

Air Force

SBIR

Impact



Innovative Electronics Suite Revolutionizes Aircraft Carriage Platform Capabilities

Company:
WINTEC, Inc.

Location:
Fort Walton Beach, FL

Employees:
21

President:
Michael R. Gibbs

Project Officer:
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Air Force Requirements:

The Air Force is working to bring the next generation of smaller smart munitions and related stores to the active warfighter's inventory. The impact of unintended collateral damage increases the urgency of this requirement. Over the last decade advances in both the lethality and accuracy of air delivered ordnance make it possible to build bombs weighing less than 250 pounds that will do the same effective damage to targets that took multiples of their 2,000 pound predecessors to accomplish. These next generation weapons will be carried on advanced carriage platforms. While the individual weapons carried may be different, each will require initialization and release sequencing from the host aircraft immediately prior to release. The carriage platform must be able to provide not only the physical carriage of the weapons on a single aircraft carriage station, but the electrical and logical interface to each weapon as well.

SBIR Technology:

Supported in part by the Air Force SBIR Program, WINTEC developed a draft open system standard defining the interfaces between military aircraft and the next generation of smaller, smarter munitions. WINTEC also demonstrated that the electronics and software to implement the interface definition can be accomplished by using predominantly commercial off-the-shelf components.

**For more information
on this story, contact
Air Force TechConnect
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The technology achievement involved providing a broader bandwidth bus capability than the one that currently exists within the commonly used MIL-STD-1553 bus. By collaborating with Excalibur Systems, Inc. and Smiths Industries, WINTEC was able to develop a bus that operates at ten times the currently available speeds. The suite of electronics and associated software developed for this advancement has effectively demonstrated that multiple small smart munitions can be controlled, targeted, and released from the carriage platforms being developed for these munitions.

The standard developed under this SBIR contract and the resultant suite of electronics are seen by many observers as having an equal or even greater impact than MIL-STD-1760 has had on today's generation of aircraft and weapons (Joint Direct Attack Munition, Joint Stand Off Weapon, Wind Corrected Munitions Dispenser, and Joint Air-to-Surface Standoff Missile).

Company Impact:

The new smaller smart munitions will ultimately become the weapons of choice for both the manned and unmanned aircraft of the future Air Expeditionary Task Forces. Further, the high-speed bus is viewed as having several joint service applications. WINTEC also sees that several techniques and technologies investigated and used in the development of the bus will become the basis for a number of commercial applications such as seen in robotic vehicles, house automation, and intelligent vehicle/highway systems.

Company Quote:

"Having developed a fully functioning electronics and software suite to control small smart munitions uniquely positions WINTEC to participate in their integration into the fleet of current and future manned and unmanned aircraft. Through programs like Air Force SBIR, small, agile, technology companies like WINTEC can play a vital role in the major systems developments for our warfighters."

Mike Gibbs
President
WINTEC, Inc.

"The Air Force, AFRL/MNAV, view the standard developed under this SBIR as having an equal or greater impact than MIL-STD-1760 has had on today's generation of aircraft and weapons. Future smart miniature munitions require an affordable and high performing interface. This new interface developed by WINTEC is optimized for miniature munitions. The Small Diameter Bomb (SDB) program is the first candidate user of this interface. Additionally, the high-speed bus implementation, a derivative of the current MIL-STD-1553 data bus, has joint service application."

Jerry Provenza, AFRL/MNAV, SBIR Project Officer

SBIR

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