

DYNAMIC PERFORMANCE

the FUTURE of FLIGHT

THE AIRLINE INDUSTRY IS REINVENTING ITSELF TO MAXIMIZE PERFORMANCE, FROM A SUPERSONIC PRIVATE JET TO PERSONAL AIR VEHICLES. THE SKY IS TRULY THE LIMIT.

by Jeff Wise

At heart, modern air travel isn't much different than it was in its earliest days: We still trek to airports to climb aboard long metal tubes with wings and a couple of engines attached. But all that's about to change. Radical technologies are currently on the drawing board that will take us where we're going faster, more safely and more comfortably than ever before.

In the future, new materials will also allow aeronautical engineers to move beyond the rigid outlines of today and create airplanes that change shape to optimize performance at every speed and altitude, in much the same way that birds fan or tuck their feathers depending on whether they're soaring, diving or landing. Darren Hartl, a professor of aerospace engineering at Texas A&M, is researching "active" materials that can continuously morph into new forms. "Very small changes in the shape of a wing could change noise and drag substantially," he says.

If shape-shifting airframes seem a wild concept, Airbus has put forth a vision that's more radical. Called the "The Concept Plane," it aims to tap the technology of the 2050s and beyond, when nanotechnology and bioengineering will allow designers to grow their concepts from the molecular level up. Structures that mimic the curve of an insect carapace and skins thin enough to become transparent will create the illusion that the plane has disappeared and the passengers are soaring in the open air.

The aircraft of the future will fly faster, too. Aerion, a startup funded by billionaire investor Robert Bass, is planning to build a sleek \$120 million supersonic business jet called the AS2 that can fly 4,700 miles at Mach 1.5,



SUPERSONIC FLIGHT

AERION HAS PLANS for a \$120 million business jet that has been called the "son of the Concorde," shaving three hours off a flight across the Atlantic.