COMOS Plant Manager

From Integrated Engineering to Integrated Operations

Issue 3/2012

SIEMENS

3D visualization
Acquisition of VRcontext strengthened COMOS portfolio

Chemical Industry
Reference Evonik

Power Plant Industry
Reference BWSC

Interview
with Dirk Wegg about trends in the oil & gas industry

"The results delivered by COMOS meet our expectations. COMOS very quickly provided significant and quantifiable improvements in productivity and reductions in project times."

Lili Sun, Sr. Vice President, Sinopec Engineering Incorporation

Dear readers,

At this time, the plant management of the future is being discussed by experts at many conferences and trade fairs. These events provide the ideal platform for exchanging information on trends, requirements, the latest developments, and innovative practical solutions in the process industry. For example, plant designers and owner operators came together at the Digital Plant Conference 2012 in September and examined the topic of holistic plant management throughout the entire life cycle of an industrial plant. In the scope of this event, we had the opportunity to announce the takeover of 3D experts VRcontext by Siemens.

The acquisition and integration of the successful VRcontext product Walkinside represents a valuable addition to our COMOS software range in the areas of 3D visualization and training software. Apart from the familiar 2D solutions, we can therefore now offer fast access to 3D engineering data from the basic and detail engineering stages. Along with realistic 3D visualization and easy operation, the powerful software impresses with data management in real time and a capability to handle very large data volumes. You can read more about COMOS Walkinside on pages six and seven of this edition of the COMOS Plant Manager.

In this issue, we also report on the successful use of COMOS by our customers Evonik in the chemical industry and BWSC in the power plant industry. Read about the latest benefits provided by our service and support system and our extended training program. Of course, Doc COMOS has another useful tip for you. This time, it relates to executing a query faster. In the Event Calendar, you will find events at which we can discuss the efficient management of your plant together. Take advantage of the opportunity and speak to us. Your regional COMOS contact partner will be happy to make an individual appointment to talk to you in detail about your specific requirements.

I hope you enjoy reading this issue of COMOS Plant Manager.

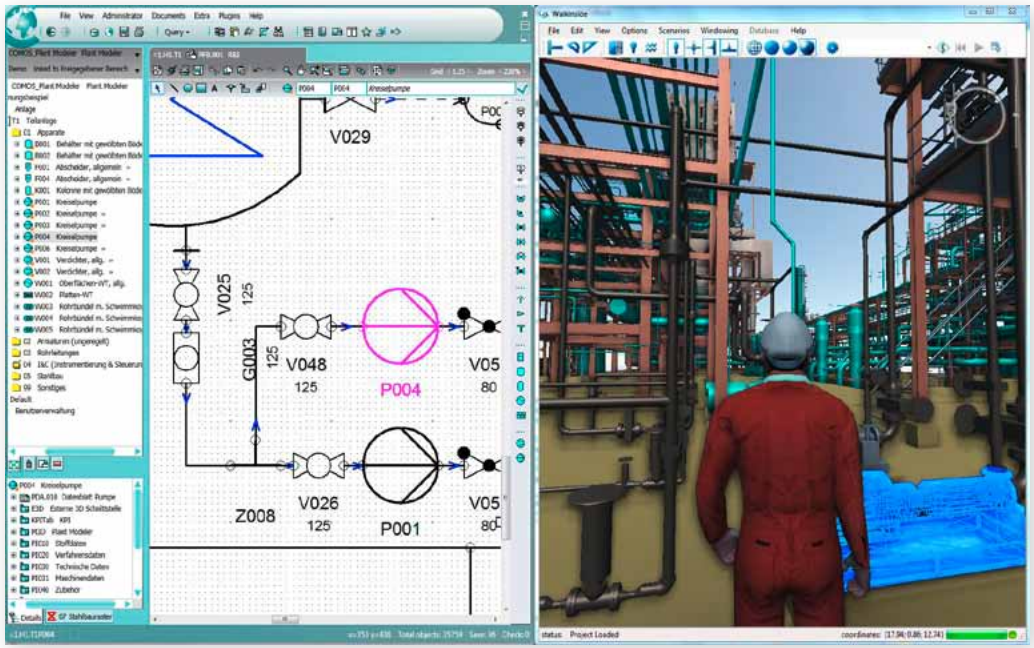
Yours,
Andreas Geiss
Vice President COMOS Industry Solutions

Andreas Geiss
Vice President
COMOS Industry Solutions

Contents

In this issue you can read about:

COMOS portfolio significantly strengthened by the acquisition of 3D experts VRcontext



On September 26, 2012, at the Digital Plant congress in Würzburg, the acquisition of VRcontext S. A. on October 1, 2012 was officially announced. With this acquisition, Siemens has acquired one of the world's leading experts in 3D visualization and training software. This further strengthens Siemens' established position in the industrial software market. The market-leading software Walkinside will be integrated in the COMOS product portfolio.

From the start of the new fiscal year, the product will be available under the trade name "COMOS Walkinside" and will expand the extensive portfolio with powerful 3D visualization throughout the entire plant lifecycle. The Walkinside software is currently used in more than 200 companies for the visualization of complex data models, primarily in the oil and gas industry; for plant operation and maintenance; and for simulation and training.

Even today, COMOS Walkinside can provide considerable added value, particularly in plant operation and maintenance. By linking the geometric objects of the VR model with the engineering data from COMOS, they can be used throughout all phases of the plant lifecycle. Attractive and realistic visualization of the current status of the plant is possible through direct access to all information, independent of the 3D system. This allows maintenance and servicing work to be planned, »

"The integration of the Walkinside 3D visualization and training software of our long-standing partner VRcontext into our industrial software portfolio will benefit our customers significantly. Using intelligent 3D models can make plant engineering and operation safer and more efficient in many sectors of the industry," states Eckard Eberle, CEO of the Siemens Industrial Automation Systems Business Unit.

simulated and executed efficiently in the 3D model based on constantly up-to-date and consistent data. In addition to this, it is also possible to access information linked to a COMOS object (work permits, data sheets, maintenance intervals, etc.) at any time. COMOS Walkinside offers a combination that is unique on the market, with simple operation and realistic visualization along with permanent availability of the plant data. This ensures efficient data management in real time, as well as the ability to handle the largest possible data volumes. Even extremely complex models, such as those produced for complete offshore drilling platforms or FPSO (Floating Production Storage Offloading) units, allow a virtual walkthrough in real time.

COMOS Walkinside also finds profitable application in the training of field operators. The software allows personnel to be trained realistically in the virtual model of the real plant while the plant itself is still under construction. These training scenarios include the fast locating of objects or components in the plant, the planning and execution of maintenance work, and the simulation of faults. In "multiple avatar mode", this training allows the participation of the entire operations team together in the same virtual model. This avoids the high costs involved in sending staff to a plant that is still under construction. At the same time, staff can be prepared efficiently under safe environmental conditions for their later deployment.

With the integration of Walkinside in the COMOS portfolio, customers profit from even greater productivity and additional benefits throughout the entire value chain of plant management. The skills brought together in COMOS Walkinside will also be integrated increasingly in development and support, etc. and therefore increase the investment protection for customers.

You will find more information on the advantages of COMOS Walkinside in the video (6:35 minutes)

Standardization supports accelerated plant design

Effective planning of chemical plants through optimized engineering

The design of tailored chemical production plants generally still takes several years.

The chemical company Evonik has been pursuing a holistic approach to plant design for some years. Strictly defined xml files within a very modular working environment act as the core of this concept. All data is saved in a central database. The company is currently developing standards for P&ID creation with the target of unified and accelerated plant design.

Researchers and engineers at Evonik cooperate very closely on a global basis in order to facilitate the rapid market launch of innovative products. Nevertheless, the design of correspondingly tailored production plants generally still takes several years. This planning period can only be minimized if the individual planning phases are merged more closely and overlapped more intensively. In this context, the utilization of information generated within the scope of basic engineering throughout the further planning process represents a suitable approach. Using a procedural guideline, P&ID (piping and instrumentation) flow diagrams can be generated from the process flow diagrams created during this phase. The guideline is to cover approximately 80 percent of the information contained in a flow diagram. The earlier initial P&ID flow diagrams are available, the faster can initial plant costs be calculated.

Standardization in basic engineering

The design of chemical plants can be accelerated by means of an extensively applied standardization concept. Analyses implemented at Evonik Industries show that the share of imperatively individually planned plant parts is way lower than expected. The implementation of standardizations in the still very complex field of P&ID creation therefore represented an obvious lever. Time expenditures both in terms of

»

As one of the world's leading companies in the specialty chemicals industry, Evonik Industries employs the COMOS software solution for plant designing.

planning and plant cost calculation can be significantly minimized through the introduction of standards. "Initial considerations regarding standardized P&ID creation were already discussed 20 years ago. However, we had to shelve these considerations as no suitable software tools for the realization of such standardization were available back then", recalls Dr. Dorothea Schwarz, project manager at Evonik Industries AG.

Holistic software solution for know-how bundling

Over the course of time and with various software developments for plant planning, this situation has changed. Meanwhile, the chemical company employs the COMOS software solution for plant design by Siemens. Amongst other things, it is used for the creation of P&ID flow diagrams for individual users. This object-oriented software is based on a uniform database. With its engineering block technology, it represents the core of the standardization concept. These e-blocks consist of a query tree and a graphical component, which adapts to the answer behavior. The planners are thus reliably guided through the decision process on the basis of blocks. At the end of the process chain, a flow diagram is generated in which every line, measurement, and apparatus is interlinked with a procedural decision. These decisions partially go into great detail. Yet, especially more complex units and genuine "know-how goodies", which constitute the specific Evonik knowledge, require manual reworking. As the standardized queries are carried out very time-efficiently, ample leeway is available for such reworks. The e-blocks form an integral part of the general planning database and are seamlessly integrated in the COMOS working environment. Furthermore, data consistency is ensured at all times. As the e-blocks can be very easily supplemented by further information, every decision can be immediately assessed with regard to costs. This facilitates the rapid identification of "expensive" versions.

User-friendly interface for eased planning

The plant engineers are currently working with a prototype developed by the chemical company. This prototype features a query tree structure, which is based on an expert system. For P&ID planning, the engineers answer concrete questions on specific subjects via a user-friendly interface, for example "Is an inflow armature in the feed supply required?" or "How many feed supplies in the column are required?". Traffic light colors indicate whether further planning decisions have to be made by the user. Defined e-blocks are incorporated in the P&ID flow diagrams in accordance with the plant engineers' answers. All prepared planning steps can be immediately graphically implemented and displayed by the software. All decisions are documented and can be revoked, if required.

Time savings with basic planning

The application of the developed standards resulted in a considerably optimized P&ID creation process at Evonik Industries. What took up half a day in the past can now be realized within roughly 45 minutes. "We expect significantly minimized engineering times from the application of the COMOS e-block technology. These time savings are then invested in the development of intelligent solutions which »

"We expect significantly reduced planning times from the application of the COMOS e-block technology," states Dr. Dorothea Schwarz, project manager at Evonik Industries AG.

The uniform database of COMOS supports interdisciplinary workflows on the basis of consistent data throughout all phases of the plant lifecycle.

are matched to our customers' requirements even more closely," comments Dr. Schwarz. Furthermore, the uniform database supports interdisciplinary workflows and smoother coordination between the individual departments. "Long-term success in this highly innovative business necessitates rapid inventions to outdistance copyists," emphasizes Dr. Schwarz.

Plant planning as a basis for staff development

At Evonik Industries, plant designing not only implies the cooperation of various colleagues all around the globe for the realization of customized plants. The company's approach to plant design also includes the qualification of young colleagues for future tasks in the Evonik group, for example as plant engineers. Correspondingly, these persons are only assigned to the field of plant designing for a limited period. The resulting constant staff fluctuation has to be compensated accordingly. "It is therefore all the more important to ensure the rapid productivity of our young colleagues in this situation. From our point of view, e-blocks can decisively contribute to time savings for basic engineering and to a faster utilization of the young engineers' creative potential," Dr. Schwarz concludes.

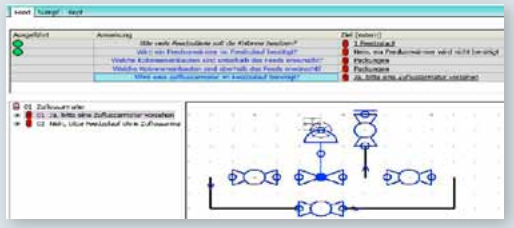
Countering the impending loss of innovative strength

Particularly in Germany, companies are facing the problem of demographic development. Many sectors suffer from skilled labor shortage and companies have to deal with the great difficulty of recruiting and qualifying suitable young professionals for specific tasks. This may lead to a future loss of innovative strength in research and development departments. This trend is further aggravated by the fact that many highly competent senior employees will leave the companies in the coming years due to age. The companies will then have to deal with a considerable loss of knowledge as the know-how of these staff members was frequently only documented insufficiently. This would inevitably result in higher costs and reduced competitiveness.

High R&D investments and shorter time-to-market

Also the chemical company Evonik is facing this trend. As one of the world's leading companies in the specialty chemicals industry, the permanent development of innovative products and applications represents a strategic main task. Correspondingly, investments for research and development amounted to approximately 365 million Euros in 2011. Roughly 2,400 staff members work in the company's research and development (R&D) departments at more than 35 sites worldwide. Over 700 staff members of this headcount work in process technology and engineering alone. Moreover, the company conducts many joint research activities with other companies, universities and scientific-technical institutions. These major R&D expenditures are reflected by more than 24,000 patents and applications. The chemical company's research and development processes are based on very close cooperation with its customers to ensure the development of demand-based products. These innovative products have to be produced and launched as fast as possible in order to remain competitive. The time pressure regarding the required production plants' planning and realization is correspondingly high.

The standardization of P&ID planning with the help of the COMOS software offers considerable time savings.



BWSC designs power plants on an interdisciplinary database

Today, all system design at BWSC (Burmeister & Wain Scandinavian Contractor) is handled in a single database rather than several closed systems. The result is a more dynamic and effective design process with fewer errors. By Morten Lund, Ingeniøren

All BWSC's power plants are today designed using an interdisciplinary software tool. This has reduced the number of errors and increased productivity, but it has also required changes to the work processes in the machinery room. When the EPC (Engineering Procurement Construction) company designs a power plant, it is no longer a lengthy process in which the mechanical and electrical engineers do their design work in separate closed systems, laboriously exchanging CAD drawings or spreadsheets by e-mail. Since the North Zealand turnkey supplier invested in the COMOS software tool, all system design has been carried out in a single database. When the mechanical engineer creates a pump, the system automatically creates an electrical object containing e.g. supply and control signals for the pump, and the electrical engineer can then continue working on that object.

When one of the engineers updates his data, the data is simultaneously updated elsewhere in the system. In that way, all parties involved in the design always know what changes the other engineers are making. The result is a more dynamic and effective design process which reduces the number of spreadsheets, the number of e-mails exchanged and the number of errors. "We achieve a better quality. We make fewer errors and in that way also cut down on the amount of time spent. We get more work done in less time," says Technical Manager at BWSC, Claus Albrechtsen, although he is unable to tell exactly how much money is being saved.

Diesel Engine Power Plant in Kenya, which BWSC designed with the software solution COMOS

Speaking the same language

As the first large customer in Denmark, BWSC purchased COMOS from Siemens Industry Software five years ago. The reason for the purchase was a growing dissatisfaction with the company's existing system, which did not function optimally as a combined database system. The mechanical department had one design program, the electrical department another, and the instrumentation department a third. The individual departments used their own designs and exchanged data via Excel sheets, which was not a viable solution in the long run. BWSC therefore began looking for a system that would enable the company's 60 design engineers to speak one and the same digital language.

"We now have an open, object-oriented database system in which everyone works in parallel and with parallel data. What is clever »

about the system is that if you have a pump, there will also be a motor with controls and a supply signal. The minute the mechanical engineer invents his pump, the system supports him by saying: "Remember the electrical supply and don't forget to attach some measurement instruments." The other groups of engineers then add their details," says Mads Broge Richelsen, Systems Manager at BWSC with responsibility for COMOS.

The engineers cannot make 3D drawings in COMOS; they still work in the two-dimensional world. However, it is possible to synchronize the 2D diagrams with the 3D model, and the system also enables direct linking to the system in the procurement department and to the different user manuals for the components. Previously, the 3D designer first had to search for a data sheet for the component, and when he eventually found it, he had to sit and model everything manually. Now we make sure in advance that we have matched the catalogs for the 2D and 3D worlds so that the objects we use in the 3D world contain the same data and characteristics as in the 2D world," Claus Albrechtsen explains.

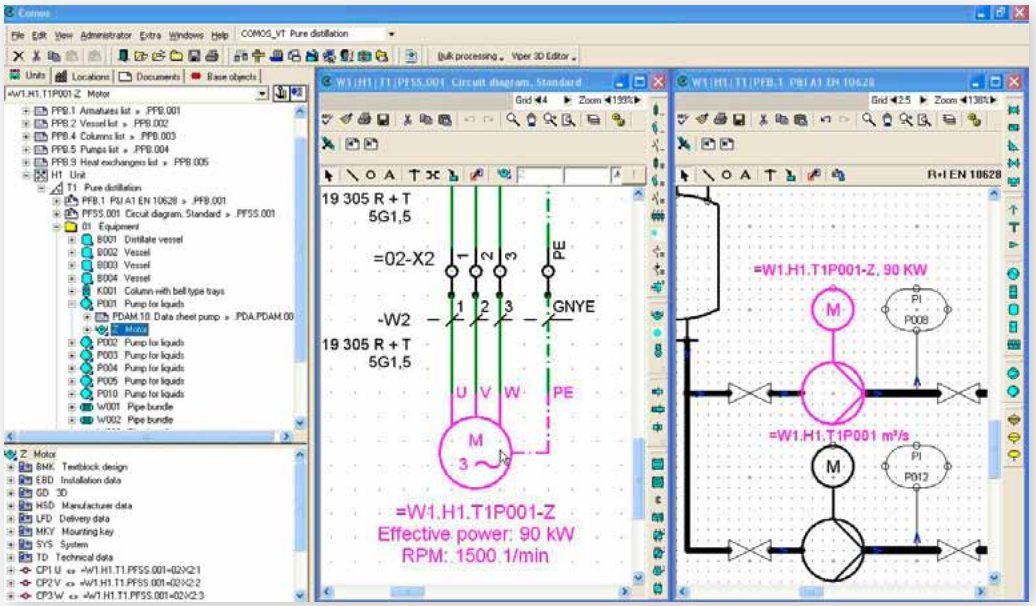
The systems had to be adapted

The above may sound as if the transition to COMOS was painless; as if the implementation was planned to the last detail and everything fell into place so that the engineers could go home somewhat happier at the end of the first working week. The last statement may be true, but Claus Albrechtsen freely acknowledges that the project – like many other change processes in a company – involved a certain amount of daring and anarchy when BWSC's engineers had to learn to use COMOS.

"To be honest, you just dive in. And you make sure all the practical details are in order. I'd like to be able to say that all our work processes were in place, but that wasn't the case. The process was the same for us as for everyone else: you discover that you have to adjust your systems to the program, and we spent the first many years doing that," Claus Albrechtsen rationalizes and adds: "The management doesn't simply lean back and say: "Now we've figured it all out." Everyone has to provide input, and then you gradually develop some procedures that work. We're working on that all the time. We're far from having finished exploiting the possibilities a system like COMOS offers."

Completely valid data

One of the challenges in day-to-day working life is the necessity to work with completely valid data. It is a clever system, of course, that enables the electrical engineer to immediately start designing the supply for the pump, which the mechanical engineer has entered into the system, but what if the mechanical engineer merely entered his first wild guesses? And what if the mechanical engineer changes his choice of pump because he has made a mistake or changes his mind?



Process engineers and electrical engineers of BWSC are working with the object-oriented software COMOS incl. a single database. The electric motor marked in the tree structure on the left of the picture is the same motor in the process flow diagram and the electrical diagram.

In this case you risk duplicating your work because the electrical engineer then has to start again from scratch.

BWSC has therefore incorporated status fields in the system, for example for signals, piping, and other equipment. The status field indicates to the other engineers how far the design has progressed. In that way, the data is validated, and it becomes easier for the users to grasp the many components, which easily add up to 4,000-6,000 signals for a power plant project, according to Mads Broge Richelsen.

Interview with Dirk Wegg about trends in the oil & gas industry

The oil & gas industry represents dynamic development and innovation. COMOS Plant Manager spoke to Dirk Wegg, General Manager of the Blue Chip Energy Program at Siemens Industry Software, about trends, challenges, and solutions in this marketplace.

COMOS Plant Manager: Hello Mr. Wegg, can you tell us about the developments you are currently witnessing in the oil and gas industry?

Dirk Wegg: The demand for energy in industrialized and newly industrializing countries is steadily increasing. However, over the coming years, the global community will not yet be able to meet this demand with renewable or alternative energy sources. In fact, over the next 20 to 30 years, raw materials such as oil and gas will play an increasingly important role in terms of energy supply. Having said this, deposits which are easily exploited have been virtually exhausted. To this end, ever greater risks have to be taken in order to extract oil and gas from remote areas. As such, deep sea drilling activities are commonplace these days and initial projects exploring extraction in areas with extreme climatic conditions, such as in the Barents Sea north of Norway and Russia, are currently underway. Extracting the raw materials, and the plant equipment needed for this, is correspondingly more costly and complex. At the same time, the economical and political pressure under which the plant operators are placed continues to increase. Indeed, the issue of personal and environmental safety remains a key focus. There will be ever more official rules and regulations to comply with. Furthermore, additional time pressures are placed on companies these days. In the past, a whole decade could pass between the discovery of raw material resources and their extraction - however, the process must now take place in a significantly shorter time period.

»

COMOS Plant Manager: What requirements arise from this for plant management?

Dirk Wegg: Basically, fewer employees must be able to manage increased plant complexity easily and quickly. Due to the huge quantity of data gathered and the corresponding need to prepare this data, which serves as a basis for economical and technical decisions, implementing optimum plant management is essential. However, this requires high-performance engineering tools throughout all phases of the plant lifecycle – ranging from engineering to handover and plant operation.

COMOS Plant Manager: What are the consequences for plant engineering?

Dirk Wegg: EPC (Engineering Procurement & Construction) companies are now placed under significant pressure in terms of quality and time. They must design highly-specialized technical plants to meet individual requirements faster than ever before. Today, a great deal of time can only be saved by implementing parallel operational processes in plant engineering. In order to benefit from such savings, collaboration spanning trades and companies is essential. This calls for corresponding tools, such as the object-oriented COMOS software, which offers just such a software solution, thanks to its uniform data platform. The software enables interoperability using the open system architecture and as a uniform software solution, now ensures optimum bidirectional data exchange between different applications and disciplines. In terms of the future, the software will continue to be improved, developing in line with ISO 15926 and utilizing the latest interface technologies. Especially in terms of the handover from plant engineer to owner operator, there is still large scope for improvement.

> "Only when the right data is available at the right time and place that risk can be further controlled and costs thereby minimized."

COMOS Plant Manager: What challenges do owner operators face, both now and in the future?

Dirk Wegg: Financial pressures on operators will continue to rise. In order to make savings, the widest range of measures for optimization will be adopted. Such measures range from having fewer staff on the extraction site and extend to putting risk-based maintenance strategies in place as part of the maintenance operations. At the same time, operators must continuously adapt and improve their plant documentation in line with new regulations and provisions. Efficient data management is absolutely essential for all these measures and requirements, for it is only when the right data is available at the right time and place that risk can be further controlled and costs thereby minimized.

»

3D visualization with the software solution COMOS Walkinisde

COMOS Plant Manager: So what does an efficient data management system involve?

Dirk Wegg: Successful plant management of the future is based on a data-centric approach, which makes traditional document-based working methods a thing of the past. The more complex plants become, the more effort it takes and the more difficult it is to manage plant documentation in the traditional sense and keep it up-to-date. The solution definitely lies in managing engineering data in a uniform system. Updates are automatically included and replicated within all relevant processes. This ensures the as-built condition of the plant is always available in digital format. The COMOS software solution offers precisely such an efficient data management system and indeed, is already being used successfully in a number of applications across the oil and gas industry.

COMOS Plant Manager: Occasionally, COMOS has been criticized for not offering sufficient 3D visualization options.

Dirk Wegg: Firstly, COMOS provides standard interfaces for 3D CAE systems which can identify and solve inconsistencies between 2D and 3D visualizations. These systems are being continually further developed and enhanced. Secondly, the topic of 3D visualization is being addressed in COMOS, in particular with the acquisition of VRcontext. Furthermore, fully integrating Walkinside software into the range has added further depth to this focus. Over the last few years, the 3D visualization software Walkinside, with its intuitive user interface, has made a name for itself in the oil and gas industry and is relied upon by large, globally leading companies. Combined with COMOS as a global data center, this enables easy, menu-assisted access for users to all relevant information which has already been generated in the Basic and Detail Engineering phases. This enables the operator to be guided through efficient preparation and planning of maintenance and servicing tasks, for example. As such, owner operators can use the software as an ideal way of training staff, in preparation for their deployment on a drilling platform. This results in significantly increased plant availability, combined with maximum safety levels during operation.

COMOS Plant Manager: Mr. Wegg, thank you for the interview.

Mobile plant management with COMOS Mobile Document Review

An ever increasing number of users are enjoying the benefits of engineering software for mobile plant management. Modern web and sharepoint technologies offer users increasing flexibility in terms of global collaboration, help to improve the quality of information, enhance efficiency, and save time.

Siemens has now extended its plant management software COMOS by the inclusion of a solution for mobile data and document utilization in the form of an iPad app entitled COMOS Mobile Document Review. Users can now edit, review, and release plant documentation, and manage revision status anywhere, anytime with the aid of editing and redlining features – whether on business trips, in meetings or during tours of inspection. Documents from the COMOS database are transmitted via a web server in pdf format to the COMOS user's iPad where they are edited offline. Available redlining functions include freehand drawing, insertion of comments and integration of photos taken on site. Once redlining has been completed, a pdf is created and the file returned to the COMOS database for further processing.

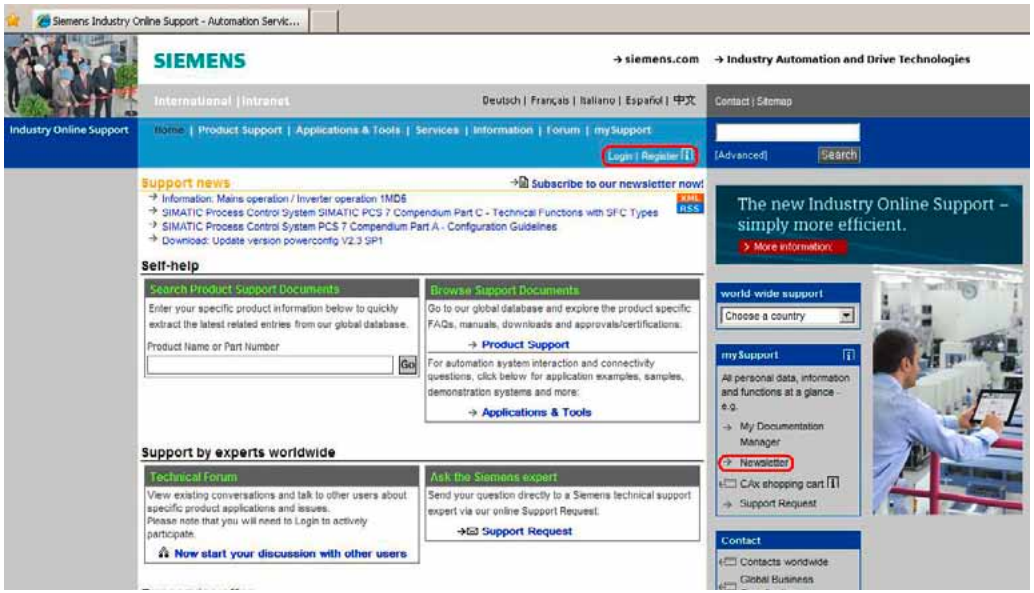
The COMOS App is intuitive to use and can be operated without any prior knowledge of COMOS engineering software. All newly loaded documents are immediately visible and their management is simplified by the use of favorites functions. The App is available in Chinese, German, English and French, and can be downloaded free of charge from the Apple App Store. It works best on the 2nd or 3rd generation iPad.

Information video
(1:18 minutes)

Service and Support newsletter for fast and personalized information

The Siemens IA&DT Service and Support online portal has been expanded with new and very useful features for COMOS customers. Apart from being able to create an individual newsletter, users also have access to a download area, FAQ documents, and manuals.

COMOS customers now have the opportunity of putting together their own individual Service and Support newsletter. This newsletter is sent by e-mail and provides them with fast and up-to-date information on the previously selected topics, for example, updates and service packs. To be able to put together an individual Service and Support newsletter, the user must already be registered in the online portal or must register there. Users can then select the product they would like to be informed about and the type of document. For the "Plant Engineering Software COMOS" users can select from the document types "Downloads", "FAQs", "Manuals" and "Current product information".



As soon as new information relating to the selected topics is published in the online portal, users will be sent an e-mail keeping them up to date with all innovations.

In the Service and Support online portal the COMOS customer now has new helpful functions available. Among other things, the download area provides the user with a list of the most important technical information on COMOS. The list is updated monthly. The FAQ area gives the user access to informative documents on a variety of topics, for example "Data exchange between SIMATIC PCS 7 and COMOS". All manuals from COMOS version 9.2 onwards are available for download.

Service and Support Online Portal

Presentation: Create an individual newsletter

COMOS sales and service partners for Romania

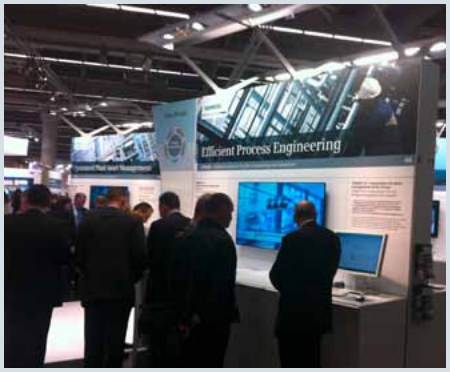
Since 2005, the FIWA group has been working worldwide as a certified Siemens partner for SIMATIC PCS 7 and the chemicals industry. The Romanian branch of the engineering company (SC FIWA RO SRL) has also been operating since August 2012 as a sales and service partner for the COMOS software solution.

Focusing on the oil and gas, pharmaceuticals, environmental technology, foodstuff, steel, chemicals and petrochemicals industries, SC FIWA RO SRL offers a wide range of engineering services in Romania. These include plant engineering design and implementation in the sectors of process automation, process control, MSR technology, weighing technology, electrical engineering, building technology, communications and security technology, software development, and data processing technology.

The company has made a name for itself in recent years through successful projects with companies such as Siemens IMOL, SC OMV PETROM SA, and SC CONTINENTAL SRL. Due to the extremely good customer relationship with SC OMV PETROM SA and their many years of experience in the oil and gas industry as well as their partnership with Siemens, they seemed the obvious partner for COMOS in Romania. "With SC FIWA RO SRL, we have gained an expert partner in Romania, who is familiar with local conditions and develops and implements excellent engineering solutions," says Steffen Rosa, Global Partner Manager COMOS at Siemens Industry Software.

Best IT company in Denmark

The IT magazine ComputerWorld names Siemens Industry Software A/S as the best IT company in Denmark. On September 20, 2012, the company received the award from the magazine. In addition to being named the best IT company in Denmark, the company also won the awards for the best basis software, software, and growth comet.



Event Calendar 2012:

Discover the COMOS software solutions in 2012 at following events. We will inform you at these events about the latest news about COMOS. We appreciate your visit.

more ... »

COMOS training program expanded

Training courses have been complemented by six further courses

The range of COMOS training courses has been complemented by six further courses. We would like to introduce three of these courses in a little more detail below. In the Basic, Cabinet Layout, and MRO (Maintenance Repair Overhaul) courses, up to six participants per course will be introduced to specific course content in a very practice-oriented way. The COMOS Basic Training contains the fundamentals of working with the COMOS software, while the Cabinet Layout Training is aimed at experienced COMOS users from the area of electrical engineering. The new MRO training course is aimed at maintenance engineers, and it presents options for optimizing maintenance tasks. To achieve maximum learning success, the experienced COMOS instructors give special attention during the courses to participants' needs. You can find out more about the content of the courses by clicking on the relevant course.

All COMOS training courses can also be booked locally for specific customers around the world. You can request information on other training courses via the e-mail address training.COMOS@siemens.com Information on **COMOS training courses** is also available on the Internet.

Training course descriptions

1. COMOS Basic Training

COMOS Basic Training is aimed at planning engineers, drafters, or trainee COMOS administrators. It covers the philosophy of COMOS, the handling of technical documentation, and specific objects for electrotechnical planning.

more ... »

2. COMOS Cabinet Layout Training

This is intended as advanced training for experienced users with knowledge gained from COMOS Electrical Engineering Training. This course introduces methods and tools for planning control cabinets. The focus is on creating views, synchronizing these views, and working with the COMOS rail editor.

more ... »

3. COMOS MRO Training (Maintenance Repair Overhaul)

The COMOS MRO (Maintenance Repair Overhaul) Training is aimed at users and trainee COMOS administrators. Participants learn about the basic functionalities of COMOS for working with the interface. Different maintenance methods and documents are then introduced and created.

more ... »

Tips and Tricks – ask Doc COMOS

Sometimes a little information has a big effect. In this rubric of the COMOS Plant Manager, Doc COMOS answers your questions and gives you tips on how to work with the COMOS software solution even more efficiently. Today Doc COMOS answers the following question:

"How could I realize a query even faster?"

Doc COMOS will introduce in two videos the search method "database query", which helps save time.

The first video shows the two different methods to do a query. In both methods, the amount of data is equal. With the method of the "classic query" (video sequence of the first 45 seconds) it takes around 10 seconds to request, interprete, and display the information. Much more faster you could receive the information by the search method "database query" (video sequence from second 45). Even with the same amount of information, this type of query needs only approx. one second compared to the "classic query" to request, interprete, and display the information.

Video 1 (1:21 Minuten)

The second video is presenting how to create a "database query". The video shows the different working steps:

1. Open an empty "Query"
2. Select "Database search"
3. The configuration field of the "database query" will be opened
4. Define the "start object" by drag & drop
5. Define the searched settings (e.g. Property, Attribute or FreeProperty)
6. Specify the settings by further definition (e. g. Name, Lable, or Description)
7. Define the searched value (in our sample it is G125)
8. Link to "AND operation". In the configuration field the fixed settings are linked to "AND operations"
9. Again, define the searched settings (e.g. Property, Attribute, or FreeProperty)
10. Specify the settings by further definition of the "Attribute name" (in the sample we enter "PIA055")
11. Define the searched value (in our sample it is "7")
12. Link to "OR operation". The different configuration fields are linked to "OR operations"
13. A new configuration field will be opened. Enter the requested information in the fields (in our sample it is "Property, Name, = und G55").
14. To start the query, click the "Search" button
15. The requested information will be shown
16. Only the defined data sets will be taken from the database. In our sample we have a "Query: 16/16".

Video 2 (1:43 Minuten)

Your opinion is important to us!

We would like to continuously improve the quality of the COMOS Plant Manager. Therefore the feedback of the readers is very important to us.

Which article suits you well and which article did not fit your expectations? Do you have special contents we should report about? Please send us your feedback. Either you tick one of the faces ☺ = very good article, 😐 = article was interesting, ☹ = article did not fit my expectations, or you write us your comments in the specified field. Afterwards click the send button and your feedback is on the way to us. Thank you for your cooperation.

Do you want to receive more content details about an article? Just click the ✉ behind the listed article and fill in the contact details. Click the send button and we will immediately contact you to answer your questions.

☺	😐	☹	✉	
☺	😐	☹	✉	3D visualization and training software
☺	😐	☹	✉	Chemical Industry: Reference Evonik
☺	😐	☹	✉	Power Plant Industry: Reference BWSC
☺	😐	☹	✉	Interview with Dirk Wegg
☺	😐	☹	✉	COMOS Mobile Document Review
☺	😐	☹	✉	Service and Support newsletter
☺	😐	☹	✉	COMOS sales and service partner in Romania
☺	😐	☹	✉	Best IT company in Denmark
☺	😐	☹	✉	Event Calendar 2012
☺	😐	☹	✉	Training program expanded
☺	😐	☹	✉	Tips & tricks

Comment field:

My contact details:

Company _____

Street/no. _____

Postal code/city _____

Salutation ☐ Mrs. ☐ Mr.

Title _____

First name _____

Family name _____

Telephone _____

E-mail _____

☐ I received the COMOS Plant Manager from third party. Please include me in the COMOS Plant Manager distribution list:

E-mail* _____

☐ My e-mail address changed.
Please send me the COMOS Plant Manager in the future to following address:

E-mail* _____

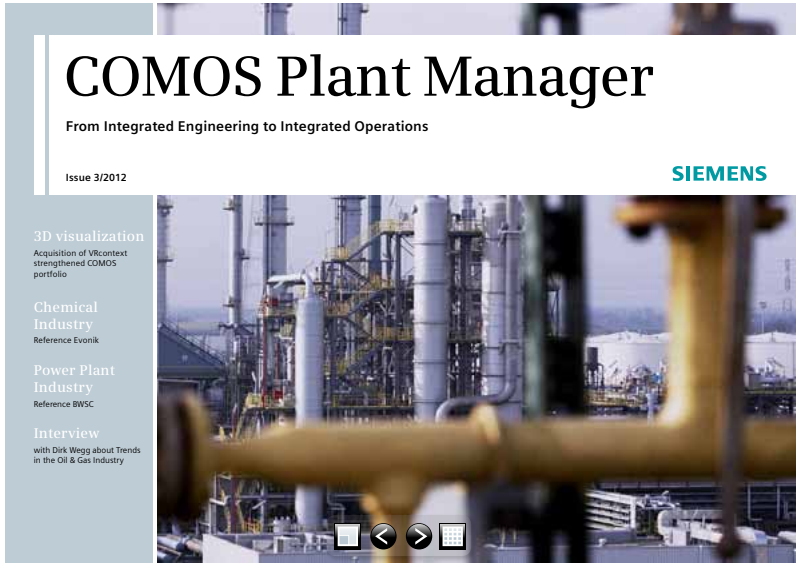
☐ Please delete my e-mail address from the COMOS Plant Manager distribution list

☐ I hereby agree that my personal data will be used by Siemens and/or Siemens subcontractors exclusively in connection with the requested services. I herewith consent to any further disclosure of my personal data by Siemens Industry if such disclosure is mandatory by law or a court judgement.*

send

*Required field

COMOS Plant Manager
3/2012



Publisher
Siemens AG
Industry Sector
Industry Automation Division
Industrial Automation Systems
I IA AS PA CIS MK
Karl-Legien-Str. 190
D-53117 Bonn, Germany
www.siemens.com/COMOS

COMOS Industry Solutions
VP Andreas Geiss

Editor
Ingo Kaiser, Siemens AG, I IA AS PA CIS MK
Karl-Legien-Str. 190
D-53117 Bonn, Germany
Phone: +49 (0) 228 64805-210
Fax: +49 (0) 228 64805-125
ingo.kaiser@siemens.com

Editorial Committee
Mareike Blettner, Ingo Kaiser
COMOS Plant Manager is published quarterly.

Picture credits:
Digitalstock · BWSC · Fotolia · Evonik Systems · Siemens

www.siemens.com/COMOS