
NATIONAL SUMMIT
JUNE 13, 2018 WASHINGTON, D.C.
MANUFACTURING PROSPERITY
MFORESIGHT
ALLIANCE FOR MANUFACTURING FORESIGHT

Welcome to the 2018 MForesight National Summit!

Dear Friend:

It's an honor to be with you for the 2018 Summit. For American manufacturing, this is a moment of both grand challenges and great opportunities. Today's convening is a chance to make sense of the moment and chart a clear path forward.

There's serious work ahead. On one hand, American manufacturing faces issues like the loss of R&D activities to foreign competitors, limited capacity to commercialize our domestic research, and the weakening of "industrial commons" and "innovation ecosystems" that took decades to build.

On the other hand, extensive, pervasive technological change in manufacturing is creating an opportunity to ensure a positive future for domestic production. The new parameters play to American strengths: flexibility and adaptability, a large capital market, superior higher education, and the world's best R&D. But taking advantage and recapturing industrial leadership will require national recognition of the importance of manufacturing and a focus on building the industries of the future. American manufacturing faces transformative opportunities—including high-performance materials, ubiquitous sensors, automation, smart manufacturing, and other emerging trends and technologies taking hold here.

We are delighted to have you here, among many of the nation's foremost manufacturing experts, business leaders, and decision-makers, to make sense of the problems and prospects. We are here to explore strategies for rebuilding our industrial commons, preserving the innovation edge, ensuring national security, and maintaining global competitiveness.

As always, this Summit is part of a continuing conversation. We want you to stay involved with MForesight reports, roundtables, public events, and advisory activities. To learn how to stay engaged, please visit MForesight.org

Again, my deepest thanks for your participation.

Sincerely,

Sridhar Kota, Executive Director, MForesight

Agenda

8:15 AM **Opening Remarks by The Honorable Tom Reed (NY-23)**

8:30 AM **Introduction**

8:45 AM **Policy Keynote: "Producing Prosperity: Advanced Manufacturing and the Innovation Ecosystem" by Willy Shih** – Robert and Jane Cizik Professor of Management Practice in Business Administration, Harvard Business School

9:30 AM **"Grand Challenges in U.S. Manufacturing – Findings and Recommendations" by Sridhar Kota** – Executive Director, MForesight

10:15 AM **Break**

10:30 AM **Industrial Commons & Manufacturing Technologies Panel:** Panelists will discuss the role of academia, industry, and government in restoring industrial commons, strengthening foundational capabilities, and building the industries of the future. This includes R&D investments in process technologies as well as creating demand through early adoption to incentivize private investment.

Panelists:

- **Robert Atkinson** – President, ITIF
- **Sue Babinec** – Senior Commercialization Advisor, ARPA-E, Department of Energy
- **William Bonvillian** – Lecturer, MIT
- **André Gudger** – CEO, Eccalon
- **Fred Keller** – Founder and Chair, Cascade Engineering

11:30 AM **Technical Keynote: "Impact of the Factory of the Future" by Blake Moret** – CEO and Chairman, Rockwell Automation

12:15 PM **Lunch**

1:15 PM **Conversation with Ian Steff** – Deputy Assistant Secretary for Manufacturing, U.S. Department of Commerce

1:35 PM **Funding for Hardware Start-ups and Scale-ups Panel:** Achieving a smart manufacturing future requires not only broad implementation of advanced manufacturing technologies, but also vibrant manufacturing ecosystems and the resources to support manufacturing start-ups and scale-ups. Panelists will discuss ways to ensure that sufficient patient capital, appropriate infrastructure, skills and effective policies are all in place to seize the emerging opportunities.

Panelists:

- **Joseph Beaman** – Professor & Earnest F. Gloyna Regents Chair in Engineering, University of Texas at Austin
- **Chris Conrardy** – CTO & Vice President for Strategic Initiatives, EWI
- **Jill Sorensen** – Director, SCRA Entrepreneurial Programs, SC Launch
- **Charles Zukoski** – Provost & Executive VP for Academic Affairs, University at Buffalo

2:35 PM **Break**

2:55 PM **American Inventions Made Onshore (AIM Onshore) Prize Competition Announcement by Daniel Simmons** – Principal Deputy Assistant Secretary of the Office of Energy Efficiency and Renewable Energy, Department of Energy

3:15 PM **Conversation with Eric Chewning** – Deputy Assistant Secretary of Defense, Manufacturing and Industrial Base Policy, Department of Defense

3:35 PM **Open Discussion**

4:00 PM **"FIRST Robotics: Inspiring and Growing Innovators" by Dean Kamen** – Founder, FIRST Robotics

4:45 PM **Closing Remarks by Alexander B. Gray** – Special Assistant to the President for the Defense Industrial Base, White House Office of Trade & Manufacturing Policy

5-7:00 PM **Networking Reception (Colonnade)**

Note: Photographs will be taken during the event and may be posted on MForesight's website or Twitter feed.

Speaker Bios

The Honorable Tom Reed was first elected to the House of Representatives in a special election in November 2010. He currently represents New York's 23rd District. He serves as a member of the Ways and Means Committee, which is responsible for addressing issues of tax policy, trade, health care, and Social Security. He sits on the Trade, Health, and Human Resources. subcommittees. He serves as Co-Chair of the Congressional Diabetes Caucus, the House Manufacturing Caucus, and the Problem Solvers Caucus.

Tom remains committed to championing job creation by tackling our national debt, reducing burdensome regulations on small businesses, developing an "all of the above" energy policy, and reforming our tax code.

Tom graduated from Alfred University in 1993 and from Ohio Northern University College of Law in 1996. His legal career began shortly thereafter in Rochester. In 1999, he returned to his hometown of Corning to open a private legal practice and begin a business in real estate. He served as Mayor of Corning from 2008-2009.

Willy Shih is the Robert and Jane Cizik Professor of Management Practice in Business Administration at Harvard Business School. He is part of the Technology and Operations Management Unit, and he teaches in the MBA and Executive Education Programs. His expertise is in manufacturing and product development, and he has written or co-authored numerous cases and teaching materials in industries ranging from semiconductors, information technology, consumer electronics, aerospace, transportation equipment, manufacturing processes and tools, and intellectual property.

His paper, "Restoring American Competitiveness," co-authored with Gary Pisano, won the 2009 McKinsey Award. His recent book, "Producing Prosperity – Why America Needs a Manufacturing Renaissance," co-authored with Gary Pisano, has called attention to the link between manufacturing and innovation. He is also the author of "Back Bay Battery," a best-selling innovation simulation.

Prior to coming to HBS in 2007, Willy spent 28 years in industry at IBM, Digital Equipment, Silicon Graphics, Eastman Kodak, and Thomson SA. He has two S.B. degrees from the Massachusetts Institute of Technology, and a Ph.D. from the University of California at Berkeley.

Sridhar Kota is the Herrick Professor of Engineering, Professor of Mechanical Engineering at the University of Michigan, and the founding Executive Director of MForesight. Between 2009-2012 Prof. Kota served as the Assistant Director for Advanced Manufacturing at the White House Office of Science and Technology Policy. He played an instrumental role in initiating and launching National Manufacturing Innovation Institutes, National Robotics Initiative, and National Digital Engineering and Manufacturing Initiative.

Kota authored over 200 technical papers, 30 patents on mechanical and bio-inspired engineering systems. He is the recipient of the American Society of Mechanical Engineers Machine Design Award, Leonardo da Vinci Award, the Outstanding Educator Award, University of Michigan Regents Award for Distinguished Public Service and the Distinguished University Innovator Award. He is the founder and CEO of FlexSys Inc., that developed and flight tested the world's first modern aircraft with shape-changing wings to improve fuel efficiency and noise reduction.

Robert D. Atkinson is founder and president of the Information Technology and Innovation Foundation (ITIF), and leads a prolific team of policy analysts and fellows that is successfully shaping debate and setting the agenda on a host of critical issues at the intersection of technological innovation and public policy. He is an internationally recognized scholar and a widely published author whom The New Republic has named one of the "three most important thinkers about innovation," Washingtonian Magazine has called a "Tech Titan," and Government Technology Magazine has judged to be one of the 25 top "Doers, Dreamers and Drivers of Information Technology."

Atkinson holds a Ph.D. in city and regional planning from the University of North Carolina, Chapel Hill, where he was awarded the prestigious Joseph E. Pogue Fellowship. He earned his master's degree in urban and regional planning from the University of Oregon, which named him a distinguished alumnus in 2014.

Sue Babinec is a Senior Commercialization Advisor at the Advanced Research Projects Agency-Energy (ARPA-E), and is responsible for the Energy Storage portfolio (both transportation and the grid). She helps lead ARPA-E's Technology-to-Market effort, which focuses on preparing breakthrough energy technologies for the transition from lab to market. Prior to ARPA-E, Babinec served as Technical Director for A123 Systems, Inc., where she led research groups innovating in Li-Ion materials and cell technologies and also developed an analytical organization in support of the company's global business.

Babinec spent the first 20+ years of her career at The Dow Chemical Corporation, where she was awarded the Inventor of the Year and was the company's first woman Corporate Fellow. Her role also

included Scientist Partner to the Dow Venture Capital Organization-Physical Sciences, leading technical analysis of investment opportunities and hands-on partnering in start-up investments. Babinec also co-invented a low-cost display technology that was spun out as the venture-funded Aveso Displays.

She holds 40+ patents and has authored or co-authored dozens of journal articles and book chapters on her areas of expertise. She is an active member of The American Chemical Society, The Materials Research Society and The Electrochemical Society.

William B. Bonvillian is Lecturer at the Massachusetts Institute of Technology in the Science Technology and Society and Political Science Departments, and is a senior director at MIT's Office of Digital Learning working on a workforce education research project. Prior to this position, from 2006-17, he was Director of the MIT's Washington, D.C. Office. In this position he worked to support MIT's strong and historic relations with federal R&D agencies, and its role on national science policy. He has assisted with major MIT technology policy initiatives on energy technology, the "convergence" of life, engineering and physical sciences, advanced manufacturing, online higher education and its "innovation orchard" project on startup scale-up.

Prior to that position, he served for seventeen years as a senior policy advisor in the U.S. Senate. His legislative efforts included science and technology policy and innovation issues. He worked extensively on legislation creating the Department of Homeland Security, on Intelligence Reform, on climate change, on defense and life science R&D, and on national competitiveness and innovation legislation leading to the America Competes Act in 2007.

He is the author of three books, including the new MIT Press book (with Peter Singer), *Advanced Manufacturing - the New American Innovation Policies* (Jan. 2018).

André J. Gudger served in the Obama administration as the Deputy Assistant Secretary of Defense (DASD) for Manufacturing and Industrial Base Policy (MIBP) and the Director of the Office of Small Business Programs at the Department of Defense (DoD). In his role at MIBP Mr. Gudger was responsible for ensuring a robust, secure, resilient, and innovative industrial base to meet DoD's needs. Mr. Gudger supported the Office of the Secretary of Defense by providing detailed analyses and in-depth understanding of the complex industrial supply chain essential to our national defense, and recommending or taking appropriate actions to maintain the health, integrity and technical superiority of that supply chain. Additionally, Mr. Gudger was the DoD lead for President Obama's National Network of Manufacturing Innovation.

Prior to this role, Mr. Gudger served as the Director of the Office of Small Business Programs in the Department of Defense. In this role, Mr. Gudger served as the principle advisor to the Secretary of Defense on all small business matters.

Mr. Gudger received his Bachelor of Science degree from the University of Maryland Baltimore County and performed his Master's in Business Administration studies at the University of North Carolina Chapel Hill, Chinese University of Hong Kong, Erasmus University in Rotterdam, Tec de Monterrey in Mexico, FundacaoVargus University in Brazil, and Gdansk University in Poland.

Fred Keller started Cascade Engineering in 1973 with a belief that business can complement financial performance with important work in the social and environmental arenas. Driven by this belief, a small team of six employees has grown to be a company of 1,700 people serving a worldwide customer base.

With a passion for making a positive impact, Fred is a trustee for the Gerald R. Ford Presidential Foundation and is an Executive-in-Residence at the Center for Positive Organizations at the University of Michigan - Ross School of Business. He has served as board chair for the U.S. Department of Commerce – Manufacturing Council and served 14 years on the W.K. Kellogg Foundation – Board of Trustees as a trustee and former chair. Fred has been part of many community organizations and change initiatives including Talent 2025 and K-Connect.

Fred has been a visiting lecturer at the Samuel Curtis Johnson Graduate School of Management at Cornell University since 2002, where he currently teaches two courses on social entrepreneurship. Fred earned a B.S. in materials science and engineering from Cornell University and an M.S. in business management from Rensselaer Polytechnic Institute.

Blake Moret is Chairman and Chief Executive Officer of Rockwell Automation. As CEO, Blake leads the world's largest company focused on industrial automation and information, dedicated to making our customers more productive and the world more sustainable. He is passionate about Rockwell Automation's vision of The Connected Enterprise and is leading its acceleration through innovation and an in-depth knowledge of our customers' business needs.

Blake has 32 years of broad experience with the company including leadership roles in solutions, services, and product groups. He began his career in 1985 as a sales trainee, and subsequently served in senior positions across the organization, including international assignments in Europe and Canada.

Blake is a graduate of Georgia Institute of Technology, where he earned a bachelor's degree in mechanical engineering. He

is currently on the National Association of Manufacturers' (NAM) Board of Directors and Executive Committee, and previously served as Chair of the Board of the NAM Manufacturing Institute. Additionally, he is a member of the Business Roundtable and serves on the board of the ARMI Advanced Regenerative Manufacturing Institute / BioFab USA.

Ian Steff is Deputy Assistant Secretary for Manufacturing at the U.S. Department of Commerce. He oversees a broad portfolio of national programs aimed at increasing the global competitiveness of U.S. manufacturers. Managing a staff of 45 Industry & Analysis professionals within the International Trade Administration, he is among those senior officials responsible for executing the Administration's plans to foster growth in U.S. manufacturing jobs and investments.

Before joining the U.S. Department of Commerce, Steff served as the state of Indiana's first Chief Innovation Officer under then-Governor Pence and subsequently Governor Holcomb. He was Executive Vice President for the Indiana Economic Development Corporation (IEDC) and the state's senior advisor for science, technology, and advanced manufacturing. Steff oversaw Indiana's strategy regarding science and technology economic development and was directly responsible for the implementation of the Governor's billion-dollar innovation and entrepreneurship initiative.

Steff graduated Magna Cum Laude from American University with a B.A. in International Studies. He also completed graduate work at the National Defense University in Washington, D.C., and received a M.A. in International Science and Technology Policy from George Washington University.

Joseph J. Beaman joined The University of Texas at Austin faculty in 1979 after receiving his Sc.D. from the Massachusetts Institute of Technology in Mechanical Engineering. His career work has been in both manufacturing and control. His specific manufacturing research interest is in Additive Manufacturing (AM). Professor Beaman was the first academic researcher in the field. One of the most successful AM approaches, Selective Laser Sintering, was a process that was developed in his laboratory. He was one of the founders of DTM Corporation (now merged with 3D Systems), which markets Selective Laser Sintering.

Professor Beaman has also worked extensively with the special metals processing industry to develop next generation process control for super alloys and titanium alloys. Dr. Beaman is a Fellow of both ASME and SME.

He is presently technical editor of the Journal of Dynamic Systems Measurement and Control of ASME. He was chair of the Department of Mechanical Engineering at the University of Texas from 2001 to 2012. He was elected to the National Academy of Engineers in 2013, received the FAME award in Additive Manufacturing in 2014, elected National Academy of Inventors in 2015, and received the SME Albert M. Sargent Award in 2016.

Chris Conrardy is the interim Executive Director of LIFT, a Manufacturing USA public-private partnership geared toward advancing America's leadership in manufacturing technology. To join LIFT, Mr. Conrardy has taken a hiatus from his decade-long role as Chief Technology Officer and Vice President for Strategic Initiatives at EWI in Columbus Ohio.

Mr. Conrardy serves on multiple boards of start-up companies and university centers. Prior to joining EWI, he was a partner in a technology start-up company which develops software products for manufacturing automation, process monitoring, and quality tracking applications. He also worked as a researcher in a corporate R&D center for a company that built systems for the nuclear/fossil power generation and off-shore oil industries.

Mr. Conrardy holds BS and MS degrees in Welding Engineering from Ohio State University and has over 50 technical publications, presentations, awards, and patents.

Jill Sorensen is a senior innovation manager with over twenty-five years of experience in emerging technology, intellectual asset, business, start-ups and economic development management. As the Director of SCRA's Entrepreneurial Programs, Jill oversees entrepreneurship investments in the life science, IT, advanced manufacturing and material science sectors to promote innovation and economic development in South Carolina.

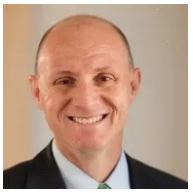
Prior to joining SCRA, Jill directed Bilyan, LLC, an innovation management consultancy. Jill has advised clients ranging from individual inventors and start-ups to national and international clients across the health, energy, transportation and manufacturing sectors. Jill co-founded and directed BEVI, the Baltimore-Washington Electric Vehicle Initiative, since 2008. Before Bilyan and BEVI, Jill served as Executive Director of the Johns Hopkins University Technology Transfer (JHTT) office, now Johns Hopkins Technology Ventures (JHTV). Jill continues as part-time faculty at Hopkins teaching innovation management.

Jill earned her J.D. from DePaul University, her B.A. from Northwestern University, pursued graduate studies in chemistry at the University of Illinois, and was a visiting scholar to the University of Oxford in 2004 and 2007

Charles F. Zukoski, PhD, has served as provost and executive vice president for academic affairs since 2012. As the university's second ranking officer, he is responsible for overseeing all academic and academic support programs. Under his leadership, the university has transformed its general education program, increased international and experiential learning opportunities, significantly improved graduation rates, grown and diversified the student body, and enhanced faculty research productivity and impact.

Provost Zukoski joined UB from the University of Illinois at Urbana-Champaign, where he was a faculty member in the Department of Chemical Engineering for three decades and he served as vice chancellor for research. Prior to joining UB, he also was chairman of the Science and Engineering Research Council in Singapore.

A member of the National Academy of Engineering, Provost Zukoski was named one of the "Hundred Chemical Engineers of the Modern Era" by the American Institute of Chemical Engineers. He holds a bachelor's degree in physics from Reed College and a PhD in chemical engineering from Princeton University.



Daniel Simmons, in his role as Principal Deputy Assistant Secretary in the Office of Energy Efficiency and Renewable Energy (EERE), leads EERE to achieve its vision of a strong and prosperous America powered by clean, affordable, and secure energy. He oversees technology development in the energy efficiency, renewable power and sustainable transportation sectors.

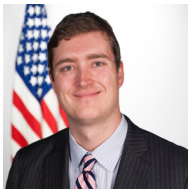
Daniel served as the Institute for Energy Research's Vice President for Policy, overseeing its energy and environmental policy work at the state and federal level.

He previously served as director of the Natural Resources Task Force at the American Legislative Exchange Council, was a research fellow at the Mercatus Center, and worked as professional staff on the Committee on Resources of the U.S. House of Representatives. He is a graduate of Utah State University and George Mason University School of Law.

Eric Chewning currently serves as the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy (MIBP). In this capacity, he is the principal advisor to the Under Secretary of Defense for Acquisition, Technology, and Logistics (AT&L) for analyzing the capabilities, overall health, and policies concerning the industrial base on which the Department relies for current and future warfighting capabilities and requirements.

Prior to his assignment with the Office of the Secretary of Defense, he was a partner with McKinsey & Company. Mr. Chewning's analysis of foreign policy, military strategy, and the defense industrial base has been featured in a variety of national media outlets. A former US Army officer, he is a veteran of Operation Iraqi Freedom and participated in the evacuation of New Orleans during Hurricane Katrina. Prior to his military service, he was an investment banking analyst at Morgan Stanley & Co. focused on the industrial sector. He received a MBA from the Darden School of Business at the University of Virginia. He also earned a MA in international relations and BA with honors from the University of Chicago.

Dean Kamen is an inventor, an entrepreneur, and a tireless advocate for science and technology. As an inventor, he holds more than 440 U.S. and foreign patents, many of them for innovative medical devices that have expanded the frontiers of health care worldwide. One of Kamen's proudest accomplishments is founding FIRST® (For Inspiration and Recognition of Science and Technology), an organization dedicated to motivating the next generation to understand, use and enjoy science and technology. Notably, Kamen was awarded the National Medal of Technology in 2000. Presented by President Clinton, this award was in recognition for inventions that have advanced medical care worldwide, and for innovative and imaginative leadership in awakening America to the excitement of science and technology.



Alexander Gray is Special Assistant to the President for the Defense Industrial Base at the Office of Trade & Manufacturing Policy of the White House National Economic Council (NEC). In this capacity, he focuses on the nexus between national security, defense manufacturing and industrial base resiliency, and U.S. trade and industrial policy.

Previously, Mr. Gray had been a Member of the U.S. Department of State "Landing Team" for the Presidential Transition Team, focusing on Asia-Pacific issues. From July to November 2016, Mr. Gray was Senior Defense Advisor to the Trump-Pence presidential campaign, where he advised the Republican presidential nominee on defense and national security, particularly the formulation of the candidate's plan to rebuild the U.S. military.

Prior to joining the Trump campaign, Mr. Gray served as Senior Advisor to U.S. Congressman J. Randy Forbes (R-VA), the Chairman of the House Armed Services Seapower & Projection Forces Subcommittee and Co-Chairman of the Congressional China Caucus. Mr. Gray began his career as a Policy Analyst with the Bipartisan Policy Center, a Washington, DC-based think tank. Named a "Future Leader" by the Foreign Policy Initiative, Mr. Gray received degrees from Elliott School of International Affairs at The George Washington University.

About MForesight: Alliance for Manufacturing Foresight

The United States has the assets needed for success in manufacturing—from world-class universities and national laboratories to leading firms and entrepreneurs. Still, the success of the manufacturing sector depends on often-elusive ingredients: long-term thinking and coordination. To ensure that American scientific discoveries and engineering inventions result in the creation of new economic opportunity, it is essential to convene the country's diverse stakeholders in manufacturing to generate and share coordinated input on America's manufacturing research and development (R&D) priorities.

As a convener and facilitator, MForesight forges new connections across the manufacturing community to align R&D priorities with manufacturing challenges and opportunities across the sector. MForesight works to crystallize the forward-looking recommendations of technical experts and practitioners and to present them in a clear and compelling way to key decision makers. The overarching objective is to give voice to the advanced manufacturing community in the public and private decision-making processes that will determine the future of U.S. manufacturing.

MForesight: Alliance for Manufacturing Foresight is a federally-funded consortium focused on enhancing U.S. manufacturing competitiveness by providing insights to decision makers on emerging technology trends and related priorities to inform policy and investments in advanced manufacturing.

As the only national consortium convening experts to forecast and develop recommendations for advanced manufacturing technologies, MForesight's value proposition lies in the creation of a cohesive and coordinated community that influences, supports, and strengthens each other toward advancing U.S. manufacturing competitiveness. MForesight's long-term impact will arise from better-informed decision-making on emerging technologies leading to manufacturing of new advanced products in the United States, and ultimately, more high-value jobs, strengthened national security, and increased domestic wealth.

MForesight enables the U.S. manufacturing community with a framework to provide coordinated input on R&D and manufacturing related opportunities. The framework is built on four phases of engagement with public and private stakeholders— discover, prioritize, develop, and disseminate.

- **Discover** emerging technologies and challenges facing the manufacturing community
- **Prioritize** topics of study based on need, potential, and competitive advantage
- **Develop** recommendations to accelerate technology innovation and adoption
- **Disseminate** findings to stakeholders in the private sector, academia, and federal S&T agencies that are in positions to take action

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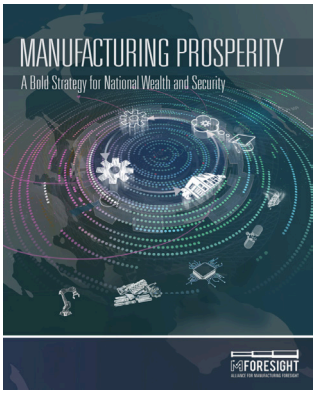
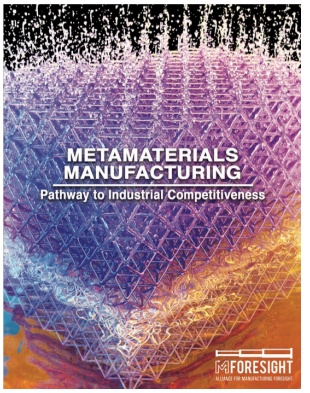
MForesight Reports

Download reports at MForesight.org



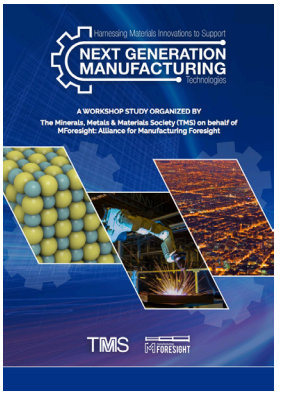
Manufacturing Prosperity: A Bold Strategy for National Wealth and Security

Offshore production in advanced manufacturing has reached a critical point in which the strategy of "invent here, manufacture there" has become "invent there, manufacture there." The United States must take bold steps to arrest this development and take advantage of transformational technologies to rebuild domestic manufacturing prowess for national wealth and security.



Metamaterials Manufacturing: Pathway to Industrial Competitiveness

This report examines the challenges and opportunities facing metamaterials manufacturing, and presents a set of actionable recommendations for realizing the promised impact.

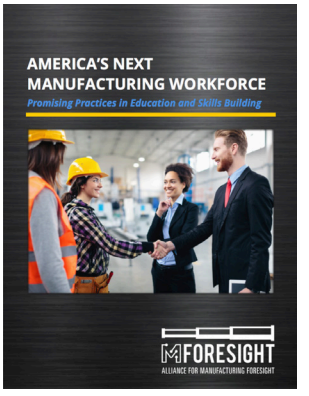


Harnessing Materials Innovation to Support Next Generation Manufacturing

Leading experts in the materials and manufacturing community identify areas of innovation that are likely to have significant impacts on the next wave of U.S. manufacturing.

Cybersecurity for Manufacturers: Securing the Digitized and Connected Factory

Cybersecurity experts identify emerging cyber-risks to manufacturers and practical solutions to the problem including investments in R&D, training, information-sharing, and awareness initiatives.



America's Next Manufacturing Workforce: Promising Practices in the Education & Skills Building

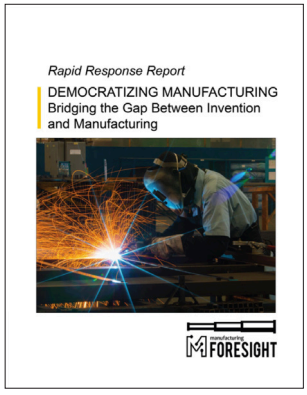
This report outlines a wide range of successful educational initiatives, policy interventions, and pilot programs to strengthen manufacturing careers.

MForesight Reports

Download reports at MForesight.org

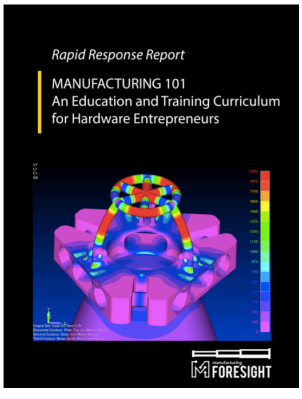
Ensuring American Manufacturing Leadership Through Next-Generation Supply Chains

This report provides insights into a growing multi-sector focus on tools and techniques for integrated design, engineering and production, enhanced information sharing, and more collaborative decision-making between OEMs and their suppliers.



Democratizing Manufacturing: Bridging the Gap Between Invention and Manufacturing

Entrepreneurs, researchers, and policymakers identified solutions for democratizing manufacturing knowledge, creating pathways to manufacturing careers, enabling process innovations, empowering U.S. start-ups and ramp-ups to launch and grow, and improving access to the supply chain.



Manufacturing 101: An Education & Training Curriculum for Hardware Entrepreneurs

Manufacturing experts, consultants, and academics created an outline for a customizable course/program to introduce hardware entrepreneurs to fundamentals of design, materials, and manufacturing processes, as well as various resources needed to manufacture at scale.

Biomanufacturing Technologies for Regenerative Medicine

The report offers specific details on the partnerships, analyses, and investments that government, private sector, and university stakeholders can undertake to enable the prompt and safe development of this nascent field with the potential to revolutionize medicine.

Biomanufacturing Technologies for Engineering Biology

The report developed a pathway stakeholders to increase the speed and reduce the cost of engineering biology product development: through collaborative investment in standardized host cells or strains.

MForesight Executive Committee & Leadership Council

Executive Committee

Glenn Daehn	The Ohio State University – Professor of Materials Science Engineering, Executive Director of Ohio Manufacturing Institute
Pramod Khargonekar	University of California, Irvine – Vice Chancellor for Research
Sridhar Kota	Executive Director, MForesight
Mike Russo	GLOBALFOUNDRIES – Director & Corporate Lead of U.S. Government Affairs

Leadership Council

Jeffrey Abell	General Motors – Director & Chief Scientist, Manufacturing Systems Research
Robert Atkinson	Information Technology & Innovation Foundation (ITIF) - President
Rebeca Bagley	University of Pittsburgh – Vice Chancellor for Economic Partnerships
Dean Bartles	University of New Hampshire – Director of John Olson Advanced Manufacturing Center
Kurt Bettenhausen	Siemens Corporation – Senior Vice President
Robyn Boerstling	National Association of Manufacturers – Vice Pres., Infrastructure, Innovation and Human Resources Policy
Megan Brewster	Launch Forth – Vice President of Advanced Manufacturing
Curt Cline	Deere & Co. – Director of Enterprise Strategic Manufacturing
James Davis	UCLA – Vice Provost for IT & Chief Academic Technology Officer
Emily DeRocco	Lightweight Innovations for Tomorrow (LIFT) – Director of Workforce Development
Peter Friedman	Ford – Manager of Structures and Stamping
Christine Furstoss	General Electric (GE) – Vice President & Technology Director of Global Research
Mauricio Futran	Johnson & Johnson – Vice President for Advanced Technology
Wes Hallman	National Defense Industrial Association – Senior Vice President for Policy
Susan Helper	Case Western Reserve University – Professor of Economics
Jack Hu	University of Michigan – Vice President for Research
Jeffrey Krause	Society of Mechanical Engineers (SME) – Executive Director & CEO
Jay Lee	University of Cincinnati – Director of NSF Industry/University Cooperative Research Center
Mark Muro	Brookings Institute – Senior Fellow, Director of Policy
Om Nalamasu	Applied Materials – Senior Vice President & Chief Technology Officer
Shirish Pareek	Hydraulex Global – Founder and Vice Chairman
Dave Parrillo	Dow Chemical – Vice President of Research & Development
Scott Paul	Alliance for American Manufacturing – President
Wayne Roller	3M – Director of Engineering Systems & Technologies
Randy Schiestl	Boston Scientific Corporation – Vice President of Research & Development, Global Technology
Tim Shinbara	Association for Manufacturing Technology (AMT) – Vice President for Manufacturing Technology
Daniel Smith	Boeing – Director of Enterprise Technology Strategy
Scott Smith	University of North Carolina – Charlotte (UNC) – Chair of the Department of Mechanical Engineering and Engineering Science
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