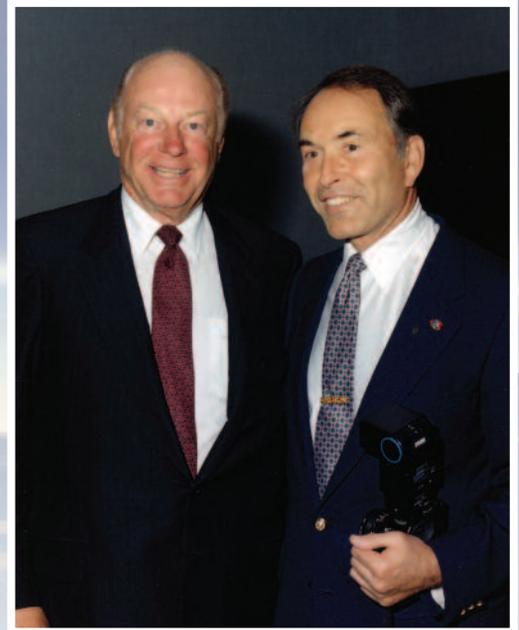


# Supersonic: The next renaissance in the global business jet industry



**Son of former Gulfstream CEO Allen Paulson keeps his father's dream of an SSBJ alive with QSST-X design.**

Originally a dealer in refurbished aircraft parts, Allen Paulson later sold Learjets along with Clay Lacy and bought the Gulfstream division from Grumman. His aircraft acquisition became a world leader in business jets that now carry the world's top executives. In his later life he wanted to build a supersonic Gulfstream and he partnered with Sukhoi of Russia in that pursuit. Here he is with *Pro Pilot* Publisher Murray Smith who became a good friend and helped promote his SSBJ efforts.



Following in his famed father's footsteps, Michael Paulson wants to bring a supersonic business jet into fruition now. Convinced a market for the SSBJ exists, he believes supersonic air travel will be accepted for business use long ahead of service with airlines. Based on Allen Paulson's groundwork and embodying inputs from corporate pilots including Clay Lacy, he worked with Lockheed Martin on an advanced SSBJ design tagged the QSST that conquers the sonic boom.

**By J Michael Paulson  
Founder & CEO  
Supersonic Aerospace International**

**A**s we enter 2014, I believe the question that aviation advocates in both business and government need to ask themselves is "What do we need to do to create a renaissance in the global business jet industry?" I believe the answer is obviously not doing the same by keeping the "status quo."

The 2013 market results released by the global business jet OEMs still show that the industry is anemic and still feeling the long-term effects of the 2008 global economic crisis. Unfortunately, we all have read recent articles of several prominent aviation OEMs having to layoff many of their skilled workers due to a lack of interest and sales for their current models. The only bright spot in the marketplace in recent years has been the demand for the newly announced and developed large, ultra long-range business jets.

However, even though these new ultra long-range, large business jets provide more range, cabin space, updated flightdecks and a marginal increase in cruise speed, they still are flying in the subsonic flight regime that business jets have been stuck in for more than 50 years. In other words, the current business jet models are really only updated derivatives of their decades old original prototype models.

**Quiet supersonic bizjets will be a quantum leap forward in aviation and business technology**

I believe the solution for creating a renaissance and new excitement with business jet operators and the global aviation community is the development of a new revolutionary "quiet" supersonic business jet. Supersonics will provide a quantum leap forward in aviation technology as the current models of business jets have surely reached their maturation in aerodynamic design.

While there has been considerable advancement in engines, systems and flightdecks, there really has been little advancement in subsonic aerodynamics over the last several decades. For example, in recent years the last OEM holdouts finally conceded and are adding winglets (a technology originally designed in the 1970s) to their current business jet models. So I believe you can expect to only see diminutive advancements in any future models and derivatives of current subsonic business jet models.

But there is some good news. Many aviation industry leaders agree that developmental design maturation has likely been achieved in subsonic aircraft designs. They have publically stated that supersonics are likely the "next logical step" for the business jet industry. I have read several interviews over the last few years where many aviation



Artist's concept of the current QSST-X design shows the basic configuration now being pursued following a 5-year study at Lockheed Martin. This SSBJ aircraft has a longer cabin than the G650 and is being engineered to have a top cruise speed of Mach 1.8 along with a range goal of over 5000 nm. A very comfortable aft cabin and state-of-the-art flightdeck instrumentation will also be embodied.

leaders have stated they have regrets that there still is not a supersonic business jet in service today, but they also believe the proviso for the next generation of business jets to be supersonic, they must be “virtually boomless” to be environmentally friendly and capable of receiving governmental approval for “quiet” transcontinental (overland) supersonic flight.

Supersonic overland flight capability and an environmentally friendly quiet design were goals at the forefront of our endeavor when I hired Lockheed Martin's famed Skunk Works design group in 2001 to complete an extensive Phase 1 feasibility design study. Our 5-year design study produced amazing results with a supersonic jet design, known as the QSST (Quiet SuperSonic Transport) capable of virtually boomless supersonic flight.

The QSST's advanced and revolutionary aerodynamics will make it “well over 100 times” quieter than the now retired Concorde supersonic airliner. This amazing design achievement by Lockheed Martin allows the QSST to be more than capable of receiving governmental approval for supersonic overland flight.

As shown in the accompanying artist graphics of the QSST, our attractive airframe design employs many advancements in aerodynamics, including a patented inverted v-tail that Lockheed Martin believes is essential for virtually boomless supersonic flight. Also, no unattractive and operationally challenging Pinocchio nose is needed in our advanced Lockheed Martin supersonic aircraft design.

## QSST: sonic boom no longer an obstacle

The major current obstacle to routine private and commercial supersonic overland flight in the US is FAR 91.817. Congress enacted this law in the 1970s to discourage design competition being conducted in the US for large commercial supersonic airliners. FAR 91.817 also aimed to prevent Concorde—with its significant sonic boom—from flying over the US on a routine basis and disturbing the public below.

This law was enacted in the 1970s when technologies did not exist for virtually boomless supersonic flight. But our regulatory experts conducted extensive research into the law and found that it was not intended to indefinitely stop commercial or private supersonic flight overland in the US. Actually, the law's sole purpose was not to limit the advancement of speed, but to protect the public from routine and annoying sonic booms.

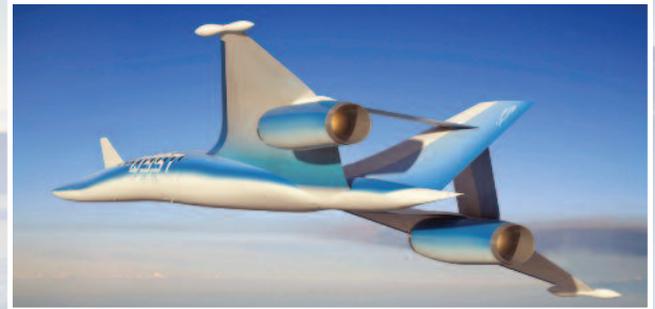
In enacting FAR 91.817 and its supporting regulations and authorization, Congress actually gave the FAA the regulatory authority to oversee new supersonic design technologies and future certifications in order to guide and facilitate the future development of a commercial supersonic aircraft capable of virtually boomless flight. In fact, over the last several decades our Congress has been a prominent proponent of supersonic flight by funding numerous NASA-supported design and acoustic studies on the prospective development of virtually boomless supersonic business and commercial aircraft.



Michael Paulson has worked with Clay Lacy to refine the QSST design. Pilot ideas have been welcomed in Paulson's continuing quest to not only have a fast long-range SSBJ but also one that will be very safe and that pilots will enjoy flying.



During the 1987 Paris Air Show there was an important meeting between Gulfstream CEO Allen Paulson and Sukhoi Chief Designer Seemonov. This resulted in an initial partnership between Gulfstream and Sukhoi to design, build and market a supersonic business jet. Engineers did the work-up and here is the 3-engine aircraft design that was initially agreed upon.



Above are 3 more views of the QSST-X. This is the twin-engine design that embodies the 5-year research study at Lockheed Martin. Notice there is no long telescoping nose needed to defeat the sonic boom and the braced inverted T-tail is an important characteristic.

## Let's go with QSST-X

With the information I disclosed about our new larger QSST-X business jet/airliner aircraft in my March 2013 *Pro Pilot* article, I believe the QSST-X is a prime candidate to create a renaissance for the business jet industry. Its patented virtually boomless supersonic design with well over 5000 nm range, and a passenger cabin larger than the new Gulfstream 650, make the QSST-X a quantum leap forward. It is, I believe, the next logical step for the advancement of the business jet industry.

As I have written in past *Pro Pilot* articles, my late father, Allen Paulson—founder and former CEO of Gulfstream—tirelessly spent the last 12 years of his life advocating and promoting the need for a new advanced supersonic business jet. In 2000 I was honored when he passed on the baton to me. And I have spent the last 14 years of my life working hard to fulfill his dream and legacy in this exciting, potentially groundbreaking enterprise.

So now, 26 years after my father started this worthy endeavor to advance aviation, I'm very optimistic that 2014 will finally be an important year on the road to SSBJ success. I truly believe the time is right. However, aviation leaders must take an active role in bringing the world and

business aviation community to the new and exciting horizons of civil supersonic flight. I want to announce to the pilots who love the sky who read *Pro Pilot* that I am going to do all I can to go forward with my father's dream of a practical and quiet supersonic business jet. The design Lockheed Martin and I helped to develop is a virtually boomless supersonic aircraft that will have the range and speed to satisfy the needs of top corporate execs. Come with me on this historic journey.

With the support of the aviation community, the QSST-X will be well on its way to redefining innovation in the global business jet industry. By helping me advocate for a new generation of supersonic business jets, I believe we will be able to convince one of the leading business or commercial jet manufacturers, or a sovereign, to be sufficiently bold to take on the development of our exciting and virtually boomless QSST-X supersonic aircraft. ✈️



Michael Paulson founded Supersonic Aerospace Intl in 2001 to fulfill his promise to create a revolutionary QSST for the 21st century. He is an experienced private pilot.