

Sensor Systems Collect Critical Aerodynamics Data



Dryden Flight Research Center

*Tao of Systems Integration Inc.
Hampton, Virginia*

Originating Technology/NASA Contribution

- ◆ Aerodynamics researcher Siva Mangalam worked on airfoil design at Langley Research Center
- ◆ While there were extensive systems for wind-tunnel testing, Mangalam found there were no quantifiable sensing systems for measuring aerodynamic forces in flight



Partnership

- ◆ With SBIR funding and flight testing from Dryden, Tao Systems began development of a first-of-its-kind, closed-loop system to detect, measure, and control aerodynamic forces in flight
- ◆ Tao's simple, inexpensive approach gathers aerodynamics data in real time, detecting forces like turbulence before the aircraft reacts to them

Product Outcome

- ◆ Three of the four components of the system have been commercialized
- ◆ Applications include improving wind and underwater turbine operation and optimizing air conditioning
- ◆ The final system may enable aircraft that respond like birds to aerodynamic conditions