



Compete.

Council on
Competitiveness

Competing in the Next Economy

Pushing Back the Frontiers of Technology & Defining the Future of Innovation

Presented by

LOCKHEED MARTIN



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Session Summary

Introduction

Council Executive Vice President Chad Evans welcomed participants to the third in a series of webinars, sponsored by Lockheed Martin. The focus of this webinar series is to explore key findings and recommendations from *Competing in the Next Economy*, the year-one report of the Council's flagship initiative, the National Commission on Innovation and Competitiveness Frontiers.

The series' first two seminars in May and June 2021 focused on the future of sustainability and the total transformation of manufacturing brought about by rapid digitalization. These effects from these two radical disruptions have rippled across all aspects of the economy.

The third webinar in the series sought to define the future of innovation and the challenges related to developing and deploying technology-based innovation to scale, as well as the competitiveness opportunities that could accrue, if this huge transition is managed appropriately.

Three Trends Driving the Future of Technology and Innovation

In opening the session, Mr. Evans described what is meant by *Pushing Back the Frontiers of Technology* and framed the session.

Over the coming decades, the disruption, impact and pace of these new technologies is expected to only increase and fundamentally change our civilization. What was once just an idea can become a techno-

Panelists

Dr. Kimberly Budil

Laboratory Director
Lawrence Livermore National Laboratory

Dr. Jahmy Hindman

Chief Technology Officer
Deere & Company
Chair, TLSI

Dr. Robert Johnson

President
Western New England University
National Commissioner

Dr. Steven Walker

Vice President & Chief Technology Officer
Lockheed Martin
National Commissioner

The Honorable Deborah L. Wince-Smith

President & CEO
Council on Competitiveness

Moderator

Mr. Chad Evans

Executive Vice President & Board Secretary
Council on Competitiveness

“We are experiencing a tornado of technology that is reshaping the innovation landscape and human existence. Seemingly unrelated disciplines are converging in unprecedented collaboration, which creates new challenges for the development of new talent and human resources.”

Mr. Chad Evans

Executive Vice President & Secretary to the Board
Council on Competitiveness

logical reality tomorrow. And while exact predictions are hard to give, this panel sought to explore some of the possibilities and the potential opportunities for economic competitiveness, national security and the socio-technical implications of massive technological change and revolutionary innovation. The goal of the webinar was to address three main related trends:

Powerful technologies are scaling. The increase in data and technology allows for more precise and larger scale technology application across many industries, from defense to agriculture, from services to education.

- **Sensorization** is an example of a technology that has spread across many domains including the natural, built and personal environments.
- **The Internet of Things (IoT)** is creating a previously unprecedented network, reaching a state of hyper-connectivity with millions of connected devices per square kilometer, and trillions of connected devices globally. The collected data allows for an unprecedented quantification of human existence.

- **Autonomous systems** and robots are expanding rapidly, reaching new modes of application with opportunities for the national defense industry and across various other sectors and industries, like health care, farming and transportation.
- **Artificial Intelligence (AI)** has already found basic, though widespread, use in our everyday lives, from customer assistance bots to technologies in agriculture that help feed the world one seed at a time. In a time when data is extremely abundant, AI helps to return contextualized knowledge and facilitate human decision-making.
- **Biotechnology** has advanced significantly and especially in the last year. New opportunities and interdisciplinary links are abundant, ranging from bioengineering and biomedicine, to agricultural applications of gene-editing.

New technologies are converging and creating a new innovation space. New technology is ever evolving, and seemingly unrelated disciplines are converging, opening opportunities for unprecedented, interdisciplinary collaboration between industries, universities, and national laboratories—whether it is nanomedicine, agro-energy biotech, ecological economics, or bio-computing.

Leveraging these technologies requires unprecedented collaboration between industry, academia, national laboratories and other stakeholders. It challenges existing modes of cooperation and human resources.

More disruptive technologies are on the horizon. Researchers and start-ups are aggressively pushing back the frontiers of technology. AI, for example, may be able to perform cognitive tasks in any domain, unleashing a new revolution with perhaps stronger impact than the introduction of the printing press and the democratization of knowledge. It could lead to the scale up of scientific technology and discovery to unimaginable heights. Similarly, quantum science could advance our computing potential far beyond what is possible today and could affect a variety of fields from medicine to encryption, chemistry and communications.

Democratization of Knowledge and National Security

In light of the new opportunities that come from these three trends, Mr. Evans opened the panel by asking its participants to address how rapid disruption and technology innovation cycles are affecting U.S. economic competitiveness and national security.

Dr. Steven Walker, Vice President and CTO of Lockheed Martin and a National Commissioner in the National Commission on Innovation and Competitiveness Frontiers, stressed that there has been a fundamental change in the process of innovation: While 50 to 60 years ago, many groundbreaking innovations came from the defense sector, now the commercial sector and the university ecosystem develops the vast majority of deployable innovation. This major, structural shift—a democratization of the innovation space—offers tremendous competitiveness opportunities. But it also poses some concerns vis-à-vis national security. A significant challenge facing the defense sector and national security centers around agility: how can companies, industries and nations remain agile, adaptive and surprising—creating a

“Some of our global adversaries are more successful and faster at taking technology from the commercial sector and turning it into application in the defense industry. The U.S. government and public sector need strong partnerships with the commercial sector to remain adaptive, agile and surprising to our adversaries.”

Dr. Steven Walker

Vice President & Chief Technology Officer
Lockheed Martin

security advantage as well as a competitiveness differentiator? Meeting this challenge places an immense pressure on research.

At the same time, this democratization of knowledge and research with relevance for the defense industry also creates new opportunities for collaboration with



Top row: Mr. Chad Evans, Executive Vice President & Secretary to the Board, Council on Competitiveness; Dr. Kimberly Budil, Laboratory Director, Lawrence Livermore National Laboratory; and Dr. Steven Walker, Vice President & CTO, Lockheed Martin, and National Commissioner. **Bottom row:** Dr. Robert Johnson, President, Western New England University, and National Commissioner; Dr. Jahmy Hindman, CTO, Deere & Company, and Chairman, Technology Leadership and Strategy Initiative; and the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness.

the U.S. commercial sector, and for partnerships that may help further develop and connect previously disconnected innovation stakeholders.

Dr. Kimberly Budil, Director of Lawrence Livermore National Laboratory, in agreement with Dr. Walker, stressed the important position of enterprises like the U.S. Department of Energy national laboratories in this context—centered in the nexus of academia, fundamental research, international science and technology, and industry. She shared Dr. Walker’s concern for national security, reflecting that while access to strategic technology was once limited to allied state actors and large government programs, access today is broader and much more democratized.

The Importance of Agility and Surprise for National Security

In order to maintain U.S. competitiveness and strengthen national security, Dr. Budil added to Dr. Walker’s call for agility, adaptability and the element of surprise by highlighting the importance of speed in the innovation process. Technology has the potential to disrupt completely every sector, but Dr. Budil underscored that speed-of-action is currently a key roadblock in the public sector innovation ecosystem—a system designed for a long-term commitment to big challenges, not for speed. However, she notes this long-term perspective needs to stay and needs support in order for the nation to maintain a strategic edge. The big opportunity is to create a way for the federal innovation ecosystem to do so, while matching better the private sector’s rapid innovation cycle.

As humanity uncovers more use opportunities through technology, it also unveils our greater dependency because of the wide-spread applications. In the defense sector, this inevitably makes nations more exposed and creates pressure to protect U.S. innovations against intellectual property theft and unfair competition.

“We need an ecosystem approach (to technology development and innovation). We develop many different technologies for specific applications that can become extremely useful. But we need to integrate these different technologies—and see how we can use them in a unique way to create advantage and surprise.”

Dr. Kimberly Budil

Director

Lawrence Livermore National Laboratory

Dr. Jahmy Hindman, CTO of Deere & Company, and Chair of the Technology Leadership and Strategy Initiative, agreed with Dr. Budil and Dr. Walker about the need for speed and surprise. But he also pointed out that agility is significantly harder for large organizations. In this context, partnerships with other entities to become more agile in the commercialization and development of technology is crucial. Large organizations bring the power in execution and delivery, but smaller, nimble organizations are important for the deployment.

While the nation must continue to grapple with and solve the national security challenges that stem from commercially developed innovations and that emerge from threats of foreign influence, Dr. Robert Johnson, President of Western New England University and a National Commissioner in the National Commission on Innovation and Competitiveness Frontiers, pointed out the importance to our national and global society in achieving a balance between the democratization of knowledge and national security. As the threat of global poverty increases alongside predicted growth in global population—which could approach

The *Competing in the Next Economy* report addresses the threat to U.S. innovation by foreign governments, especially in light of the increased competition with China. China's strategy is multi-faceted and includes licit and illicit means, from building research centers in U.S. innovation hubs, forming partnerships with U.S. research universities, forced joint ventures for market access, sending students to the United States for academic studies, cyber theft, and industrial espionage.



In its Year One recommendations, the Council focused strongly on strengthening and protecting the innovation ecosystem for the development of critical technologies.

In similar vein, the Council released a statement in July, [Mitigating Foreign Influence in Higher Education Research Collaborations](#), signed by more than 40 of the Council's academic and business leaders, that calls for greater support of global cooperation and collaboration around U.S. research and technology priorities. The signatories endorsed increased scrutiny of domestic and foreign bad actors who seek to take advantage of the historic openness of the U.S. research enterprise.

This statement is particularly timely as these issues are being debated at both ends of Pennsylvania Avenue. The approach endorsed by these leaders is a balanced and appropriate response that protects U.S. interests while preserving the traditional U.S. role as a beacon to the best and brightest from around the world.

10 billion by 2040—we need to focus on empowering the world through technology and innovation. The democratization of both could create millions of jobs and mitigate against mounting income inequality.

The key is creating the institutions and personal drive to buck the status quo and create value. But this also requires an ethical framework with regard to the proliferation of technology and innovation capacity and capability.

The Regulatory Framework for Agility and Surprise

As technology advancements continue to increase in speed, the Honorable Deborah L. Wince-Smith, President & CEO, Council on Competitiveness, and a National Commission Co-chair, remarked that new regulatory frameworks are needed to address the question of how we are going to lead and develop technology that will underpin the innovations to transform the world.

Internationally, there are some clear variations in how nations address this challenge: the EU has a very strict regulatory environment on many leading or emerging technologies that are in many ways very antithetical to U.S. antitrust policy and interests (e.g. genetically modified agriculture, but also artificial intelligence and personal data usage).

Ms. Wince-Smith argued strongly for the United States to lead again in technology diplomacy—especially in international organizations dealing with apex tech and innovation (like, information technologies). Out of the 15 UN specialized agencies, four are currently under Chinese leadership, including the Food and Agriculture Organization (FAO), the International Civil Aviation Organization (ICAO), the UN Industrial Development Organization (UNIDP), and the International Telecommunications Union (ITU)—an example of China's aggressive technology diplomacy to gain more international power in standard setting bodies. The end goal is to promote and support their all-encompassing strategy with the Belt and Road Initiative, which far exceeds just a digital and physical infrastructure plan.

“Many of our business processes and governance models are still mostly static, risk-averse, linear, and uncollaborative. We need structural reform to meet the pace of new technology also with our regulations and standards.”

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

Ms. Wince-Smith brought up the Australia-UK-US (AUKUS) pact as a strategy to counter China as an example of agile and surprising collaborative geopolitical action, especially considering the special attention given in the pact to AI and critical technology.

Precision at Scale

Shifting the conversation to technology applications and opportunities, Mr. Evans asked panelists to share thoughts around those technologies and innovations ripe for near-term disruption.

In response, Dr. Hindman stressed that modern tech advancements have the potential to truly leave no industry untouched:

- Alternative energy use will change the automotive sector.
- The use of extended, augmented and virtual reality will revolutionize the service industry.
- Autonomous systems and automation are allowing for greater uniformity of many operations across many firms and industries—but they also support greater data analytics and precision at scale.

Today, technology allows for optimized processes in sectors that have previously remained mostly unchanged. In agriculture, for example, crops of the same type have generally been treated very similarly with herbicides, soil nutrients etc. But now, innova-

“A big challenge to precision at scale is connectivity. Customizations require significant amounts of detailed data, but without the appropriate connectivity, this cannot be achieved.”

Dr. Jahmy Hindman
Chief Technology Officer
Deere & Company

tive technology allows farmers to determine precisely which individual plants require what type of treatment. This precision at scale is unprecedented and a huge transformation in the agricultural sector—but the big take-away is that such precision can be applied in many different industries.

Mr. Evans noted that applying precision and customization to other sectors could prove beneficial. In education, for example, customizing the learning process for every student could bring unprecedented improvements and new experiences for a long-term, successful workforce.

The Education Challenge and the Need for Ethics

Dr. Johnson concurred with this point around the personalization of the education experience—and noted this is exactly what is needed to achieve the workforce agility and speed parameters that Drs. Walker, Budil and Hindman previously raised. He argued for a new thinking around education is needed—the concept of “new traditional universities,” an education system that focuses not only on providing a degree, but on fostering a mindset of lifelong learning.

Dr. Johnson also pointed out that this is a systems challenge: the need for reform in education is not limited to higher education. Rather, reform must address K-12 education—and lifelong learning.

“We need to build ‘new traditional universities’ as a model that honors the best of traditional education and that is responsive to and invigorated by the future. One that prepares students to adapt and thrive by equipping them to learn, unlearn, and relearn; and develop a mindset of continuous value creation...If we manage to do this, we will provide our labor force with the essential human skills that cannot be replicated by an algorithm and enhance workers’ ability to create value in everything they do.”

Dr. Robert Johnson

President

Western New England University

Dr. Walker and Ms. Wince-Smith agreed and stressed that judgement and critical thinking—as well as building trust and ethics to propel us forward—are crucial to the successful implementation, application and deployment of tech changes. Dr. Walker agreed that the K-12 system is currently not set up to prepare students for the future they are facing, and that ethics are particularly important with the increased personalization opportunities and personal data usage for service customization and optimization.

Dr. Budil highlighted the importance of cultural values and norms. She stressed that, in education, the use of technology can be either a huge opportunity or a barrier. During the pandemic, technology and the solutions it brought to bear heavily assisted and facilitated education during a period of unprecedented turmoil. And yet, questions of access and connectivity to technology have also revealed unsustainable disparities.

Global and Local Talent Competition

Dr. Johnson remarked that according to the World Economic Forum, the global deployment of AI solutions could cost the world 85 million jobs—while also creating nearly 100 million new ones in a cycle of creative destruction similar to that experienced in past socio-technical-economic transitions.

In light of this data, other questions begin to emerge. For example, the question of talent competition becomes increasingly important. A McKinsey study found that 40 percent of the workforce are location-agnostic, meaning these workers have no preference for where they want to live. This creates a new consideration in the ongoing geographic competition for skilled labor.

Dr. Budil, Dr. Walker and Dr. Hindman agreed and confirmed that this is becoming a challenge within their respective organizations: work-life balance considerations are mounting, and their ability to source talent has truly morphed from local to global. At the same time, the challenge to create and shape a company culture in this climate is growing. Ms. Wince-Smith added that mentorship and social skills are important and expressed her concern about the potential loss of these intangibilities.

Since April 2021, more than 15 million employees have quit their job, even without having a new job lined up and despite many companies offering pay raises and “thank you bonuses”. In an effort to investigate what triggered this attrition, a [McKinsey study](#) covered almost 6,000 employees of working age and 250 managers specializing in talent of large and mid-sized organizations. The result, amongst others, was that companies’ increase in transactional compensations to encourage employees to stay had limited impacts—after the pandemic, work-life balance and non-financial reasons play a much more important role. The increase in attrition, even without a new job lined up, also meant that even those employees who remained at companies could be encouraged to look for other jobs in light of the hiring increase.

Together with the found “location agnostics trend,” employees who would work from anywhere or—via remote work—are already doing so, this situation is adding to the increased competition between companies on local, and increasingly also global, levels.

Concluding Thoughts

Ms. Wince-Smith addressed the important role that government plays in the way nations create value and compete to grow. She also noted how the U.S. Department of Energy has created an outstanding network of national laboratories that are collaborating at great scale and pulling together resources. But addressing the convergence of new technologies highlighted during the webinar will be an increasingly large challenge for any company, industry or nation, especially considering that many of the existing structures in government and the innovation ecosystem remain stove-piped. But what remains clear is that stakeholders in the United States must work diligently to increase the speed of technological disruption, and must work to support and establish the institutions and frameworks that will enhance sustainable and inclusive innovation for its citizens.

Panelist Bios

Dr. Kimberly Budil

Laboratory Director
Lawrence Livermore National Laboratory



Kim Budil is the 13th director in the history of Lawrence Livermore National Laboratory. She also serves as president of Lawrence Livermore National Security (LLNS), LLC. Budil leads a workforce of approximately 7,400 employees and manages an annual operating budget of approximately \$2.7

billion.

As director, Budil sets the strategic vision for the Laboratory and exercises broad delegated powers to ensure successful execution of programs and operations to advance science and technology for the nation and to maintain an outstanding and diverse workforce. The director leads the development and implementation of the Laboratory's scientific vision, goals and objectives, and serves as the Laboratory's highest-level liaison with DOE, NNSA, the LLNS Board of Governors, the University of California and other government, public and private organizations.

She shares the responsibility, along with the directors of Los Alamos and Sandia national laboratories, of providing the president, through the secretaries of Energy and Defense, an annual institutional assessment of the state of the nuclear weapons stockpile

in terms of safety, security and effectiveness, and whether confidence in the stockpile can be maintained without a nuclear test.

Budil came to the Lab in 1987 as a graduate student in Laser Programs and became a postdoc in the weapons program in 1994. Over her career she has held roles of increasing management responsibility across LLNL programs, including Weapons and Complex Integration, in which she served as principal associate director, as well as Global Security, the National Ignition Facility and Physical and Life Sciences. Budil served twice as a detailee in Washington, D.C., first at the NNSA in the Office of Defense Science and then as a senior adviser to the undersecretary for Science in the Department of Energy. She was the vice president for national laboratories in the UC Office of the President, in which she was responsible for the governance and oversight of Lawrence Livermore, Lawrence Berkeley and Los Alamos national laboratories, as well as development of strategic partnerships between the 10 UC campuses and the laboratories. She also was the executive committee governor on the LANS and LLNS Boards of Governors, and she is a Hertz Foundation Fellow and board member.

Budil received her Ph.D. in engineering/applied science from the University of California, Davis in 1994 and obtained her bachelor's degree in physics from the University of Illinois at Chicago in 1987. She has published extensively in scientific and programmatic contexts and participated in numerous professional and community outreach activities.

Dr. Jahmy Hindman

Chief Technology Officer
Deere & Company, and
Chair, Technology Leadership and Strategy Initiative



Jahmy Hindman is Chief Technology Officer of Deere & Company, a position he has held since July 2020. Hindman is responsible for building Deere's "tech stack," the company's intuitive end-to-end equipment solution made up of hardware and devices, embedded software, connectivity, data

platforms, and applications. He will lead the company's Intelligent Solutions Group, the global network of technology/innovations centers, and the shared engineering function.

Working in both the Agriculture & Turf and Construction & Forestry divisions, Hindman brings more than 20 years of advance technology, artificial intelligence, product engineering, and manufacturing experience to the role. Most recently, he led the engineering team for Deere's flagship tractor product line.

Hindman joined John Deere in 1996 as a test engineer, working on backhoes and crawlers. Since then, he's been in leadership roles such as Global Manager, Architectures, Systems and Modules; platform architect for the tractor product lines; Manager, Large Tractor Chassis; general manager and engineering manager at Deere's construction-equipment factory in Tianjin, China; and product marketing manager and engineering supervisor for four-wheel-drive construction loaders.

Hindman holds a bachelor's degree in mechanical engineering from Iowa State University as well as master's and doctoral degrees in mechanical engineering from the University of Saskatchewan. His doctorate focused on the application of artificial neural networks in heavy-equipment applications. He currently sits on the Industrial Advisory Council for Iowa State University's College of Engineering.

Dr. Robert Johnson

President
Western New England University, and
National Commissioner



Dr. Robert E. Johnson was appointed as the 6th president of Western New England University in August 2020, charged with leading the institution as it embarks on its second century.

His unyielding belief in higher education as a public good and as a path for transforming

individual lives has led him to dedicate his 30-year career to preparing students to adapt and succeed in a dynamic future—one where jobs as we know them may no longer exist, career mobility is the norm, and individuals are responsible for continuously adding and creating new value.

A future-focused thought leader and commentator on issues centering around the future of work, agile mind education, the agile university, and the sense of humanity imperative, Dr. Johnson believes students, through higher education, must develop divergent thinking skills, social and emotional intelligence, empathy, and a sense of humanity. These uniquely human capacities cannot be replicated by technology and, when paired with an entrepreneurial outlook and a value-creation orientation, are the hallmarks of success in a complex, hyper-connected world.

Recognizing that American higher education is at a unique juncture and that its role will be fundamentally different from the past because we are in a period of profound disruption, he views this as a catalyst for innovation and an opportunity to make institutions more responsive to the needs of the future.

A Detroit native, Dr. Johnson was inspired to attend Morehouse College by his late uncle Robert E. Johnson Jr., associate publisher and executive editor of JET Magazine and Morehouse classmate of Dr. Martin Luther King Jr. He encouraged Dr. Johnson's commitment to service and transforming the next generation of leaders, influencing his fundamental

conviction that humanity and civility must be central to all we do. As educated and engaged citizens on a planet with more than seven billion people, we are privileged and thus have a social responsibility not only to leave the world better than we found it but to inspire others to do the same.

Dr. Johnson is a member of the Council on Competitiveness and serves on its National Commission on Innovation and Competitiveness Frontiers. He also serves on the executive committee and is vice chair of the Massachusetts Business Roundtable, the board of MGH Institute of Health Professions, and the Intentional Endowments Network steering committee. He has also served on the Massachusetts Board of Higher Education, as vice chair of the Massachusetts Technology Collaborative, and as chair of the Worcester Regional Chamber of Commerce. He is also co-founder of the Massachusetts Digital Games Institute.

Dr. Johnson's leadership career spans nonprofit colleges and universities in the Northeast and Midwest, including public, private, urban, rural, small and large institutions, with enrollments from 2,000 to more than 25,000 students. This experience includes public research universities, one of the nation's largest single-campus community colleges, a large Catholic university, a historically Black university, and a turnaround and transformation of a small private college. His career reflects several firsts—as not only an African American leader but also the youngest person holding major senior administrative roles.

A proponent of innovation and entrepreneurship, hallmarks of Dr. Johnson's leadership include elevating institutional stature and competitive market position; national recognition; enrollment growth and resource development success; fast-tracked facilities and infrastructure improvements; and innovating for social impact when leading one of the first higher education institutions in the nation to achieve a 100% social impact goal for its endowment.

He has convened transformational conversations with industry, government, and academe that stimulated growth and regional economic opportunity, such as the 2010 Mass Impact Summit that led to

the creation of MassDiGI in 2011, and the annual Marine Science and Technology symposium series at UMass Dartmouth that helped launch the MERIT Center to support regional job growth and economic development for the "Blue Economy." Dr. Johnson holds a doctorate in higher education administration from Touro University International, formerly a division of Touro College, New York; a master's degree in education administration from the University of Cincinnati; a bachelor's degree in economics from Morehouse College; and a certificate in applied neuroscience from MIT Sloan School of Management. He is married to Michelle Jones-Johnson. They have two children, Jasmine and Alex.

Dr. Steven Walker

Vice President & Chief Technology Officer
Lockheed Martin, and
National Commissioner



Dr. Steven H. Walker is Vice President and Chief Technology Officer of the Lockheed Martin Corporation, where he is responsible for the company technology strategy, global research, mission development, and emerging operations technologies. He assumed the role in January 2020, and under

his direction the organization is shaping the next era of operational capability and innovation for Lockheed Martin. As the primary liaison to the US and international science and technology community, he manages strategic partnerships with government, industry, and academia to ensure the maturation and deployment of cutting-edge technologies.

Prior to joining Lockheed Martin, Dr. Walker was the Director of the Defense Advanced Research Projects Agency (DARPA) where he was responsible for driving development of breakthrough technologies and capabilities for use by the military. Throughout his 30+ years in government, he served in a variety of increasingly responsible positions as DARPA's Deputy Director and Deputy Assistant Secretary of the Air Force for Science, Technology and Engineer-

ing. In the later role he was responsible for developing the technology investment strategy for the Air Force's annual \$2 billion science and technology program and for providing functional management of more than 14,000 military and civilian scientists and engineers.

Dr. Walker is a Fellow of the American Institute of Aeronautics and Astronautics and a member of the National Academy of Engineering. He has also been awarded the Presidential Rank Award, the Air Force Meritorious Civilian Service medal, and the DoD Exceptional, Meritorious, and Distinguished Civilian Service medals. He holds a Ph.D. and B.S. in aerospace engineering from the University of Notre Dame, and an M.S. in mechanical engineering from the University of Dayton.

The Honorable Deborah L. Wince-Smith

President & CEO
Council on Competitiveness



The Honorable Deborah L. Wince-Smith is the President & CEO of the Council on Competitiveness, a non-partisan leadership coalition of CEO's, University Presidents, Labor Union Leaders, and National Laboratory Directors, all committed to developing policy solutions and national initiatives

to drive future productivity growth, prosperity for all Americans, and the global success of American business. She has more than 20 years of experience as a senior U.S. government official, as the first Senate-confirmed Assistant Secretary for Technology Policy in the U.S. Department of Commerce in the Administration of President George H.W. Bush, and as the Assistant Director for International Affairs in the White House Office of Science and Technology

Policy in the Reagan Administration. She served as a Senate confirmed member of the Oversight Board of the Internal Revenue Service in the Administrations of President George W. Bush and President Barack H. Obama.

Ms. Wince-Smith is also the President and Founder of the Global Federation of Competitiveness Councils (GFCC). She previously served on the Smithsonian National Board, the Secretary of State's Committee on International Economic Policy, the U.S. Naval Academy Foundation and, the Board of Governors of Argonne National Laboratory. She served as Chairman of the World Economic Forum's Global Agenda Council on Competitiveness and as a Public Director of NASDAQ-OMX.

Ms. Wince-Smith currently serves on the Advisory Committee of the Export-Import Bank of the United States (EXIM) and UNICEF. She is also a Commissioner on the Commission on the Theft of American Intellectual Property, and as a member of the Council 14 Council on Competitiveness Sustainability: Pursuing Innovation with Purpose of Japan's Science and Technology in Society (STS) Forum. As an expert in technology commercialization, Ms. Wince-Smith serves on the Board of Directors of Aerolase, Inc. and Q-Net Security, Inc., and she serves as the Vice Chair of the Board of the American College of Greece.

Ms. Wince-Smith graduated magna cum laude and Phi Beta Kappa from Vassar College and earned a Master's Degree in Classical Archaeology from King's College, Cambridge University. She has received Honorary Doctorates from Michigan State University, the University of Toledo, the Queens University Belfast, Worcester Polytechnic Institute, and the University of South Carolina.

Mr. Chad Evans

Executive Vice President & Secretary to the Board
Council on Competitiveness



As Council EVP overseeing all programs and initiatives, Chad develops and manages the Council's policy agenda and workstream, including: development of the Council's new, flagship National Commission on Innovation & Competitiveness Frontiers; creating both the Building University-Industry-

Lab Dialogue for Advanced Computing effort and the Exploring Innovation Frontiers Initiative with the National Science Foundation; forming the American Energy & Manufacturing Competitiveness Partnership with the U.S. Department of Energy; and, helping to shape and launch the National Engineering Forum.

In addition, Chad has built and shepherded over the past decade the Council's Technology Leadership and Strategy Initiative, engaging Fortune 500 chief technology officers, university vice presidents of research, and national laboratory deputy directors to make the policy and business cases for America's innovation-enabling investments in talent, technology and infrastructure.

He has also helmed C-suite innovation summits, dialogues and immersions across Latin America, Europe, Asia and Oceania. These efforts focused in particular in Brazil and Australia, where Chad created four U.S.-Brazil Innovation Summits and 20+ innovation learning laboratories across both nations, as well as launching the first-ever U.S.-Australia CTO Dialogue series.

Chad holds an M.S. from the Georgetown University School of Foreign Service, with an Honors concentration in International Business Diplomacy from Georgetown's Landegger Program. He has a B.A. in Political Science and International Affairs from Emory University.

He is Secretary to the Board of the Council on Competitiveness, Treasurer to the Board of the Global Federation of Competitiveness Councils, a member of the Texas A&M Engineering Experiment Station Advisory Board, an ARCS Foundation National Science and Engineering Advisory Council member, a U.S. German Marshall Fund Fellow, and a past member of the Lawrence Livermore National Laboratory Industry Advisory Council and the World Economic Forum Advisory Board on Russian Competitiveness.

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 laboratory directors—represent a powerful, nonpartisan voice that sets aside politics and seeks results. By providing real-world perspective to Washington 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's leadership group 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.

Council on Competitiveness

900 17th Street, NW, Suite 700
Washington, D.C. 20006
202 682 4292
Compete.org

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