



Prodis - Sky Park Residence

# IMAGINATION CALCULATED

STRUCTURAL ANALYSIS SOFTWARE



**SCiA**  
A NEMETSCHEK COMPANY



| WHO IS SCIA |

# FREEING CREATIVE AND ANALYTICAL MINDS TO SHAPE OUR FUTURE

At SCIA, our core purpose is to delight you - our customers - by helping you create your best structural designs. We give you the confidence to create safe buildings and structures that shape our future.

## LEADING-EDGE SOFTWARE

- SCIA is constantly driving **innovation** through significant investments in R&D, combined with inspiration and input from customers.
- Built-in support for **Eurocodes** (2005) with National Annexes (2007).
- The first structural software to receive the **IFC certification** (2013).
- First structural analysis software with full support for **Steel Fibre Reinforced Concrete design** (2018).
- **SAF** open format for loss-free sharing of analysis models across different software (2020).

## UNPARALLELED SUPPORT

- 92% of our customers would **recommend** SCIA to colleagues.
- Rely on **technical support** provided by our dedicated specialists in your language.
- **Communicate** with us via email, phone, personal meeting, remote desktop, etc.
- Choose **learning methods** that suit your preferences: tutored training courses, private consultations, online tutorials, guiding videos, technical manuals, etc.

## TRUSTED PARTNER

- SCIA has almost **50 years of experience** in developing software for structural engineers.
- SCIA software is used by **more than 8000 users** in over 50 countries.
- We keep you **involved** in the latest development at numerous SCIA events.
- We **listen** to your needs through regular polls and at SCIA industry conferences.
- **Participate** in the SCIA User Contest and promote your work and expertise worldwide.
- SCIA is a **part of the Nemetschek Group**, which gives it financial stability and opportunity for a close cooperation with our sister companies.



Establis nv - Barco One Campus





# SUPER POWERED. SUPER EASY.

## UNLEASHING IMAGINATION AND UNLOCKING POSSIBILITIES

SCIA Engineer is one of the world's most powerful and reliable software tools that all structural engineers from students to the most experienced high-end professional users turn to day after day.

## THE WHOLE PROCESS IN ONE MODEL

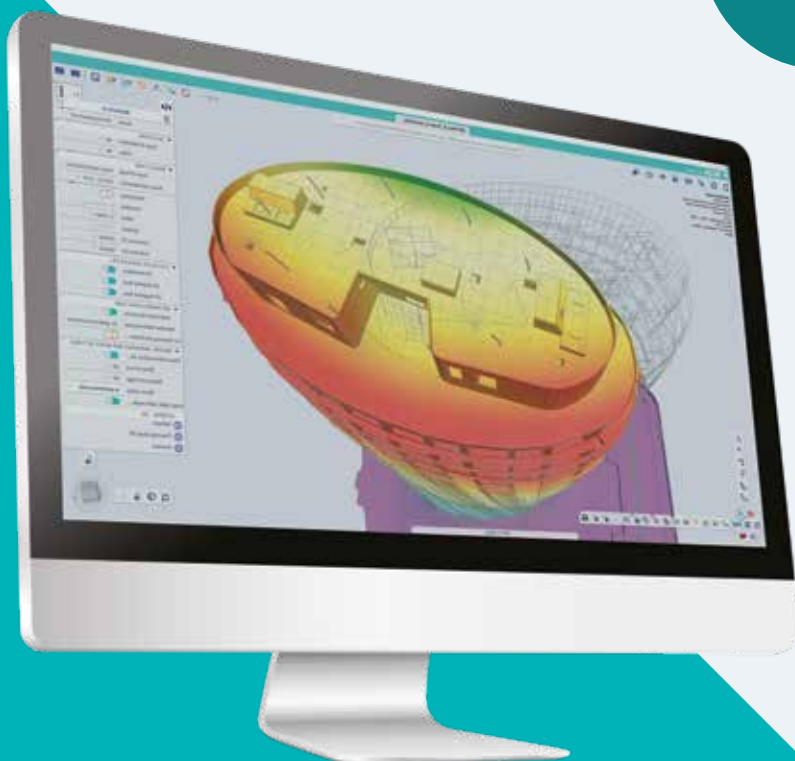
MODELLING

CALCULATION

CODE CHECKS

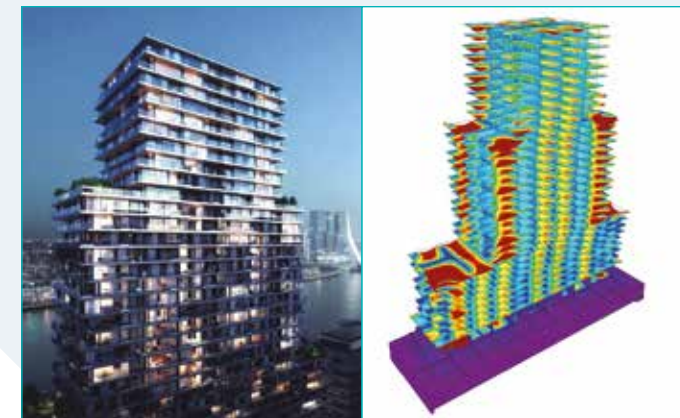
OPTIMISATION

DOCUMENTATION



Create your best structural designs in the most fast, accurate and powerful way, every time, regardless of the structure – from the everyday, to the once in a lifetime.

Besix - Terraced Tower



Hescon - Football Stadium



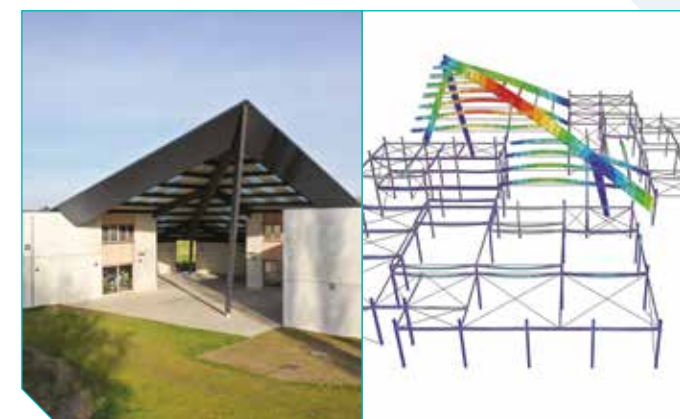
I.d.d. Engineering - Shoaiba II Power Plant



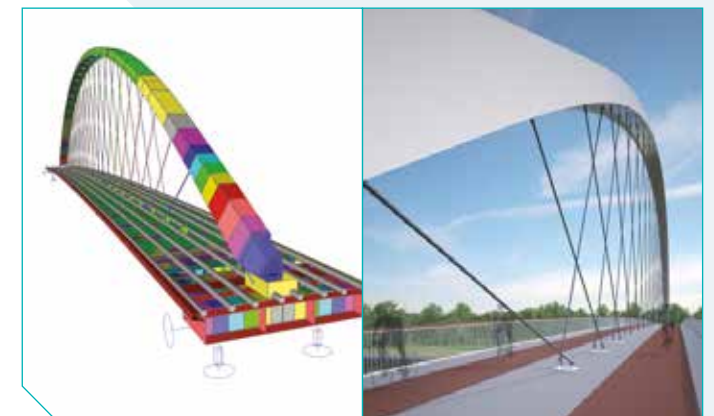
ZT Büro Lener - Rigoletto Stage



Beeuwsaert Construct - Youth Centre



Stendess - Bowstring Bridge



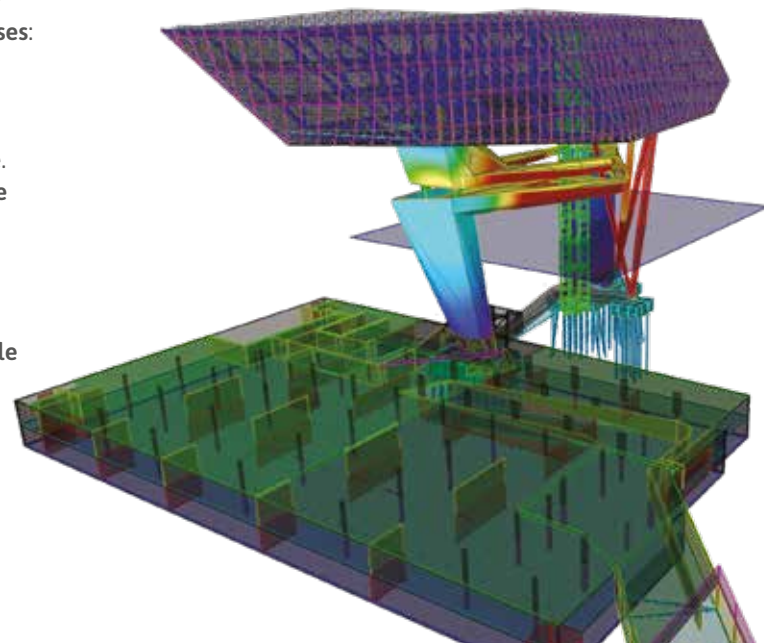
Find out more about SCIA Engineer  
[www.scia.net/en/software/scia-engineer](http://www.scia.net/en/software/scia-engineer)



# WHY SCIA ENGINEER?

## ACCURATE CODE-COMPLIANT RESULTS AND FLEXIBLE CONFIGURATION

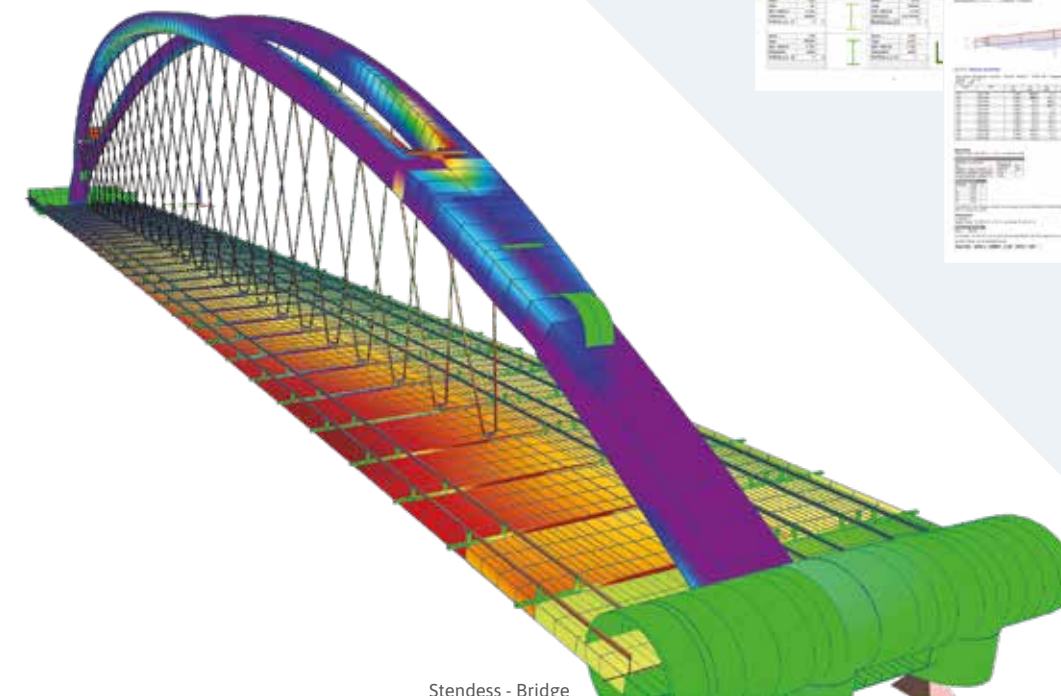
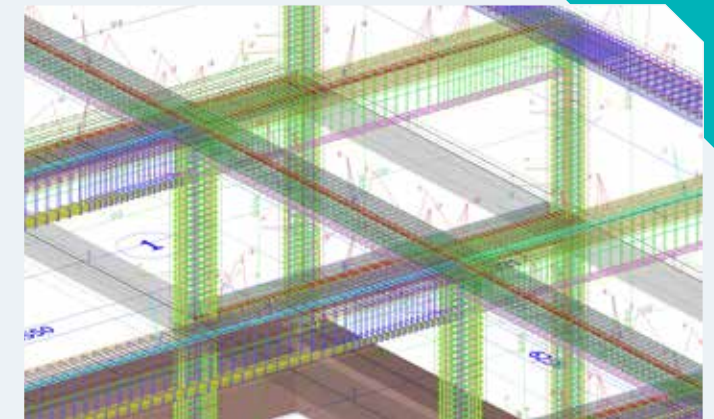
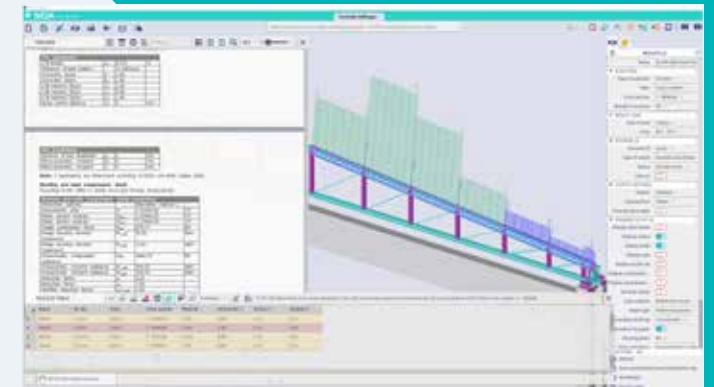
- Feel free to accept any engineering challenge and rely on **accurate results** of basic as well as **advanced analyses**: linear, non-linear, dynamic, stability, seismic, plastic, construction stages, etc.
- Take advantage of manual or automated FE **mesh refinement** guarantying high-quality results every time.
- Deliver safe and economical design **compliant with the latest codes** (Eurocodes including National Annexes, SIA, IBC, NBR, ...) and reflecting the recent research recommendations like SEMI-COMP+.
- Choose the right configuration for the needs of your company thanks to the program modularity and **flexible cloud protection**.



Mouton - Porthouse

## FAST ONBOARDING AND PERMANENT PRODUCTIVITY GAINS

- **Save one hour a day\*** with the revolutionary new interface featuring leading-edge ergonomics, on-demand customisation, SCIA Spotlight, Smart Workstations, and other unique features. (\*compared to a typical structural engineering software)
- **Get rid of repetitive** and manual **tasks** with powerful tools like AutoDesign, ChapterMaker, load generators, etc.
- Maximise your productivity with **templates for typical structures** or their parts. The templates also help you easily follow your company standards and conventions.
- Save your precious time with the intelligent Engineering Report that keeps your **documentation always up to date** and synchronised with the 3D model.
- **Learn fast** – with built-in tutorials and SCIA Spotlight you will utilise the full power of the software in a truly brief time.

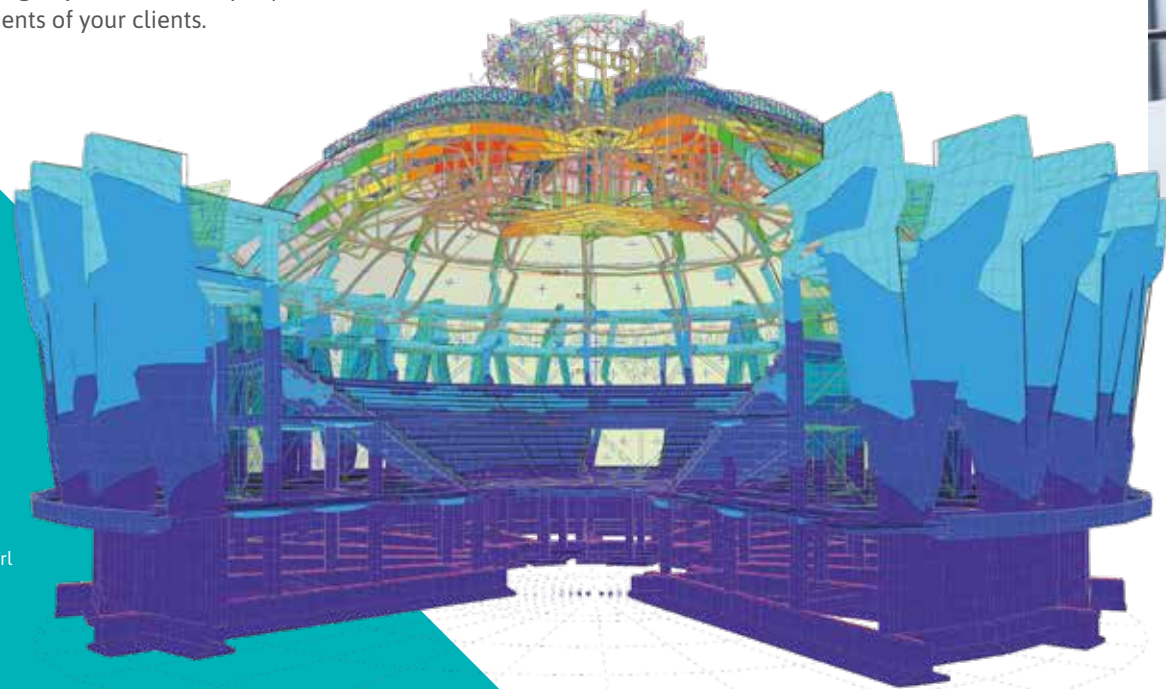


Stendess - Bridge

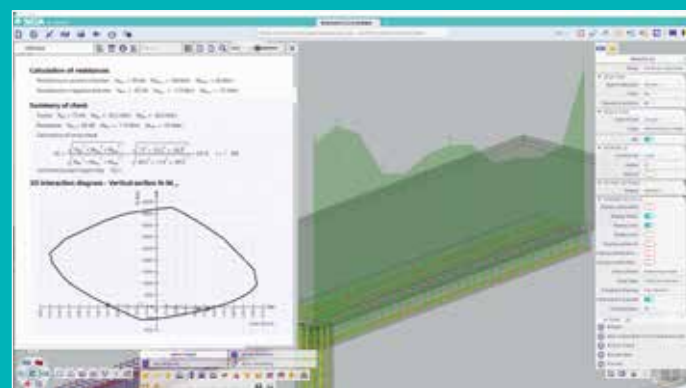


## FULL CONTROL OVER THE MODEL

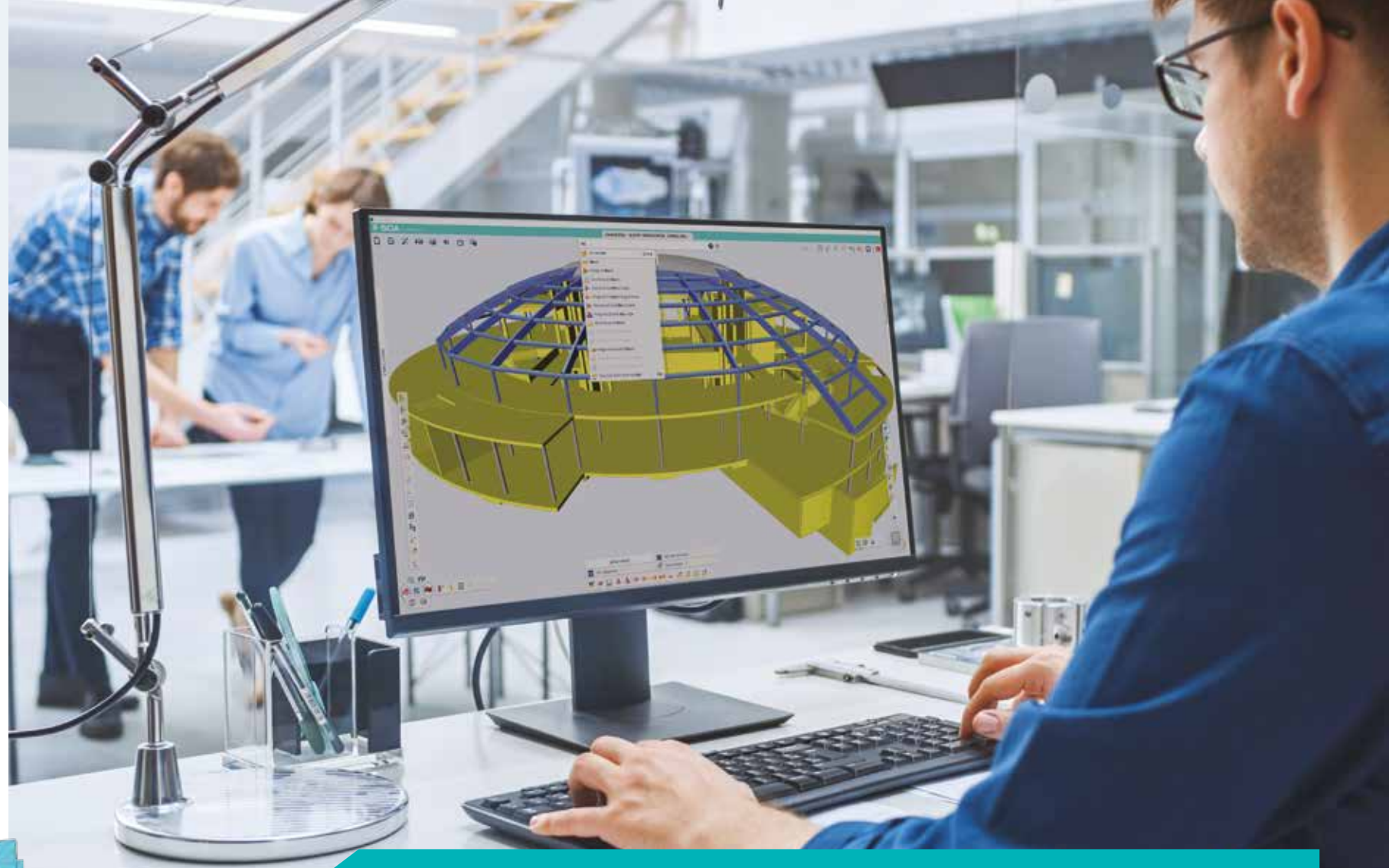
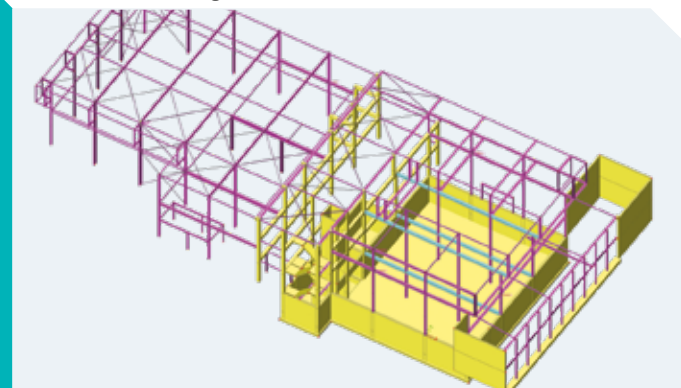
- With a working area covering almost 100% of the screen, all structure details are clearly visible, giving **deep insight** into the model.
- Keep **full control** over the model with both **graphical and tabular representations** of all input data and results.
- Check any detail even in complex geometries with the help of filtering, **smart selections**, advanced visualisation options, etc.
- Customise the display options to scrutinise the result values on screen or check them in clear and sorted **Results Tables**.
- Check all assumptions and follow every calculation step and applied formula in a **detailed code-check report**.
- Customise the final project documentation in the **integrated Engineering Report** to meet any expectations and requirements of your clients.



Grozav Project srl  
Chisinau Circus



Edibo nv - Relex Building



Handle any last-minute changes with ease thanks to automated synchronisation of models and the one-click report update.

## MULTI-MATERIAL DESIGN

- Combine **multiple materials in one model** and handle them in the same way in one unified user environment.
- Get **safe, economical** and clearly documented design for **any material**:
  - reinforced concrete (incl. fibre-concrete)
  - prestressed concrete
  - steel (incl. cold-formed sections and scaffolding)
  - steel-concrete composite floors and columns
  - aluminium
  - timber



Forsgren Associates Inc - Utah Office Warehouse



## | CASE STUDY |

### HEADQUARTERS CORDEEL

CLIENT

**NEY**  
+PARTNERS BXL

ARCHITECT | CREPAIN - BINST ARCHITECTURE

OWNER | CORDEEL ZETEL TEMSE NV

ENGINEERING COMPANY | NEY & PARTNERS

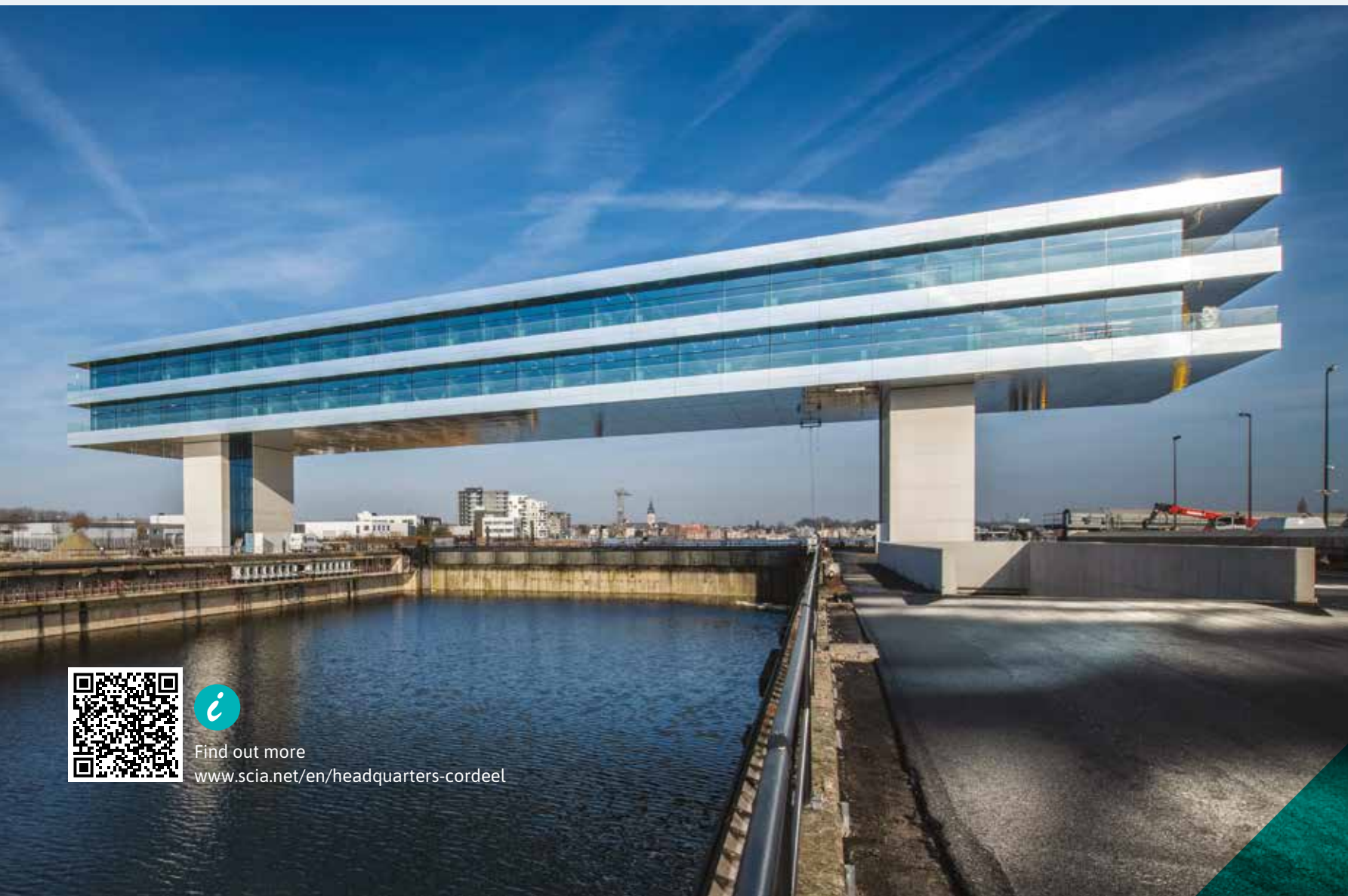
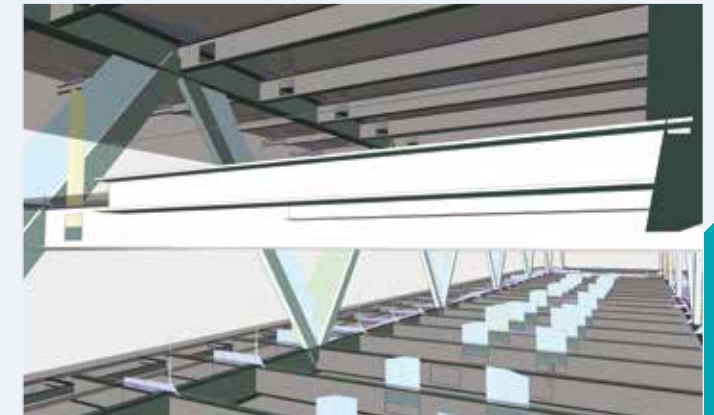
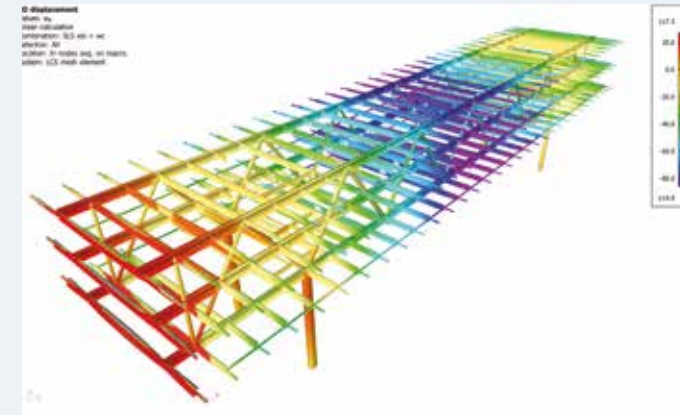
SOFTWARE | SCIA ENGINEER

The main structure of the building consists of two steel trusses of 10 m high and 100 m long. The central span is 72 m, the cantilevers are up to 19.4 m. Both trusses are supported by two hollow steel columns founded on piles. The slender columns allow the steel structure to dilate. The horizontal stability is ensured by composite floors and concrete cores. The central span of the steel structure was assembled next to the dock and then transported, lifted and fixed in its final position. The BIM approach applied for the exchange of data between SCIA Engineer and Allplan allowed for effective and error-free modelling of rebars and produced a refined model with no collisions appearing during execution, which all in turn lead to significant time savings in the construction time.

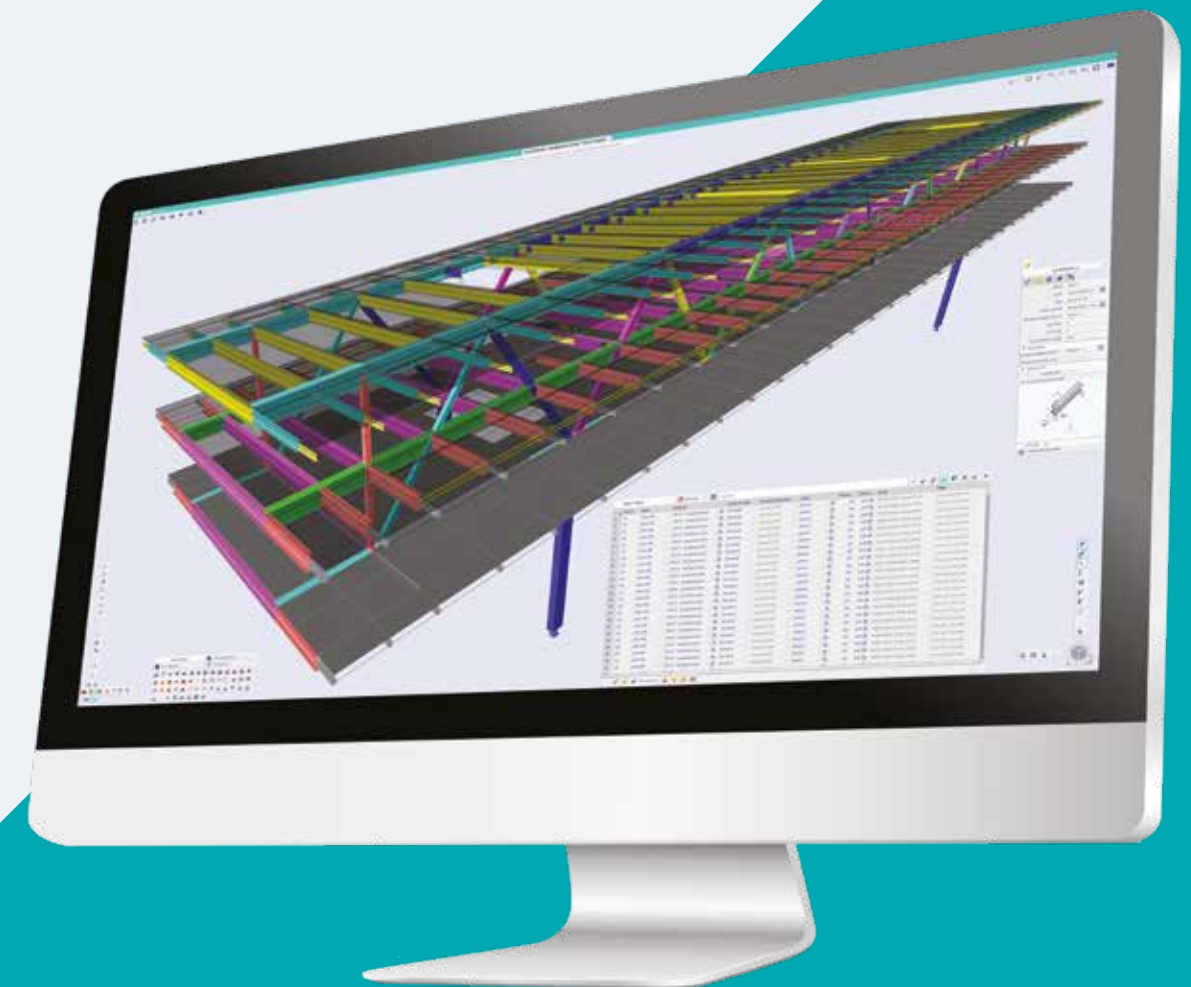
SCIA Engineer was used to determine the foundation and bracing loads, the ULS and SLS design of the steel elements and the connection detailing. In addition, it allowed Ney & Partners to determine the influence of the different temporary stages on the deformations of the structure and their impact on the execution schedule of the glazing and finishing. SCIA Engineer's bill of material was used to make an early budget evaluation.

“  
For this project, SCIA Engineer as an intuitive  
and easy-to-use software, was the best choice.”

Laurent Verheyden, Engineer - Ney & Partners



Find out more  
[www.scia.net/en/headquarters-cordeel](http://www.scia.net/en/headquarters-cordeel)



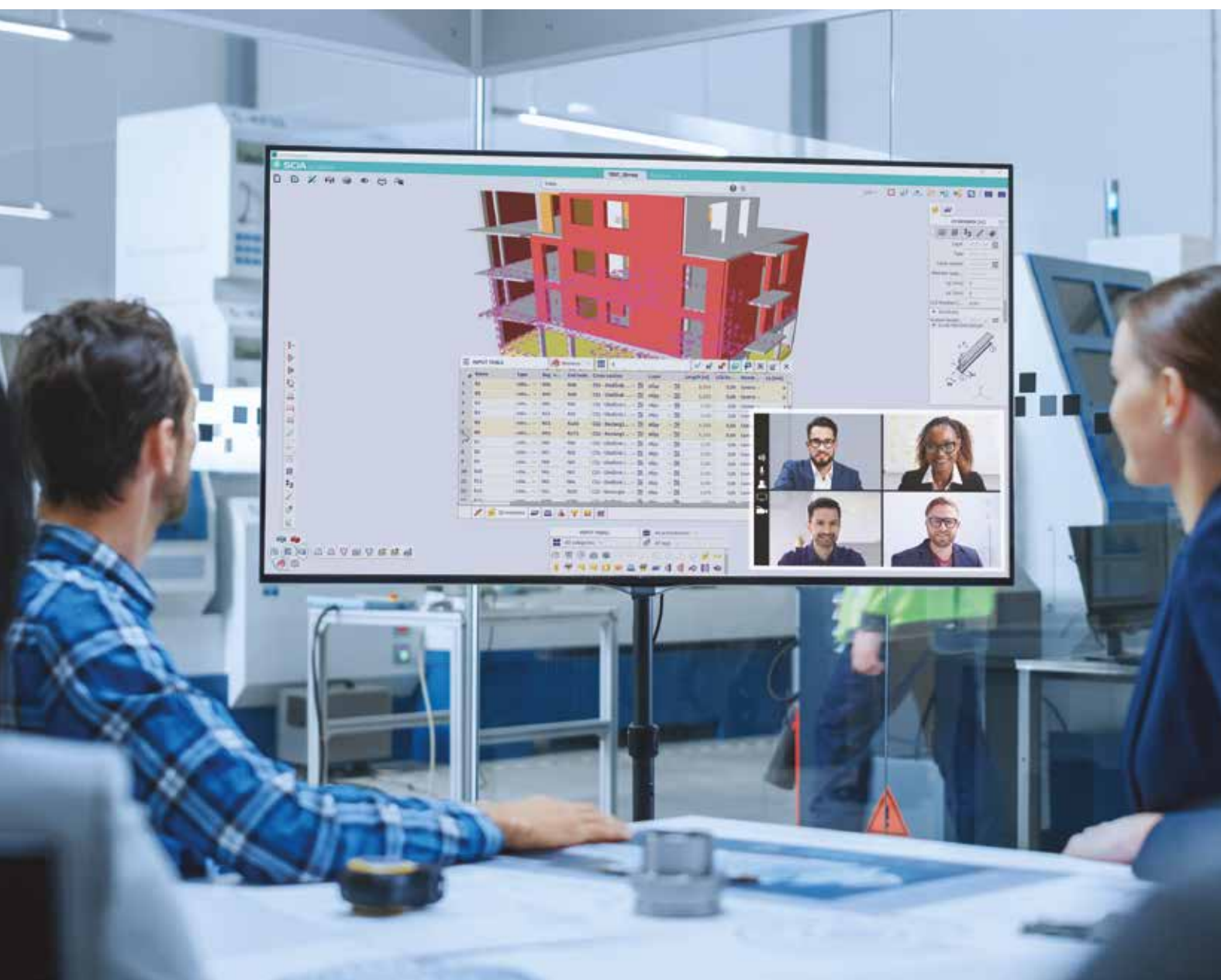


# BIM SOLUTIONS

## MAKING BIM A REALITY

Making BIM a workable reality for structural engineers cannot be done via a 'one-size-fits-all' approach, therefore we offer a number of different solutions for ANY type of engineering workflow, from a federated to an integrated model.

**OPEN BIM™**



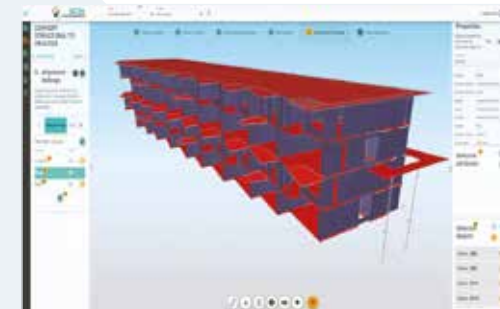
## AVOID REMODELLING AND COLLABORATE EFFECTIVELY WITH SCIA BIM SOLUTIONS

Share models with your preferred CAD application to save time, eliminate errors and minimise data loss. Elevate your productivity to another level.

### TRUE AUTOMATION. FROM STRUCTURAL TO ANALYSIS MODEL

#### SCIA AutoConverter

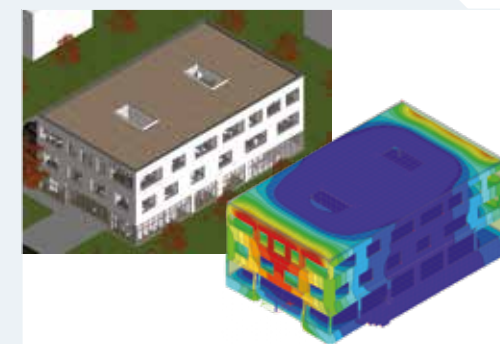
- This true game-changing application **bridges the gap** between engineers and modellers.
- It **automates the conversion** of 3D structural models from any CAD into an accurate analysis model.
- Structural **engineers** are those who **keep full control** over the entire process.
- It maximises data reuse and minimises manual handling – **saving up to 50% of modelling time**.



### THE POWER OF ONE: ONE TEAM – ONE MODEL – ONE BUILDING

#### Integrated Design Solution

- This solution has been developed for companies who look for a **real and effective collaboration** between architects and engineers.
- Teaming up with GRAPHISOFT, SCIA now provides a ground-breaking solution allowing our clients to go further in their collaboration workflow.
- Architects and engineers are now able to **work on ONE single MODEL**, keeping always in synch with each other's work.
- **Every change is tracked** so every team member can understand the genesis path of the project.

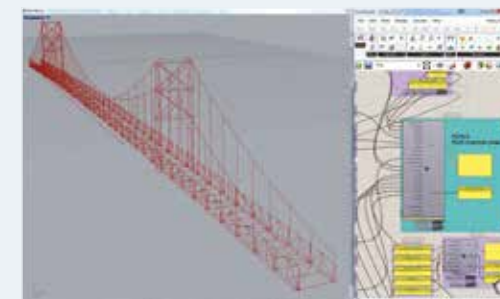


### ADD SCIA ENGINEER TO YOUR WORKFLOW

#### Interoperability with SCIA Engineer

A wide range of integrated links allows for a **smooth and error-free exchange of data** with many CAD applications resulting in highly effective collaboration with all project partners.

- Bi-directional links with **Revit, Tekla Structures and Allplan**.
- Easy **parametric modelling** via plug-in for Rhino3D and Grasshopper.
- **IFC 2x3 and IFC 4** support for sharing of structural models.
- **SAF 2.0** support for exchange of analysis models.
- Other widely used file formats like e.g. SDNF, Frilo GEO, DXF, DWG, VRML.



#### OPEN BIM

OPEN BIM is based upon open standards such as IFC from buildingSMART. SCIA and the Nemetschek Group fully support buildingSMART's OPEN BIM program. We are also fully dedicated to the high-quality standards defined by our OPEN BIM Charter and represented by our OPEN BIM logo.

#### SAF

SAF is a neutral, MS Excel-based, file format allowing structural engineers to easily exchange analysis models between different analysis software. Originally a Nemetschek Group initiative, the SAF open format has already been implemented by many software providers.

#### API & XML

SCIA Engineer's interfaces allow our clients to integrate SCIA Engineer into their bespoke solutions and analyse their projects of any type in the background of specialised tailor-made applications.



Find out more about our BIM solutions  
[www.scia.net/en/software/bim-solutions](http://www.scia.net/en/software/bim-solutions)



# OPEN BIM

## FORTALEZA AIRPORT EXPANSION

CLIENT

**Intertechne**

ARCHITECT | INTERTECHNE CONSULTORES

OWNER | FRAPORT AIRPORT

ENGINEERING COMPANY | INTERTECHNE CONSULTORES

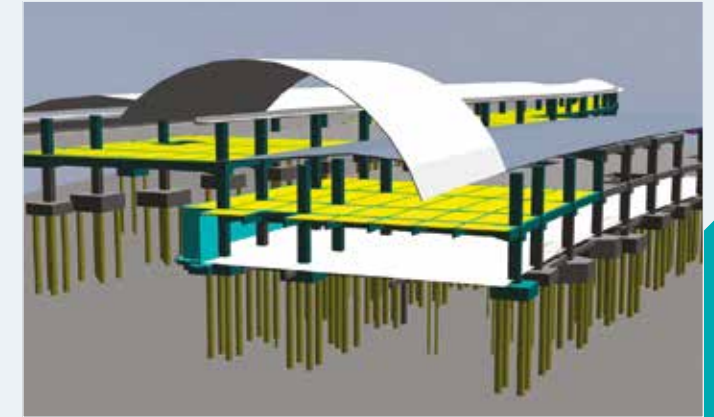
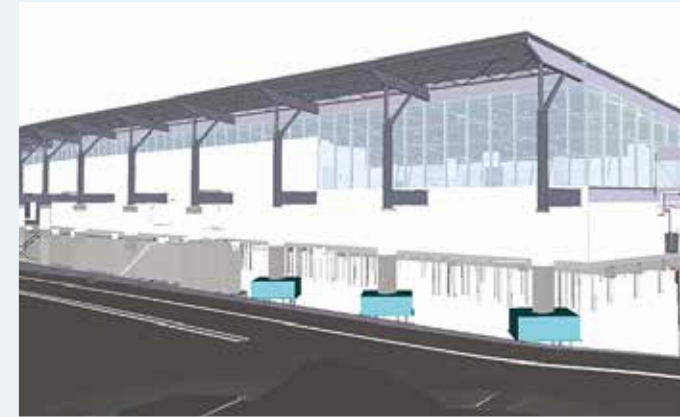
SOFTWARE | SCIA ENGINEER, ALLPLAN, REVIT, TEKLA

The Fortaleza Airport Project consisted of renovation and expansion works for the 68,600 m<sup>2</sup> of the TPS (Passenger Terminal Building), including airside system and access roads. The new operator, Fraport AG, chose INTERTECHNE as the responsible for the basic and executive design for all engineering disciplines in a fast-track project. For the works, it was necessary to evaluate the existing four-floor structure of the TPS, build in cast-in-place concrete with prestressed beams. The expansion used a part of the abandoned structures of the TPS as a starting point for the new pier construction with two floors. For the main access to the passenger terminal, up to 6 m high, a 300 m long curved ramp was built, using precast concrete and steel elements.

When a design must respect an existing structure, it requires an in-depth structural analysis and verification. The BIM workflow with Allplan for modelling and detailing and the plugin for Revit and Tekla played an essential role. The communication with the client, contractor, and the steel structure fabricator allowed us to create a collaborative environment for the assembly studies, resulting in a better design.

*“The OpenBIM philosophy was essential for the success of this project.”*

Kleber Lopreto Tomazetti, Engineer - Intertechne Consultores





# IMAGINATION CALCULATED

SCIA combines structural engineering and design know-how with technology, to provide powerful structural analysis software and high-level support. Together, they enhance the structural engineer's BIM workflow and boost productivity for all types of structures – from the everyday, to the once in a lifetime.

SCIA is part of the Nemetschek Group.



SCIA nv  
Corda 2, Kempische Steenweg 309 / bus 0.03, 3500 Hasselt, BE  
+32 11 948610 - [info@scia.net](mailto:info@scia.net) - [www.scia.net](http://www.scia.net)