Walk-in Slide: AU 2014 Social Media Feed

1. Click on the link below, this will open your web browser

http://aucache.autodesk.com/social/visualization.html

2. Use “Extended Display” to project the website on screen if you plan to work on your computer. Use “Duplicate” to display same image on screen and computer.

SM6178-L – Wind Stress Study for Designers

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Class summary

- **SM6178-L** This class will work through the process of using Simulation CFD software and Simulation Mechanical software to generate engineering data throughout the product development process in order to optimize the design. You will discover that you don’t need to be an analyst or expert in finite element analysis (FEA) or computational fluid dynamics (CFD) to use the Simulation software as many engineers still believe today. We will walk through the entire process of setting up and running simulations that examine how the effects of wind may directly affect mechanical properties, performance, and product design.

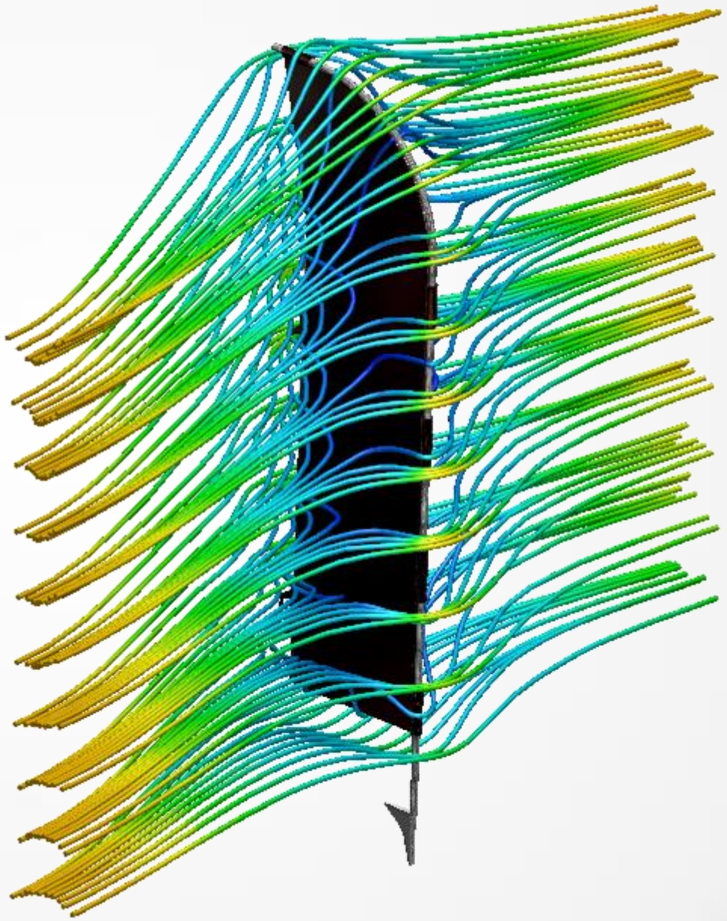
Key learning objectives

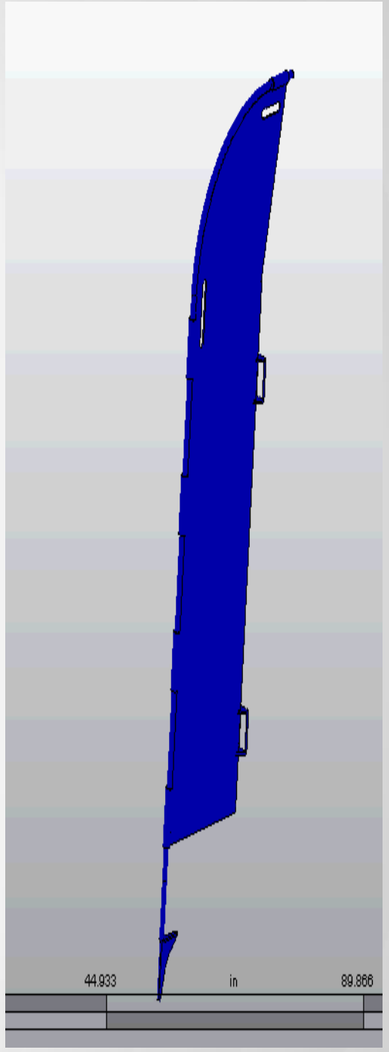
At the end of this class, you will be able to:

- Learn how to gather the relevant information to change the path of a design early in the project
- Learn how to create a usable design study of the product being engineered
- Learn how to export the results of the simulation process with a clear, understandable method
- Learn how to take your design through many stages of the simulation technology within the Autodesk offerings

Why Simulate

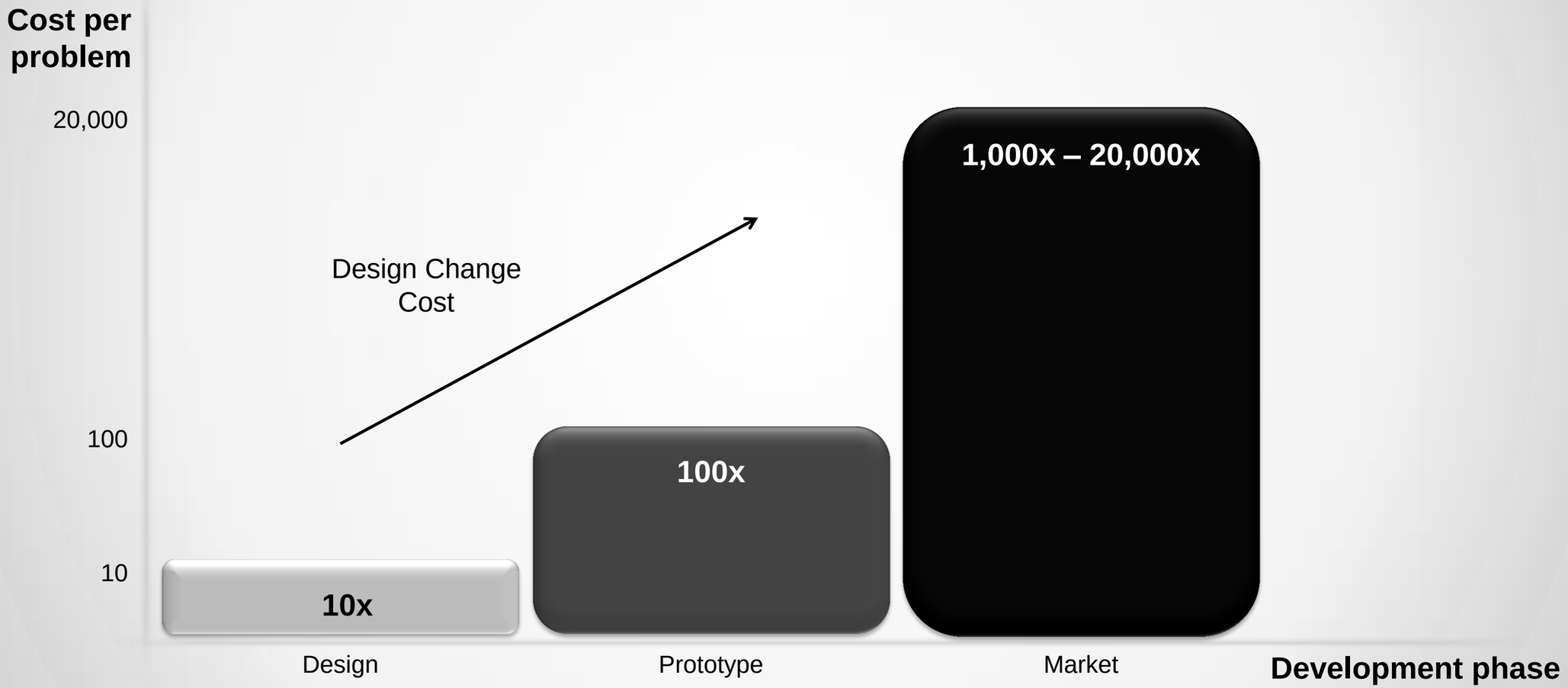
- Visualize
- Optimize
- Innovate
- Validate





Every Designer Needs Simulation

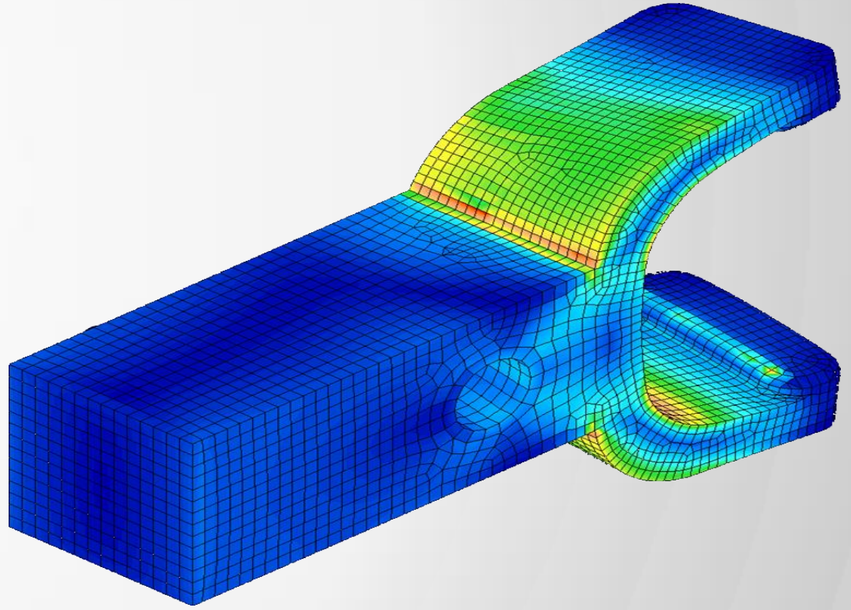
The Value of Optimizing Early



Source: Aberdeen

What is FEA Analysis?

- A method to evaluate the physical performance of a design before it is built
- FEA = Finite Element Analysis
- Finite = Limited, discrete
- Elements = Small block which results can be solved for

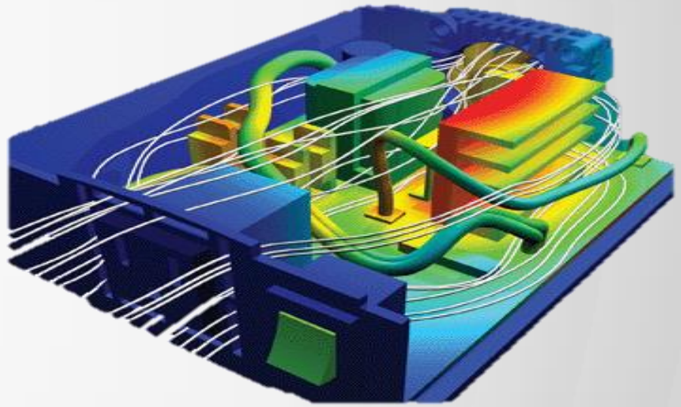


What is CFD Analysis?

- The modeling of fluid flow as it interacts with surrounding surfaces

- CFD = **C**omputational **F**luid **D**ynamics
- Fluid = Liquids and gases
- Dynamics = Movement

- CFD tools today also have the capability to model the effects of temperature

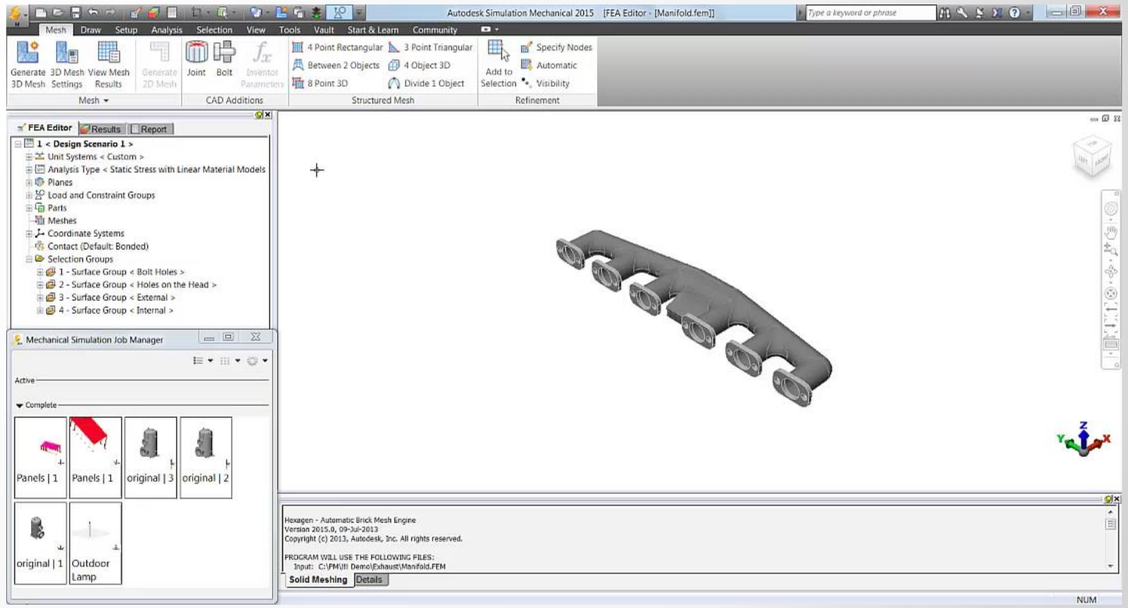


- Flow and Thermal Analysis

- Many Industries across MFG, AEC, ENI

Why CFD and FEA?

- Forces due to wind loading (or other fluid flow) typically aren’t uniform
- Examples:
  - Wind loads on buildings
  - Solar Panels
  - Signage
  - Valves
  - Fluid Tanks (Sloshing)
  - Etc…



Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2015 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time

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