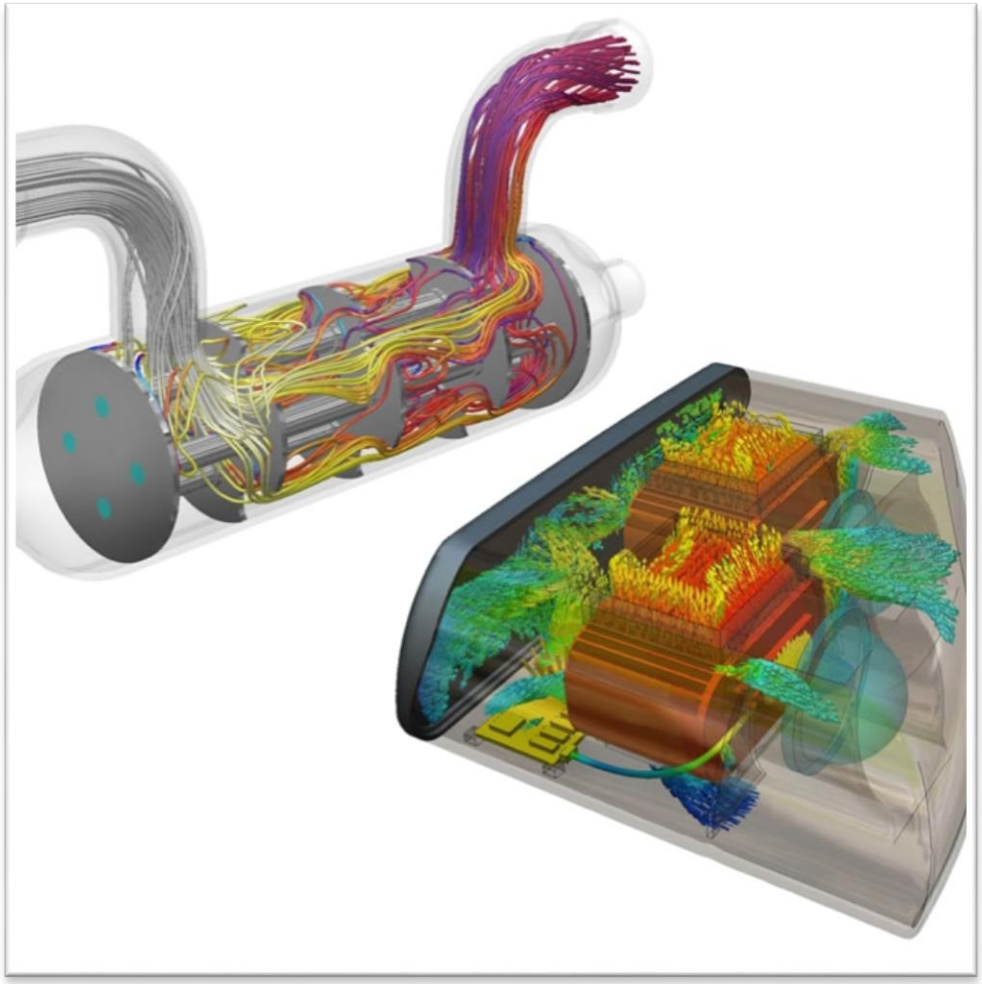

Autodesk CFD

Joe Tichacek

Picture: http://sustainabilityworkshop.autodesk.com/products/cfd-workflow-1-model-and-estimate-results

Autodesk CFD Overview

- Autodesk CFD is offered in three packages. Autodesk CFD, Autodesk CFD Advanced, and Autodesk CFD Motion. [1]
- Autodesk Design Study Environment is used for all three as the user interface. [2]
- The main feature of Autodesk CFD is that it is a CAD integrated CFD program.

[1]http://www.autodesk.com/products/cfd/compare
[2]http://www.autodesk.com/products/cfd/subscribe

Advantages

- Fully integrated CAD functionality: Autodesk CFD uses its own CAD program to generate geometry. The program is design centric. Additionally, designs can be moved to other Autodesk programs such as Fusion 360 (CAM) or 3dsMax (Animation). [1] [2]
- Ease of Use: Autodesk's user interface generally is viewed as simpler to use than its competitors. Mainly due to integration of all of its tools. [1]
- User Support: Autodesk support available, unlike in open source programs

[1] https://www.resolvedanalytics.com/theflux/comparing-popular-cfd-software-packages

[2] http://www.autodesk.com/products/cfd/compare

Disadvantages

- Setup Control: Autodesk generally has less ability to modify the geometry and models in the simulation. [1]
- Mesh Control: Meshing is done automatically with minimal control of relevance and refinement in comparison to Ansys [1]
- Available Models: Autodesk lacks many of the specialty options available in Fluent such as some turbulence models, multiphase flow, etc. [1]

[1] https://www.resolvedanalytics.com/theflux/comparing-popular-cfd-software-packages

Price/Student Version

- Autodesk CFD Motion is offered to students free of charge with no computational limitations. [1]
- Student version cannot be used for monetary gain, i.e., must be used for education [1]
- Must request quote for official price, unofficially the price appears to be around $25,000. [2]

[1] http://www.autodesk.com/education/free-software/cfd-motion

[2] http://www.cfd-online.com/Forums/main/110785-hvac-cfd-software-best-option.html

Summary

- Autodesk CFD's main advantage is its CAD integration which facilitates user friendliness [1]
- Autodesk CFD's main disadvantage is it lack of setup control which limits the accuracy achievable with the program [1]
- Autodesk would be best suited for designs which are changed often, and where accuracy is not vital. For example, Autodesk would be well suited to design faucets but less so for turbine blades [1]

[1] https://www.resolvedanalytics.com/theflux/comparing-popular-cfd-software-packages