

Revitalizing American Manufacturing - Challenges & Opportunities

Innovation and manufacturing are intricately linked, but not just in the direction usually conceived—from innovation to manufacturing. During the scale-up and manufacturing phases that follow the initial discovery phase, many improvements in process, design and efficiency arise, feeding back to new cycles of innovation. Thus, if we fail to manufacture today's advanced technology products, we lose our ability to innovate next generation products. It is particularly true in nanotechnology as many of its process technologies are being matured. Being the world's best in scientific discoveries is still vital to our success but is not sufficient to compete in the global economy. A renewed focus on the application of scientific knowledge, through world-class engineering and translational research, is needed to close our innovation gap between basic research and manufacturing. This talk highlights various challenges and new federal initiatives to enhance U.S manufacturing competitiveness, including the innovation policies that led to establishment of Manufacturing Innovation Institutes and other initiatives to ensure economic and national security.

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Sridhar Kota is the Herrick Professor of Engineering at the University of Michigan. Kota authored over 200 technical papers and 25 patents. He received American Society of Mechanical Engineers (ASME) Machine Design Award, Leonardo da Vinci Award, and the Outstanding Educator Award. Kota is the founding President of FlexSys Inc. specializing in aircraft wing morphing etc. Between 2009-2012 Kota served as the Assistant Director for Advanced Manufacturing at the White House Office of Science and Technology Policy. In this role, he developed policy recommendations and implementation strategies to enhance U.S. manufacturing competitiveness, and to foster innovation-based manufacturing of emerging technologies. He played an instrumental role in launching several initiatives including National Manufacturing Innovation Institutes and National Robotics Initiative.