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June 2012

Latest News & Events

- Discover our new Nemetschek BU Engineering website!



- Breakfast sessions Scia Engineer: Tips & Tricks.
- 05/06 Houten (NL)
 - 06/06 Lokeren (BE)
 - 07/06 Namur (BE)
- Breakfast sessions Allplan Engineering.
- 11/06 (NL)
 - 12/06 Gent (BE)
 - 14/06 Namur (BE)
- Open BIM Program for Improved AEC Collaboration
- Visit our [Webshop](#) and take advantage of our **special offers!**
- Are you a **student or professor?** Download Scia Engineer for free...

Software Updates

- Customers can download the latest service packs from our [secured download section](#).
- Scia Engineer 2011.0.1223
 - Scia Steel 2011 SP3
 - Allplan 2011.1 HF6
 - Allplan Precast 2012.0.1

- Get an automatic notify through RSS when a new Scia Engineer Service Pack is available.



Training & Support

- Free interactive [eLearning](#).
- Group trainings for **Scia Engineer, D Series, Allplan...** Consult our [training agenda](#) and register online...
- Interested in a customized training organised in your company? Please contact Ms. Inge Wauters.
- Any questions? Put it on the [Scia Forum!](#) Register...

Software Gallery

- IGUBA, s.r.o. - **Thirteen-Storey Department Store** - Bratislava, Slovak Republic.



Welcome to the **June 2012** issue of the Nemetschek Scia eNews. This month we present you the following topics:

- Software release month: First digital release show for Scia Engineer v. 2012 & New releases for precast & steel fabrication
- Footbridge "the Spine" for Merck Sero - Vevey, Switzerland
- Tips & Tricks Scia Engineer: Design of reinforcement in a circular slab

[Discover our new Nemetschek BU Engineering website >>>](#)

Software release month: First digital release show for Scia Engineer v. 2012 & New releases for Precast & Steel fabrication

To reach our increasingly international clients, the new release of Scia Engineer is organized in a digital format. All interested users are invited to subscribe to a dedicated website www.sciaengineer2012.com. Detailed information will be given on the new release with online presentations together with technical descriptions, "what's new", movies, client testimonials and an agenda of upcoming webinars.

This version reinforces the positioning of Scia Engineer as the **Innovative structural analysis and design software for an Open BIM workflow**. The 4 main themes are: multi-material design, enhanced interoperability, advanced analysis capabilities and new usability improvements.

Timber design has been upgraded (EN1995) and extended, bridge combinations according to EN 1990/A1 has been added, enhancements are implemented for aluminium section design and concrete member design (ACI 318-08, Brazilian materials and combinations). Interoperability is at the core of Open BIM with enhanced IFC support (steel connections, footings, concrete steel reinforcement) and direct output/input from the cloud storage Scia Desk. Advanced analysis addresses dynamic relaxation for a better nonlinear analysis of cables & membranes. New usability improvements concern table input, user commands and much more. New functions are released for scaffolding (with Layher couplers) and for Pre-Engineered Building Frame optimization. Register yourself now for the digital release on www.sciaengineer2012.com!

More releases from Scia: Precast and Steel fabrication

In June more new releases will be sent out: Allplan Precast 2012 with many new functions including modelling for thermo wall elements; in TIM (Technical Information Manager) 2012 new modules are: Master Scheduler, Collision Analyser and Quality Manager.

For Steel fabrication, the release 2012 is focusing on new functions for scribing, welding quality assurance, various new postprocessors for NC machines and also planning software (Master Scheduler) within the Scia Steel Manager. Clients will be invited via a separate mail to the release shows.

Before the summer starts, Scia is happy to present its new product releases to the market.

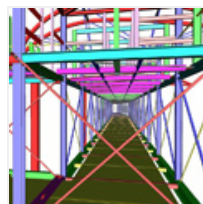
Footbridge "the Spine" for Merck Sero - Vevey, Switzerland

About the company

Founded in 1987 by Thomas Jundt, civil engineer EPF-SIA, the engineering office shows in the last 10 years an important growth. With 20 specialists, the team offers civil engineering and project management services. The company culture is one of a constant pursuit of innovative and rational solutions, both for the owner and contractor. The team is currently working on several projects (halls, residential complexes, villas, industrial buildings, ...) among which a major undertaking is the new building of the cantonal hospital (240 Mio CHF).

About the project

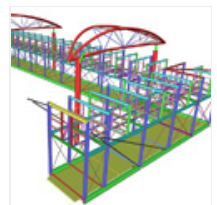
The need for a link between the existing building and the new extension resulted in the construction of this footbridge, with a length of about 100m. While the lower level is closed and dedicated to pedestrians and an automatic robot, the upper level is reserved for transfer of fluids.



There is thus not much space available for the steel structure. The structure is partially cable-stayed to decrease the footprint on the ground. Safety exits required that several bracing diagonals had to be removed, making the structure sensitive to torsion.

The applied loads are rather important: service loads of 3 tons/m' and a mobile load of 3.5 tons, asymmetrical loads due to the pipes, a class II building in a seismic zone (Z2) giving a horizontal acceleration of about 20% of g, significant wind loads and finally large temperature differences.

In Scia Engineer, the complete 3D model of concrete and steel includes also the deck, through which the horizontal forces are transmitted. "Absences" were used to take into account the erection, shoring, etc. The seismic response was assessed thanks to a dynamic analysis. Initial stresses were applied to put the cables in tension. Finally, a large number of asymmetrical variable load cases as well as temperature load cases were applied.



Hanging bridge (100 m) connecting 2 buildings
(More info see next article)





as well as temperature load cases were applied.

[Read the whole article \(pdf\).](#)

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Tips & Tricks Scia Engineer: Design of reinforcement in a circular slab

Since Scia Engineer 2011.0 the user has the possibility to influence the Local Co-ordinate System (LCS) of 2D member mesh elements. By default, the results on 2D members are calculated according to the LCS of the mesh elements. This means that the user now has a powerful means to obtain the required display of results.

Until now the local axes of the mesh elements were always automatically generated and the user could interact only by swapping the local z-axis direction. What is new is that the user can choose between several options for the property 'LCS Type' for any 2D member (both plane and curved), see [image 1](#).

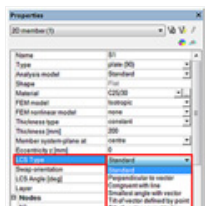


image 1

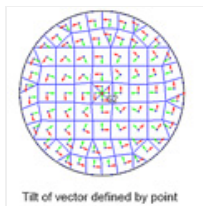


image 2

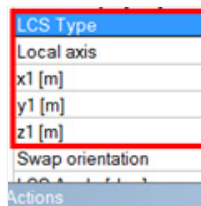


image 3

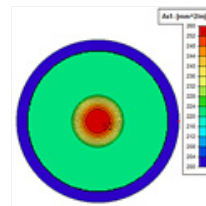


image 4

An important use case is the design of reinforcement in a circular (flat) slab. [Image 2](#) shows two methods for the definition of the LCS.

For the slab on the left, the standard method is chosen, which results in a Cartesian LCS orientation. Although for circular slabs, a polar LCS orientation is more logical. This can now be obtained e.g. by means of the settings (see the slab on the right) in [image 3](#).

The local y-axis of each mesh element is directed towards the point with co-ordinates (20;0;0), which is the midpoint of the slab.

In the Concrete menu of Scia Engineer, the user can now execute the reinforcement design according to the user defined LCS of the mesh elements, see [image 4](#).

For the 1st slab this results in a standard orthogonal reinforcement mesh, while for the 2nd slab a radial and tangential reinforcement configuration is obtained.

TIP: Keep in mind that by default, the reinforcement direction 1 coincides with the local x-axis of the mesh elements and direction 2 with the local y-axis.

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Free Tryouts

► Via our webshop we offer the following **Free Tryouts**...

- [Scia Desk](#)
- [Frilo Statics](#)

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