

**Major Matt Friedell**, Space Control Officer, Colorado Air National Guard

Maj Friedell currently serves in the Colorado Air National Guard as the Commander 233<sup>rd</sup> Space Group, Detachment 1, where his unit is responsible for the Mission Qualification training of all Space National Guard units conducting offensive space control. In his civilian duties, he works part time with Big Metal Additive LLC ([bigmetaladditive.com](http://bigmetaladditive.com)) in Denver, CO. He recently transitioned from the active duty Marine Corps where he was the Additive and Digital Manufacturing Lead. Maj Friedell's office was responsible for injecting all facets of advanced, additive and digital manufacturing to increase the readiness, resiliency and lethality of USMC systems. From 3D printed M1A1 Tank impellers, to small snowshoe clips, all requests for AM engineering support came through his office. The Marine corps has fielded dozens of 3D printed drones, over 200 3d printers (desktop to industrial metal), and even 3D printed F-35 Joint Strike Fighter parts while at sea. Maj Friedell's main effort and passion lies in the large scale robotic and additive construction fields. He worked hand and hand with the Army Corps of Engineers to 3D print buildings, barriers and bunkers out of concrete. In 2018, they finished the first printed building in the western hemisphere, a 500 sqft barracks hut, printed in 21 hours. In 2019, they printed a concrete bridge able to hold an MRAP. Maj Friedell holds a Bachelor's Degree in Economics from Colorado State University and a Master's degree in Modeling and Virtual Environments Simulation from the Naval Postgraduate School.

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