HIGH SPEED FLIGHT BULLETIN

February 2022

From the Chairman's Desk and Cockpit:

Dear Friends and Colleagues:

Welcome onboard the February High Speed Flight monthly Bulletin.

I look forward to giving you our annual State of the High-Speed Aerospace Transportation (HSAT) industry report during the FastForward First Quarterly call on March 11th 2022. This year, the high-speed flight future looks very promising, yet challenges and risks abound. The HSAT Workshop's 4th edition last December yielded excellent insights and actionable tasks to advance in our quest for a robust high-speed flight industry niche.

The hypersonic industry segment keeps growing and developing as an imperative to bring the Western defense systems from the third to the first spot in the world (I don't need to remind you who our top two adversaries are). The hypersonic world remains the fulcrum between supersonic and orbital high-speed flight, and we are all eagerly carving out as much technology and developments as possible to advance the commercial hypersonic industry. I am glad to see Boeing coming back on the scene with Kevin Bowcutt's hypersonic vehicle and future airliner design. Also, NASA's QueSST X-59 program is advancing well, and we need as much rhythm and tempo as possible on that program to open up supersonic and hypersonic over land flight everywhere.

We are very proud to announce that InterFlight Global, our group's parent company, has joined the University Consortium for Advanced Hypersonics (UCAH) as an Industry Advisory Board (IAB) Member. As you might know, the FY20 National Defense Authorization Act (NDAA) directed DoD, through the Joint Hypersonic Transition Office (JHTO), to stand-up a University Consortium to further basic and applied research in the area of hypersonics. We believe our group will be able to give and receive valuable strategic insights, research, and knowledge to advance the hypersonic aerospace flight industry for commercial and defense applications.

Below are some HSAT highlights for February, with much more to come in this already intense, temperamental, and yes, volatile year.

As always, we are only a phone call or email away,
Fly Fast, Fly Safe,…Fly Free!

Oscar S. Garcia
Chairman, HSAT - FastForward Project

(photo credit: Boeing)

Register for FastForward Group Call

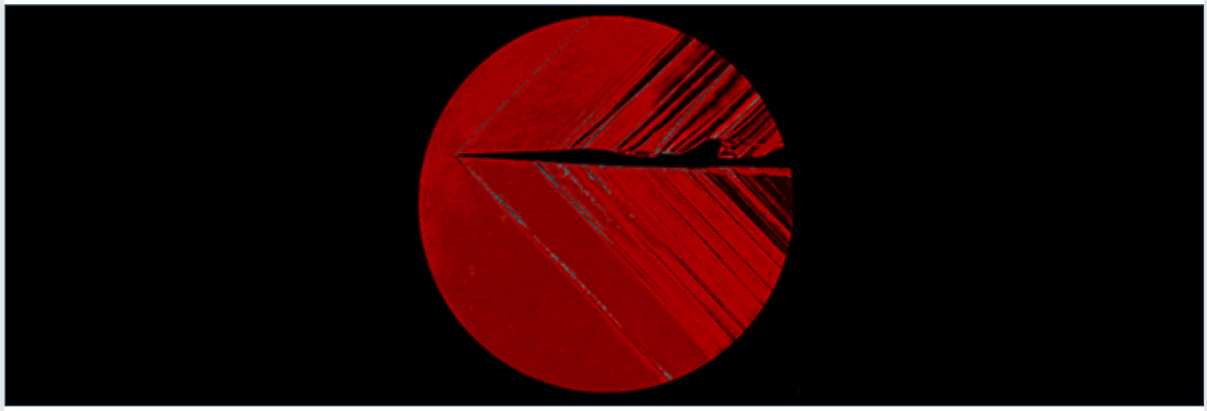
TRANSONIC

The high-speed transonic flight industry keeps getting stronger, with backlogs of long range very high-speed aircraft increasing to historically high list and asking prices for new and used fast jets. For example, Bombardier just announced its 100Th Global Mach .90+ Global 7500 delivery, and the backlog for this fast jet keeps growing. Bombardier markets its highest speed and longest-range aircraft as a corporate structural “revenue” accelerator, indicating that the appetite for speed in the high-speed transonic regime just keeps getting stronger and stronger. (photo credit: Bombardier)

SUPERSONIC

I am very confident that unconstrained overland supersonic flight will be commonplace before the end of the decade. The Mach 1.4 NASA QUeSST program and the Lockheed Martin X59 program are proceeding well, and are on track to start flying at the end of the year and complete noise standards validation tests in the 2024-2026 timeframe. Stay tuned with this exciting program at NASA QUeSST.

We learned this month that the target Mach number for the BOOM Overture is now Mach 1.7. The recently announced Greensboro, North Carolina Super Factory on 65 acres reminds us of Aerion's super campus in Melbourne, Florida. I remain cautiously optimistic that the assets of Aerion will re-emerge, and the AS-2 or perhaps the AS-3 Mach 4.0 hypersonic model will be revived. We have not heard any sounds of "Chapter" filings by Aerion, thus hopefully the ABC process went well, and a new backer will emerge soon.
(photo credit: NASA)



HYPERSONIC

I posted on LinkedIn a 2018 vintage YouTube interview with Boeing's Kevin Bowcutt. What is important about that interview is how Kevin addresses the brilliant airframe design and its characteristics in an easy-to-understand "mainstream" language that anyone can appreciate and be inspired and excited by. The high-speed flight industry needs to appeal to and ignite the mainstream markets, the younger the better. More and more of the capital formation for high tech has a direct correlation with the excitement level of the millennial and Z generation crowds. You can see the interview here.

This month, I had the pleasure of meeting the founders and leaders of Hypersonix, an Australian hypersonic airframe and powerplant company, and the designers of an incredible high-performance hydrogen-powered innovative reusable accelerating scramjet engine.
I am glad that Boeing and Hypersonix are progressing well in their joint research program. Stay tuned, as this partnership will yield impressive developments.
(photo credit: Boeing Hypersonix)

Register for the HSAT Workshop

SUBORBITAL

At the FAA CST Conference, Blue Origin announced their intent to double the number of flights and participants in 2022, from the 3flights and 14 flyers in 2021. Virgin Galactic's return to commercial flights is expected by the end of 2022 or early 2023, with an ambitious three times/month flight cadence.

The Spaceport-to-Spaceport (S2S) flight corridor design and modeling funded by the Midland Development Corporation, and the White Paper (in progress) sponsored by our group and our partners are progressing well, and we expect to start flight demos with supersonic F-104's and soon thereafter with rocket-powered vehicles to prove the S2S suborbital missions. Once demonstrated, we expect quick proliferation of S2S R&D and entry into commercial service flights. (photo credit: Virgin Galactic)

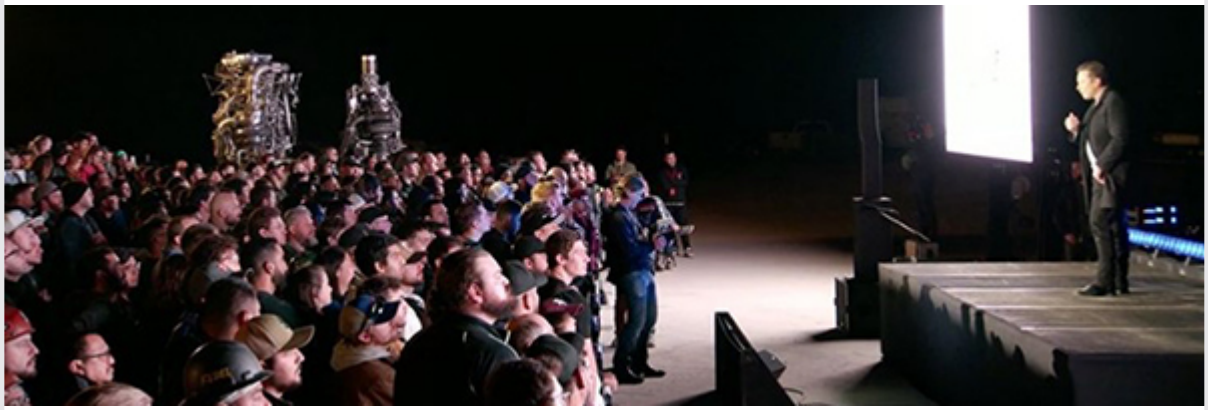
ORBITAL

Jared Isaacman and Space X keep making the news and getting the mainstream spaceflight markets more and more excited about commercial orbital spaceflight. The Polaris program is a go, as a precursor to launch civilian astronauts to the Moon and Mars. Including the Polaris Dawn missions, these first commercial astronaut spacewalks are enablers of a space "culture" that positively paves the way further for future point to point "routine" orbital flights. Thank you, SpaceX and Jared! Each safe, reliable, and successful step you take will exponentially add future "spaceflight passengers" to the long awaited, yet elusive, "world in a business day travel".

In Mid-February, Elon Musk (SpaceX) gave an update, and estimates that the required FAA environmental analysis for the Starship will be completed, and that the rocket will fly

to orbit in March. We all await this flight as a prelude of the point to point mission from Boca Chica in West Texas to Hawaii (the long way around) in 90 minutes. As we all agree, that flight will define a milestone that will ignite the capital formation and impetus to demonstrate such a mission with a payload first, and with occupants shortly thereafter. Go Starship!

(Photo Credit: SpaceX)



IN CONCLUSION

We have a busy year ahead supporting the HSAT industry, noise standards, air and space travel integration, high-speed corridors, sustainable fuels and propulsion technologies, and much more. As always, we will collaborate with our strategic partners, including: the Global Spaceport Alliance (GSA), Commercial Spaceflight Federation (CSF), FAA-COE-CST (and its successor in mid-2022), ASTM, as well as the great teams at the FAA, FAA-AST, and DOT, supporting our efforts in airspace design, standards, and regulatory compliance.

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