



DESIGNING COMFORT, SAFETY & ECONOMY

MIRUS AIRCRAFT SEATING EMPLOYS UNLIMITED COMPUTING FOR SIMULATION AND MODELING

About the Customer

Mirus Aircraft Seating is a leading global manufacturer of innovative, high-performance aircraft seating, with operations in the U.K., Malaysia, and China. The company unites technology, expertise, and best practices from the automotive and aerospace sectors, focusing on form, function, innovation, and sustainability to deliver the best possible passenger experience and save airline operators money. Mirus was one of the first manufacturers to bring lightweight aircraft seats to market, and its MTEST on-site dynamic testing facility — the largest commercially available test facility in the U.K. — features the latest dynamic testing technology.



With Altair Unlimited we get everything in one easy package. Our engineers are productive and our IT team has all the administrative, workload management, and analysis tools they need to keep things running smoothly. Altair solutions help us reduce time to market and be a leader in a competitive field.

Adam Challenor, Technical Director, Mirus Aircraft Seating



Their Challenge

Mirus was founded in 2015 and began using Altair simulation software in 2016. **The Mirus team worked with Altair experts to develop models, methods, and processes** to use and reuse when developing their range of aircraft seating products, taking into consideration complex factors including material composition, weight, durability, production cost, long-term efficiency, and above all passenger safety. In 2022 it added a Humanetics crash dummy model to fully emulate physical crash tests. **Advanced modeling and simulation are critical to Mirus's business** and its mission of delivering innovative, high-performance aircraft seating solutions while enhancing the passenger experience. It requires powerful computing resources to perform preprocessing, data analysis, post-processing, validation, and more.

Mirus's MTEST on-site dynamic testing facility is the largest commercially available dynamic sled test facility in the U.K.

Our Solution

To power advanced crash testing simulation, **the Mirus team expanded its computing capabilities to the cloud by employing the Altair® Unlimited™ virtual appliance**. Altair Unlimited is a turnkey, state-of-the-art private appliance, available in both on-premises and cloud-based formats. Altair Unlimited delivers unlimited use of a wide range of Altair® HyperWorks® software to simulate mechanics, fluids, electromagnetics, and more — including modeling, visualization, and optimization. High-performance computing resource management is included in every system, providing efficient scheduling, monitoring, and resource allocation. With a user-friendly web portal, it allows users to easily submit jobs and manage workloads.

Just months after Mirus launched the Altair Unlimited virtual appliance, the company further boosted its computing power by bringing computing in-house with an Altair Unlimited physical appliance, putting high-spec hardware on-site at their U.K. facility and **enabling team members to compute as much as they liked without the worry of cost overruns**. “With Altair Unlimited we get everything in one easy package,” said Adam Challenor, technical director at Mirus. “Our engineers are productive and our IT team has all the administrative, workload management, and analysis tools they need to keep things running smoothly.”

Results

Two years later **Mirus was using the Altair Unlimited appliance 24/7**. Over time, it needed to boost capacity and run applications even faster, so in 2025 Altair installed **extra hardware nodes to make the physical appliance more than twice as fast**. Mirus is still growing and faces an ever-greater need for efficient computing solutions to enable simulation-driven design, AI-powered engineering, fatigue and durability testing, materials management, and more. Mirus and Altair continue to work together to make the most of its mission-critical computing resources. Challenor said, “Altair solutions help us reduce time to market and be a leader in a competitive field.”