

CZERO CONTRACT R&D/ ENGINEERING SERVICES



We work alongside your team to move technology from concept to tested hardware – right the first time.

Sector Focus: Energy • Industrial • Automotive • Aerospace • Defense

450+

Projects Completed

50+

Federal Subawards

2007

Founded, Fort Collins CO

16,000 ft²

Facility w/ Build & Test

10-30+ Years

Avg. Engineer Experience

WHAT WE DO

Czero provides multi-disciplinary engineering execution for startups and innovation teams. Our senior engineers bring depth across dynamic modeling, controls, mechanical design, CFD, FEA, and systems integration — analyzing, designing, building, and testing under one roof. We deliver best-fit, clear-scoped work packages, from analysis-led design through build, integration, and test, de-risking schedules and unblocking programs at any stage of development.

HOW WE WORK AS A SUBCONTRACTOR

- **Low-Friction Start:** A short call to assess fit.
- **Detailed Scope Development:** We work with your team to understand your problem and develop a detailed scope of work and project plan.
- **Disciplined Execution:** We use rigorous project management, establish clear milestones, maintain a regular cadence, and provide deliverables in your format.
- **IP Flexibility:** In almost all cases, IP developed is assigned to our clients.
- **Proposal Support:** We offer technical inputs and execution support for your government-based proposals.

WHY PARTNERS CHOOSE CZERO

- **High Quality Results:** Engineering rigor, verification checks, detailed documentation and reporting.
- **Fast-Turnaround:** Extensive experience leads to fast results.
- **Flexible Scope Scaling:** We can take on as much or as little of the work package and change on the fly if needed.
- **Easy to Work with:** Responsive and transparent, quick turnaround with questions; flag risks early with options.
- **Integration-Ready Deliverables:** You receive clean files, clear assumptions, comprehensive documentation, and test evidence.

"" CLIENT FEEDBACK

"The Czero team is the entrepreneur's friend. There is no substitute for broad experience and deep expertise — the Czero team has these in abundance. Czero is committed to our success."

Rob Toker
Partner & President
Stonebridge Energy
Partners
Rice Alliance

GRANT & FUNDING PARTNERSHIP

With deep experience across DOE, DOD, state programs, Czero brings technical credibility that strengthens your proposals — and the execution track record that funders expect to see behind them. We're not grant writers; we contribute technically grounded scope development, realistic milestone planning, and budget inputs rooted in actual engineering costs. Once awarded, our compliance infrastructure and documentation discipline keep programs running cleanly.

Subaward Experience:

- 15+ ARPA-E subawards
- DOE, DOD, CEC programs

What we bring to your proposal:

- Technically grounded scope development
- Realistic milestone planning and budget inputs
- Subcontract-ready: compliant reporting and deliverable documentation

SPECIALIZED DEPTH & EXPERIENCE

- **Complex System Integration:** 35+ years of innovation experience
- **Dynamic Modeling & Simulation:** 15–35+ years average engineer experience.
- **Computational Fluid Dynamics (CFD):** 30+ years experience using leading commercial CFD packages.
- **Finite Element Analysis (FEA):** 20+ years delivering structural and thermal analysis.
- **Controls:** 30+ years delivering control systems and HIL, SIL, MIL.
- **CAD/GD&T:** 25+ years in a wide range of projects spanning multiple industries.

BUILD & TEST INFRASTRUCTURE

- **Facility:** 16,000 ft² with fabrication shop, build area, and test cells for prototype build & test.
- **In-House Shops:** Machine shop, metrology, and control panel build shop.
- **Test Assets:** Hydrogen test cell, engine dynamometer, thermal chamber, high-power hydraulics, high-power electric, and HIL setup.
- **Supplier Network:** Access to vetted partners for advanced fabrication (additive, joining, machining).

TEST STATE-OF THE ART DESIGN & ANALYSIS

Czero uses industry-standard engineering software, including ANSYS, CONVERGE, and GT-SUITE/GT-POWER, supporting multi-physics modeling and system simulation for energy conversion, thermal/fluid systems, electrification, and integrated prototypes.

Solid modeling & design

- 3D modeling
- Layout studies
- Detail drawings
- GD&T per ASME Y14.5



Analysis

Domains:

- Energy conversion and storage
- Multi-species multi-phase gas and liquid dynamics
- Chemical processes
- Electrochemistry
- Thermodynamics and heat transfer
- Compressible and incompressible flow
- Electrical and magnetics
- Combustion
- Rigid body dynamics
- Multi-physics modeling

Tools:

- Dynamic system modeling
- Computational fluid dynamics
- Finite element analysis



Control Systems

- Embedded system development
- Industrial controls and automation design and build
- System integration
- Engine controls development
- Prototype controls
- Data acquisition and SCADA design and build
- Electrical panel design and build
- System stand-up and commissioning

