

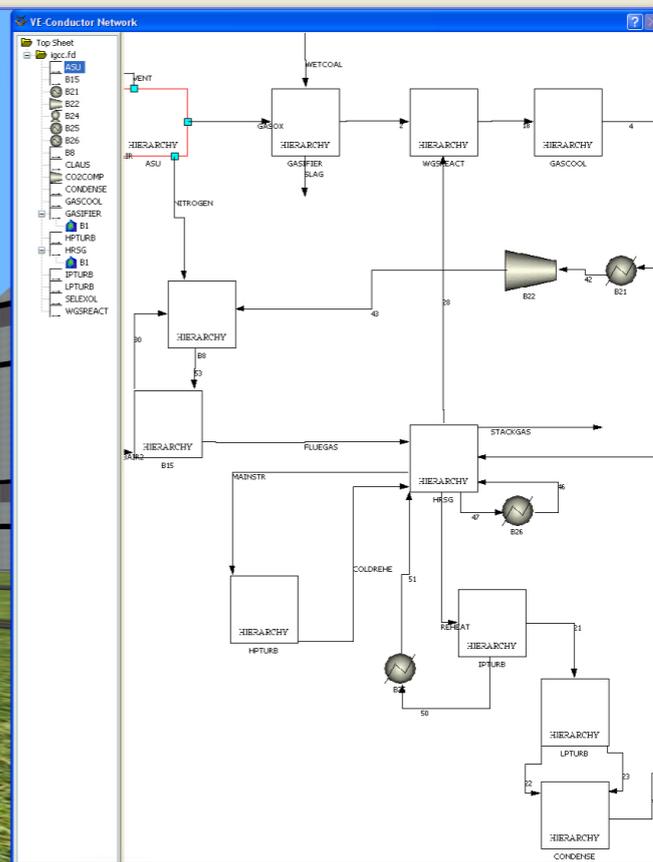
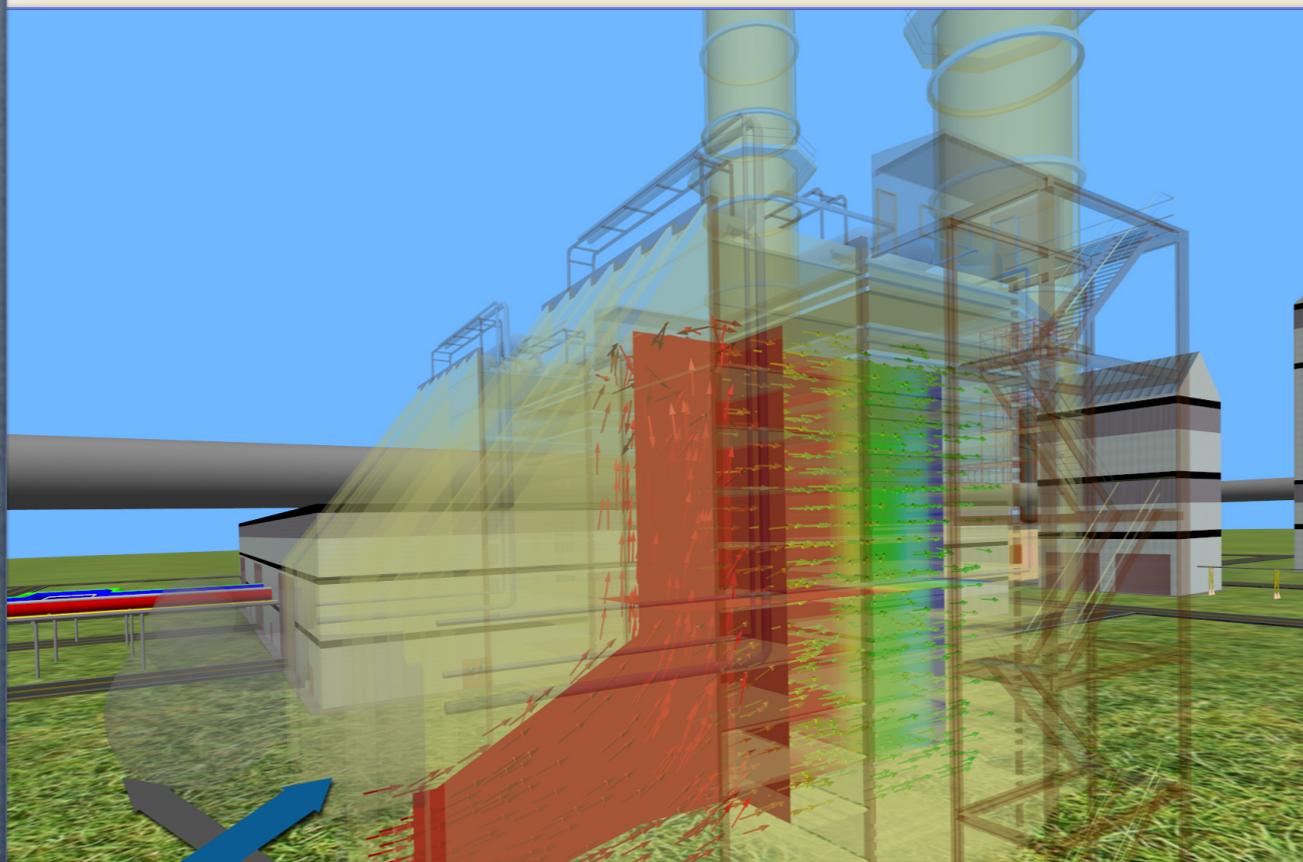
# Integration of APECS with VE-Suite for Virtual Plant Simulation

2009 APECS Meeting

gpcfd.vss

File Edit Connections Execution VE Explorer Help

11:22:28: Loaded file: CAD\selevel.vss  
 11:22:28: Loading file: CAD\selevel.building.vss  
 11:22:29: Loaded file: CAD\selevel.building.vss  
 11:22:29: Finished loading data in VE Explorer.



**VE-PSI**  
 Process Simulator Interface

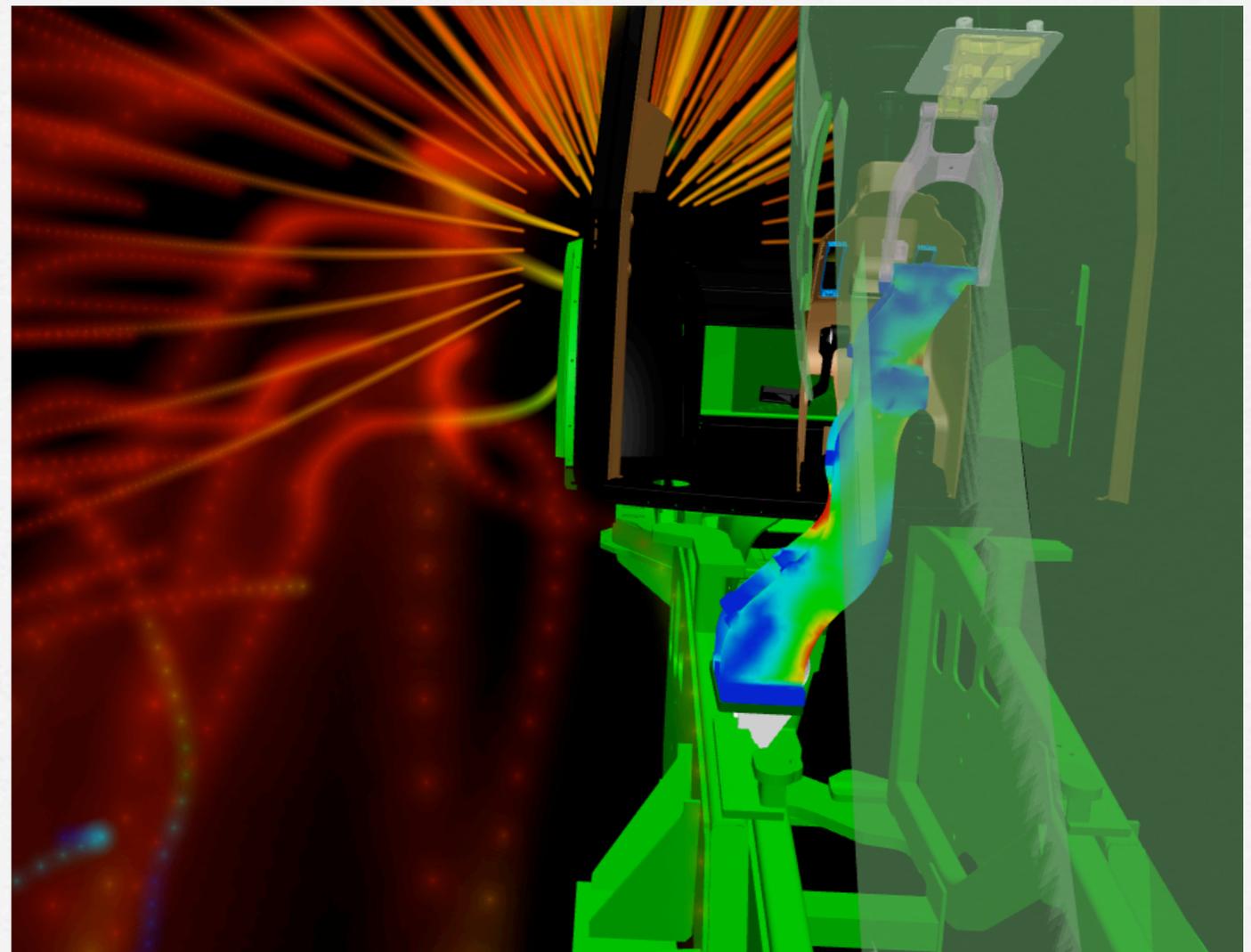
# Goals

- Real time integration
- Support automatic loading
- Generic interface



# Potential Applications

- Design
- Training
- Data overlay for operations
- ...



# Team

□ NETL

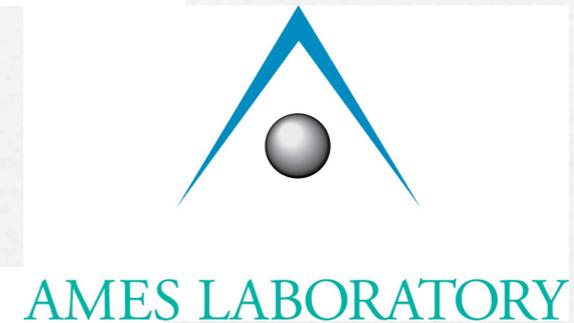


□ Reaction  
Engineering



**REACTION  
ENGINEERING  
INTERNATIONAL**

□ Ames Lab



□ ANSYS/FLUENT



# Current Software



# VE-Suite

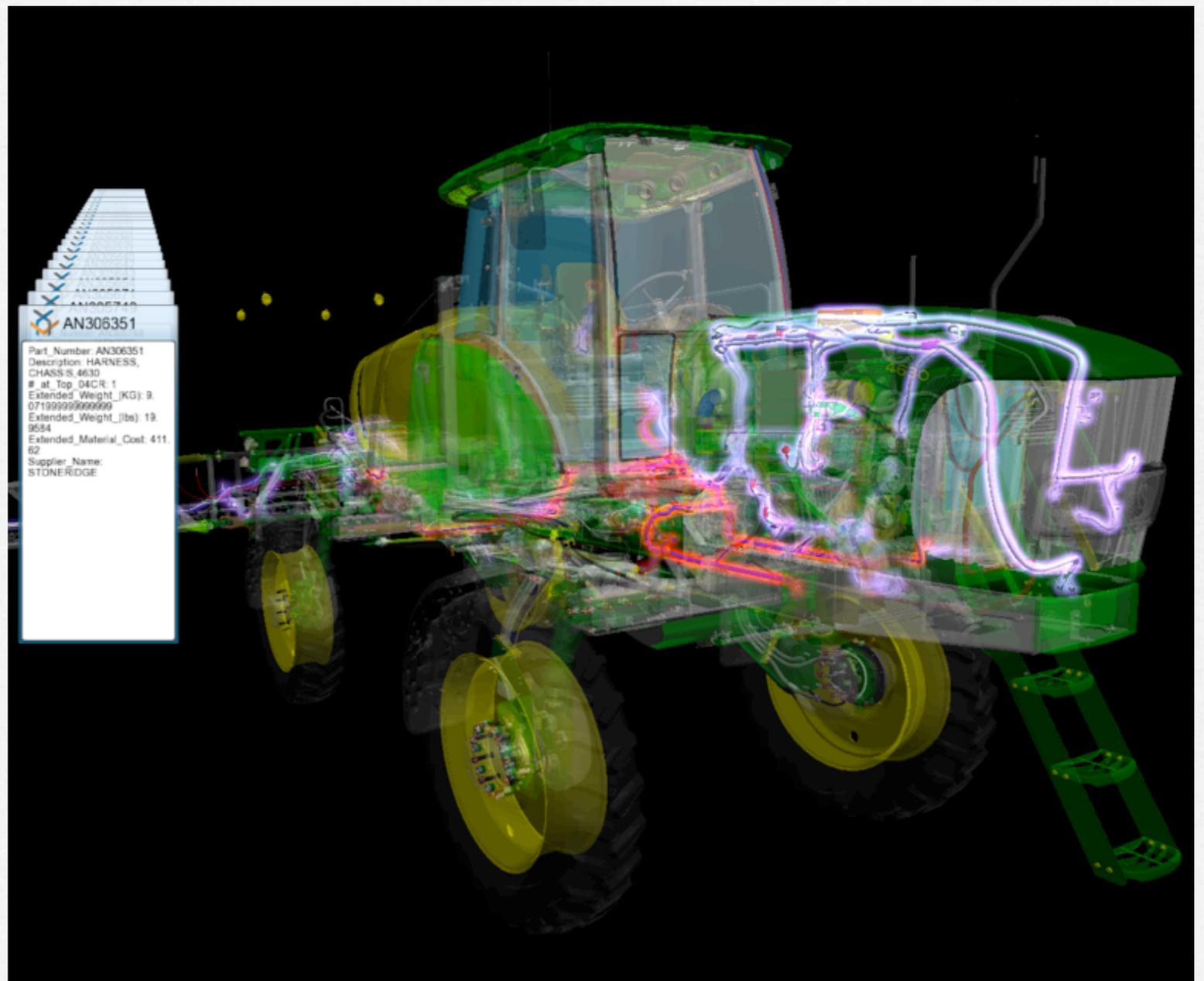
- Common user environment
- Deployment mechanism
- Enables project stakeholders to share experiences

The screenshot shows the VE-Suite website homepage. At the top is the VE-Suite logo, which consists of a stylized 'V' and 'S' in blue and orange. To the right of the logo is the text 'VE-Suite'. Below the logo and text is a navigation bar with links for 'Application Gallery', 'Community', 'Contact', 'Developer', 'Forum', and 'Support'. The main content area features the heading 'VE-Suite' and the tagline 'Powering the Future'. Below this is a paragraph of text: 'VE-Suite is an open source library of tools that enables the virtual engineering process to take place. VE-Suite is being developed at Iowa State University by The Virtual Engineering Research Group under the direction of Professor Mark Bryden.' To the right of this text is a 'Download VE-Suite' button. Below the text is an 'R&D 100' logo and a quote: 'VE-Suite's Texture-Based technology (TBET) has been recognized as one of the top 100 technological innovations of 2006 by R&D Magazine.' At the bottom of the screenshot is a section titled 'Applications' with a sub-heading 'Harvesting Equipment' and the description 'Interactive design to support selective harvest of biomass fraction.' Below this text are four small images showing 3D models of harvesting equipment and biomass processing.

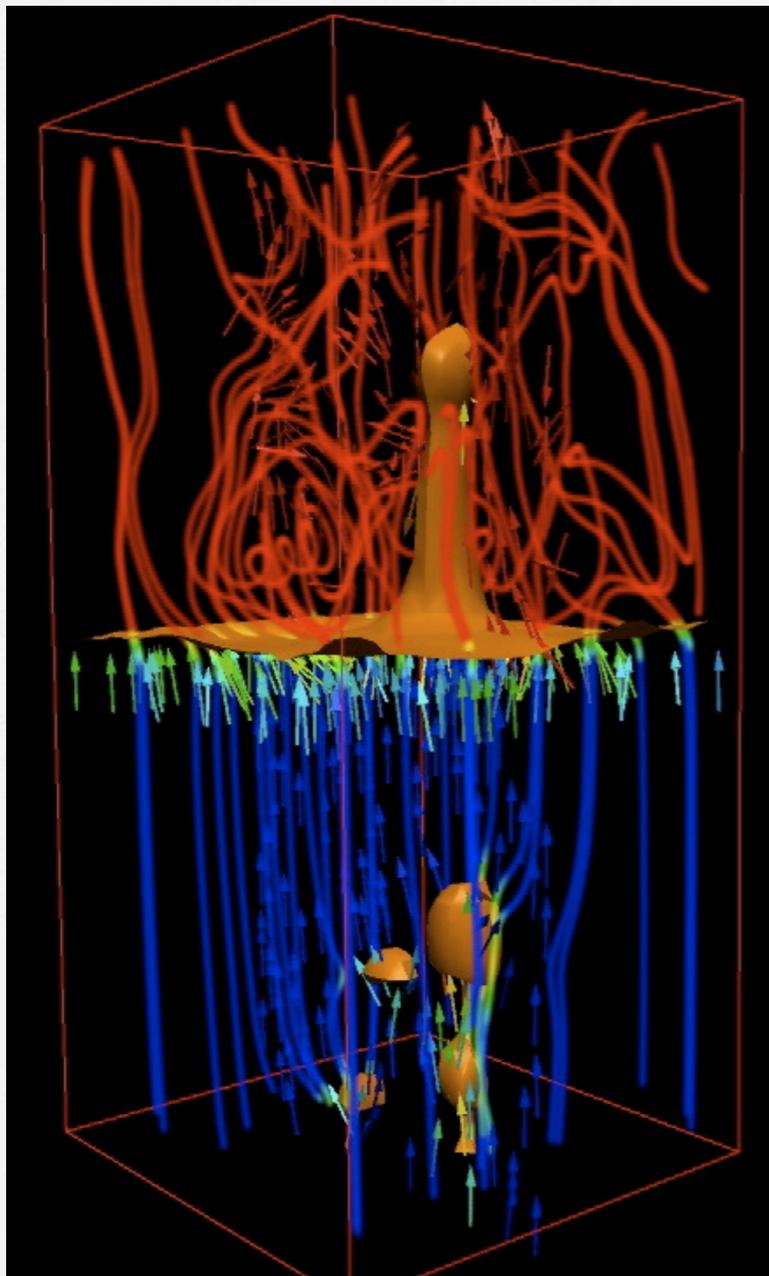
vesuite.org

# Data translators

- ANSYS
- ABAQUS
- PROE
- FLUENT
- Autodesk
- ...



# Integration with APECS



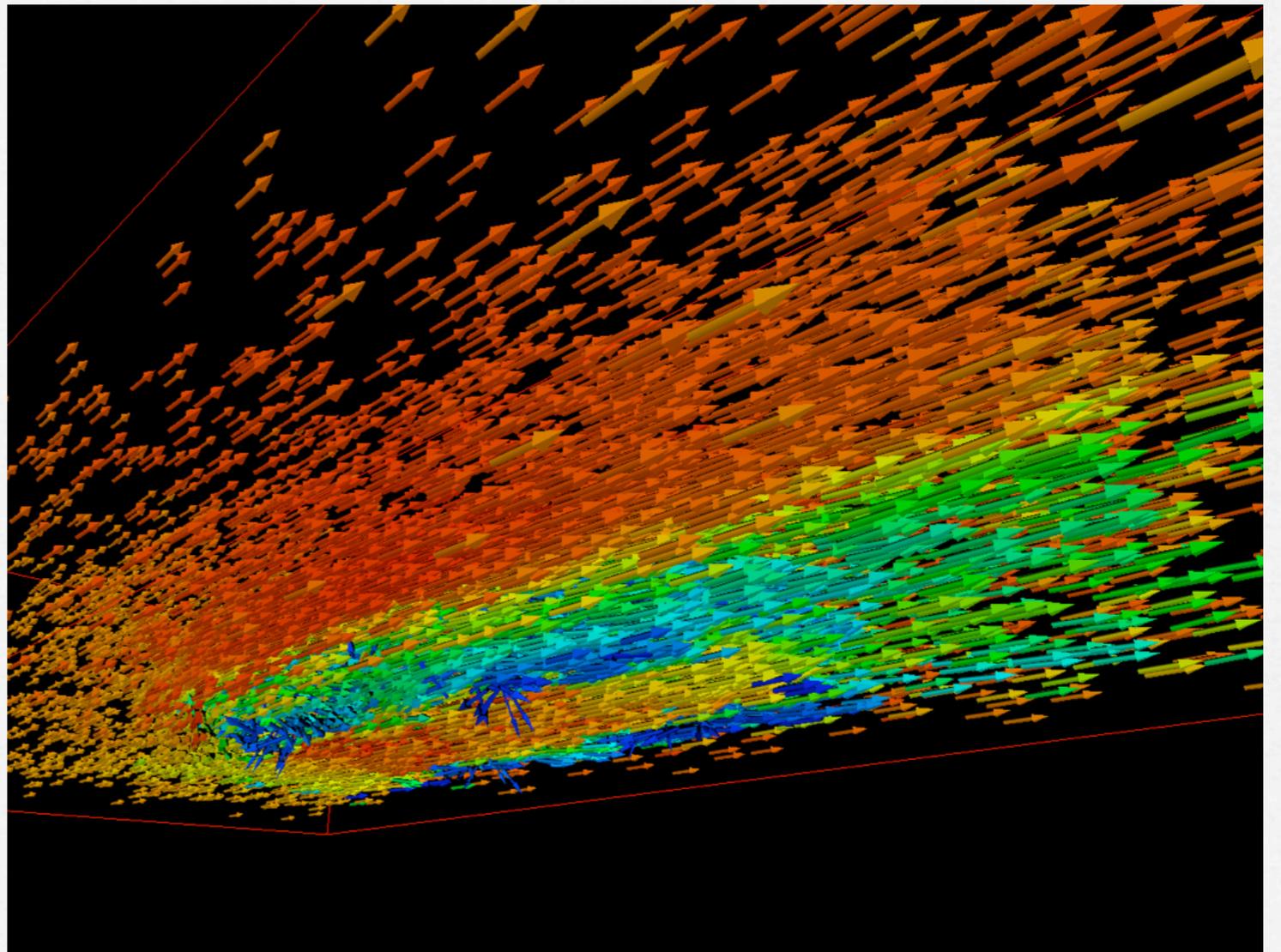
- Interface with "APECSDownload -instance"

# Past year

- Improved integration with Aspen Plus
- Added more support for high fidelity CAD
- Improved users manuals and installation process
- Improved rendering of various representations of Aspen flowsheet
- Beta support for Aspen Dynamics

# Future

- Aspen Plus Dynamics
- DynSim



Demo

# Questions?

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