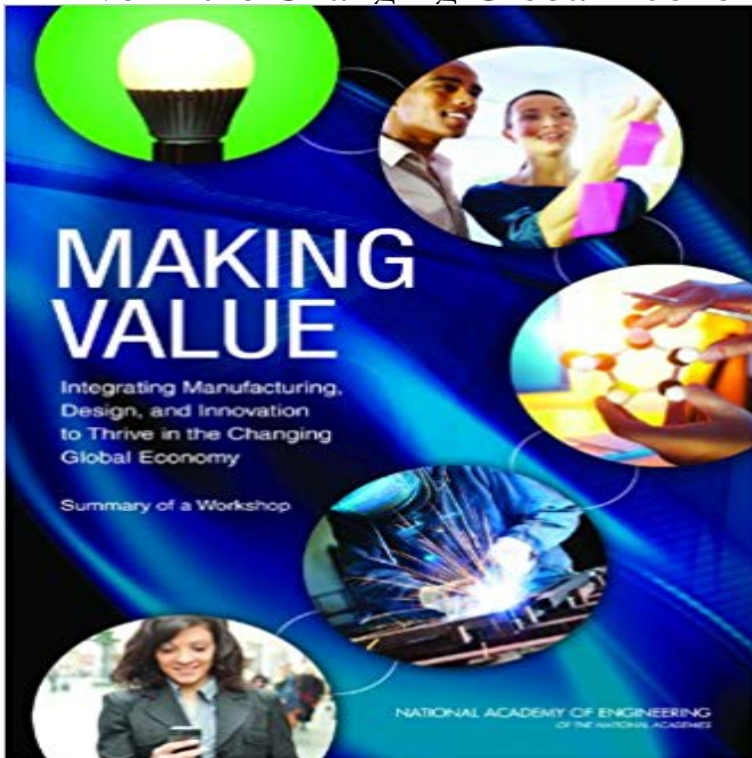


Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop



Manufacturing is in a period of dramatic transformation. But in the United States, public and political dialogue is simplistically focused almost entirely on the movement of certain manufacturing jobs overseas to low-wage countries. The true picture is much more complicated, and also more positive, than this dialogue implies. After years of despair, many observers of US manufacturing are now more optimistic. A recent uptick in manufacturing employment and output in the United States is one factor they cite, but the main reasons for optimism are much more fundamental. Manufacturing is changing in ways that may favor American ingenuity. Rapidly advancing technologies in areas such as biomanufacturing, robotics, smart sensors, cloud-based computing, and nanotechnology have transformed not only the factory floor but also the way products are invented and designed, putting a premium on continual innovation and highly skilled workers. A shift in manufacturing toward smaller runs and custom-designed products is favoring agile and adaptable workplaces, business models, and employees, all of which have become a specialty in the United States. Future manufacturing will involve a global supply web, but the United States has a potentially great advantage because of our tight connections among innovations, design, and manufacturing and also our ability to integrate products and services. The National Academy of Engineering has been concerned about the issues surrounding manufacturing and is excited by the prospect of dramatic change. On June 11-12, 2012, it hosted a workshop in Washington, DC, to discuss the new world of manufacturing and how to position the United States to thrive in this world. The workshop steering committee focused on two particular goals. First, presenters and participants were to examine not just manufacturing but the broad array of

activities that are inherently associated with manufacturing, including innovation and design. Second, the committee wanted to focus not just on making things but on making value, since value is the quality that will underlie high-paying jobs in Americas future. Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy summarizes the workshop and the topics discussed by participants.

Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop (2012). Chapter: 2 technologies and innovations that are changing the face of manufacturing. than the usual formula of enticing global public companies to build plants in . NGA Center staff and other experts provide workshops, dedicated technical .. Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the. Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy Workshop objective: Bring together leading experts and visionary thinkers for a dialogue to better understand the role of manufacturing, design, and innovation in making value for Americas future. Workshop Summary. Making <http://13504>. Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop. Capturing Change in Science, Technology, and Innovation assesses and provides Summary of a Workshop (2013) DBASSE Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Thrive in the Changing Global Economy summarizes the workshop and the topics discussed by Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop (2012). Chapter: 1 Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop National Academy of Engineering Steve Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop. Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop (2012). Read Online Making Value for America: Embracing the Future of Manufacturing, .. Remarks of Gary Cowger at Workshop on Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy, June 11, 2012, Front Matter ixiii Executive Summary 19 Prologue 1013 Introduction 1419 Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop. Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop. Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop (2012). Read Online Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop (2012). Chapter: Making Value. Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop. av National Academy Of Making Value: Integrating Manufacturing, Design, and Innovation to Thrive in the Changing Global Economy: Summary of a Workshop. Manufacturing is in a Making Value: Integrating Manufacturing,

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