



Structural Analysis & Design Software

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Daniel Dlubal, M.Sc.

Co-Organizer

COO

Dlubal Software GmbH



Dipl.-Ing. (FH) Lukas Sühnel

Co-Organizer

Product Engineering & Customer Support
Dlubal Software GmbH



Guido Bauer, BSc.

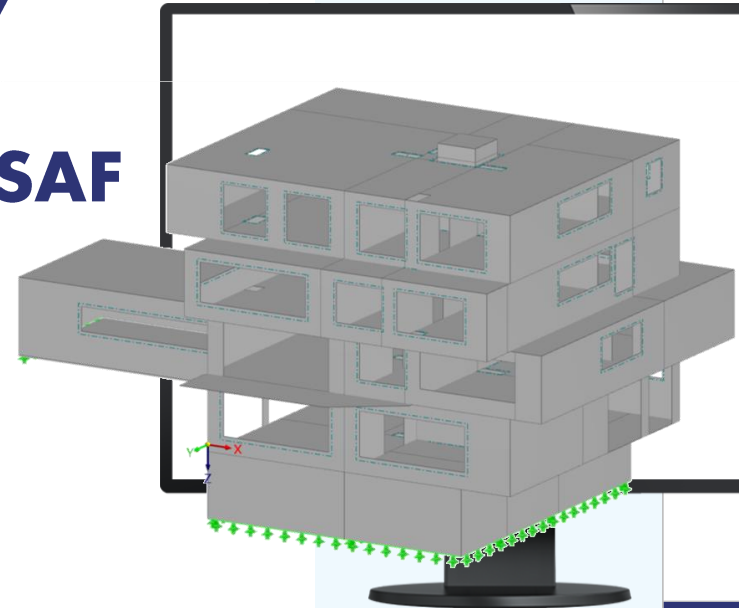
Co-Organizer

Consulting

A-NULL Bausoftware GmbH

Webinar

Interfaces with RFEM 6 Briefly Presented: Archicad and SAF



Questions During the Presentation



GoToWebinar Control Panel
Desktop



E-mail: info@dlubal.com



Show or hide
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Adjust audio
settings



Ask questions



The screenshot shows the GoToWebinar control panel interface. At the top, there is a menu bar with 'File', 'View', and 'Help'. Below it is the 'Audio' section, which includes a 'Sound Check' indicator with a green bar and a question mark. There are two radio buttons: 'Computer audio' (selected) and 'Phone call'. A red 'MUTED' indicator is visible. Below this, there are dropdown menus for 'Mikrofon (2- Sennheiser USB h...)' and 'Lautsprecher (2- Sennheiser U...'. A volume slider is also present. The 'Questions' section is below the audio settings, featuring a text input field with the placeholder '[Enter a question for staff]' and a 'Send' button. At the bottom, the 'Webinar ID: 373-901-987' and the 'GoToWebinar' logo are displayed.



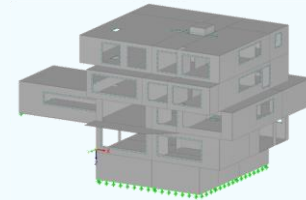
CONTENT



01 Structural evaluation and optimization of a reinforced concrete building in Archicad

02 Presentation of new SAF format

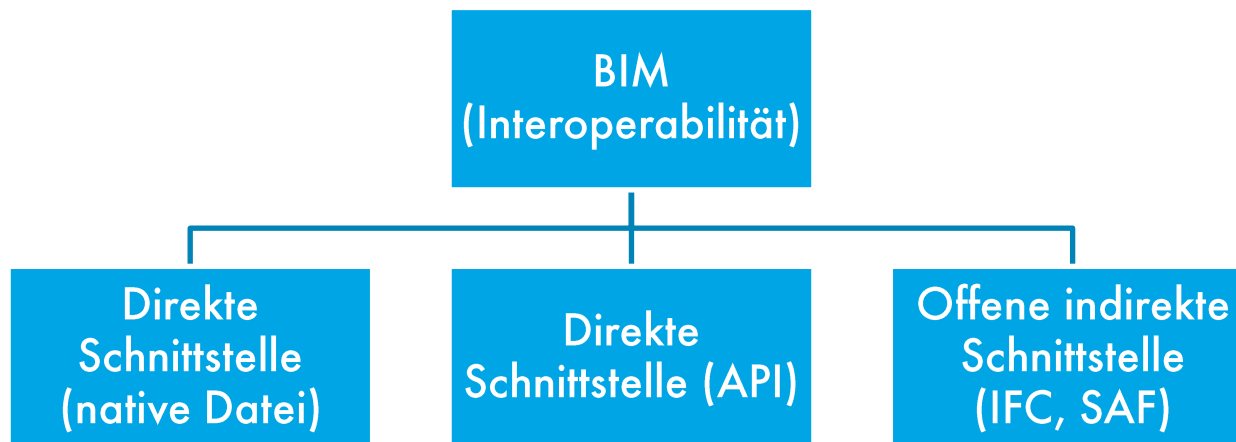
03 Data exchange between Archicad and RFEM 6 using SAF interface





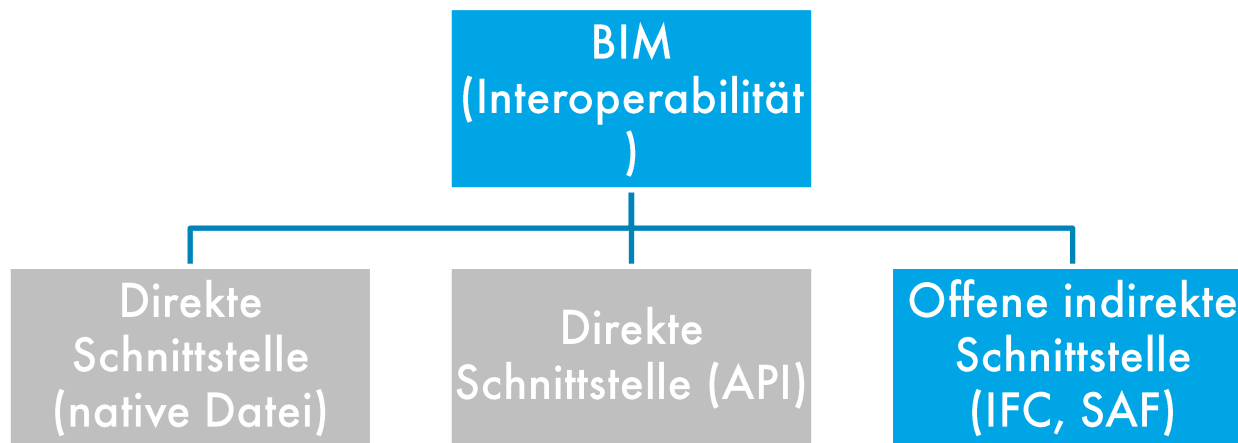
Interoperabilität

„Die Fähigkeit, Daten zwischen Anwendungen möglichst verlustfrei auszutauschen.“





Offene und indirekte Schnittstellen





IFC – Industry Foundation Classes

Besonders gut geeignet für:

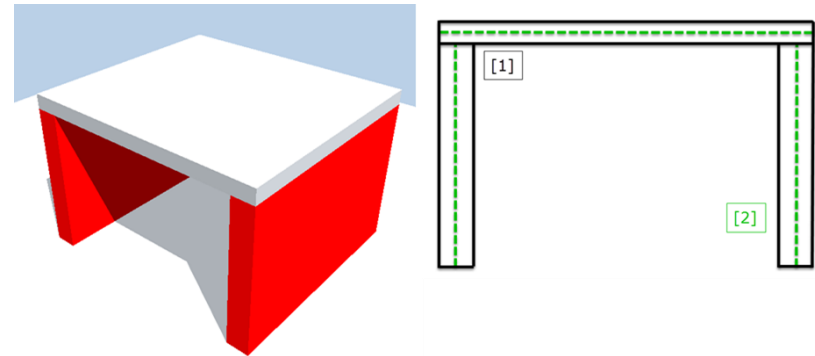
- Erstellung von Koordinationsmodellen
- Durchführung von Kollisionsprüfungen
- Mengen- und Kostenermittlungen
- Visuelle Simulationen



IFC – Industry Foundation Classes

Schwierigkeiten

- **Physikalisches Strukturmodell und idealisiertes Analysemodell (Reference View/Coordination View & Structural Analysis View)**

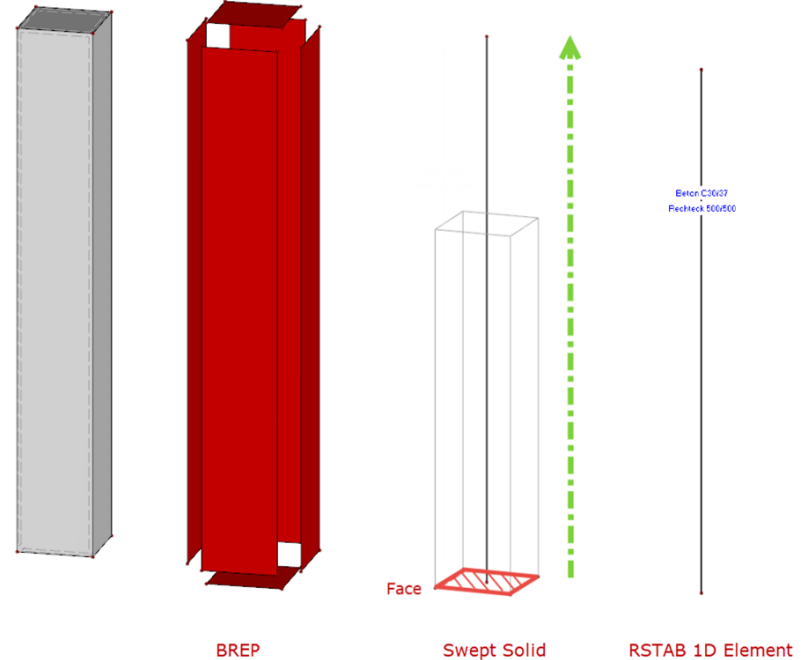




IFC – Industry Foundation Classes

Schwierigkeiten

- **Physikalisches Strukturmodell und idealisiertes Analysemodell (Reference View/Coordination View & Structural Analysis View)**

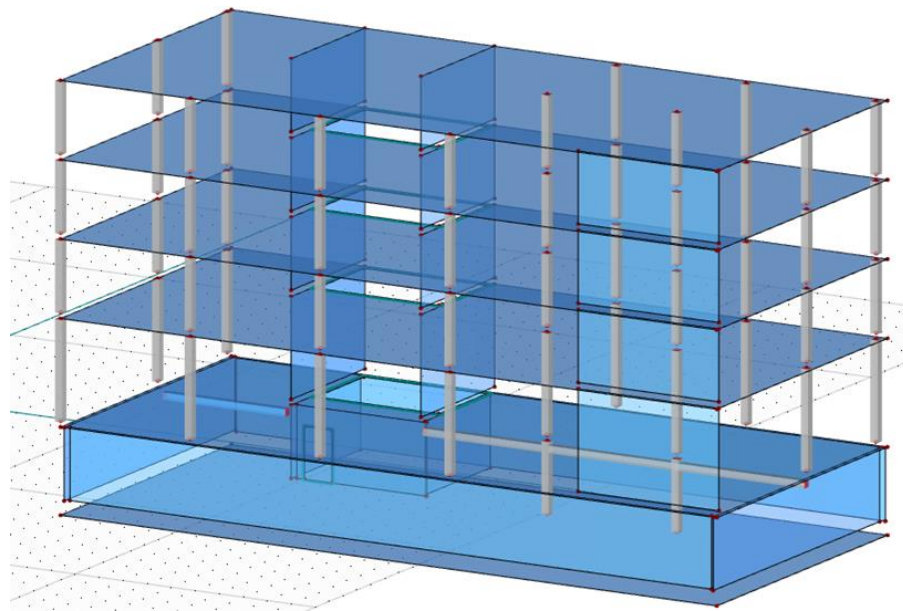




IFC – Industry Foundation Classes

Schwierigkeiten

- **Physikalisches Strukturmodell und idealisiertes Analysemodell (Reference View/Coordination View & Structural Analysis View)**
- **Keine Implementierung des IFC Structural Analysis View in der CAD-Welt**

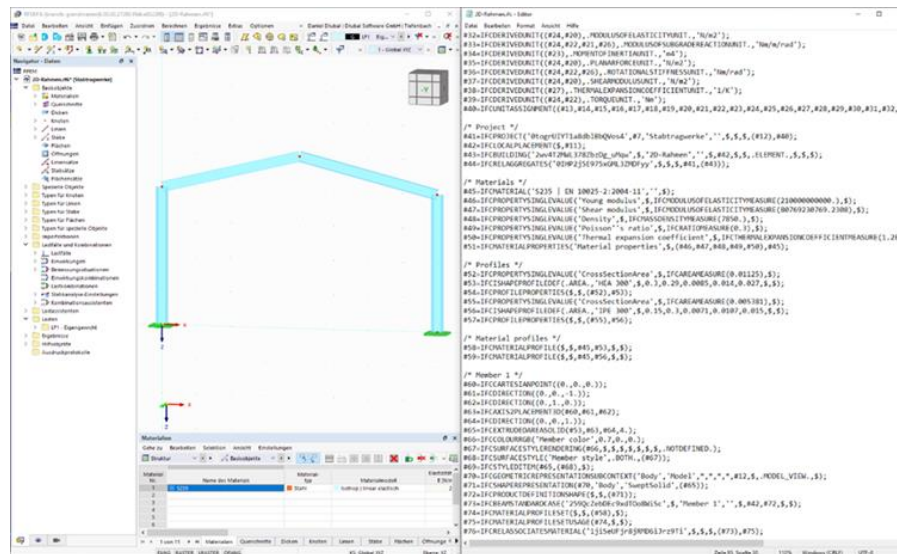




IFC – Industry Foundation Classes

Schwierigkeiten

- **Physikalisches Strukturmodell und idealisiertes Analysemodell (Reference View/Coordination View & Structural Analysis View)**
- **Keine Implementierung des IFC Structural Analysis View in der CAD-Welt**
- **Komplexes, großes und schwer lesbares IFC-Format**





SAF – Structural Analysis Format

Allgemeines

- Excel-basiertes Austauschformat
- Fokus auf Austausch von Statikmodellen
- Entwickelt von SCIA und Nemetschek



SAF – Structural Analysis Format

Aufbau

- Excel-Struktur

	A	B	C	D	E	F	G	H	I	J	K	L
1	Name	Cross section	Arbitrary definitio	Type	Nodes	Segments	Begin noe	End noe	Internal node	Length [m]	Geometrical sha	LCS
2	B1	CS1	AD1	Column	N11;N12	Line	N11	N12		3,600	Line	Y by vector
3	B2	CS12		Column	N13;N14	Line	N13	N14		3,600	Line	Y by vector
4	B3	CS23		Column	N15;N17	Line	N15	N17		3,600	Line	Y by vector
5	B4	CS27		Column	N16;N18	Line	N16	N18		3,600	Line	Y by vector
6	B5	CS28		Column	N9;N12	Line	N9	N12		4,000	Line	Y by vector
7	B6	CS28		Column	N12;N14	Line	N12	N14		4,000	Line	Y by vector

Zeile = 1 Instanz

StructuralCurveMember

Spalte = Attribut

Zelle = Wert

Blatt/Liste = Objekt

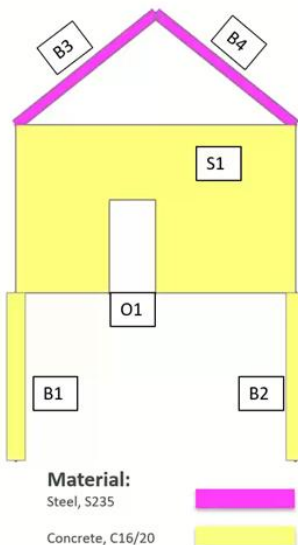


SAF – Structural Analysis Format

Aufbau

- Excel-Struktur
- Relationale Datenbank
- Objektbeziehungen
- Unterstützte Elementtypen (Strukturdaten, Lasten, Gelenke, Auflager, 1D-Ergebnisse - Stabschnittgrößen)

STRUCTURAL MATERIAL

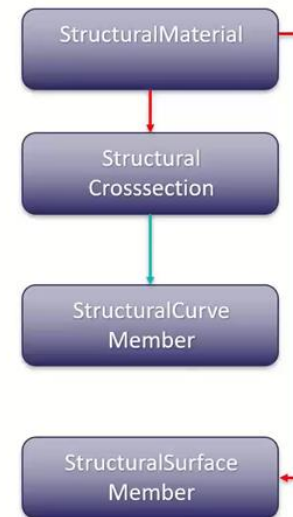


	A	B	C	D
1	Name	Type	Subtype	Quality
2	C25/30	Concrete		C25/30
3	S 235	Steel		S 235
4				

	A	B	C
1	Name	Material	Cross-section Typ.
2	CS1	C25/30	Parametric
3	CS2	S 235	Manufactured
4			

	A	B	C
1	Name	Cross section	Arbitrary definition
2	B1	CS1	
3	B2	CS1	
4	B3	CS2	
5	B4	CS2	
6			

	A	B	C
1	Name	Material	Type
2	S1	C16/20	Wall
3			





SAF – Structural Analysis Format

Chancen, Möglichkeiten und Vorteile

- Einfaches und leicht verständliches Format
- Kleines Dateiformat
- Geeignet für den Austausch von Statikmodellen
- Kombiniert mit IFC sehr effektiv

SAF Implementation

SAF Implementation	SCIA	FRILO	Graphisoft	Risa	Radimpex	LIRA SAPR SAPHIR	AxisVM	FEM-Design	Sofistik
Supported version	1.0.5	1.0.5	1.0.5 - 2.0.0	2.0.0	2.0.0	2.0.0	1.0.5	1.0.5	2.0.0
Import	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Export	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No

SAF Implementation

Structural analysis elements	SCIA	FRILO	Risa	Radimpex	LIRA SAPR SAPHIR	AxisVM	FEM-Design	Sofistik
StructuralMaterial	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
StructuralCrossSection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CompositeShapeDef	Yes	Yes	Yes	Yes	Yes	Yes	No	No
StructuralPointConnection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
StructuralCurveEdge	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
StructuralCurveMember	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
StructuralCurveMemberVarying	Yes	No	No	Yes	Yes	Yes	No	No
StructuralCurveMemberRib	Yes	Yes	No	Yes	Yes	Yes	No	No
StructuralSurfaceMember	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



SAF – Structural Analysis Format

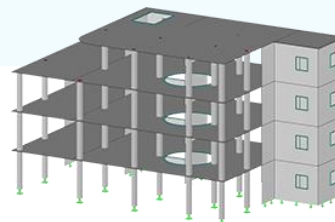
Mehr Informationen

- <https://www.saf.guide/en/stable/>



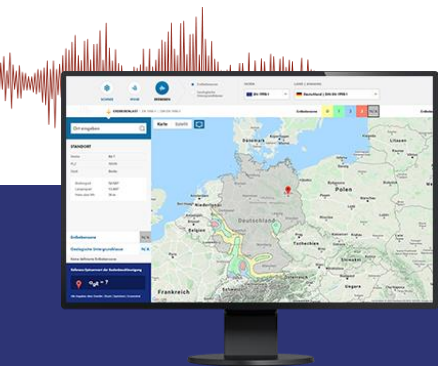


Free Online Services



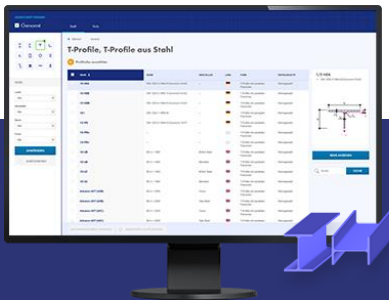
Geo-Zone Tool

Dlubal Software provides an online tool with snow, wind and seismic zone maps.



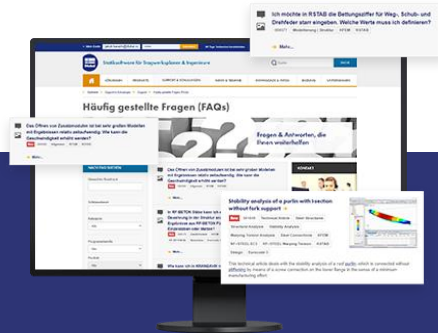
Cross-Section Properties

With this free online tool, you can select standardized sections from an extensive section library, define parametrized cross-sections and calculate its cross-section properties.



FAQs & Knowledge Base

Access frequently asked questions commonly submitted to our customer support team and view helpful tips and tricks articles to improve your work.



Models to Download

Download numerous example files here that will help you to get started and become familiar with the Dlubal programs.





Free Online Services

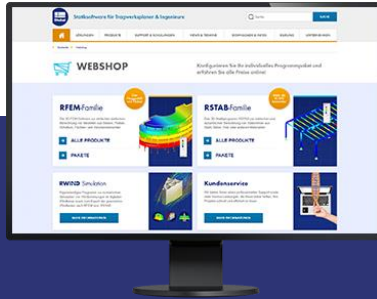
Youtube Channel - Webinars, Videos

Videos and webinars about the structural engineering software.



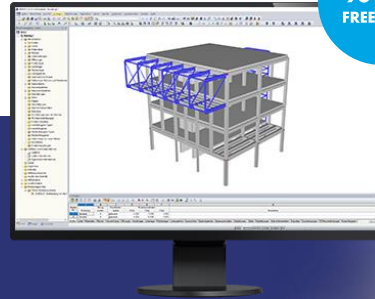
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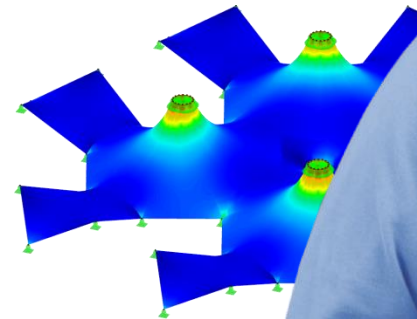
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Am Zellweg 2,
93464 Tiefenbach, Germany

Phone: +49 9673 9203-0
E-mail: info@dlubal.com



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