

NTENSION HAS YOU COVERED: FROM TRADE SHOW DISPLAYS TO PPE

ABOUT NTENSION CORPORATION. NTension is a wholesale manufacturer of custom fabric trade show exhibits and permanent displays for customers worldwide. Based in a 40,000-square foot-facility in Hermon, Maine, NTension builds 400-500 large scale, tension-fabric exhibits each year. In 2019, the company invested in CNC automation and tube cutting machines to boost productivity and hired engineers from the University of Maine's Advanced Manufacturing Center (AMC) to increase product output and align the company for continued growth.

THE CHALLENGE. Prior to the pandemic, NTension was building on its success with major capital investments in both equipment and skilled staff, shipping up to 12 projects a day. When the pandemic hit, NTension's work evaporated overnight. NTension's projects came to a sudden stop as trade shows worldwide were cancelled and public buildings, which once housed permanent displays, shut down. The company considered furloughing its 40 employees.

MEP CENTER'S ROLE. With projects cancelling due to the pandemic, NTension had a surplus of material which might be suitable for PPE. Also, the company's supply chain remained robust; NTension had direct relationships with mills in the United States to broker raw materials. University of Maine's Advanced Manufacturing Center (AMC) was called upon to evaluate the filtration properties of NTension fabrics.

UMaine AMC Director John Belding and his team found the NTension material provided near-identical filtration qualities of N95 masks. Maine MEP, part of the MEP National Network™, worked quickly to build collaborative partnerships to match manufacturing capacity and development teams with healthcare facilities in need of PPE. NTension was quickly called into action to produce personal protection equipment (PPE) for 15 Northern Light Health facilities in Maine in need of general-use face masks.

The Maine MEP, UMaine AMC and NTension collaboration continued beyond sourcing the fabric for Northern Light Health face masks. UMaine's Center for Additive Manufacturing of Metals (CMM) leveraged additive metal technology and 3D printing to produce molds for half-mask filtration pods and other PPE. NTension could then produce the PPE with its new CNC automation, purchased and installed before the pandemic. With help from Maine MEP and NIST funding, NTension is developing a new PPE product line and working to secure U.S. Food and Drug Administration (FDA) approval.

"We couldn't be more proud of this project. Our team has slowly started to transition back into our normal production of trade show exhibits. But we now have a whole new line of healthcare related products. It is refreshing to know that this past year we were able to satisfy the needs of so many at the medical level, but also satisfy the needs of our labor team and keep everybody working. It just all kind of molded together with the help of Maine MEP and UMaine AMC."

-Scott Biehn, President

RESULTS



40 jobs retained (full staff)



> 700,000 face shields and 8,000 half-mask filtration pods for Northern Light Health



New 2-year contract to produce 6 million masks; 1.3 million currently warehoused for distribution

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