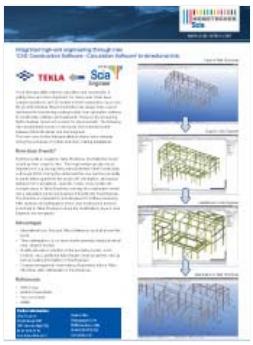
October 2009

Latest News & Events

- Read all about the **Scia Engineer / Tekla Link** in this new leaflet and download it now.



- **Scia Engineer**, first software certified conform to the Eurocode 3 (EN1993-1-1) by the French CTICM
- Nemetschek Scia will be present at 'Staalbouwdag 2009' in Luxembourg on 02/10
- Visit Nemetschek Scia at the 'Nationale Staalbouwdag' exhibition in Gornichem (NL) on 15/10
- Nemetschek Scia invites you to the Scia User Meeting in Salzburg on 20/11/2009 in Salzburger NH Hotel

New Software Updates

- Customers can download the **latest service packs** in our secured download section.
  - **Scia Engineer 2009.0.389**
  - **Scia Steel 2009 SP3**
  - **Allplan 2009 HF**
  - **Allplan Precast 2008.2a1**
- Get an automatic notification through RSS when a **new Scia Engineer Service Pack** is available.

Training

- Visit our **Free** interactive online eLearning tool!

- We offer group trainings for **Scia Engineer**, **Scia Geotechnics**, **Allplan**, …
  Please consult our training agenda and register online …
- Interested in an individual customized training at your offices? Please contact Mrs. K. Verhille.
- Online training calendar 2009. Consult and register online...

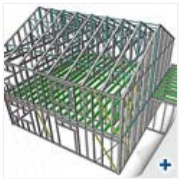
- Any user questions? Put it on the

Dear eNews reader,

This month once again we have a lot in store for you! We start with a concise **Scia Engineer 2010** sneak preview on the integration of **cold-formed steel checks**. Further on we present our new virtual "**Scia Campus**" where students and (university) teachers get the possibility to download a full package of Scia Engineer software for free.
As project of the month we present you the impressive **stage** that is now in use on the concert tour of **U2**. Our client **Stageco** and Scia are very proud of this realisation!
The section '**Tips en Tricks**' shows that importing a section from a dxf/dwg file is easier than you think.

Topics of this month:

Sneak Preview: New cold-formed steel package in Scia Engineer 2010 (EC-EN 1993-1-3:2006 and AISI NAS 2007)



The market of cold-formed steel is growing as its advantages over other construction materials get more and more promoted. As a member of the LSK (the European Light Steel Construction Association) and as a partner of several material suppliers, Nemetschek Scia is since a long time focused on the use of cold formed steel into Scia Engineer calculations. It now comes with a fully integrated EC-EN1993-1-3:2006 cold formed steel package (including the 2009 correction sheet) and AISI NAS 2007 for cold-formed members. Special attention is also given to the purlin design in the practice of steel halls. The cold formed design checks include the determination of the initial and effective shape.

Besides the fully integrated cold formed checks in the standard Scia Engineer EN 1993 steel design environment, including the integration in a mixed material structure, it gives the engineer the following advantages:

- Implementation of the latest EN 1993-1-3:2006 (including the 2009 correction sheet)
- Detailed analysis of the effective shape, including distortional buckling for edge stiffeners, double edge folds and internal stiffeners
- Advanced checks available as web crippling and shear in case of sections with stiffened webs
- Special purlin design checks including free flange geometry advanced loading determination...
- Available for arbitrary cold formed sections, including the average yield strength and steel core thickness

For more information, read our Datasheet on Cold formed steel design.

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Launch of student portal for Scia Engineer - Nemetschek committed to education

All over the world students at universities and engineering colleges are eager to know the latest tools for structural analysis and design. Part of the education is related to working out a practical design project. The Nemetschek Engineering Group is creating a network of campus websites to address the educational institutions; today Scia is launching its virtual campus.

Registration, downloads, educational materials and many more functions are offered to the student community. For our professional users it advantageous to have access to future young engineers who are familiar with software such as Scia Engineer. Our sister company Graphisoft has taken the lead and achieved in recent years over 1 million downloads of its flagship software ArchiCad.

This is an open invitation to all engineering students to compete with architects in adopting the latest technology in structural design and to download a free copy of Scia Engineer Student Edition at www.scia-campus.com

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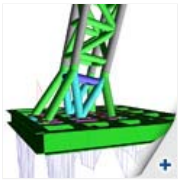
U2 rocks thanks to Stageco (BE) … and Scia Engineer

You can't have missed it these last months: U2 rocks again as never before. Some part of the credit for this success can definitely be taken by **Stageco**, the Belgian company ranking among the best in the world in developing and erecting impressive stages and other temporary constructions.
For many years, Stageco is putting Scia software solutions to use for the modelisation, analysis and dimensioning of outstanding stages. Remember 2007, when **Stageco won the Scia User Contest** with a stage that was designed and purpose-built for popstar Robbie Williams.

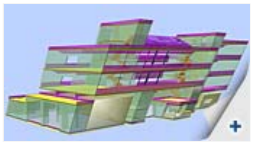
Mr. Tom Frederickx, the senior person in charge of stability at Stageco explains:
*"With **'The Space Station'** - as is called the stage of U2 - once again frontiers are pushed out. The stage creates the impression of being a gigantic space ship. It measures 60m by 40m, it has a height of 50m and its claws stretch out to the audience. The concertgoers are really spoilt with the 360° round stage, which is the largest that Stageco has realized up to now.*
The first drafts, with only an indication of the global dimensions, were delivered to us in April 2008. The first analysis models were created with Scia Engineer on the basis of these rough sketches, the assumed loads were however already taken into account.



Scia Forum. Register now...

Software Gallery

- **User Contest Nominee in Cat 6 - CAD Engineering, Buildings**
  Thanks to Muckingenieure - E.ON building in Zolling



The architects' firm "Mark Fisher Studio" produced the digital 3D AutoCAD design files, which could be easily read into Scia Engineer. During the development period there was continuous interaction between the various parties. DWG and PDF were the principal exchange formats. The global model was managed by a coordinator, who surveyed the entire project and who took care of informing and passing on information to all involved parties.

The analysis models were further detailed within Scia Engineer and the results were exchanged with the draughtsman who adapted his drawing models accordingly. The development has been a continuous process and all simulations were carried out immediately in the software. The entire execution of the project has been done by external companies, therefore it was very important to be able to link with third party software, e.g. with Tekla Structures, Bocad, Advance Steel, Inventor en Pro Engineer."

Mr. Frederickx announced us further that we will surely read more on this revealing project in the next edition of the 'Nemetschek Engineering User Contest'.

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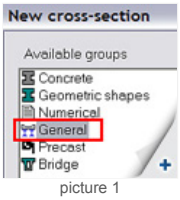
Scia Engineer: Import of a cross-section from a dxf/dwg file

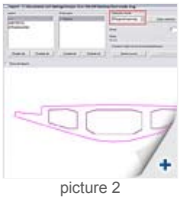
Do you wish to perform a calculation in Scia Engineer based on a cross-section from a dxf or dwg file? No problem, this can be done quite easily with the module **esa.07 – General cross-section**.

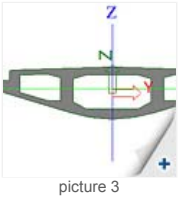
Tips &Tricks

Starting from the menu '**Libraries**' > '**Cross-sections**' you can add to your project a new cross-section, type 'General' (see picture 1). After clicking on '**Add**', the window '**Cross-section editor**' opens. You will notice the different options right away: in addition to the import of a dxf/dwg file, it is also possible to enter the desired geometry yourself based on polygons or an existing section from the library. Furthermore, the dimensions can even be parameterized.

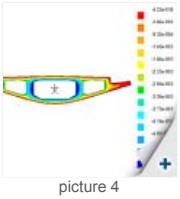


picture 1


picture 2



picture 3


picture 4

Make now a choice for the option '**Import dxf/dwg**' and open the concerned file. The import of e.g. a cross-section for a bridge requires the following steps. Put the '**Selection mode**' to '**Polygons**' and select the outline of the section. Consequently choose in the '**Selection mode**' the '**Polygonal openings**' and select the lines which form the borders of the openings. Don't forget to enter the correct scale, and then choose for 'Import selected' (see picture 2). After the choice of the material, assign the origin as enter point.

TIP: Take care to define in the source file all of the outlines as polylines and to define each circle segment as an arc through 3 points (not approximated by a lot of straight lines).

After clicking on '**Close**', the following result is obtained (see picture 3).
Click in this window on '**Update**' to show the properties of the cross-section, calculated by Scia Engineer based on standard formulas known from basic mechanics. To retrieve more correct results for the shear and torsion properties, it is recommended to choose for a 'FEM analysis'. In that case some calculations are done based respectively on the theories of Grasshof-Zuravski and Prandtl (see picture 4).

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