

The logo features a stylized yellow and blue swoosh that forms a partial circle around a white and blue arrow pointing upwards and to the right.

HIGH SPEED FLIGHT BULLETIN

January 2022

From the Chairman's Desk and Cockpit:

Dear Friends and Colleagues:

Welcome to the first High-Speed Flight -FastForward monthly Bulletin.

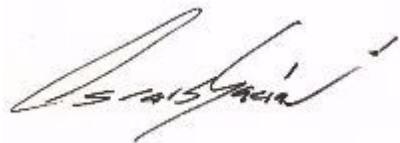
I have the honor and privilege of Chairing this combined group, and I am proud to announce that 2022 marks the 10th-year anniversary of the Fastforward Project Group in its current format, since I took the “left-seat” from my friend and esteemed colleague, Dr. John Olds, Founder and CEO of Spaceworks Enterprises. Dr. Olds founded the FastForward Project in 2008 and we have shared the FastForward Group’s Cockpit for 14 years.



This year will also mark the 5th anniversary of the High Speed Aerospace Transportation (HSAT) Workshop, with the latest edition scheduled for December 8th and 9th at the Midland International Air and Spaceport.

This first newsletter is meant to give you both a year 2021 in review and a January 2022 update. Offering you a glimpse of our leadership in the HSAT industry. We will listen to your input and develop the Bulletins to be a quick primer of the industry highlights to lead you into our website, social media channels and growing portal of “everything” high-speed flight around the world, and in space.

Welcome on board, as always: fly fast, fly safe and fly clean!

A handwritten signature in black ink, appearing to read 'Oscar S. Garcia'.

Oscar S. Garcia
Chairman, HSAT - FastForward Project



Year 2021 in review:

Suborbital-Orbital

Last year, US human spaceflight presented an inflection point as Blue Origin, SpaceX and Virgin Galactic all flew commercial astronauts and flight participants on suborbital and orbital space tourism flights. These flights were conducted safely, and even when certain anomalies took place, the system proved to have safety margins to consider the missions nominal or very close to nominal. (photo credit: Blue Origin)



Hypersonics

The year 2022 marks an unstoppable crescendo of hypersonic flight research and testing for national defense and security. In the commercial side of hypersonics, NASA published two market and business cases to assess the hypersonic commercial transportation industries. I am proud to have contributed to one of those two studies (SAIC-Bryce) and to have brought in a full HSAT-FF vault of knowledge and insights.

The studies used different approaches, yet delivered similar results confirming a robust global demand for hundreds of hypersonic aircraft equipped with tens of thousands of “passenger-seats” and forecasting millions of passengers in several dozen routes. I invite you to access and peruse the reports on our [website \(link\)](#).



Independent Market Study Commercial Hypersonic Transportation

April 2021

SAIC

**BRYCE
TECH**

Supersonics

The supersonic industry had major wins, with Boom Supersonic receiving a large order from United Airlines, and with the great progress of the NASA X-59 QueSST program. On the downside, Aerion's ceased operations in June, which was an unpleasant surprise, yet, the negotiation of an Assignment for the Benefit of Creditors (ABC), in my opinion, should yield encouraging results for Aerion's return, with an even faster aircraft.

(photo credit: Boom Supersonic)



High-Speed Transonics

The high-speed transonic world was simply 'unstoppable', with growing sales, book to bill and backlogs. At the NBAA event in Las Vegas, Gulfstream again made waves launching its newest line-up of Mach .925 aircraft, with its G-800 longest range ever aircraft, which can travel nonstop connecting virtually any two cities in the world, either east or west. Dassault and Bombardier are following suit closely, with their Mach .90+ Falcon 10X and Global 6000 and 7000 series.

We would like to give Textron a wink, to go-ahead with some form of resurrection of the Citation X+, and give Boeing, Airbus and Embraer a "heads up" that the market is asking for speed, in addition to range, to sustainability and economics.

All in all, the market expects levels of safety for high speed aircraft equivalent to the current subsonic fleet. I know this is a high bar for the high-speed flight industry innovations, but I prefer to take this as a challenge to cherish by industry and regulators alike. (photo credit: Gulfstream)



HSAT-FF Group - Quarterly Calls

Our FastForward Quarterly calls had record attendance in 2021! In March, I delivered the HSAT State of the Industry updates. In June, Paul Damphousse introduced Calspan's High Speed Flight initiatives, ground and flight-testing capabilities. On September we had a very informative briefing by BryceTech's Sr. Consultant, Carie Mullins, about the NASA Hypersonic Transportation market study.

We closed the year in December, with an in-person presentation at the HSAT Workshop in Midland, with the Foundation for the Future's (F4F), Executive Director, Tim Chrisman. Tim aligned the F4F infrastructure and workforce development strategies to our group, to enable access to point-to-point space transportation for all. (Photo Credit: InterFlight Global)

[Register for FastForward Group Call](#)



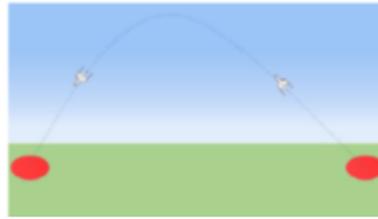
Working Groups

The HSAT-FF Spaceport to Spaceport Working Group, in collaboration with the Global Spaceport Alliance (GSA), met bi-monthly and produced a first release of the Suborbital S2S White Paper at the 4th Edition of the HSAT Workshop. We expect the White Paper to be published by Q3 2022, and released at the 5th Edition of the HSAT Workshop, December 8th and 9th, 2022 at the Midland Air and Spaceport, in Texas.

(Photo Credit: InterFlight Global)

S2S WHITE PAPER

SPACEPORT TO SPACEPORT AIRSPACE
CORRIDORS FOR THE COMMERCIAL
SPACE TRANSPORTATION INDUSTRY
SUBORBITAL SPACEFLIGHT FOCUS



GLOBAL
SPACEPORT
ALLIANCE

IFG



HSAT Workshop

The 4th Edition HSAT in December, Co-Chaired by my esteemed colleague, Dr. George Nield, Chairman of the Global Spaceport Alliance showed a record attendance and a strong dialogue appetite and intensity. The interactions resulted in many go-forward actions that the members agreed to pursue, to enable viable point-to-point, high speed flight this decade. Some of the areas for work this year include Supersonic and Hypersonic over-land noise standards development, Suborbital flight participants medical and fitness-for-flight standards & best practices and orbital human spaceflight traffic management and safety (debris avoidance).

I will brief the **FastForward Group on the Workshop takeaways** during the State of the HSAT industry presentation on March 11th, [register here](#) (Photo Credit: InterFlight Global)

[Register for the HSAT Workshop](#)



January 2022

2022 started with the very good news of a US Air Force \$102 million contract award to Space X to demonstrate technologies and capabilities to transport military cargo and humanitarian aid on a heavy rocket. For all of us who have been involved in the aviation, aerospace and space industries for decades, this is very meaningful for several reasons. First, because the contract includes an option for a heavy cargo point-to-point spaceflight demonstration. Second, because the intent is to investigate the utilization, capacity, speed and cost of high-speed point-to-point transportation and its logistics benefits using “space as a medium” in the cruise portion of the flight. Third, and very important for “cracking” the

High-Speed Aerospace (HSAT) transportation code, these efforts trickle down through the system to enable hypersonic and supersonic endo-atmospheric flight.

I call this a great start of the year 2022, continuing a great decade! (photo credit: NASA)



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