



ELECTRONIC MFG. SERVICES (EMS)

PPI-Time Zero Supports Precision Weapons and Space Technology

By Anne Seaton, Corporate Account Manager, PPI-Time Zero

PPI-Time Zero (PPI) supports a growing market share of tactical-grade weapon components. The company is the sole-source manufacturer of the APKWS-ECAS electro-mechanical system for the Advanced Precision Kill Weapons System (APKWS), which is a laser-guided rocket compatible with existing Hydra 70 unguided rockets.

The APKWS turns a standard 2.75 in. (70 mm) rocket into a precision, laser-guided weapon, giving fighters low-cost, surgical-strike capability on the battlefield. The APKWS is now qualified for service on 15 different platforms, including fixed-wing aircraft.

PPI has a growing partnership with Orbital Research, Inc. (ORI) in Cleveland, Ohio. ORI develops and commercializes custom-engineered aerodynamic control systems, medical devices and microelectronic devices for a variety of commercial and military applications.

The company's aerodynamics group is active in many research and engineering efforts focused on the development of advanced active flow control systems for aircraft and missiles. Since its founding in 1992, ORI has had an excellent track record of successful research programs funded by U.S. government agencies, including DARPA, the U.S. Army and Air Force, and Special Operations Command (SOCOM).

Building Advanced Weaponry

PPI has also received an IDIQ (indefinite delivery/indefinite quantity) contract to support an electrical fuze, the part of an explosive that initiates detonation, for the Hydra 70 rocket. There are 11 warheads in the Hydra rocket family and

only one fuze, which PPI manufactures. This rocket system has been widely used to provide close air support to ground forces from around 20 different firing platforms, on both fixed-wing and armed helicopters.

This rocket system is used by all U.S. armed forces. When the requirements of the system were changed to a new air-to-ground role for fixed- and rotary-wing aircraft, new fuzing and warhead performance characteristics were developed.

The Hydra 70 rocket system is used by U.S. Army Special Operations forces, the Marine Corps, the Navy and the Air Force. PPI's support of the APKWS filled the gap between the current unguided Hydra 70 rocket system and the HELLFIRE anti-tank missile. The APKWS consists of a laser sensor and guidance package, coupled with the Hydra 70 rocket. This is a precision guided weapon that is

the weapon of choice during operations in urban terrain or for aerial fire support missions.

"We take great pride in supporting programs for the versatile Hydra rocket family, by producing systems and services that provide superior performance and reliability," says Joe Litavis, VP of sales and marketing at PPI.

For decades, PPI has built highly-technical platforms for rugged environments. The company is now expanding services for a large customer to include a facility dedicated to space program initiatives. This investment complements the company's growing operations in Fairfield, New Jersey, which is already replete with state-of-the-art manufacturing capabilities and full-service custom precision machining services.

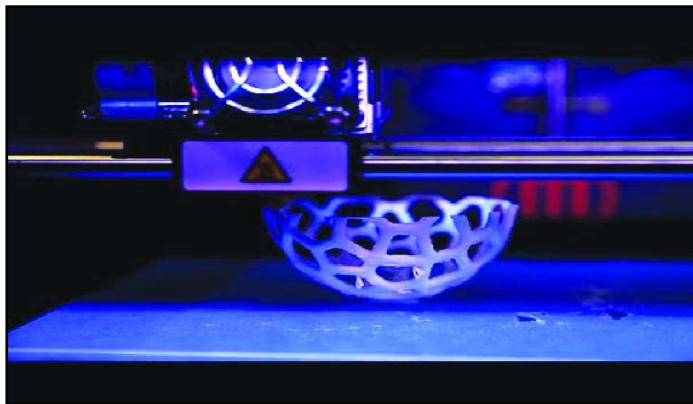


From left: PPI's Ed Sabik, Marina Lausell, Joseph Kovacs, Alkaben Parmar, and Caixian Zhou at the company's new space cell in its Fairfield, New Jersey, facility.

"Our electronics solutions are tailored to the specific needs of each client, utilizing our extensive market experience, hardware application versatility, and customized services for mission-critical, high-performance products," says Dana Pittman, PPI's president and CEO.

3D Printing

PPI uses additive manufacturing, also known as 3D printing, which provides an extraordinary, multifaceted



PPI's 3D printing services provide a high level of accuracy and complexity.

advantage to traditional manufacturing methods. Additive manufacturing encompasses many technologies, including such subsets as rapid prototyping (RP), direct digital manufacturing (DDM), 3D printing, layered manufacturing, and

additive fabrication.

Rather than cutting away material and ending up with the desired shape, 3D printers build up objects by applying material in layers. The additive process of 3D printing enables "free" fabrication of complex geometries, without the need for fixtures or molds. PPI's additive manufacturing technology can quickly create tangible parts for customers to fit to their designs within hours of printing.

Throughout the assembly and test processes, 3D printing is a key advantage, especially for aerospace, defense and medical device manufacturing. PPI's additive manufacturing can transform 3D CAD renderings into functional precision plastic and elastomeric components on a quick-turn schedule. The company can deliver high-resolution models, prototypes and injection-molded parts on demand. This reduces costs, streamlines operations and accelerates time to market.

The company's 3D printing services offer a high level of accuracy, multiple form factors, surface finish, strength, and part quality to support complex manufacturing requirements.

Whether a customer needs a single part, multiple parts or complete assemblies, PPI has the additive manufacturing capabilities to dramatically reduce lead times.

PPI's engineers can also create custom tools and test fixtures in-house, reducing the time needed for projects the previously required outsourcing. PPI-Time Zero's vertically-integrated manufacturing services are bringing cutting-edge innovations to the marketplace.

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