Multiphysics Simulation Powered by NVIDIA Blackwell

A New Paradigm of Speed

jetzero — Redefines aerospace efficiency and sustainability by developing ultra-efficient blended wing body airplane, leveraging Flow360 powered by NVIDIA's Blackwell to optimize designs

Our most innovative customers gained early access to our products accelerated by NVIDIA Blackwell GPUs. Here's what they found...

BACKGROUND

Flexcompute is among the first to leverage NVIDIA's Blackwell platform and B200 hardware. Nine launch customers compared Flexcompute's technology with A100 simulations, demonstrating superior performance.

USE CASES

- **Beta Technologies** leverages Flow360 powered by NVIDIA's Blackwell for high-fidelity blade-resolved simulation to optimize aerodynamics.

- **Celestial AI** is simulating large metasurface structures at a scale previously impossible.

- **JetZero** leverages Flow360 powered by NVIDIA's Blackwell to optimize its designs to reduce carbon emissions.

- **Joby Aviation** simulates aeroacoustic impact for their aircraft design.

- **Kyocera SLD Laser, Inc.** simulates optical amplifiers for laser diode manufacturing with speed and scale.

- **Wisk** is using Blackwell accelerated Flexcompute software to corroborate vertical descent maneuver in ground effect.
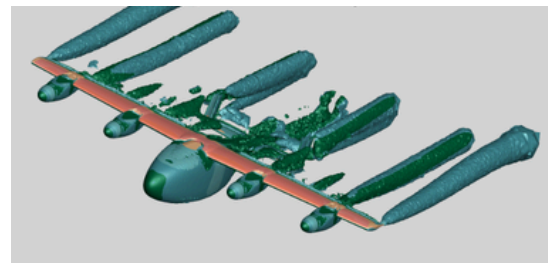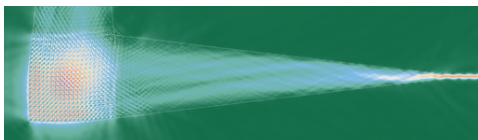

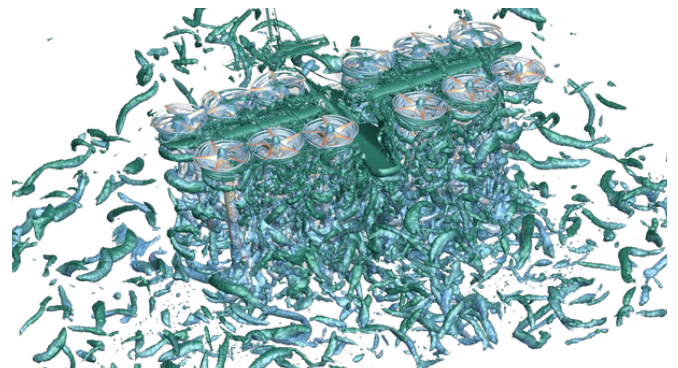DUFOUR AEROSPACE — Evaluates flow field visualization for airplane pitching (q-criterion)
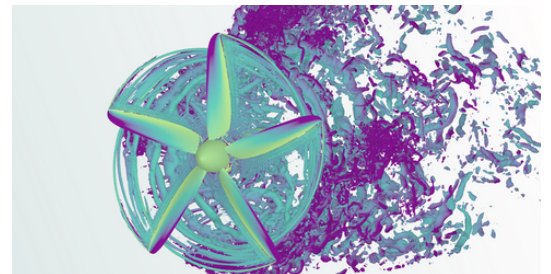
Joby — Evaluates scalable multi-fidelity acoustic simulations delivering precise noise predictions matching experimental results within a few dB

wisk — Dynamic descending in ground effect simulation with full aircraft (800 M node mesh)

celestial AI is simulating large metasurface structures at a scale previously impossible

BENCHMARK ANALYSIS

Legend:
- Simulation on A100
- Same simulation on Blackwell
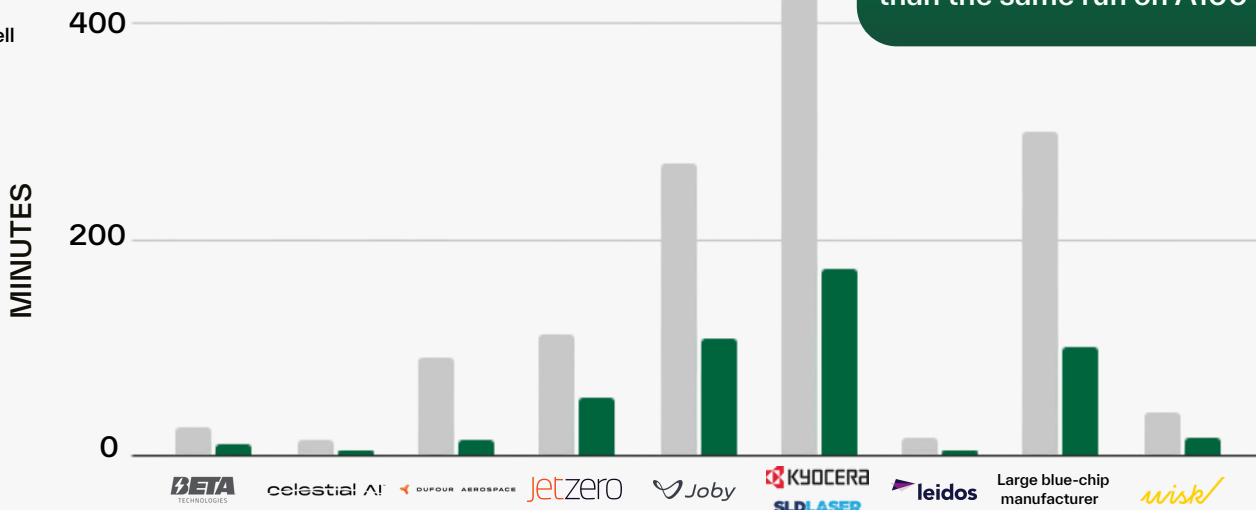
FINDINGS:
NVIDIA Blackwell powers *2.86X* faster simulations than the same run on A100

Y-axis: MINUTES (0, 200, 400)

X-axis categories: BETA TECHNOLOGIES, celestial AI, DUFOUR AEROSPACE, JetZero, Joby, KYOCERA SLD LASER, leidos, Large blue-chip manufacturer, wisk

The era of Big Compute is here for Physics Simulation. It's not just faster—it's unlocking new possibilities. Simulate complex physical phenomena previously impossible to model.

Learn More

Trusted by

Joby, SAMSUNG DISPLAY, BETA, REGENT, XANADU, ELECTRA, AyarLabs, JetZero, DUFOUR AEROSPACE, COHERENT, NIO, Pixel Photonics, MIT, Caltech, Stanford University, PRINCETON UNIVERSITY

ABOUT FLEXCOMPUTE

At Flexcompute, innovation is not just a principle—it's the foundation of everything we do. Born from the minds of engineers at MIT and Stanford, we push the boundaries of what's possible in simulation technology. With our GPU-native technology, seamlessly integrated into existing workflows, we enable teams to innovate faster, reduce costs, and minimize risks—bringing better products to market in less time. Our mission goes beyond transforming the products we help bring to life—we aim to inspire and fuel the next generation of engineers who will design them by making hardware development as easy as software.