

# News

THE CADMATIC SOFTWARE NEWS 2008

**Optimizing Resources across the Globe**

## OPTIMIZING RESOURCES

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# Optimizing Resources

**Dear Reader,**

It is our pleasure to present you with the latest edition of Cadmatic News. Since the release of the previous newsletter, we have seen that most of our clients continue having full workloads. Along with many of you, we expect this positive trend to continue for quite some time, even if other signals can also be seen in the world economy.

We, as developers of the Cadmatic software, have experienced that our sales figures and the amount of software deliveries exceeded the average market development. We are proud to inform you that we have grown faster and expanded more than ever, breaking all previous records. Last year we gained a record number of new clients and the total business growth was over 41% compared to the previous year, which was also a record year. The amount of licenses delivered to both new and existing clients grew to 4000 licenses in 42 countries. We have noticed that design and engineering companies, EPCs and plant owners are especially now carefully studying what systems are offered on the market. We are extra pleased to see this increasing interest and confidence in our products.

At both our new and existing clients we see that OPTIMIZING RESOURCES has become particularly important. It is a key issue in early and detailed design, but the main target is to optimize our customers' design processes and the implementation of engineering investments, maintenance and operational processes throughout the entire life cycle of projects in globally distributed environments.

Due to our earlier strategic decision to develop our software to be as open as possible and so that different companies can work together on the same design at the same time, optimizing design resources all over the world has become a reality with our proven World Wide Engineering concept and modern COS technology. Specialists can, regardless of location, specialize even more and together with others become part of a well controlled and organized way of designing and building plants.

In recent times, we have tried to learn as much as possible about the current and future needs of our existing and potential clients. Never before have our sales and technical people travelled so much around the world for this purpose. We see a promising future ahead of us in serving you in optimizing your part of the process. It is the continuous challenge for our company and our development teams to serve you with new features in the coming time and to make the family of Cadmatic users grow even stronger.

We believe that the best way to proceed is to keep listening to our enthusiastic users and have our motivated staff contribute to keep our users satisfied and enthusiastic. We would like to thank all our Cadmatic clients for the trust that you have placed in us and wish you happy reading!




JUKKA RANTALA  
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# Business Development

Much has happened since the last newsletter. The Cadmatic engineering solution is becoming more comprehensive and has become the solution for more and more companies of various sizes. The number of new customers is increasing, and during the last two years we have gained more than 100 new customers. This good business development is, of course, something that supports the software development and makes it possible for us to maintain a good development rate and remain competitive on the market. The idea behind Cadmatic is the optimization of engineering and design. Cadmatic is constantly developing the system to become more efficient and easier to use and administrate. On page 14 of the newsletter, some of the new features and improvements of version 5.3 are described.

## **Sustainable development in global pulp & paper business**

The pulp and paper industry has traditionally been a strong global branch for Cadmatic. Cadmatic has proven to be a cost efficient tool in pulp and paper plant design, for new projects and for modification projects. To the long list of references in pulp and paper,

we can now also add for example US-owned BE&K Europe (see article on page 8), which implemented Cadmatic in 2007 and already has very good experiences of the software. BE&K are active in engineering and design within several branches of which pulp and paper is one. Another new client within pulp and paper is Kadant Lamort in France. Kadant Lamort is a EPC and machine supplier in paper production and in stock preparation. Kadant Lamort implemented Cadmatic for layout design in 2007, and has already finalized several projects using the system. Brunnschweiler in Spain is another EPC and machine supplier for the pulp and paper business that has chosen Cadmatic for their design. We see sustainable development for the pulp and paper business area, with new clients within all parts of the business, like plant owners, engineering companies and machine suppliers. The number of clients and projects in pulp and paper where Cadmatic is used, are increasing year on year.

## **Cadmatic also continues strong development in other business areas**

In addition, we can also see that other branches are appreciating Cadmatic as a design tool. We have an increasing number

of customers from other sectors, such as the oil and gas, chemical, bio-fuels, metallurgy, food and beverage and marine industries. This shows that Cadmatic is a flexible and multipurpose solution for engineering and design. There are several examples of multi-branch engineering companies that use Cadmatic for a wide range of projects. One example is Tre-F in Italy. Tre-F has been using Cadmatic for several years now and have good experiences of all the features that Cadmatic provides.

## **Cadmatic is a reliable software solution**

Our efforts in making Cadmatic a comprehensive engineering solution are paying off. Through our own extensive development of the software and through partnerships, Cadmatic can offer a complete and multi-disciplinary package that is the solution for the challenges in engineering and design today and in the future. Cadmatic is a safe choice!



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## Exploring new Frontiers at Daratech Conference in Houston Texas



The DaratechPLANT conference and exhibition is a three day event for the major players in 3D plant design technology development. It is known to be a showcase of the most innovative ideas, practices and technologies from around the world. The 2008 conference was held at the Wyndham Greenspoint Hotel in Houston Texas from the 28<sup>th</sup> to 30<sup>th</sup> of January 2008.

The event attracted representatives from more than 200 companies from all over the world. The delegates shared ideas and built networks in areas of business development, asset creation, lifecycle management, instrumentation, real-time operations and plant maintenance. As a technology co-sponsor of the event, Cadmatic showed its position as a leading developer of engineering solutions as well as its ability to provide high-tech solutions for the future challenges that were pinpointed at the conference.

### Optimizing resources

The lack of current and future global engineering resources was one of the main discussion points at the conference. It has become increasingly important to be able to utilize remote engineering resources to manage large engineering contracts. Cadmatic presented how its software

package can optimize available resources with the use of its World Wide Engineering (WWE) solution for distributed design. With Cadmatic software, it is as easy to cooperate with a remote design office, as it is to utilize in-house resources. In practical terms, it makes no difference whether design partners are on opposite sides of the globe or sitting in the same office. The communication with remote offices and updating of information is carried out with an online connection or offline, via emails for example. This is possible via an optimized communication strategy where only the latest changes to the 3D model are transferred and updated.

At the conference it was also stressed that design software should be easy to learn and use. Being very transparent and logical in user interfaces and methodology,



At Daratech Cadmatic presented its functionality to optimize resources in globally distributed projects



Mr. Jukka Rantala speaking to delegates on the opening day at Daratech

Cadmatic enables projects to get started faster, error free design and optimal layout as the designer can concentrate on design instead of complicated tools.

### Openness and interoperability

Another important issue that was discussed at the conference was software packages' abilities to interact with other software and disciplines. We are proud to say that it has always been a core strategy at Cadmatic to ease interoperability via our openness for integrations.

For Cadmatic, the DaratechPLANT 2008 was a great success. Cadmatic showed the delegates that technical solutions for the future challenges in plant design are already available. It was a pleasure to impress the visitors with the simplicity and openness of Cadmatic.

## New Cadmatic Office in India Boosting Regional Sales

CADMATIC



The Indian Economy is booming and seeing current growth levels that were unimaginable in the 1990's. The Indian government has set an official sustainable GDP growth target of 8 percent for the foreseeable future. The process plant & machinery industry has become globally competitive and vast investments are being carried out in the sector. The process plant and machinery industry in India has an estimated output of 6 Billion dollars (US) per year.



Increasingly, much of the engineering, design and project management services that support the Indian industry growth, come from within the Indian borders. The sector includes big consultancy firms that manage large projects such as refineries and petrochemical plants, as well as smaller companies that specialize in providing engineering and design services within niche markets and product ranges. As a whole, the EPCM sector in India is capable of providing over 30 million engineering and design hours annually.

At Cadmatic, we firmly believe in the potential of the Indian plant industry and local engineering and design offices to

provide the required services to support the rapid growth. For this reason, we have opened a new sales and support centre in Mumbai to serve our growing list of Indian customers and to spread our own brand of optimized 3D plant design solutions in the country. The Mumbai office is ideally located with good connections to other Indian cities as well as international connections from the recently upgraded Mumbai airport.

From a Cadmatic business development perspective, India is very interesting. The high level of education, coupled with good language skills, support short learning periods and fast implementation of the software. Several Cadmatic road shows have been undertaken in the country and there is a high level of interest towards Cadmatic 3D software solutions.

### New clients in India

Indian design, engineering and production companies are looking for more efficient software solutions for their design and engineering needs. Large and diversified Indian engineering companies Infotech Enterprises and Larsen & Toubro Ltd, have selected Cadmatic's software products for their design and engineering activities.



Mr Marko Kuusela from Cadmatic training software users in the Indian office

Among others BARC and HWB, which are state owned engineering divisions for the nuclear industry, are using Cadmatic 3D Plant design Software for the design of their new nuclear power facilities. Smart Engineering and Design Solutions Ltd. (SEDS) from Kochi and Tebma Shipyards situated in Chennai, Malpe and Kochi have selected Nupas-Cadmatic software for their design and engineering activities.



Mr Sanjay Dinkar has been appointed as the sales manager for India. The address and contact details of the new office are provided below.

### Cadmatic Ltd

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## Finnish Etteplan/LCA Engineering designing Nokian Tyres Production Plant Extension in Russia

*LCA Engineering Ltd is a Finnish consulting and engineering company in Kouvola at the heart of the country's forestry industrial area. The company was established in 1993 and it has been a part of Etteplan Ltd since 2007 - a successful Finnish engineering company that has over 2000 employees. The name of the company (LCA), stands for Life Cycle Assessment, which on its own would be an interesting story.*



*LCA's office in Kouvola, Finland*

*Chief design Engineer Mikko Moisala from LCA using the Cadmatic 3D eBrowser model for a project review meeting*

“One of the really nice things about using Cadmatic for this project has been the eBrowser. We have used it for project reviews throughout all the project phases. We created a 3D model in a project server that our customers and other parties can access whenever they want. The server is updated twice a week to ensure that our

LCA is specialized in carrying out investment projects for the pulp & paper industry. LCA also serves customers in other business areas, such as production companies and public organisations. Their assignments vary from brief consulting cases to projects that can last several years. LCA's staff has wide experience of national projects in the forestry industry, but in recent years it has also



expanded its international operations and activities in other industrial areas. LCA's

goal is to improve their clients' competitiveness and provide them with engineering services which help to increase their production capacities while using less energy, manpower resources and with the lowest emissions possible.

### Vsevolozhsk production plant project for Nokian Tyres Manufacturing Ltd

This new approach has resulted in co-operation with Nokian Tyres Manufacturing Ltd, on a project for the expansion of their new Russian production plant in Vsevolozhsk, a satellite town of St. Petersburg, located in the North-West corner of the country. For this major engineering project, LCA has chosen Cadmatic Plant Design Software because of its flexibility in this kind of cross-border project. Cadmatic News spoke to Mr Pekka Eronen from LCA about their use of Cadmatic. He is responsible for the ITC support at LCA and the Cadmatic administrator at the Kouvola office.



*The Nokian Tyres 3D model of the production*

customers have the latest project information available. Everybody has been able to view the current model with their eBrowsers and make suggestions for changes or just accept the work. I think that there have been over a dozen eBrowsers used in Kouvola, Imatra and St. Petersburg”, Mr Eronen explains. At the time of publishing the engineering project had advanced to the state of sending out the invitation to tender for the piping systems.

The expansion project covered the modelling of technical systems for a building with a construction area of 9.400 m<sup>2</sup>, floor area of 20.400m<sup>2</sup> and building volume of 145.000m<sup>3</sup>. The building is 180m long, 47m wide and 30m high. There are over 400 modelled pipelines (approx. 15,000 m) for more than 10 technical service systems.

### Up to four 2D and 3D packages imported into Cadmatic

“We are doing the plant expansion engineering project with Cadmatic on top of an old 3D model generated by other software. As a matter of fact, we are importing information from at least 3-4 different 2D or 3D software packages from the other design project parties to our ‘combined 3D model’. LCA is not designing the building, but we are importing the 3D model of the building into our systems. The same goes for some other areas too. Our Imatra office, which is responsible for the electricity design, for example, does the design of cable trays in 3D, and we use



The Nokian Tyres Plant cable trays

their digital drawings to build up the 3D Cadmatic model with the Cable Tray module. It is quite easy to import information produced by other 3D software into Cadmatic. The only drawback is that the combined 3D model becomes a bit heavier, compared to a model that is done purely with Cadmatic. This importing procedure has, however, saved us a lot of time,” Mr Eronen adds.

### Short learning period with reduced errors

“One of the main reasons for choosing Cadmatic as the engineering software for this project, was the ease with which it could be adopted for the job, for both us and for our client. We have used Cadmatic in other projects before, but this was the first time we utilized it to this extent. Working with Cadmatic plant design software does not involve a long learning period by trial and error. We see it as a means of controlling tight time schedules and reducing errors and the time used for projects. Originally we purchased Cadmatic for a pulp & paper process plant project, but it has turned out to be much more than just a process piping design software, as can be seen in our Nokian Tyres plant project,” concludes Mr Eronen.

 **Etteplan**  
www.etteplan.com

 **LCA**  
ENGINEERING  
www.lca.fi



Mr Pekka Eronen from the LCA ICT Support



## NOKIAN TYRES

- expertise in nordic conditions

Nokian Tyres has factories in Nokia, Finland and in Vsevolozhsk, Russia. It also has contract manufacturing in Indonesia, China, Slovakia, India, Spain and in the USA.

Key markets are regions that feature conditions similar to those in the Nordic countries, which place special challenges on tyre performance: snow, forests, and the harsh and variable weather and driving conditions in different seasons.

### Nokian Tyres in Russia since 2005

To ensure the conditions for operations and boost the company's position in the rapidly growing Russian tyre markets, the Board of Nokian Tyres made a decision in 2004 to initiate the construction of a tyre plant in Vsevolozhsk, near St.Petersburg, in Russia. Construction was started immediately and the project got off to a fast start. The first Nokian Hakkapeliitta tyres were manufactured on production line number one in June 2005.

Sales in Russia and in the CIS countries has increased significantly and the market share has improved. The distribution network has been extended by signing additional distribution agreements, and through Vianor's activities.

The four state-of-the-art technology production lines of the Russian plant operate continuously in three shifts, and the plant's production volume and quality level are on target.

On 15 February 2007 the Board of Directors of Nokian Tyres decided to launch an extension and capacity increase measures at the Russian plant, which will more than double the production volume of the Vsevolozhsk plant. The objective is to reach a production volume of 10 million tyres by 2011. An extension of 32,500 square metres is being built adjacent to the existing plant, which has a capacity of four million tyres. The extension will enable the planned increase in production volume. The construction work has progressed as planned. Installation of machinery and equipment for the fifth and the sixth production lines has started as planned. The objective is to increase the annual production capacity at a steady rate, in line with the growth in demand.

The total investment in 2007-2010 amounts to approximately EUR 195 million, of which EUR 95 million is allocated to 2008. Increasing the capacity also requires future investments in the expansion of the mixing production.

At the end of 2007, the Russian plant employed approximately 511 people, the majority of them Russian.

The brand new machines and equipment at the Vsevolozhsk plant represent the latest technology in the field. Only environmentally friendly, low-aromatic oils are used in tyre manufacturing.





*BE&K International is a renowned global provider of engineering, construction and maintenance services. The company's European division, BE&K Projekt Ltd, decided to start using Cadmatic in 2007 for 3D plant design in order to meet contemporary quality standards and tight schedules of complex processes. BE&K's clients are found in capital-intensive industries worldwide. The European division focuses on project services, principally for the pulp and paper industry, paper conversion, the chemical industry, the power engineering industry and environmental protection. The company was founded in 1972 in the USA. It has since grown into one of the largest engineering and construction companies in the USA and Europe and serves industrial construction and engineering markets.*

BE&K's mission includes offering innovative and creative technology and management

## BE&K Projekt Ltd implements Cadmatic

systems to its customers, from conceptual design through to the full life cycle of projects. Embracing the efficiencies of 3D design systems and transferring it to their clients is an example of this offering. In order to achieve its development goals, the company required a 3D design system that was user-friendly and compatible with their previously used AutoCad and Inventor programs. Cadmatic News spoke to Managing Director Slawomir Suchon from B&EK, about their reasons for choosing Cadmatic and how they have implemented the software in their daily work.

"It was important to us that our engineers could concentrate mainly on the design process itself while using the new system. We wanted to avoid the excessively long

learning periods usually associated with such programs and their system management. The Cadmatic software seemed to fulfill all our requirements perfectly. Our selection of the Cadmatic system was greatly influenced by its ability to link with laser scanners and SAP, which we plan to use for our maintenance needs at our biggest client in the near future," Mr Suchon explains.

### How was the system implemented at BE&K?

"In order to exploit the 3D Cadmatic system to the full, we decided to create a separate network system with its own server. Purchasing the new professional server and modern work stations improved the effectiveness of our work and our data security. We can now take advantage of fast internet connections to grant access to the office database and the Cadmatic model from anywhere in the world that has an internet connection. It is not only our

engineers that value the new design technology. Our clients find that the work effectiveness translates directly into the ease of equipment, building and piping modeling. The Cadmatic system has great



BE&K Design Team in Poland

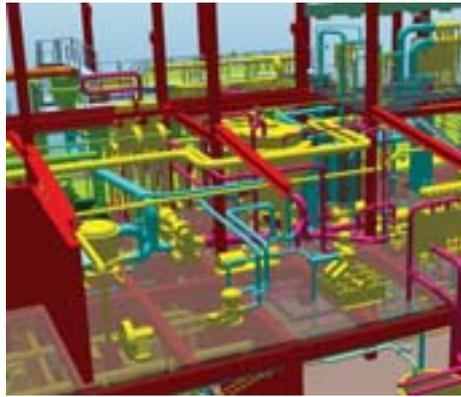
flexibility when making material specifications. This is particularly important when many independent objects exist in the model. We can create the isometric drawings quickly and according to the project needs. The connection between the P&ID's and the model eliminates the possibility of errors and the collision control feature allows us to find errors already in the early engineering stages," Mr Suchon points out.

#### How have your clients accepted your new way of working?

"Our pilot project client appreciated the easy access provided by the eBrowser application. They were extremely satisfied with design reviews, which provided direct insight into the model-forming process. It also improved the effectiveness of engineering meetings and project presentation and introduced changes that made the erection work much easier. Regular reviews of the model together with a future user allows for the optimization of particular solutions from the investor's point of view, while taking into consideration the preferences of the user with regards the use of an installation," Mr Suchon adds.

#### What kind of training did you receive and in what timeframe did you implement the software?

"The good cooperation between the supplier and the vendor of the system, PBSP from Gdansk, meant that we received training that was suitable to our needs. Our project engineers become effective users of the new program in less than four weeks. The



BE&K 3D model

first pilot project confirmed that we were right in choosing the Cadmatic system," Mr Suchon reveals.

#### What kinds of projects have you completed with Cadmatic?

"Our first pilot project with use of the new system was done for a Polish investor, Polpak-Karton. The scope of investment included the complex construction of a greenfield paper mill with three main objects: a paper machine, a waste paper preparation plant and an effluent treatment plant. The Cadmatic system allowed us to complete the complex multi-branch project in less than twelve months. The construction work has been completed and the start-up of the installation was fast and without any significant problems. Our next project is the modernization of an existing approach system installation. We count on it that the Cadmatic system will be an equally effective partner for our project engineers this time too," Mr Suchon concludes.



[www.bekeurope.com](http://www.bekeurope.com)

## Kadant in France Uses Cadmatic for Global Projects

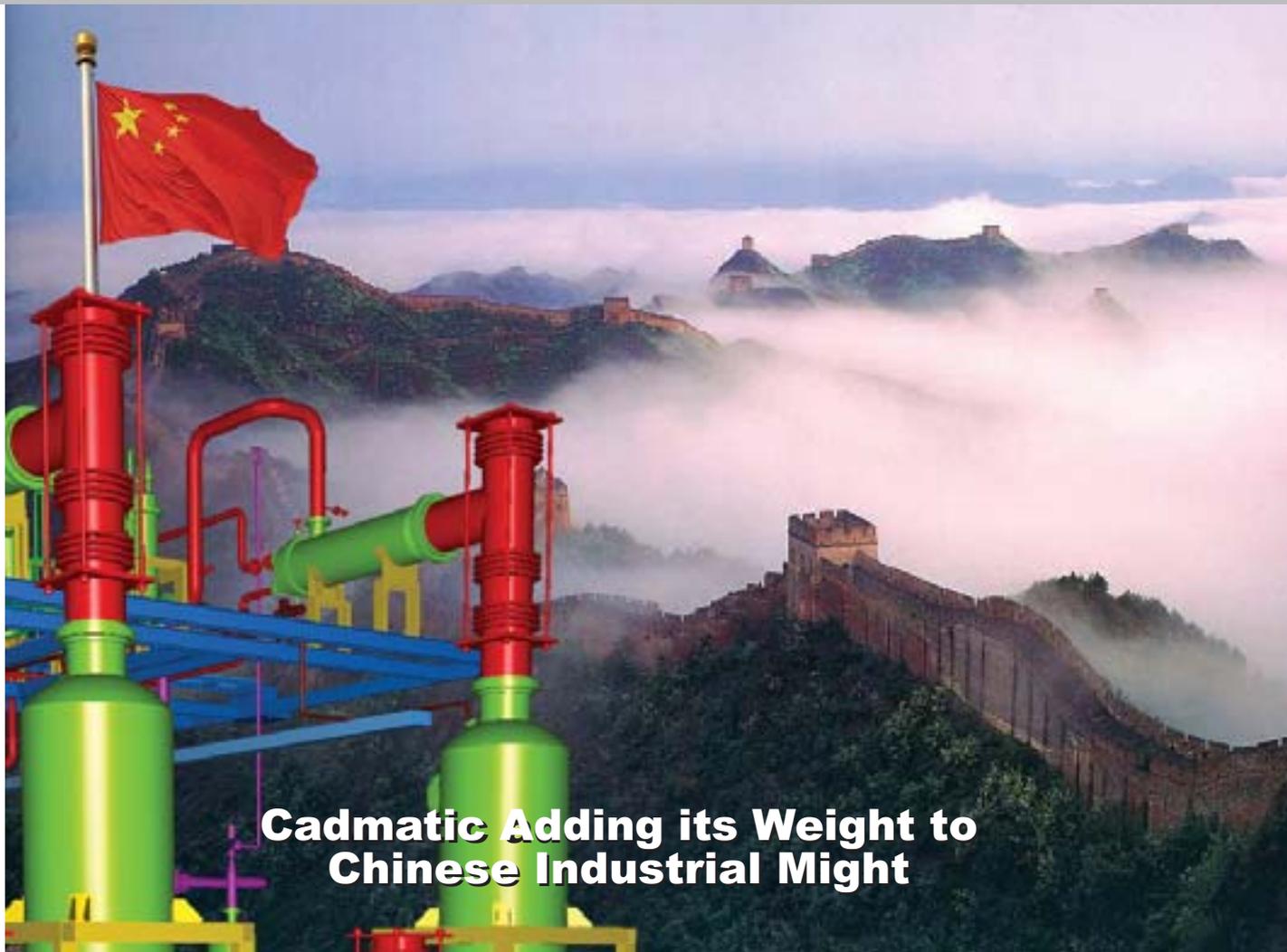


*Cadmatic has gained a significant new customer in the pulp and paper sector in France, Kadant Lamort SA. It is part of Kadant Inc., which is a leading supplier to the global pulp and paper industry. The Kadant name has only existed since 2001, but many of the businesses in the company's portfolio have been serving customers in the pulp and paper industry for more than a hundred years.*

The company's products include paper machine accessories, and systems for stock preparation, fluid handling, and water management. It is a worldwide leader in supplying systems that effectively process fibers to produce high-quality white and brown grades of paper.

Kadant Lamort SA (Kadant) is located in Vitry-le-François in the north-eastern part of France. It is Kadant Inc.'s European center for stock preparation for virgin and recycled cellulose fiber used in packaging, printing, tissue and special grades. The stock-preparation business was established in 1908 and focuses on the development, manufacturing, marketing and servicing of equipment and systems internationally.

The company has been a Cadmatic customer since 2007. Kadant is currently doing its third Cadmatic project after completing a Russian tissue paper mill and three stock preparation lines for Saigon Paper in Vietnam.



## Cadmatic Adding its Weight to Chinese Industrial Might

*Cadmatic has made important strides in recent times to spread the use of its 3D design software solutions in China. The growing list of new customers and general positive sentiment regarding the software, indicate that there is significant potential for growth in the area.*

The economic growth experienced by China over the last 30 years is nothing short of miraculous. Since the early 1980's the economy has grown on average by 9% a year, with peak years seeing growth of more than 13%. In the last 15 years, the GDP per capita has nearly quadrupled and economic forecasters indicate that the Chinese economy will be larger than that of the USA by 2030. The Chinese Chemical Industry has likewise shown very strong growth with 2006 indicators showing an almost 26% increase on the previous year. The Chinese economy is, for obvious reasons, very interesting for Cadmatic and there is vast potential for the implementation of the software in the process and marine industries in particular.

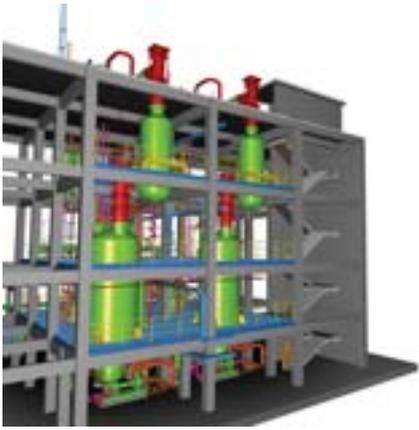


Mr Liu Qing Bo (right) and engineers from the Institute

### Hangzhou Project & Research

In 2007, Hangzhou Project & Research Institute of Light Industry, one of the most advanced local design companies,

implemented Cadmatic software. The institute has 5 professional equipment design departments, covering pulping, papermaking, foodstuffs, daily chemicals, individual plastics as well as an electrical transmission instruments and an automation department. The company is situated in Hangzhou, the capital and the political, economic and cultural center of the Zhejiang province. Chinese engineering companies are increasingly focusing on 3D design for industrial design projects. Hangzhou Project & Research Institute of Light Industry is no exception in this case. At the end of 2006, after careful evaluation, the institute decided to adopt Cadmatic for this purpose. The company has already completed four projects with Cadmatic software and currently has three other concurrent Cadmatic projects running. The design fields include a few chemical plants and a paper mill. Cadmatic News spoke to Mr Liu Qing Bo, process design engineer and Cadmatic user, from the Hangzhou Research Institute of Light Industry, about the institute's projects and their use of Cadmatic 3D design software.



### From 2D to 3D

“It was quite interesting and challenging to move from 2D to 3D as everything in the 3D model is digital, and creating a 3D model is completely different from creating 2D drawings. There are several benefits in using 3D models. It is a true simulation of your plant and you can visualize everything in the plant. This means that you cannot forget to do something and it’s easy to modify any mistakes. In 3D projects it is easy for the managers and customers to see what is being done and what needs to be done. In general we can say that using 3D systems has made our work much more convenient”, Mr Liu Qing Bo explains.

### Distributed design and reduced errors

“Administering 3D software projects is different from administering 2D projects, as it is a real simulation of the plant. This means that if you have made mistakes, you need to solve them immediately. Using the Cadmatic software has, however, changed our way of working. With Cadmatic you can easily distribute the design so that several designers can build one 3D model. If you tried this in a 2D project, you would have many conflicts. It has also improved the quality of our engineering and enabled us to cut down on our error rate”, Mr Liu Qing Bo adds.

### Learning as we go

“We did not have formal theoretical training in the use of Cadmatic, but started using it immediately on a small project with assistance from a Cadmatic trainer. We have learned to use the software step by step. There is still much to learn and many Cadmatic features that we can look forward to taking into use in the future,” Mr Liu Qing Bo concludes.



*Leningrad Metal-working Plant (LMZ) has been a Cadmatic customer for 12 years. The prestigious company was founded in 1857 and is the largest power machine building company in Russia. It designs, produces and maintains steam, hydro and gas turbines. The Leningrad plant started producing steam turbines in 1907, hydro turbines in 1924 and gas turbines in 1956. One in every ten turbines in the world is manufactured by LMZ and it is the world's fourth largest manufacturer of steam turbines. LMZ turbines are used at 700 electric power stations in 40 countries around the world.*

In 1996 LMZ acquired Cadmatic for the 3D design of their turbine units. Their design scope includes the layout of turbine units with accessory equipment, turbine foundations with generators, maintenance platforms, conduits of the turbine unit bindings, and accessory equipment with supports and suspension. The turbine unit is only a small part of a larger power plant and the resulting design has to be combined with several other software packages. LMZ initially attempted to create an internal software solution, but this proved to be an unnecessary time and resource consuming activity. After a thorough scan of the market for 3D design software, the company decided to approach Cadmatic to see if it could fulfill its 3D design needs. In 1996 the company decided to acquire Cadmatic as its primary 3D modeling package and it is now used widely throughout the company.

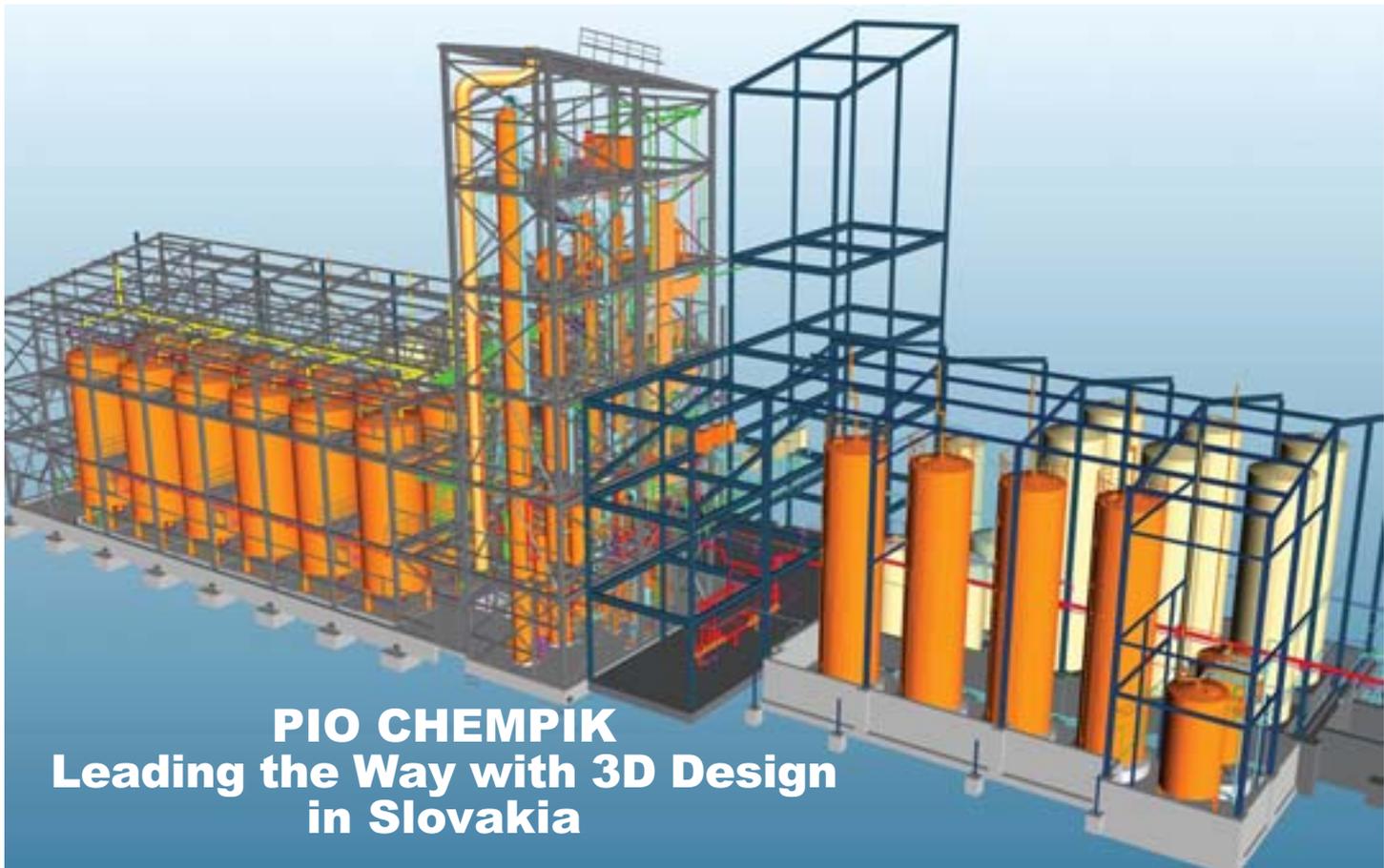
Cadmatic News spoke to Mr U.G Kotelnikov from LMZ about the requirements the company had and what the introduction of Cadmatic has meant for them. According to Mr Kotelnikov, they required a CAD/CAM

solution for the design of industrial objects and engineering communications. “The Cadmatic system makes it possible to produce a "de facto" standard for the designers of conduit documentation necessary for calculations, production (including pipe-bending machines with CNC), installation, and servicing of equipment and conduits. The software makes it possible to considerably increase the effectiveness of design and it also shortens the time required to produce the technical documentation”, Mr Kotelnikov explains.



10% of world turbines is manufactured by LMZ

“We can really gain from Cadmatic for three reasons. Firstly, it enables us to easily and quickly handle all the changes to drawings, calculations and specifications. Secondly, the system is easy to use and it is compatible with other CAD systems we use like AutoCad. The internet-based eBrowser improves communication between our project partners and brings project time savings. The third reason is the system's ability to efficiently transfer information digitally for the calculations of conduits, production, installation and maintenance. Since our customers and constructors are also using 3D software more and more, it means we will use Cadmatic throughout the whole company”, Mr Kotelnikov adds.



## PIO CHEMPIK Leading the Way with 3D Design in Slovakia

Engineering company PIO CHEMPIK Bratislava a.s. (Pio Chempik) has been a satisfied Cadmatic customer since 2006. The Slovakian company is introducing 3D design in its work in an environment where 2D design is currently more widely used. The company uses Cadmatic for all its 3D design projects and has been happy with the efficiency gains the software has introduced.



Bratislava, the capital of Slovakia developed during the 20th century into a metropolis with about half a million inhabitants. It is one of the most rapidly growing European cities. It's location on the banks of the Danube and at the crossroads of Austria and Hungary right at the heart of Europe predestined it to become also a meeting point of the economy.

The Bratislava-based engineering company's history dates back to 1951, when a design institute was established to design projects for the chemical, petrochemical



Mr Martin Bobko has been working at Pio Chempik since 1996. He started as a junior project engineer and currently holds the position of project engineer. His duties include preparing Cadmatic for projects, developing project databases and collaborating with his colleagues.

and pulp & paper industries. Changes at the company in December 1995, transformed the company into its current form today. Pio Chempik employs about 50 designers and engineers which, if necessary, can be expanded with qualified co-operating designers to increase capacity in peak periods.

The company provides technical consulting, engineering, preliminary planning and detail design of construction projects up to contracting of complete constructions in a wide range of industrial sectors. Pio Chempik's customers are Slovak and

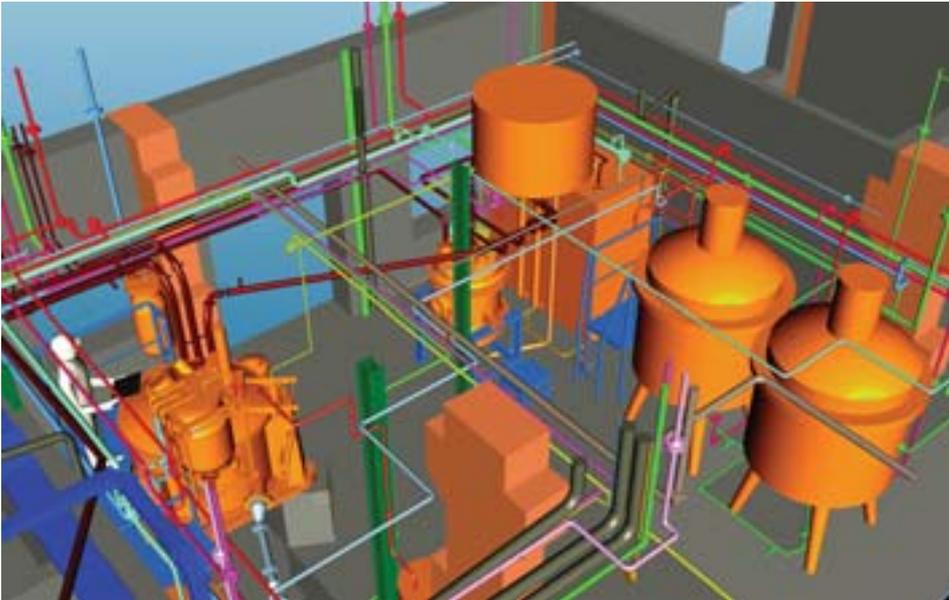
One of the most challenging projects Pio Chempik has completed with Cadmatic was a distillery extension in Hniezdne, Slovakia

international companies. Most projects are located in Slovakia, but the company also completes projects outside Slovakia, in which case they usually cooperate with local companies or work as subcontractors to other international companies.

### Pio Chempik projects completed with Cadmatic

Cadmatic News spoke to Mr Martin Bobko from Pio Chempik about the use of Cadmatic and the projects they have completed with the software so far:

"The first project Pio Chempik completed with Cadmatic was a centrifuge relocation in Zentiva, Slovakia. It was not a particularly large project, but was made significant by the fact that it was completed without any prior Cadmatic training projects. Starting with a real project was made possible by the initial assistance from Cadmatic to set up the database, as well as help with the project configuration from K-ÉP Stúdió, the Cadmatic sales and support partner in Slovakia. We were able to start very quickly and we finished it successfully", Mr Bobko explains.



The first project completed by Pio Chempik was a centrifuge relocation in Zentiva

The most challenging project Pio Chempik has completed to date with Cadmatic was a distillery extension in Hniezdne, Slovakia. It consisted of about 170 machines and about 440 pipelines. "Thanks to the transparent and easy-to-create database we were able to create the project database very quickly. The variety of extra tools in Plant Modeler allowed us to proceed rapidly with the model creation and to flexibly incorporate changes during the planning as well. The building's steel construction was created by our subcontractor with AdvanceSteel software. Via the Cadmatic eXchanger, we were able to communicate effectively with the subcontractor and exchange information necessary for successful model development. During the construction stage we used the Cadmatic eBrowser which allowed us to effectively communicate with the construction teams on site", Mr Bobko adds.

#### Cadmatic implemented in 2006

How did you come about choosing Cadmatic for your 3D design? "We started using Cadmatic about 2 years ago. We decided to use Cadmatic because we thought it was software with modern architecture, very transparent and good for administration, with extra tools for a plant designers in all areas of 3D-model creation and document production. We are happy, that by now, all these assumptions have been proven correct", Mr Bobko elaborates.

#### 30% reduction in project time used

Pio Chempik currently has four designers that work with Cadmatic. "We estimate, when we consider the entire design process, that document production and making changes in Cadmatic saves about 30% of the time used in conventional 2D design. Our projects completed with Cadmatic also show much fewer errors. The Cadmatic eBrowser enables us to communicate very efficiently with the customer in the design stage and with the constructing company in the construction phase. I am also very satisfied with the support in Finland. They react really quickly, usually in 24 hours, sometimes on the same day. If I need something urgently, I call them directly", Mr Bobko concludes.



[www.piochempik.sk](http://www.piochempik.sk)

## SOME UPCOMING EXHIBITIONS



in Stockholm, Sweden, May 27-29

From 27-29 May 2008 Cadmatic will be attending the SPCI pulp and paper week at the Stockholm International Fairs & Conference Center. It is the world's largest trade fair for suppliers to the pulp & paper industry and the industry's most important event. Come and visit us at our stand no. A 21:10 and see why Cadmatic is the no. 1 supplier of 3D design software for the pulp & paper industry.



in St Petersburg, Russia, November 10-13

Cadmatic will be attending the 2008 PAP-FOR exhibition in St Petersburg, Russia from 10-13 November. It is the largest and longest running event for all of Russia's paper related industries. Come and visit us at our stand to see our how our advanced 3D design solutions can bring efficiencies throughout the entire life cycle of paper & pulp plants.



in Sao Paulo, Brazil, October 13-16

Cadmatic will again be present at ABTCP 2008, the biggest event for the pulp and paper sector in Latin America. The event will be held at the Transamérica Expo Center in São Paulo, Brasil. Come visit us at our stand where we will be demonstrating the latest features of Cadmatic and how it can optimize your design, engineering and operations in the pulp & paper industry.

# V5.3

## New Developments



Cadmatic V5.3 is full of improvements that will ease the work of designers and administrators alike, throughout all phases of plant design. A large amount of improvements have been introduced in Cadmatic. We are also pleased to announce that Cadmatic V5.3 can be used on Microsoft Vista platforms.



*In Version 5.3 you can automatically split the pipes for isometric generation*

### **Automated pipe isometric splitting and isometric annotation**

In version 5.3 the developments around isometrics were focused on increasing productivity. When generating isometric drawings, one sometimes finds that the target geometry is quite large and too complex to be clearly presented in one isometric sheet. The geometry is commonly split into several isometric sheets to circumvent the above problem. In version 5.3 the splitting of geometries into isometric sheets has been automated and the process



*Isometric drawing generated by the most modern isometric solution in the world*

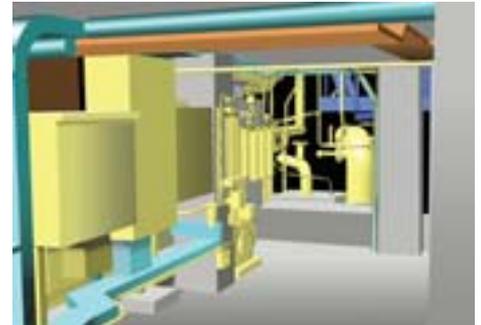
can be configured with splitting rules. Version 5.3 will also see improvements that will result in fully automated annotation of isometrics with regards measuring and labeling.

### **Point-cloud handling made easier**

Version 5.3 of Plant Modeller sees the introduction of modern tools for locating, orientating and moving point-clouds. These include tools to handle outside view loaded point-clouds and high intensity visualization. Commands can apply to multiple clouds



*Cadmatic can directly import laser-scanned pointclouds*



*Cadmatic 3D model based on the pointcloud*

and the rotation operation works like the general set operation.

### **Pipe Stress analysis**

A new interface to the Caesar II pipe stress application has also been introduced. Several customers had earlier asked for an interface for this pipe stress analysis software package.

### **New features for multiplying module-type design**

Now the functionality to intelligently copy Plant Modeller drawings and data from other projects is improved. The functionality copies the definitions and positions of views on drawing sheets to a new project and generates new drawings with matching views. This functionality makes it much easier to configure the drawing settings and to change drawing sheets for the next project. This is a great feature for multiplying module-type design.

## Document management software interfaces

New features have been added into the software to make it easier to interface with different document management software packages. This provides a good foundation for interfacing with third party document management packages. An interface with Kronodoc document management software was recently created in cooperation with Kronodoc Ltd.

## Diagram

Several new functionalities have been added to the Diagram module, thereby enhancing the use of the software. When inserting a

that instrument lines will always be cut when they cross primary pipelines.

## Data management

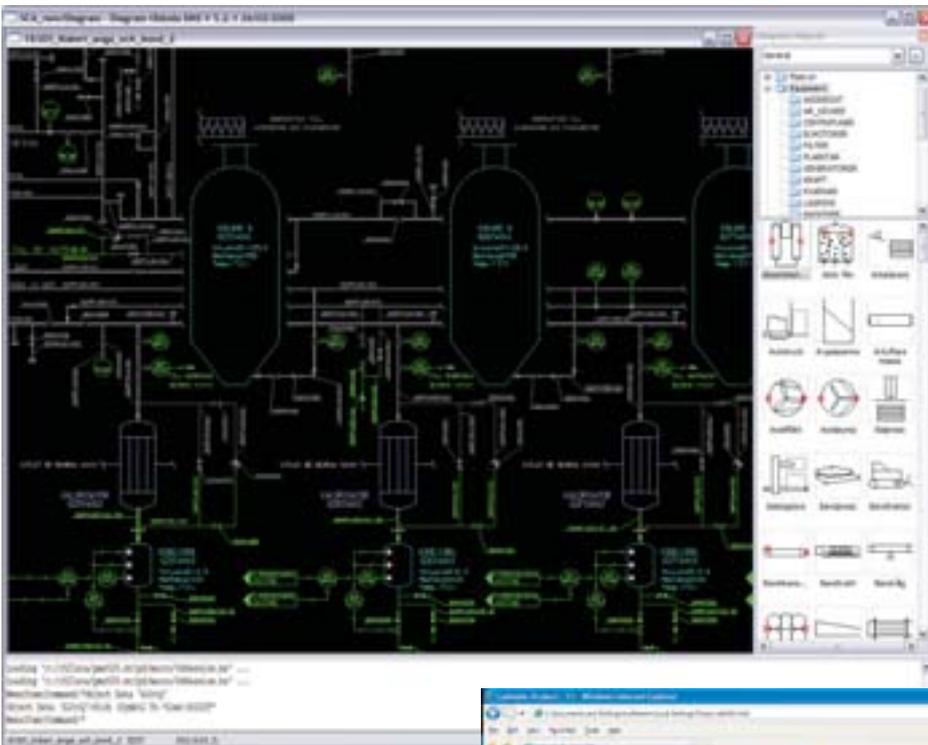
The COS database system and CoDesigner, the module for distributed design, add more functionality to managing concurrent and distributed work. Users can now easily see what is being locked by other users or project sites and can, with the appropriate rights, unlock the data to allow uninterrupted operation. CX export/import, a central mechanism in version 5 architecture, has enhancements that smoothen the data transfer between Cadmatic projects and libraries.

## Batch-wise export of 3D models

Multiple 3D models and objects from Cadmatic can now be converted into DWGs or DXFs with a single command using eXchanger's new batch mode. This saves much time when there are many files to be converted e.g. to AutoCad.

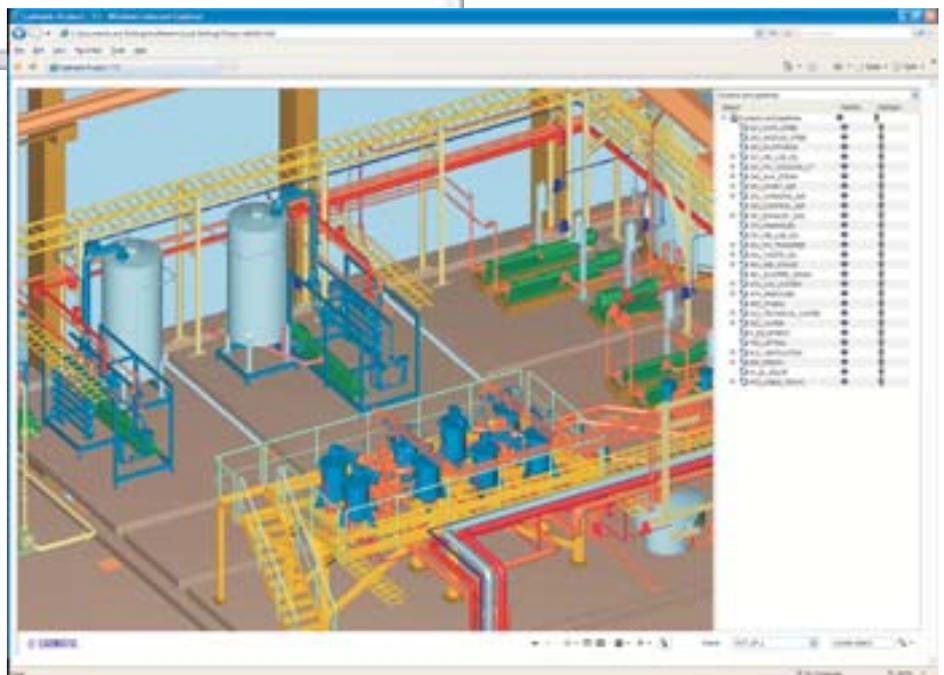
## eBrowser

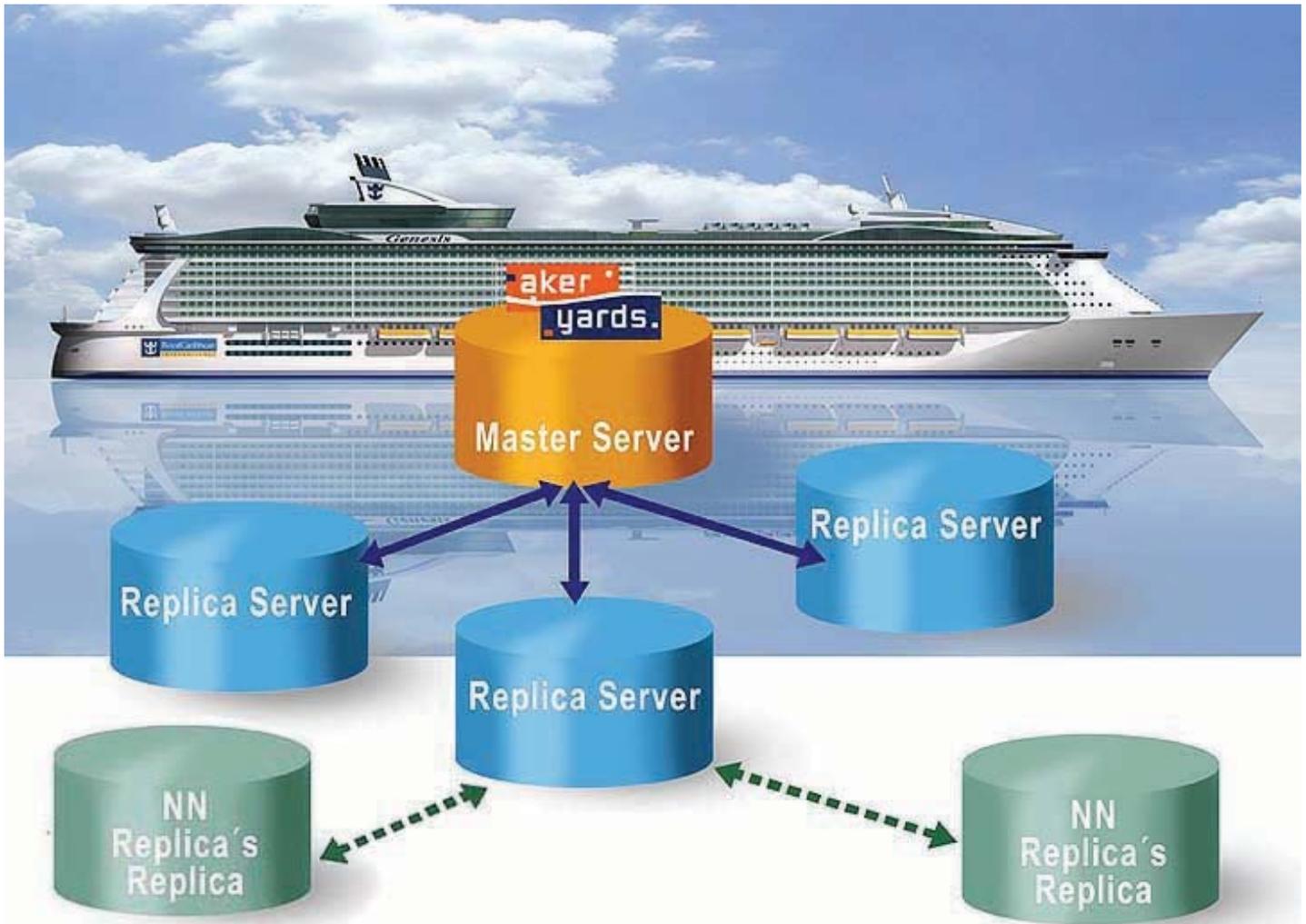
In version 5.3 the Cadmatic eBrowser interface has received a facelift and many user-friendly tools have been introduced. Searching for and handling objects and systems have been made easier and the search function now applies to any object, pipeline, system or combination thereof in the model. A new "sidebar" hierarchy view has been introduced. In version 5.3 the user is able to define his own set of viewing hierarchies to best suit the way of working. Some customers for example prefer to use a hierarchy that progresses from the system to isometrics and then spools as opposed to the traditional system-pipeline-object hierarchy. This flexibility makes it much easier to check individual isometrics or spools that can be composed of several pipelines.



Cadmatic Diagram with symbol selection panel open new fitting symbol into a diagram, the pipeline or connection point is automatically selected and highlighted when moving the cursor on top of such an item and the fitting is automatically inserted into the right position by a simple click of the mouse. A new intelligent object has been added into the software. It is now possible to select for example the body and the actuator for a valve in the database card and the symbol will automatically be changed to match the selections. There is a new function in the Set Operations to select the previous active set by a single command. The user can define different types of lines, which define the way the line cutting is automatically done. It is for example possible to define

*eBrowser version 5.3 has a new "sidebar" hierarchy and the user can define his own set of hierarchy*





*Cadmatic software's World Wide Engineering concept for distributed design has been successfully implemented in a wide range of demanding projects across different industries. A good example of such a project can be found in the marine industry, where Cadmatic's Nupas-Cadmatic software is being used extensively for the detailed engineering of the Royal Caribbean International's "Genesis Project", as well as for managing the distribution of the design across several engineering companies.*

The historic vessel is being built at Aker Yards Ltd Turku shipyard in Finland and once completed, will be the largest cruise liner in the world; 40m longer than the height of the Eiffel tower and 12 times its weight. The 220, 000 GRT vessel will be 360m long, 47m wide, 65m high above the waterline and accommodate more than 5,400 passengers. In order to fulfil the massive project, Aker Yards has used up to 32 design suppliers in addition to its own design staff. There are 9 companies and 120 nupas-cadmatic software users utilizing Cadmatic's

## Cadmatic's World Wide Engineering Concept for Distributed Design at Work

distributed and concurrent design functionality for the design of the machinery areas, AC rooms and public spaces of the vessel.

### 3D modelling started already in basic design

During the basic design phase, Aker Yards used a Nupas-Cadmatic 3D coordination model of machinery spaces that had been created by Elomatic Ltd. Selected diagrams were also created with the Nupas-Cadmatic Diagram by Elomatic Ltd during this phase. The Nupas-Cadmatic eBrowser models of the basic designs were published weekly

in the Aker Yards Kronodoc document management system to ease project reviews and checking by yard employees. The yard has implemented eBrowser site licences for its Rauma, Helsinki and Turku yards.

### Detailed design distributed across 8 engineering companies in three countries.

The detailed design phase of the first vessel will be drawing to a close in the summer of 2008. After the basic design of the vessel had been completed, Nupas-Cadmatic software was used to distribute the detailed design of the vessel's machinery areas between 8 geographically distributed engineering companies. Nupas-Cadmatic is fast earning a reputation of having the best system in the world for handling distributed design. The Nupas-Cadmatic server and 3D model is located at the yard and functions as the master database for the project. From the yard, replica databases were created for the different design companies. At least two of the main subcontractors have in turn created further replicas to outsource the design work further.



Mr Jorma Helin from Cadmatic takes care of the distributed design machinery

The online Nupas-Cadmatic replicas eliminate the amount of coordination and checking that is associated with offline systems, as changes to the design are available in real time for all the companies to see.

Mr Matti Juntunen, Vice President of Cadmatic Ltd, explains how the system functions in practice: "Concurrent design management and design data replication is very easy with our software. When one of the consulting companies routes pipes, makes any other changes to the design or creates some new components into the database, they press a button and the results are automatically replicated via the Aker Yards master server for the other consultants to see. This speeds up the design process and ensures that all the project partners have updated and relevant information at their disposal at all times. This greatly reduces the number of errors and makes design coordination easier."

### Large 3D model

The Nupas-Cadmatic 3D model of the machinery areas used in the design is quite large, as is to be expected with a vessel of this size. At the time of printing, the model for example contained more than 47km of piping or 29,930 pipes, 4,898 pieces of equipment and 11,196 standard components. The documentation linked to the model included more than 500 plan and section drawings and about 10,000 pipe drawings for prefabrication. Cadmatic's Co-Designer module is used to distribute the design. Mr Jorma Helin, from Cadmatic has assisted the yard with setting up and managing the distributed design. "In the beginning of the project, I spent most of my time on maintenance and setting up the database. One year into the project, it is quite different; a bigger part of my work

entails customizations such as creating software macros to further automate routine tasks and reduce related time consumption. If one considers the complexity of the project, the number of design offices involved and the scope of the design areas, it has run remarkably smoothly.

### Integrations to Aker Yards' MARS system and pipe workshops

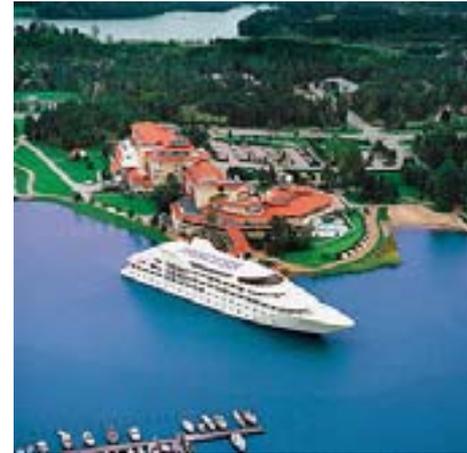
Nupas-Cadmatic has also been integrated with Aker Yards' materials management system (MARS) for the project. Once a week the MARS project material database is updated in the Nupas-Cadmatic database and used for further 3D modelling. As such, all the material information for modelling comes directly from the yard's MARS database. Aker yards uses subcontractors for pipe prefabrication and Nupas-Cadmatic has been integrated with the pipe bending systems at the Ylivieska piping workshop for example. All the pipe bending data required for production of the pipes are transferred numerically from the Nupas-Cadmatic Pipe module to the pipe bending machines.

According to Mr Juntunen, the scope of Nupas-Cadmatic software use on such a large project shows that the software is also well suited for the biggest ship design projects. "There are 9 design companies using our software for basic and detailed design of the machinery areas, AC rooms and public areas of the ship. I am also satisfied that Aker Yards has started using our eBrowser so widely. Now the design for the second vessel in the Genesis series has been started with our software.", Mr Juntunen concludes.



Mr Matti Juntunen Cadmatic's vice-president

## UPCOMING EVENTS



### Users' Meeting 2008 9-10 September in Naantali, Finland

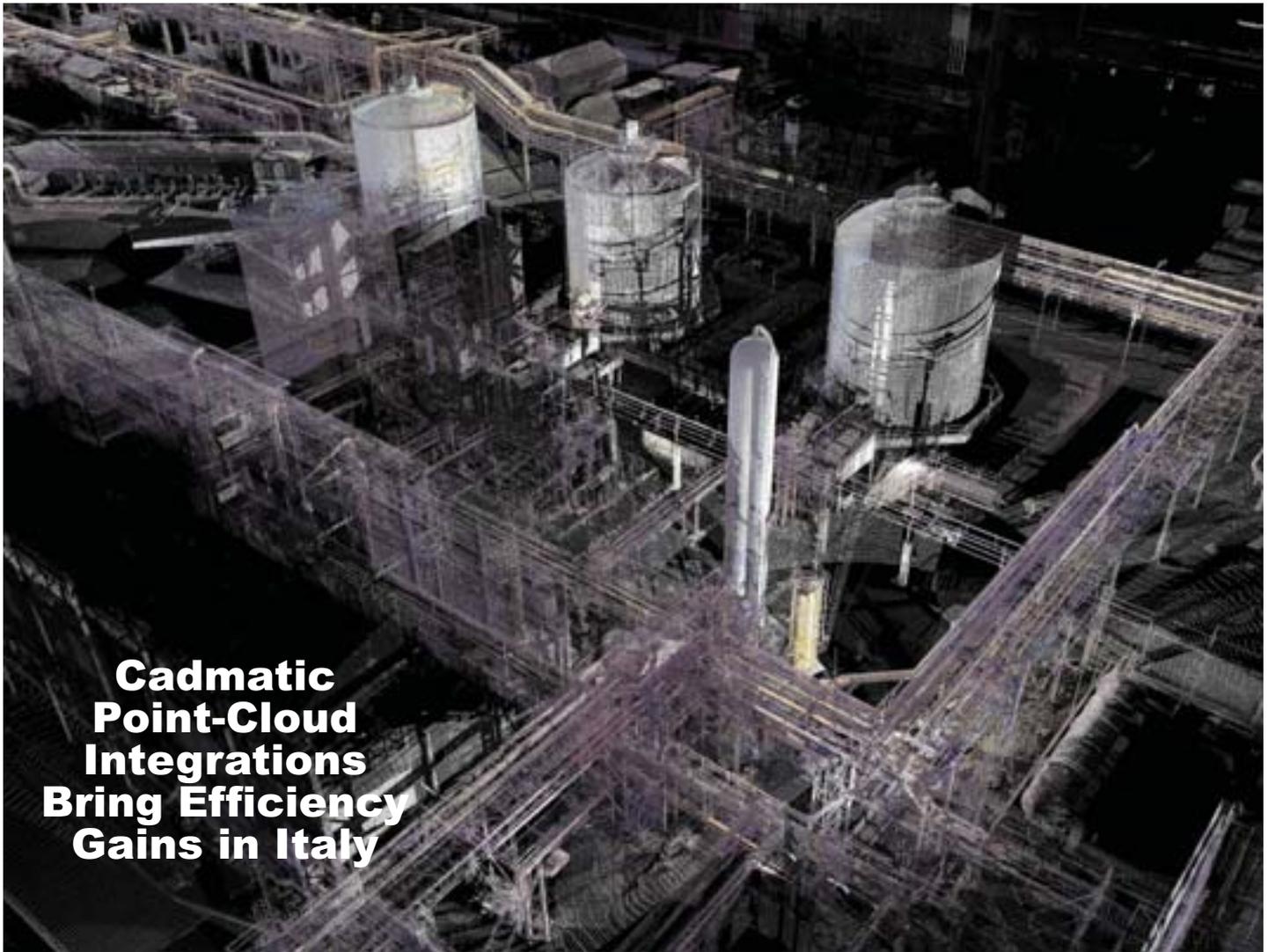
The 2008 Cadmatic users meeting will be held from 9-10 September in Naantali, Finland at the internationally renowned Naantali Spa Hotel. It can with confidence claim to be the finest spa and conference hotel in Scandinavia and recently was awarded the Congress Hotel of year award by Mercuri International.

The focus of the meeting will be in the introduction of Cadmatic V5.3. The program will include workshops, presentations and discussions.

We look forward to welcoming all of our Cadmatic Software users to the beautiful seaside town of Naantali. More information about the user meeting will soon be available on [www.cadmatic.com](http://www.cadmatic.com).



**Welcome to Naantali!**



## Cadmatic Point-Cloud Integrations Bring Efficiency Gains in Italy

*Cadmatic has been present in Italy since the mid 1990's. In recent years there has been growing interest in Cadmatic 3D solutions in the oil & gas, chemical as well as the food and pharmaceutical industries. Net Engineering Ltd is the Cadmatic sales and support centre in Italy and has been active in promoting the software solution. Mr Gainluca Rizzozi from Net Engineering and Mr Sami Koponen from Cadmatic have undertaken several road shows and attended exhibitions in Italy in recent times. Mr Rizzozi highlighted two recent customer projects for Cadmatic News.*

### **ICEA implements Cadmatic**

One new customer in Italy is ICEA. It is multidisciplinary engineering consortium that operates mainly in the areas of industrial chemical and petrochemical plants, refineries, pharmaceutical plants, power

plants, solid waste, water treatment and desalination plants. ICEA offers a complete and integrated range of services, from engineering to start-up activities. The company uses the most up-to-date information technology support, which enables them to work on an Intranet database shared by the whole staff and have access to technologically advanced software.

#### **Laser scanning solution with Cadmatic integration**

ICEA is using the Cadmatic laser scanning integration feature on a complex revamping project. The project is being done in Taranto Italy at ILVA, one of the biggest siderurgic plants in Europe. The project consists of interconnecting a new oxygen production plant and an old plant, with a pipeline that runs up to 300 m in the old pipe-racks and structures. From an engineering perspective, the best solution had to be found to connect

up to 20 tie-in points, and in some cases with particular and really expensive types of pipes.

To optimize the project, ICEA decided to use laser scanning as a means of dealing with the above-mentioned challenges. It is the only possibility to have a real as-built situation, considering also that the plant didn't have any piping lay-outs updated. The project has taken 4 months and the survey time was reduced to 5 days. This has had a significantly positive impact on the optimization of the project and the keeping to tight time schedules.

#### **Good results achieved with Cadmatic system**

The ICEA Project Engineer for the revamping project, Mr Salvatore Bocchetti, has more than 30 years of engineering and design projects. He has, however, been pleasantly surprised by the good results they have



Gianluca Ricozzi, Managing Director of Net Engineering is the Cadmatic Representative in sunny Italy

achieved with the Cadmatic system. "My previous experience in revamping projects such as this was completely different. Usually I have to spend a lot of time doing manual surveys and the data produced

does not come close to that which you can achieve with laser scanning. The possibility to use tools like these offered with the Cadmatic integration of 3D engineering and laser scanning 3D survey, have given us the possibility to keep to the schedule and to propose solutions that satisfy the personnel in the plant's technical office. Cadmatic software has also given ICEA the possibility to simplify the project management of the main contractor, Air Liquide - Paris, with the use of CoDesigner and Plant Agent. They have been impressed with the user-friendly interface and the transparency in the use of the site-to-site link. It has surpassed the capabilities of other software solutions they had previously used for similar purposes", Mr Bocchetti explains.

## SAPIO implements Cadamtic for oxygen and hydrogen plants

Another new customer in Italy is SAPIO. The company operates 15 production oxygen and hydrogen production plants. SAPIO chose Cadamtic in a test project to follow and review the project with a Cadmatic eBrowser model that had been created using laser scanning and Cadmatic software, as well as the interface to the maintenance software. Net Engineering will act as the main contractor and has chosen Italian IB Informatica as their partner for the maintenance software. SAPIO will integrate the solution in all their plants.

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**Sanjay Dinkar**  
was appointed on the  
1st of June 2007 as  
Sales Manager for  
Cadmatic Ltd India



**Mikko Ylikäinen**  
was appointed on the  
1st of September 2007  
as Software Engineer  
for Cadmatic Software  
Development



**Maiju Salminen**  
was appointed on the  
28th of April 2007 as  
Software Testing  
Engineer for Cadmatic  
Software Development



**Jussi Toivonen**  
was appointed on the  
1st of August 2007 as  
Software Engineer  
for Cadmatic Software  
Development



**Ari Salonen**  
was appointed on the  
1st of March 2007 as  
Software Release  
Engineer for Cadmatic  
Software Development



**Tomi Helin**  
was appointed on the  
12th of April 2008 as  
Software Engineer  
for Cadmatic Software  
Development



**Mikael Renström**  
was appointed on the  
15th of October 2007 as  
Customer Service  
Engineer for Cadmatic  
Customer Services



**Joakim Julin**  
was appointed on the  
12th of April 2008 as  
Software Engineer  
for Cadmatic Software  
Development



**Juha Salminen**  
was appointed on the  
1st of September 2007  
as Software Engineer  
for Cadmatic Software  
Development



**Tero Holstila**  
was appointed on the  
12th of April 2008 as  
Software Engineer  
for Cadmatic Software  
Development

## UPCOMING EXHIBITIONS

### CHEMEXPO 2008

Budapest, Hungary  
27th – 30th of May

### SPCI 2008

Stockholm, Sweden  
27th – 29th of May

### SMM 2008

Hamburg, Germany  
23rd – 26th of September

### ABTCP 2008

Sao Paulo, Brazil  
13th – 16th of October

### PAP-FOR 2008

St Petersburg, Russia  
10th – 13th of November