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Software and tools Czero uses for advanced, full-service mechanical engineering R&D

Solid Modeling/Design

- SolidWorks Premium
- Autodesk Inventor
- Pro/ENGINEER
- AutoCAD
- SolidWorks PhotoView 360
- Autodesk Inventor Showcase
- Microsoft Visio
- Engineering drawings using GD&T per ASME Y14.5 2009

Analysis

- Finite Element Analysis
 - SolidWorks Simulation
 - Autodesk Inventor Algor
- Computational Fluid Dynamics – Star CD
- Magnetic Modeling
 - Maxwell
 - FEMM
- Dynamic modeling
 - MATLAB/Simulink/SimScape
 - SolidWorks Motion Study
- Hydraulic Simulation
 - MATLAB/Simulink/SimScape
 - HYSAN

Embedded Systems

- Rapid prototyping of real time controls systems
 - Motoron/ Simulink/Stateflow
 - dSPACE/Simulink/Stateflow
 - Woodward/GAP
 - National Instruments/LabVIEW
 - Custom systems using Freescale MPC 555, MPC 5554, Siemens 167, Motorola MPC 755 Power PC
- Programming
 - C, C++, Visual Basic, Visual Studio Suite FORTRAN
 - MATLAB Real Time Workshop
- Instrumentation and data acquisitions
 - National Instruments/LabVIEW
 - dSPACE/Simulink/MATLAB
 - custom designed systems

Data processing and presentation

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

Project and Program Management

- Microsoft Project