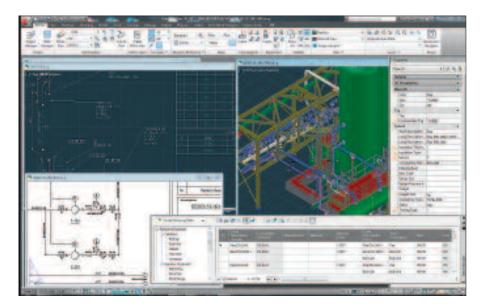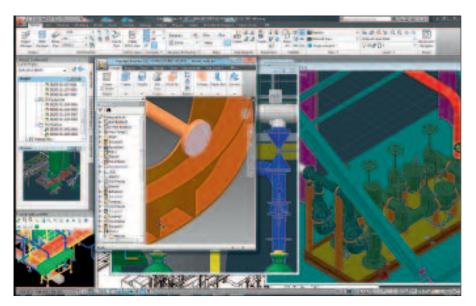# AUTODESK REVEALS PLANT DESIGN SUITE 2012

The plant design market gets more drive. Autodesk made remarkable refinement of its plant design suites and brings tremendous momentum into the market. The following article describes an overview about the major renewals of the 2012 release.

AutoCAD Plant 3D 2012 in action. For database support, the vendor makes use of the advantages of both a database-centric and a file-centric approach

- AutoCAD P&ID 2012 for piping and instrumentation design, featuring improved symbol library management and better support for mixed metric projects
- AutoCAD Plant 3D 2012 for 3D modeling and documentation of piping, featuring enhanced AutoCAD isometrics and customizable report creation
- AutoCAD Structural Detailing 2012 for drafting and editing structural details
- Revit Structure 2012 for 3D modeling of structural components
- Autodesk Inventor 2012 for digital prototyping of plant equipment and skids
- Navisworks Simulate 2012 for model aggregation, visualization, and simulation
- Navisworks Manage 2012 for clash detection
- Showcase 2012 for showing interactive presentations
- SketchBook Designer 2012 for design illustration and graphic communication.

The first bundling of plant design tool releases were done last year. And like in 2011, the new plant products were launched in an off-cycle compared to the main products, AutoCAD or Inventor. "Since the plant products became in the last two years mass products we shall bring to market the next plant design product releases at the same time like the main products, consequently in April or May," Reiner A. Meyer-Roessl, Business Development Manager, Autodesk Plant

Autodesk, Inc. headquartered in San Rafael, US state California, released its Plant Design Suite 2012. Available in so called Standard, Premium and Ultimate editions, the new product family shall simplify cross-department coordination among process plant design stakeholders as to read in a corresponding press release. For the first time, users of Plant Design Suite Ultimate 2012 will have access to the combination of Autodesk Inventor 2012 mechanical 3D-CAD software for plant equipment and skid design and Autodesk Revit Structure 2012 software for structural design and detailing. Simultaneously, the vendor announced the 2012 versions of AutoCAD P&ID and Auto-CAD Plant 3D. Key components of the new design suite, which are all part of the Ultimate edition, are:

- AutoCAD 2012 for general drafting, design and layout

LEADING GLOBAL PROFESSIONAL SERVICES FIRM SELECTS AUTODESK

Australian-based WorleyParsons, a leading global EPC serving the infrastructure, power and natural resource business sectors, has chosen Autodesk solutions to optimize its plant design process. The contract value is Autodesk's largest win to date in the Asia Pacific region. The terms of the agreement provide WorleyParsons and its subsidiaries with access to 22 Autodesk software products around the world. Autodesk Consulting will also work closely with WorleyParsons to efficiently integrate the technology. This new agreement extends the relationship which the both firms have had for some time.

As to read in a corresponding press release, the vendor's software enables the EPC to implement more streamlined design and construction processes for customers in the infrastructure, environment, and energy resources and minerals industries globally. WorleyParsons' engineers, designers, drafters and project managers will have greater access to a broad range of Autodesk software products, including Autodesk Navisworks software products, AutoCAD Plant 3D, AutoCAD Civil 3D, Autodesk Inventor, Autodesk Revit Architecture, Autodesk Revit Structure and Autodesk Revit MEP software.
www.worleyparsons.com

Solutions with AEC Industry Group says in discussion with our editors. Mr Meyer-Roessl adds software packages were together because of customer requests. "This has thoroughly pragmatic benefits. There is only one product to be implemented. The setup program installs at the workstation the complete software needed to do the daily business. Our offerings reduce the administration expenses dramatically."

Highlights of Autodesk Plant 3D 2012

Thing you notice at first glance is that in the new release the Isogen isometric engine brought into Autodesk Plant 3D via an OEM licensing agreement with Intergraph was replaced by an own development. Now isometric drawings are fully compatible with the AutoCAD format, e.g. the isometric dimensioning are real AutoCAD dimension objects and not dummy lines and text as befo-

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"One thing is certain: Autodesk's pricing is putting pressure on Intergraph and Aveva to prove that their price tags are worth it. If one can get from place to place in a Honda, does one need a Maserati?"

Monica Schnitger, Schnitger Corp., leading US analyst

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re. The same is true for isometric symbols. Before, they have to be defined via a separate editor, now they are handled just as the well-known AutoCAD blocks. Moreover, the brand new isometric engine is fully compatible with the Piping Component File (PCF) format. PCF is the primary input for Isogen. PCFs are text files containing component and routing information. The new Isometric Engine can be tested on the labs (1) where an PCF file can be uploaded and the resulting Isometric DWG can be viewed, edited and shared on the web.

Autodesk Plant 3D 2012 also provides a new report. It enables the user to design reports in a great variety of styles with different kind of graphics or fonts. Even minor calculation can be performed in this tool.

The current piping specs are now loaded into the Dynamic Pipe Spec tool palette. When the user change the spec in the parts panel of the ribbon, the Dynamic Pipe Spec Tool Palette is updated to that spec instant-

ly, and always in-line with the spec the user is currently routing. Spec conversion is possible from AutoPLANT and CADWorx specs.

Database support

There is the rumor that there is no database support for Autodesk Plant 3D. But this is not true as Mr Meyer Roessl ensures: "Otherwise nobody would have access to data in a large plant design project." But how is the underlying system architecture designed? The answer is: based on hybrid database model — the vendor makes use of the advantages of both a database-centric and a file-centric approach for the users. "In a very compressed way, the data of the 3D model, e.g. of the piping, and the P&ID is stored in binary format into the AutoCAD file. In the case of the opening of that file, in the background a SQL database caches all the data," the Business Development Manager explains. Users have the option of creating new projects using the SQLite local database, a file-based database as introduced in former releases, or choosing to use SQL Server Express. This new database structure of the 2012 release will improve data reliability in a multi-user environment, as Mr Meyer-Roessl emphasizes. By the help a project setup wizard, the user is asked to make a database selection. There are additional settings if SQL Server Express is chosen. "Since all the data of a project are located in the database, we call it hybrid database approach. For example, if you start a search request to a component the system opens documents not to be open before in order to display it." Mechanisms are also provided to search in a cross-project mode. In addition, design work in an offline modus is possible. "The best of it: the users don't realize anything of that. And they are not really interested in it because for them it is only important that it works," Mr Meyer-Roessl comments. The advantages of the vendor's solution are obvious: high-performant data access combined with the flexibility of working in online and offline modus.

Performance enhancements

In particular, in the version 2012 a lot of efforts were done to increase the stability of AutoCAD. For example, the generation of 2D drawings doesn't make problems any more. However, Mr Meyer-Roessl counters the criticism that AutoCAD suffer from stability problems: "It depends heavily on in the way the system was configured. That's the other side of the coin of providing so much

flexibility. In future, I think we shall support the user by more guidance to configure the system for his application more properly."

Pictures: Autodesk

Reiner A. Meyer-Roessl

Rookie of the decade

The idea of addressing the plant design market has become a big success story for the vendor. The activities have started around the year 2000 what was pretty late in comparison to other vendors like Rebis who was serving this market almost since the late 1980th. Until in 2006, Autodesk founded a department especially dedicated for the plant design market. Autodesk's market research has shown up that the users of non-AutoCAD-based plant design software like PDS were struggling with the long time needed for implementation. Moreover, they were unsatisfied with high investments in training of their engineers force and in support of the system infrastructure. By the way, among others these were the reasons why other vendors and their AutoCAD-based plant design products were so successful.

Also worth mentioning: in 2006 there were at least 1 000 000 commercially used Autodesk licenses in the plant market active — so a really good prerequisite for writing another good track in the annals of the history of CAD. And it began in 2008 when AutoCAD P&ID was launched in the US market. A year later, the P&ID tool was localized for the German market (1). But Mr Meyer-Roessl says it only behind closed doors: in terms of licenses Autodesk is now the marketan industry leader in P&ID tools.

The deep integration between Autodesk's plant design products and AutoCAD is also expressed in organizational terms: their developers — much of them are former AutoCAD developers — are located just one floor higher in the vendor's headquarter in San Rafael.

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