

SOFTWARE & TOOLS USED

Solid modeling/design

- SolidWorks Premium
- Autodesk Inventor
- Pro/ENGINEER (PTC Creo)
- AutoCAD
- ANSYS SpaceClaim
- PhotoView 360 - Solidworks
- Showcase - Autodesk Inventor
- Microsoft Visio
- Engineering drawings using GD&T per ASME Y14.5

Analysis

Finite Element Analysis

- SolidWorks Simulation
- Autodesk A360
- ANSYS Mechanical

Computational Fluid Dynamics

- Star CD/CCM+
- ANSYS (Fluent & CFX)
- CONVERGE
- Autodesk A360
- Solidworks Flow Simulation

Magnetic Modeling

- ANSYS (Maxwell, RMXprt, PExprt)
- FEMM

Dynamic modeling

- MATLAB/Simulink/SimScape
- GT-Suite
- GT-Power for engine modeling (developing expertise)
- LMS Imagine.Lab Amesim
- SolidWorks Motion Study
- PLECS

Hydraulic Simulation

- MATLAB/Simulink/SimScape
- GT-Suite
- LMS Imagine.Lab Amesim
- HYSAN

Thermodynamic Analysis

- MATLAB/Simulink/SimScape
- GT-Suite
- LMS Imagine.Lab Amesim

- ANSYS
- EES
- Refprop (NIST)

Embedded systems

Rapid prototyping of real time controls systems

- National Instruments
- dSPACE
- Motohawk
- Woodward
- Arduino/Raspberry PI/Particle

Programming

- Assembly, C/C++, C#, JAVA, ASP, Python, FORTRAN, GO, etc.
- MATLAB/Simulink
- CODESYS (IL, SFC, CFC, FBD, ST)
- LabVIEW

Communication protocols

- TCP/IP
- Modbus(RTU and TCP), ProfiBus
- CAN, XCP, CCP, J1939, J1587
- I2C, SPI

Data Acquisition

- National Instruments
- Measurement Computing
- InFlux Technologies

SCADA

- ABB
- Woodward
- Siemens
- Wago
- BOSCH

Data processing and presentation

- MATLAB
- JMP
- National Instruments DIAdem
- Excel
- Mathcad
- PowerPoint

Project and program management

- Microsoft Project
- Asana