Experimental defense unit funds new tech but faces skeptics

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In this April 14, 2017 photo provided by Saildrone, a Saildrone vehicle maneuvers during a data collection mission in the Pacific Ocean off the California coast. The autonomous sailing vessel, which would provide surveillance and reconnaissance for the U.S. Navy without the need for manned crews or human pilots, was designed with the help of funding from the U.S. Defense Department's Defense Innovation Unit Experimental, which works with contractors to fund and develop solutions for the military's toughest technology challenges. (Saildrone via AP)

President Donald Trump's administration is throwing its support to a Barack Obama-era effort enlisting startup companies to come up with

solutions to the military's toughest technological challenges.

Secretary of Defense James Mattis made his first visit Thursday to the Defense Innovation Unit Experimental, a two-year old effort that's investing in private companies building experimental drones, new cybersecurity technology and advanced communications systems for soldiers.

Mattis said he expects the initiative, known as DIUx, will "grow in its influence and its impact" under the Republican administration. In recent weeks, his office has taken steps to secure DIUx's place in the agency, including granting it greater authority to hire staff, negotiate contracts and promote its efforts.

"Big admirer of what they do out there, about the way they germinate ideas, the way they harvest ideas, from one breakthrough, rapidly, to another," Mattis said before meeting with staff and local industry leaders at DIUx's office in Mountain View, California, the hometown of Google.

The program also has offices in Cambridge; Austin, Texas, and at the Pentagon.

But DIUx continues to face questions from Republican leaders in Congress and others who view it as a still-unproven and possibly unnecessary venture.

U.S. Rep. Mac Thornberry, a Texas Republican who chairs the House Armed Services Committee, which oversees defense spending, agrees the military needs to better keep abreast of the innovation happening in the commercial sector. But he's unconvinced DIUx is the long-term solution and won't overlap with other advanced technology offices, like the Pentagon's Defense Advanced Research Project Agency, which dates

to the 1950s and the space race.

"This question is: What is this office doing that's different from what others are doing?" Thornberry said this month.

The proof that DIUx is working is the significant number of projects it has undertaken in a relatively short amount of time and with minimal taxpayer investment, said Col. Michael McGinley, who heads DIUx's office in Cambridge, near the Massachusetts Institute of Technology.

In this Tuesday, Aug. 8, 2017 photo, Col. Michael McGinley, left, gives a tour of the U.S. Defense Department's Defense Innovation Unit Experimental office in Cambridge, Mass., which he oversees. Visiting the office are Maj. Gen. James Young Jr., second from left, of the Army Reserve's 75th Training Command in Houston, and Army Reserve Chief Warrant Officer Pat Nelligan, second from right, who hails from Bristol, Conn. Col. Joseph D'costa, far right, also works at the DIUx office. DIUx works with contractors to fund and develop solutions for the military's toughest technology challenges. (AP Photo/Philip Marcelo)

Since opening its first office in California's Silicon Valley, DIUx has awarded $100 million in government contracts to 45 pilot projects.

The investments are modest since much of the heavy lifting has come from private investors, who have collectively pumped roughly $2 billion into the companies DIUx is working with, according to McGinley.

Most of the contracts have gone to startups and smaller firms that aren't among the big, traditional military suppliers, such as Lockheed Martin, Boeing or Raytheon. That's a major objective of the initiative, which McGinley described as "complementary" to other military research organizations but with a distinctly different mission.

And, under the military's traditional purchasing process, the contracts likely would have taken years longer to reach the point they're at now, by which time the technology would have become obsolete, he added. DIUx, by drastically simplifying the bidding process, is awarding contracts within four months.

"This is changing the game in the way (the Department of Defense) operates and acquires new technology to support the warfighter," McGinley said. "We're not vaporware. We're producing tangible results."

The office, with roughly 45 civilian and military staffers, focuses on five general areas: artificial intelligence, information technology, drones and other unmanned vehicles, and space and life sciences.

Of the 45 projects being piloted, three account for about a third of all spending.

Tanium, in Emeryville, California, has been awarded $12.7 million to help the military better manage its information technology and cybersecurity operations.

Composite Engineering, in Roseville, California, in partnership with three other companies, has been given $12.6 million to develop high-speed drones.

In this Aug. 9, 2017 photo provided by Sonitus Technologies, an audio mouthpiece is clipped to on a user's tooth in San Mateo, Calif. The mouthpiece, which can become the single point of contact for incoming and outgoing wireless audio communication, was designed with the help of funding from the U.S. Defense Department's Defense Innovation Unit Experimental, which works with contractors to fund and develop solutions for the military's toughest technology challenges. (Sonitus Technologies via AP)

And London-based online game developer Improbable was awarded $5.8 million for a simulation program.

Among the DIUx technologies already in use is software helping the Air

Force make jet refueling more efficient, a $2.7 million contract that went to Pivotal Labs in San Francisco.

While DIUx may not be going away anytime soon, Congress has been reluctant to go all-in on in the effort.

After receiving $20 million to launch in 2016, DIUx was given just $10 million for the current budget year, which ends Sept. 30, according to a DIUx spokeswoman.

The Trump administration has sought roughly $30 million for it next year, but a key House committee has proposed slashing that request in half.

DIUx deserves more time and resources, considering it's made "substantial progress" after initial confusion over its mission and pushback from traditional defense contractors prompted an overhaul less than a year in, said Andrew Hunter, a senior fellow at the Center for Strategic and International Studies, a research organization.

But Thornberry, the House Armed Services chairman, said he'll be looking for DIUx to make more compelling arguments.

"The question is how much does this advance our capability," he said. "What are you getting for it? That's what we've got to get our arms around."