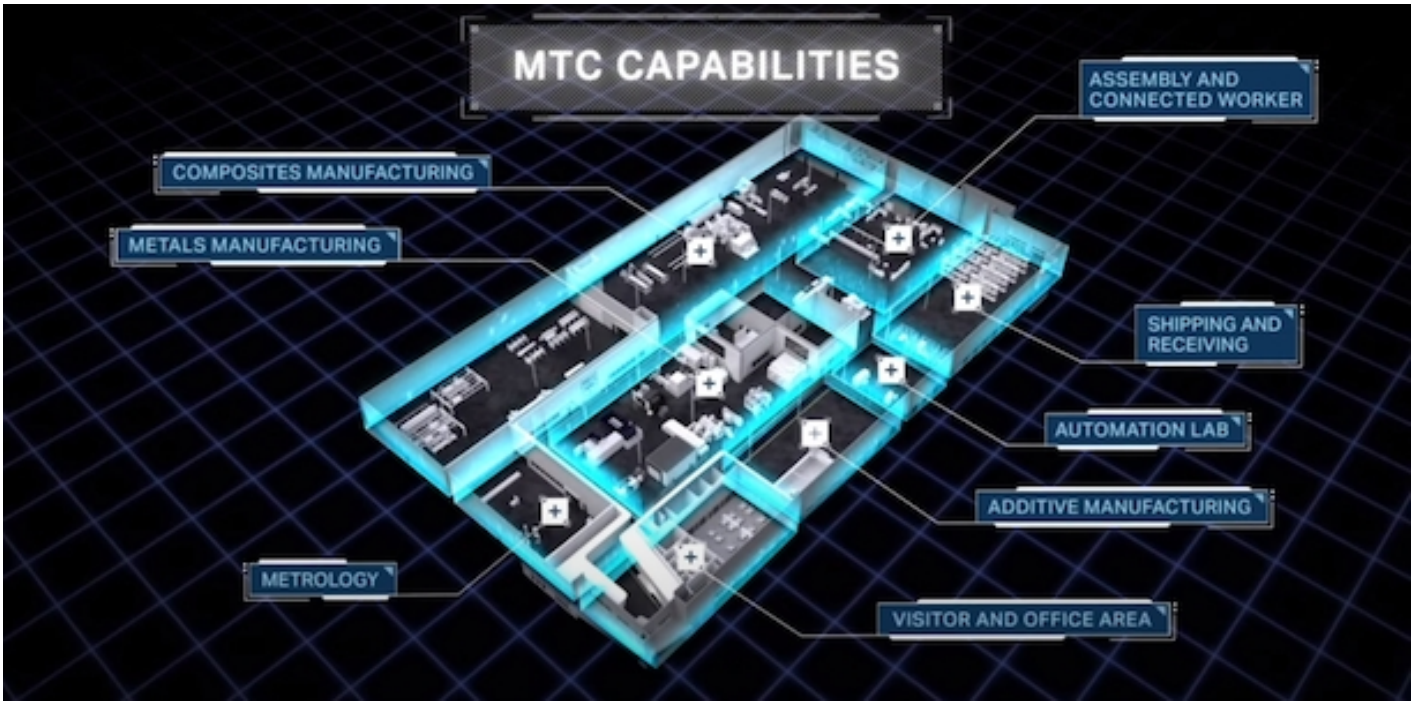
NEW HEIGHTS OF MANUFACTURING - BELL

News / Manufacturer



Bell has proven its engineering and design prowess with the development of its V-280 Valor and Bell 360 Invictus aircraft, both of which have been down selected for the U.S. Army's Future Vertical Lift program – namely the Future Long-Range Assault Aircraft and Future Attack Reconnaissance Aircraft programs respectively. There's little doubt that these next-generation technologies can dominate all areas of the battlefield. The question many have posed, however, is whether Bell can produce these aircraft simultaneously at a rate and cost that fulfills the U.S. Army's next-generation requirements. Enter Bell's Manufacturing Technology Center, also known as the MTC, a digitally connected proving ground for new manufacturing technologies and processes that Bell will deploy to its future factories.

"We've proven what these aircraft can do. Now we've got to show that we know how to produce them at a high rate with high quality and make them reliable and affordable," Bell CEO Mitch Snyder said. "The Manufacturing Technology Center is a facility where we will develop the next-generation manufacturing technologies that will enable the V-280, the Invictus and all things future at Bell."

Located in Fort Worth, Texas, the MTC will operate like a massive computer. Every inch of the 140,000-square-foot facility will be monitored and controlled by a network of IT, IoT and cyber security systems that manage the inflow and outflow of materials, as well as the movement of activity throughout the factory. Recent advancements in computer software, some of which are proprietary to Bell, have allowed the technology company to create such a facility. In fact, the MTC will deploy a networked software infrastructure to produce a digital twin of itself that communicates operational details about the equipment, processes and operation, even the building itself.

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“This is our innovation center of the future for manufacturing,” Snyder said. “It doesn't matter if it's military or commercial products - anything that we can prototype and burn down risk on in terms of manufacturing, you want to do it here.”

According to Glenn Isbell, Bell’s vice president of Rapid Prototyping and Manufacturing Innovation and the leader of this project, the MTC is all about simplifying technology while improving it. “Whenever you simplify, you get cheaper, but you also get faster. And our success will be generated from our ability to reduce lead times and go faster. The costs will come with that.”

For example, engineers at the MTC will be evaluating advanced techniques in manufacturing gears to precise specifications, ultimately reducing cycle times while maintaining and improving quality. Another key feature that the MTC will demonstrate is its connectivity to the supply chain, which will allow manufacturers to proactively manage schedule and costs. By receiving real-time updates from its vast network of suppliers, Bell can automatically detect and solve issues. This will help Bell optimize manufacturing and ultimately reduce timing and costs significantly.

“Manufacturing in the United States is a big deal. But you just can't put stuff here and pay more, because at the end of the day, it's not always that way,” Isbell said. “But if you can do it better, which we can, it just establishes us again as the leader in the world on how we do these kinds of complex manufacturing tasks.”

With the onset of COVID-19, Bell has already demonstrated its flexibility and commitment to excellence in real time. Relatively few companies will come out of this pandemic unscathed. Most will be hurt badly. However, Bell has fared much better than most, maintaining manufacturing operations and delivery schedules since the onslaught of the virus. The company has fully adapted to the new normal, following a business model set forth by Snyder. In just a few short years, he’s created a bottom-up culture, catapulting Bell’s productivity, breeding ideation, and allowing the company to not only compete with industry giants, but surpass them. The MTC is just the latest example of how Bell can do this and why many believe it is the right company to develop America’s next-generation aircraft.

“And one of the barriers we always run into is, you have this incredible next generation machine where we've taken a lot of lessons learned and put them in, but then everybody wants to evaluate it based on all the historical data from the last 30, 40 years in the industry,” said Isbell. “We’ve done things that drastically reduce costs, drastically reduce the number of steps, that drastically reduce our lead times, to where you can't just view this product through a historical lens. You need to do it through the revolutionary lens that we've created.”

Snyder sees it as the natural next step in the process. “You saw the aircraft demonstrated at the Flight Research Center and now you're going to come see how we're going to build it. And when our customers leave the MTC, and have seen what we've done in there, they should walk away very confident that we know exactly how we're going to build their product – and that we can build it at rate.”

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