



SPACE TECH EXPO | USA

ANALYZING THE GROWING ROLE OF SMES AND START-UPS IN COMMERCIAL, CIVIL AND NATIONAL SECURITY SPACE

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WITH THE ARRIVAL OF NEW SPACE AND THE NEED FROM CIVIL AND NATIONAL SECURITY ORGANIZATIONS TO BRING DOWN PRODUCTION TIMELINES AT A LOWER PRICE, MORE ORGANIZATIONS ARE WORKING WITH SMALL- AND MEDIUM-SIZED ENTERPRISES (SMES) AND START-UPS. SPACE TECH EXPO CAUGHT UP WITH OWNERS OF SMES AND START-UPS ACROSS THE USA AND EUROPE TO UNDERSTAND HOW THEY ARE WORKING WITH COMMERCIAL, CIVIL AND NATIONAL SECURITY ORGANIZATIONS, AND HOW THEY HAVE SEEN THE MARKET CHANGE FROM THEIR PERSPECTIVE.

A SHIFT IN COLLABORATION

Within the last decade, the way large commercial, civil and national security space organizations collaborate with industry has started to shift, from working with well-established organizations to increasingly doing business with smaller organizations. “Five to six years ago, these entities [Department of Defense, government institutions], would go to high-end big satellite integrators who would provide services or who would develop the satellites themselves for the defense or government customer,” says Eyal Trachtmann, CEO of Addvalue.

As the New Space approach has made its mark on the industry and as start-ups and SMEs accelerate production timelines through smart manufacturing capabilities and the implementation of commercial-off-the-shelf components, while also offering an array of other types of technologies and services, the collaboration has slowly moved in the market. “Now we get into a situation where the product is not the satellite itself but the data being offered by satellites. You see a lot of companies in the New Space arena delivering high-quality images. This is not just for civil applications but also for defense. It instills quite a lot of interest in these customers,” says Trachtmann.

Mikolaj Podgorski, COO of Poland-based Scanway, has seen this shift taking place first-hand: “During the last years we saw a tendency that smaller projects in the area of government or military satellite applications can be done by SMEs and start-ups.” Podgorski added that the delivery of microsats can be taken care of by SMEs and start-ups, and that entities no longer would need to rely on large system integrators. He expects this shift to continue over the following years: “The market will shift in the direction that large satellite manufacturers will make big satellites for the most demanding players. The ‘Space 4.0’ segment would be reserved for start-ups and SMEs. There are many players like this in Europe and the future in ‘Space 4.0’ is connected to such companies and start-ups, which will try to push and implement new ideas in the space market.”

It appears, however, that this way of collaborating with smaller organizations is still taking shape. “Our interest has come from both civil and military space but the interest we get is more of a research and prototype nature,” says Slade Gardner, CEO of Big Metal Additive. “Those customers look at these technologies in their future planning, both civil and military.” Gardner is optimistic however as he expects that this will transition within the next ten years.

SUPPORT FROM CIVIL AND NATIONAL SECURITY ORGANIZATIONS

There have been many initiatives set up to support start-ups and SMEs in the last few decades. Examples include ESA’s Business Incubator Centres across Europe, NASA’s Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, as well as the Defense Innovation Unit (DIU) and the work done by the Space Development Agency (SDA) in the USA.

Start-ups and SMEs speak highly of these initiatives as they have truly helped businesses on their way in the space industry. “It’s good to start, especially when you still don’t have a product but only have an idea and team that you can bring, and really working this start-up and these initiatives. They help start-ups get on their feet. The network that these organizations can link you to is very crucial,” says Omar Qaise, CEO of OC Technology.

However, some start-ups and SMEs experience challenges as they move from the initial support stage to commercialization. “They are good ways for small businesses to engage with the agency but timelines are often long,” says Gardner.

“After you are done with a project it is hard to move on to get another, or to increase the technology readiness level to nine. What is missing is the connection between early stage and the product in the end. There are no business development agencies that can link early-stage research to a client that needs this type of technology,” says Podgorski. “It’s very important for start-ups to not forget their commercial spirit and mission, and that they don’t just become an R&D company. Many get sucked into the R&D programs instead of being scalable start-up businesses. It can be a double-edged sword,” says Qaise.

OVER THE NEXT FIVE YEARS, DO YOU EXPECT THE ROLE OF START-UPS AND SMES IN **NATIONAL SECURITY SPACE** TO INCREASE, DECREASE OR STAY THE SAME?



OVER THE NEXT FIVE YEARS, DO YOU EXPECT THE ROLE OF START-UPS AND SMES IN **COMMERCIAL SPACE** TO INCREASE, DECREASE OR STAY THE SAME?



OVER THE NEXT FIVE YEARS, DO YOU EXPECT THE ROLE OF START-UPS AND SMES IN **CIVIL SPACE** TO INCREASE, DECREASE OR STAY THE SAME?



BUSINESS RELATIONSHIPS

To get to the scalable and commercialization aspect, working with organizations such as the large system integrators as well as obtaining government and national security contracts, is crucial to sustain SMEs and start-ups. This part of the process is often hard for these smaller businesses.

Podgorski: “If you are a start-up or SME and you don’t have fifty years of experience, you have to fight for your position. You have to show that you are capable of doing what you are doing. I see that we are treated as the biggest risk projects. We are a bigger risk because we don’t have that much experience like other companies. Sometimes it’s frustrating that you don’t have enough trust from other companies and that you have to spend more time on showing that you are capable of doing something, than actually providing the technology itself,” says Podgorski. Thomas Lund, am Co-Founder and Head of Analysis of DcubeD agrees that this process can be tough: “There is a hesitancy to work with start-ups. As a start-up, you need to fight hard to prove yourself.”

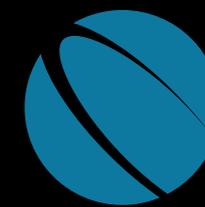
For some organizations, it’s easier to work with smallsat bus developers instead than large system integrators. “When you look at the smallsat bus developers, you realize they do want to work with us. Our relationship with these organizations is much stronger as these organizations are less risk adverse and more focusing on risk to cost balancing,” says Johan Leijtens, CEO of Netherlands-based Lens R&D.

Patience seems to be key for most start-ups and SMEs: “In general, I characterize it as hopeful and inconsistent. I say that because there is never a flood of people beating down our doors to come and see what we do. However, when we do engage with a particular Director or VP and they learn what we can do, they are interested and bring a team of people. Then it’s often a slow process to get a program going,” says Gardner.

TO **LEARN MORE** ABOUT THE ROLE OF START-UPS AND SMES AND THE DEVELOPMENTS WITHIN COMMERCIAL, CIVIL AND NATIONAL SECURITY SPACE PROGRAMS



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