

## GoHypersonic Wind Tunnel Facility Enhancement

**Overview:** GoHypersonic's operates two supersonic/hypersonic blowdown wind tunnels at its Dayton facility with free-jet capabilities from Mach 2.0 to Mach 6.0. Tunnel 1 is capable of unheated operation up to Mach 4.0. Tunnel 2 utilizes an electrically-powered in-line ceramic storage heater and is able to be operated to Mach 6 in free-jet mode or Mach 4 flight enthalpy in direct-connect mode. The entire tunnel is mounted on linear rails for direct measurement of thrust.



## **Current Capabilities:**

- Clean air free-jet or direct-connect testing
- Leg 1 Unheated operation Mach 2.2 4.0
- Leg 2 Heated operation to Mach 6.0
  - 1200°F Mach 4 flight enthalpy
  - · Thrust of direct-connect hardware
- ~20 second duration with current air supply



## **Proposed Facility Enhancements:**

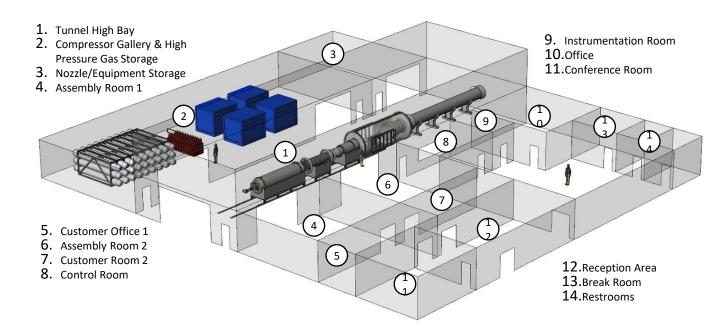
- Increased massflow and heater enhancement for higher-temperature operation
  - ~3-4X Ramjet/Scramjet direct-connect testing
  - · Mach 4-7 flight conditions
- Upgraded freejet test section
  - Full-scale ~1X inlet freejet testing with combustion
  - · Mach 4 true flight enthalpy aerothermal testing
- Pilot-scale demo for USAF tunnel enhancement
- Liquid fuel delivery and recapture system and design of fuel exhaust recovery system.



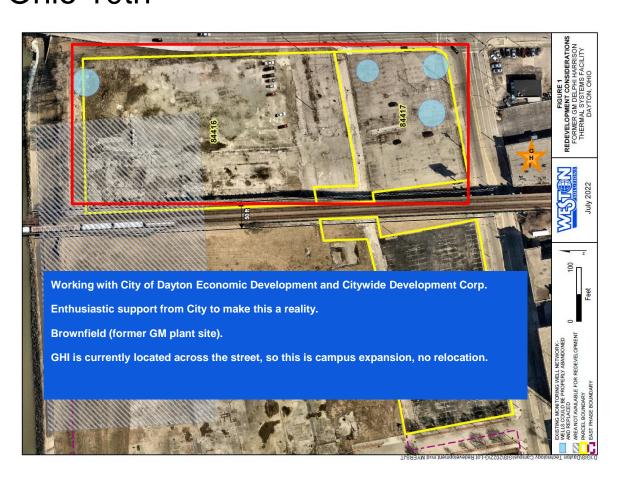
Primarily in-house and related DoD contractor research.
Other U.S. Government agency and DoD contractors
upon request.

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## GoHypersonic Inc - Tech Town Facility Expansion - City of Dayton - Mike Turner -Ohio 10th





November 1, 2022

Dayton Development Coalition 1401 S Main Street Suite 200 Dayton, Ohio 45409

To The Dayton Region Priority Development and Advocacy Committee:

On behalf of the Dayton/Miami Valley Entrepreneurs' Center, Inc. (EC) we would like to express our strong support for the proposed hypersonic wind tunnel and manufacturing facility project submitted by GoHypersonic Inc. GoHypersonic was a resident company of the EC before their first expansion to their current site at Monument Ave. We are thrilled that GoHypersonic is once again growing and expanding to a new location at Tech Town where they will build a state-of-the-art wind tunnel test center.

This project will bring a much-needed large scale hypersonic test facility to the region, making Dayton home to the third facility of this kind in the country. The Air Force Research Laboratory (AFRL) at Wright-Patterson Air Force Base (WPAFB) has recently indicated a strategic need to increase the availability of this type of test facility. AFRL has identified the limited number of large-scale hypersonic wind tunnels as a bottleneck to their strategic investment in this critical defense technology.

This test site will become a destination for defense contractors and original equipment manufacturers. This strategic capability will not only stimulate our regional defense and manufacturing industries, but also our hospitality and entertainment industries which will need to accommodate the additional business travel. This capability will open much needed test capacity to small and medium size businesses in defense technology, many of which will co-locate in the Dayton region to continue accessing this test facility.

The Entrepreneurs' Center is excited to provide support for new hypersonic industry small businesses that will grow in Dayton as a result of this unique test facility. This project will attract and retain local entrepreneurs who will find opportunities to support the ecosystem that will grow around this facility. Sincerely,

Regards,

Scott Koorndyk President

The Entrepreneurs Center



8 N Main St Dayton, OH 45402 (937) 226-0457 SNutt@citywidedev.com

November 1, 2022

To The Dayton Region Priority Development and Advocacy Committee,

Citywide Development Corporation would like to express support for the proposed hypersonic wind tunnel and manufacturing facility project by GoHypersonic Inc. This project will bring a much needed large scale hypersonic test facility to the region, making Dayton home to the third facility of this kind in the country. The Air Force Research Laboratory (AFRL) at Wright-Patterson Air Force Base (WPAFB) has recently indicated a strategic need to increase the availability of this type of test facility. AFRL has identified the limited number of large scale hypersonic wind tunnels as a bottleneck to their strategic investment in this critical defense technology.

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The facility will be built on the former GM brownfield site at Tech Town. The wind tunnel facility is an ideal for this location because it requires little to no digging and large concrete pad construction. CityWide Development is excited to work with GoHypersonic Inc. to make this facility a reality.

Sincerely,

Steve Nutt

Senior Vice President