

REVIT® interface

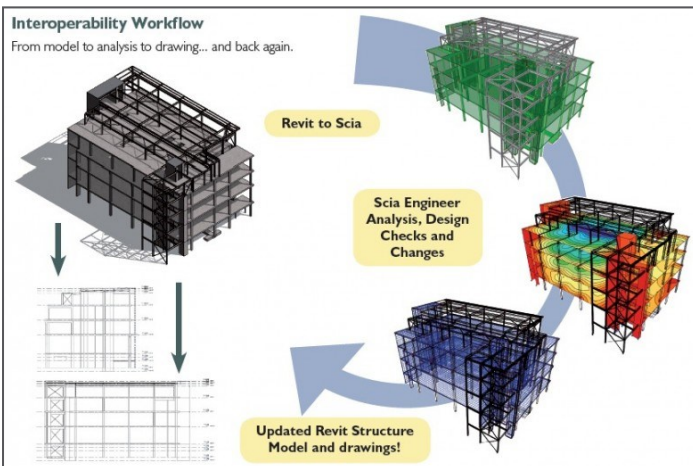
esa.21

The Revit® interface enables **import**, **export** and **update** of models created in *Autodesk Revit®* and vice versa. The model is transferred by a free plug-in available on the SCIA website. The *Module BIM and Workgroup toolbox* is recommended.

- *Revit* is a structural modelling solution from *Autodesk®*.
- *SCIA Engineer* can import the analysis model from *Revit*, elaborate it, perform design action and then send the revised model back to *Revit*.

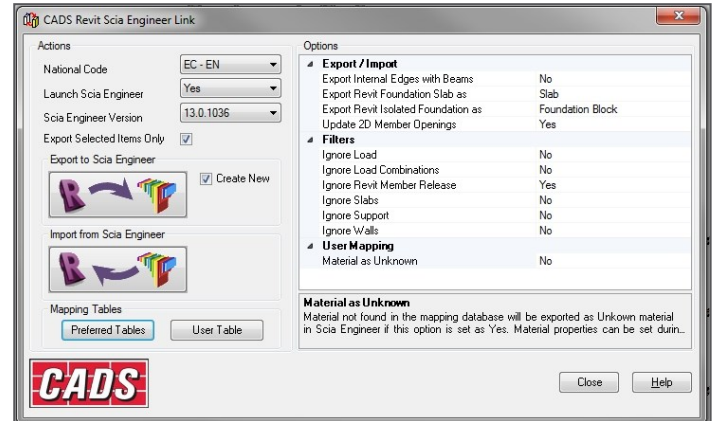
Highlights

The platform for the interoperability with a unique consistent structural and analysis model for concrete, steel, aluminium, timber and mixed structures.



Data between *SCIA Engineer* and *Revit* can be exchanged via a Proprietary link (API: the CADS Revit link).

The link between *Revit* and *SCIA Engineer* sends the analysis model back and forth.



See below (Additional information => HELP) for more info about the supported features.

Link features

Options

- Export internal edges with beams (Yes/No)
- Export Revit foundation slab as
 - Default
 - Foundation
 - Slab on grade
 - Slab
- Export Revit Isolated Foundation as
 - Foundation block
 - Support
- Upgrade 2D member openings (Yes/No)

Filters

- Ignore Load (Yes/No)
- Ignore Load Combinations (Yes/No)
- Ignore Revit Member Release (Yes/No)
- Ignore Slabs (Yes/No)
- Ignore Support (Yes/No)
- Ignore Walls (Yes/No)

User mapping

- Material as unknown (Yes/No)

Mapping tables are provided by default for the most common databases per region, but can be extended by the user as well

- Belgian Columns
- Belgian Beams
- Europe Specific Sections
- General Section-Imperial
- General-Materials
- General Section-Metric
- Metric Sections
- Netherlands Columns
- Netherlands Beams
- UK-Corus Advanced Sections
- UK-Metric
- US-Imperial
- User Table
- Document Sections
- Document-Materials

Mapping Rules allow:

- Cross section
- Material
- Source Mapping Rule
- Target Mapping Rule
- Revit Family Mapping
- Revit Family Path

Export/Import

Export and import of data can be done **direct** or **indirect**

Direct

The data is sent directly from *Revit* to *SCIA Engineer* by means of an internal data cache.

This approach requires *Revit* and *SCIA Engineer* to be available on the **same computer**.

The roles "modeller" and "engineering" will be taken up by the same person

Indirect

Here a file is saved of type "*.R2S" which contains all info to be imported in *SCIA Engineer*.

Vice versa, *SCIA Engineer* can also store an "*.R2S"-file and read in *Revit* for model import

Methodology

Revit can generate a kind of analysis model, but it's up to the *Revit* user to verify the quality of this model **inside** *Revit*.

The Revit link will transfer the data as modelled in Revit. If the Revit model is not aligned, not connected and missing properties to start with, this may not automatically be fixed by the link for responsibility reasons and the model will be transferred as it is.

Revit is not a structural analysis program. It can store loads, load combinations and support conditions but in essence this is part of the real analysis model and is elaborated in the **dedicated analysis software** *SCIA Engineer*.

Licensing

The plug-in software itself is free of charge and can be downloaded from the Nemetschek-SCIA website:

<http://nemetschek-scia.com/en/support/downloads/plugin-scia-engineer-revit-structure>

The use of the plugin however is bound to a proper working copy of *Autodesk Revit*® and a valid license in *SCIA Engineer* for the module **esa.21**

For all editions esa.21 is optional.

Additional information

There is additional information available in the plugin:

- Getting Started (PDF)
- Best Practices (PDF)
- Help
The HELP contains a list with **supported entities** by the link.
This list can be found in: **Content => Introduction => Bi directional link: Revit and SCIA Engineer**
- SCIA Engineer Help - The Help contains detailed description of all Revit link functions (export, import, update, delete etc.)
- Check List (PDF)
To be filled out when sending a model to support for investigation
- About
Contains the installed version number of the link

Required modules

esa.00

Beneficial modules

esa.26