ease work and add efficiency

After three major releases of Version 5, the time has come for the first release of the next generation of Cadmatic software, Version 6. A major feature of Version 6 is the gradual introduction of a new interface that will further ease work and bring new efficiencies throughout the design process. Version 6.0 and 6.1 contain a large number of new features and innovations.

Advanced 3D interfaces

The new interface was designed to be more efficient and this has been achieved in particular with advanced 3D interfaces. The X-ray feature, familiar from eBrowser, is now also used in Plant Modeller and allows the user to see what is being modelled even when obscured by surrounding objects.

This and the visualization of edges and seams make shaded views much more useful than before. Views can be easily customized and can float freely, which allows them to be dragged between multiple screens.

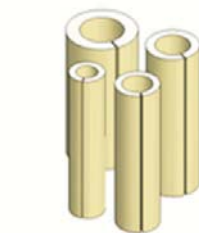
As before, we are piloting some new interface techniques in eBrowser. In this version, it not only sports a new look but also has snapping, which allows quick and exact picking of model geometry points. The new user interface is much more than a makeover and aims to provide the designer with a totally new and more efficient user experience. The user interface will remain at the forefront of development efforts at Cadmatic and subsequent versions will not only bring these changes to all modules, but will contain new features and improvements as well.

Specification driven insulation

Version 6 brings with it the all new insulation feature that will ease the work of designers significantly. Pipe insulation is specification-driven, which means that the different insulation specifications can already be defined in the diagram design phase. The correct insulation and materials are automatically selected when modelling according to the insulation specifications and requires no further input from the user. This saves time and also helps the user to identify the correct space allocations immediately and to notice possible collisions while modelling.

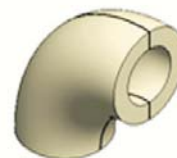
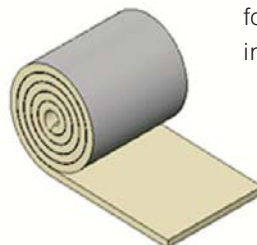
The user can define different types of insulation in the specifications such as section insulation, lamella or formed parts as well as additional materials for cladding, fixing wire and rivet cap covers, etc. Users can select the way insulations are visualized in the 3D model; as transparent, with or without edges, opaque or not visible in the model.

They can also define what symbols are used for insulation in layout drawings and how insulations are presented in isometric

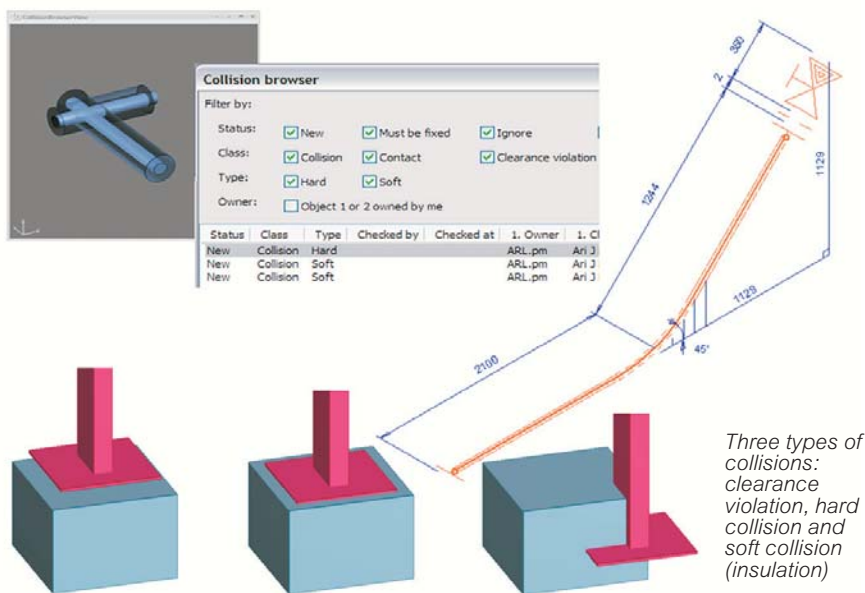


Section insulation

Lamella insulation



Formed parts



More accurate collision control tool

Improvements have also been made to collision detection in Version 6 with three types of collisions: clearance violation, hard and soft (insulation) now detected. Collision detection is more precise in Version 6 than in previous versions and socket connections of component handling is very easy. User-friendly tools have been added to facilitate the acceptance or rejection of collisions.

Mark-up feature and visible edges

In V6 the Cadmatic eBrowser boasts a brand new mark-up function that is bound to make all eBrowser users sit up and take notice. The extremely useful mark-up tool allows the user to glue notes directly into the eBrowser that can then be sent immediately

to another project partner for review or further commenting, without the need to send an explanatory email or make further phone calls. The user can flexibly point out components and areas by drawing arrows or encircling desired components to which the notes can be added. The eBrowser has always been an excellent project communication tool, but with this new feature its reputation will be further enhanced.

In Version 6 snapping to pipe centre lines and to edges has been introduced. This will allow the user to take measurements even faster and more accurately than before, adding further power to the mark-up tool's punch.

In Version 6 edges and corners are visible, providing the user with much clearer and more detailed information about the model. In shaded views and in some axonometric

views visible edges identify the true position and composition of components that would not be discernable without this feature. This feature is available in both eBrowser and Plant Modeller in Version 6.

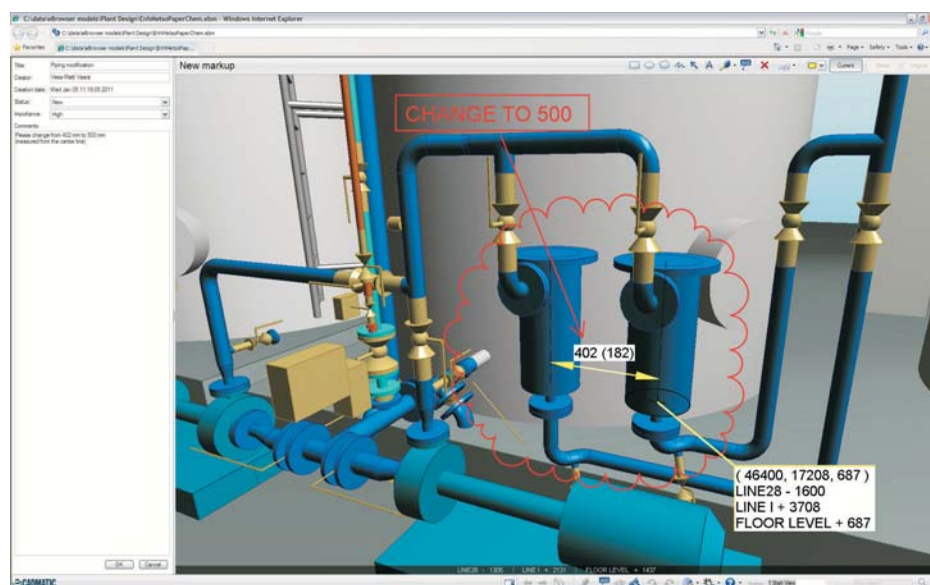
Initial Material Estimation (IME) for preliminary cost analysis

At Cadmatic there has recently been an increased focus on developing tools to increase the scope of use of the software in the early design phases. The Initial Material Estimation (IME) tool in Cadmatic Diagram is an example of such a development. Once the basic project dimensions are available and the general process and component P&ID's created on top of the platforms and floors, the IME can be used to generate an estimated list of materials and components that will be required on the project.

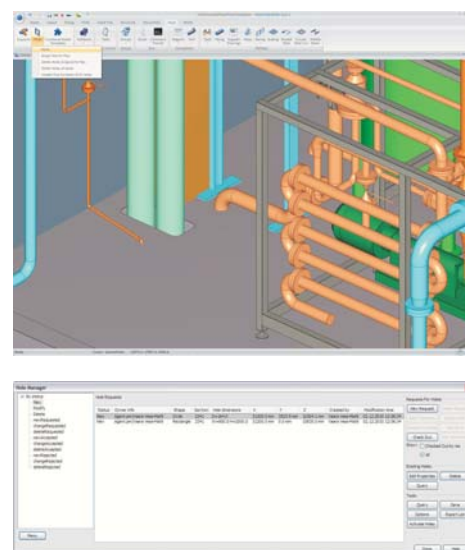
This is an extremely useful tool for rapidly estimating the materials cost of a project as early as the concept design phase.

New hole management for integrated civil and plant engineering

In Version 6 the hole management tool has been completely re-engineered. It comes with an improved and expanded toolset for managing holes in objects originating from third-party software such as Tekla Structures. There are no limits to which model objects the tool can manage.



The markup feature in eBrowser eases the communication between different participants in the design project



When locating a component in the 3D model the plant designer simply makes a hole request for the structural designer

Optimizing existing functionality

Many existing functions have been improved to optimize the use of hardware resources including reduced memory usage for servers during replication, improved Plant Modeller performance, up to 30 times faster model query execution, optimized memory usage during area updates and excellent support for large imported models.

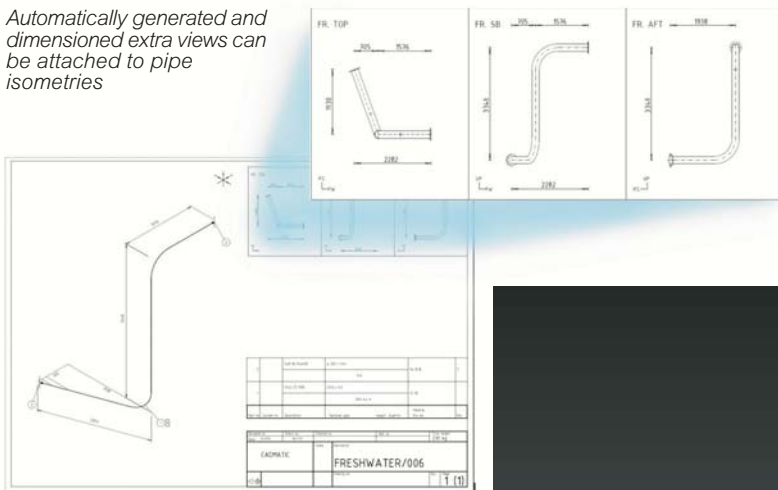
There is a renewed tool for finding and querying functions and a new method for static visualization control, which improves the handling of active and inactive objects.

Pipe routing and modifying commands have also been improved and allow the user to move elbow corner points or simply enter the angle for modification.

Isometries

Many new useful functions have been implemented in the Pipe module, such as exporting to multi-page pdf formats and making 3D dimensioned attachments to isometries.

Automatically generated and dimensioned extra views can be attached to pipe isometries



New advanced tutorial, help documentation and example project

A new and extremely easy-to-use tutorial is now available for model building in Cadmatic. It requires the installation of an example project during Cadmatic software installation. The tutorial is divided into three chapters and provides detailed instructions of the mandatory steps required to start modelling including creating an area for Plant Modeller and Pipe, defining design area limits and setting views. This is followed

by an introduction to routing fourteen pipelines with examples on how to navigate and create isometric drawings. The final chapter covers view management, hiding objects and clipping views. The tutorial has already been a hit with its first users with praise coming in for the ease with which new designers can get started with the help of the tutorial.

The example project has been completely renewed and now includes many completed piping standards (DIN, ANSI, ASME, EN, JIS, Chinese etc) and base setup of settings for all features of the software.

Support for 3D Spaces and compartments

Diagram, Pipe and Plant Modeller now support the definition of named 3D spaces and compartments. Their definitions can be changed dynamically at any time. Compartments can be imported from selected third party software or the user can define them in Plant Modeller. A containment browser can be used to visualize and check the spaces and compartments and manage the scope of different contractors.

Undo and Redo

Undo and Redo commands are now available, eliminating the message boxes that used to require the user's confirmation and giving the user freedom to experiment with new designs safely.

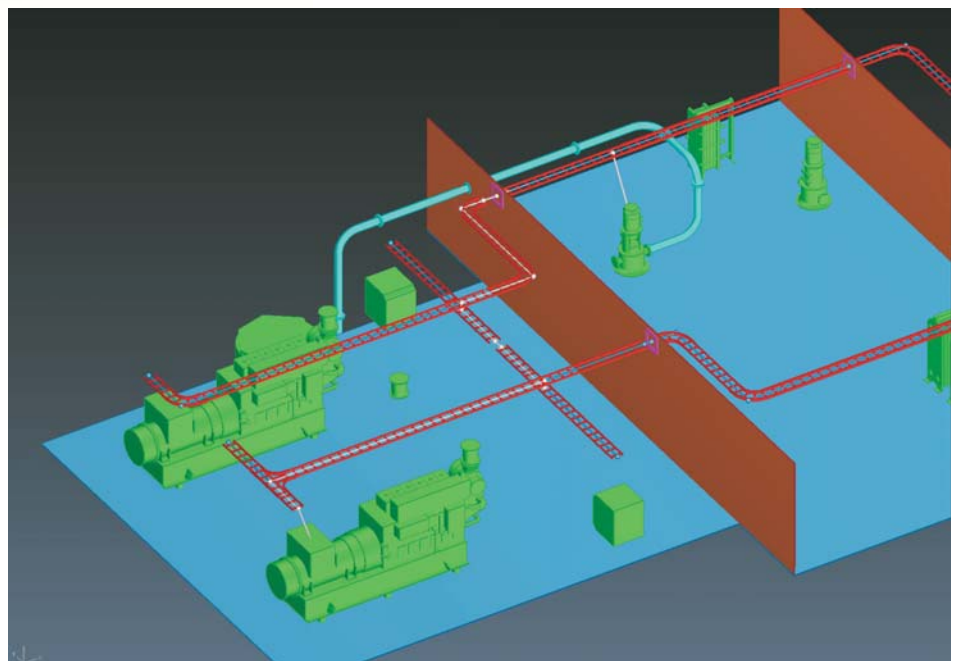
The heads-up information and prompt display reduces the need to follow the message log and allows the user to maintain focus on the working area while modeling.

Electrical tool for Plant Modeller and cable routing in 3D

A new tool for the design of electrical cable routing has been developed and implemented in Plant Modeller. The system defines a nodal network inside the modelled cable tray structure. The user can route the electric cables between predefined nodal points in equipment via the nodal network located in the cable trays and penetrations.

Cable routing can be done either automatically or manually. The cable tray and penetration layout can be changed at any time and the system adapts the cable routing according to the changes. The system also checks what the maximum allowed capacity of cable trays and cable penetrations is. It is easy to generate output data for the lengths to precut the cables and pulling routes.

A new advanced electrical cable routing system has been added



Model comparison tool

The model comparison tool can show the differences between several different Cadmatic models that have the same mother model. eBrowser can load multiple models in the same session and highlight the differences in the compared models. This tool is very informative when comparing different design variations.

ISO 15926 based P&ID - 3D model integration

The integration between Diagram and the 3D model has been enhanced and rebuilt. The Cadmatic COS system now stores and exchanges the integration information. The new integration has been prepared using the ISO15926 standard and can also be used to interface with third party software packages. The integrations can be distributed globally using the Co-Designer functionality and have a renewed user interface.

New features for HVAC

HVAC functionality has received some major improvements. New internal geometry shapes for air duct components have been introduced and there are new tools for improving the routing of HVAC. It is now also possible to automatically produce Plant Modeller drawings from HVAC prefabrication.

Partial replication with CoDesigner

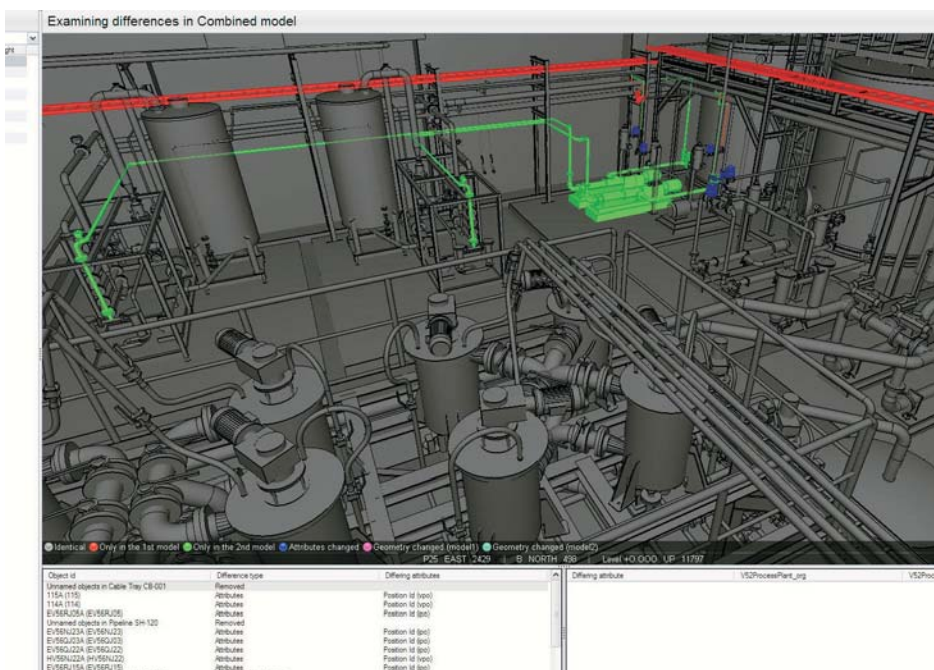
Design projects can now be partially replicated. This makes it easier to distribute projects that have e.g. confidential areas that need to be distributed to external design offices. This feature has been requested by many Cadmatic customers.

Support for unicode characters

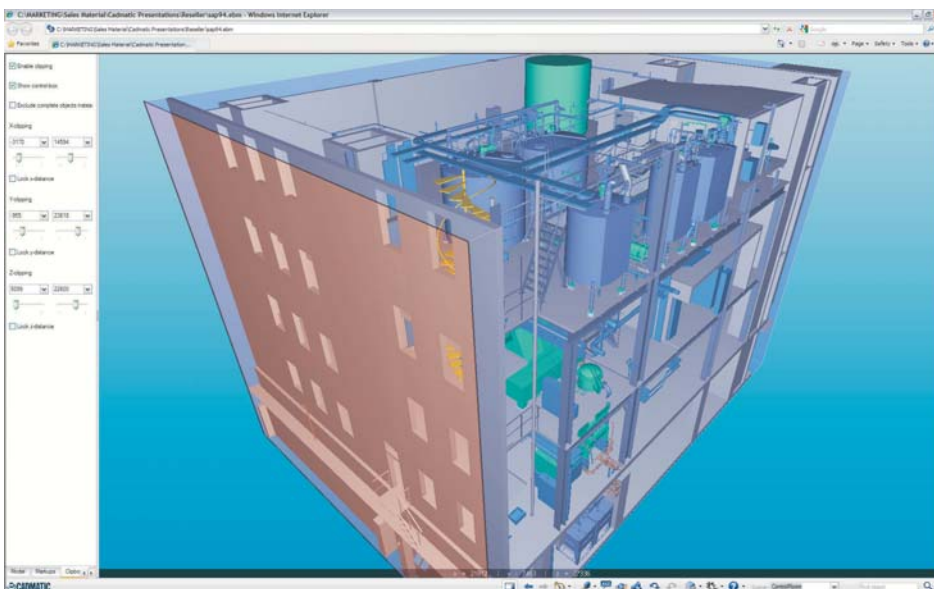
Support for unicode characters has been added to the functionality of drafting and BOM reports. This enables the use of e.g. Asian language characters in the texts in drawings and listings. Several languages can also be used inside one project.

New features in eBrowser

Location views can be used in eBrowser to assist movement inside large models. When



The model comparison tool indicates the differences with colours between several Cadmatic models



eBrowser's clipping box function enables the user to adjust the visible area in the 3D model

the user clicks in a 2D location view the eBrowser moves the view point into that 3D space.

eBrowser views can now be dynamically clipped with the clip box function. The user can move the planes to cut the model view to get a better view in crowded places.

When the user moves the cursor over an object in the model, the property tip function displays selected data from the component on the screen. The user thus has fast access to the desired information on the screen.

Several new features have been added to eBrowser to expand integrations with different kinds of asset management tools and data.

The sky dome functionality enables the user to define an aesthetically pleasing "sky" for the background of the model.

Other new features include

- Plant Agent as a real Windows service
- Support for WBS (Work Breakdown Structure)
- Tekla – integration has been improved with hole management
- Windows Installer based software installation
- Pipe module can now handle group penetrations
- Diagram has now improved reference view management and model coordinates

Anglo American project

Cadmatic linking Brazilian inland iron ore mine with coastal port



Cadmatic has gained an important client in Brazil where it is has been implemented by global mining giant Anglo American and LLX on the ambitious Minas Rio iron ore project. The project includes a mineral complex with a mine and plant in the Minas Gerais State as well as a 525 kilometer slurry pipeline that will carry iron ore pellets across 32 cities to the port of Açú on the northeastern coast of the Rio de Janeiro state. The massive venture is set for completion in 2012.

Anglo American has embarked on the project to bolster its iron ore production to meet the expected increase in seaborne iron ore demand as the global economy enters another phase of expansion after the current downturn. Strong demand for the product is expected particularly in China which already accounts for more than half of global seaborne steel demand.

High quality iron ore

The iron ore mined in Minas Gerais is expected to be of very high quality with

a Fe-grade of above 68 % with extremely low alumina, silica and phosphorus contaminants. This is particularly significant as the industry is expected to continue experiencing a reduction in ore grades; thereby making the Minas Rio iron ore pellets a top quality and highly sought after product.

3D model of mineral complex and Açú Port

Engineering company VIT, was commissioned by Anglo-American/LLX to develop a 3D model of the mineral complex and Açú Port. The model was



used as an integration tool for importing the topography and joining all the processing buildings together in a single model, making it quite possibly the longest Cadmatic model in the world. Both Anglo American and its associate port operator, LLX, have acquired Cadmatic Plant Modeller and eBrowser licenses.

eBrowser adds communication efficiencies

According to João Brandão, from Anglo-American, they make extensive use of the Cadmatic 3D model for interference detection and to facilitate communication between project partners. Mr Brandão is responsible for the Cadmatic Plant Modeller revision work at Anglo American and has,



Building a 525 kilometer pipeline through the topographically varying landscape is a demanding job.



amongst others, been particularly impressed with the eBrowser's capabilities for project development follow-up and verification.

The mineral complex produces slurry from iron ore which is then pumped to the coast for further processing and shipping



Mr João Camarano from VIT is one of the designers that has used Cadmatic for the development of the project 3D model.

Largest sea terminal investment in Brazil is part of the project

LLX has acquired eBrowser licenses which it plans to use during the construction phase of the port. It is one of the largest private investments in sea terminals in Brazil and will serve as the logistics centre for the country's southeast and midwest regions. When completed it will boast six berths for bulk carriers and four berths for general cargo vessels, general cargo ships and offshore support vessels.



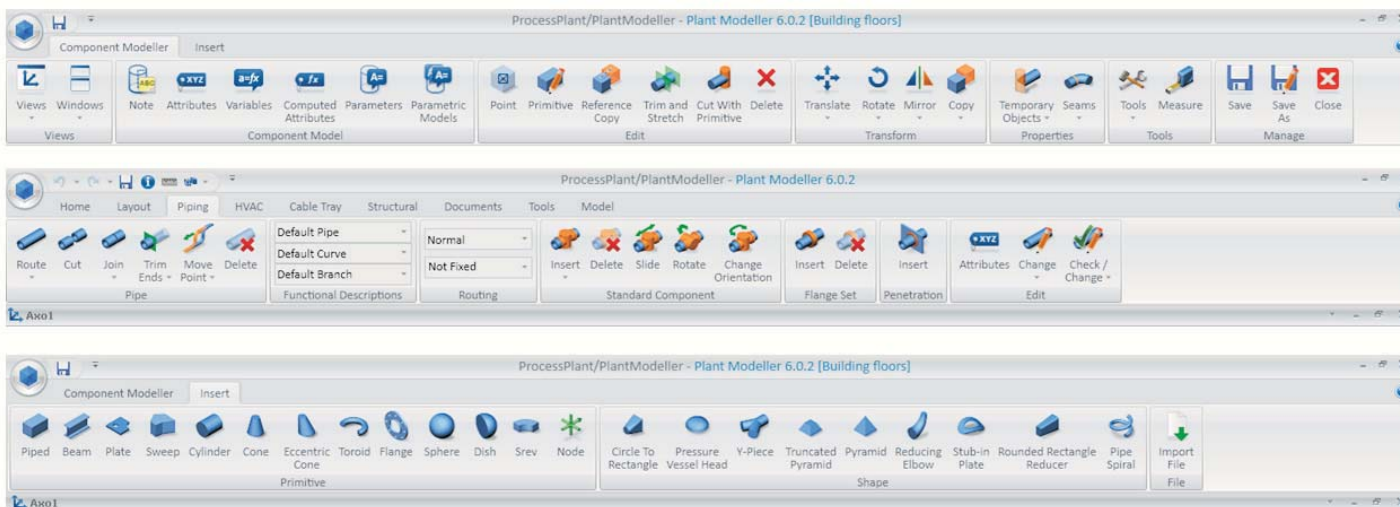
All the processing installations were joined with the port infrastructure in Açú in a single model making it one of the longest Cadmatic models in the world



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Cadmatic user interface

introduces new era of user friendliness in plant design



Each tab in the ribbon bar reveals sets of icons and commands relevant to the desired action

Improving the efficiency of design work is one of the most important goals in graphical user interface development of plant design software. A perfect user interface allows the designer to focus entirely on optimizing the design. The structure of the commands is logical, transparent and the commands are easy to find. When a designer needs to improve a specific part of the design, the appropriate actions appear as a logical sequence.

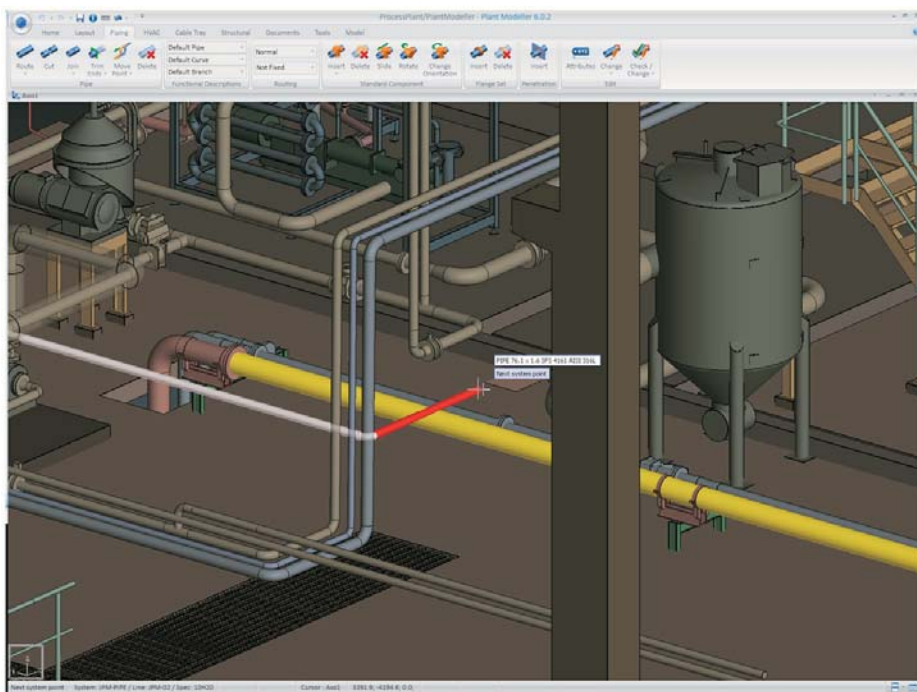
Self-explanatory menus and icons

Icons and other symbols should also be as self-explanatory as possible. It should be self-evident what an icon or a command stands for or means.

At the same time, the menus and icons should not occupy too large an area on the monitor. Commands that are not in use should not block the view of the model itself, which means that only the relevant commands or icons should be visible during a specific design step.

Modern look and feel

With the new interface, available in Cadmatic Version 6 and beyond, the Cadmatic development team has successfully designed a graphical user interface that fulfils all the above-mentioned requirements.



Collisions are highlighted and surrounding objects are dimmed to notify the designer of potential collisions while routing

The new user interface combines a modern look and feel with enhancements welcomed by both novice and experienced users. What catches the eye is the new attractive visual style, but there is much more. From the very beginning the interface development project team were guided by four leading principles:

Usefulness, ease of use, efficiency and familiarity.

To some extent the new interface will change the way the software is used and allow for faster and more efficient work. In Version 6 it will be available in Plant Modeller with other modules to follow in due course.

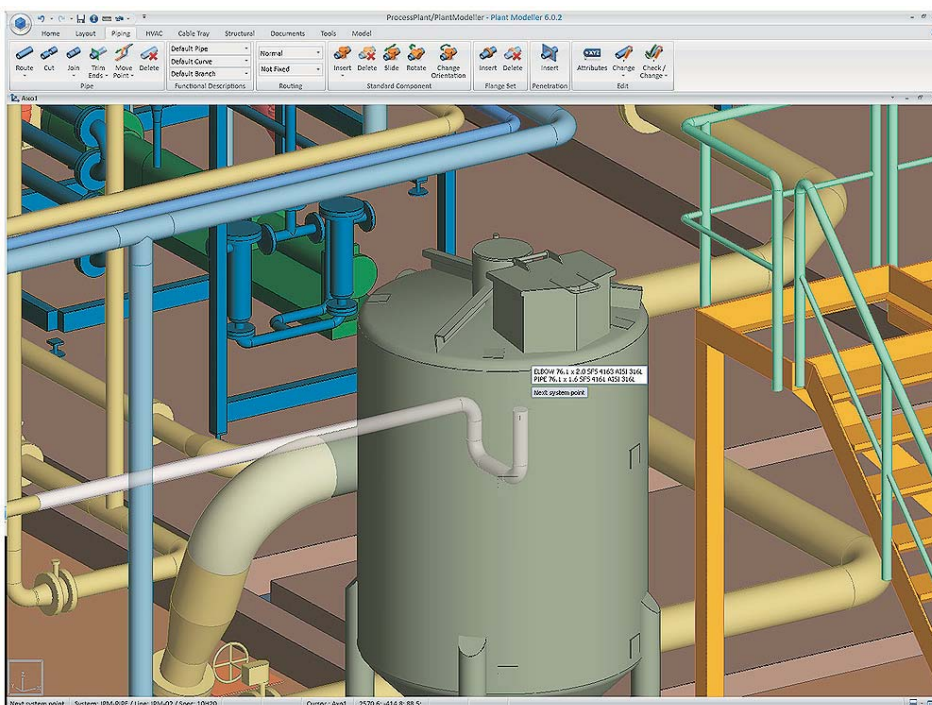
User's work flow optimally supported

Usefulness has been enhanced by increased context awareness. The main char-

acteristic of the new ribbon interface is the use of tabs to switch between command bars; it can in fact be thought of as an extension of the traditional toolbar interface. The tabs correspond to task areas and contain the necessary commands and options for each area. Particular attention has been paid to ensure that the user's work flows are optimally supported.

Easy and simple to use

The interface also strives to keep the design process as simple as possible. There are fewer and more powerful commands with clear and descriptive icons, all contained in the ribbon bar at the top of the screen. View management, for example has been made easier with a new views window that packs the functionality of the previous menu full of commands. The application settings can likewise now be found in one place.



Objects in front of the modeling area appear transparent and do not block the view for the designer. Messages and information follow the modeling work with heads-up information.

Efficiency

“Undo” and “redo” commands help the designer to save time in design. They eliminate the need for message boxes that used to require the user's confirmation and give the user the freedom to experiment with new designs safely. The heads-up information and prompt display reduces the need to follow the message log and allows the user to maintain focus on the working area. The online collision control tool assists

the designer to produce an error free design. Collisions can naturally also be searched for and analysed separately.

Innovative but familiar Cadmatic logic for plant design

Another feature of the interface is that it has a look and feel that users are familiar with in other applications. Cadmatic's distinctive interface is the result of years of development close to users and is already

considered very efficient and easy to use. We have recognized the need for standard interfaces, but did not want to abandon the innovative ways that make Cadmatic stand out among its competitors. We also know that a 3D CAD program is not a word processor and that care has to be taken to use the standard interface components: windows, command bottoms, etc. and develop our own specialized interfaces in areas specific to 3D CAD and our applications. Version 6 effectively combines the standard Office 2007 look and feel with the familiar Cadmatic logic.



The new version of the eBrowser includes a more attractive user interface

Wärtsilä gains flexibility with distributed design



Wärtsilä is a global leader in complete lifecycle power solutions for the marine and energy markets. By emphasising technological innovation and total efficiency, Wärtsilä maximises the environmental and economic performance of the vessels and power plants of its customers.

The ability to efficiently distribute design projects to different geographical locations provides organizations with the flexibility to immediately access engineering resources, wherever and whenever they are required, regardless of their physical location. Long gone are the days of frantically assembling a team to be sent to a distant location in order to plug gaps in design resources as deadlines loom large.

The Cadmatic News team caught up with Mr Oddvar Bakke from Wärtsilä Ship Design's office in Fitjar, Norway, to get an insight into how distributed design is used at WSD.

Cadmatic style of distributed design is standard way of working at Wärtsilä

At Wärtsilä distributed design by Cadmatic software has been used for a long time and is not viewed as a special way of working; it is in fact the standard way of working at the company. New projects are generally set up with a master server, from where replica servers are created in Wärtsilä's offices around the world and when needed also in subcontractors' offices. By using Cadmatic's CoDesigner functionality, the work done at the distributed sites is replicated to the master server and updated every few minutes. In practice this occurs almost in real time in Cadmatic as the delay is not noticeable to the teams.

According to Mr Bakke it is sensible to keep as much design resources used on a project in one place, as this makes communication lines shorter. For some projects it is, however, preferable to distribute the design to access special know-how in another location or when additional resources are required.

Flexibility means time and cost savings

"The great thing about Cadmatic's distributed design system is that it greatly reduces travelling, accommodation, and daily allowance costs. In the past you had to move people from one place to another and this could take days. They first had to check with



A Wärtsilä 3D model

their families if they could travel, tickets and accommodation had to be arranged, and then there was the travel time on top of that.

Sometimes we need to make changes very quickly and this would not be possible without distributed design. Now we can within a few minutes create the opportunity for the same person to connect to Cadmatic and start working on the project immediately.

Time is a big factor here and it is important that the system works smoothly. It is also crucial to have a stable and highly skilled workforce at the sites you are distributing your project to. We are lucky to have extremely competent Cadmatic users in several offices with us that allow us to successfully distribute our projects”, explains Mr Bakke.

Up to 20 ongoing projects

The ability to maintain resource flexibility becomes even more important in view of the fact that WSD often has many projects, up to 20, ongoing in the Cadmatic system at any given time. As the projects enter different phases, more or less design resources are required in specific projects, and the ability to quickly and seamlessly shift people from one project to another becomes essential.

Online and offline replication during installation

In addition to the daily distribution of projects to the different Wärtsilä offices and sub-contractors, end customers often request to

have designers on site during the erection and installation work on board. “In this case we have a replica site at the building site for a long time where the designers are cooperating with the client and making changes according to their wishes. The system works well despite the fact that we work across so many time zones.

From time to time the system is also used in offline mode, when creating as-built documentation for example. In this case we send somebody out to construction site without replicating. He takes all the measurements and once he has travelled back to the office, connects to the network and updates the changes. This is another feature that is working very well”, Mr Bakke points out.



Wärtsilä engineers servicing a diesel engine

Cadmatic eBrowser an important application

The Cadmatic eBrowser is another tool that is used a great deal by Wärtsilä. According to Mr Bakke they urge end clients to purchase full license versions of the eBrowser when starting projects, as it facilitates communication.

“The eBrowser is very easy to use and learn. You don’t need to know Cadmatic at all to use it for viewing. When we start a project we issue eBrowsers which we distribute through our Kronodoc document management system. The owners, project management and installation people have access to the latest eBrowser file. They can then comment for e.g. on the location of pumps by using the mark-up tool.

The eBrowser really impresses a lot of our clients and looks very professional. Many of our clients who are familiar with eBrowser prefer to use the eBrowser for reviewing, rather than looking through coordination drawings, as they find it easier to detect and see solutions. The clients also like the eBrowser to be available on the installation site at the foreman’s office”, Mr Bakke concludes.





Life cycle and asset management

ensuring sustained income and profitability

In today's competitive industrial business environment efficiency and longevity are not negotiable. Industrial plants have to be managed with the aim of securing the greatest source of sustained income and profitability throughout the operational lifespan of the asset.

The pieces that make up the jigsaw of efficiency are divergent and each one deserves particular attention. One of the core pieces in our efficiency jigsaw is undoubtedly the management of asset information and, in particular, how all the information regarding the asset can best be packaged, delivered to and used by the Owner/Operators of the asset to achieve the aforementioned goals.

In industrial plant projects this information is generated during the design and engineering phase of the plant. This includes amongst others pipe and equipment data, suppliers' information, manufacturing details etc. It generally takes only 1-3 years to generate the asset information but the value of the information becomes apparent when one considers that it has to be used over the entire lifespan of the asset, which typically can be 30 years or more.

Frame for life cycle costs is defined in the early design phases

Engineering and construction is often seen as an unprofitable phase of the life cycle of the plant. The importance of engineering in determining the total investment cost is not often understood. At that point the plant does not yet turn

profits – only expenditures. Most of the costs are,

nevertheless, determined in the design phase. It not only produces technical information but has a great impact on plant operation and maintenance. This technical information actually indirectly governs the amount of capital invested in the plant. Therefore, the investment in the format and administration of technical information can be seen as an investment in the fixed assets of the company. The figure below clarifies the development of project costs and the possibilities to affect costs.

created and updated in the operation and maintenance phase.

The ideal situation would be for the first decision regarding how the technical information is maintained to be made before the process is actually started. Will the maintenance, operation and asset management in general be based on non-integrated databases and documents that hold thousands of independent drawings, other documents and data, or will an intelligent 3D-based virtual model of the plant be chosen to be used as the core of the asset management system?

How to maintain the technical data?

From the life cycle and asset management point of view it is important to be able to connect data that is created in the engineering of the initial investment with data that is

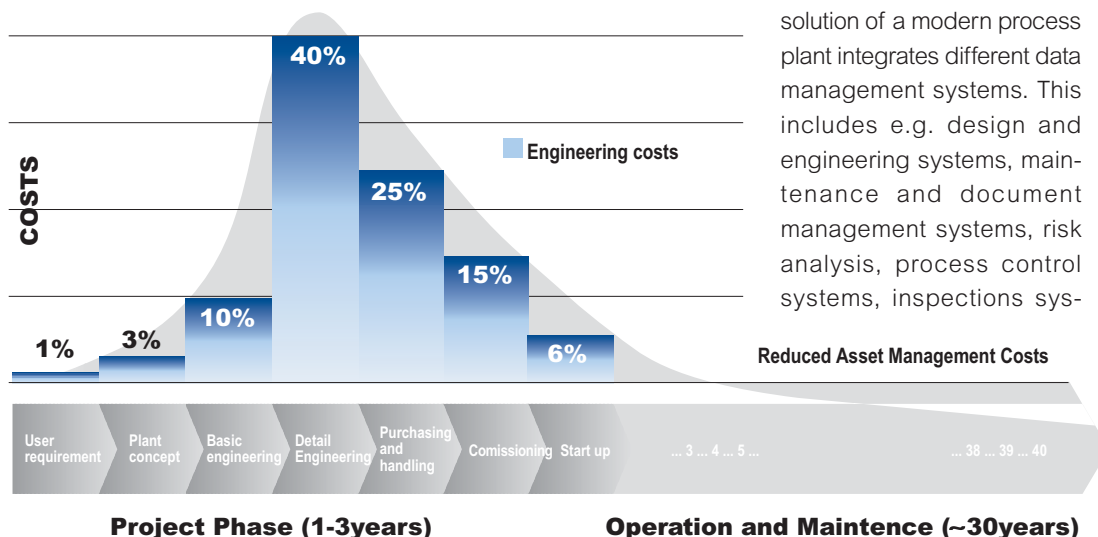
A solution that integrates all corporate data management systems with the virtual 3D model

Cadmatic is able to provide a system where the virtual 3D model works as the core of the asset management solution.

The following factors form the basis for the technical maintenance of a plant:

- The asset management solution of a modern process plant integrates different data management systems. This includes e.g. design and engineering systems, maintenance and document management systems, risk analysis, process control systems, inspections sys-

Project Success for Your Plant Engineering



The investment in the quality of the technical information in the engineering phase can be seen as an investment in fixed assets. The target is to reduce life cycle and asset management costs.

tems, etc. This entity can be seen as the asset management solution of the plant.

- The information gathered in design must be utilized effectively when controlling design and implementation.

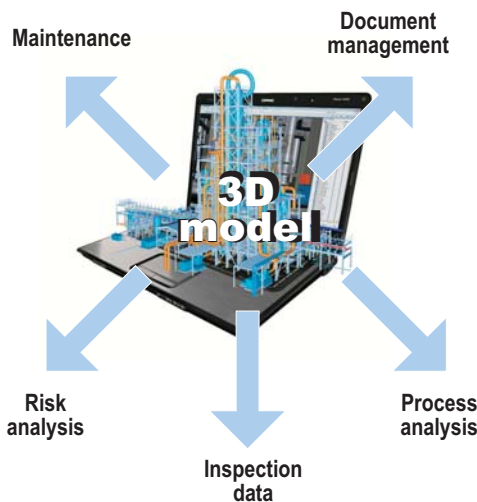
- The information that emerged in the design and engineering phase must be utilised as efficiently as possible immediately after implementation.

- It is vital that the information can be found easily and rapidly and that it can be relied on in both phases: the project and the maintenance phase. The information may be in different places or in different formats.

- Updating information must be easy and reliable in the maintenance phase in order to make sure that all the essential issues are updated.

- The information in the systems must be an entity. This means that a piece of information is not maintained in several different places at different time intervals.

Some of the main functions of Cadmatic's asset management solution are:



- Cadmatic's effective modelling tools make it possible to create and update the engineering data easily and rapidly.

- Cadmatic's easy-to-use model and data browsing tools are the bases for the real asset management solution and enable easy searching, viewing and updating of data. Cadmatic's renowned and popular eBrowser tool is a vital part of the solution.

- As the core of the asset management solution the virtual 3D model integrates the

technical data in different databases and sources. The Cadmatic eBrowser includes standard APIs for easy and fast integrations and is compatible with most the data formats, including other 3D models, engineering, maintenance and operation.

- The virtual 3D model works as the hub and user interface to easily find data and information from different databases and sources. As it is a web-based application the solution is really easy to use by all the people in engineering, maintenance and operation.

By moving the cursor in the model over equipment, pipes or other objects is possible to access all the technical data (figures) from different sources, e.g. equipment, pipeline, service, inspection data, and documents.

- The virtual 3D model works as a reporting tool to visualize and show the location and status of equipment, pipes, ducts and other structures. This provides the user with excellent opportunities to visualize and present the results of risk analysis, inspection data and e.g. how to drain piping systems for maintenance.



An example of how the inspection points and risk levels are visualized and colour coded for maintenance engineering in Cadmatic's asset management

Technical opportunities are available

Intelligent 3D information is also increasingly being used for life time use and for asset management. The technical opportunities are inbuilt mostly as a result of the open, flexible and customisable system and the modern modelling and browser applications. While Cadmatic has standardized the offered solution, the most important starting point for a smoothly functioning asset management solution is always the client's requirements.

Cadmatic wants to listen and understand the client's requirements and targets and to provide a customized solution with standard software components that best covers the client's specific requirements.

Asset Management has been part of Cadmatic thinking since the very beginning

Asset Management has been part of the Cadmatic development ethos since the mid 1990s and will continue to be a guiding force for the foreseeable future.

Already in **1995** Cadmatic began delivering asset management solutions when M-Real decided to use Cadmatic for the design of their paper mill in Kirknimi, Finland. The resultant 3D model was used as an interface to maintenance data of the plant.

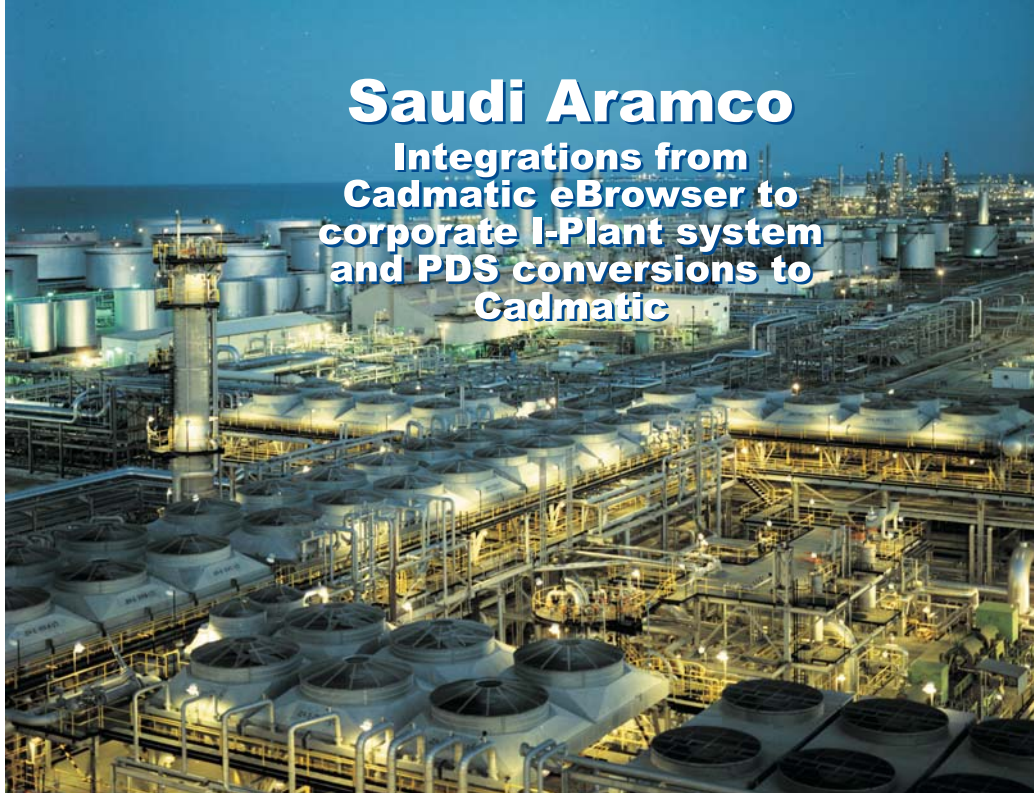
In **1997** the virtual walk-around feature was added along with 3D integrations between the virtual 3D model and maintenance and document management systems.

With the launch of eBrowser in **2002**, the first of its kind in the world, Cadmatic had made great leaps in easing model visualization, virtual walk-arounds and integrations with maintenance and document management systems.

In **2005** standard application program interfaces were launched to make it easier to create integrations between third party applications.

In **2009 & 2010** were developed advanced functionality to manage maintenance engineering directly in virtual 3D environment, e.g. risk analyses, inspection information and process data.

This development has continued with tools that increase interoperability with other 3D CAD systems, including PDS and PDMS.



Saudi Aramco Integrations from Cadmatic eBrowser to corporate I-Plant system and PDS conversions to Cadmatic

Cadmatic and Saudi Aramco are cooperating on a project to integrate Cadmatic eBrowser 3D models with Saudi Aramco's in-house I-Plant document management system. It is now possible for Saudi Aramco employees to virtually walk around the plant and retrieve any object data and documentation related to equipment and systems by simply clicking on the objects in the model.

The eBrowser models are easily suited to integration with corporate systems from an IT point of view, due to the fact that the system is web-based and that all information is contained in a one small and manageable file. In a large corporation such as Saudi Aramco the ease with which the system can be installed and run is of paramount importance.

As part of the service Cadmatic has delivered a tool to Saudi Aramco for the conversion of PDS models to Cadmatic eBrowser models.

Saudi Aramco's Ras Tanura refinery is one of the most complex in the world. Image courtesy of Saudi Aramco World/SAWDIA

and distribution facilities, and is responsible for the gas processing and transportation installations that fuel Saudi Arabia's industrial sector. An array of international subsidiaries and joint ventures, including one of the world's largest and newest fleet of supertankers, deliver crude oil and refined products to customers worldwide.



Saudi Aramco's Shaybah refinery was established in the 1990s. Image courtesy of Saudi Aramco World/SAWDIA

Saudi Aramco is a global energy leader

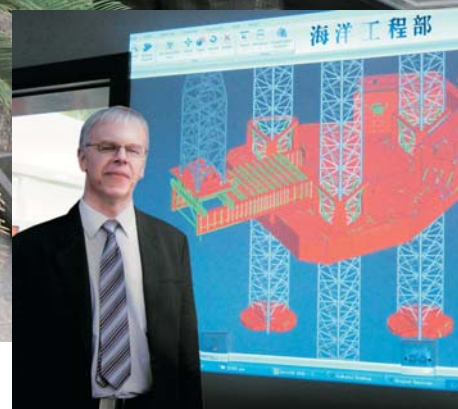
Saudi Aramco's operations span the globe and the energy industry. Today, Saudi Aramco oversees the largest conventional reserves of crude oil, is the world's largest producer and exporter of crude oil and leads the world in exporting natural gas liquids. Saudi Aramco also owns and operates an extensive network of refining

上海船舶研究设计院

Shanghai Merchant Ship Design And Research Institute



SDARI at the forefront of offshore and marine design in China



Top: Cadmatic implementation is taken care of Mr Zhang Yi Chi and Mr Fang Yi Min Above: Mr Matti Siltanen from Cadmatic has been responsible for the SDARI employees' training

Established in 1964, SDARI is a leading marine and offshore design company and part of China State Shipbuilding Corporation (CSSC). SDARI has about 700 employees and has accumulated more than 800 as-built designs in the past four decades. SDARI provides the entire range of design services from conceptual development to installation drawings and is the market leader in China. Since mid 2007 SDARI has been using Cadmatic's applications for basic and detail design including P&IDs, layout, piping, HVAC and cable tray design as well as structural steel design.

The Chinese shipbuilding industry has grown rapidly in recent times and with it SDARI has gained a good reputation in world marine and offshore industries.

The company's orderbook contains various groundbreaking vessels such as the ChinMax- the world's largest ore carrier (400,000 DWT).

SDARI increasing use of Cadmatic

At the end of 2008 SDARI and Cadmatic signed a new contract for further licenses for steel construction, layout, piping and outfitting, bringing the total amount of licenses to 85.



In the autumn of 2010 a new contract was signed to provide the whole offshore design department with 3D licenses. The total amount of licenses was raised to 200.

So far Cadmatic software licenses have been used in 14 different projects.

Powerful functions and flexibility

According Mr Wan Shui Sheng, Vice President at SDARI, the company had long

been searching for an appropriate new 3D design platform, which could involve all the design phases from the beginning to the end, from conceptual development to production and installation design.

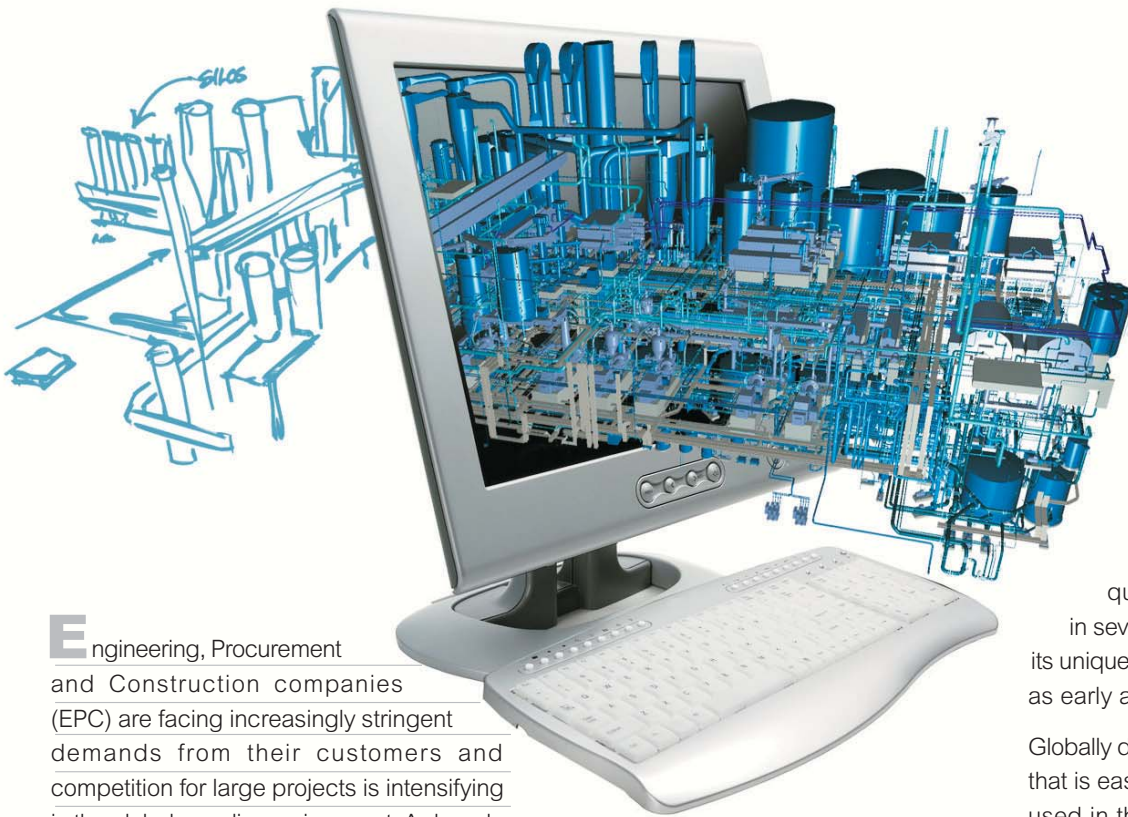
"After a six month period of testing we were convinced of Cadmatic's interoperability, the capability to integrate and transfer data with other design software. Of great importance as well was Cadmatic's user-friendly graphical user interface, powerful functions and flexibility. We have also been impressed by the strong support we have received from the supplier. SDARI believes that the cooperation with Cadmatic will continue to be a great success in the future."



www.sdari.com.cn

Keeping EPC and EPCM companies ahead of their competition

Cases: STC and Bonatti



Engineering, Procurement and Construction companies (EPC) are facing increasingly stringent demands from their customers and competition for large projects is intensifying in the global supplier environment. A decade or so ago EPCs had a clear advantage in their local markets due to their proximity to the market, but these advantages have been eroded by global supply chains and truly global providers that benefit from economies of scale. Cadmatic has worked closely with its EPC(M) clients over the years in order to gain a full appreciation of their needs and the challenges they face. This understanding has led and continues to lead to the delivery of solutions that keep our EPC customers ahead of their competition.

The biggest potential for cost savings found in initial design phases

The technical values of the plant are defined in the concept and basic design phase of the plant where the goal is to find the most optimal (technical and economical) solution for implementation.

Cadmatic has developed useful functionality to do initial design quickly and reliably and to utilize earlier approved design and construction solutions effectively. An important new functionality is the **“Functional Design Template”**, which

provides the user with the unique capability to utilize history and existing data and solutions from other successful projects. This can be used in all project phases, but is especially useful in the initial phases to speed up the design process, to improve the quality of the design and to make cost saving decisions.

It is important to keep in mind that the most vital decisions that lead to cost savings in the implementation of the whole project are made in the initial phases of the project.

Tools to manage the whole engineering network

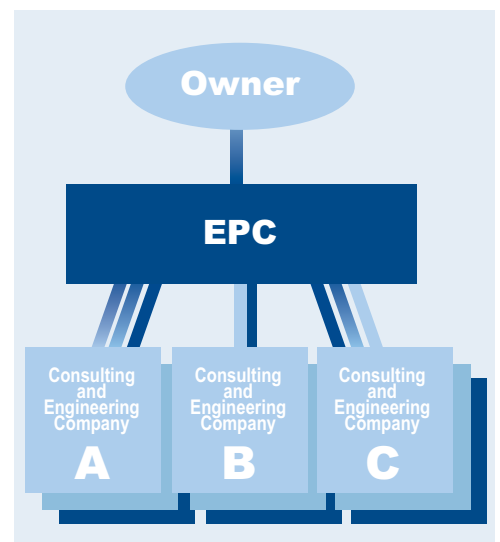
As EPCs often work together with a range of subcontractors the ability for them to efficiently distribute design projects is essential. In distributed design the Cadmatic CoDesigner has no equal on the market with regards the efficiency and ease with which projects can be distributed and managed.

Most of Cadmatic’s EPC and engineering clients utilize the CoDesigner functionality

to distribute design to several of their own offices and subcontractors. This enables access to the most effective resources in the world, regardless of location. This functionality also guarantees good quality even if the design is done in several locations. Cadmatic launched its unique functionality for distributed design as early as 2002.

Globally distributed design requires software that is easy to administrate and that can be used in the whole supply chain and engineering network and in all project phases. It should also be utilizable in low cost countries and by both bigger and smaller companies.

This eases management and coordination of the whole supply chain for EPCs and O/Os. Ready-made component libraries and user documentation are essential parts of this and development has to be continued.



EPC Engineering network

Over 50% savings in detail design

Cadmatic has cooperated with EPC(M) companies and universities to find the optimal way to do design and engineering and manage projects.

Recently the Tampere University of Technology in Finland compared the efficiency of 2D design and Cadmatic 3D design as well other 3D software applications. The difference was very clear.

In general the more complicated the design, the more benefit can be gained from using Cadmatic 3D for design and engineering. There were benefits in all areas but the most dramatic difference was in piping design and document production. According to the study, piping design in Cadmatic 3D was more than 50% faster than in 2D. There was also a clear difference in document production where the benefit gained from using Cadmatic was even greater.

Integrated design and engineering minimizes material and erection errors

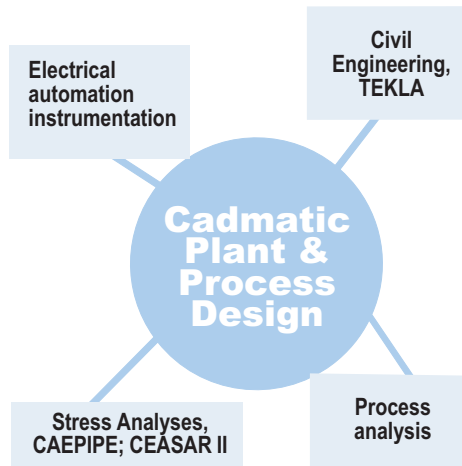
One of the goals of integrated design and engineering is to ensure that the same correct information is available for all designers and for procurement and erection. This means that integrations between design disciplines, such as process, plant, civil, electrical and automation design as well as integrations for material and document management and ERP systems have to function smoothly.



The detailed, error-free and continuously updated information of the 3D model greatly improves the installation phase

The Cadmatic solution consists of integrated data handling and management between all design disciplines and all design phases, built around the Cadmatic core expertise area of plant and process design. Design disciplines such as civil engineering, process analysis (simulations), stress analysis as well as electrical, automation and instrumentation can be integrated with the Cadmatic core. The compact and integrated solution has tools for all design phases from early and basic design through to detailed design and construction.

In the early design phases Cadmatic's ability to import laser-scanned point clouds for further modelling in 3D has been widely used and results in large savings and also minimizes errors e.g. in piping installations.



Integrated design and engineering

Information sharing for engineering network and for life time services

On projects EPCs need software applications to easily view project data, monitor progress and communicate regarding technical issues and solutions with all engineering offices, subcontractors and owner/operators.

EPCs are often required to supply project data and information in digital formats to Owner/Operators. The Cadmatic's eBrowser is good base to deliver data to plant owners or to develop and offer life time services.



Bonatti Group selects Cadmatic solution

Bonatti is an international general contractor that provides engineering, procurement, construction and operation & maintenance services to the oil & gas and power industry.

The company employs about 6000 employees. The company headquarters is situated in Parma, Italy and the engineering centre in Fano. Other European offices are located in Germany, Austria and Spain. The majority of Bonatti's projects are carried out in Europe, Central Asia, the Middle East and Northern Africa where local offices are also present.

The company's sectors of activity are:

- EPC projects for the construction of oil & gas and power plants
- Oil & gas pipeline construction
- Construction & erection of oil & gas and power plants (civil, mechanical and electro-instrumental works)
- Operation & maintenance and local construction services for the upstream sector
- Electrical-instrumentation design, procurement and construction for power and oil & gas plants
- Civil construction works (buildings, industrial plants and infrastructure)

Bonatti using Cadmatic for oil & gas and power plant engineering

Bonatti selected the Cadmatic solution for their plant engineering in 2010. The software



Bonatti is an EPC supplier to the oil & gas and power industry

will be used at several Bonatti offices with first-phase implementation at the Fano engineering office for EPC activities. The software will later also be implemented at Bonatti offices in Saudi Arabia, Libya and Algeria. The decision by Bonatti to select Cadmatic was also based on Cadmatic's efficient distributed design with CoDesigner that enables the company to distribute its design to different locations that are connected to the main office in Parma.

In the following months Cadmatic will support Bonatti to integrate the Cadmatic plant engineering software with Bonatti's material management and other third party software to optimize the time and resources used during the different phases of complex EPC projects.



EPC-based power plant supplier STC an experienced Cadmatic user since 2008

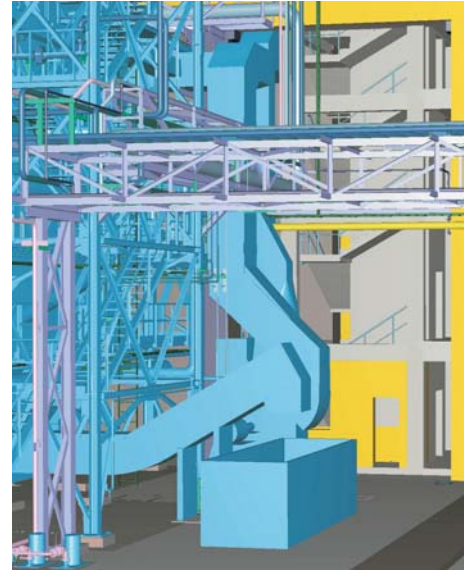
STC S.p.a. has been a Cadmatic user since 2008 and has completed several demanding projects with the software since adopting it. The Forlì-based EPC supplier for Power Plants was founded in 1981 and is specialised in combined heat & power plants based on gas turbine generators and reciprocating engines. STC supplies power plants on a turnkey basis and in Italy and has already installed and put in operation over 117 gas turbines, 3 solid biomass power plants, 15 gas engines, 11 palm oil engines and 13 steam turbines.

A recent interesting project completed by STC with Cadmatic was a 12MW biomass power plant located in Anagni near Rome. The end client is Distillerie Bonollo, a



STC specializes in plants power by biomass fuels

renowned producer of Grappa that is sponsoring the project with Energie Rinnovabili. The plant will be fuelled by the residue produced from pressing grapes (pomace) in the process of making grappa at Distillerie Bonollo. In addition to generating power the plant will also co-generate steam.



STC 3D model

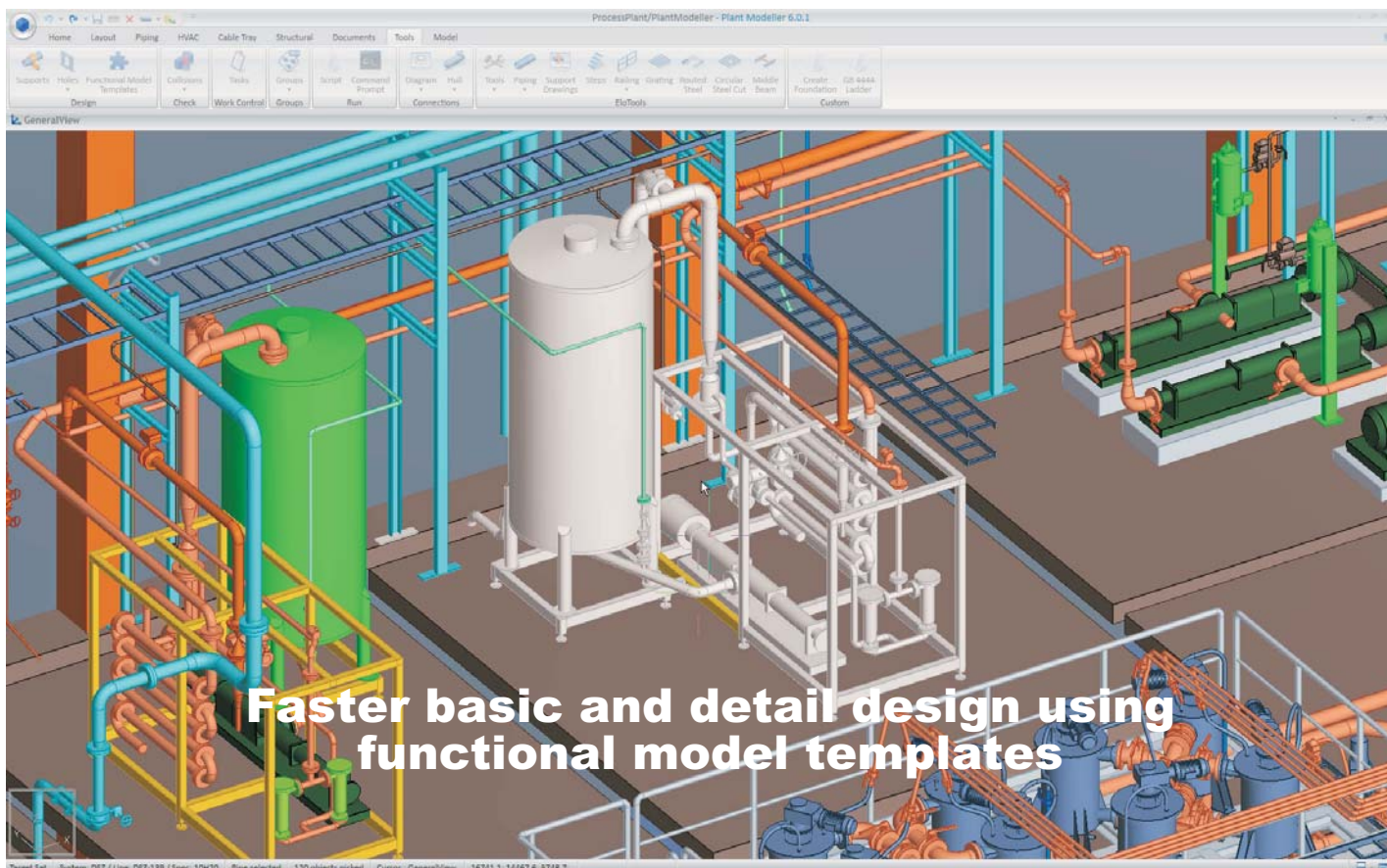
STC's design quality and accuracy of material management have improved. They have also been able to shorten the engineering time required for projects. eBrowser has made communication easier between designers and erection people.



Mr Alberto Succi from STC S.P.A. presenting the company's experiences of using Cadmatic at the Cadmatic Users' Meeting held in Poland 2010



www.stcspa.it



Faster basic and detail design using functional model templates

Cadmatic has developed a tool to store and use functional model templates that saves time in the early design phases and enables the reuse of previously created areas of a model from the same or other projects. When a user works with areas or component sets that are similar to a previously completed project, the functional model templates can be inserted to which adjustments can be made at a later stage to complete the design.

Reuse existing designs

The functional model template feature provides companies with the unique opportunity to reuse completed designs, thereby avoiding time consuming copying and changing of component operations. It also enables the creation of a library of typical project parts such as casings and units with equipment for example. Using this library the user can create new design concepts in the early design phase in the shortest time possible and later proceed with the same model for more detailed modifications.

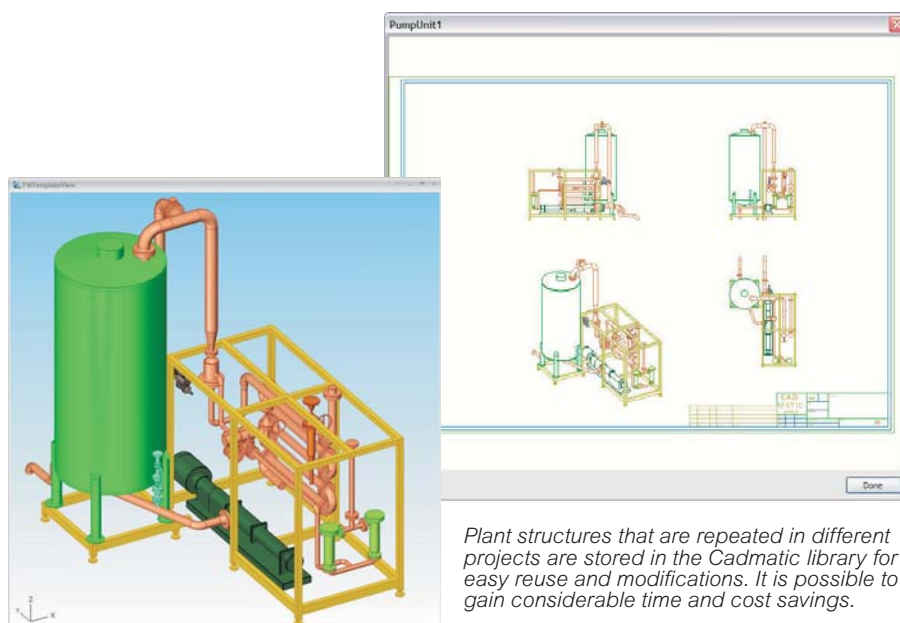
Save modules to the library

The user simply needs to pick required objects such as equipment, piping elements, HVAC, cable trays or structural components

or any other 3D objects from the model and store it in the library for later use. The user can also define where the origin of these new “blocks” will be to ensure that it can be easily inserted in the right place. The model drawing is stored with the template so that the user can easily print it, or check the sizes or any other information. A small eBrowser model of the unit is created automatically. The user can also define the required attributes for later identification, such as names, project numbers and other object related data. This allows companies

to build up their own libraries of typical units or blocks for use in other projects.

When a “module” is used in another project the user only needs to locate and orientate the “module” and simply map components, position ids for the named equipment and valves and map piping specifications to specs in the new project. After this the “module” becomes part of the 3D model of the new project and can, if needed, be changed or adjusted.



Plant structures that are repeated in different projects are stored in the Cadmatic library for easy reuse and modifications. It is possible to gain considerable time and cost savings.

Machine & Component Design
AutoCAD, Inventor

3D Plant Engineering
PDS, PDMS

Civil Engineering
Tekla

Process Design (P&ID)
Customized Integrations

Electrical, Automation & Instrumentation

ISO 15926
Intelligent
Converter

CADMATIC

eBrowser **Plant Modeller**

Interoperability
allows exchange of ideas and integration of software

Mikko Johansson is responsible for following development and standardisation of interoperability

Interoperability is not a new notion for Cadmatic or the CAD business. Cadmatic software has from its early conception been designed to be open. Many integrations have over the years been done with software from different disciplines and with other vendors' 3D systems.

Attempts have been made internationally for more than ten years to standardize plant design data exchange formats. This has resulted in the ISO15926 standard (Title Industrial automation systems and integration — Integration of life-cycle data for process plants including oil and gas production facilities). ISO 15926 currently has 7 parts that define fundamental principles; data model and referencing, geometry and topology as well as data exchange and integration. It is an ongoing project and some parts have not been completed, but can nevertheless be applied.

So what has changed as a result?

End users are showing increasing interest in life cycle concepts and in future will also increasingly pose software vendors with

related demands. Technology trends, such as web 2.0 have encouraged companies to consider openness and to focus less on losing their fiercely guarded trade secrets. Many in the industry believe that these changes will provide significant business opportunities in the future. New products and businesses can be developed around this technology.

Better interoperability is a demanding challenge and it proclaims to solve many different problems. It has a role in acquiring information, sharing information between different engineering disciplines, engineering subcontractors and data handover to end users, who in most cases are plant operators. When information transfer is done perfectly, risks and costs are greatly reduced and management of whole investments become easier with mutual benefits for all participants.

Cadmatic already applying new ISO standards

XMpLant by Noumenon Ltd is technology for implementing ISO15926. Cadmatic has also conducted a prototype export with

generic XMpLant to a process calculation system in a research project and is intensively following this development. A similar standard, IFC/ISO16739, has made a breakthrough in the building and construction industry. Cadmatic version 6.1 can for example do hole request management according to this standard. There are ongoing discussions and plans to merge the above-mentioned standards.

Interoperability between design disciplines

The term interoperability has a wide scope. In once sense it can mean data exchange between CAD systems from two different disciplines. A good example of this is interoperability between Cadmatic Plant Modeller and Tekla Structures. This interoperability can handle bi-directional 3D model sharing. Model updates are handled in an intelligent way and enables designers to share and communicate in a completely new way. It implements a way to handle and send void reservations and other similar

requests such as foundations from plant designers to structural designers after which the structural designers can take the required further actions. As a result expensive errors and collisions can be avoided and a part of the semi-manually created documentation is no longer needed. All these factors lead to greater savings.

Interoperability between different 3D plant design software

Interoperability between CAD design systems of the same discipline can be divided into two different categories, a light and a fully intelligent model exchange. In the light exchange the model is sent as a reference model. The model contains the correct object structure and it may contain the required attributes and connection nodes.

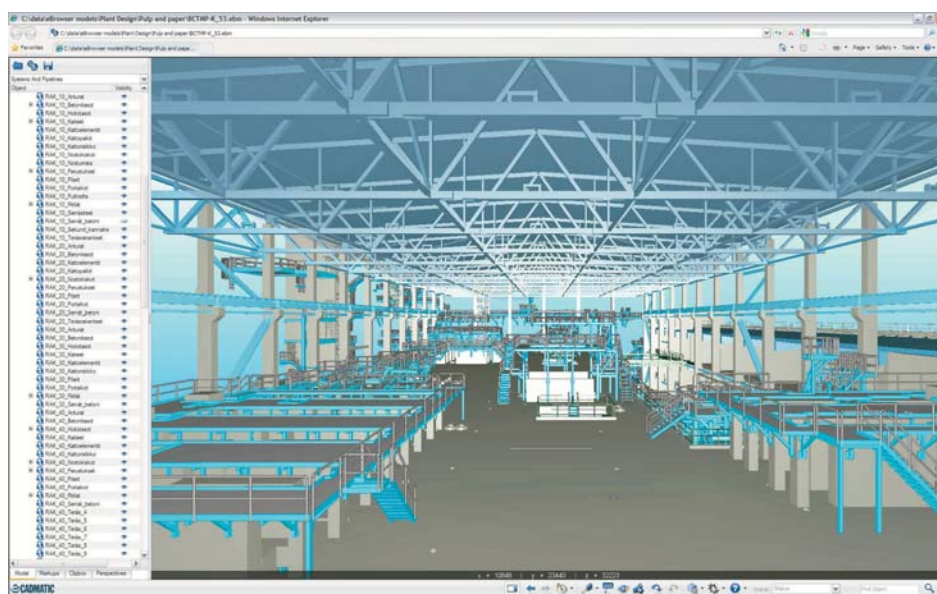
This level of detail is arguably sufficient for many maintenance, operational and revamping cases and is relatively easy to implement in practise.

The second category is a fully intelligent model exchange that can be further divided into two sub-categories. In the first sub-category the library and catalogs are manually synchronized and in the second it is more automated. Our customers have made fully intelligent model transfer. Great parts of the transferring can be made automatically but it need also manual library mapping.

The model review tool, eBrowser, utilizes interoperability in two different ways. It can use an imported model that is already in use and imported into Plant Modeller via normal model publish. The second way is to use converters and load the model directly into eBrowser.

Interoperability between different P&IDs

Cadmatic P&I integration for Cadmatic Diagram has been designed with openness in mind. It is possible to build a connection to the P&I integration interface with other vendor's P&I systems. There are also interface tools available to build an interface to material and document management systems. These are still often tailor-made customizations.



Cadmatic plant model built with data imported from Tekla Civil Engineering Software

Free ePublisher now available

Interoperability is a vital issue for modern CAD systems and requires the support of vendors to make it work. Cadmatic for example offers a free ePublisher, which is a library kit for third party developers or user organizations that enables them to interoperate with eBrowser or Plant Modeller.

Cadmatic has a strong desire to be open and has made it possible for third parties to write Cadmatic's proprietary format ebm files for publishing models in eBrowser. At the same time this library can export Plant Modeller 3DD files that can be loaded in Plant Modeller as reference models. This library is now available on the Cadmatic web site, free of charge.

Cadmatic Plant Modeller can handle imported 3D reference models in a unique and intelligent way. The name of the tool is "Import Manager". It can handle and track the changes when the model is reloaded into the design environment.

eXchanger for AutoCAD

The eXchanger for AutoCAD converts AutoCAD® solid models from and into Cadmatic reference models. This allows AutoCAD® users to use their AutoCAD 3D models in their Cadmatic Plant design projects. There are a large number of file

transfer plug-ins for AutoCAD. This enables compatibility with different formats enabling Cadmatic users to transfer models from and to other applications such as Solidworks, AutoDesk Inventor and Catia. The exchanger can be downloaded for free from the Cadmatic web site.

eXchanger for AutoCAD cad be used for two different purposes. It can be used to import layout level models and to utilise the clever import manager tool. It can also beneficially used to import equipment or similar parts into the library. Cadmatic has tools to decrease the amount of details, if needed. This specially needs attention when handling machine engineering models.

eXchanger for PDS

The eXchanger for PDS exports PDS review models to eBrowser and Cadmatic reference models. The exported model can have attributes and structures and data mapping can be configured to achieve the required result. eXchanger for PDS utilizes ePublisher tools. In the near future there will be an eXchanger for PDMS available as well.

Download the free
eXchanger
(for AutoCad)
& ePublisher
at www.cadmatic.com



Rapid growth in Central Europe

Central Europe is a core region of the European continent located strategically between Eastern and Western Europe. From the 2000s onward, the eastern part of Central Europe in particular has been going through a phase of "strategic awakening". While the region's economy shows high disparities with regard to income, all Central European countries are listed as "very high development" countries.

Left: Mr László Kuczogi from K-ÉP and Mr Sami Koponen from Cadmatic are actively promoting Cadmatic software solutions in Central Europe.

Chemical, petrochemical, oil & gas, pharmaceutical and power sectors

Cadmatic has developed a wide customer base and 4 high quality sales and support centers in the region. These offices cover all the countries in the region and all of them have high technical skills for sales and support of Cadmatic software. The most significant factor behind the success has been Cadmatic's ability to listen to the special requirements of customers in different industry sectors and to come up with good solutions. The most important points in this regard are:

- The software is easy to learn and use
- The opportunity to do design faster using fewer hours
- The flexibility to easily create all types of special libraries and components
- The opportunity to integrate different design and engineering phases
- The easy distribution of projects to several places
- The engineers from the ordering company like to view and control the model. The eBrowser is a very good tool for this
- The ability to keep to deadlines is critical when making the decision to invest in any new software. To implement the software Cadmatic gives the customers the guarantee that the needed support recourse are available to ensure that the project is completed on time, thereby reducing the risk the customer takes on.

In the following paragraphs the Cadmatic experiences of selected Central European customers is presented with a special focus on the reasons behind the strategic selection of Cadmatic to improve their business.

"The ease with which we took Cadmatic into effective use in the first chemical industry project was impressive"

Vegyterv (Chemical Engineering and Contracting Co.) was founded in 1950 to provide engineering services for the Hungarian chemical industry. Nowadays the company has two strategic markets; the chemical and pharmaceutical industries. In the early 1980s Vegyterv started developing its own software for piping design (routing and stress analysis) but political transformation and privatisation interrupted this development work. They started using 3D design software in the mid 1990s with the use of Prochem-C. It unfortunately turned out to be the wrong decision as the development of the software was discontinued after that.

According to Mr Gyula Dornbach, Vice President of Vegyterv, they were, as a result, obliged to find a new supplier. The contract with Cadmatic was signed at the end of 2007 after detailed technical evaluation of different software solutions.



Vegyterv bioethanol factory

The training started in January of 2008 and the company completed its first pilot project with Cadmatic only three months later in April 2008. The selected pilot scope included about 300 pipelines.

"Some of our project requirements were very special due to the unique components required; PTFE and enamel coated piping components and equipment and pipes made of glass. Cadmatic's administration is easy to use and libraries and specs can be changed and defined very flexibly. This was a particularly impressive pilot project considering that the software training had only started 3 months before", says Mr Dornbach.

Since then Vegyterv has completed many new larger scale projects with Cadmatic in the chemical and pharmaceutical industries.

“Cadmatic’s interoperability skills were proven in the BOP design of the power plant project’s multi software environment”

The **Energie und Kraftanlagen Gruppe** is one of Europe’s largest service providers in the fields of energy generation, transmission and distribution, industrial engineering and network technology with almost 5000 employees and a wide office network in Germany, Hungary, Austria, Romania and Czech Republic.



Kraftszer engineers were in charge of BOP of a combined cycle power plant

Kraftszer Ltd - one of the Group’s Power Plant Engineering companies - started their first Cadmatic project in January 2010. Their activities range from feasibility studies to detail design.

The first project included the detail design and coordination of BOP (Balance of Plant) of a combined cycle power plant. All of the parties used different software to complete the design work: HRSG designed with SmartPlant, the gas turbine supplier used SolidWorks and the steam turbine supplier used Inventor. The existing building was available in ArchiCad. The basic design of the BOP piping was done in the customer’s own design office with PDS.

Cadmatic’s eXchanger was used to transfer SolidWorks, Inverntor and ArchiCad models. The new tool – eXchanger for PDS - which can convert PDS models to Cadmatic Plant Modeller and eBrowser, was a big advance for Kraftszer. The design work was completed very effectively in less time than planned.

Kraftszer is currently working on a biomass power plant. The project includes process, and detail design to integrate a new boiler

“Cadmatic’s integrated solution simplifies and makes our work flow faster”

Evatherm is an EPC (engineering, procurement and construction) company group with worldwide activities in the field of evaporation and crystallization. The head office of the group is located in Switzerland and branch offices in Germany and Hungary. The company is ranked among the leading suppliers of evaporation and crystallisation plants.

“Cadmatic is not only a solution for 3D pipe design; for us it a solution for the entire plant and documentation. We don’t require any other software in the process”, notes Managing Director, Mr Csaba Priskin.

“The purchase of Cadmatic software was a strategic key point. There is a wide range of programs available on the market but we found that Cadmatic best suited our needs. Therefore we decided to purchase Cadmatic in June 2008”, Mr Priskin continues.

“In the future we will continue improving our design work by incorporating some of the other possibilities offered by the system such as the integrated P&ID functions. With Cadmatic we are able to change the work flow, thereby simplifying and speeding up our work.”, concludes Mr Priskin.



Evatherm is a supplier of evaporation and crystallization plants

“Cadmatic’s automatic isometric and MTO generation improves accuracy and reduces the time required”

Since its foundation in 1967, **Petrolterv Ltd** has been designing construction, maintenance and reconstruction of oil and gas

of the Hungarian oil & gas company. Petrolterv General Contracting & Designing Ltd. has been operating as a private company since January 1995.

Petrolterv Ltd’s main activities are designing, consulting engineering and expert services, mainly in the oil and gas industry. The company also implements projects in chemical and heavy industry, water and waste water systems.

Petrolterv Ltd implemented Cadmatic in 2010. Their first project with Cadmatic was the reconstruction and capacity increasing of gas-exploitation plants. Implementation of the software was seamless and all the documents /drawings, isometrics and material take-off’s generated from Cadmatic perfectly matched Pertolterv’s requirements.



Petrolterv and Chemosystem use Cadmatic automatic ISOs and MTO generation

According to Mr Toman Laxzlo, Director of **Chemosystem Ltd**, *“Cadmatic strongly supports the automatic generation of isometric drawings and material take-offs (MTO) which improves accuracy and reduces the time spent on preparation”.* They started to use Cadmatic in 2009 for different chemical industry projects.



www.energie-und-graftanlagen.de

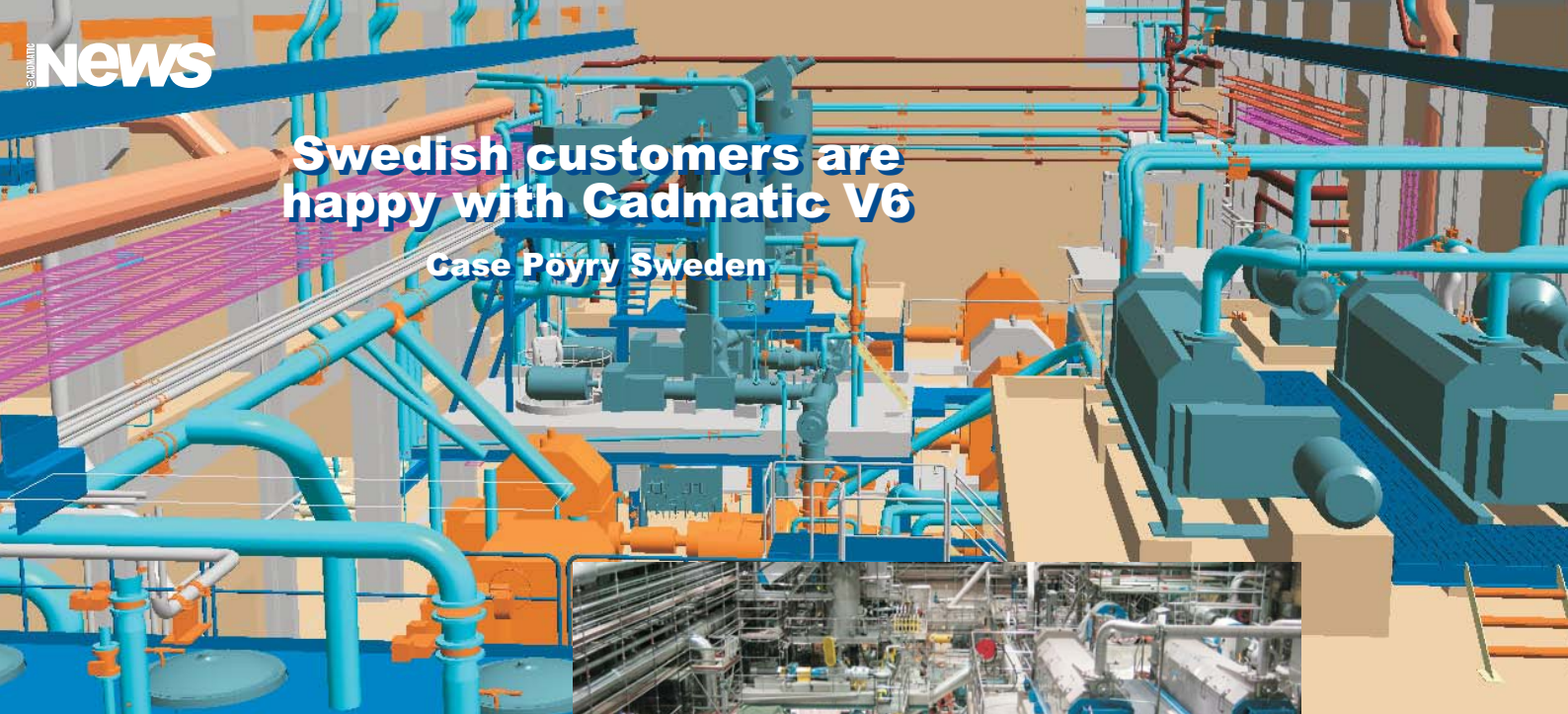


www.evatherm.com



Swedish customers are happy with Cadmatic V6

Case Pöyry Sweden



A significant recent project for the Piteå office was a complete new TMP line built in an old one for Ortviken TMP. The Cadmatic eBrowser was used effectively on the project.

In Sweden, Cadmatic Version 6 has been well received. One example is Pöyry's office in Piteå, Northern Sweden. They focus on providing services to the Pulp and Paper industry and its suppliers as well as other heavy industries. The company specialises in mechanical, electrical, instrument and system design. Since 2002 the company has been using Cadmatic on a wide range of demanding engineering projects. Mårten Isaksson, has been at the company for almost twenty years where his duties vary from being project manager, erection manager to design leader. He is one of the most experienced users of Cadmatic in Pöyry Sweden.

"Cadmatic's logical user interface is easy to use"

"I first came into contact with Cadmatic in the late 1990s and was quite convinced of its benefits. For us, as a small office, it seemed to be the most cost effective system for our projects and clients. A big advantage was that we didn't need to renew computers or servers and the implementation went smoothly and without any problems. It is easy for the user to understand and the logical user interface in Cadmatic made the step into 3D plant design very easy for us. We started with a real project with support from our Helsinki office. A Cadmatic trainer helped us for some weeks to set up the data and gave us some basic training. This is now something we can do ourselves as well as giving basic training to our colleagues".

"eBrowser is the best tool to give instructions for erection people"

Peter Askenryd is the system administrator and the most experienced user of Cadmatic in Pöyry Sweden. According to Askenryd they are continuously finding more use of Cadmatic and its features. The eBrowser is widely in use at the company and is especially appreciated as an on-site tool that benefits erection work. "For us the eBrowser is the best tool to give instructions, for example to send pictures with notes from us to the erection people."

TMP Project done in five locations

According to Isaksson the office has recently completed a significant project for Ortviken TMP. It's a complete new TMP line built in an old facility. An old wood room was cleaned out prepared and reinforced to take the loads and volumes for the new process line. The eBrowser was of great help in the layout planning; especially in areas where there were space limitations. "Due to the size of the project we utilized resources from all over Sweden. The setup for the project was configured from one master database in Piteå with four replicas in remote locations. At peak times sixteen designers

were involved in simultaneous design work. Some complex steel structures were designed with other software. We exported the building, the pipes, equipment, and cable trays to Inventor and they added their parts. Thereafter it was exported to Cadmatic again. This enabled us to tailor make the complex steel constructions according to the equipment, piping and other objects in the model. Because we worked from five offices, we were at an early stage able to put links with data sheets of equipment, valves and isometrics. This enabled all designers to work as independently as possible. Overall much of the success of the project was due to the choice of tools, our IT infrastructure, good dialogue with the client and our skilful personnel", explains Isaksson.

In summing up the nearest future Peter Askenryd had the following to say: "We are very pleased with the software development in Cadmatic. New features and functionality are developed continuously. Also the new eBrowser looks very promising and gives us options in communication of design data that corresponds to our high demands for efficiency and quality."

Integrating CAD software successfully in a diversified engineering office

Groundbreaking pharmaceutical plant in Africa designed with Cadmatic

A groundbreaking pharmaceutical plant that is producing generic drugs for the first time in Western Africa was recently completed with Cadmatic software. The plant was conceived from the ruins of an abandoned plant in Cameroun. Elomatic-Pharmalab Consulting and Engineering Pvt Ltd from Mumbai, India, used Cadmatic for the design of the ambitious rehabilitation of the plant for its client Cadyst Invest S.A.



availability. We removed all possible piping, ducting and equipment clashes which smoothed the production process considerably. We output all the required engineering drawings such as isometrics, piping layout, ducting layout directly from Cadmatic for implementation on site”.

Re-engineering the entire facility

Elomatic-Pharmalab’s scope included the re-engineering of the entire facility. Cadmatic was used to model the entire plant including structural modelling of the building, equipment modelling, piping, ducting and cable tray routing etc. without importing any parts from third party software.

Cadmatic ideal for solving space availability problems

According to Elomatic-Pharmalab Assistant Manager for Layout & 3D, Mr Mangesh Nagarkar, it was of great benefit to use Cadmatic on such a demanding project. “Cadmatic proved ideal to solve the problems the plant had with space

The plant owner, Cadyst Invest S.A, was impressed with the Cadmatic eBrowser, which was used on site by the site supervisor to get a clearer picture regarding the work being done. According to Mr Nagarkar they particularly appreciated the ability to visualise the future plant as a whole and how it improved communication and allowed the early identification of possible problems.



www.elomatic.com

Effective use of interoperability Case of Chemeko Ltd, Poland

Chemeko Ltd is a good example of how an engineering company can realise quality improvements by efficiently utilizing the interoperability of the Cadmatic system. They have achieved this by using Cadmatic eXchanger for imports of objects designed in AutoDesk applications into the Cadmatic system.

Hydrogen generation system first project for integrated solution

The integrated software system was first used for the PSA hydrogen generation system (patent by Instytut Nawozów Sztucznych from Pulawy, Poland). The entire piping system was designed using Cadmatic plant modeller. The steel frame structure was designed in AutoCAD Revit Structure and objects such as absorbers were imported from AutoCAD Inventor. For



“We have been happy with the flexibility and easy implementation of the Cadmatic software. When we restructured our design and engineering division the Cadmatic system was easily adjusted to meet the new needs and modern quality policy of the company. Based on feedback from clients our engineers decided that objects created in AutoDesk such as steel structures, equipment, vessels, reinforced concrete structures etc. will be dropped into the Cadmatic Plant Modeller environment which functioned as a unique integrator”, explains Mr Pawel Lichocinski.

this special purpose the Cadmatic eXchanger module was efficiently used. The Chemeko staff and were very satisfied with how the project was executed in Cadmatic.



<http://chemeko.pl>

Cadmatic welcomes all new clients to the dynamic team of Cadmatic users around the world

Cadmatic's road to becoming a leading global 3D plant and ship design software has been interesting. It has required technical innovation, persistence, resilience, risk taking and a strong belief in the product and service.

Cadmatic currently has about 5000 users in almost 50 countries worldwide. The software is used amongst others in the oil & gas, chemical, petrochemical and energy as well as in marine industries.

Cadmatic offers suitable design, material management, construction and project management solutions for EPC companies, constructors and design offices as well as solutions that improve technical information management for investors and end customers throughout the life cycle of plants.

Over that last 10 year Cadmatic has systematically built local sales and support centres in over 20 countries spanning Europe, Asia and America.

Cadmatic now has its own sales, support and software development personnel in Finland, Hungary, Italy, India and China.

The development of business operations over the last five years has been vast. Half of Cadmatic's customers started using the software during the last five years and when measured in terms of new customers, Cadmatic's market share has risen significantly. The company turnover is divided fairly evenly between Northern Europe, Western Europe, Eastern Europe and Asia. In the growing markets of Eastern Europe, Asia and South America the number of new customers has increased substantially.

The growth in market share and success in acquiring new customers is a strong indication of the software's prowess. Customers wish to improve their strategic competitiveness with the help of Cadmatic software.

The scalability of Cadmatic software in different customer projects, easy start-up in different user networks, integration with other systems as well as Cadmatic's skilful, flexible and customer orientated way of

working have received special mention in our customer surveys.

In the following paragraphs we present a few customers that have chosen Cadmatic as a strategic tool to improve their operational efficiency and competitiveness and welcome all the new users to Cadmatic users group.



China's challenging and growing marine and offshore sector

SDARI is China's best known marine and offshore sector design company. The company started operations in 1964 as part of the China State Shipbuilding Corporation (CSSC). SDARI covers all design areas of marine and offshore design from concept design up to construction documentation. The company employs about 700 design and engineering professionals.

SDARI's goal is to use Cadmatic software and know-how to move to 3D design in all design phases. The implementation of the software was started in the SDARI's R&D and offshore departments.

Other recent new clients in China include e.g. **Damen Changde** and **Yichang, Ulstein China** and **Sinopacific Zhejiang**.



India's high ranking EPC companies are developing know-how and improving quality

Larsen & Toubro Ltd is one of the largest and most respected Indian engineering and technology companies. The company was founded by two Danish engineers, Henning Holck-Larsen and Soren Kristian Toubro, in Mumbai in 1938. The company employs 29.000 employees and delivers turnkey projects among others for the oil & gas, energy, petrochemical and marine sectors.

The Cadmatic delivery consists of software and start-up services to improve design, production, material management and

project coordination for over 100 concurrent users. The software will be implemented in 2 engineering centres in Chennai and Mumbai as well as 2 manufacturing centres in Hazira and Kattupalli.



Saudi Arabian based Saudi Aramco integrates 3D design systems as part of technical data management

Saudi Aramco is the world's largest oil producers with over 20% of the world's oil reserves. The company is owned by the Saudi Arabian government and the headquarters are located in Dammam.

Cadmatic and Saudi Aramco are together implementing and integrating 3D design and information retrieval software as part of Saudi Aramco's technical information management. The Cadmatic 3D model integrates amongst others the data in Saudi Aramco's iPlant system which is used for the management of equipment data and documents



Italian EPC companies appreciate Cadmatic's scalability and flexibility

Bonatti Group is a turnkey supplier (EPC) of oil and gas power plants. The company employs about 6000 employees. The company headquarters is situated in Parma, Italy and the engineering centre in Fano. Other European offices are located in Germany, Austria and Spain. The majority of Bonatti's projects are carried out in Europe, Central Asia, the Middle East and Northern Africa where local offices are also present.

Bonatti's goals have been the shortening of time schedules in both design and production and boosting material management, coordination and design in distributed networks. The implementation of Cadmatic software is part of these strengthening procedures.

STC Group is an engineering, procurement and construction (EPC) operator that builds

turnkey thermal and electricity co-generation plants. They began operations in the power generation plant sector in 1981. Cadmatic Software was implemented for process and plant design, material management and for the coordination of project design and communication.

Some other recent new clients in Italy include **Tecnoconsult Engineering, Tosco-tec, Skema, Basell Brindisi, Walley Design** and **Entalpia**.



FINLAND

The long-term business development in Finland is steady.

Cadmatic has signed a global agreement with **Pöyry** for the use of Cadmatic software licenses in their global engineering office network. Pöyry Group is a global consulting and engineering company in the energy, industry, water & environment and urban & mobility sectors. Pöyry has 7000 experts and a local office network in about 50 countries.

STX Europe is part of the Korean industrial group STX, which has approximately 54 000 employees in the field of shipping and trade, shipbuilding and machineries, plant and construction, and energy.

STX Europe aims to be the leading builder of cruise and offshore vessels. STX Europe AS comprises 6 shipyards in Finland, France and Norway in addition to 9 shipyards that are part of to STX OSV Holdings Limited. STX Europe has approx. 16 000 employees.

STX Europe in Finland has selected Cadmatic Software to improve efficiency in their engineering network and to integrate basic and detail design with the whole building process. The implementation and customizations were started in 2009 and the major license contract was signed in January 2011.

Cadmatic's applications are also widely utilized by STX's offshore business in Norway, Brazil and Vietnam.

Yara Finland Oy is part of Yara International ASA which is the world's leading chemical company. It converts energy, natural minerals and nitrogen into essential products for farmers and industrial customers. The Oslo-based company has 7,600 employees in more than 50 countries.

Yara is using Cadmatic software as the main solution for plant design and engineering, for new and rebuilding projects and to keep technical data updated. The software installation and training were conducted in autumn of 2010.

Some other new clients who have installed Cadmatic applications recently in Finland are **Nordkalk, Wärtsilä Vaasa, Andritz Savonlinna, Loipart, Vistech, PCS Kouvola, SAV Kouvola, Rinheat, Foreship** and the **Finnish Defence Force**.



UNITED ARAB EMIRATES

Drake & Scull Water & Power L.L.C (DSWP) is part of Drake and Scull International PJSC (DSI) and manages and controls DSI's water and power activities. The Drake&Scull's headquarters are in Dubai in the UAE and the company operates throughout the MENA region. It is specialized in Design & Build, Engineering, Procurement & Construction, EPC and EPCM activities. DSI is listed on the Dubai Stock Exchange. Cadmatic software was selected because of the advanced modelling technology and one of the main targets is to increase quality and to shorten design and installation schedules.

Topaz Engineering is part of Topaz Energy and Marine which is active in the oil&gas, energy and marine sectors, espe-

cially in Middle East. They employ over 5200 employees. Their offices and production facilities are in the United Arab Emirates, in Dubai and Abu Dhabi where Cadmatic solutions are also being implemented.



BRAZIL

3D design is also well suited to the steel and mining industry

MMX Mineração is part of British Anglo American group, one of the largest global Owner/Operators in the mining industry and a significant supplier of the world's diamonds, copper, nickel and iron ore.

Cadmatic software has been implemented especially in the design of iron ore production facilities and equipment layout in Belo Horizonte in Brazil. MMX's special requirements have been the need to identify optimal logistics and production solutions with the help of 3D design.

Gerdau is one of the world's largest Owner/Operators and suppliers of special long steel. It has plants in 14 countries spanning the Americas, Europe and Asia, with total installed capacity of more than 20 million metric tons of steel. It is the largest recycler in the world and transforms around 16 million metric tons of scrap into steel every year. Cadmatic has been taken into use for mining projects in Brazil at the company.

Some other new clients in Brazil are **Alianca, ETP Engenharia, STX Brazil Offshore** and **LLX**.



THE NETHERLANDS

The long-term business development in the Netherlands has been steady since 1992 when the first client started using Cadmatic in the country. At the moment there are over 40 companies that use Cadmatic's software

applications. The long-term cooperation with **International Damen Group** is one of the major customerships. Damen is currently integrating Cadmatic with IFS's ERP system. Some of the recent new users are **IV-Oil&Gas, Barkmeijer, C-JOB Partners BV, Huisman, Royal van Lent Shipyard, Vosta LMG, Moortgart, IDH, Vofatec, Ismotec, IHC Beaver Dreggers, Van Noorloos, Niestern Sander, Alpatechnique, GTI West Industrie, Multi, Eekels Electrotechnik** and **Johnson Controls Systems & Services B.V.**

 **GERMANY**

Brunel is a global engineering consulting company that provides design, engineering, project management and consulting services e.g. in plant and mechanical engineering as well as in the automotive, aerospace and IT industries.

Brunel has 8,000 employees and more than 90 branch offices in over 30 countries.

Cadmatic Software was implemented at Brunel's headquarters in Bremen in autumn 2010.

Enercon GmbH is the third largest wind turbine manufacturer and supplier in the world. The company has implemented Cadmatic Software for detailed piping design of selected power plant projects.

Knaack&Jahn GmbH with over 4 decades of experience in pipeline and plant construction is one of the most experienced engineering companies in Germany. Cadmatic software was implemented for plant and pipeline construction which is the company's core competence. In this field company works for the chemical, food and pharmaceutical industries as well as for oil refineries, gasworks and docks.

Some other new clients who have implemented Cadmatic applications recently in

Germany are **ITU Industrie, Flensburg Schiffbau, Slob Scheepswerf, Volkwerft, Cassens Werft, BVT, Inter-schalt AG, Nobiskrug, Navalys, Lloyd Werft, Teccon Engineering** and **Lasse und Pache**.

 **HUNGARY**

Hungary's relatively small but dynamic chemical industry is utilizing Cadmatic software very extensively.

All the most important engineering companies have implemented Cadmatic software within last few years. Recent new clients include **Cooptech, Kraftzser, Pannonterv, Petrolterv, Miskolc University, Chemitechnik-Pharma, MVM Erbe, Evatherm, Chemosystem, Vegyterv** and **Nitroterv**.

More information about Hungary is provided on pages 26-27.

 **CZECH REPUBLIC**

Chemoprag has implemented Cadmatic software. It is a leading engineering company in the Czech Republic for various process plant industries. Also **B-Projektering** has implemented Cadmatic recently.

 **TURKEY**

Gemak is a leading supplier of turnkey production plants for chemical industries, specializing in dairy processing. The company was founded in 1969 and has activities all over the Central and Eastern Europe and North Africa. Cadmatic Software was selected to improve process and plant design,

material management and project coordination.

Some other new clients in Turkey are **Altintas, Atasoy, PI-ES Denizcilik** and **Celikat**.

 **AZERBAIJAN**

Azersun Group is known as the largest owner/operator and producer in the country's food, paper and package and in farming industry.

The group's engineering center has selected Cadmatic software for the process and 3D plant design of the new and rebuild projects. The installation, training and implementation were conducted in autumn 2010.

The Group headquarters are located in Baku, the capital of Azerbaijan.

 **ROMANIA**

Iprochim Chemical Engineering has been the leading engineering company in Romania since 1948. CADMATIC Software was implemented within 2010. More information on pages 27-27.

 **SERBIA**

Delta Inženjering, in Belgrade, is the leading process and plant design and engineering company in the rapidly developing Serbian process industry. The company provides services for both domestic and international clients who invest in Serbia.

International clients include e.g. Henkel, Holcim, Ikea, Volvo, Husqvarna, Alumil, Solgroup and Xella. The implementation of Cadmatic software was completed in summer 2010.


POLAND

Cadmatic started activities in Poland over 10 years ago and at the moment has a leading position as a supplier of 3D design systems in the country.

Cadmatic has signed a major contract with traditional **Polish Gdansk Shipyard** to modernize the company's design and engineering methods and tools. Gdansk Shipyard has a new Ukrainian owner active in the steel industry.

Other recent new users include e.g. **Damen Gdynia, Spomasz, Pangaz, ES Sp zoo, Ulstein Poland** and **Polocna**.


NORWAY

The long-term business development in Norway has been steady since 1995.

Cadmatic has signed a global agreement with **Ulstein Group** for the use of software licenses all over the world in their engineering office network.

Some recent new users in Norway include e.g. **Pipe System Engineering, LMG Marin, Hellesoy, Tussa, Ostensjo Rederi, STX Norway Offshore, Eidsvik** and **Fosen Group**.


SWEDEN

M-real Husum and **SCA Ortviken** are new clients that have implemented Cadmatic software licenses for their ongoing paper mill revamping projects


SPAIN

Brunnschweiler is a leading supplier of the most advanced drying and ventilation

techniques for the paper, tissue, board and pulp manufacturing industry. With more than 50 years of experience, the Brunnschweiler group has about 400 employees. Other recent new clients in Spain are **Astilleros Gondan, Astilleros de Sevilla, GPN XXI** and **Barreras**.


MALAYSIA

Scopus is a specialist electronic survey company that was established in the early 1990s primarily to provide precision dimensional surveys to the worldwide oil & gas industry (onshore and offshore). The company's engineering offices are located in the UK, Canada, Brazil, Azerbaijan and Malaysia. Cadmatic will be implemented in Scopus' Kuala Lumpur office for 3D plant modelling and data management, for oil & gas and chemical industry projects.


VIETNAM

PTSC - Petrovietnam Technical Services Corporation is a member of the Vietnam National Oil and Gas Group (Petro-Vietnam) that provides diversified technical services for the oil & gas industry inside and outside Vietnam. PTSC has more than 6,000 experienced and qualified employees. Cadmatic has delivered software applications for the design and engineering of PTSC's engineering, procurement and construction projects.


JAPAN

Cadmatic has been active in Japan since 2003 and currently has a good position and customer base in the demanding Japanese market. Recent new clients include companies such as **Sanko, Maehata, Kyusyu University, Namura, Miura, Oshima, Sankei, Heishin Pump Works, Murakami, Onomichi** and **Yano**.



Cadmatic also welcomes the following new clients to using our applications:

In Russia **St Peterburg's Mining University** and **JSC Far Eastern Center**, in Singapore **Maritime Associates** and **Otto Marine Pte**, in Australia **Defence Oragization, Zeta Yachts** and **Norce Offshore**, in Belgium **I.S. Tecnor**, in Bulgaria **Duropack**, in South Africa **Nampak**, in France **Piriou**, in UK **Hart Fenton** and Wilton Group's **PD & MS Energy** and in Indonesia **PT Terafulk**.

Cadmatic opens new international sales and support centres

In India...



In the picture from the right: Sanjay Dinkar Director - Sales & Operations, Roshan Singhnavlur Manager - Technical, Pratibha Rathod Senior Support Engineer and Prasad Sawant Senior Support Engineer.

In Italy...



Mr Gianluca Rizzozi has extensive experience in oil & gas and (petro)chemical industries

In China...



Mr Ryan Li in the Cadmatic Shanghai office. He has over 10 years' experience in process and plant design and project management.

Cadmatic Ltd has founded a new subsidiary in India, Cadmatic Software Solutions Pvt Ltd (CSSPL). The operations of the subsidiary started officially on 1.11.2010.

The creation of the company strengthens Cadmatic's support and sales services not only in India, but throughout South East Asia. The company is in charge of the sales and business development of Cadmatic Plant Design and Nupas-Cadmatic Ship Design software solutions and related support, training and technical services in India and South East Asia.

Cadmatic office address in Mumbai:

Cadmatic Software Solutions Pvt. Ltd
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400 086, India
Tel. +91 2583 6165
Mob. +91 9833 700 503
sanjay.dinkar@cadmatic.com

Cadmatic has opened a sales office in Rome Italy. Mr Gianluca Rizzozi has been appointed as Sales Manager at the office. Cadmatic sales have shown strong growth in Italy in recent years in process industry sector.

Mr Rizzozi has 10 years' experience in oil & gas (onshore and offshore) and (petro)chemical industries. His main responsibilities and tasks will include Cadmatic software sales for Italian industry and for other selected oil & gas and petrochemical customers in other regions.

Cadmatic office address in Rome:

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via Biagio Petrocelli 228
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Mob. +39 340 6827 867
gianluca.rizzozi@cadmatic.com

Cadmatic has strengthened its position in the Chinese markets by appointing Mr Ryan Li for sales and support of Cadmatic Software.

Mr Li's responsibilities and tasks will include Cadmatic software sales for the Chinese process industry and Nupas-Cadmatic Software for the marine industry. He has over 10 years' experience in process and plant design and project management. He has previously worked at Foster Wheeler, Bechtel and Worley Parsons.

Cadmatic office address in Shanghai:

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Users' Meeting 2010 in Sopot, Poland

The 2010 Cadmatic Users' Meeting was held in Sopot, near Gdansk in Poland from 1-2 June 2010. The venue for the 2 day User Meeting was the Sheraton Sopot Hotel, Conference Centre & Spa. The resort is situated on the Baltic Sea coastline in northern Poland and is often called the summer capital of Poland



The Hotel Sheraton in the famous holiday resort on the Baltic Sea was the venue for the 2010 Cadmatic users' meeting

The main theme of the meeting was the introduction of the new software version, Cadmatic V6.0, that amongst others boasts a completely new and modern general user interface. The two-day event was a tremendous success and provided participants not only with the opportunity to get to know the new features of V6.0, but also to share ideas and network with other members of the Cadmatic customer family. The program included presentations and workshops and was attended by more than 220 participants from 21 countries and 76 companies around the world.



Detailed software presentations were held in several workshops



The Users' Meeting 2010 was very well attended

Events & Exhibitions 2011	
FEBRUARY	Cadmatic Seminar in Oman 16.02.2011 Muscat Oman
MARCH	Cippe, China 22-24.03.2011 Beijing China
MARCH	OMC, Italy 23.03.2011 Ravenna Italy
APRIL	Petroleum Istanbul 7-10.4.2011 Istanbul
MAY	SPCI 17-19.5.2011 Stockholm Sweden
MAY	NorShipping 2011 24-27.5.2011 Lilleström Norway
JUNE	Mioge 23-26.6.2011 Moscow Russia
SEPTEMBER	India Oil&Gas Summit 8-9.9.2011 Mumbai India
OCTOBER	OTC Brazil 2011 4-6.10.2011 Rio de Janeiro Brazil
NOVEMBER	SPAR, Amsterdam 8-9.11.2011 Amsterdam The Netherlands
DECEMBER	MarinTec China 29.11-2.12.2011 Shanghai China

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Cadmatic, India



Sanjay Dinkar
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Roshansingh Navlur
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Prasad Sawant
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Pratibha Rathod
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Gianluca Ricozzi
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