DRONE TRANSPORTATION

AWE**SIM**

TOTALSIM AND AWESIM CREATE SIMULATION APP

GoFly launched a challenge in 2017 to create a drone that flies humans. Many of the great challenges of this task are concentrated in the modeling phase, or "Phase I" of the competition. In order to create a drone, especially one capable of flying humans, extreme precision and accuracy only achieved through tests done using computational fluid dynamics (CFD) is required. However, this CFD technology was completely unfamiliar to many of the 600 entrants.

TotalSim partnered with OSC's AweSim industrial platform to create their TS Aero app, which they made freely available to the contestants. TotalSim president, Ray Leto, hoped this app would allow investors to easily model their prototype while using innovative CFD technology.

"What we offer is an app-based workflow that doesn't require expert knowledge to run. Many of the people using it have never done CFD before. Many of them are not aerodynamicists, they're innovators, inventors," Leto said.

"It's been a good advanced beta testing process for us, both from the CFD and aerodynamics side, and maybe more importantly from the software and infrastructure side with OSC involved."

— *Ray Leto, president of TotalSim*

VIRTUAL DESIGNS. REAL BENEFITS.

The app gave innovators the opportunity not only to create a design refined through simulations, but also the opportunity to dabble in the world of CFD, learning valuable skills for their future of inventing and engineering.

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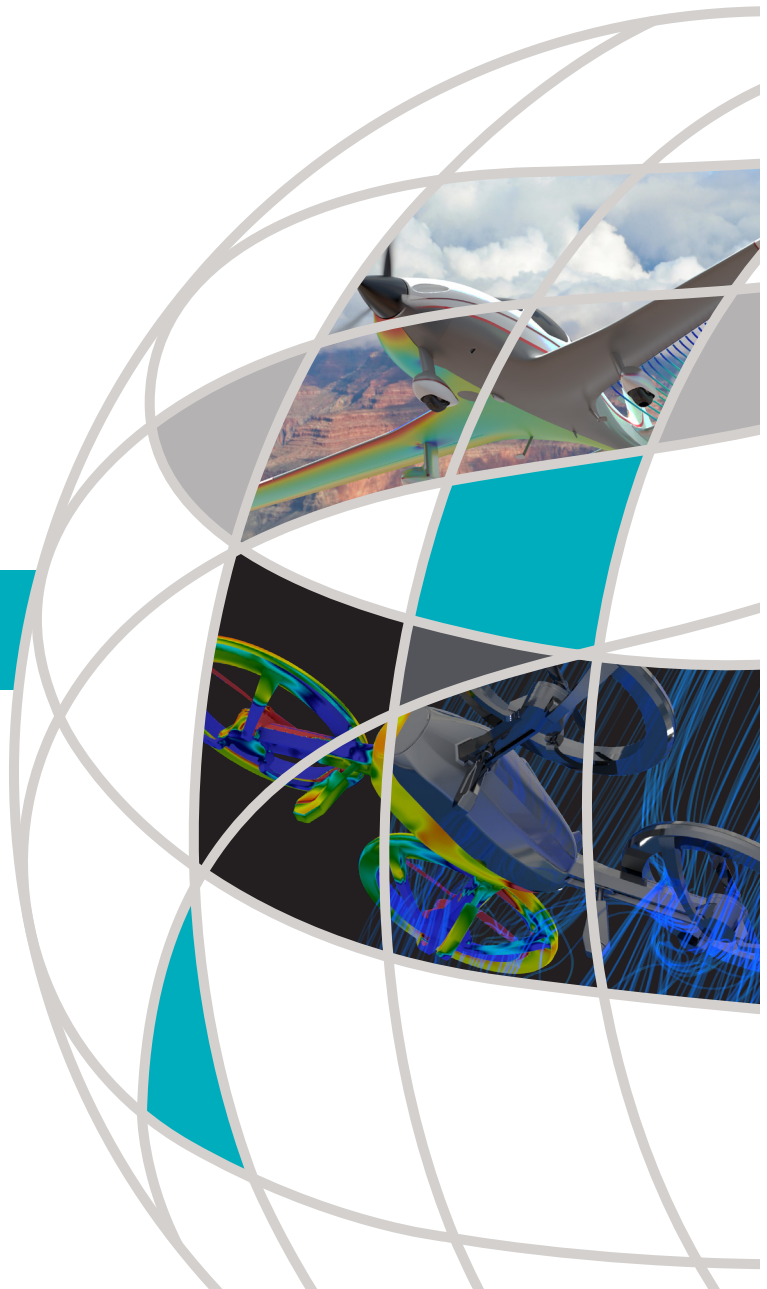
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THE CHALLENGE

Many entrants of GoFly's challenge to create a drone to fly humans were not familiar with computational fluid dynamics, or CFD. However, modeling a drone of this nature requires precision and accuracy that is best provided by testing and simulation using CFD.

THE APPROACH

TotalSim created a TS Aero application built on OSC's AweSim industrial platform. The app provided contestants with software where they could easily model and test their drones in a virtual space.

THE SOLUTION

Contestants, including those previously unfamiliar with CFD, were able to monitor their drone's response to various pressure and forces using the app's simulation feature. This helped them adapt their designs, moving toward the goal of creating a human-flying drone.