

Mechatronics: Taming the Beast

Randy Brunette

Electrical Subject Matter Expert (Autodesk)

Class Summary

This class will introduce you to the interface between AutoCAD Electrical and Autodesk Inventor Professional. Following 5 guidelines is all that is required to ensure a seamless interface between the two softwares.

Learning Objectives

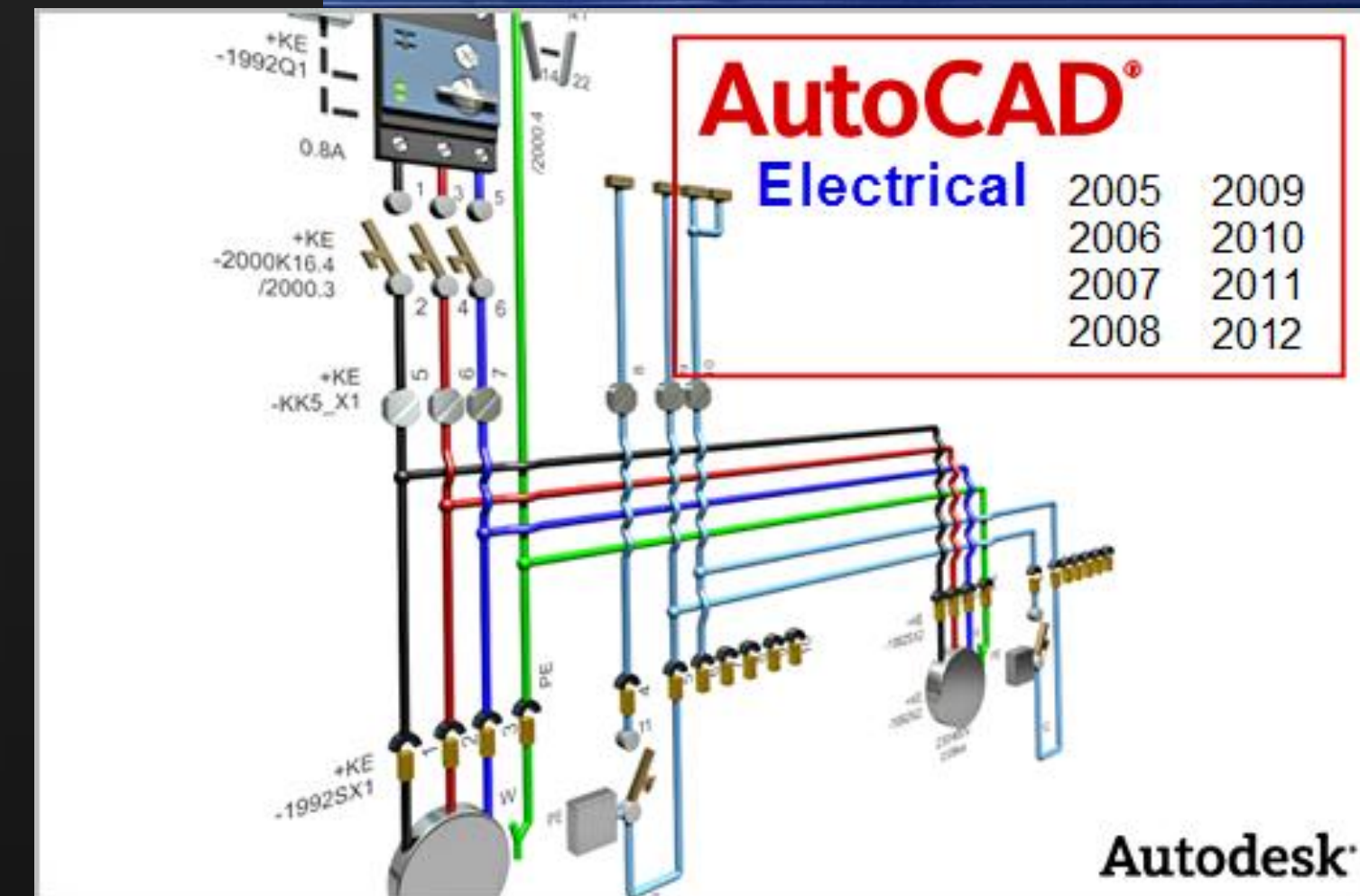
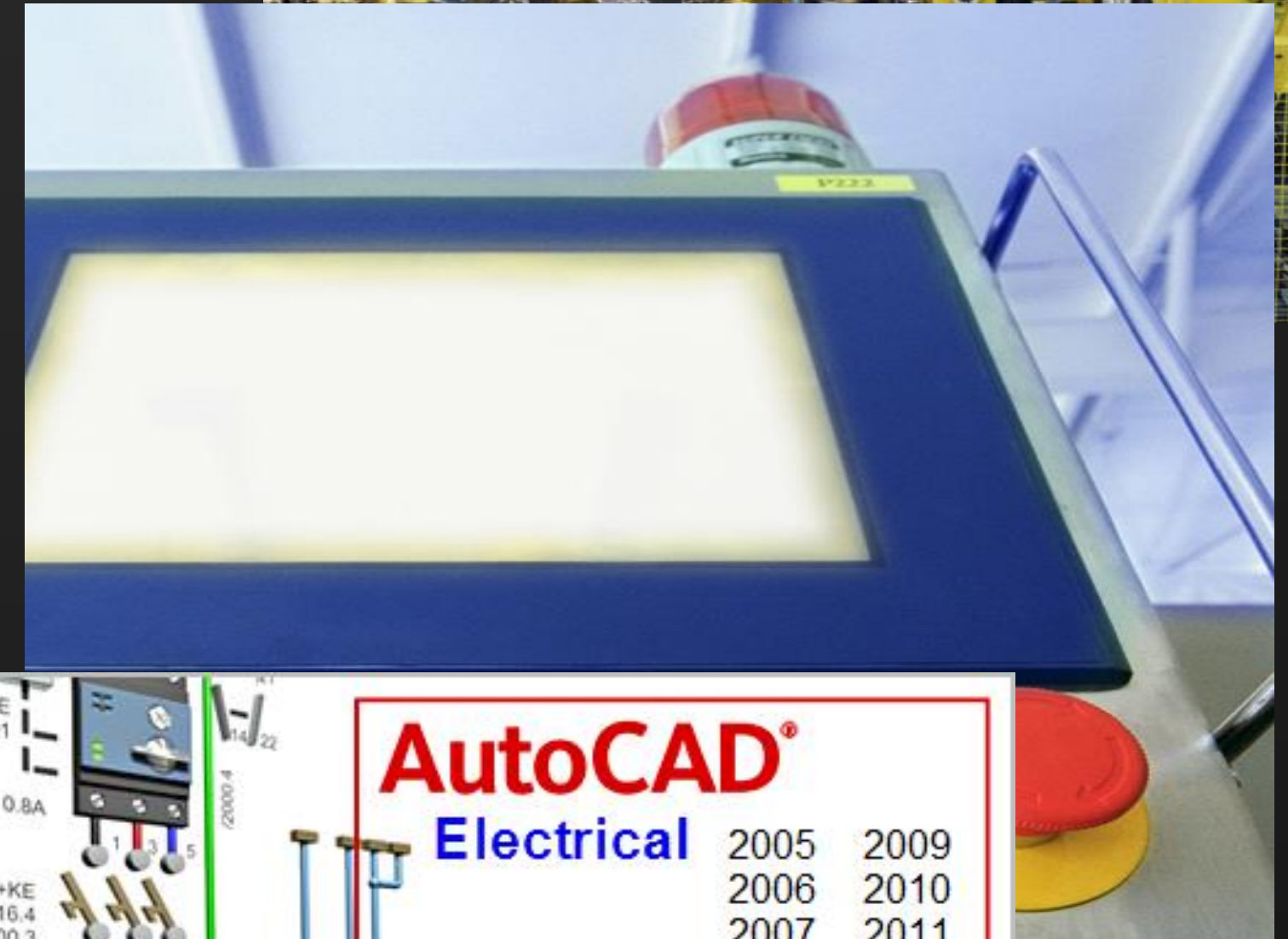
At the end of this class, you will be able to:

- Create and export AutoCAD Electrical wiring data for use in Autodesk Inventor Professional
- Import data from AutoCAD Electrical into Autodesk Inventor Professional and create a wire harness
- Modify a wire harness and create a cable in Autodesk Inventor Professional
- Export the wire harness and cable for use in AutoCAD Electrical



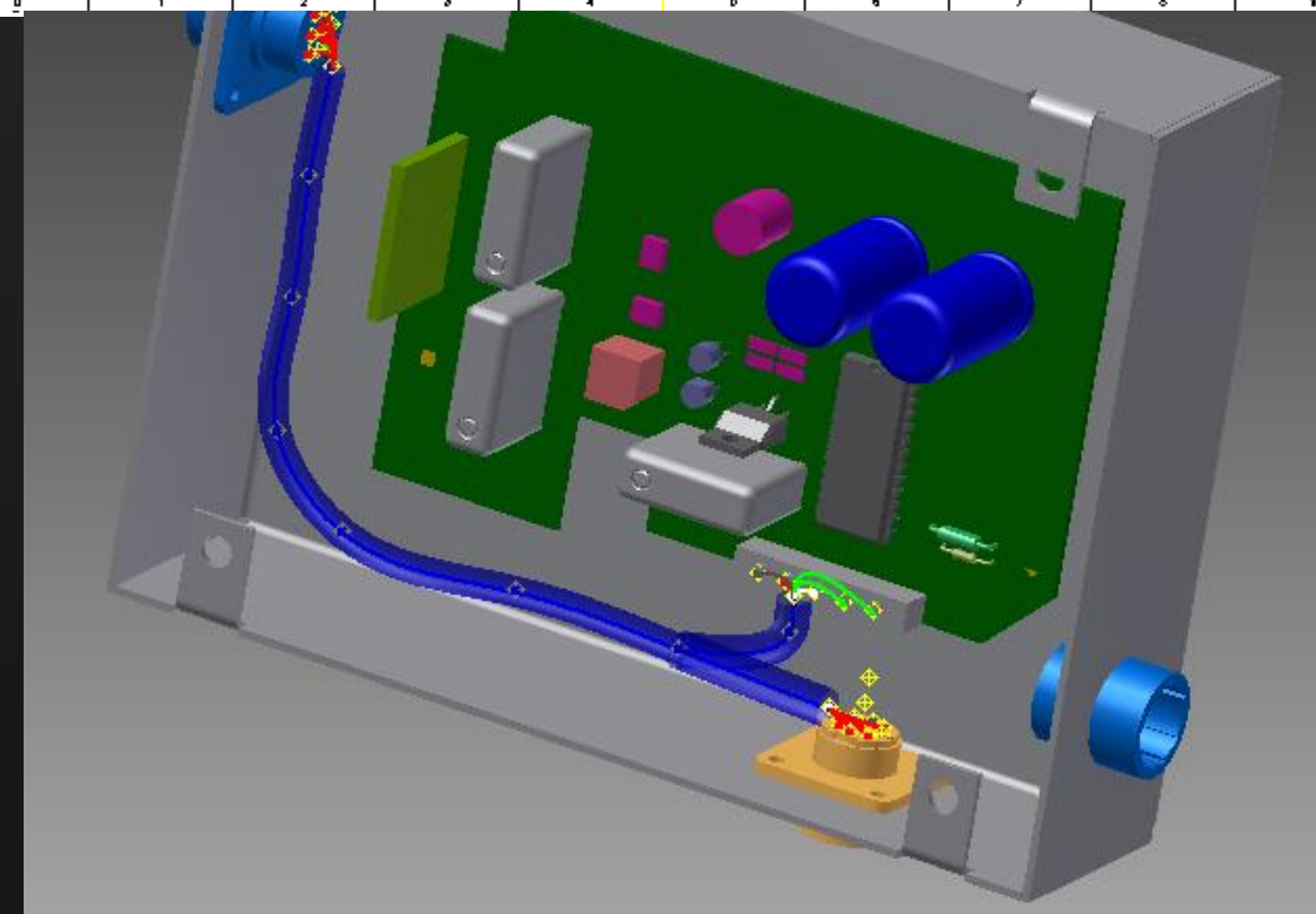
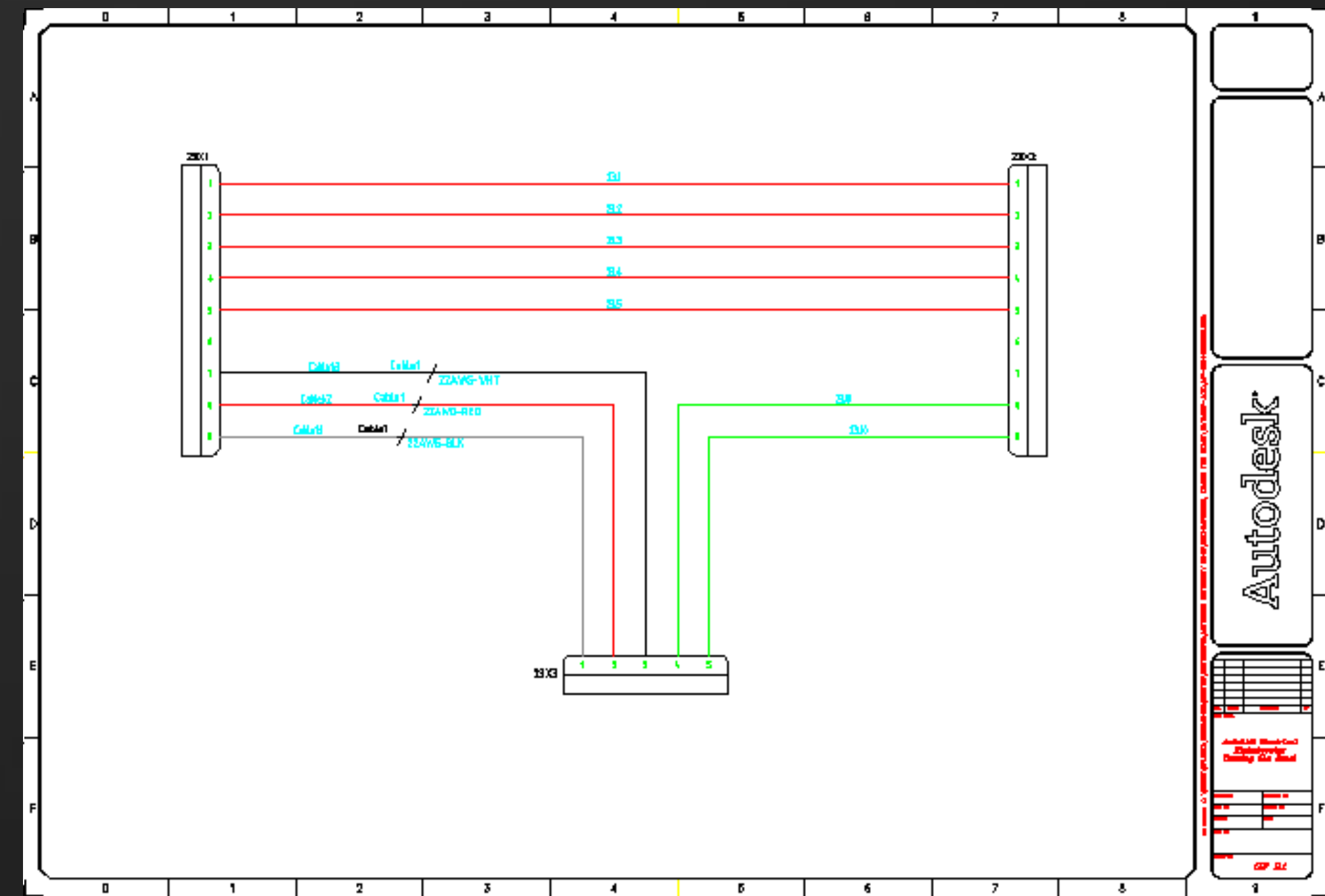
About me (technical)

- Started with Autodesk on March 4th
- 9 years previous self-employed consultant
- 28 years in industry as worker, designer, and application engineer
- 8 years authoring AutoCAD Electrical training materials, including AOTG manuals



Agenda

- Introduction
- Overview
 - Modern Design Environments
 - Overview of AutoCAD Electrical
 - Overview of Autodesk Inventor
- AutoCAD Electrical
 - Create Schematic and Export
- Autodesk Inventor
 - Setup and Import
 - Modify and Export
- AutoCAD Electrical
 - Create New Drawing
 - Import from AIP



Student Introductions

Tell me about yourself...(Raise hands)

- Currently use Autodesk Inventor Professional?



- Currently use AutoCAD Electrical ?



- Have tried to interface ACE and AIP?



- Successfully?

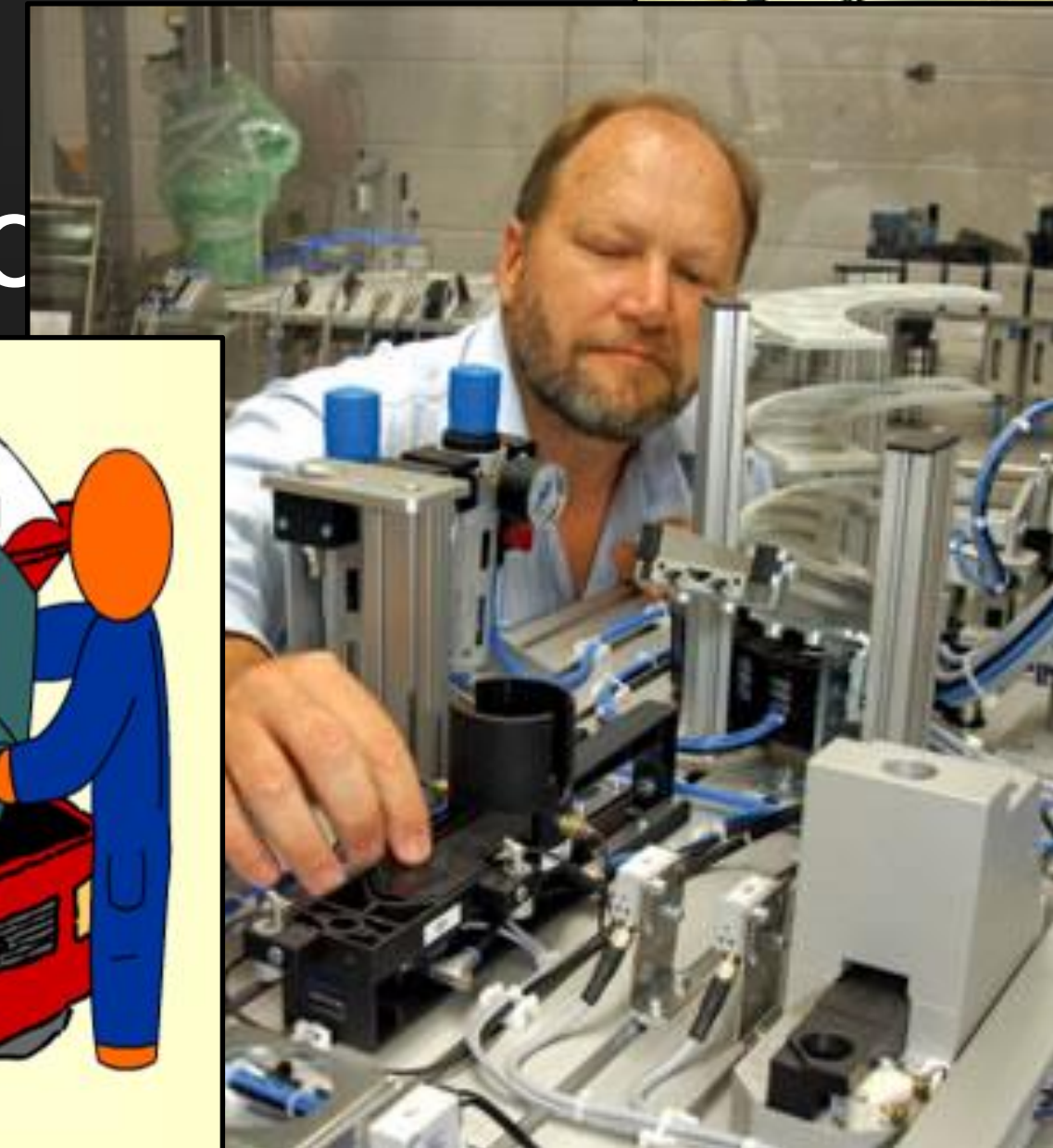
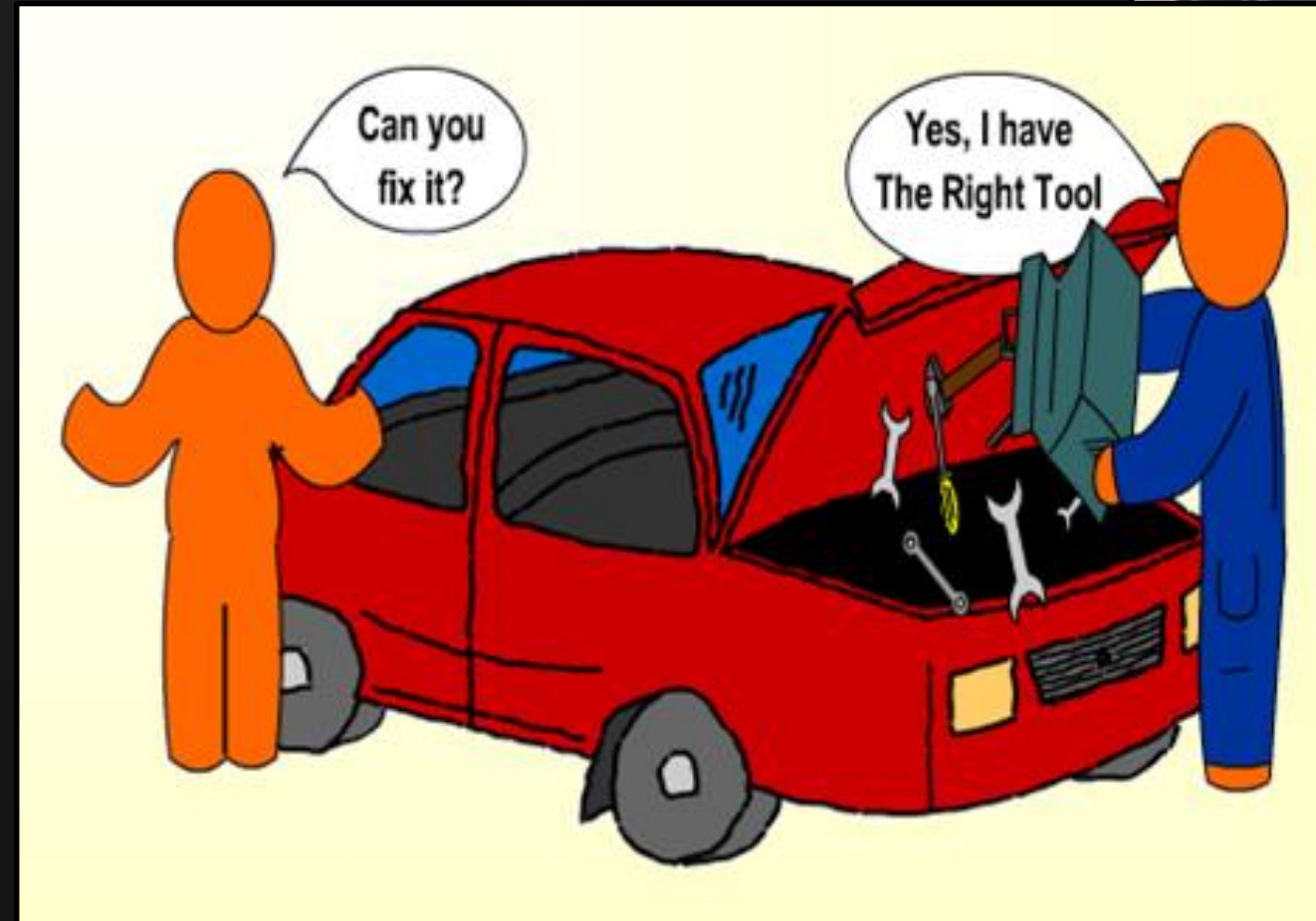
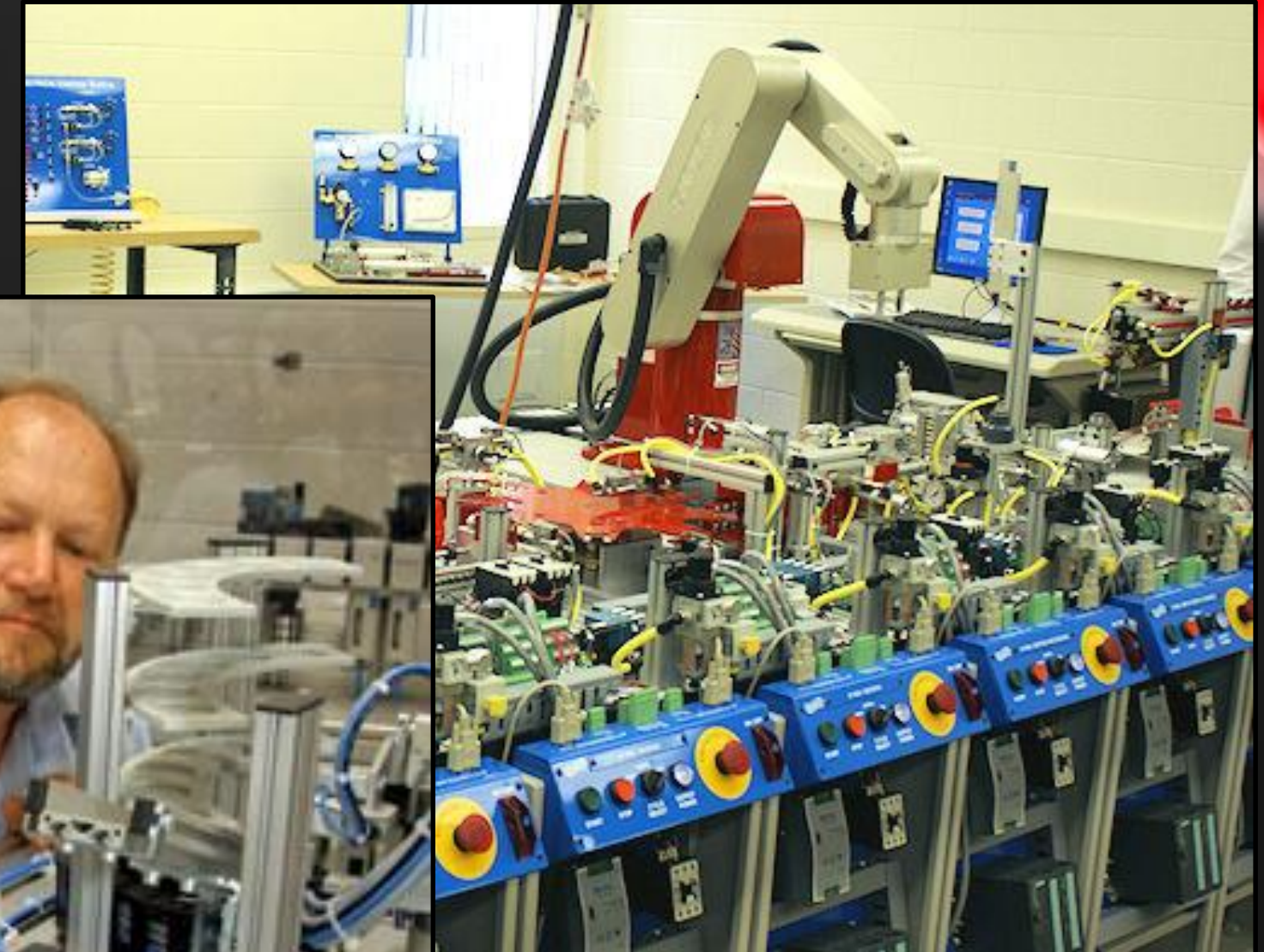


- Have attended a class of mine before this year?



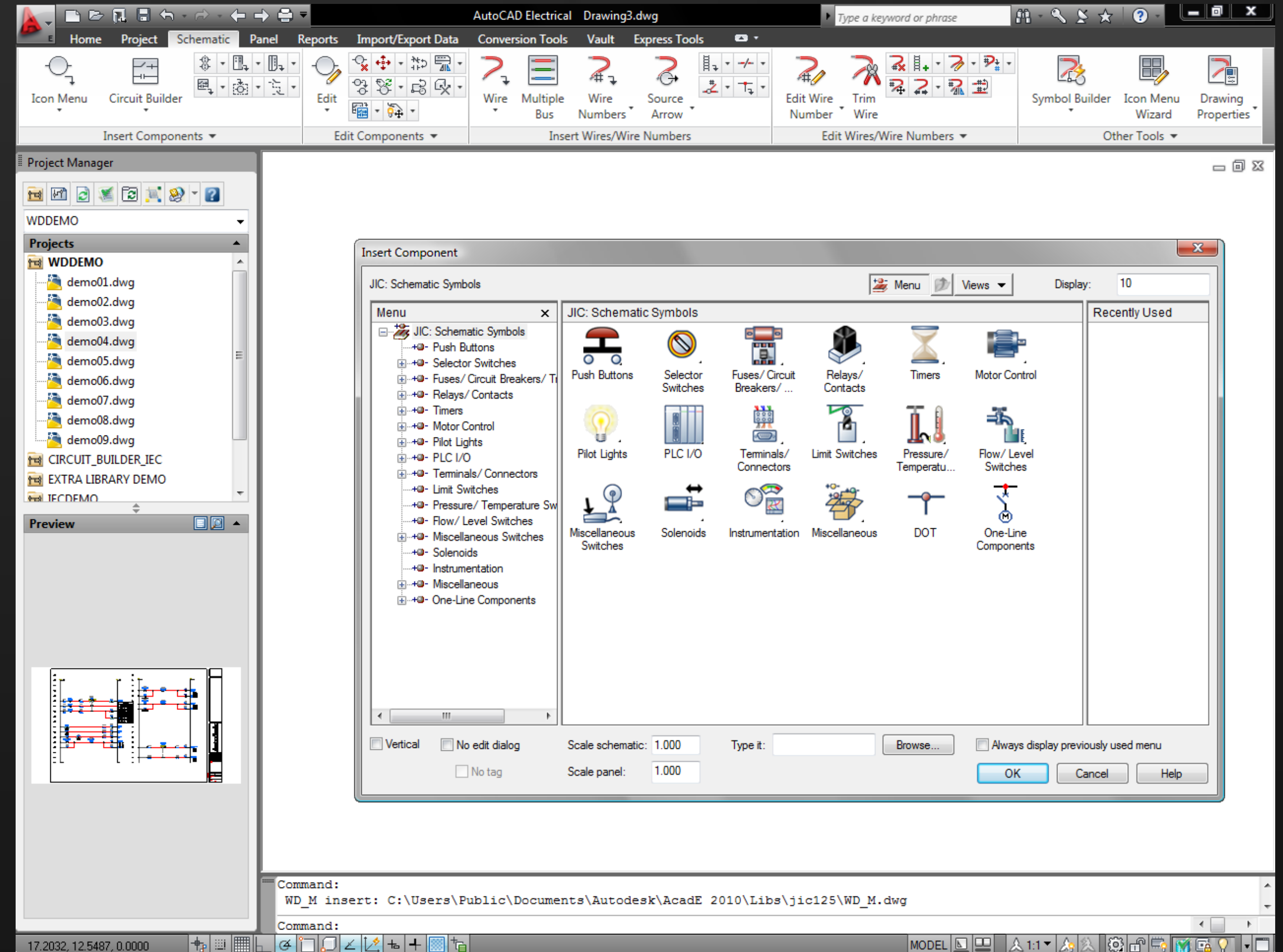
Modern Design Environment

1. Design to build speed is critical.
2. Tightly integrated designs, electrical and mechanical working together.
3. Sometimes, it's the same guy.
4. One tool is not always the best tool.



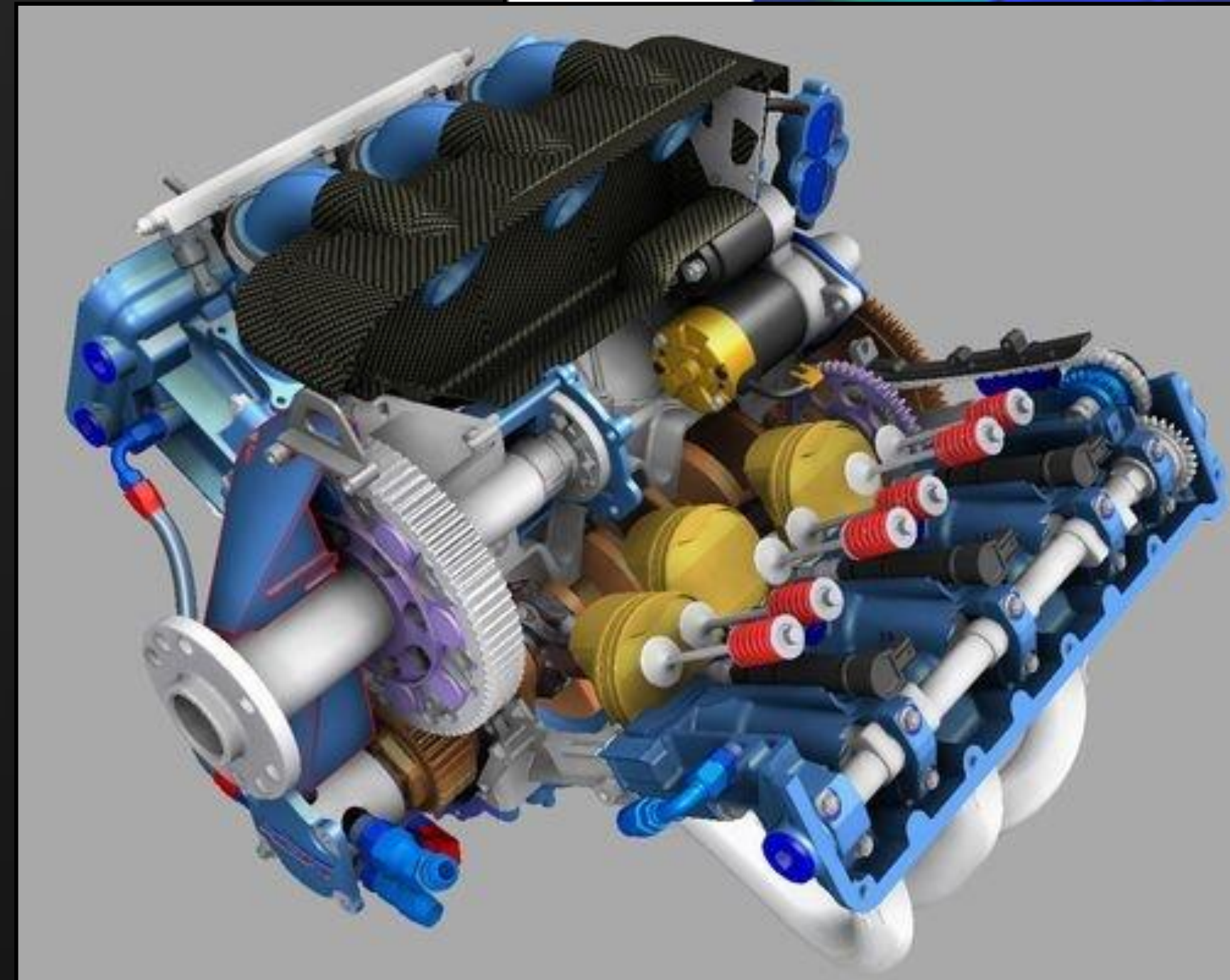
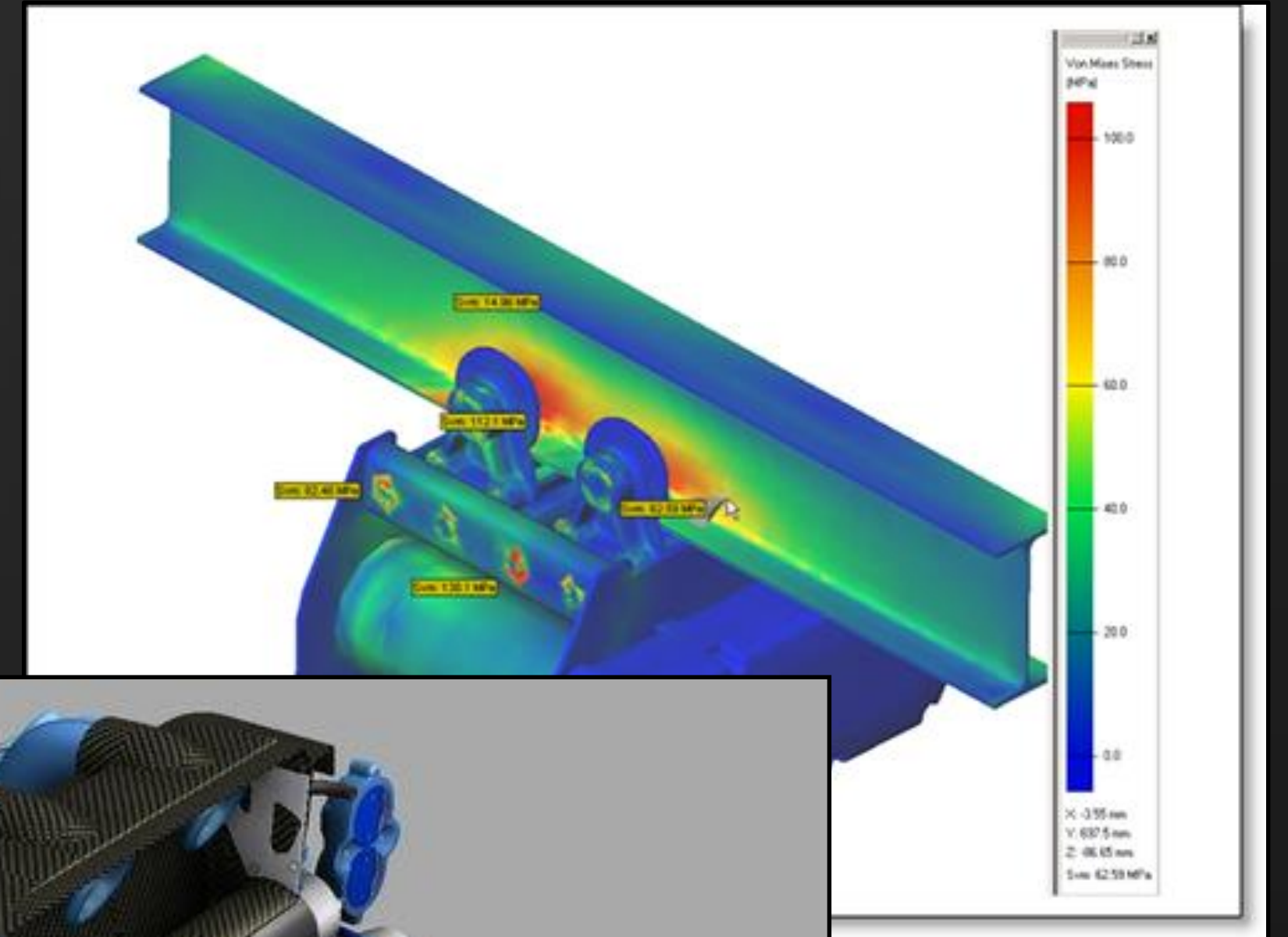
AutoCAD Electrical Overview

- ACE is an industry specific version of AutoCAD for industrial control systems
- ACE is native to the AutoCAD environment
- ACE is readily configurable and has an open architecture
- ACE is fully portable, nothing is proprietary



Autodesk Inventor Professional Overview

- AIP is an industry leading software for 3D Mechanical design, and simulation
- Automates advanced geometry creation with a parametric design environment.
- Create drawings and reports directly from 3D model
- Tightly integrated with AutoCAD and Autodesk Data Management



5 Guidelines to Follow

1. RefDes in Autodesk Inventor Professional must have the same value as the TAG attribute in AutoCAD Electrical.
2. Pin in Autodesk Inventor Professional must have the same value as the TermXX attribute in AutoCAD Electrical.
3. Wiretype used in AutoCAD Electrical must be available in the Autodesk Inventor Professional library.
4. All wires in AutoCAD Electrical must have wire numbers.
5. Wires must be connected on both ends.

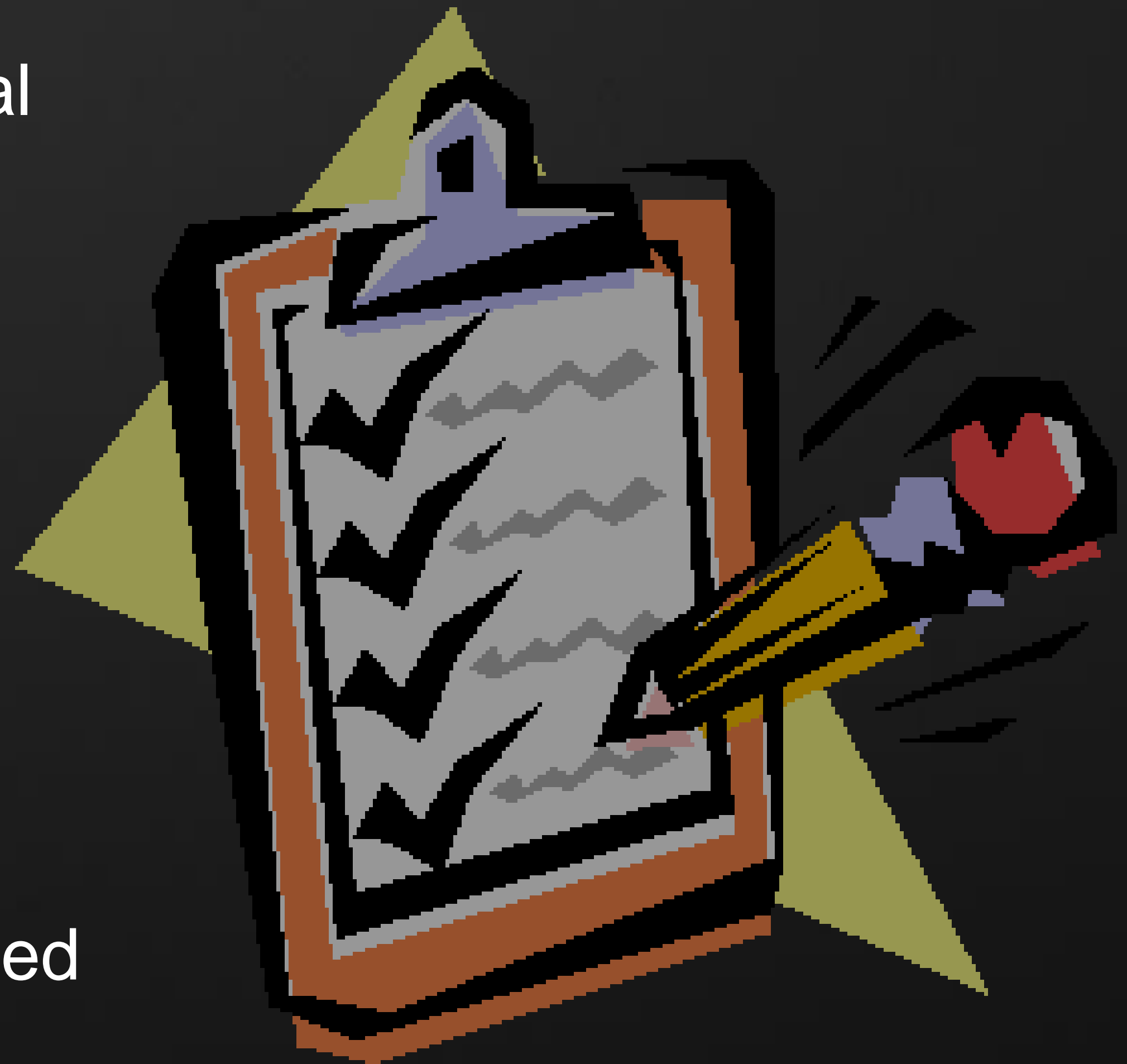




Off to
AutoCAD Electrical &
Autodesk Inventor
Professional

In Summary, Today We...

- Reviewed the capabilities of AutoCAD Electrical and Autodesk Inventor Professional.
- In AutoCAD Electrical, created an electrical drawing and exported data for use in Autodesk Inventor Professional.
- In Autodesk Inventor Professional, imported electrical wiring data, created a harness, and exported data for use in AutoCAD Electrical.
- In AutoCAD Electrical, imported data and created an electrical drawing.



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Complete the AU Conference Survey at a survey station and receive an AU 2012 T-Shirt

**Remember,
the suggested
response is...**

Awesome!





Thank You!

Randy Brunette MA2923

randy.brunette@autodesk.com