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Structural Analysis & Design Software

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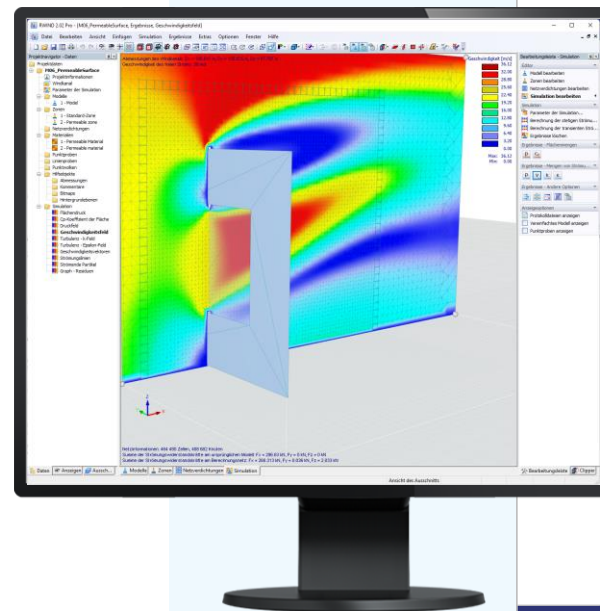Dlubal Software GmbH

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Webinar

Wind Simulation in RWIND 2:

Modeling, Wind Load Generation, and Documentation

Questions During the Presentation

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CONTENT

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New Features in RWIND 2.02 Pro

- Permeable Surfaces

- Load factor for Zones

- Point Clouds/ Flowing Particles

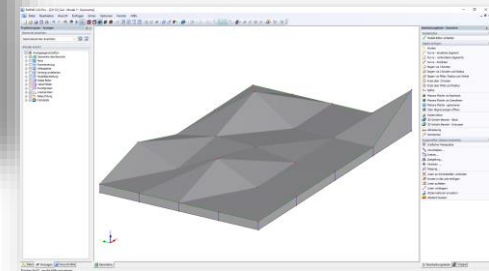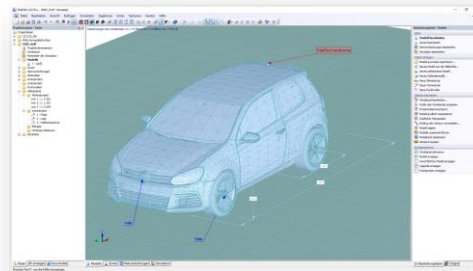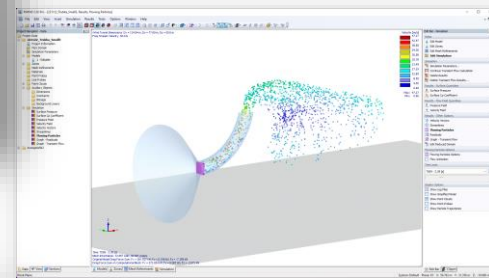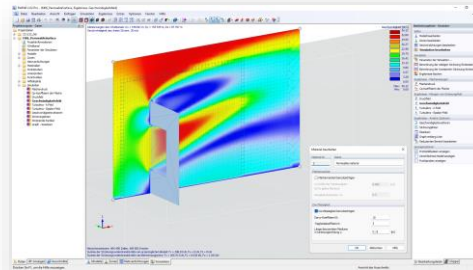- Convergence Criterion – New Residual Type "Drag Force Difference"

- Extended Model Information

- New Auxiliary Objects

- Graphic Model Editor

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Permeable surfaces

- Definition of Parameters

  D   Darcy Coefficient
  I   Inertial Coefficient
  L   Permeable media length in the flow direction

- Boundary condition, a prescribed pressure drop on defined surfaces

- No fine modelling/ meshing of the permeable structure necessary

- Simulation of permeable scaffolding tarpaulins, dust protection curtains and mesh constructions

$$D = \frac{1}{\alpha} \qquad I = \frac{C_F}{\sqrt{\alpha}}$$

α ... Permeability $[\mathrm{m}^2]$

C_F ... Forchheimer Parameter

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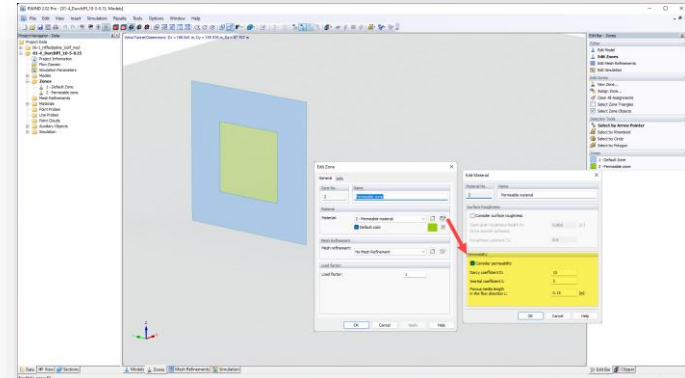
Load factor for Zones
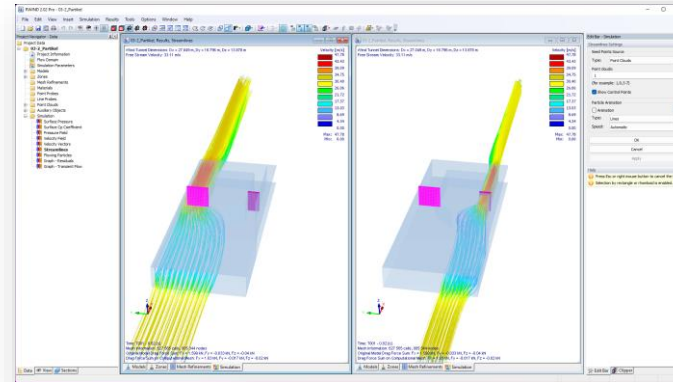
- Post processing factor by which the resulting load of a zone can be multiplied

- Ability to increase/ decrease loads on custom model areas

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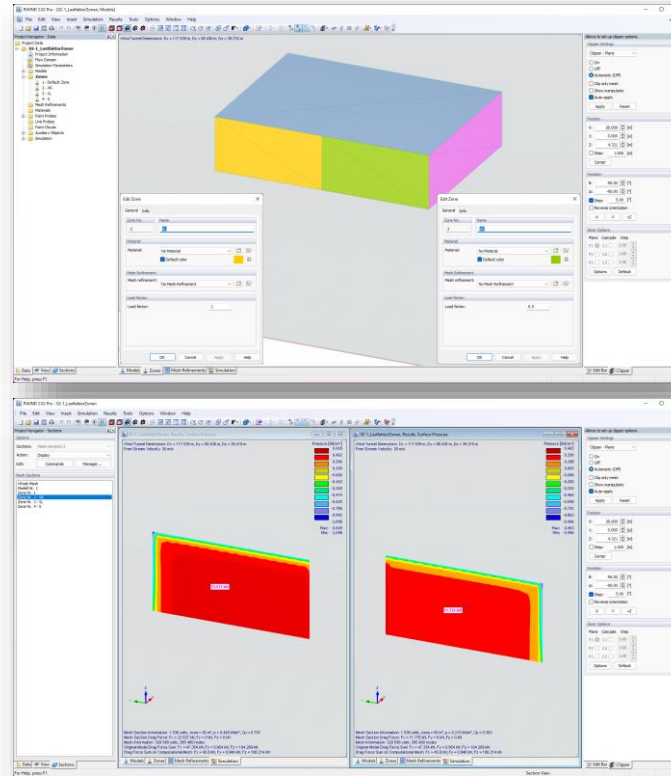
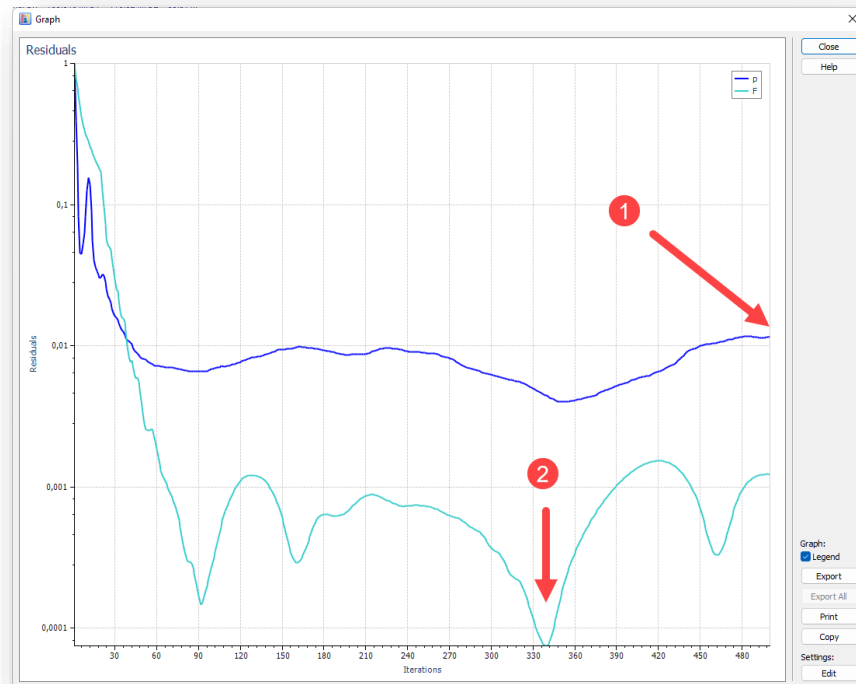# Point Clouds/ Flowing Particles

- Point Clouds

    - Sources for the generation of streamlines or flowing particles

- Flowing Particles

    - Can be traced in the transient calculation

    - Display in any time layer

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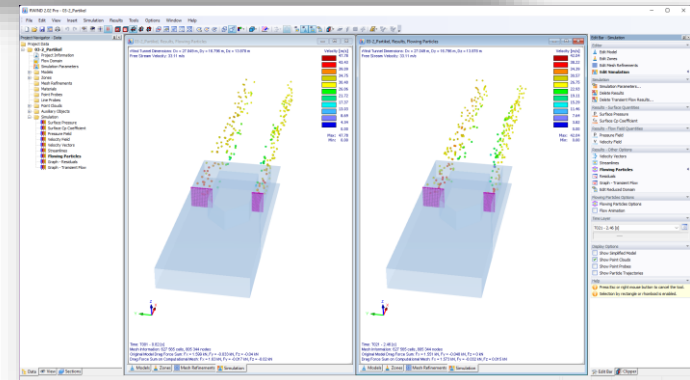
Convergence

- Stop limit for the calculation

- New type "Difference in drag force"

    - Related to the primary model

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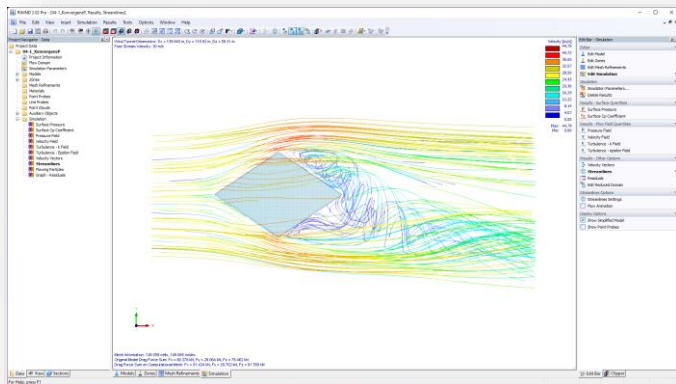
Extended Model Information

- Model area

- Projected area in YZ and XY

  - Primary Model

  - Simplified Model

- Drag coefficient downwind from the primary model

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New Auxiliary Objects
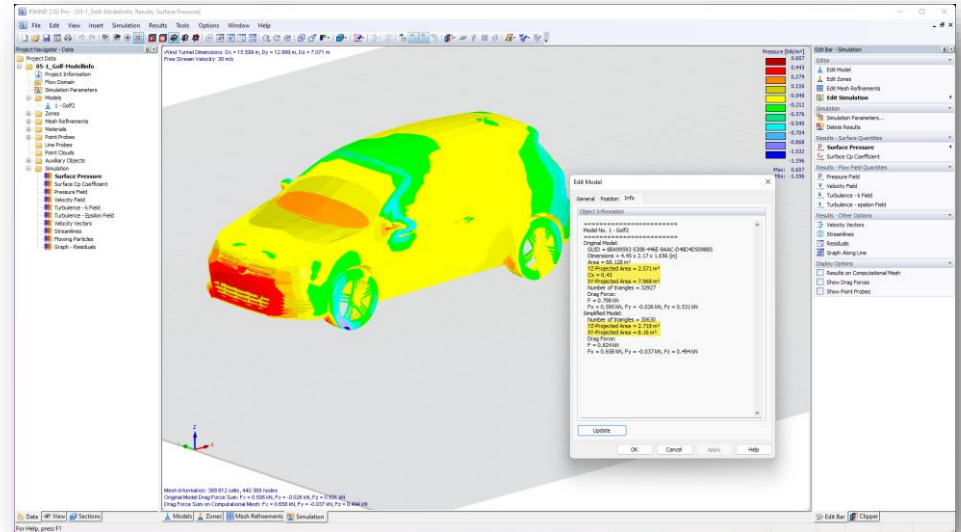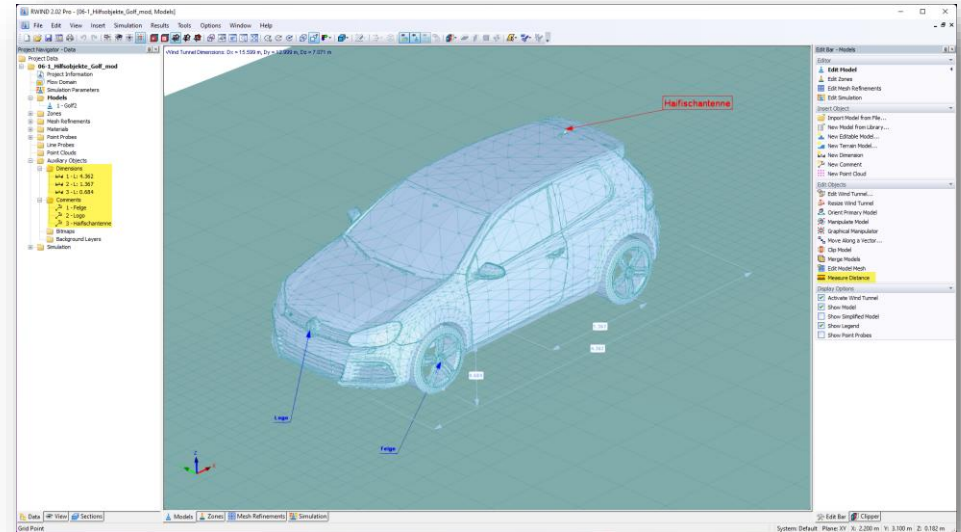
- Dimensions

  - on model objects or on the mesh surface

- Comments

  - free or attached to objects

- Measure Distance

  - Polyline

  - Distance between points on model objects or on the mesh surface

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Graphical Model Editor

- Create Model

  - Model topology based on graphic objects

    - Nodes, Curves, Surfaces and Solids

  - Modelling Tools

    - Copy, Rotate, Mirror …

- Create Terrain

  - Terrain topology based on graphic objects and thickness vectors

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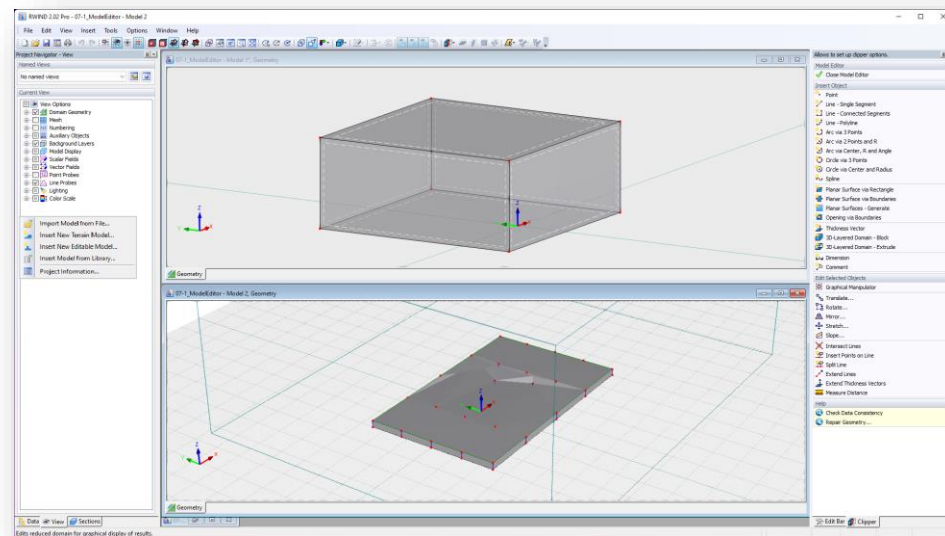
Prospect

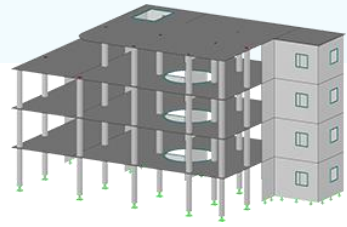- Import experimental wind tunnel test data

  - Validate investigations

  - Transfer test data to RFEM 6 as well

- Time step calculation and transfer to RFEM 6

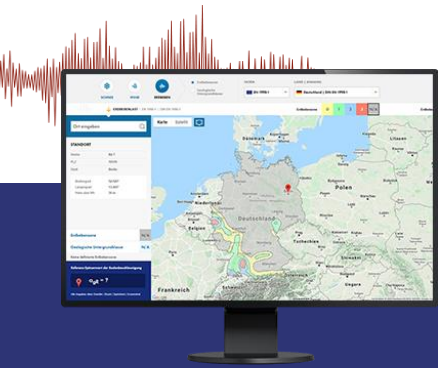- Envelope of the results

  - For time steps or wind directions

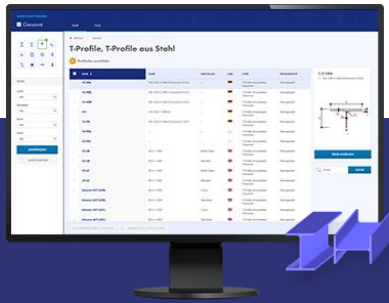Webinar

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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.

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

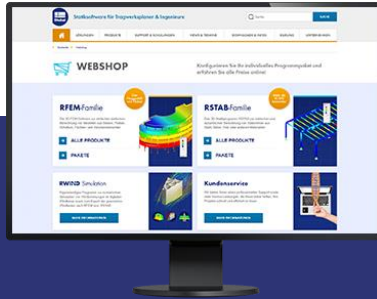Webinar

Free Online Services

Youtube Channel - Webinars, Videos

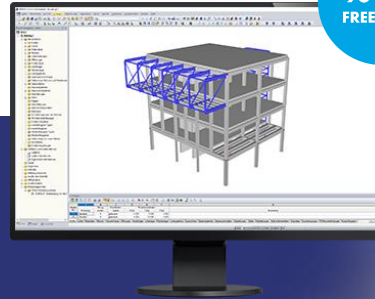Videos and webinars about the structural engineering software.

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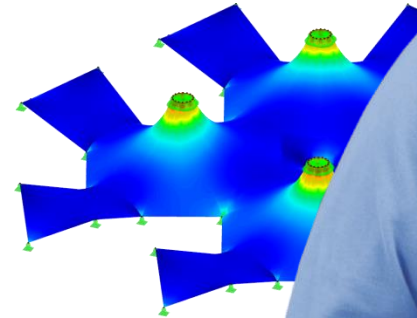

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