



Navy SBIR/STTR Success

Wireless Vibration Recorder (WVR)

Midé Technologies' Slam Stick X wireless vibration recorder will enable faster diagnosing of aircraft component failures.



Midé Technology

Founded 1989
Privately held
Small Business
POC: Stephen Hanly
(781) 306-0609 x228
Medford, MA 02155
www.mide.com

TOPIC NUMBER:
NAVAIR N01-023

SBIR INVESTMENT:
\$849,057

PHASE III FUNDING:
\$800K+

DON SAVINGS:
\$100K
per F/A-18 flight

THE TECHNOLOGY

Quick and accurate diagnosis of component failures has always been a goal of aircraft maintenance. To better determine why and when aircraft components fail, how they perform and the vibrational environment they experience, specialized software and sensors are required to acquire vibration and acceleration data. The Slam Stick X includes specialized software and sensors to acquire vibration and acceleration data for aircraft internal components to determine why and when components fail. This compact diagnostic tool records up to 4 hours of aircraft vibration data on internal batteries, and can be triggered on acceleration and/or time.

THE CHALLENGE

To better determine why and when aircraft components fail, specialized equipment is needed to capture vibration and acceleration data for failure analysis and system development. The current means of outfitting aircraft with required equipment, instrumentation, and processing the results is labor intensive, requires long lead times, and is expensive.

THE NAVAL BENEFIT

Slam Stick X provides a compact and lightweight capability to acquire vibration data quickly and easily on any aircraft--reducing aircraft instrumentation costs, flight test costs, and diagnosis time. Slam Stick X is expected to save NAVAIR \$3-5M in the four years following its initial procurement. These savings could increase as Slam Stick X is used on additional aircraft platforms and used in other DoD agencies. It will also contribute to reduced operating costs and improve time on wing by shortening maintenance cycles. Slam Stick X can measure and record data up to 2000g in three axes enabling faster identification and analysis of aircraft component failures due to excessive G loading. Slam Stick X is a tool for an engineer to be able to go out, from his desk, go to an airplane and find out what the problem is quickly, and notify the right people.

THE TRANSITION

Acquisition Sponsor: PMA-265. Slam Stick X is in current use on the Navy F/A-18, with an initial 2015 buy of 160 units, but because vibration is a maintenance challenge for many platforms, NAVAIR is expected to adopt this technology throughout the rotary wing community. After its sole Phase II award for this technology, Midé Technology Corporation invested internal funds to mature the product and was selected for a 2012 Rapid Innovation Fund award, which led to NAVAIR procurement. In 2014, Midé introduced Slam Stick X to the commercial aviation marketplace, and during 2015 sold ~500 units due to savings of up to 80% over competing solutions in various commercial industries. In 2016, Midé plans to introduce Slam Stick X to the automotive, gas and oil, food processing, bottling, and other industries.

THE FUTURE

Initially, Slam Stick X will be used on the Navy F/A-18, but because vibration is a maintenance challenge for many platforms, the adoption of this technology could be huge for the rotary wing community. Aside from the other DoD services, many industries including aerospace, automotive, gas and oil, food processing, bottling, and companies servicing manufacturing equipment--anyone that requires vibration testing and analysis on moving machinery (motors, engine, shafts, etc.) is a potential Slam Stick X client.

"The Slam Stick is our fastest growing product ever, we recently invested in more marketing resources, and we aim to exceed our 2015 revenue by 50% in 2016."

Chris Ludlow (Midé CFO & VP Engineering)