

North Wind Engineering Powers NASA's New Flight Dynamics Research Facility

Company designed core wind tunnel systems that transformed the structure into a fully operational flight research facility

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highlighted its central engineering role in NASA's new Flight Dynamics Research Facility (FDRF) following a last week's ribbon-cutting ceremony at [NASA's Langley Research Center](#). The 25,000-square-foot FDRF is NASA's first major wind tunnel built in more than 40 years.

As the specialized wind-tunnel engineering partner on the facility's design-build team, North Wind was responsible for the core systems that turned the building into a fully operational flight research facility: the flow circuit that directs airflow, the fans that generate aerodynamic power, and the controls that coordinate the facility's operation.

Working alongside prime design-build contractor BL

Harbert International and architecture and engineering partner Mason & Hanger, North Wind helped translate NASA's demanding performance requirements including airflow speed and quality, temperature control and testing flexibility into an integrated, operational wind-tunnel system.

“North Wind's role in the Flight Dynamics Research Facility builds on decades of experience designing and engineering sophisticated wind tunnels for the nation's most demanding research programs,” said Ryan Leo, executive vice president of North Wind's Design/Build Division. “That expertise helped translate NASA's ambitious requirements into an advanced facility that will expand the boundaries of flight research well into the future.”

The project began under Calspan Aero Systems Engineering, whose team and capabilities became part of North Wind when the company was formed in May 2024. The approximately \$43.2 million design-build contract was awarded to BL Harbert International in late 2021. North Wind was not the prime construction contractor; its role centered on the specialized systems that enable the facility to operate as a wind tunnel.

The vertical tunnel combines and expands the capabilities of Langley's historic 12-Foot Low-Speed Tunnel and 20-Foot Vertical Spin Tunnel. It can support both captive-model and free-flight testing, including research involving aircraft spin and recovery, vehicle stability and control, autonomous aircraft, drones, X-planes, and entry descent and landing technologies for future space missions.

The FDRF will support NASA research across aeronautics, science and space exploration, providing a flexible environment for studying how flight vehicles behave under a wide range of conditions.

About North Wind

North Wind is a leading independent supplier of complex hypersonic and research, development, test and evaluation systems and services. Leveraging decades of specialized experience, North Wind delivers capabilities across applied research and development; test articles and critical system components; test facility design and construction; test services; and flight testing and flight systems. Its offerings span the full life cycle of aerospace, defense and commercial systems, including end-to-end turnkey solutions. North Wind operates wind tunnel facilities in Plymouth, Minnesota, and at NASA's Langley Research Center in Virginia. Learn more at www.north-wind.com.

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