

Strengthening U.S. Manufacturing through Service, Analytics, and Education

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In my August 2020 column “Rethinking Domestic Supply Chains,” I discussed efforts by various Manufacturing USA institutes to upgrade manufacturing practices and develop more-resilient supply chains. The institutes are working to implement distributed manufacturing, integrate data along the value chain, and develop virtual training and workforce development tools to ensure our domestic supply chains can weather future crises like the COVID-19 pandemic.

The RAPID Manufacturing Institute continues to develop and demonstrate intensified and modular process technologies to reduce capital and operating costs, increase sustainability, and enable more-scalable, distributed manufacturing across the process industries. RAPID and its members envision that distributed modular production platforms will play a key role in driving resilience across supply chains. Our technology development efforts complement the work of the other Manufacturing USA institutes, and we continue to look for opportunities to collaborate.

The 14 Manufacturing USA institutes and their members, which represent most industry segments, work to develop and commercialize new technologies to make U.S. industry more competitive. The CEOs of the institutes partnered to develop and promote a resilient U.S. manufacturing strategy that reflects the priorities of these industries. The team developed four key recommendations to maintain U.S. economic and industrial competitiveness and enhance our ability to respond to future crises.

The National Manufacturing Guard. We are advocating for the creation of a National Manufacturing Guard. This network of subject matter experts in manufacturing technology, supply chains, and related disciplines would be composed of service-minded professionals who volunteer or are nominated by their organizations. The cohort would convene, share knowledge across industry segments, and train regularly to identify best practices for strengthening manufacturing and responding to local and national crises. We envision that these volunteers would also be activated during emergencies to help industries respond to national manufacturing challenges.

National Supply Chain Data Exchange. We have recommended the implementation of a National Supply Chain Data Exchange to facilitate secure sharing of end-to-end manufacturing operations data among supplier and consumer organizations. This cybersecure data exchange would provide information for mapping and optimizing current supply chains and enable the design of more-resilient domestic manufacturing networks. It would also help distributors and manufacturers become more agile by allowing them to

adjust their supply networks to respond to demand signals. Manufacturing assets could be adjusted — and, perhaps, built around a modular, distributed production architecture — for quicker response to market changes, supply outages, or national crises.

The Technology Corps. We are proposing the formation of the Technology Corps to create learning and service opportunities for Americans who are 18–24 years old. In one year of service, corps participants will be prepared to enter a diverse national talent pool ready for higher education, military service, or entry into the advanced manufacturing workforce. The program will introduce young people in the U.S. to impactful careers in manufacturing, potentially through direct engagement with the Manufacturing USA institutes, and offer them an opportunity for national public service.

Resilient Manufacturing Advisory Council. Our final recommendation is the formation of a Resilient Manufacturing Advisory Council that includes stakeholders from industry, government, nonprofits, and academia. These collaborators could identify and prioritize industry recommendations for the implementation and operation of the Manufacturing Guard, Supply Chain Data Exchange, and Technology Corps. This Council would also act a resource to the U.S. government to inform cross-agency activities and recommend strategies to improve current and future supply chains.

In late July, U.S. Senators Chris Coons (D-DE) and Marco Rubio (R-FL) and Representatives Haley Stevens (D-MI) and Troy Balderson (R-OH) built on these recommendations and introduced the Resilient Manufacturing Task Force Act. The bill is currently under consideration in the House and Senate and, if passed, would establish the Resilient Manufacturing Task Force. This federal-level, interagency task force would include representatives from U.S. government agencies and other public and private sector stakeholders, including leadership from the Manufacturing USA institutes. The group would work to develop a framework and workstreams to form and operate the National Manufacturing Guard, National Supply Chain Data Exchange, Technology Corps, and Resilient Manufacturing Advisory Council.

The Manufacturing USA institutes are working to respond to the vulnerabilities in our supply chains highlighted by the COVID-19 pandemic. We will continue to work to build the most robust and resilient U.S. manufacturing base. The institutes, including RAPID, stand ready to help the U.S. government implement the Resilient Manufacturing Task Force as a first step toward realizing this goal.

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