April 2012

Welcome to the **April 2012** issue of the Nemetschek Scia eNews. We present you the following topics:

Latest News & Events

- **Nemetschek** will be present at BRAZIL ROAD EXPO, 2 - 4 April 2012.
- **Nemetschek Scia** will participate at the Tekla Nordic BIM Forum, 10 - 11 May 2012
- **Nemetschek Scia** invites you to the Scia Engineer Conference in the Czech Republic "Statika 2012", 24 - 25 May in Moravě (CZ).
- **Nemetschek Scia** will be presenting at the "2012 Structures Congress", 29 - 31 May 2012 in Chicago (USA).
- **Scia invites you** to participate in a 4-days "Eurocodes in Practice Training" (Dutch and French).
- Open BIM Program for Improved AEC Collaboration
- Visit our Webshop and take advantage of our **special offers**!
- All you need to know on the Eurocodes... Visit www.eurocodes-online.com
- 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 2011.0.1172**
  - **Scia Steel 2011 SP3**
  - **Allplan 2011.1 HF6**
  - **Allplan Precast 2010.1-3**

- 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**, **M 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...

You want to know more about the Nemetschek Engineering software business?

Engineering software is a core business of Nemetschek right from the start in 1963. Today, Nemetschek has a broad product portfolio towards the structural engineering market with **engineering structural analysis & design** (Frilo Statics and Scia Engineer), **structural detailing** (Allplan Engineering & Precast), **fabrication management and logistics** (Technical Information Manager Precast and Steel) and **interoperability solutions in BIM** (Building Information Modelling). All construction materials are designed (steel, concrete, timber, bricks, aluminum, ...) with a unique offer for detailing (for concrete).

With over 40 000 users, the **Nemetschek Engineering business unit** - consisting of **Frilo, Scia, Engineering Precast, Glaser and a division of Allplan** - is an important player active all over Europe and with increasing presence in South America (Brazil), Asia and USA. With over 35 Million revenues and a staff of 250 specialists, Nemetschek is a leader in structural engineering software. The staff is located in BeNeLux (20%), Germany (25%), Czech Republic (25%) and Austria (10%) with the remaining percentage distributed in Europe, Middle East, Brazil, USA and the rest of the World.

A variety of clients from engineering consulting offices, contractors & fabricators rely on Nemetschek technologies for 3D modelling, static and dynamic Finite Element Analysis, detailed code design of all types of structural parts, drawing of reinforced concrete structures (in situ and precast) and fabrication management.

Nemetschek is launching today a new website with a wealth of information inviting visitors to learn about its solutions. *Enabling Engineering Freedom* is our vision.

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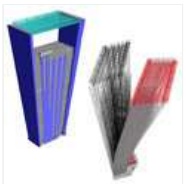
BESIX - Adnoc HQ Tower - Abu Dhabi, United Arab Emirates

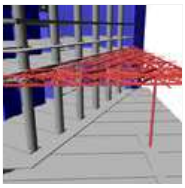
About Besix

BESIX is the largest Belgian construction group. It is a conglomerate of companies operating in the construction, engineering, environmental, real estate and concession sectors. The company is an important player in France and the Netherlands and has also entered the Egyptian and Libyan markets. In the Gulf the company has enjoyed huge success in the UAE, Qatar and Oman and has undertaken a large number of prestigious projects, including the Burj Dubai Tower, currently the tallest building in the world. In addition, it has undertaken impressive projects in countries such as the UK, India, Russia, Poland, the Czech Republic, Slovakia, Equatorial Guinea, Algeria and Morocco.

About the project

The project is located at the Abu Dhabi Corniche and consists of a 75-storey office tower, two-level basements and a helipad on the roof. The overall building height is 343 m with a gross office area of 160 000 m². The design is extremely complex due to the fact that the building is highly asymmetrical. The centre of mass is offset by 3 m due to the fact that the south core walls are only counterbalanced by six slender composite columns. Elastic shortening and long term creep causes the building to twist around its vertical axis and to lean forward towards the column line.





Structural 3D Modelling - Open BIM

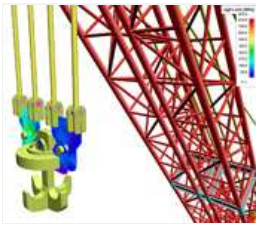
From the very beginning of the tender BESIX opted to use Open BIM. As the first approach a Revit model was prepared and was then imported directly into Scia Engineer. The model interface works well both ways between the two programs and any subsequent changes done in Scia Engineer were exported directly.

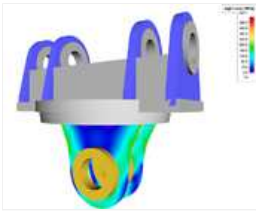
Conclusion

The effective interface between Scia Engineer – Revit – Acad allowed BESIX to optimize both the geometry and the final quantities of the building to achieve the overall 20% savings. It also allowed for a more comfortable construction schedule thanks to simplified detailing. At the detailed design stage the same interface allows BESIX to maximize the production speed of drawings by using the 3D environment for the coordination between 3D models and 2D drawings.

Software Gallery

► Multifunctional Offshore Crane - Vlissingen, The Netherlands. Thanks to B.V. Ingenieursbureau M.U.C.





Free Tryouts

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

- **Scia Desk**
- **Frilo Statics**

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Tips & Tricks Scia Engineer: Graphical input of system lengths

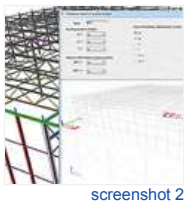
In Scia Engineer 2011.0 a new option has been added for an **easy input of the system lengths** of 1D members.

Several possibilities to define and change buckling systems have been implemented for a long time:

- 'Buckling defaults' in the Steel Setup (defines default values of the buckling data for the whole project)
- 'Buckling and relative lengths' as a property of 1D members (allows for the input of buckling data for the assigned member(s))
- 'Member buckling data' as additional data to 1D members (for fine-tuning the buckling data of a specific member) (see screenshot 1).

screenshot 1

But especially for complex structures, the need for an easier alternative had grown. It was sometimes difficult to find the **accordance between the nodes** in the buckling system and the structural nodes. Therefore the option to **graphically input and adapt the system lengths** has been introduced. (see screenshot 2).

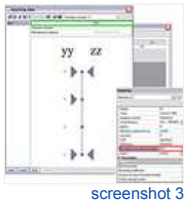


screenshot 2

By selecting a 1D member, the new Action button 'Graphical input of system length' is available at the bottom of its Properties menu (see screenshot 3).

In the new dialog a **preview** of **the complete structure** is shown, with focus on the buckling system to which the selected member belongs. The user can pan, zoom and rotate the structure, and even edit the View Parameters so e.g. **node and beam names** may be displayed. By means of 'fixed' (= with a solid line) and 'free' (= with a dashed line) triangles, the system lengths for either buckling, lateral torsional buckling or relative deformation are visualised in the preview of the structure. A system length is defined as the length between two 'fixed' triangles. The user can switch these triangles on/off just using the left mouse click, and in this way easily adapt the system lengths. The user benefits here from the **immediate visual check**! If necessary also the relationships (dependencies) between the different systems can be changed.

In fact, the option 'Graphical input of system length' is an editor of the selected buckling system, in this case BC1. The changes made here are automatically updated to the 'Buckling and relative lengths' dialog for BC1, and vice versa.



screenshot 3

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