# NATIONAL CENTER FOR MANUFACTURING SCIENCES

## Establishing And Maturing A Digital Infrastructure
## For The United States Government

Student Team:
Bryce Garver – Master of Business Administration
Liz Rubenson – EGL (BSE Biomedical Engineering/Master of Science in Engineering in Biomedical Engineering)

Project Sponsors:
Michael DeHeer – Senior Project Manager, Digital Enterprise & Initiatives
Jon Riley – Senior Vice President, Digital Enterprise & Initiatives

Faculty Advisors:
Wei Lu - College of Engineering
Mohamed Mostagir - Ross School of Business

The National Center for Manufacturing Sciences (NCMS) is the nation's leading cross-industry, technology development consortium, headquartered in Ann Arbor, Michigan. NCMS is dedicated to improving the competitiveness and strength of U.S. manufacturing. To do this, NCMS leverages their network of industry, government, and academic partners to accelerate the development and adoption of innovative manufacturing and technology capabilities.

Manufacturers have been utilizing digital transformation to revolutionize the way they work and collaborate. This transformation has been dramatically expedited in the past 18 months due to the COVID-19 pandemic as supply chain resilience and adaptability is at the forefront of conversations. The need to adapt the way organizations collaborate on complex manufacturing and engineering problems led NCMS to create the NCMS Digital Proving Ground (DPG). The DPG enables industry and government users to manage and collaborate on innovative projects in an integrated, secure, neutral, cloud-based, single-source environment that encompasses the full lifecycle of digital product development.

With the DPG being a relatively new offering, the Tauber team was brought on board to advance the maturity of the DPG and enable widespread adoption. The team assessed the DPG by conducting user interviews with a wide array of end users from large industry OEMs, small and mid-sized manufacturers, technology developers, and government participants. Through this assessment, the team identified three major needs to deliver value to NCMS and project participants more broadly: expedite the onboarding process, enable users to be more effective in the new environment, and enhance visibility of project status to facilitate management and decision making.

The team proposed initiatives and an implementation timeline to address these needs and create value for NCMS along with their government and industry partners. The team expedited onboarding to the DPG and reduced process risk by developing an automated vetting process. To enhance user effectiveness, a systematic training process was conceptualized and an implementation strategy was formed. This training will provide direct instruction on all aspects from getting started, to working in the specific software inside the DPG. Finally, a suite of DPG dashboards was created to enable NCMS leadership to make strategic decisions about the future of the DPG and improve project manager visibility into project specific usage information along with other key performance indicators (KPIs).

By implementing the changes recommended by the Tauber team, NCMS will save $26.3 million in project costs over the next three years, avoid potential project cost overruns, as well as unlock further DPG revenue growth. These savings can then be fed into other initiatives to further deliver value for the U.S. government and industry partners.