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Swift Navigation and Carnegie Robotics Announce Duro, a Ruggedized Version of Piksi Multi

New GNSS product brings military-grade ruggedness to centimeter-accurate positioning at a breakthrough price

[AUVSI Xponential 2017](#), Dallas, TX—May 8, 2017—[Swift Navigation](#), a San Francisco-based startup building centimeter-accurate GPS technology to power a world of autonomous vehicles, in conjunction with [Carnegie Robotics LLC \(CRL\)](#), the industry leader in reliable robotic components and systems, today announced their first joint product, Duro™, a ruggedized version of Swift Navigation's flagship Piksi™ Multi dual-frequency RTK GNSS receiver.

Built for outdoor operations, Duro combines a rugged enclosure with centimeter-accurate positioning at a breakthrough price. Leveraging design principles typically used in military hardware, the GNSS sensor is protected against weather, moisture, vibration, dust, water immersion and unexpected circumstances that can occur in outdoor long-term deployments. In addition to its ruggedness, Duro is easy-to-deploy and is ready to connect right out of the box. Primary industries for this product include: Robotics, Precision Agriculture, Mapping, Military, Outdoor Industrial and Maritime.

Swift Navigation solutions utilize real-time kinematics (RTK) technology, providing location solutions that are 100 times more accurate than traditional GPS, at a fraction of the cost. Ushering in a new era of precision GPS affordability, Duro incorporates Piksi Multi and builds on this revolution in advanced precision GNSS capabilities for the mass market.

Top-level benefits for users include:

- Dual-frequency RTK GNSS
- Tough, military-grade hardware
- IP67 rating
- Weatherproof external enclosure design with M12 standard-sealed connectors

- On-board MEMS IMU and magnetometer
- Future-proof hardware with in-field software upgrades
- Protected IO, including RS232 Serial Ports, 100mbit Ethernet, Event Inputs, PPS, PV, CANBus
- Durable UV and chemical-resistant powder-coating
- Flexible mounting interfaces

“Duro is the perfect combination of Swift’s precise, centimeter-accurate GNSS technology and Carnegie Robotics’ rugged, reliable robotic systems that are renowned for getting work done, in real-world applications,” said Fergus Noble, CTO and Co-Founder of Swift Navigation. “Carnegie Robotics’ experience and reputation as best-in-class engineers for precision agriculture, machine control, autonomous vehicles as well as industrial and military robots makes them the ideal partner for Swift for this and other future products we have in development.”

“Seeing our first joint vision come to fruition with the launch of Duro marks an exciting milestone for a number of industries,” said Chris Osterwood, CTO of Carnegie Robotics. “With Swift’s focus on high-accuracy and low-cost GNSS technology, we are bringing to market a much needed solution with many real world applications in robotics, precision agriculture, infrastructure mapping, outdoor industrial and maritime vehicles.”

For more information about the partnership and the unveiling of Duro—the first of several jointly-developed products for autonomous vehicles, outdoor robotics and machine control from Swift and Carnegie Robotics—visit the joint Swift Navigation and Carnegie Robotics booth (#506) at [AUVSI Xponential 2017](#) in Dallas, TX, May 8-11, 2017.

ABOUT SWIFT NAVIGATION

[Swift Navigation](#), Inc. was founded in 2012 to make GPS positioning technology more accurate and affordable. Today Swift Navigation has gained a reputation for defining a new category of GNSS systems as the industry’s first low-cost, high accuracy real-time kinematics (RTK) receiver. Its GPS and GNSS positioning products are available a fraction of the price of the competition and deliver 100 times better accuracy than the GPS in a cell phone. Swift Navigation’s technology benefits a multitude of industries and applications—including autonomous vehicles, unmanned aerial vehicles (UAVs), precision agriculture, robotics, surveying and space. With its innovation and technology honored by [Inc.’s 2016](#) and [Forbes 2017](#) 30 Under 30 lists, Swift Navigation is enabling a world where fields farm themselves, drones fly safely and autonomous transportation can take you home. Learn more online at swiftnav.com, follow Swift on Twitter [@Swiftnav](#)

ABOUT CARNEGIE ROBOTICS, LLC

[Carnegie Robotics LLC \(CRL\)](#) was founded in 2010 to be an end-to-end provider of reliable robotic components and autonomous mobile ground robots. CRL has particular focus in inertial-based pose, GPS-denied positioning and perception technologies. Carnegie Robotics offers both its own product lines

and custom product development to support the defense, light industrial, agriculture, mining and infrastructure markets. The company fuses engineering, manufacturing and testing expertise with a strong focus on meeting end user needs for reliability, productivity, safety and the dozens of other essential factors necessary for a product to work in the real world. The performance and reliability of CRL's products is a result of an ISO 9001:2008 certified process which covers all aspects of CRL's product design, testing, requirement validation and production. Learn more online at carnegierobotics.com and follow CRL on Twitter [@CRLBots](https://twitter.com/CRLBots)

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