

Natilus Model

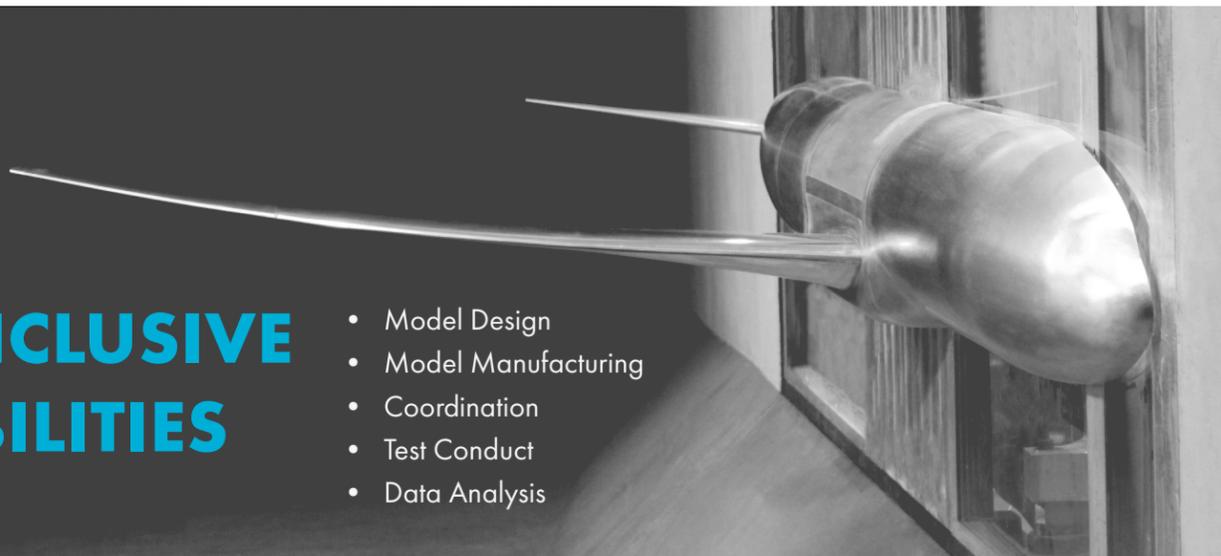
WIND TUNNEL MODELING & TESTING

AeroTEC offers all-inclusive Wind Tunnel Modeling & Testing. From model design, to data analysis, we can help you design, build and test the model needed to get you the data that supports your program.

WIND TUNNEL MODELING & TESTING

AeroTEC's team of specialized engineers uses advanced design & simulation tools to **develop, fabricate, instrument and test highly complex wind tunnel models** for a variety of applications. Our models are designed for rapid configuration changes and can include powered control surfaces or powered motors for propulsion system effects.

CRM Model



ALL-INCLUSIVE CAPABILITIES

- Model Design
- Model Manufacturing
- Coordination
- Test Conduct
- Data Analysis

WIND TUNNEL FABRICATION

Our Wind Tunnel models are **designed in-house for efficient testing and rapid turnaround**; low-speed models can typically be produced in 2-3 months. A variety of materials and manufacturing processes are utilized to find the best **balance between production cost, speed of manufacturing and accuracy** - making it possible to design for low-cost.

TYPICAL MODEL MATERIALS

- Aluminum
- Steel
- Plastic
- High Density Foam
- Composites

MANUFACTURING PROCESS

- CNC Machining
- 3D Printing
- Composite Layup

OPTIONAL FEATURES

- Powered Control Surfaces
- Instrumentation and Pressure Ports
- Control Surface Forces & Hinge Moments
- Component Force Balances

LOW & HIGH-SPEED TESTING

LOW SPEED

- Stability and Control
- Drag Increments
- High Lift Development
- Simulation Database Development
- Preliminary Aircraft Design

HIGH SPEED & SPECIALTY

- Transonic Effects
- Supersonic Configurations
- Shock Wave Interactions
- Icing Systems Testing
- Airspeed Calibrations

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TYPICAL TESTING FACILITIES



NASA Ames Research Center



Boeing Transonic Wind Tunnel (BTWT)



San Diego LSWT



University of Washington



Wichita State University

CATB Model



WIND TUNNEL TESTING

- Wind Tunnel Facility Coordination
- Test Plans
- Test Conduct
- Mid-Test Manufacturing Support
- Data Analysis

MODEL INSTRUMENTATION

TYPICAL INSTRUMENTATION

- Strain Gages
- Shear Sensors
- Temperature Sensors
- Pressure Sensors & EPS Scanners
- Accelerometers
- RPM Sensors

POWER SYSTEM INSTALLATION

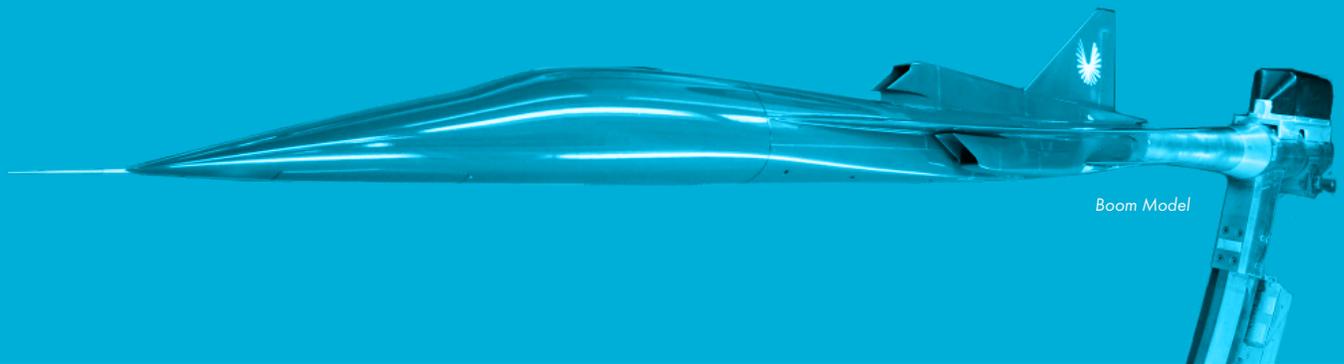
- Propeller Testing
- EDF Installations
- EVTOL Design Development
- Propulsion System Integration Testing

DATA ANALYSIS

- Force & Moment Data
- Loads Data
- Hinge Moments
- Stability & Control Parameters
- Thrust Effects

PREVIOUS CUSTOMERS

- Aurora Flight Sciences
- Aviation Partners
- Boeing
- Boom
- General Atomics
- Jetopectera
- Natilus
- Sierra Nevada Corporation
- Supernal
- University of Washington
- U.S. Air Force
- U.S. Army
- Wichita State University



CONTACT

SALES@AEROTEC.COM
206.763.6087
5601 6TH AVE S #410
SEATTLE, WA 98108

