



Compete.

Council on
Competitiveness

Making Impact

2017 Annual Report

Letter from our Leaders



Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness.



Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer for Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness.



Dr. Michael M. Crow, President, Arizona State University, and Vice-chair for University, Council on Competitiveness.



Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc; and Chairman Emeritus, Council on Competitiveness.



The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness.

In 2017, the Council on Competitiveness (Council) navigated the transition to a new administration and Congress, and continued to gather consensus to advance our robust policy agenda, while seeking innovative ways to address new challenges and opportunities that lie ahead for the nation.

True to the original intent of our founder, John Young, the Council used its diverse membership to magnify the voice of the private sector and affect change in Washington and beyond. Our *2017 Clarion Call* provided clarity on where America stands, what is changing and what can be done to encourage widely-shared prosperity. It is clear, now more than ever, that the Council must continue to forge a strong policy roadmap to tackle the growing number of challenges and economic disruptions that remain on the horizon.

And this leadership is being recognized by those outside the organization. The Council is the proud recipient of the 2018 National Science Board Honorary Award for Public Service. This milestone achievement is a true testament to the impact the Council has had in fostering public awareness of the importance of science, engineering, technology and innovation to ensure the country's competitiveness standing.

Looking forward, the Council will seek to broaden its membership and engage CEOs, college and university presidents, labor leaders and national laboratory directors, as well as top government officials, on critical aspects of the competitiveness landscape. We urge your participation in shaping the Council's agenda on issues from energy and manufacturing competitiveness, to the future of American innovation, to the skills Americans need to survive and thrive in today's economy.

Sincerely,



Samuel R. Allen

Chairman and Chief Executive Officer, Deere & Company, and
Chairman, Council on Competitiveness



Mehmood Khan

Vice Chairman and Chief Scientific Officer for Global Research and Development, PepsiCo, Inc., and
Vice-chair for Industry, Council on Competitiveness



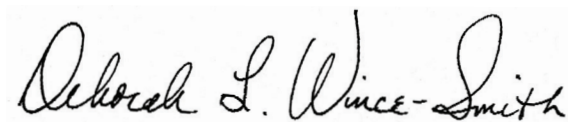
Michael M. Crow

President, Arizona State University, and
Vice-chair for University, Council on Competitiveness



Charles O. Holliday, Jr.

Chairman, Royal Dutch Shell plc, and
Chairman Emeritus, Council on Competitiveness



Deborah L. Wince-Smith

President & CEO
Council on Competitiveness

Council on Competitiveness Selected to Receive National Science Board Award

On April 11, 2018, the National Science Board (NSB) announced that the Council on Competitiveness (Council) will be honored with its 2018 Public Service Award. This esteemed award honors exemplary public service in promoting public understanding of science and engineering.

“The Council on Competitiveness represents a unique and powerful combination of industry, academic, labor and national lab leaders advocating for science, technology, engineering and mathematics (STEM) research and education,” said Vicki Chandler, chair of the NSB’s Committee on Honorary Awards. “The Council also emphasizes the need for a skilled technical workforce in the United States (U.S.), an issue the Board also believes is critical and one upon which it is also focused.”

“On behalf of the Board, the members and the staff of the Council on Competitiveness, we are so honored to receive this year’s Public Service award from the National Science Board. Enhancing U.S. science and engineering capability is central to enhancing U.S. competitiveness and has been a critical part of the Council’s agenda since its founding over 30 years ago,” commented Council President & CEO, the Honorable Deborah L. Wince-Smith.

The NSB will present the Council with its Public Service Award on May 2nd during the National Science Foundation Annual Awards Ceremony held in Washington, D.C. The Board established the award in 1996. The annual award recognizes people and groups (e.g., companies, corporations, organizations) that have increased the public’s understanding of science or engineering. Past award recipients include the American Museum of Natural History, the Alfred P. Sloan Foundation, PBS television series NOVA, The Expanding Your Horizons Network, the Sea Education Association (SEA), and last year, Challenger Center.

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“The Council on Competitiveness has always made the case that in order to compete globally, our nation has to invest in the forefront of new knowledge creation and deploy the technologies of the future in our companies.”

The Honorable Deborah L. Wince-Smith
President & CEO
Council on Competitiveness

Guests at the 2017 Council on Competitiveness Annual Gala Dinner.



COMPETE: LEADERSHIP

2017 National Competitiveness Forum

The Council on Competitiveness hosted the 2017 National Competitiveness Forum (NCF) on December 14-15 in Washington, D.C.

The 2017 NCF brought together senior leadership from industry, government, labor, academia and the national laboratories in an attempt to address growing concerns about the current state of U.S. competitiveness. The event focused on where America stands with regard to economic growth and prosperity, and where it needs to go in terms of future drivers of competitiveness. These dynamic and interactive discussions explored over-the-horizon innovative solutions, including artificial intelligence, cryptocurrencies,

the future of American medicine and the new mobility revolution, as well as how best to foster growth for these emerging priorities at the heart of America's economic ecosystem.

Speakers at the 2017 NCF included: Mr. Nicholas Akins, Chairman, President and Chief Executive Officer, American Electric Power; Mr. Samuel R. Allen, President and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; Dr. Steven Ashby, Director, Pacific Northwest National Laboratory; Dr. Gene D. Block, Chancellor, University of California, Los Angeles; the Honorable Walter G. Copan, Under Secretary for Standards and Technology, U.S. Department of Commerce, and Director, National Institute of Standards and Technology; Mr. Rehan Chaudri, Retired Principal, Altrinsic Global Advisors, LLC; Dr. Michael M. Crow, President, Arizona State University, and Vice-chair for University, Council





“The reality is that free trade is great for America and the globe, not protectionism.”

Mr. Samuel R. Allen

Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness



“This is the greatest time in the United States of America, with the digital, the biotech, the nanotech, and the cognitive revolutions all coming together and colliding.”

The Honorable Deborah L. Wince-Smith

President & CEO, Council on Competitiveness

on Competitiveness; Dr. Victor Dzau, President, National Academy of Medicine; Mr. George Fischer, Senior Vice President and Group President, Verizon Enterprise Solutions; Mr. Mike Fucci, Chairman, Deloitte LLP; Dr. Dana (Keoki) Jackson, Vice President and Chief Technology Officer, Lockheed Martin; Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness; Dr. Pradeep Khosla, Chancellor, University of California, San Diego; Mr. Nicholas T. Pinchuk, Chairman and Chief executive Officer, Snap-on Incorporated; Mr. Lonnie Stephenson, International President, IBEW; Mr. Steve Stevanovich, Founder, President and CEO, SGS Global Holdings; and Dr. Holden Thorp, Provost and Executive Vice Chancellor for Academic Affairs, Washington University in St. Louis.



“We need to be ahead of the curve to maintain technological leadership, occupational safety and productivity.”

Dr. Dana (Keoki) Jackson

Vice President and Chief Technology Officer, Lockheed Martin



“If we don’t improve our practices in areas like water usage, our business and supply chain won’t be viable in many countries.”

Dr. Mehmood Khan

Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness



“We need alignment about what is needed to drive the economy forward without leaving half of the population behind.”

Dr. Michael M. Crow

President, Arizona State University; and Vice-chair for University, Council on Competitiveness



“Entrepreneurial ambition drove the creation of the Council on Competitiveness, an indispensable foundation purposed to find avenues to robust economic growth in the face of serious global challenges.”

The Honorable France A. Córdova

Director, National Science Foundation



“Drivers of manufacturing competitiveness are: one, talent; two, cost competitiveness; and three, workforce productivity.”

Mr. Mike Fucci
Chairman, Deloitte LLP



“GDP growth often does not correlate to a how a nation’s citizenry sees their well-being.”

Mr. James K. Clifton
Chairman and Chief Executive Officer, Gallup, Inc.



Top: Dr. Victor Dzau, President, National Academy of Medicine.

Center: Mr. George Fischer, Senior Vice President and Group President, Verizon Enterprise Solutions.

Bottom: Dr. Pradeep Khosla, Chancellor, University of California, San Diego.



The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; Dr. Michael M. Crow, President, Arizona State University, and Vice-chair for University, Council on Competitiveness; Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness; and Mr. Larry Weber, Chairman and Founder, Racepoint Global.

2017 NCF Highlights

Mr. James K. Clifton, Chairman and Chief Executive Officer, Gallup, Inc., gave the morning keynote, where he highlighted insights from Gallup polls and research into major trends that will shape the U.S. economy in 2018.

Mr. Mike Fucci, Chairman, Deloitte LLP, discussed Deloitte's study with the Council and Singularity University on the impacts exponential technologies are having on manufacturing. He emphasized some of the study's key findings, including the need to develop a diverse, engaged and skilled workforce to lever the promises of these exponential technologies.

The Honorable France A. Córdova, Director, National Science Foundation, released the Council's latest report, *Transform*. This final report of the Exploring

Innovation Frontiers Initiative (EIFI) provides a new agenda to boost U.S. innovation-driven competitiveness and highlights key findings. The EIFI was a national, public-private effort of the Council to accelerate the over-the-horizon, transformative innovation models that will drive U.S. competitiveness in the coming decades and was sponsored by the National Science Foundation (NSF) Directorate of Engineering, Office of Emerging Frontiers of Research and Innovation (EFRI).

The Council released its annual *Clarion Call for Competitiveness*, which examines a range of critical economic issues, including research and development, advanced manufacturing, access to capital, high-skilled workforce training, trade and the key role of government in creating a pro-growth environment in which companies compete and Americans prosper.



Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Mr. Nick Akins, Chairman, President and Chief Executive Officer, American Electric Power; and Mr. Lonnie Stephenson, International President, IBEW.

The *2017 Clarion Call* assesses key emerging trends and ongoing U.S. competitiveness challenges—and offers letter grades on policymakers’ progress (or lack thereof) on the Council’s core recommendations. The report highlights a mixed competitiveness picture across the American economic landscape. It notes that while there have been some welcome improvements in growth, productivity, employment and taxes during the past year, there are still many areas where policymakers are failing to make the grades that will put the United States on a path to a more prosperous future. Most notably, the Council’s assessment found U.S. leadership on technology and talent being undercut by a long-term downward trend in investment in research and infrastructure.

2017 NCF SPONSORS

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Lockheed Martin

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Snap-on Incorporated

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San Diego

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University of Michigan
Michigan State University

PATRONS

Marquette University
Verizon Enterprise Solutions
Whitecap Investments



Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness; Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; the Honorable Rebecca M. Blank, Chancellor, University of Wisconsin–Madison; the Honorable Walter G. Copan, Under Secretary for Standards and Technology, U.S. Department of Commerce, and Director, National Institute of Standards and Technology; and Mr. Steve Stevanovich, Founder, President and CEO, SGS Global Holdings.



“We’ve expanded our employment as we’ve added robots. Robots require upskilled workers, enabled by technology, who can wield it to the benefit of their families and our country. The upskilling of the workforce is the seminal issue of our time.”

Mr. Nicholas T. Pinchuk

Chairman and Chief Executive Officer, Snap-on Incorporated

2017 Clarion Call Recommendations and Report Card

AREA	GRADE	RECOMMENDATION
Talent	C	America faces persistent and growing skill gaps. Manufacturers, construction firms, small businesses, technology firms and government all struggle to find qualified workers. Several of these gaps will become more acute over the next decade as baby boomers retire. A commitment to training, lifelong learning and expanded high-skilled immigration is needed.
Tax	B	The United States has the highest corporate tax rate of any industrialized nation—16 percent higher than the worldwide average and higher than any region. The Council applauds current efforts to adopt a rate closer to 20 percent consistent with other OECD countries and move to a territorial tax system.
Trade	C	Over 41 million U.S. jobs depend on trade, and total U.S. trade as a share of the economy has grown to almost 30 percent. America needs free and fair trade to access 95 percent of the world's consumers, who reside outside the United States.
Technology	C	Despite gains by competitors, the United States is considered the world technology leader in 11 of 12 advanced industries, with widely perceived leadership in agriculture, aerospace, defense and pharmaceutical technologies. The rapid growth of disruptive technologies—from artificial intelligence to genetics to autonomy—is creating new challenges to U.S. leadership in the face of major global investments. America should expand manufacturing hubs, lead in advanced computing, secure against cyberattacks, and strengthen technology commercialization and entrepreneurship.
Research	D	Korea, Japan and Germany already invest more in R&D as a share of their economy than the United States, and China could exceed the United States by 2020. The U.S. must restart its commitment to doubling the federal investment in research that began with the America COMPETES Act almost a decade ago.
Regulation	B	During its first year, reducing regulations has been a major focus of the Trump administration. The United States remains among the top 10 nations in the world on measures of ease of doing business, but that rank is declining. A better balance is needed to enable the development and commercialization of new technologies and services in the United States and to upgrade infrastructure.
Infrastructure	D	Infrastructure investment should be prioritized to target areas that provide the greatest economic benefit. Trillions of dollars of investment in U.S. infrastructure is needed to repair and modernize the roads, airports, rails and water systems that the economy relies on. For example, American water pipes are 47 years old on average, and manufacturers rely on them, accounting for 46 percent of U.S. water consumption.



Top: Dr. Michael M. Crow, President, Arizona State University, and Vice-chair for University, Council on Competitiveness; Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer for Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness; Mr. William Bohnett, President, Whitecap Investments; Dr. Dana (Keoki) Jackson, Vice President and Chief Technology Officer, Lockheed Martin; Mr. Larry Weber, Chairman and Founder, Racepoint Global; Mr. Thomas Baruch, Baruch Future Ventures; Mr. James K. Clifton, Chairman and CEO, Gallup, Inc.; and Mr. James M. Phillips, Chairman and CEO, NanoMech, Inc., release the 2017 Clarion Call.

Bottom: Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; Mr. James K. Clifton, Chairman and Chief Executive Officer, Gallup, Inc.; Dr. Michael M. Crow, President, Arizona State University, and Vice-chair for University, Council on Competitiveness; Dr. Dana (Keoki) Jackson, Vice President and Chief Technology Officer, Lockheed Martin; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness; Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness; and the Honorable Sandy K. Baruah, President and Chief Executive Officer, Detroit Regional Chamber, discuss the findings of the 2017 Clarion Call.



COMPETE: LEADERSHIP

Network of Leaders

2017 National Competitiveness Forum



Top left: Mr. George Fischer, Senior Vice President and Group President, Verizon Enterprise Solutions; and Dr. James Clements, President, Clemson University.

Top right: The Honorable Walter G. Copan, Under Secretary for Standards and Technology, U.S. Department of Commerce, and Director, National Institute of Standards and Technology; and Dr. Michael M. Crow, President, Arizona State University, and Vice-chair for University, Council on Competitiveness.

Center: Dr. Dana (Keoki) Jackson, Vice President and Chief Technology Officer, Lockheed Martin; Mr. Geoffrey Weber, Marketing Intern, Racepoint Global; Ms. Seema Pajula, Vice Chairman and U.S. Leader, Consumer & Industrial Products, Deloitte LLP; Mr. Larry Weber, Chairman and Founder, Racepoint Global; Dr. James Clements, President, Clemson University; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Captain Christian M. Smith, United States Marine Corps.

At left: Mr. Anthony Margida, Chief Executive Officer, TechGrit; Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness; and Mr. Lonnie Stephenson, International President, IBEW.



Top left: Dr. Dana (Keoki) Jackson, Vice President and Chief Technology Officer, Lockheed Martin; and Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness.

Top right: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Captain Christian M. Smith, United States Marine Corps; Mr. James K. Clifton, Chairman and Chief Executive Officer, Gallup, Inc.; and Ms. Christine Sheehan, Chief of Staff to the Chairman and Chief Executive Officer, Gallup, Inc.

Center: Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Mr. J.B. Penn, Chief Economist, Deere & Company; Mr. Charles R. Stamp, Vice President, Corporate Strategy & Business Development, Deere & Company; Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; and Mr. John Rauber, Director, North American Public Affairs, Agriculture & Turf Division, Deere & Company.

At right: Dr. Pradeep Khosla, Chancellor, University of California, San Diego; Mr. Michael Bernstein, Senior Policy Director, Innovation Policy & Programs, Council on Competitiveness; and Dr. Kim Wilcox, Chancellor, University of California, Riverside.





Top: Ms. Mary Snitch, Senior Manager, Industry Organizations, Lockheed Martin Space Systems Company; Ms. Angela Diaz, Executive Director of Government Research Relations, University of California, San Diego; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Ms. Kristen Bloschock, Strategic Manufacturing Thread Lead, Advanced Materials, Lockheed Martin; and Ms. Andrea Purple, National Board President, ARCS Foundation.

At right: Mr. Michael Molnar, Founding Director, Office of Advanced Manufacturing (OAM), National Institute of Standards and Technology; Ms. Andrea Foote, Senior Director, Global R&D Communications, PepsiCo, Inc.; and Ms. Ewelina Samchalk, Senior Director, Global R&D & Sustainability PMO, and Chief of Staff to Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc.

Bottom left: Mr. Mark Minevich, Principal Founder, Going Global Ventures, and Senior Fellow, Council on Competitiveness; Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils; and Mr. William Bohnett, President, Whitecap Investments.

Bottom right: Dr. Michael Lovell, President, Marquette University; Dr. Carmel G. Ruffolo, Associate Vice President for Research and Innovation, Marquette University; and Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness.





Top: Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Dr. Pradeep Khosla, Chancellor, University of California, San Diego; and Mr. Rehan Chaudri, former Principal, Altrinsic Global Advisors, LLC.

Center left: Dr. Pradeep Khosla, Chancellor, University of California, San Diego; and Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness.

Center right: The Honorable Rebecca M. Blank, Chancellor, University of Wisconsin–Madison.

At left: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Kim Wilcox, Chancellor, University of California, Riverside; and Dr. Holden Thorp, Provost and Executive Vice Chancellor for Academic Affairs, Washington University in St. Louis.



Top: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness (center); Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness (left of Ms. Wince-Smith); Mr. Chad Evans, Executive Vice President, Council on Competitiveness (right of Ms. Wince-Smith); and the staff of the Council on Competitiveness at the closing of the 2017 National Competitiveness Forum.

Center left: Dr. Horst Simon, Deputy Director, Lawrence Berkeley National Laboratory; Dr. Steven Ashby, Director, Pacific Northwest National Laboratory; and Mr. Alex R. Larzelere, Former Director, Modeling and Simulation Energy Innovation Hub, Office of Nuclear Energy, U.S. Department of Energy, and Senior Fellow, Council on Competitiveness.

Center right: The Honorable Julie Meier Wright, former Chief Executive, San Diego Regional Economic Development Corporation, Former First Secretary of Trade & Commerce, State of California, and Senior Fellow, Council on Competitiveness; and the Honorable Sandy K. Baruah, President and Chief Executive Officer, Detroit Regional Chamber.



At right: Ms. Christine Sheehan, Chief of Staff to the Chairman and Chief Executive Officer, Gallup, Inc.; and the Honorable Rebecca M. Blank, Chancellor, University of Wisconsin-Madison.

COMPETE: LEADERSHIP

Network of Leaders

Executive Committee Meeting



Top: Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness, addresses the Council's Executive Committee.

Bottom: Mr. James Hagedorn, Chairman and Chief Executive Officer, The Scotts Miracle-Gro Company.



Above: Mr. Steve Stevanovich, Founder, President and CEO, SGS Global Holdings; Mr. Mario Longhi, former Chief Executive Officer, United States Steel Corporation; Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness; and Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness.



Top left: Mr. Mario Longhi, former Chief Executive Officer, United States Steel Corporation.

Top right: Professor Michael Porter, Bishop Lawrence Professor, Harvard Business School, being interviewed live on CNBC's show Squawk Box to highlight the Council's agenda.

Center left: Mr. William Bohnett, President, Whitecap Investments; and Mr. James Hagedorn, Chairman and Chief Executive Officer, The Scotts Miracle-Gro Company.

Center right: Ms. Deborah Altenburg, Assistant Vice Chancellor for Federal Affairs, State University of New York; Ms. Mary Woolley, President, Research!America; and Ms. Patricia Bartlett, Associate Provost for Education and Access, and Senior Advisor to the Secretary, the Smithsonian Institution.

At right: Dr. Tomás Díaz de la Rubia, Chief Scientist, Purdue University, and Executive Director, Discovery Park; Dr. Paul J. Hommert, former Director, Sandia National Laboratories, and former President, Sandia Corporation; and Dr. William H. Goldstein, Director, Lawrence Livermore National Laboratory.





Top left: Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; Mr. Mario Longhi, former Chief Executive Officer, United States Steel Corporation; Mr. James K. Clifton, Chairman and Chief Executive Officer, Gallup, Inc.; and Dr. Lloyd Jacobs, former President, University of Toledo, and Distinguished Fellow, Council on Competitiveness.

Top right: Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness, appears live on CNBC's show Squawk Box.

Center left: Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; Mr. Nicholas T. Pinchuk, Chairman and Chief Executive Officer, Snap-on Incorporated; and Dr. W. Randolph Woodson, Chancellor, North Carolina State University.

Center right: Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness, addresses the Council on Competitiveness Executive Committee.

At left: Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness; and guest.



Top left: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Pradeep Khosla, Chancellor, University of California, San Diego; Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils; Mr. Rogerio Studart, Fellow, Global Federation of Competitiveness Councils; and Mr. Michael Bernstein, Senior Policy Director, Innovation Policy & Programs, Council on Competitiveness.

Top right: Mr. William H. Bohnett, President, Whitecap Investments; Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Dr. William H. Goldstein, Director, Lawrence Livermore National Laboratory; and Mr. Mario Longhi, former Chief Executive Officer, United States Steel Corporation.

Center left: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Mr. James K. Clifton, Chairman and Chief Executive Officer, Gallup, Inc.; Dr. Harris Pastides, President, University of South Carolina; Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness; and Dr. Paul J. Hommert, former Director, Sandia National Laboratories, and former President, Sandia Corporation.

Center right: Mr. Steve Stevanovich, Founder, President and CEO, SGS Global Holdings; and Mr. James M. Phillips, Chairman and Chief Executive Officer, NanoMech, Inc.

At right: Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness, prepares to appear live on CNBC's show Squawk Box to speak about the Council's agenda for 2018.



COMPETE: LEADERSHIP

America Competes Award



Since 2011, the America Competes Award has recognized individuals who, throughout the course of their lives and careers, have demonstrated a commitment to working across the lines of business, academia and politics for the betterment of U.S. competitiveness, and to benefit American communities, the United States and the world.

These leaders personify commitment to outstanding leadership and philanthropy both at home and abroad. They have served with distinction in public life and have shown a special commitment to seeking out informed opinions and thoughtful views that impact change.

The 2017 award was presented to Mr. Frederick W. Smith, Chairman and Chief Executive Officer, FedEx, at a fundraising dinner and policy forum at the Pierre in New York City on September 26, 2017. The dinner was attended by more than 400 C-suite executives from around the country and was chaired by the Council's Chairman Emeritus, Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc.

Mr. Smith, who founded FedEx in 1971, grew his logistics company from a few planes to a \$64 billion global organization with more than 425,000 employ-



ees. He is a passionate advocate on issues of trade, taxes and infrastructure, cautioning U.S. lawmakers on the perils of adopting a protectionist attitude.

At the event, Smith gave the inaugural “Lecture on the Frontiers of Competitiveness,” highlighting four major factors that gave the United States “advantages that transformed us into the most prosperous nation in the history of the world.”

Those items included: the rule of law in the Constitution, specifically the Commerce Clause; a market-based economy versus a centrally directed economy; establishment of the best educational system, especially higher education; and the pursuit of open trade.

Prior honorees include Mr. Jeffrey Immelt, former Chairman, General Electric; the Honorable Shirley Ann Jackson, President, Rensselaer Polytechnic Institute; Mr. James Turley, former Chairman and Chief Executive Officer, EY; and the Honorable Rudy Giuliani, former Mayor of New York City.



“A key factor in FedEx’s growth and success...is America’s participation in an open, global marketplace. Our involvement in world trade, so important now in the age of e-commerce, stems from a series of innovative economic and trade decisions that distinguished America from the old economic models of the Western World. As you know, President Trump campaigned on the promise to ‘Make America Great Again’...I think it’s time to review what made America great in the first place.”

Mr. Frederick W. Smith

Chairman and Chief Executive Officer
FedEx



“We could not have chosen a worthier recipient for the America Competes Award. Fred is an entrepreneur, a savvy business leader, a patriot and has been a true champion of a pro-growth policy agenda critical to future U.S. competitiveness.”

The Honorable Deborah L. Wince-Smith
 President & CEO
 Council on Competitiveness



THIS PAGE

Top: Council on Competitiveness leadership presents Mr. Frederick W. Smith, Chairman and Chief Executive Officer, FedEx, with the America Competes Award.

Bottom: Dinner Chair, Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness.

OPPOSITE PAGE

Top: Mr. R. Milton Johnson, Chairman and Chief Executive Officer, HCA, Inc., Mr. James M. Phillips, Chairman and Chief Executive Officer, NanoMech, Inc.; Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness; Mr. Bruce Culpepper, U.S. Country President, Shell Oil Company; Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; and Mr. Frederick W. Smith, Chairman and Chief Executive Officer, FedEx, discuss the future drivers of U.S. competitiveness.

Center left: Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness.

Center right: Mr. Bruce Culpepper, U.S. Country President, Shell Oil Company.

Bottom: Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; Mrs. Diane Smith; Mr. Frederick W. Smith, Chairman and Chief Executive Officer, FedEx; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Ms. Samantha Smith, Global Public Policy Advisor, FedEx.





The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Dr. Mehmood Khan, Vice Chairman and Chief Scientific Officer of Global Research and Development, PepsiCo, Inc., and Vice-chair for Industry, Council on Competitiveness.

“About 25 percent of U.S. jobs are trade related. And those jobs pay an average of about 18 percent more than non-trade related jobs. Furthermore, trade has added about \$13K a year in purchasing power for the average American household.”

Mr. Frederick W. Smith
Chairman and Chief Executive Officer
FedEx

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“FedEx was born out of Fred’s ability to combine existing technologies and develop processes to create a business many thought could not be done...His foresight and skill as a risk-taking entrepreneur and commitment to his vision to connect the world have single-handedly changed the way global businesses function.”

Mr. Charles O. Holliday, Jr.

Chairman, Royal Dutch Shell plc, and
Chairman Emeritus, Council on Competitiveness

Top left: Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; and Mr. Samuel R. Allen, Chairman and Chief Executive Officer, Deere & Company, and Chairman, Council on Competitiveness.

Top right: Mr. Harrison Ford, Actor; Mr. Dan Synder, Owner, Washington Redskins; and Mrs. Diane Smith.

Center: Ms. Samantha Smith, Global Public Policy Advisor, FedEx; Mr. David J. Bronczek, President and Chief Operating Officer, FedEx; Ms. Maury Donahue, Director, Global Public Affairs Communications, FedEx; and Mr. Patrick Fitzgerald, Senior Vice President, Integrated Marketing and Communications, FedEx.

At right: Mr. James K. Clifton, Chairman and Chief Executive Officer, Gallup, Inc.; and Ms. Pat Kerr Tigrett, Memphis philanthropist, and Chairman and Chief Executive Officer, Pat Kerr, Inc.



COMPETE: ENERGY AND MANUFACTURING

Energy and Manufacturing Competitiveness Partnership

INITIATIVE CO-CHAIRS



The Honorable Rebecca M. Blank
Chancellor
University of Wisconsin-Madison



Mr. Christopher Crane
President & CEO
Exelon Corporation



Mr. Jeff Fettig
Chairman
Whirlpool Corporation



Dr. William H. Goldstein
Director
Lawrence Livermore National Laboratory

The Council has long been a leader in linking U.S. energy and manufacturing competitiveness to overall economic strength and prosperity.

In 2017, the Energy and Manufacturing Competitiveness Partnership (EMCP), which was launched in March 2015, continued to engage leaders from business, academia, national laboratories and the labor community to assess the discrete and distinct challenges facing critical sectors of the U.S. economy at the nexus of energy and manufacturing. And, of equal importance, how policymakers can bolster the critical pillars of competitiveness—technology, talent, investment and infrastructure.

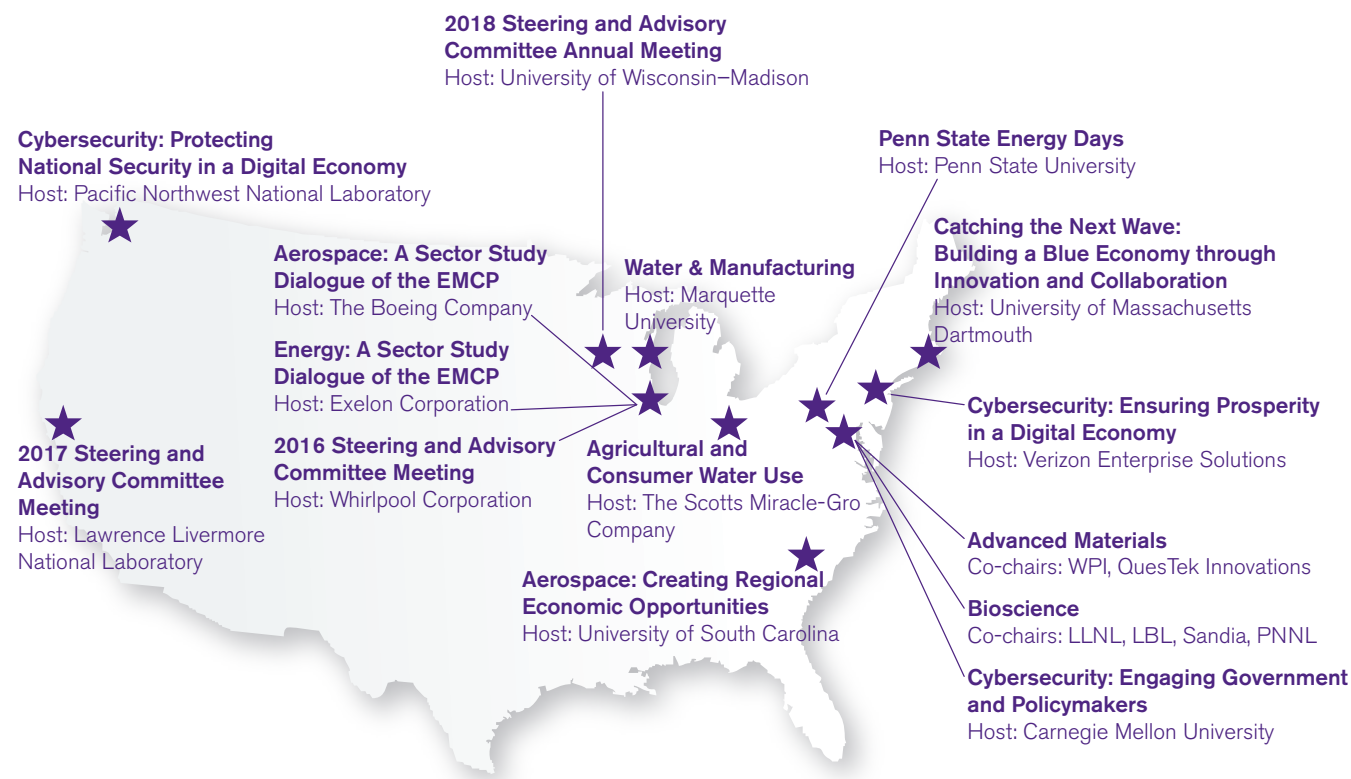
Leveraging the findings and recommendations from its first six sector studies on water and manufacturing, advanced materials, bioscience, agriculture and consumer water use, energy and aerospace, the EMCP continues to identify common themes, challenges and opportunities that apply to a wide swath of American industries and transcend sector boundaries.

2017 Year in Review

Building off the success of its first three sector studies conducted in 2016, the EMCP undertook a rigorous agenda in 2017. The group welcomed a new co-chair and several new members, held three dialogues and released three reports—all while continuing to engage Congress and the administration.

In 2017, the EMCP Steering Committee welcomed the Honorable Rebecca M. Blank, Chancellor, University of Wisconsin-Madison, as the new University Co-chair following the departure of the Honorable Subra Suresh from his post as President of Carnegie Mellon University. The EMCP in 2017 also benefited from the addition of several new members to its steering committee: Dr. Thomas Zacharia, Director, Oak Ridge National Laboratory; Dr. Robert Johnson,

2017-2018 EMCP Dialogues



Chancellor, University of Massachusetts Dartmouth; Mr. George Fischer, Senior Vice President and Group President, Verizon Enterprise Solutions; Mr. Robert Ford, Executive Vice President for Medical Devices, Abbott; and Dr. Richard Schneider, President, Norwich University.

Agricultural and Consumer Water Use

In January 2017, the Council launched its second phase of sector studies with a dialogue on agricultural and consumer water use hosted by Mr. James Hagedorn, Chairman and Chief Executive Officer, The Scotts Miracle-Gro Company, at its headquarters in Marysville, OH. *Leverage: Agricultural and Consumer Water Use*, was released on World Water Day at an event hosted by Scott's in Florida and at the

U.S. Water Partnership's annual meeting at the State Department in Washington, D.C. The report recommends increasing the pool of experts with skills in water management, using new technology to better model and verify climate data, leveraging high-value crops as a test bed for innovation and better aligning agricultural subsidies with water efficiency and conservation goals.

Energy

Hosted by EMCP Industry Co-chair Mr. Christopher Crane, President & CEO, Exelon Corporation; in partnership with Dr. Paul Kearns, Director, Argonne National Laboratory; and Dr. Eric Barron, President, Penn State University, the Council convened in May 2017 a group of more than 30 experts to address



Participants in the Energy and Manufacturing Competitiveness Partnership Phase II Aerospace Sector Study, November 3, 2017, hosted by Dr. Greg Hyslop, Chief Technology Officer, The Boeing Company, and Senior Vice President, Boeing Engineering, Test & Technology.

the competitiveness of America's energy sector. The findings and recommendations, including the need to protect America's critical energy infrastructure from cyber-attacks, will be released at Penn State's Energy Days conference on May 31, 2018, in State College, PA, and will inform the Council's future work across and beyond energy and manufacturing.

Bioscience

Building on the dialogue held in July 2016 in partnership with four Department of Energy national laboratories, in July 2017 the Council released its fourth EMCP report—*Leverage: Advancing U.S. Bioscience*—at a widely-attended event on Capitol Hill. Speakers at the briefing emphasized the importance of retaining America's leadership position in bioscience, and Rep. Randy Hultgren (IL-14) called for bipartisan, bicameral support of science leadership in the United States. These efforts will continue into 2018, when the Council heads to Sacramento to present key findings before the state legislature.

Aerospace

In November 2017, the EMCP returned to Chicago for a dialogue on competitiveness in the aerospace sector, hosted by Boeing's Chief Technology Officer

and Senior Vice President, Boeing Engineering, Test & Technology, Dr. Greg Hyslop, in partnership with Dr. Harris Pastides, President, University of South Carolina. The final report will be released at an event later in 2018 in South Carolina that will look to affect state policy and encourage regional economic development.

2018 Outlook

At the end of 2017, the steering committee, at its annual gathering hosted by Lawrence Livermore National Laboratory and the initiative's national lab co-chair Dr. William H. Goldstein, endorsed a new path forward for the EMCP that will focus on applying the findings and recommendations from the sector studies conducted during phases one and two to affect policy change at the federal, state and local levels and to leverage the opportunities around talent and advanced production to create regional economic development. Throughout 2018, the project will transition from the Energy and Manufacturing Partnership to the Partnership for Talent and Production (PTaP), which will fulfill the Council's promise to encourage productivity and prosperity.



In 2018, the EMCP will also focus on the creation of a policy agenda on cybersecurity that seeks to ensure prosperity and national security in an increasingly digitized economy—an issue that was highlighted across each of the phase one and two sector dialogues. This effort will consist of three dialogues on protecting America’s critical infrastructure, intellectual property and industrial operations from the growing threat of cyber-attacks. The first, hosted by Mr. George Fischer, Senior Vice President and Group President, Verizon Enterprise Solutions, will take place on February 7; the second, hosted by Dr. Steven Ashby, Director, Pacific Northwest National Laboratory, on April 25; and the third, hosted by Dr. Farnam Jahanian, President, Carnegie Mellon University, on June 19.

With the support and engagement of members of the steering and advisory committees, the EMCP will continue to synthesize the findings from its sector dialogues, expand its external outreach, and employ a new, regional approach to catalyzing change in a way that creates sector- and economy-wide impacts for the betterment of U.S. competitiveness.

KEY 2017 PUBLICATIONS

Leverage: Agricultural & Consumer Water Use

Published March 22, 2017

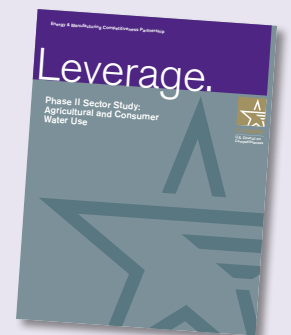
Competition for water, climate change and new consumer demands are driving change in the agriculture, lawn and garden, and related industries, including greater interest in new products and sustainable production processes.

A changing legal and regulatory environment is facilitating the entry of new products into the market, while increasing the already competitive demand for water and energy. Inputs across the agricultural value chain are evolving, which begs a new set of questions regarding innovation and efficiency in growing and manufacturing processes. The EMCP sector study dialogue on agricultural and consumer water use gathered national leaders and experts on water as it relates to these industries to discuss the implications for U.S. competitiveness.

Leverage: Advancing U.S. Bioscience

Published July 25, 2017

Bioscience is a top manufacturing technology priority across the federal government and is critical for U.S. competitiveness. While the United States maintains a world leadership position in engineering biology and bioscience technology development, other countries are investing heavily in these areas, putting the U.S. at risk of losing its competitive advantage. This report explores how to best leverage limited resources in a way that creates the most benefit out of federal investment in research labs and in the marketplace.



CALENDAR OF EVENTS

2017

JANUARY 11

Agricultural and Consumer Water Use

Host: Mr. James Hagedorn, Chairman and Chief Executive Officer, The Scotts Miracle-Gro Company
Location: Marysville, OH

MAY 31

Energy: A Sector Study Dialogue of the EMCP

Host: Mr. Christopher Crane, President & CEO, Exelon Corporation
Location: Workspring, Chicago, IL

JULY 25

Advancing U.S. Bioscience and Biomanufacturing

Host: Council on Competitiveness
Location: Washington, D.C.

OCTOBER 12-13

2017 EMCP Steering and Advisory Committee Meeting

Host: Dr. William H. Goldstein, Director, Lawrence Livermore National Laboratory
Location: Livermore, CA

NOVEMBER 3

Aerospace: A Sector Study Dialogue of the EMCP

Host: Dr. Greg Hyslop, Chief Technology Officer, The Boeing Company, and Senior Vice President, Boeing Engineering, Test & Technology
Location: Chicago, IL

2018

FEBRUARY 7

Cybersecurity: Ensuring Prosperity in a Digital Economy

Host: Mr. George Fischer, Senior Vice President and Group President, Verizon Enterprise Solutions
Location: Basking Ridge, NJ

APRIL 19

Catching the Next Wave: Building a Blue Economy through Innovation and Collaboration

Host: Dr. Robert Johnson, Chancellor, University of Massachusetts Dartmouth
Location: North Dartmouth, MA

APRIL 25

Cybersecurity: Protecting National Security in a Digital Economy

Host: Dr. Steven Ashby, Director, Pacific Northwest National Laboratory
Location: Seattle, WA

MAY 31

Penn State Energy Days

Host: Dr. Eric Barron, President, Penn State University
Location: State College, PA

JUNE 19

Cybersecurity: Engaging Government and Policymakers

Host: Dr. Farnam Jahanian, President, Carnegie Mellon University
Location: Washington, D.C.

AUGUST 29

Aerospace: Creating Regional Economic Opportunities

Host: Dr. Harris Pastides, President, University of South Carolina
Location: Columbia, SC

OCTOBER 15

2018 Steering and Advisory Committee Annual Meeting

Host: The Honorable Rebecca M. Blank, Chancellor, University of Wisconsin–Madison
Location: Madison, WI



Top: Dr. Aziz Asphahani, Chairman and Chief Executive Officer, QuesTek Innovations LLC; Dr. Ronald Coutu, V. Clayton Lafferty Endowed Chair, Marquette University; Dr. Carmel G. Ruffolo, Associate Vice President for Research and Innovation, Marquette University; Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness; Dr. Paul Kearns, Director, Argonne National Laboratory; Dr. Eric Barron, President, Penn State University; Mr. Christopher Crane, President & CEO, Exelon Corporation; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Mr. Lonnie Stephenson, International President, IBEW.

Center left: Mr. Christopher Crane, President & CEO, Exelon Corporation.

Center right: Dr. Paul Kearns, Director, Argonne National Laboratory.

At left: Dr. Eric Barron, President, Penn State University.



Top: Mr. Hugh Grant, Chairman and Chief Executive Officer, Monsanto Co., addresses participants at the Energy and Manufacturing Competitiveness Partnership Phase II Sector Study on Agricultural and Consumer Water Use, January 11, 2017.

Center left: The Honorable Rebecca M. Blank, Chancellor, University of Wisconsin–Madison; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; the Honorable Patricia Falcone, Deputy Director, Science and Technology, Lawrence Livermore National Laboratory; and Mr. Chad Evans, Executive Vice President, Council on Competitiveness, at the Energy and Manufacturing Competitiveness Partnership’s Steering Committee Meeting at Lawrence Livermore National Laboratory, October 12-13, 2017.

Center right: Mr. Chris Gould, Senior Vice President, Corporate Strategy, and Chief Sustainability Officer, Exelon Corporation.

At right: Mr. Cyril Martinand, Division Manager, Procurement, Solid Fuels, ArcelorMittal; and Dr. Aziz Asphahani, Chairman and Chief Executive Officer, QuesTek Innovations.



COMPETE: INNOVATION**Technology Leadership & Strategy Initiative**

The United States has a long history of leadership in new technologies, products and processes that contribute to innovation-based economic growth.

However, as global competition for innovation leadership and dominance increases and barriers to innovation fall, the Council's 10-year Technology Leadership & Strategy initiative (TLSI) serves as a distinctive, multi-disciplinary and powerful voice across the United States, articulating a national strategy and driving actions to strengthen America's technology pre-eminence—the core driver of national productivity and prosperity over the past half-century.

The TLSI brings together 50+ chief technology officers and research leaders from America's premier companies and research institutions to: identify and analyze technology trends, opportunities and challenges facing the country's technology leadership; facilitate partnerships between industry, university, government and national laboratories to accelerate innovation across the U.S. research and development landscape; and improve the nation's capacity for translating research into market-ready innovations.

2017 Year in Review

TLSI's Dialogue 16 engaged members in a debate around the new, transformational business models needed to turbocharge innovation amid a backdrop of structural productivity decline, technological turbulence, increasing global innovation-based competition and growing, internal challenges plaguing the U.S. innovation ecosystem. TLSI members described how each of these changes represents new challenges and opportunities for their respective organizations and the nation as a whole. The most prominent theme centered around creating and funding an educational environment that supports the development of innovators and building a workforce capable of powering American leadership in the global innovation economy.

INITIATIVE CO-CHAIRS**Dr. Klaus Hoehn**

Vice President, Advanced Technology and Engineering
Deere & Company

**Dr. Greg Hyslop**

Chief Technology Officer
The Boeing Company, and
Senior Vice President
Boeing Engineering, Test
& Technology

**Dr. Dana (Keoki) Jackson**

Vice President and Chief
Technology Officer
Lockheed Martin

Dialogue 17 focused more specifically on disruptive technological innovations roiling the U.S. and global economies. In particular, the Council and Deloitte previewed for the TLSI members the initial findings from a first-ever study on the impacts exponential technologies will have on U.S. manufacturing. This study—*Exponential Technologies in Manufacturing: Transforming the Future of Manufacturing through Technology, Talent and the Innovation Ecosystem*, co-designed and executed by the Council, Deloitte and Singularity University and scheduled for release on April 4, 2018, examines a range of disruptive and transformational technologies from artificial intelligence, to blockchain, to supercomputing, to biotech that will reshape the future of manufacturing.

2018 Outlook

The TLSI will continue to reflect on the insights and recommendations from members and past meetings to shape a technology strategy for the country during a time of increased international competition and rapidly accelerating pace of technological change. The TLSI will convene for dialogues 18 and 19 in the spring and fall, respectively, of 2018. TLSI Dialogue 18 will be held at the Council's office in Washington, D.C., on June 8, and will feature the Honorable France A. Córdoba, Director of the National Science Foundation. The director will share insights around the administration's priorities for basic science, research and technology investment and will highlight her vision for greater partnership between the National Science Foundation and America's industrial base. TLSI Dialogue 19 is scheduled to be held in October, at which members will form recommendations for policymakers ahead of midterm elections in the following weeks.

In addition to these dialogues, at the direction of TLSI leaders, the Council explored expanding the TLSI's reach internationally. These efforts led to the signing of a Letter of Intent between the Council on Competitiveness and Australia's Minister for Health, Greg Hunt, and Minister of Innovation and Jobs, Michaela Cash, to create a first-ever U.S.-Australia innovation dialogue, expected to be held in late 2018.



CALENDAR OF EVENTS

2017

JUNE 12

TLSI Dialogue 16

Host: Council on Competitiveness
Location: Washington, D.C.

NOVEMBER 8

TLSI Dialogue 17

Host: Council on Competitiveness
Location: Washington, D.C.

2018

JUNE 8

TLSI Dialogue 18

Host: Council on Competitiveness
Location: Washington, D.C.

OCTOBER 30

TLSI Dialogue 19

Host: Council on Competitiveness
Location: Washington, D.C.

DECEMBER TBD

Premier U.S.-Australia CTO Dialogue

Hosts: Council on Competitiveness and the Australian Ministries of Health, and Innovation and Jobs
Location: Sydney, Australia



OPPOSITE PAGE

Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Dr. Dana (Keoki) Jackson, Vice President and Chief Technology Officer, Lockheed Martin; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Dr. Klaus Hoehn, Vice President of Advanced Technology & Engineering, Deere & Company, at the June 12, 2017, Technology Leadership & Strategy Initiative Dialogue 16.

THIS PAGE

Top: TLSI members and Council staff participate in the November 8, 2017, Technology Leadership & Strategy Initiative Dialogue 17.

At left: Mr. Timothy Blute, Director, NGA Future, National Governors Association; Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils; and Dr. Suresh Sunderrajan, Associate Laboratory Director, Science and Technology Partnerships and Outreach Directorate, Argonne National Laboratory, participate in



Top: Participants at the Technology Leadership & Strategy Initiative Dialogue 16.

At right: Mr. Samuel Bouchard, CEO, Robotiq; and Ms. Michelle Drew Rodriguez, Vice President, Corporate Strategy & Development, Tenneco, Inc.



COMPETE: INNOVATION

Exploring Innovation Frontiers Initiative



The Exploring Innovation Frontiers Initiative (EIFI) is a national, public-private effort to accelerate over-the-horizon, transformative innovation models to drive U.S. competitiveness.

Sponsored by National Science Foundation's Directorate of Engineering, Office of Emerging Frontiers of Research and Innovation (EFRI)—EIFI is a qualitative analysis that has collected, synthesized and disseminated broadly the experiential knowledge of active innovation practitioners. The final report, *Transform: A New Agenda to Boost U.S. Innovation-Driven Competitiveness in the 21st Century*, provides academicians with direction for future research in innovation, business leaders and strategists with insights to inform future business models and policymakers with knowledge to enact public policies that create a supportive environment for sustained, innovation-driven growth—the heart of long-term national productivity and prosperity.



Top: Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Dr. Mark S. Wrighton, Chancellor, Washington University in St. Louis; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Holden Thorp, Provost and Executive Vice Chancellor for Academic Affairs, Washington University in St. Louis; the Honorable France A. Córdoba, Director, National Science Foundation; Dr. Dedric Carter, Vice Chancellor for Operations and Technology Transfer, Washington University in St. Louis; and Mr. Brian Stone, Chief of Staff to the Director, National Science Foundation.

Bottom: The Honorable France A. Córdoba, Director, National Science Foundation, addresses participants at the Exploring Innovation Frontiers Initiative Dialogue at Washington University in St. Louis on June 6, 2017.



Findings from the EIFI that underpin *Transform* came from discussions at four, senior-level, regional dialogues—in Atlanta, GA; Riverside, CA; Houston, TX; and St. Louis, MO—in which a diverse and representative mix of innovation leaders from industry, academia, national laboratories and research institutions, labor leaders and key stakeholders came together to

share best practices and develop new recommendations for strengthening critical elements in the U.S. innovation ecosystem.

CALENDAR OF EVENTS

2017

JUNE 6

Exploring Innovation Frontiers Initiative: Midwest Regional Dialogue

Host: Dr. Mark S. Wrighton, Chancellor, Washington University in St. Louis
Location: St. Louis, MO

DECEMBER 15

Release of Final Report: *Transform*

Host: Council on Competitiveness
Location: Washington, D.C.

2017 Year in Review

One of the Council's priorities in 2017 was to bring to conclusion the Exploring Innovation Frontiers Initiative—and to lay the groundwork for the efforts to come from these critical national and regional gatherings.

The EIFI concluded in 2017 with a Midwest regional dialogue hosted by Dr. Mark S. Wrighton, Chancellor, Washington University in St. Louis. Building upon previous conversations on the criticality of the nation's commitment to long-term research, remaining at the global cutting edge of technology and cultivating the people the United States will need to lead and solve national and global grand challenges, the concluding dialogue focused on how to build a robust regional ecosystem in which entrepreneurs and new businesses can flourish. Dialogue participants also took a deep dive, exploring successful strategies for magnetizing a region and attracting the world's best and brightest talent.

As Council Executive Vice President Chad Evans described in his radio interview on “Nothing Impossible: Accelerate St. Louis,” (available at Compete.org) the St. Louis region is successfully fostering entrepreneurship by capitalizing on Washington University in St. Louis’ significant R&D investments and by applying new discoveries to existing problems in the marketplace. By emphasizing the power of partnerships—between the university, small start-ups, larger companies—the university has become a leader when it comes to launching new products to the marketplace.

2018 Outlook

The Council will continue the Exploring Innovation Frontier Initiative through the release and distribution of the initiative’s final report, *Transform: A New Agenda to Boost U.S. Innovation-Driven Competitiveness in the 21st Century*. *Transform* documents the critical outcomes from the four EIFI regional dialogues and presents a set of powerful recommendations for the United States in an era of increasingly democratized innovation capacities and capabilities, coupled with truly disruptive and transformative technological revolutions.

Mr. Chad Evans, Executive Vice President, Council on Competitiveness, addresses the participants in the Exploring Innovation Frontiers Initiative (EIFI) Midwest Regional Dialogue at Washington University in St. Louis.

KEY 2017 PUBLICATIONS

In parallel to and following the efforts at the Exploring Innovation Frontiers Initiative: Midwest Regional Dialogue in St. Louis, the Council team also completed three reports: *Stimulate*, detailing findings from 2016’s southern regional dialogue in Houston with the vice Chancellor for engineering at Texas A&M University; *Venture*, detailing findings from the Midwest regional dialogue in St. Louis; and *Transform*, released at the 2017 National Competitiveness Forum with broader exposure planned in 2018.



COMPETE: INNOVATION**Advanced Computing Roundtable**

Advanced computing is essential for industrial innovation, national security and leadership in nearly every scientific discipline.

The Advanced Computing Roundtable (ACR) convenes national leaders from industry, academia and the national laboratories to explore how an ever-evolving advanced computing ecosystem can be kept globally competitive and leveraged for American prosperity.

With global competition at its peak, the strategic importance of advanced computing has never been greater. America must have world-class computing resources, skills, software and application models if it is to lead the revolutions underway in artificial intelligence, big data, the Internet of Things, genomics, materials, additive manufacturing and robotics. At the same time, computing itself is transforming as the race is on to extend Moore's Law, build systems with new architectures for modern challenges and develop quantum computers.

The ACR examines these issues and recommends actions for both policymakers and private sector stakeholders. The initiative builds on more than a decade of Council leadership and accomplishment animated by the realization that to out-compete the United States must out-compute.

2017 Year in Review

In 2017, the Council re-branded its High Performance Computing Advisory Committee into the Advanced Computing Roundtable (ACR). In addition to two ACR meetings, the Council organized two regional forums, added a strategic communications partner in HPC Wire and hosted conference calls with key leaders in computing.

In April, New York University's Center for Urban Science and Progress hosted a meeting of the ACR. Members discussed how the ACR should address evolutions in the advanced computing landscape, including artificial intelligence, quantum computing and architecture changes required for exascale computing. Dr. Paul M. Horn, Senior Vice Provost for

INITIATIVE CO-CHAIRS

The Honorable Patricia Falcone

Deputy Director for Science and Technology
Lawrence Livermore National Laboratory



The Honorable Steven E. Koonin

Director, Center for Urban Science and Progress and Professor of Information, Operations & Management Sciences, Leonard N. Stern School of Business
New York University



Dr. J. Michael McQuade

Former Senior Vice President for Science and Technology
United Technologies Corporation

Research, New York University, spoke to the group on the links between entrepreneurship, engineering and advanced computing.

An open forum the following day explored how industry, academia, government and the national laboratories can partner on advanced computing for regional competitiveness. Topics included skill development, software partnerships and model efforts like New York's HPCNY program that enables manufacturers to enter computing partnerships with a consortium of universities. The forum keynote was delivered by Dr. Doon Gibbs, Director, Brookhaven National Laboratory.



On June 8, the Council hosted a call with Dr. Doug Kothe, Director, Exascale Computing Project. A call in August featured Dr. Tina Morrison of the U.S. Food and Drug Administration on the role of modeling and simulation for regulations governing drug and medical device approval.

In October, Lawrence Livermore National Laboratory hosted an ACR meeting and a second regional forum. The meeting engaged the joint program office of the National Strategic Computing Initiative and heard from Mr. Steve Conway, Senior Vice President, Hyperion Research, on global partnership practices

Top: The Honorable Steven E. Koonin, Director, Center for Urban Science and Progress, and Professor, Information, Operations & Management Sciences, Leonard N. Stern School of Business, New York University, and Distinguished Fellow, Council on Competitiveness; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Paul Horn, Senior Vice Provost for Research, and Senior Vice Dean for Strategic Initiatives and Entrepreneurship, Tandon School of Engineering, New York University; Ms. Dona L. Crawford, President, Livermore Lab Foundation, and Senior Fellow, Council on Competitiveness; and the Honorable Patricia Falcone, Deputy Director for Science and Technology, Lawrence Livermore National Laboratory.

Bottom left: Dr. Paul Horn, Senior Vice Provost for Research, and Senior Vice Dean for Strategic Initiatives and Entrepreneurship, Tandon School of Engineering, New York University.

Bottom right: The Honorable Steven E. Koonin, Director, Center for Urban Science and Progress, and Professor, Information, Operations & Management Sciences, Leonard N. Stern School of Business, New York University, and Distinguished Fellow, Council on Competitiveness.

between advanced computing centers and industry. The forum featured Mr. David Turek, Vice President, HPC Market Engagement, IBM Corporation.

2018 Outlook

In response to requests from its co-chairs and members, the Council will facilitate more in-depth conversations on emerging topics in advanced computing in 2018. The Council will convene the ACR in April and October in Washington, D.C., as well as hold two Advanced Computing for Competitiveness Forums in July and December.

The April meeting included a conversation with national experts on the expected impact of quantum computing on economic competitiveness and national security. Speakers came from industry, academia, the national laboratories and government. A similar conversation with experts will be held on machine/deep learning.

It has also been noted across discussions that many states and localities have innovation-based economic development strategies, but few have robust advanced computing partnerships to support those strategies. To this aim, the ACR also is developing an advanced computing tool kit for governors and mayors. The tool kit will draw on the insights gleaned from the regional advanced computing for competitiveness forums to suggest how state and local leaders can form partnerships between key stakeholders to put idea into practice.

In July, the Ohio Supercomputer Center will host the next Advanced Computing for Competitiveness Forum. The forum will draw together Midwest leaders to discuss model programs and partnerships that leverage advanced computing for innovation, better governance and solutions to grand challenges. The December forum will be in the South to engage leaders in that region on similar topics.

CALENDAR OF EVENTS

2017

APRIL 12

Advanced Computing Roundtable Meeting

Host: New York University

Location: New York, NY

APRIL 13

Advanced Computing for Competitiveness Forum

Host: New York University

Location: New York, NY

OCTOBER 23

Advanced Computing Roundtable Meeting

Host: Lawrence Livermore National Laboratory

Location: Livermore, CA

OCTOBER 24

Advanced Computing for Competitiveness Forum

Host: Lawrence Livermore National Laboratory

Location: Livermore, CA

2018

APRIL 11

Advanced Computing Roundtable Meeting

Host: Council on Competitiveness

Location: Washington, D.C.

JULY 10

Advanced Computing for Competitiveness Forum

Host: Ohio State University, Ohio Supercomputing Center

Location: Columbus, OH

OCTOBER 31

Advanced Computing Roundtable Meeting

Host: Council on Competitiveness

Location: Washington, D.C.

DECEMBER TBD

Advanced Computing for Competitiveness Forum

Host and location: TBD



Top left: Mr. Mark Sims, Technical Director, Joint Program Office for Strategic Computing, U.S. Department of Defense; and Mr. Chris Mustain, Vice President, Innovation Policy and Programs, Council on Competitiveness.

Top right: The Honorable Patricia Falcone, Deputy Director for Science and Technology, Lawrence Livermore National Laboratory.

Center left: Ms. Debra Goldfarb, Intel Fellow, Data Center Group Chief Analyst, Competitive Performance and Market Intelligence Group, Intel; and Ms. Dona L. Crawford, President, Livermore Lab Foundation, and Senior Fellow, Council on Competitiveness.

Center right: Dr. Doon Gibbs, Director, Brookhaven National Laboratory.

At left: Ms. Suzy Tichenor, Director, HPC Industrial Partnerships Program, Computing and Computational Sciences Directorate, Oak Ridge National Laboratory.



Top: Dr. Brent Stacey, Associate Laboratory Director, National & Homeland Security, Idaho National Laboratory; Dr. Bruce Hendrickson, Associate Director for Computation, Lawrence Livermore National Laboratory; Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness; and Ms. Dona L. Crawford, President, Livermore Lab Foundation, and Senior Fellow, Council on Competitiveness.

Center left: Mr. Barry Bolding, former Senior Vice President and Chief Strategy Officer, Cray INC; and Ms. Dona L. Crawford, President, Livermore Lab Foundation, and Senior Fellow, Council on Competitiveness.

Center right: Dr. Richard Arthur, Senior Principal Engineer, and Senior Director, Computational Engineering Pathfinding, GE Global Research.

At right: Mr. Mark Minevich, Principal Founder, Going Global Ventures, and Senior Fellow, Council on Competitiveness.



COMPETE: GLOBAL

Global Partnerships



Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils; Mr. Chad Evans, Executive Vice President, Council on Competitiveness; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Pradeep Khosla, Chancellor, University of California, San Diego; Ms. Gianna Sagazio, Innovation Director, Brazilian National Confederation of Industry and Euvaldo Lodi Institute; Mr. James B. Milliken, Chancellor, City University of New York; and Ms. Cândida Oliveira, Industrial Development Specialist, Brazilian National Confederation of Industry, at the 4th U.S.–Brazil Innovation Summit.

The Council on Competitiveness (Council) recognizes that to compete and prosper nationally, the United States must engage globally—defining, shaping and driving, through bilateral and multilateral partnerships, the world’s innovation agenda. As the pace of technological change accelerates and geographic and political borders become more porous, the Council is engaging a set of strategic partners to advance a mutually beneficial, pro-growth agenda.

For nearly two decades—and particularly building off the findings and success of its National Innovation Initiative—the Council has developed and led a global innovation and competitiveness movement: a proactive agenda to solve globally-scaled, grand challenges and to meet profound opportunities at the heart of future productivity and prosperity. These efforts involve our members and thousands of other leaders in deep, bilateral collaborations, as well as multilateral engagements on nearly every continent.

2017 Year in Review

In 2017, the Council strengthened and deepened its relationships with its partners in governments and institutions around the world—including Brazil, Australia, Qatar, Greece, Japan and Saudi Arabia.

In September 2017, the Council and Dr. Pradeep Khosla, Chancellor, University of California, San Diego, hosted the 4th U.S.–Brazil Innovation Summit—the latest in a slate of C-suite gatherings between the Western Hemisphere’s two largest economies. The

Summit continued and built upon the Council's long-standing U.S.–Brazil Innovation Platform, focusing on identifying bilateral partnerships to advance innovation opportunities in energy, healthcare and the biosciences, manufacturing, food production, etc.

In addition, the 4th U.S.–Brazil Summit served as the launching pad for a new set of U.S.–Brazil Innovation Ecosystems Immersions—week-long, deep-

dives into understanding the successful elements of regional innovation systems. The Council—along with its partner, Brazil's National Confederation of Industry (CNI)—has hosted three, week-long excursions across southern and northern California and Brazil.

CALENDAR OF EVENTS

2017

MARCH 6–10

U.S.–Brazil Innovation Ecosystems Immersion

Hosts: Brazilian CNI and MEI, EMBRAPA and the Council on Competitiveness
Location: Rio de Janeiro, Brazil

JUNE 21

Greek Investment Road Show in the USA: U.S.–Greece Innovation Immersion Roundtable

Host: Council on Competitiveness
Location: Washington, D.C.

JUNE 26

GFCC Innovation Learning Lab

Hosts: GFCC, Brazilian CNI and MEI
Location: Sao Paulo, Brazil

JUNE 27–29

CNI–MEI Innovation Forum

Hosts: Brazilian CNI and MEI
Location: Sao Paulo, Brazil

SEPTEMBER 20–21

4th U.S.–Brazil Innovation Summit

Hosts: Council on Competitiveness, The University of California San Diego, Brazilian CNI and MEI
Location: San Diego, CA

SEPTEMBER 25–29

U.S.–Brazil Innovation Ecosystems Immersion

Hosts: Council on Competitiveness, Brazilian CNI and MEI
Location: San Diego and Bay Area, CA

OCTOBER 1–3

STS forum

Host: STS forum
Locations: Kyoto and Tokyo, Japan

OCTOBER 31

Kingdom of Saudi Arabia Delegation Visit

Host: Council on Competitiveness
Location: Washington, D.C.

NOVEMBER 29 – December 1

2017 Annual Members Meeting of the GFCC and Global Innovation Summit

Hosts: GFCC and MIGHT
Location: Kuala Lumpur, Indonesia

2018

FEBRUARY 5–7

U.S.–Brazil Innovation Ecosystems Immersion

Hosts: Council on Competitiveness, Brazilian CNI and MEI
Location: San Diego and Bay Area, CA

MARCH 17–21

Qatar Foundation—Annual Research Conference

Host: Qatar Foundation
Location: Doha, Qatar

AUGUST 13–17

U.S.–Brazil Innovation Ecosystems Immersion

Hosts: Council on Competitiveness, Brazilian CNI and MEI
Location: TBD

SEPTEMBER 17–20

2018 Annual Members Meeting of the GFCC and Global Innovation Summit

Hosts: GFCC and EXC (FUNDECE/IPACE/FPNC)
Location: Buenos Aires, Argentina

OCTOBER 7–9

STS forum

Host: STS forum
Locations: Kyoto and Tokyo, Japan



2018 Outlook

In addition to participation in the 2018 STS *forum* and a planned Brazil-based Innovation Ecosystems immersion, the Council's major bilateral effort in 2018 will be the launch of the U.S.-Australia CTO Dialogue series. Led on the U.S.-side by the CTOs of the Council's Technology Leadership & Strategy Initiative, the premier dialogue will take place in the United States in late 2018. This dialogue series will center on areas of common innovation interest, such as the future of food, health and the biosciences, the emergence of critical computing—AI, quantum and high-performance computing—and more.

The Council will again lead a high-level delegation to the 2018 meeting of the Global Federation of Competitiveness Councils members and the Global Innovation Summit to be held in Buenos Aires, Argentina in September.



Top left: Participants in the September 2017 U.S.–Brazil Innovation Ecosystems Immersion at Intel headquarters.

Top right: Dr. Kiyoshi Kurokawa, Professor Emeritus, National Graduate Institute for Policy Studies (GRIPS), and Chairman, Health and Global Policy Institute, Japan; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Professor Tan Sri Zakri Abdul Hamid, Science Advisor to the Prime Minister of Malaysia, Joint-Chairman of the Malaysian Industry-Government Group for High Technology (MIGHT).

Center: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness, at the 2017 Horasis Global Meeting in Cascais, Portugal.

Bottom: Dr. Harris Pastides, President, University of South Carolina; and Mr. Mark Minevich, Principal Founder, Going Global Ventures, and Senior Fellow, Council on Competitiveness, discussing how to create a culture that continuously innovates, with the resources to accelerate and sustain organic growth, at the 2017 Delphi Economic Forum.

Other Council International Bilateral Engagements

During 2017, the Council hosted and participated in a series of dialogues and meetings with partners from around the world—sharing best practices and promoting the Council's vision for innovation and competitiveness.

In January 2017, the Council hosted the Honorable Koji Omi, former Japanese Minister of Finance and Founder and Chairman of Japan's prestigious Science and Technology in Society (STS) *forum*, along with other delegates of the American Associates of the STS *forum*. The annual STS *forum*, in which the Council and our members participate, brings together global business, academic and thought leaders to provide a new mechanism for open, informal discussions, and to build a human network that will, in time, resolve the new challenges stemming from the application of science and technology. The *forum* community also explores the opportunities arising from science and technology, and addresses how to remove the barriers to using science and technology to solve the problems facing humankind.

In March 2017, the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness, spoke on U.S. competitiveness policies at the Delphi Economic Forum. The annual forum, held under the auspices of the Hellenic President, H.E. Prokopis Pavlopoulos, engages global business, political, academic and other top experts in an effort to address emerging challenges, influence the national and regional agendas and promote sustainable and socially responsible growth policies for Greece, Europe and the wider Eastern Mediterranean region.

Ms. Wince-Smith also participated in the plenary session on global corporations and foreign direct investment, speaking on drivers of competitiveness, at the Annual Investment Meeting, the world's leading emerging market FDI platform. The annual conference was held on April 2, 2017, in Dubai, United Arab Emirates, under the patronage of H.H. Sheikh Mohammed Bin Rashid Al Maktoum, UAE Vice President, Prime Minister and Ruler of Dubai.



Mr. Charles O. Holliday, Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness, addresses the 2017 STS forum.

On April 26, 2017, the Council hosted Ambassador Roberto Jaguaribe, President of the Brazilian Trade and Investment Promotion Agency (Apex-Brasil). The meeting explored potential new pathways of partnership between Apex-Brasil, the Council and the Global Federation of Competitiveness Councils (GFCC).

Ms. Wince-Smith also participated in the Global Science and Innovation Advisory Council (GSIAC) meetings on developing sustainable and competitive smart cities in New Delhi, India, in April 2017 and in Brooklyn, New York in May 2017. The GSIAC, founded by Council's Malaysian partner Malaysian Industry Government Group for High Technology (MIGHT), under the patronage of the Honorable Prime Minister of Malaysia, brings together Nobel laureates, national and global corporate leaders, global academics and leading researchers to help improve and optimize Malaysia's capabilities in the field of science & innovation.

At the May 2017 Horasis Global Meeting in Cascais, Portugal, Ms. Wince-Smith represented Council members and spoke on advancing solutions to the most critical challenges facing corporations and societies today. The annual meeting, held under the patronage of President Marcelo Nuno Duarte Rebelo de Sousa of Portugal, is one of the world's foremost gatherings of business leaders who interact with key government officials and eminent thought leaders.



In June 2017, the Council hosted a delegation of Greek economic leaders, led by the Honorable Dimitri B. Papadimitriou, Economy and Development Minister of Greece; Mr. Socrates Lazaridis, CEO, Athens Stock Exchange; and the Honorable Geoffrey R. Pyatt, U.S. Ambassador to Greece. The group was joined by a senior delegation of its members and representatives, including, Dr. Harris Pastides, President, University of South Carolina; and Mr. James Phillips, Chairman, NanoMech, Inc., for a joint discussion on innovation, advanced manufacturing and competitiveness strategy.

In October 2017, Ms. Wince-Smith and Mr. Chad Evans, Executive Vice President, Council on Competitiveness—along with key Council members, including Dr. Dana (Keoki) Jackson, Vice President and Chief Technology Officer, Lockheed Martin—participated in the annual Science and Technology in the STS *forum* in Japan.

Also in October, the Council hosted His Royal Highness Prince Saud K. Al Faisal, Deputy Governor of Madinah, Kingdom of Saudi Arabia, and a delegation of the City of Madinah's competitiveness network looking to establish leading innovation practices domestically.



Top: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Mr. Chad Evans, Executive Vice President, Council on Competitiveness—joined by executive committee members: Dr. Harris Pastides, President, University of South Carolina; and Mr. James Phillips, Chairman, NanoMech, Inc.—welcomed a delegation of Greek economic leaders, led by the Honorable Dimitri B. Papadimitriou, Economy and Development Minister of Greece; Mr. Socrates Lazaridis, CEO, Athens Stock Exchange; and the Honorable Geoffrey R. Pyatt, U.S. Ambassador to Greece.

Bottom: HRH Saud K. Al Faisal visited the Council on Competitiveness with a delegation of leaders from Madinah, Saudi Arabia.



Members of the Global Federation of Competitiveness Councils join the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness, to release the 2017 Global Competitiveness Principles.

Council Continues Leadership Role in the Global Federation of Competitiveness Councils

The Council continues to engage with the Global Federation of Competitiveness Councils (GFCC) in a leadership role as a founding member and the secretariat of the GFCC. Several Council members—including Lockheed Martin, Arizona State University, Georgetown University, Northeastern University, The Ohio State University, The University of Chicago, The University of North Carolina at Chapel Hill, University of California, San Diego and Webster University—having recognized the tremendous advantage and value of the Council's role in the GFCC in helping build global partnerships and business opportunities, are now also members of the GFCC.

In June 2017, Mr. Chad Evans, Executive Vice President, Council on Competitiveness, led a delegation of U.S. industry, national laboratory and academic leaders to the Innovation Learning Lab, held in Rio de Janeiro, Brazil. The lab, hosted by the GFCC in

partnership with the Brazilian National Confederation of Industries (CNI), has catalyzed learning and innovation frameworks and policies, as well as new business partnerships.

Brazilian tech companies presented their solutions for organic photovoltaic and solar power generation, sensors and environmental monitoring, and advanced manufacturing and the Internet of Things. High-level delegations from Russia, New Zealand, the United Kingdom, Malaysia, India, Argentina and Greece also participated the Innovation Learning Lab.

In November 2017, Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and Mr. Evans led a delegation of Council members and C-suite representatives to the GFCC's Annual Members Meeting and Global Innovation Summit, held in Kuala Lumpur, Malaysia. The event was hosted by the Malaysian Industry-Government Group on High Technology (MIGHT) under the auspices of the Prime Minister. It brought together



Tan Sri Dr. Ir Ahmad Tajuddin Ali, Joint-Chairman (Industry) of the Malaysian Industry Government Group for High Technology (MIGHT); Ms. Gianna Sagazio, Innovation Director, Brazilian National Confederation of Industry and Euvaldo Lodi Institute; Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils; Dr. Sethuraman (Panch) Panchanathan, Executive Vice President and Chief Research and Innovation Officer of Knowledge Enterprise Development, Arizona State University; and the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness, at the launch of the Global Competitiveness Academy.

more than 400 leaders from across the globe around the theme: Sustainable Future of Production, Consumption and Work.

At the event, the GFCC launched the *2017 Global Competitiveness Principles* and the 7th edition of its flagship report, *Best Practices in Competitiveness Strategy*. A delegation of select GFCC members also went on an excursion to the Penang region together with Ms. Wince-Smith and Mr. Evans to visit the Northern Corridor Implementation Authority, the central authority providing direction and devising policies and strategies in relation to socioeconomic development in the Koridor Utara region.

The second meeting of the University and Research Leadership Forum was also held in conjunction with the Global Innovation Summit and was chaired by a member of the Council's Technology Leadership and Strategy Initiative, Dr. Sethuraman (Panch) Panchanathan, Executive Vice President and Chief Research and Innovation Officer of Knowledge Enterprise Development, Arizona State University. Two task forces that were launched in 2016 on Optimizing

Innovation Alliances and Leveraging Extreme Innovation presented the preliminary results of their research work. The reports of the task forces will be published in spring of 2018.

At the event, the GFCC also launched the Global Competitiveness Academy (GCA) and its first program, Transformative Leadership & Innovation for Competitiveness under the leadership of Council Vice-chair for University, Dr. Michael M. Crow, President, Arizona State University. The five-day program, which will be housed at Arizona State University's campus in Tempe, AZ, is designed for participants from business and government. It will explore ways in which industry is directly affected by technology growth and governments can build an emerging class of global policy leaders and engage in dialogues on cutting-edge competitiveness concepts. The first courses will be held in July of 2018.



Council Signs Letter of Intent with Government of Australia to Host CTO Dialogue in 2018

On December 6, 2017, the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness, signed a Letter of Intent with the Honorable Craig Laundy, MP, Assistant Minister for Industry, Innovation and Science, Government of Australia, at a ceremony at Parliament House in Canberra, Australia. The Letter—since updated to include Australia's Minister for Health, Greg Hunt, MP and Minister of Innovation and Jobs, Michaela Cash, MP—aims to support efforts to strengthen business and research links between both nations.

The Letter of Intent establishes a U.S.-Australian Chief Technology Officer Dialogue. The dialogue will build on the activities of the Council under its Technology Leadership Strategy Initiative (TLSI),

which draws on 50+ chief technology officers from America's premier companies, vice presidents of research at leading research institutions and deputy directors of America's national laboratories to make the business case for strategic, prioritized investments in the research, talent and infrastructure necessary for tech-based innovation.

Through the dialogue, technology and innovation leaders from the United States and Australia will have the opportunity to engage in peer-to-peer conversation and share common challenges and opportunities in the innovation and technology space. The launch U.S. Australia CTO Dialogue will be held in Sydney, Australia, in December 2018.

***Pictured above:** Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Mr. John Pyrovolakis, Founder and CEO, Innovation Accelerator; Mr. Dan Rice, Vice President, Global Research & Development, Lockheed Martin; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; the Honorable Craig Laundy, MP, Assistant Minister for Industry, Innovation and Science, Government of Australia; Dr. Larry Marshall, Chief Executive, CSIRO; Mr. Charles Kiefel OAM, Executive Chairman, The Principals Funds Management, and Distinguished Fellow, Global Federation of Competitiveness Councils; and Mr. Chris Locke, Head of Division, Portfolio Policy and Innovation Strategy, Department of Industry, Innovation and Science, at the signing of the Letter of Intent between the Council and the government of Australia.*

COMPETE: GLOBAL

Council Global Engagements

June 2017 GFCC Innovation Learning Lab



Top left: Dr. Sethuraman (Panch) Panchanathan, Executive Vice President and Chief Research and Innovation Officer of Knowledge Enterprise Development, Arizona State University.

Top right: Mr. Carlos Higo Partner, AT Kearney; Mr. Alexander Idrisov, Co-Founder, Eurasia Competitiveness Institute; Dr. Steven Ashby, Director, Pacific Northwest National Laboratory; Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Dr. João Emilio Gonçalves, Executive Manager of Industrial Policy, CNI; and Mr. Anthony Murrfet, Department of Industry, Innovation and Science, Australian Embassy.

Center left: Ms. Gianna Sagazio, Innovation Director, Brazilian National Confederation of Industry and Euvaldo Lodi Institute; and Dr. Elizabeth (Beth) J. Stroble, President, Webster University.

Center right: Mr. Adham Nadim, Chairman and Managing Director, NADIM Industries; and Ms. Gianna Sagazio, Innovation Director, Brazilian National Confederation of Industry and Euvaldo Lodi Institute.

At right: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Rafael Lucchesi, Director of Education and Technology, CNI, General Director, SENAI, and Superintendent, SESI; and Ms. Heloisa Menezes, Technical Director, Sebrae.



COMPETE: GLOBAL

Council Global Engagements

CNI-MEI Innovation Forum



Top left: Mr. Samuel Bottum, Chief Marketing Officer and Vice President, Snap-on Incorporated.

Top right: Mr. Ralph Schweens, Managing Director, BASF Mexicana S.A.; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Mr. Rafael Steinhauser, Senior Vice President and President, Qualcomm Latin America; and Dr. Vinicius Lages, Director of Administration and Finance, National Sebrae.

Center left: Mr. Al Bunshaft, Senior Vice President, Global Affairs at Dassault Systèmes Americas and President of the DS US Foundation.

Center right: Dr. Steven Ashby, Director, Pacific Northwest National Laboratory.

At right: Dr. Joseph Aoun, President, Northeastern University.



COMPETE: GLOBAL

Council Global Engagements

4th U.S.–Brazil Innovation Summit



Top: Mr. Daniel Gonzaga, Director, Global New Products Development, Natura; Dr. Tom Kipps, Deputy Director, University of California, San Diego Moores Cancer Center; Mr. Jason Anderson, President and CEO, Cleantech San Diego; Mr. Chad Evans, Executive Vice President, Council on Competitiveness; Dr. Roberto Badaró, Full Professor and ITS Chief Researcher, SENAI CIMATEC; Mr. Stephen Mayfield, Director, California Center for Algae Biotechnology; and Carlos Américo Pacheco, President, Technical Administrative Council, FAPESP.

Bottom: Dr. Sethuraman (Panch) Panchanathan, Executive Vice President and Chief Research and Innovation Officer of Knowledge Enterprise Development, Arizona State University; Mr. James B. Milliken, Chancellor, City University of New York; Mr. Ric Scheinkman, Managing Director, Harpia Capital; Dr. Leo Chalupa, Vice President–Research, George Washington University; and Dr. Anantha Krishnan, Associate Director of Engineering, Lawrence Livermore National Laboratory.

Bottom: Mr. Fernando Spohr, Operations Manager, APEX North America; Dr. Paul Kearns, Director, Argonne National Laboratory; and Jorge Guimarães, President, EMBRAPA–Brazilian Agency for Industrial Research and Innovation.



Top: Dr. David Williams, Dean, College of Engineering, The Ohio State University.

Bottom: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; Dr. Ulisses Mello, Director of IBM Research Brazil, IBM; Mr. James M. Phillips, Chairman and Chief Executive Officer, NanoMech, Inc.; and Dr. Fábio do Prado, Rector, FEI University.

Top: Mr. André Acetose, U.S. Liaison, SENAI; Mr. José Luis Gordon, Director of Planning and Management, EMBRAPA—Brazilian Agency for Industrial Research and Innovation; Mr. Chad Evans, Executive Vice President, Council on Competitiveness; the Honorable Julie Meier Wright, former Chief Executive, San Diego Regional Economic Development Corporation, former First Secretary of Trade & Commerce, State of California, and Senior Fellow, Council on Competitiveness; Ms. Julia Brown, Chair Emerita, UC San Diego Foundation; and Mr. Joe Panetta, President and CEO, Biocom.

Bottom: Dr. Rustom Mody, Vice President, Technical Excellence—Enterprise Technology and Chief Engineer, Baker Hughes, a GE Company; Mr. João Emílio Gonçalves, Executive Manager of Industrial Policy, CNI—Brazilian National Confederation of Industry; Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils; and Dr. Aziz Asphahani, Chairman and Chief Executive Officer, QuesTek Innovations LLC.

COMPETE: GLOBAL

Council Global Engagements

2017 Annual Meeting of the GFCC



Top: The Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; the Honorable Nancy Shukri, Minister, Prime Minister of Malaysia's Department; Her Royal Highness Sultana Hajjah Kalsom of Pahang; Professor Tan Sri Zakri Abdul Hamid, Science Advisor to the Prime Minister of Malaysia, Joint-Chairman of the Malaysian Industry-Government Group for High Technology (MIGHT), and recipient of the 2017 Global Competitiveness Award; Tan Sri Dr. Ir Ahmad Tajuddin Ali, Joint-Chairman (Industry) of the Malaysian Industry-Government Group for High Technology (MIGHT); Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; and Mr. Adham Nadim, Chairman and Managing Director, NADIM Industries, at the 2017 Global Innovation Summit Gala Dinner.

Center: Mr. Charles O. Holliday, Jr., Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; the Honorable Nancy Shukri, Minister, Prime Minister of Malaysia's Department; and Professor Tan Sri Zakri Abdul Hamid, Science Advisor to the Prime Minister of Malaysia, and Joint-Chairman of the Malaysian Industry-Government Group for High Technology (MIGHT), at the 2017 Global Innovation Summit.

Bottom: Dr. Mohd Yusoff Sulaiman, President & CEO, Malaysian Industry-Government Group for High Technology (MIGHT).





Top left: Ms. Lori Schmidt, CEO, GoProductivity, Canada; and Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils, at the 2017 Annual Meeting of the Global Federation of Competitiveness Councils.



Top right: Mr. Charles O. Holliday, Chairman, Royal Dutch Shell plc, and Chairman Emeritus, Council on Competitiveness; the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness; and the Honorable Nancy Shukri, Minister, Prime Minister of Malaysia's Department, at the 2017 Annual Meeting of the Global Federation of Competitiveness Councils.



Center: Ms. Hala Al Ameri, Director, Competitiveness Office of Abu Dhabi (COAD) at Abu Dhabi Department of Economic Development; Mr. Stefan Kraxner, Competitiveness Advisor and Senior Project Manager, Abu Dhabi Department of Economic Development; Dr. Harris Pastides, President, University of South Carolina; and Mr. Adham Nadim, Chairman and Managing Director, NADIM Industries, at the 2017 Annual Meeting of the Global Federation of Competitiveness Councils.

Bottom: Mr. Maurizio Zuazua, Partner, AT Kearney; and Ms. Anthea Long, General Manager, Department of Industry, Innovation and Science.



COMPETE: GLOBAL

Council Global Engagements

2017 GFCC University & Leadership Forum launch



Top: Participants at the 2017 University & Leadership Forum launch.

Bottom: Dr. Mohamed Ibrahim bin Abdul Mutalib, Vice-Chancellor, Universiti Teknologi PETRONAS; Dr. Roberto Alvarez, Executive Director, Global Federation of Competitiveness Councils; and Dr. Sethuraman (Panch) Panchanathan, Executive Vice President and Chief Research and Innovation Officer of Knowledge Enterprise Development, Arizona State University.

Above: Dr. Jari Kinaret, Professor & Head of Condensed Matter Theory Division at Department of Physics, Chalmers University of Technology; and Dr. Harris Pastides, President, University of South Carolina.

COMPETE: POLICY

Government Affairs



*Mr. William Bates, Executive Vice President & Chief of Staff, Council on Competitiveness; Dr. Jay Keasling, Chief Science and Technology Officer for Biosciences, Lawrence Berkeley National Laboratory; Dr. Allison Campbell, Associate Laboratory Director, Earth & Biological Sciences Division, Pacific Northwest National Laboratory; Dr. Thomas Reed, Founder and Chief Science Officer, Intrexon; and Dr. Gene Block, Chancellor, University of California, Los Angeles, on a panel during the release of *Leverage: Advancing U.S. Bioscience* on Capitol Hill, July 25, 2017.*

Outreach and engagement with key government officials both in the Administration and on Capitol Hill is a critical element of the Council's mission to develop non-partisan recommendations to enhance the nation's competitiveness and to translate these recommendations into policy solutions for policymakers in Washington and across the country.

Building relationships with policymakers and their staff, and bringing them into the Council's policy-making process, are significant methods through which the Council crafts and disseminates its work. Through one-on-one conversations, testimonies and briefings, our leadership and staff cultivate new opportunities to build support for the Council's agenda in Washington, D.C., as well as outside the beltway. These efforts also serve as a conduit for Council members to affect change and raise the level of productivity and prosperity of the United States.

2017 Year in Review

2017 marked a year of transformation for the nation, with the changing administration and new policy priorities guiding the national conversation. For the Council, this meant keeping abreast of staff and structural changes to key offices in government and proactively engaging policymakers to understand how the Council can best position itself to drive the national competitiveness conversation. The Council's efforts to incubate relationships with high-level members of the administration yielded progress, creating deeper inroads into administration leadership in the Departments of Energy, Defense and other agencies, as well key congressional leaders.



The Honorable Randy Hultgren, United States Representative (R, IL-14) at the Hill briefing during which the Energy and Manufacturing Competitiveness Partnership report, Leverage: Advancing U.S. Bioscience, was released on July 25, 2017.

As much as 2017 represented a year of change, it also marked one of continuity as the Council continued to work with policymakers on new and existing efforts carried over from previous years. In 2017 the Council built upon its existing relationship with the Senate Competitiveness Caucus hosting a briefing on the critical role of biosciences in strengthening U.S. manufacturing. The briefing featured a keynote by Rep. Randy Hultgren (R, IL-15) and was attended by over one hundred congressional staffers representing Members of Congress from the House and Senate as well key committees, offering pathways to develop new relationships.

The Council also built upon existing relationships with federal departments and agencies. This effort was exemplified by the Council's continued engagement with the leadership of the National Science Foundation (NSF) and significant participation from National Science Foundation Director, the Honorable France Córdova, in Council events in 2017, including keynoting a dialogue as part of the National Science Foundation-funded Exploring Innovation Frontiers Initiative.

Understanding the important role regional growth and productivity play in contributing to national competitiveness, the Council also engaged with state and local governments. States serve as important policy testbeds and laboratories of democracy, capable of

CALENDAR OF EVENTS

2017

JULY 25

Advancing the U.S. Bioscience and Biomanufacturing

Location: Capitol Hill

2018

APRIL 18

Building the Bioeconomy in California

Location: California State Capitol

SPRING

Energy: A Case Study on Illinois

Location: Capitol Hill

SUMMER

Transform: Exploring Innovation Frontiers Initiative Briefing

Location: Capitol Hill

testing policy best practices, which can be exported and implemented across the nation. In 2017 the Council began to work with government leaders at the state level by reinvigorating its relationship with its long-time partner the National Governor's Association and will continue to build upon this relationship further in 2018.

2018 Outlook

The Council is expanding efforts in 2018 to engage with policymakers at the regional, state and federal level, dedicating staff and resources to enhancing existing government relations and promoting the Council's brand as a non-partisan resource for competitiveness issues. Over the course of the next year, Council staff and leadership will be focused on identifying opportunities to foster deeper relationships, work with lawmakers promoting legislation aligned with the Council's mission and effectively disseminate the Council's work to shape the early formation of policy initiatives.

A key part of the Council's efforts over the coming year centers on better leveraging the Council's broad and diverse network of members and fellows to reach policymakers and their staff. The breadth of this network spans the policymaking arena and it will allow the Council far greater reach than would be possible acting alone. A meeting of the Council's Distinguished and Senior Fellows is scheduled for later this spring and will be one of many steps to begin to fully exploit this unique Council resource.

Importantly, the Council will continue to bring key leaders from the Hill and Administration to share insights and proposals directly with Council membership. From Senators to Cabinet Secretaries to key leaders of federal agencies, the Council will champion its historic role as the voice of the private sector on competitiveness policy. In the past year, sitting around the Council table were Senator Chris Coons (D-DE); the Honorable Walter G. Copan, Under Secretary for Standards and Technology, U.S. Department of Commerce, and Director, National Institute of Standards and Technology; the Honorable France Córdova, Director, National Science Foundation; and the Honorable Paul M. Dabbar, Under Secretary for Science, U.S. Department of Energy. Through these and similar efforts, the Council will continue to forge partnerships building upon the legacy of past efforts from the Department of Energy's Advanced Energy & Manufacturing Competitiveness Partnership to the recently completed National Science Foundation's Exploring Innovation Frontiers Initiative.

The success of these efforts will further raise the Council's profile as a trusted voice for policymakers, raising the visibility of, and shaping conversation around, issues that matter to Council membership and to the nation's competitiveness agenda.

About the Council on Competitiveness

For more than three decades, the Council on Competitiveness (Council) has championed a competitiveness agenda for the United States to attract investment and talent and spur the commercialization of new ideas.

While the players may have changed since its founding in 1986, the mission remains as vital as ever—to enhance U.S. productivity and raise the standard of living for all Americans.

The members of the Council—CEOs, university presidents, labor leaders and national lab directors—represent a powerful, nonpartisan voice that sets aside politics and seeks results. By providing real-world

perspective to policymakers, the Council's private sector network makes an impact on decision-making across a broad spectrum of issues—from the cutting-edge of science and technology, to the democratization of innovation, to the shift from energy weakness to strength that supports the growing renaissance in U.S. manufacturing.

The Council firmly believes that with the right policies, the strengths and potential of the U.S. economy far outweigh the current challenges the nation faces on the path to higher growth and greater opportunity for all Americans.

New Council on Competitiveness Fellows

The Council continues to expand its cadre of subject matter experts who complement and guide the research of its staff. The Council is pleased to announce the appointment of the following new fellows in 2017.



Dr. Thomas A. Campbell, Senior Fellow

Former National Intelligence Officer for Technology, Office of the Director of National Intelligence



Mr. Thomas Hicks, Distinguished Fellow

Principal, The Mabus Group, and Former Undersecretary of the Navy, U.S. Department of Defense



Mr. Dominik Knoll, Senior Fellow

Former Chief Executive Officer World Trade Center of New Orleans



Mr. Reuben Sarkar, Senior Fellow

Former Deputy Assistant Secretary for Transportation, U.S. Department of Energy



Mr. Allen Shapard, Senior Fellow

Senior Director, Chair of Public Engagement Strategies APCO Worldwide



Dr. Thomas M. Uhlman, Distinguished Fellow

Founder and Managing Partner New Venture Partners LLC



The Honorable Julie Meier Wright, Senior Fellow

Former Chief Executive, San Diego Regional Economic Development Corporation; and Former First Secretary of Trade & Commerce, State of California

Council on Competitiveness Board, Executive Committee, Membership and Staff

BOARD

Chairman

Mr. Samuel R. Allen
Chairman and Chief Executive Officer
Deere & Company

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