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Roccor Acquisition Highlights Abundance of Opportunities Through SBIR

By Julie Scuderi

If success were based on longevity alone, Colorado-based Roccor, LLC might not turn many heads. Having been in business less than 10 years, the company is still a newbie in the industry. However—if it's based on accolades—such as an expanding list of large prime contractor customers, a major acquisition, and the ubiquitous presence of its technology on more than 75 NASA spaceflights and other commercial space missions—Roccor is an undeniable success.

Founded in 2012, the company supplies deployable booms, structures, antennas, thermal products and solar arrays for spacecraft. Acquired by Redwire in late 2020, Roccor continues to operate as its own business unit under its parent company and just recently went public on the New York Stock Exchange.

So how did this one-time small business reach these impressive milestones? It all started with the Navy Small Business Innovation Research (SBIR) program.

"This company was started using SBIR funds to develop deployable structures that use carbon fiber base materials," explains Dr. Mario Saldana, Power/Thermal Product Strategy Lead at Roccor. "Working with thermal products is a lot more complicated than batteries so people know what they're in the market for. That is how we started to develop these relationships with large prime contractors and make the transition from R&D to commercial contracts. So we essentially went from all R&D at the beginning to just 10% of SBIRs by the time we were acquired by Redwire."

After winning a small Phase I award in the company's early days focused on a Packable

Roccor's helical L-band antenna is helping the Air Force Research Laboratory's XVI mission to demonstrate communications relay with a Link 16 terminal on a small satellite.

Airworthy Combat Stretcher Patient Litter System, Roccor then aligned with the Naval Information Warfare Systems Command (NAVWAR) to develop advanced cooling technologies for multi-functional Information Distribution System (MIDS) Terminals.

As part of the Phase II project, the Navy's Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS) was undergoing an upgrade to integrate new Tactical Targeting Network Technology (TTNT) capabilities. The high-power processors required for the system generated more heat than previous shop replaceable units (SRUs) but needed to operate within the existing deployed fleet environment. Therefore, a 30% improvement in heat transfer without adverse impact to terminal reliability performance was required. Roccor had identified a simple yet effective enhancement to SRU thermal design that could easily meet this specification. The result was the company's ROCool patch, an ultra-thermally conductive patch made from pyrolytic graphite sheets, resulting in both cost reduction and thermal performance.

The ultimate goal was to leverage Roccor's expertise in composites manufacturing and facilities to provide ROCool patches to ViaSat and DLS for integration into the MIDS JTRS terminal. Roccor hoped to extend the development of the technology to commercial and military markets ranging from telecom equipment and server farms to directed energy and satellite tactical communications.

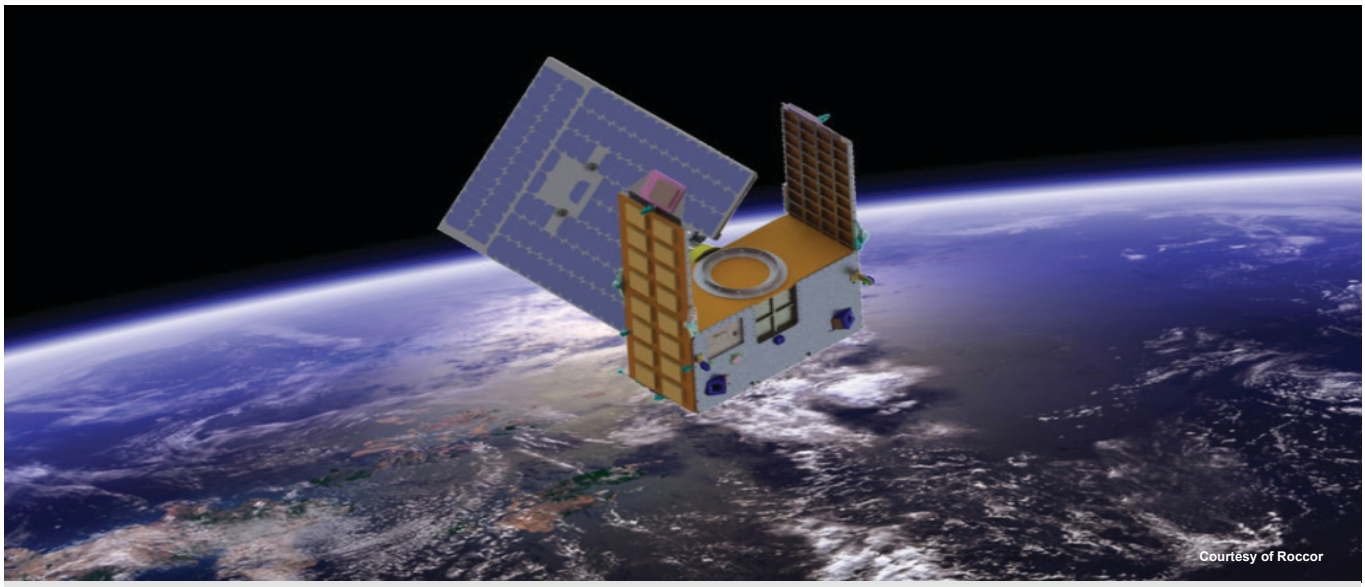
The exposure, marketing materials, and opportunities to connect with prime contractors that came from participating in the Navy SBIR/STTR Transition Program (Navy STP) was enough to get Roccor noticed by some very large companies. It wasn't long before Roccor was regularly doing business with primes such as Lockheed Martin, Boeing and L3Harris. Right around this time, Jacksonville, Fla.-based Redwire also took notice of the burgeoning small business. The acquisition was finalized in October 2020 for an undisclosed amount.

By acquiring Roccor, Redwire hoped to expand its technology portfolio to include deployable structures for commercial and military satellites. Roccor's products, including stand-alone booms, hinges, solar arrays and antennas, "will augment Redwire's current space infrastructure solutions to offer more innovative capabilities and deliver even greater performance at substantially lower costs for its customers," according to a statement from Redwire.

Today, Roccor is a full systems supplier of solar arrays. HiPASS—the company's standard array that is optimized for the small satellite form factor—was developed to meet industry standard launch environments and is manifested for launch on multiple missions.

"We are currently working on one of the largest solar sails ever to be developed," says Dr. Saldana. "It's using solar pressure to move a space craft instead of having a thruster; using the sun to power it. We're a few years out from that right now."

Even with an acquisition by a large corporation, Roccor maintains its family-like culture and that same small-business feel bred within SBIR. New employees are introduced on its website, many times pictured with their families and pets, with captions like "He once won a fist fight, using only his beard." Perhaps this is the secret to how a company remains true to its roots: staying grounded and focused while simultaneously conquering space.



Roccor used SBIR to propel its solar array business and went from being a provider of subsystem components to delivering full system solar arrays to clients around the world