

DotBliss: From Consumer Concept to Defense Innovation Through DMCSP Connections

What began as a promising consumer product idea has evolved into a defense-focused innovation journey for Raleigh-based startup DotBliss—thanks in large part to critical introductions, mentorship, and strategic connections made through North Carolina's Defense Manufacturing Community Support Program (DMCSP).

Founded around a patented textile electronics technology invented by designer and innovator Ty Van de Zande, DotBliss originally envisioned a path to commercialization in the consumer market. But through DMCSP-supported engagement with North Carolina's defense innovation ecosystem—including key introductions to Steven McManus at RTI International—the company discovered an entirely new application for its technology within the defense industrial base.

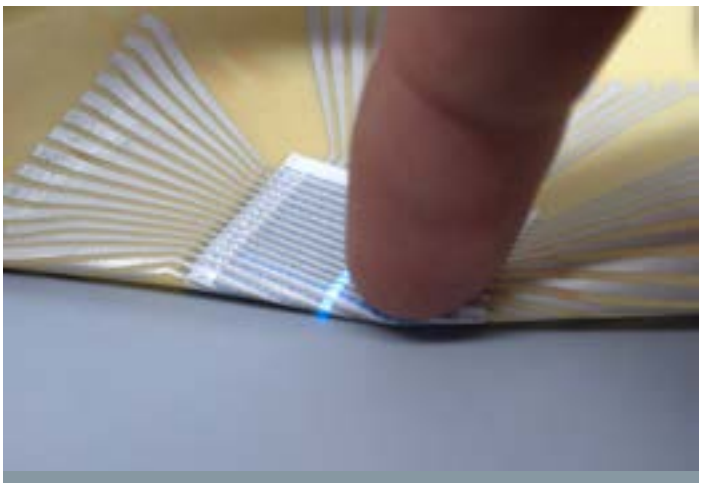
"We thought we were building something for commercial use," Dr. Lynn Yanyo, one of DotBliss' founders, explained. "We had no idea there was a military application until we started having conversations through the network."

A Basement Startup with Big Possibilities

The DotBliss story began in 2018, when Van de Zande, then a student at Carnegie Mellon University, reached out to Yanyo, a longtime mentor, after developing what he believed was a patentable idea. Encouraged to pursue commercialization rather than simply licensing the technology, the team converted Van de Zande's provisional patent and formed DotBliss to explore its potential.

Initially, the company focused on consumer-facing wearable products built around screen-printed electronics on fabric—an unconventional approach that differs from traditional woven smart textiles.

Working out of a basement in its earliest days, the small team experimented with products and tested market possibilities. But while commercialization opportunities existed, growth remained uncertain.



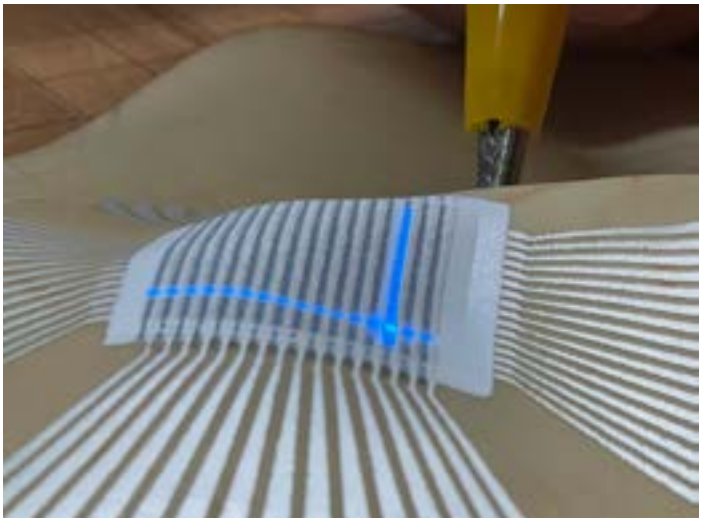
A Transformational Introduction to Defense Opportunities

Everything changed when DotBliss entered North Carolina's defense innovation ecosystem.

Through DMCSP-supported programming and events involving NC State University, the North Carolina Military Business Center, RTI International, and First Flight Venture Center, DotBliss gained exposure to military stakeholders and learned how its technology could solve real-world defense challenges.

A pivotal moment came through engagement with Steven McManus at RTI International, whose guidance helped connect the company to the broader defense industrial base and opened doors to military problem-solvers, testing opportunities, and funding pathways.

"Steve became one of those people we could call whenever we hit a wall," Yanyo said. "If we didn't know who to talk to, somebody would connect us. That network has been incredibly valuable."



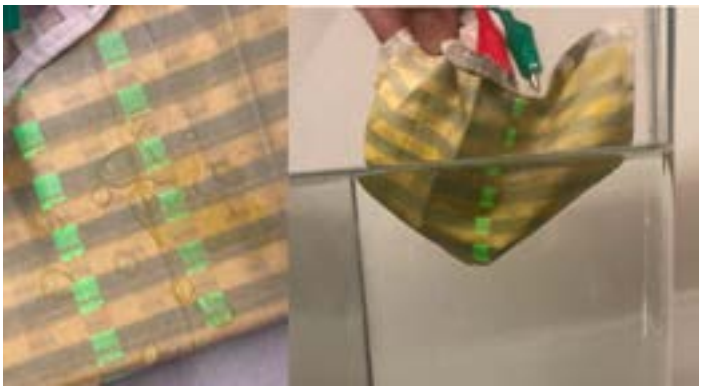
Those introductions led DotBliss to FEDTEX, a defense-focused innovation event coordinated by the North Carolina Military Business Center and sponsored by the NC DMCSP at NC State University, where military personnel evaluated emerging technologies. There, the team demonstrated an early version of its fabric-based visual display system to military leadership.

A simple question from a military official changed the company's trajectory:

Could this technology display battlefield information on fabric?

The answer from DotBliss was simple: "We think so."

That moment provided something many startups struggle to obtain—direct customer validation. "Suddenly, we understood why this technology mattered," said Yanyo. "Before that, we wouldn't have known how to explain military value."



From Idea to Field Testing

Armed with feedback from military stakeholders and guidance from DMCSP ecosystem partners, DotBliss secured Small Business Innovation Research (SBIR) funding and transitioned from concept to rapid prototyping.

The company moved from a basement workspace into a Raleigh laboratory and built capabilities to manufacture and test advanced printed electronic systems. The team also hired technicians—many from NC State University—to help support production and experimentation. Field testing quickly followed.

At military exercises in Georgia and Texas, DotBliss worked directly alongside soldiers, testing prototypes in real-world conditions and refining designs in real time. Rather than arriving with a finished product, the team embraced an agile innovation model—listening to soldiers, redesigning technology nightly, and testing again the next morning. "We'd spend all day watching how people actually worked," shared Yanyo. "Then every night we'd

redesign something and come back the next day with a better version."

That iterative process led to an unexpected breakthrough: a covert haptic wristband communication system. The wearable technology allows soldiers to silently signal teammates without radios, phones, or spoken communication—an especially valuable capability in covert operations where electronic signals can be intercepted.

In one field exercise, soldiers intuitively understood how to use the system without training. A squad leader simply pressed a button, and teammates hidden over a hill immediately looked for direction—validating the concept instantly. "That was one of those moments where we realized, 'This is really something people need,'" the founder recalled.

The Power of Connection

For DotBliss, technical progress has gone hand in hand with relationship-building. Through DMCSP connections and support from NC DMCSP partners, military contacts, and industry mentors, the company has briefed stakeholders across the defense ecosystem, including personnel focused on soldier protection, battlefield communication, and wearable technologies.

The network also opened doors to organizations the company otherwise would never have known existed. Yanyo shared, "If we got stuck, Steve and others would help us find the next person to talk to. That ability to connect to the right people has probably been one of the biggest benefits." The result has been a growing pipeline of defense use cases—from battlefield communications to chemical protective gear and wearable information displays.

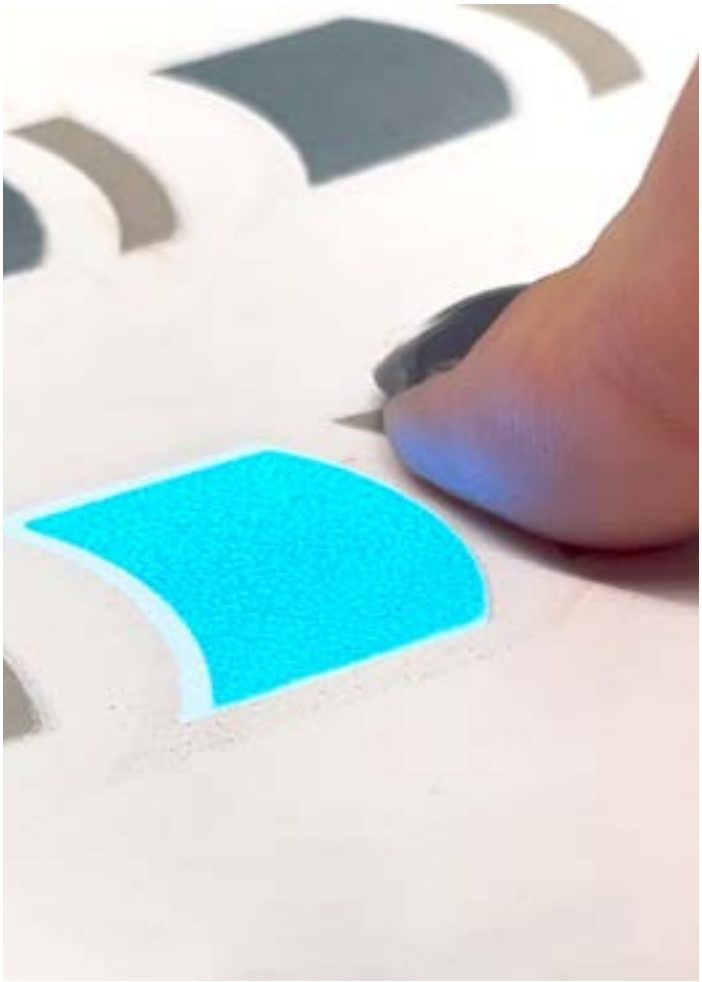
Innovation Through Persistence

Today, DotBliss remains a lean team of three principals supported by part-time specialists, but the company has accomplished what many larger organizations struggle to do: rapidly adapt emerging technology to solve defense problems.

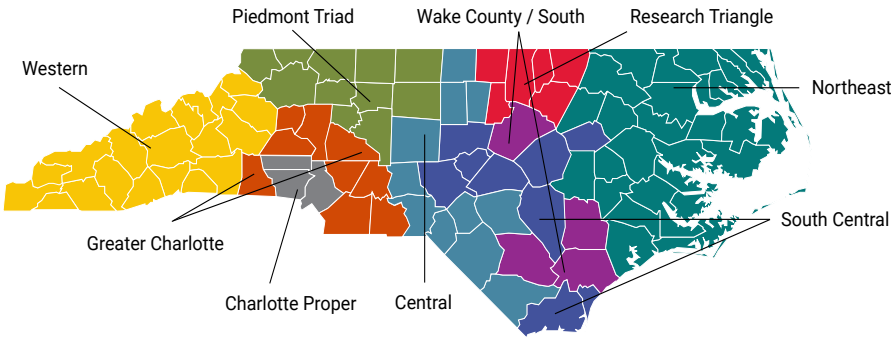
While defense procurement timelines remain challenging, the founders believe their journey demonstrates the importance of exposing innovative startups to defense applications they may never consider on their own.

"What DMCSP and these connections did was show us possibilities we didn't know existed," the founder said. "We came in thinking commercial. We left understanding that what we were building could help solve real problems for the military."

For DotBliss, the path to commercialization turned out to be larger—and more impactful—than originally imagined. Through strategic partnerships, trusted advisors like Steven McManus, and access to North Carolina's defense innovation network, a small startup with an idea is now helping shape the future of military communication and wearable technology.



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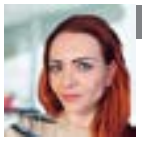
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