

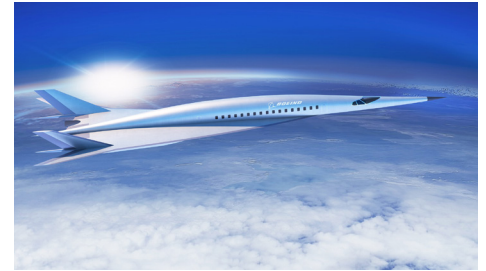
# SUPERSONIC FLIGHT OVER LAND

HIGH-SPEED FLIGHT FOR THE 21<sup>ST</sup> CENTURY



## BACKGROUND

The past year has seen significant technology, policy, and investment developments reflecting the increased interest and momentum from industry and regulators to address barriers seen as slowing the maturation of commercial supersonic vehicle development and operations. With few exceptions, the Aircraft Noise Abatement Act of 1968 requires that commercial aircraft not exceed Mach 1 and also meet current airworthiness and noise certification requirements. While not removing the high bar to approving supersonic flight over land, recent FAA rule changes are intended to simplify the process for supersonic flight approval as well as specifically address noise certification activities as reasons for conducting supersonic flight. Beyond changes to the governing FAA regulations, a significant step forward occurred when the Governor and the Department of Transportation for the state of Kansas finalized an agreement with the FAA to establish the Kansas Supersonic Transportation Corridor (SSTC) for use in testing non-military supersonic aircraft. These two developments represent significant steps forward, although additional actions to modernize the system remain necessary.



## WHY IT MATTERS

2020 saw a significant increase in the investment in, or intended development of, supersonic vehicles for commercial applications. Notable players lending their support to the business model include Virgin Galactic, Boom, and Aerion, to name just a few. The investments by these and other companies, plus a stated desire from federal regulators to develop an approach that balances the recognition for innovation and exploration with environmental and safety concerns, reinforces recent economic projections of an industry generating tens of billions of dollars in revenue and requiring significant numbers of highly skilled engineers, technicians, and manufacturers. Likewise, the establishment of a dedicated and federally recognized and approved flight test circuit for supersonic vehicles brings actual testing and eventual operations one step closer to being a reality.



## WHAT'S NEXT

The FAA has taken steps, albeit initial ones, in modernizing the requirements and process for conducting supersonic flight over land. Congress instructed the FAA in Section 181 of the FAA Reauthorization Act of 2018 to assume a leadership role in the development of international policies, regulations, and standards that facilitate the safe and efficient operation of such aircraft as well as to undertake reforms of its regulations regarding civil supersonic aircraft. The recent reforms and partnering with states and industry should be commended, but they need to continue and be expanded if policies and regulations are to keep pace with innovation. Additionally, ongoing federally supported research programs like the NASA X-59 QueSST (Quiet SuperSonic Technology) need to be fully funded with technology transfer maximized to allow for all design, materials, operations, and propulsion advances to be fully leveraged, resulting in a balance between technology and policy that supports this industry segment in reaching its full potential.



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