

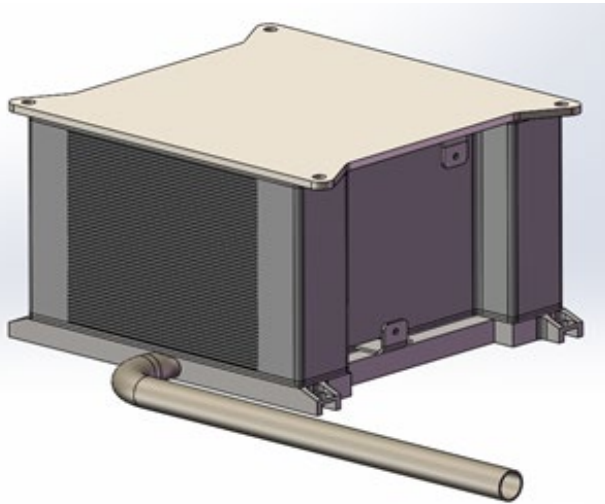
## About Nexceris

- Founded in 1994, privately held
- Based in Lewis Center, Ohio
- People-first culture
- Products:** Sensors, next generation batteries, and solid oxide fuel cells



## Project Objective

*Our team will design and build a hybrid power system by integrating a solid oxide fuel cell with a gas turbine. The system will generate 100 kW of power at 70% LHV efficiency with natural gas as fuel.*

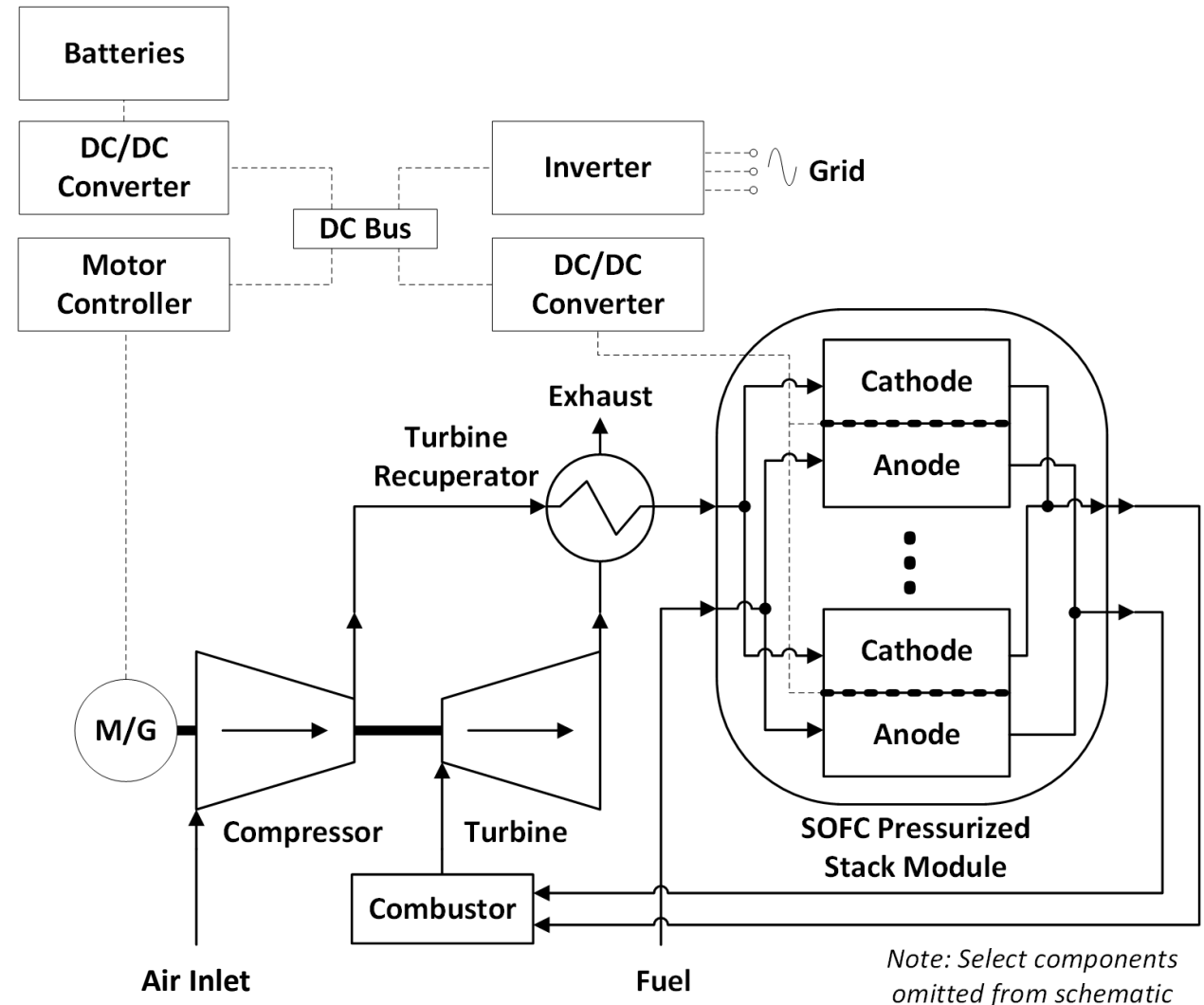


## Project Activities

- ❑ **Nexceris:** SOFC stack production scale-up. Stack supply for system builds.
- ❑ **Nexceris:** Pressurized testing of stacks (in collaboration with NETL).
- ❑ **Czero:** Hybrid system design/modeling and controls development.
- ❑ **Brayton Energy:** Turbine, combustor and heat exchanger technology.
- ❑ **Czero:** BOP procurement and system builds. Hybrid system validation and demonstration testing.

## Control Requirements

- ❑ **Current:** 160 amps per stack with eight stacks in a 100-kW scale system.
- ❑ **Voltage:** 40-72 volts per stack (eight stacks).
- ❑ **Dynamic Response:** Rapid responses will not be required.
- ❑ **Load Demand:** Stack and turbine will operate at steady state, with battery for load following.
- ❑ **DC-DC Conversion:** Voltage needs to be stepped up prior to DC to AC conversion.
- ❑ **Inverters:** DC to AC conversion will require high efficiency inverters.



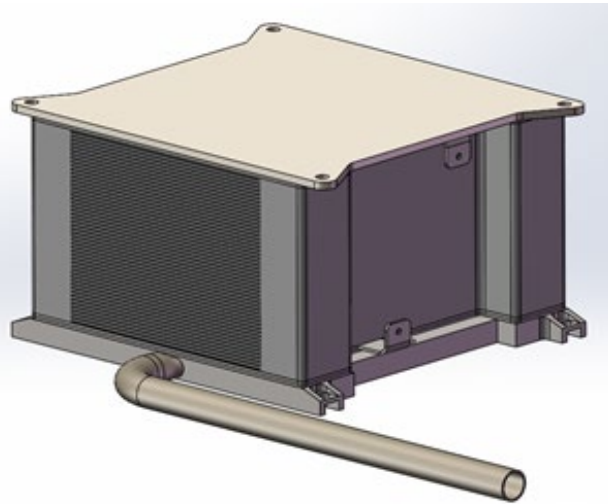
## **Contact Information**

Scott L. Swartz, Ph.D.

Nexceris, LLC

[s.swartz@nexceris.com](mailto:s.swartz@nexceris.com)

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*Special thanks to Czero  
and Brayton, and to my  
team at Nexceris!*