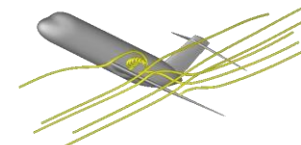
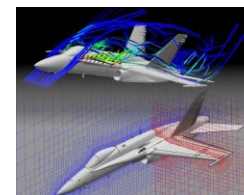
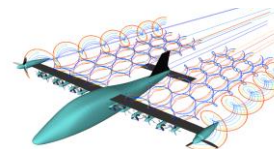
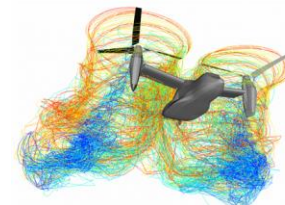
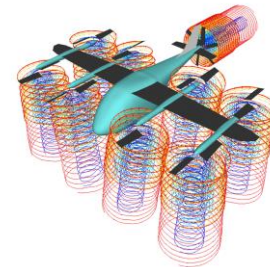
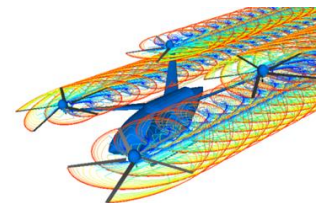


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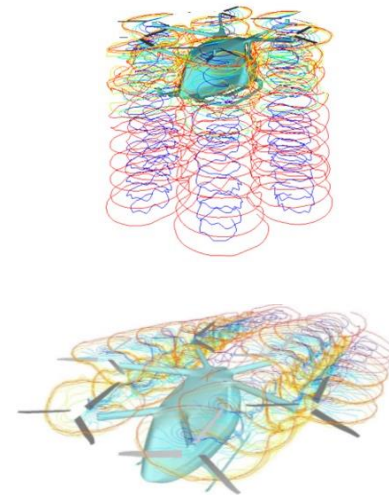
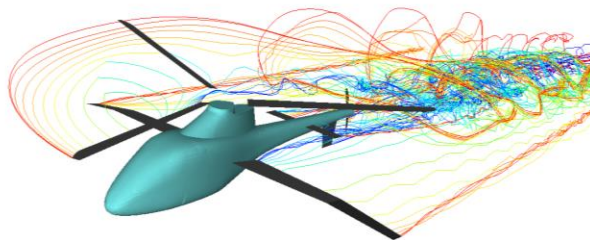
- Founded in 1979 (central NJ)
- Small business (25 employees)
- Aerospace and Nuclear focus areas
- Air vehicle modeling and engineering
 - Aeromechanics, flight dynamics, CFD
 - VTOL/CTOL aero design and performance
 - Flight simulation, acoustics, system design
 - Software licensing and engineering services
- Customers and collaborators
 - NASA, Navy, Army, Air Force, DARPA, DOE, USFS, NIH....
 - Boeing, Bell, LM/Sikorsky, Northrop Grumman, Piasecki, AVX, Airbus, Karem, Hill, Carson....
 - Beta, Supernal, Aurora, Embraer, Pipistrel, Vertical, Eve, Jaunt, Elroy, Alakai, XTI.....



*Multiple air vehicles
modeled with CDI software*

CDI Activity in H2 Aviation

- Design support since 2018 for pioneers of H2 propulsion in VTOL
- Full aircraft design analysis for Piasecki PA-890, Alakai Skai
- Application of a comprehensive air vehicle toolset for performance, loads, acoustics (CDI CHARM software)



Recent featured Piasecki (left) and Alakai (right) H2 fuel cell eVTOL aircraft

Models of each with the CDI 'CHARM' comprehensive software

Current and Future Challenges

- Rapidly expanding Advanced Air Mobility (AAM) market.
- Multiple platforms for Urban and Regional Air Mobility missions
- H₂-based propulsion offers high specific energy, zero CO₂ emissions.



- H₂ Fuel Cell (H₂FC) tech is advanced in space and ground vehicle niches
- Design tools and design data for aviation applications still in early stages.
- Critical needs include:
 - expanded R&D on aviation compatible H₂ systems
 - bodies of weight and sizing data to support design
 - well validated software toolset to support full air vehicle design

Integration and application of H₂FC models and sizing codes within CDI CHARM toolset is a focus of recent and ongoing work.