



Compete.

Council on
Competitiveness

Technology Leadership & Strategy Initiative Dialogue 30

Summary Report

Lockheed Martin Global Vision Center

October 31, 2024

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Agenda

MORNING

8:30 Registration and Breakfast

9:10 Opening Remarks from TLSI Leadership

Dr. Steve Walker

Vice President and Chief Technology Officer, Lockheed Martin

The Hon. Patricia Falcone

Deputy Director for Science and Technology, Lawrence Livermore National Laboratory

Dr. Sally Morton

Executive Vice President, Arizona State Knowledge Enterprise, Arizona State University

The Hon. Deborah L. Wince-Smith

President and Chief Executive Officer, Council on Competitiveness

9:50 Snapshot of the Day

Mr. Chad Evans

Executive Vice President and Chief Operating Officer, Council on Competitiveness

10:00 Vision From the White House—The State of U.S. Technology and Innovation Competitiveness

Dr. Steve Walker will introduce the TLSI's 15th-anniversary special guest, who will participate in a chat and then take questions.

Dir. Arati Prabhakar

Former Assistant to the President for Science and Technology, and Former Director, Office of Science and Technology Policy, The White House

In her roles as Former Assistant to the President for Science and Technology and Former Director, Office of Science and Technology Policy, The White House, Dir. Arati Prabhakar was the leading voice defining, designing, and advocating for a cross-administration, forward-looking, technology policy. TLSI members had the chance to learn from her experiences in shaping the trajectory of U.S. global science and technology leadership.

11:00 Break

11:15 Working Lunch—In Conversation with the Special Competitive Studies Project

11:35 Dr. Steve Walker introduced the TLSI's luncheon keynote speaker

Mr. Ylli Bajraktari

President and Chief Executive Officer,
Special Competitive Studies Project and SCSP
Action Program

Mr. Bajraktari shared insights and priorities for more robust national policies related to AI and other emerging technologies—and how to understand and address the competitiveness challenges posed by China.

AFTERNOON

12:15 Break

12:30 Lockheed Martin Global Vision Center Tour

Participants moved beyond the meeting room and toured elements of the Global Vision Center

Space Experience Center is a customer mission-focused demonstration environment bridging distance and knowledge for LM and our customers' missions. Inside the SEC is a modular area with displays and virtual reality devices with content on our Space, Missile Defense, and Strategic Programs. You will also see the Pulsar, a non-program specific environment where Government stakeholders can influence and

interact with emerging LM and non-LM products integrated to demonstrate thought leadership and innovation in space security, resiliency, and multi-domain command and control through realistic threat vignettes.

LM Digital Engagement Center is a focused mission demonstration environments that enable the telling of highly visual, captivating stories using interactive visual exploration technologies and provide customized experiences for our customers. Every wall, every surface, and even the ceiling is digitally immersed with visuals everywhere the eye moves. There is no "static" content so every story can be personalized and customized depending on the audience.

Fighter Demonstration Center aims to provide an engaging and educational experience for our customers, showcasing LM's premier 5th generation fighter, the F-35 while also highlighting the various programs within our Aeronautics business area.

Rotary Wing Innovation Center is a world-class, interactive setting created to support customers' current and future mission success by highlighting LM's advanced technologies and proven performance in rotary wing aviation and mission systems.

1:30 Break

1:45 Framing the TLSI's *Compact for America*

TLSI Members reviewed the current edition of the *draft* *Compact for America*, and deliberate ideas and options for a 2025 release.

The *Compact* focuses on two major themes:

- Building a New Agile and Adaptive Defense Industrial Base for the 21st Century, and
- Reshaping the U.S. Innovation Ecosystem for an Era of Rapid Technological Change.

Dr. Steve Walker

Vice President and Chief Technology Officer, Lockheed Martin

The Hon. Patricia Falcone

Deputy Director for Science and Technology, Lawrence Livermore National Laboratory

Dr. Sally Morton

Executive Vice President, Arizona State Knowledge Enterprise, Arizona State University

The Hon. Deborah L. Wince-Smith

President and Chief Executive Officer, Council on Competitiveness

2:00 Session 1: Review, Refine, and Commit to Recommendations

In this session, we examined the key themes and recommendations surrounding the creation of a more secure and robust innovation ecosystem in the United States to ensure the future of the country's economic competitiveness, national security, and global leadership.

See the draft call to action for key themes and recommendations.

Moderator

Dr. Steve Walker

Vice President and Chief Technology Officer, Lockheed Martin

Kick-off Discussants

Dr. Carol Burns

Deputy Laboratory Director for Research, Lawrence Berkeley National Laboratory

Dr. Deb Crawford

Vice Chancellor, Office of Research, Innovation and Economic Development, University of Tennessee, Knoxville

Dr. Tommy Gardner

Chief Technology Officer, HP Federal, HP Inc.

3:00 Session 2: Brainstorm a 2025 Release Strategy

In this session, participants discussed elements of a strategy to release the *Compact for America*—timing, forum, method(s) to convey, etc.

Discussion question: “How to maximize the impact of ‘A Compact for Economic and National Security?’”

Moderator

The Hon. Patricia Falcone

Deputy Director for Science and Technology,
Lawrence Livermore National Laboratory

Kick-off Discussants

Dr. Walter Copan

Vice President of Research & Technology
Transfer, Colorado School of Mines

Dr. Andre Marshall

Vice President for Research, Innovation &
Economic Impact, George Mason University

Dr. Padma Raghavan

Vice Provost for Research & Innovation, Chief
Research Officer, Vanderbilt University

3:30 Council on Competitiveness—Catch Up: Competitiveness Conversations Across America and the National Competitiveness Forum

Mr. Chad Evans

Executive Vice President and Chief Operating
Officer, Council on Competitiveness

3:45 Closing Comments

The Hon. Patricia Falcone

Deputy Director for Science and Technology,
Lawrence Livermore National Laboratory

Dr. Sally Morton

Executive Vice President, Arizona State
Knowledge Enterprise, Arizona State University

Dr. Steve Walker

Vice President and Chief Technology Officer,
Lockheed Martin

The Hon. Deborah L. Wince-Smith

President and Chief Executive Officer, Council
on Competitiveness

4:00 Dialogue 30 Adjourns

Participants

TLSI CO-CHAIRS & COUNCIL LEADERSHIP

The Hon. Patricia Falcone

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Science & Technology
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Knowledge Enterprise
Arizona State University

Dr. Steven Walker

Vice President & Chief Technology Officer
Lockheed Martin

The Hon. Deborah L. Wince-Smith

President and CEO
Council on Competitiveness

Mr. Chad Evans

Executive Vice President and
Chief Operating Officer
Council on Competitiveness

GUEST SPEAKERS

Dir. Arati Prabhakar

Former Assistant to the President for Science and Technology, and Former Director, Office of Science and Technology Policy, The White House

Mr. Ylli Bajraktari

President & CEO
Special Competitive Studies Project & SCSP
Action Program

PARTICIPANTS

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Lawrence Berkeley National Laboratory

Dr. Walter Copan

Vice President, Research & Technology Transfer
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Dr. Deb Crawford

Vice Chancellor, Office of Research, Innovation
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Dr. Tommy Gardner

Chief Technology Officer, HP Federal
HP Inc.

Dr. Nancy Glenn

Vice President, Research and
Economic Development
Boise State University

Mr. Clenilson Goncalves

Business Development Director
Embraer-X

Dr. Joanna Groden

Vice Chancellor, Research
University of Illinois Chicago

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Director, Advanced Systems & Technologies
(AST)
Lockheed Martin

Dr. Andre Marshall

Vice President, Research, Innovation and
Economic Impact
George Mason University

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Vice President, Research & Innovation
University of Minnesota

Dr. Padma Raghavan

Vice Provost, Research & Innovation &
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Vanderbilt University

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Technical Assistant to the Chief Technology
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Lockheed Martin

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MUSE Deputy Program Manager
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Principal
Lockheed Martin

COUNCIL ON COMPETITIVENESS TEAM**Mr. Spencer Ballus**

Research Associate

Mr. Bill Bates

Senior Advisor

Mr. Casey Moser

Research Associate

Key Takeaways and Cross-Cutting Ideas

- 1. America Needs a New Narrative Around the Connection Between Technology Leadership and National Security:** Maintaining leadership in crucial technologies like semiconductors, AI, and nuclear energy is essential for shaping global influence and ensuring national security. The next decade will be pivotal, as adversaries are likely to increase coordination in their efforts to challenge American preeminence across a variety of security-related domains.
- 2. The United States Must Accelerate the Time Between Discovery and Commercialization:** The United States faces challenges in the timely transition and scaling of critical technologies due to outdated federal research incentives that do not promote rapid technology translation or collaboration. This delay allows adversaries to advance their technological capabilities faster, often leveraging stolen U.S. intellectual property to outpace American innovation.
- 3. Insufficient Incentives Hinder the Defense Industrial Base's Ability to Produce Innovations Essential for National Security:** The Department of Defense can strengthen the innovation ecosystem by incentivizing dual-use technologies that benefit both commercial and national security needs. Promoting competition and collaboration among commercial entities, defense organizations, academia, and venture capital could attract more contributors to the defense industrial base.
- 4. The United States Must Attract and Retain Top Talent:** Policies that support skilled immigration and retain foreign-born talent trained in American universities are critical to giving the United States an edge over international competition. Similarly, workforce training programs, especially in technical fields, are essential for innovation and manufacturing.
- 5. Public-Private Collaborations Require Framework Modernization:** The evolving innovation landscape demands stronger partnerships between government, industry, and academia. To stay competitive, the United States must transition from traditional government-led research models to an industry-driven framework that leverages private-sector expertise but also, importantly, aligns with national interests.

- 6. Integrated Ecosystems are Critical to Sustainable Innovation:** Innovators, researchers, entrepreneurs, businesses of all sizes and types, higher education institutions, and government entities must all embrace opportunities for collaboration and partnership, which allows for the exchange of ideas, institutional knowledge, and resources necessary for discovering breakthroughs and scaling innovations.
- 7. Global Collaboration with Allies Strengthens the U.S. Competitive Position:** International research collaborations among like-minded, highly skilled partners are essential for maintaining U.S. leadership in science, technology, and innovation, especially in light of China's population and swift rise as a global competitor.
- 8. Research Security is Necessary but Must Become Administratively Manageable to Prevent Stifling Innovation:** Effective research security is critical for protecting sensitive data and intellectual property, as well as promoting academic collaboration. A unified "one government" approach to security protocols, transparent policies, and streamlined compliance measures would help universities safeguard their innovations while lessening required administrative resources.
- 9. Clear and Balanced Intellectual Property Protections are Essential for Fostering Innovation:** Addressing barriers such as high patenting costs, lack of international I.P. protection, and uncertainty in rights would make commercializing innovations and products more attractive and help ensure more taxpayer-funded research benefits U.S. interests.
- 10. Federal Research and Development Funding is Foundational to the U.S. Innovation Ecosystem and Must Grow:** Debt-driven fiscal constraints and the need for balanced public-private collaboration remain ongoing challenges for sustaining U.S. leadership in innovation.
- 11. Data-driven Approaches to Policymaking Help Innovation Strategies to be Effective, Equitable, and Aligned with National Priorities:** Policymakers should evaluate past initiatives to glean insights that inform future actions and promote increased data sharing among institutions.

Opening Remarks from TLSI Leadership



Speakers

The Hon. Patricia Falcone

Deputy Director for Science and Technology,
Lawrence Livermore National Laboratory

Dr. Steve Walker

Vice President and Chief Technology Officer,
Lockheed Martin

The Hon. Deborah L. Wince-Smith

President and Chief Executive Officer, Council
on Competitiveness

Dr. Sally Morton

Executive Vice President, Arizona State
Knowledge Enterprise, Arizona State University

Session Overview

The opening session of the Technology Leadership and Strategy Initiative (TLSI) Dialogue 30, provided a platform for Dr. Sally Morton, The Hon. Pat Falcone, Dr. Steve Walker, and The Hon.

Deborah L. Wince-Smith to frame the day's discussion. Their remarks focused on the importance of advancing U.S. technology to support national security and drive economic growth.

Key Session Insights

The Hon. Deborah L. Wince-Smith opened the TLSI Dialogue 30 with enthusiasm for the day’s discussions and tours, which were hosted at Lockheed Martin’s Global Vision Center. Welcoming attendees, she highlighted that over its 15-year history, TLSI has advanced discussions on innovation, business investment, and infrastructure that underpin the U.S. economy and national security. Her remarks set the tone for a day focused on examining these themes in the context of a rapidly changing global landscape.

Reflecting on the progress TLSI has made over the years, Ms. Wince-Smith looked back on the first-ever TLSI report, which mentioned the iPod as a high-tech innovation! Moving to more recent developments, she identified fields with remarkable innovation since then, such as semiconductors, artificial intelligence (AI), quantum computing, advanced nuclear power, nuclear fusion, energy storage, biotech manufacturing, and industrial space. The rapid pace of technological progress is reshaping the defense and innovation industrial base, making the TLSI’s work more relevant than ever.

Ms. Wince-Smith also highlighted the societal benefits of technological advancements: Agricultural advances have optimized crop yields while reducing waste, and medical treatments, particularly for cancer, are set to move beyond traditional approaches like chemotherapy and radiation—“medieval bloodletting” by comparison. The transformation of urban and rural environments through autonomous systems and smart infrastructure were also given as “stunning” examples of the pace of change across sectors and communities.

Another significant shift Ms. Wince-Smith noted was the growing role of the private sector in innovation. She cited SpaceX’s transformation of the space industry as an example, as well as the emer-



“The private sector remains in the innovation driver’s seat, from its pioneering role in shaping industrial space, to its nascent role in developing a nuclear fusion industry. This positions the United States as the global pacesetter in addressing society’s most critical challenges.”

The Hon. Deborah L. Wince-Smith
President and Chief Executive Officer
Council on Competitiveness

gence of small modular nuclear reactors spearheaded by tech companies as a response to the growing demand for electricity for AI data centers.

Turning her focus to mounting international competition, Ms. Wince-Smith highlighted China’s ambitious industrial strategy, which includes developing “ten strategic emerging industrial bases,” “100 strategic industry clusters,” and “1,000 strategic industry ecosystems” as a way of growing its influence in global innovation. She warned about the risks of China’s opaque

data-sharing practices, describing their approach as one where they aim to gather extensive global data while maintaining a closed system.

On the domestic front, Ms. Wince-Smith reviewed recent U.S. government initiatives, such as the CHIPS and Science Act, the Infrastructure Act, and the Department of Commerce hubs. While these efforts are promising steps for strengthening U.S. competitiveness, without long-term funding support, they will not deliver the needed transformative impact.

Ms. Wince-Smith then teed up the major work of Dialogue 30: advancing the TLSI's *Compact for America*, which will be released in 2025 and aims to provide the Trump Administration with strategies to support innovation and infrastructure over the long term.

Following Ms. Wince-Smith, Dr. Steve Walker underscored the importance of the day's agenda, positioning it as a pivotal moment for the key deliverable from the TLSI's past two years of dialogue, aimed at accelerating tech-based innovation in the United States.

Dr. Walker provided an overview of Lockheed Martin's current focus and contributions to national security, describing Lockheed Martin CEO Jim Taiclet's leadership as oriented towards "21st-century security." This vision seeks to incorporate cutting-edge digital technology, including AI and advanced biotechnology, into defense initiatives. Dr. Walker noted that while Lockheed Martin excels in producing various defense platforms, the company's "21st-century security" initiative aims to accelerate the implementation of emerging—specifically digital—technologies into defense applications.

Dr. Walker also noted Mr. Taiclet's emphasis on "anti-fragility," a concept focused on enhancing Lockheed Martin's resilience to external disruptions and the capacity to increase production swiftly when needed. He referenced the lessons learned from the conflict in Ukraine, where



“We all saw what happened with Ukraine. It taught us that being able to scale quickly is really important for national events. At Lockheed Martin, we are working toward producing double the quantity and the capacity that we have in the past to meet the threats of today.”

Dr. Steve Walker

Vice President and Chief Technology Officer
Lockheed Martin

a high-intensity, material-heavy battlefield has strained Western arms manufacturers, noting that “scaling quickly is important for national defense.” This experience taught Lockheed Martin that some military operations could benefit from “lower cost, high mass type platforms,” such as the Javelin missile system, of which Lockheed Martin is currently doubling its production capacity.

The third priority Dr. Walker addressed was Lockheed Martin's commitment to increasing interoperability with allies. He recognized Dr. Tony Lindsay from Lockheed Martin's Australia division and noted the significance of collaboration internation-

ally, highlighting the company's intention to further expand production facilities abroad. He mentioned planned or existing facilities in countries such as Australia, Poland, Romania, and Italy, explaining that this international expansion aims to enhance production resilience and scalability in the event of conflict anywhere in the world.

The Hon. Pat Falcone then shared opening thoughts on the critical role of the National Laboratory system in bolstering the U.S. innovation ecosystem. Established in the aftermath of World War II, with origins in the Manhattan Project, she noted how the laboratories have a significant role in addressing significant security, economic, and scientific challenges that have the potential to enhance the well-being of American citizens.

Dr. Falcone made clear the scale of the national laboratory enterprise, totaling 80,000 individuals across 17 laboratories, including 50,000 scientists and engineers, and she emphasized the laboratories' leadership in "exquisite computation," which involves both advanced scientific simulations and, increasingly, applications of artificial intelligence. The laboratories manage significant scientific resources, including user facilities accessible to researchers from the United States and around the world, supporting a broad spectrum of scientific endeavors that would be impossible without this preexisting infrastructure.

Dr. Falcone discussed the laboratories' contribution to basic science, noting that the U.S. Department of Energy (DOE) is the largest funder of research in physical sciences and computing in the United States, and second only to the Department of Defense in terms of research and development funding. The DOE also stands out as the only civilian research agency that is part of the intelligence community.

Moving to the collaborative nature of the national laboratories, Dr. Falcone underscored their commitment to advancing scientific careers and fostering partnerships with universities. She cred-



“How are we going to create partnerships and educate our citizens for the next decades? There are a lot of questions here, and it requires all of us to work together.”

The Hon. Patricia Falcone

Deputy Director for Science and Technology Law
Lawrence Livermore National Laboratory

its these partnerships not only for training future scientists and engineers but also for recruiting them to work in the laboratory system.

Dr. Falcone's remarks also focused on the laboratories' efforts in community-engaged research, particularly in energy transformation. She shared an example of the work being done at Lawrence Livermore National Laboratory, where partnerships with communities in Kern County and the Central Valley aim to develop carbon capture and direct air capture prototypes, an approach that reflects a shift toward more inclusive energy transformation practices that recognize the critical role of community input in the rollout of new technologies.

Ms. Falcone also touched on fusion energy as an exciting and challenging field, especially for Lawrence Livermore, which has demonstrated first-of-their-kind fusion reactions at its National Ignition

Facility. Though substantial technical hurdles to overcome, she expressed optimism about fusion's future, particularly due to growing private sector investment, which she noted now surpasses government funding. This trend surfaces complex questions about government-private sector partnerships, however.

Elaborating on the policy challenges related to fusion energy, she gave the example of access to government-developed computational codes that enable high-energy-density science research. These codes are a product of decades of government investment and carry potential nuclear proliferation risks. But how do you determine how to share this knowledge responsibly—that is, safeguarding national security without stifling innovation?

Dr. Falcone then touched on the critical role of computing, particularly artificial intelligence (AI), in advancing science. She noted that the DOE has historically maintained a substantial presence on the "Top 500" list of the world's fastest computers, which underscores its commitment to computational power; currently, the first, second, and third most powerful computers in the world all reside at U.S. DOE National Laboratories. AI, she explained, has become integral to scientific research across various domains, with around 20 percent of the laboratories' AI efforts dedicated to developing AI methods and the remaining 80 percent focused on applying AI in scientific research.

Lastly, Dr. Falcone emphasized the importance of international partnerships and strategic alliances, particularly as they relate to U.S. security and deterrence. She argued that science and technology are essential components of these alliances, serving as "pillars of those relationships." While the United States has historically supported international collaboration in science and technology, it is now increasingly important to approach these partnerships with a strategic focus, especially given the more contentious global landscape.

Dr. Sally Morton framed her opening remarks on three crucial points: Workforce development, knowledge creation and application, and place-based innovation.

Her first point centered on the importance of creating a workforce fit for a new innovation economy. While her institution, Arizona State University (ASU), conducts substantial research, the most valuable output it generates is its students. She stressed that workforce development, in all its forms—whether through degrees, credentials, or short courses—is critical. As a near example, ASU is increasingly focused on technical training, such as semiconductor technician programs in the Phoenix Valley, as an example of responding to workforce needs. Despite having 180,000 students, Dr. Morton stressed that ASU has managed to maintain a sense of community for each individual student, enabling them to feel supported throughout their academic journey, leading to a higher likelihood of successful completion of the degree or course. She called for a national approach to producing educational excellence at scale to avoid leaving many people behind, as has too often been the case.

The second point Dr. Morton addressed was the need for a shift in how knowledge is collaboratively developed and applied. She argued the importance of translating research into practical solutions quickly and effectively, as society faces increasing challenges. She stressed the importance of "use-inspired" academic research and the need for quicker transfer of research to meet the needs of sectors like defense.

Dr. Morton's third point focused on the significance of place-based innovation and the need for sophisticated coordination in large-scale funding initiatives, offering examples from ASU's microelectronics commons hub and National Science Foundation engine project as successful models. She explained that while the Department of



“The complexity of the issues that we’re facing requires this changing of the way we collaborate. At the Arizona State Knowledge Enterprise, we say we are changing the way the world solves problems.”

Dr. Sally Morton

Executive Vice President, Arizona State Knowledge Enterprise, Arizona State University

Defense was shifting funds from core infrastructure to project-specific budgets for the hubs, the long-term sustainability of these initiatives was uncertain, and more federal funding might be required. She also emphasized the importance of coordination at a national level across major innovation hubs to ensure greater impact and called for a cohesive national plan to integrate these hubs effectively.

In closing, Dr. Morton reiterated the urgency of the moment, asking all TLSI participants to engage actively in the discussions with energy and ideas to support the day’s overarching goal of enhancing U.S. leadership in innovation and national security.

Snapshot of the Day



“The Council on Competitiveness pioneered in the late 1980s and early 1990s with a range of CEOs and university presidents, as well as Michael Porter at the Harvard Business School, the concept of ‘clusters of regional innovation.’ We were the first organization in the world to move beyond qualitative assessments of regional leadership and performance, to quantify the inputs and outputs of an innovation cluster.”

Mr. Chad Evans

Executive Vice President and Chief Operating Officer
Council on Competitiveness

Session Overview

Mr. Chad Evans gave a brief snapshot of the day's agenda, emphasizing the significance of upcoming discussions on competitiveness, particularly the *Compact for America*.

Key Session Insights

After sharing the day's agenda, Mr. Evans highlighted the historical roots of the Council's interest in regional innovation. He first referenced the Council's pivotal role in the late 1980s and early 1990s when it worked with Michael Porter of Harvard Business School to pioneer the concept of innovation clusters and regional innovation. The Council was the first organization to quantify what a "cluster" of innovation looked like, which laid the foundation for the Council's place-based innovation work. He recognized that this concept had evolved into the more modern focus on "place-making innovation," where efforts were increasingly intentional in shaping regional innovation ecosystems.

Mr. Evans pointed out that if properly sustained, including through federal resources, the new hubs and engines of innovation could grow innovation ecosystems across the country to previously unimaginable levels. Later in the day, Mr. Evans shared more about the Council's ongoing place-making innovation work through its "Competitiveness Conversations Across America" series aimed at engaging communities nationwide on issues of expanding the innovation economy.

Vision from the White House— The State of U.S. Technology and Innovation Competitiveness



“Every breath that you draw, and every sip of water you drink is protected by the research that led to environmental regulations for safety. Everything we understand about ourselves and the biodiversity of this beautiful blue planet requires federally funded R&D.”

Dir. Arati Prabhakar

Former Assistant to the President for Science and Technology

Former Director, Office of Science and Technology Policy, The White House

Session Overview

In her roles as Former Assistant to the President for Science and Technology and Former Director, Office of Science and Technology Policy, The White House, Dir. Arati Prabhakar led the science agenda for the Biden Administration. She was the executive branch’s leading voice defining, designing, and advocating for a cross-administration, forward-looking, technology policy. TLSI members had the chance to learn from her experiences in shaping the trajectory of U.S. global science and technology leadership.

Key Session Insights

Dir. Prabhakar began her remarks with an anecdote from President Biden. When asked Chinese President Xi Jinping to define America, the President responded with a single word: Possibilities. According to Dir. Prabhakar, harnessing the United States’ scientific and innovation possibilities requires major investment in R&D at the federal level, ensuring all Americans have access to the opportunities to contribute to and benefit from innovation.



Dr. Steve Walker, Vice President and Chief Technology Officer, Lockheed Martin; The Hon. Patricia Falcone, Deputy Director for Science and Technology, Lawrence Livermore National Laboratory; Dir. Arati Prabhakar, Former Assistant to the President for Science and Technology, and Former Director, Office of Science and Technology Policy, The White House; The Hon. Deborah L. Wince-Smith, President and Chief Executive Officer, Council on Competitiveness; Dr. Sally Morton, Executive Vice President, Arizona State Knowledge Enterprise, Arizona State University; and Mr. Chad Evans, Executive Vice President and Chief Operating Officer, Council on Competitiveness.

Efforts to bolster federal science spending have been a success for the Biden administration, with federal R&D funding increasing 24 percent between 2021 and 2023, from \$161 billion to \$200 billion. However, Dir. Prabhakar acknowledged that fiscal constraints in 2024 had stalled some of this progress, with federal R&D budgets remaining flat or experiencing slight decreases. Despite setbacks, she stressed the importance of returning to a growth trajectory, especially as China's R&D spending continued to grow—27 times over the past 25 years—and now China is a close second to the United States and even outpacing Europe's R&D spending by as much as 40 percent.

While federal funding for R&D was flat in 2024, private innovation investment is growing sharply. While this is positive for the United States, Dir. Prabhakar stressed private investment cannot be a

substitute for public spending, especially in basic, foundational research. Further, the continued flow of public dollars is even more urgently needed for public responsibilities, including national security, public health, and education. While billions are being poured into fields like AI, the government must continue to fund comprehensive, and at times disruptive, innovation.

Today, corporations like Google and Nvidia possess AI R&D budgets that frequently dwarf the federal government's investments. In this emerging landscape of private investment, the relationship between the public and private sectors must evolve to foster closer alignment between the objectives of private AI companies and national priorities around curbing discrimination, misinformation, and cybercrime. To ensure advancements in AI benefit the country and its citizens, Dir. Prabhakar made the case for a

substantial increase in direct federal investment in the sector. This investment should focus on developing robust data and computing infrastructure, foundational research in AI safety, and applications related to national security, health, and transportation. Highlighting the potential for an annual investment of [\\$32 billion in AI R&D](#), driven by bipartisan recommendations and National Security Commission on Artificial Intelligence, Dir. Prabhakar argued such funding is essential for keeping pace with technological progress and the United States' global rivals. She also noted that despite some structural roadblocks, discussions with industry leaders are paving a path where AI's future will benefit the public and private companies alike.

The Director reminded attendees that she entered her new role as the President's Chief Advisor for Science and Technology in October 2022, just a month before the release of ChatGPT, a development that reshaped the AI landscape and ignited the public AI discussion going on today. Dir. Prabhakar had the honor of demonstrating ChatGPT to President Biden. This fired the starting gun to develop action plans to deal with the effects of AI across business, security, and society—including organizing greater global engagement and collaboration, building guardrails via regulation, and catalyzing voluntary industry processes.

While AI has myriad potential uses, one of the most exciting is how it may impact healthcare, according to the Director. AI-driven drug detection using DARPA-funded AI models was one of the applications Dir. Prabhakar was particularly excited about. However, she noted her concern that drug development is slow and costly, with only a small number of new medicines approved each year. Fortunately, the Advanced Research Projects Agency for Health (ARPA-H) is creating models to predict drug toxicity and pharmacokinetics with the explicit goal of accelerating the FDA's approval processes. She also noted con-

cern about the potential of bad actors using AI to create biothreats, and she noted more protective measures were needed.

Dir. Prabhakar then highlighted the importance of protecting intellectual property from competitors who might exploit or steal critical technologies—a theme echoed throughout the day from TLSI members. But she also stressed the necessity of a nuanced approach to research security to ensure that essential scientific advancements are not hindered by excessively burdensome and restrictive security measures.

In Dir. Prabhakar's view, the key to maintaining U.S. leadership lies not only in protecting intellectual property but also in ensuring competitiveness through seamless collaboration between the private and public sectors. She stressed that connecting all elements—basic research, venture capital, and international collaboration—was vital for developing a dynamic, forward-thinking innovation ecosystem that could stand up to growing competition from China and other countries, which are increasing their investments and sophistication in science and technology.

Shifting topics, the Director noted that to tackle urgent global challenges such as climate change and complex public health issues, scientific and technological collaboration has become a cornerstone of U.S. science policy, especially within bilateral alliances like those with the United Kingdom and Japan. Multilateral forums like the G7 and G20 also provide platforms for the world's leading innovators to address global problems. Dir. Prabhakar made the case for the need to remove barriers to international partnerships, citing her experiences in Italy during the G7 Science and Technology Ministerial as a successful example of global collaboration.

As the Director concluded her initial remarks, Dr. Walker opened the floor to questions. Dr. Shashank Priya, Vice President for Research and Innovation at the University of Minne-



Dr. Steve Walker, Vice President and Chief Technology Officer, Lockheed Martin; Dir. Arati Prabhakar, Former Assistant to the President for Science and Technology, and Former Director, Office of Science and Technology Policy, The White House; and The Hon. Deborah L. Wince-Smith, President and Chief Executive Officer, Council on Competitiveness.

sota, then expressed concerns regarding the absence of centralized data hubs that could enhance AI research, particularly in sectors such as healthcare and hypersonics. He

highlighted the challenges of aggregating data from diverse sources—including hospitals and insurers—and advocated for the establishment of trusted national data hubs to streamline the movement of data for AI training. Addressing the issue of data ownership, where proprietary data often remains inaccessible due to privacy concerns or corporate reluctance, Dir. Prabhakar highlighted efforts to develop data infrastructure that enables broader access across AI applications. She pointed to the challenges of getting pharmaceutical companies to share clinical data for improving drug design as a notable example.

Concluding her thoughts, Dir. Prabhakar commented that for her the government’s role in investing in AI is about the profound benefits AI-driven discoveries can have in cancer treatment, traffic congestion, public health, and other impacts that will improve productivity and American lives. Congress also understands the

potential of these investments. Dir. Prabhakar cited the bipartisan passage of the CHIPS and Science Act, which bolstered basic research through agencies like the National Science Foundation (NSF) and the U.S. Department of Energy’s Office of Science. Although she expressed frustration over the lack of progress in appropriations, Dir. Prabhakar remained optimistic about future opportunities through upcoming appropriation cycles and emergency supplemental funding. She expressed a sense of hope, despite the challenging global landscape.

Then, thanking Dir. Prabhakar for her leadership and advocacy, Dr. Walker described her as the ideal person for the job of leading the executive branch’s S&T efforts. He recognized her ability to blend expertise in both technology and policy, a combination he believed made her exceptionally well-suited to drive innovation forward. In response, Dir. Prabhakar humbly reflected on her journey, and reminded all present that perseverance and collaboration were critical when navigating uncertain times.

Working Lunch—In Conversation with the Special Competitive Studies Project

Session Overview

Mr. Ylli Bajraktari, President and CEO of the Special Competitive Studies Project (SCSP), joined the TLSI 30 Dialogue over a working lunch, discussing his perspective as the head of an organization promoting an AI-focused competitive agenda for the United States.

Key Session Insights

Mr. Bajraktari began with his experience at the National Security Commission on Artificial Intelligence (NSCAI), an organization that Congress established in 2018 to address the rise of emerging technologies and artificial intelligence. Congress's reason for creating the NSCAI was twofold: acknowledging private sector concerns about AI's transformative potential, and growing recognition of China's rapid technological advancements and potential as a global competitor. The NSCAI's public-private partnership united leaders across academia, government, and industry—including prominent figures like Andy Jassy of Amazon and Safra Catz of Oracle.

The commission's first-year efforts involved a comparative assessment of U.S. and Chinese AI capabilities. Mr. Bajraktari described a critical meeting in which private sector representatives had asked the intelligence community for an evaluation of U.S. standing relative to China. The



“Technology really is the central competition. Whoever by the end of this decade has created a set of technologies for the future will define the rules of the road and will set the values for the rest of the century.”

Mr. Ylli Bajraktari

President and Chief Executive Officer, Special Competitive Studies Project & SCSP Action Program

resulting report from this initial phase concluded that, although the U.S. led in AI capabilities, China was closing the gap fast and trailing by only “16 to 18 months.”

In 2021, the NSCAI published a 756-page report packed with legislative recommendations to strengthen national security through organized, well-funded technological initiatives.

Mr. Bajraktari explained how the SCSP sought to adopt a framework inspired by the Cold War-era "Special Studies Project," which Henry Kissinger once led. The original Kissinger-era Special Studies Project brought together luminaries of the time to create a plan of action for the educational system, innovation ecosystem, and military-industrial complex to win the technological battle of the Cold War. Mr. Bajraktari and his colleagues from the commission joined the SCSP to pursue similar objectives.

Mr. Bajraktari predicted that the period from 2025 to 2030 would be particularly fraught, with adversarial nations like China, Russia, Iran, and North Korea coordinating efforts to challenge U.S. influence on the global stage. And technological leadership will play a decisive role in shaping geopolitical influence in the coming decades. If a country or set of countries can establish technological dominance by 2030, they will have the power to shape the rest of the century. This, Mr. Bajraktari argued, is the gravity of the technological race—a generational competition with profound implications for national security, innovation, and global leadership.

In discussing the complexities of the era, Mr. Bajraktari highlighted the intersection of technologies like AI and energy with mounting geopolitical tensions. He suggested the United States could better prepare itself by adopting a model akin to the Strategic Scientific and Policy (SSP) framework from the 1950s, which fostered collaboration among national security, academia, and the private sector. He advocated for a cohesive approach to keep the U.S. competitive globally, proposing the formation of a Technology Com-

petitiveness Council similar to what the Council on Competitiveness called for in its seminal 2020 [*Competing in the Next Economy*](#) report.

To make the stakes clear for all attendees, Mr. Bajraktari provided an example of a major U.S. technology policy misstep: the 5G race with China, which the United States lost. He argued that fragmented leadership among OSTP, the National Economic Council, and the National Security Council enabled the global deployment of China's Huawei Technologies, which has put the U.S. at a significant, long-term disadvantage. China's dominance in electric vehicles (EV) was another example. According to Mr. Bajraktari, consolidating technological leadership at the highest levels—creating more collaboration and authority for the nation's most influential scientific leaders—could better align academia, industry, and government to respond to fast-paced advancements so the next 5G technology is led by the United States, not China.

Mr. Bajraktari then discussed the need to boost non-defense R&D funding. He advocated for NSCAI's recommendation to increase the budget to \$32 billion by 2026, following an incremental approach since 2021 when the United States invested between \$1.5 and \$3 billion. Although only \$4 billion had been allocated thus far, he noted bipartisan support from Senators Schumer, Young, Rounds, and Heinrich, who were pushing for an increase to \$8 billion. These funds, Mr. Bajraktari argued, are necessary to support institutions like the NSF and federal laboratories. But greater advocacy for investment is needed, and maintaining competitiveness with China requires continuous efforts to educate U.S. legislators on technological challenges and opportunities.

Workforce development and retention is also a critical area of concern for Mr. Bajraktari. He raised three key issues in creating a workforce ready to compete:

1. Making science and technology careers more appealing to American youth,
2. Creating pathways for international talent to remain, and
3. Facilitating skilled workers' integration into government roles.

Referring to Senator Schumer's decade-long support for "stapling green cards to PhD graduates' diplomas," he highlighted the ongoing struggle to keep skilled immigrants in the United States. With Canada recently attracting 20,000 international students unable to secure U.S. green cards, Mr. Bajraktari stressed that America must offer similar opportunities to stay globally competitive, or it risks losing talent to countries more willing to attract top global talent.

To strengthen the government's talent pipeline, Mr. Bajraktari recommended initiatives that would enable private-sector and academic experts to take on flexible roles within government. He suggested the creation of a U.S. Digital Service Academy, similar to military academies, where graduates would commit to five years of public service. He also proposed a Reserves program, which would allow technology experts to serve the government for 15 days a year without leaving their primary jobs, letting them provide valuable expertise to government agencies.

In closing, Mr. Bajraktari voiced concerns over China's aggressive economic strategy, citing its practice of subsidizing industries like solar panels to dominate sectors and undercut global competition. China's rapid development of large language models, while not yet matching U.S. capabilities, underscores the need for the United States to accelerate innovation across both public and private sectors.

The Lockheed Martin Global Vision Center



After lunch, participants in the TLSI 30 Dialogue toured the Lockheed Martin Global Vision Center, with four experiences highlighting various aspects of Lockheed Martin's security and non-security portfolios. These interactive tours provided attendees with a better sense of Lockheed Martin's diverse businesses and capabilities.



Space Experience Center

The Space Experience Center was the site of the TLSI 30 Dialogue's main session, and it kicked off the tour by sharing more about Lockheed Martin's extensive space operations. The company is heavily involved in the space sector, designing satellites for communications, weather monitoring, defense applications, and earth-science applications. Lockheed Martin also has built probes that have visited eight planets and is the primary builder of the Orion capsule designed to return humans to the Moon by 2030.



Digital Engagement Center

The Digital Engagement Center, the next stop on the tour, is an immersive multimedia presentation space with the ability to present the capabilities of Lockheed Martin's advanced systems, allowing company leaders to demonstrate to potential clients how their products can serve in a variety of applications. TLSI participants were treated to a presentation on Lockheed Martin's integrated fire-fighting systems, which use physical assets like helicopters, drones, and infrared satellites in conjunction with digital systems like real-time modeling and AI to better predict, contain, and fight wildfires while minimizing risks to first responders and property.



Fighter Demonstration Center

The Fighter Demonstration Center then gave attendees a closer look at Lockheed Martin's flagship fighter jet, the F-35 Lightning II. This fifth-generation stealth aircraft is the most advanced fighter jet in the world, and it has been purchased by more than 20 allied nations. TLSI participants were allowed to get up close with the F-35, flying a simulator used by test pilots to experience take-off, target engagement, and carrier landings.



Rotary Wing Innovation Center

Finally, the Rotary Wing Innovation Center demonstrated Lockheed Martin's wide range of helicopters and rotary wing aircraft, including unmanned vehicles and next-generation helicopters. The center allows potential customers to analyze how different aircraft can be integrated into their defense systems at different levels.

Framing the TLSI's *Compact for America*

Session 1: Review, Refine, and Commit to Recommendations

Session Overview

The first TLSI *Compact for America* framing discussion focused on strengthening the substance and organization of the document.

Key Session Insights

"Our ability to innovate at speed and scale will determine...our competitive position in the world order for the rest of the century," said Dr. Deb Crawford, Vice Chancellor, Office of Research, Innovation and Economic Development, University of Tennessee, Knoxville, opening the conver-

sation. She then proposed a framework for organizing recommendations of the *Compact* under three core themes: technological competitiveness, national innovation ecosystems, and research security.

Then, turning from the organization to the substance of the document, Dr. Crawford expressed particular concerns about universities' preparedness to secure research data, attributing the challenges to the inconsistent requirements set by federal agencies. To address this, she proposed adopting a "one government" approach aimed at clarifying security protocols, enabling academic institutions to protect sensitive research data more effectively without being overburdened by conflicting and duplicative requirements.

Dr. Carol Burns, Deputy Laboratory Director for Research at Lawrence Berkeley National Laboratory, then commented on the evolving nature of public-private partnerships. Today, it is private industry that can more readily be found taking the lead. She pointed to the example of Nvidia, which is propelling technological innovations at a pace that government bodies cannot match—a sharp contrast to the government-led innovation paradigm of the past.

Dr. Tommy Gardner, Chief Technology Officer, HP Federal at HP Inc., expanded on this shift, asserting that the private sector leads innovation today, and the defense sector is left adapting these innovations for military applications. Dr. Gardner

Kick-off Discussants

Dr. Carol Burns

Deputy Laboratory Director for Research, Lawrence Berkeley National Laboratory

Dr. Deb Crawford

Vice Chancellor, Office of Research, Innovation and Economic Development, University of Tennessee, Knoxville

Dr. Tommy Gardner

Chief Technology Officer, HP Federal, HP Inc.

Moderator

Dr. Steve Walker

Vice President and Chief Technology Officer, Lockheed Martin



Technology Strategy and Leadership Dialogue 30 Session 1 participants at the Lockheed Martin Global Vision Center.

suggested the nation's economic and defense strategies should leverage a "comparative advantage" model, stressing the crucial roles both large corporations and nimble startups play in preserving the United States' competitive edge, with incremental advancements from large institutions and disruptive innovations from smaller, more agile enterprises. "If you're not doing both, you're going to miss out."

Dr. Burns had a similar view, suggesting bridging the gap between government capabilities and private innovation requires a new way for the defense industrial base to collaborate with private companies, particularly in emerging fields such as artificial intelligence and quantum computing.

Adding to the discussion, Dr. J. Michael McQuade, Director of the Technology & Geopolitics Project at the Belfer Center for Science & International Affairs, asserted the fundamen-

tal innovation model in the United States has undergone significant transformation: today, with big tech leading the way ahead of government, the "social compact" of innovation needs to be re-imagined. With tech leaders having so much control, Dr. McQuade argued there is a pressing need to redefine the relationship between major tech entities and U.S. interests.

Dr. Carol Burns similarly argued for the alignment of industry and U.S. interests with other sectors. As an example, she pointed out the important role of government investments in unlocking private capital in sectors like energy. Building on the idea, Mr. Chad Evans offered an example from Illinois, where a large-scale public investment in the Quantum Proving Ground is set to capture major long-term economic benefits for the region.

Dr. Shashank Priya then introduced the idea of state-level science plans, which help public investments align more closely with local indus-



“I would love to see a recommendation that calls for a one-government approach, because at the moment different agencies are doing things very differently.”

Dr. Deb Crawford

Vice Chancellor, Office of Research, Innovation and Economic Development University of Tennessee, Knoxville

trial needs. Citing successes from Minnesota and Chicago, he made the case that alignment across federal and state investments is crucial for driving development forward, and Dr. Carol Burns also offered exascale computing initiatives at the national laboratories as a successful model of public-private cooperation.

Dr. Andre Marshall then turned to the urgent need for a robust research security framework within universities to safeguard against foreign influence. He noted new federal requirements for research security programs represent a turning point in the way universities collaborate.

Dr. Burns put the issue forward succinctly: a research security system is needed that safely supports the commercialization of innovation, a sentiment was echoed by Dr. Tony Lindsay, Director of the Advanced Systems & Technologies



“We are not in an era where a traditional model of public-private partnership that we enjoyed 20 years ago. There are many areas of key technology innovation that are born entirely out of the private sector and are accelerating with enormous capital investments in the private sector.”

Dr. Carol Burns

Deputy Laboratory Director for Research
Lawrence Berkeley National Laboratory

(AST) at Lockheed Martin, who drew parallels to Australia’s defense sector policy, which developed formal security frameworks within academic institutions.

Dr. Andre Marshall noted that establishing research security programs within universities requires a cultural and operational shift. And he noted the importance of thoughtful engagements that support this cultural shift, rather than implementing it without the input of researchers who may be wary of intrusion.

The University of Minnesota’s Dr. Shashank Priya remarked on the pushback from faculty members who feel constrained by research security



“When we think about public-private partnerships, it is all about the mechanics. How do we get big tech to continue to work with the government or work with universities? I think there is an opportunity for us to redefine the social compact of large companies on behalf of the national interest.”

Dr. J. Michael McQuade

Director, Technology & Geopolitics Project
The Belfer Center for Science & International Affairs

policies such as NSPM 33, enacted to navigate foreign investments in research. This sentiment pointed to an ongoing tension between promoting academic freedom and adhering to national security mandates.

Dr. Padma Raghavan, Vice Provost for Research and Innovation and Chief Research Officer at Vanderbilt University, refocused the conversation toward industry-university partnerships. She commented that involving students in these partnerships is crucial, as it builds the foundation for the future workforce,



“A good start to secure our research enterprise is by requiring a research security program. But the impact of that is going to change the way researchers collaborate.”

Dr. Andre Marshall

Vice President, Research, Innovation & Economic Impact
George Mason University

and that extending the durations for federal programs directed at student-industry collaboration could make more of these partnerships attractive and possible.

Dr. Nancy Glenn, Vice President for Research and Economic Development at Boise State University, then argued the TLSI Compact should include a clear yardstick to define “success” in transforming the national innovation ecosystem. Dr. Crawford built on this notion, critiquing the federal government’s recent investments in nonlinear innovation models, arguing that while billions have been allocated to explore new avenues for boosting economic competitiveness, a comprehensive evaluation of these models is needed to ensure the funding is delivering a positive ROI.

Mr. Evans then reminded the group of the Obama Administration's National Institutes of Manufacturing experiments, suggesting that looking into the successes and failures of these initiatives could provide valuable insights for shaping future strategies. "It might be interesting to dig in to see what has been successful in these big experiments," he remarked.

Another idea raised was that of increasing the number of classified spaces that university researchers can access. Dr. Falcone, however, voiced skepticism, arguing instead that reducing the number of technologies requiring classification may be a more sustainable solution. She contended that while a degree of confidentiality may be necessary, not all technologies developed in academic settings should require the extensive classification that many currently do. Greater flexibility in the need for classification can also enhance partnerships, especially between different kinds of institutions, like national laboratories and universities. "We need to have clear research relationships with universities that enhance training for students," she stressed.

Dr. Falcone suggested successful models like Sematech (Semiconductor Manufacturing Technology), the not-for-profit consortium that performed research and development to advance chip manufacturing. And she made the case for well-managed controls to encourage effective collaborations without obstructing academic progress.

Dr. Burns then raised a pressing concern regarding the dwindling talent pipeline in AI research, and she called for a collective effort to retain and train the next generation of innovators within an integrated ecosystem that unites industry and university researchers.

Dr. Shashank Priya introduced tangible examples of challenges faced by university tech transfer offices, underscoring the gap between early-stage innovation and a lack of supportive governmental schemes to bridge



"Our calls for both clear intellectual property rights and providing greater clarity in the application of these processes, are going to be so important for revitalizing innovation at the speed and scale and even the protection that we need for the future of the nation."

Dr. Steve Walker

Vice President and Chief Technology Officer
Lockheed Martin

the path to market. He suggested the creation of a sovereign wealth fund or an external agency, akin to existing microelectronics models, as a proactive strategy for nurturing innovation through enhanced investments.

Dr. Walter Copan, Vice President for Research & Technology Transfer at the Colorado School of Mines, then highlighted the necessity for reform in intellectual property rights, which often remain unclear, to cultivate an atmosphere conducive to technological commercialization. "Most federal laboratories, most academic institutions do not seek international protections for intellectual property rights," leaving American innovators vulnerable when trying



“I think there’s a broader realization that U.S. corporations must be able to compete on global markets and therefore a new category of investment is needed in intellectual property protection.”

Dr. Walter Copan

Vice President, Research & Technology Transfer
Colorado School of Mines

to implement their products and ideas overseas. Greater clarification and protection of IP rights, especially internationally, is needed he argued. For example, proposals to expand march-in rights under the Bayh-Dole Act have created uncertainty for academic institutions and federal laboratories, discouraging private-sector investment in federally funded research. Clear and balanced policies should be adopted to maintain a predictable environment for innovation while ensuring public benefit.

Ms. Wince-Smith then noted the significance of building patent portfolios, envisioning how such efforts could lead to the buildup of a knowledge base that gives U.S. institutions a dominant position in emerging industries. However, the situation is very complicated, as there is also a rising

trend against patenting. Dr. Falcone added that elevated costs tied to securing international rights and the speed of innovation had undermined the role of patents. Finally, Dr. Copan cautioned against well-intentioned legislative actions that inadvertently undermine innovation, noting, “Some related to drug pricing are undermining some of the core innovation principles we have been working on here at TLSI.”

Participants then asked how patenting costs could be integrated into federally funded research grants.

Ms. Wince-Smith suggested universities should have the capacity to itemize patenting costs in their grant calculations, maintaining it as a reasonable expectation given the existing allowance for cost recovery by the National Science Foundation (NSF). Supporting this idea, Dr. Sally Morton proposed that such costs could be accommodated within the indirect cost base, but Dr. Steve Walker suggested the existing caps on indirect costs would be a limiting factor to that approach.

Dr. Andre Marshall returned to the idea of the delicate balance between over-patenting and under-protection of intellectual property. “You need to patent things in order to actually start your business, and one of the first questions potential investors ask is: do you have I.P.?” This concern resonated with Dr. Falcone, who pointed out that in environments like Silicon Valley, companies sometimes sidestep patents due to transparency issues, suggesting that fast-paced innovation often flourishes outside traditional patent frameworks.

The conversation then shifted to the implications of agreements formed between private sector investors and universities regarding I.P. rights in shared research ventures.

Dr. Joanna Groden, Vice Chancellor for Research at the University of Illinois Chicago, elaborated on how investors like Deerfield can assist universities in funding I.P. with the promise of exclusive rights when work is completed, thus mitigating com-



“The I.P. by itself is not the end. It is a means to an end.”

The Hon. Pat Falcone

Deputy Director, Science & Technology
Lawrence Livermore National Laboratory

mercialization risks for faculty. These agreements could empower faculty to cultivate their ideas independent of startup pressures.

Dr. Martin Blair, Vice President for Research & Economic Development at Idaho State University, however, voiced concerns about the rights universities relinquish in these partnerships. He suggested a culture in which faculty may be unaware of the extent of the rights they sign away. But Dr. Groden defended this model,

asserting faculty are well-positioned to benefit from these partnerships, even when considering the I.P. obligations.

As the discussion ended, Dr. Copan made the point that evolving existing processes is paramount for addressing the needs of academic institutions, as well as the greater economy. Dr. Falcone agreed stressing the importance of actionable plans tailored for decision-makers, and she suggested creating a toolkit to assist university leaders in navigating intricate funding and regulatory frameworks.

Dr. Michael J. McQuade made a concluding comment that the TLSI *Compact* should address the need to augment research funding to offset administrative burdens, as well as develop a unified stance against placing the onus of investigating foreign nationals on universities.

Framing the TLSI's *Compact for America*

Session 2: Brainstorm a 2025 Release Strategy

Session Overview

The second framing session for the TLSI *Compact* focused on communicating the recommendations from the report to the right people. Leaders discussed defining the "opportunity space" in a landscape of limited funding, employing regional engagement strategies, and crafting tailored messages that resonate with various audiences.

Key Session Insights

The second part of the TLSI *Compact* framing discussion, moderated by Dr. Falcone, was focused on developing a plan for its release in 2025. To kick off the session, Dr. Copan suggested a multi-pronged strategy aimed at engaging audiences beyond the typical stakeholders found within federal circles. He suggested outreach to governors across all states and territories, as well as collaboration with influential partner organizations such as the Center for Strategic and International Studies (CSIS) and Brookings Institute.

Dr. Marshall echoed the need to define the "opportunity space," considering constraints on future funding and other resources. Additionally, he highlighted the importance of engaging stakeholders like community colleges and Historically Black Colleges and Universities (HBCUs), ensuring they are aligned with the goals of the *Compact*.

Dr. Raghavan then noted the importance of regional engagement, stressing that placemaking innovation is central to their recommendations. She shared the idea of collaborating with local government officials and communities to ground their strategies in real-world contexts. Dr. Raghavan also proposed supplementing the main document with opinion pieces in prominent regional publications to generate broader awareness.

Kick-off Discussants

Dr. Walter Copan

Vice President of Research and Technology Transfer, Colorado School of Mines

Dr. Andre Marshall

Vice President for Research, Innovation & Economic Impact, George Mason University

Dr. Padma Raghavan

Vice Provost for Research & Innovation, Chief Research Officer, Vanderbilt University

Moderator

The Hon. Patricia Falcone

Deputy Director for Science and Technology, Lawrence Livermore National Laboratory



“Placemaking is a central aspect of our recommendations. So, bringing in the governor’s office, state legislatures, and local communities, along with federal delegations is really important.”

Dr. Padma Raghavan

Vice Provost for Research & Innovation, Chief Research Officer, Vanderbilt University

Dr. Morton then suggested developing a road-map for collaborating with like-minded partners to amplify their voices. She pointed out that identifying specific constituencies, like those focusing on research funding, could streamline their efforts.



“We need to put forth a new narrative. What resonates with Gen Z versus Millennials versus current government officials versus future leaders?”

Dr. Nancy Glenn

Vice President, Research & Economic Development, Boise State University

Dr. Nancy Glenn introduced the idea that outreach could be tailored both in branded and unbranded formats, aiming to engage specific audiences through varied media avenues while generating discussions around the *Compact’s* recommendations. She kicked out the idea of



Technology Strategy and Leadership Dialogue 30 Session 2 participants at the Lockheed Martin Global Vision Center.

using innovative methods like TikTok videos could appeal to younger demographics, indicating a willingness to adapt their communication strategies to attract more attention.

Dr. Gardner also recommended offering exclusive previews to select media outlets, suggesting that this could create anticipation and drive engagement with their initiatives. He then suggested leveraging networks of diverse industry groups could enhance the reach of their message, encouraging collaboration across organizations

with shared interests—a notion echoed by Dr. Marshall, who suggested popular venues such as South by Southwest could serve as excellent platforms for disseminating their work.

Dr. Falcone summed up the session by encouraging the team to refine and implement these ideas, solidifying a publicity strategy that ensures that their message is not only heard but resonates effectively with all target audiences.

Council on Competitiveness—Catch Up

Competitiveness Conversations Across America and the National Competitiveness Forum

Session Overview

Mr. Chad Evans, Vice President and COO of the Council on Competitiveness, provided an update on the Council's [Competitiveness Conversations Across America](#) leadership series. The Conversations are a series of regional innovation summits launched by the Council to engage communities in identifying and scaling best and next practices for placemaking innovation across the country.

Key Session Insights

Mr. Evans shared the origins of the Competitiveness Conversations series, which stemmed from a [No Recovery](#) report developed by the Council in collaboration with Gallup. This report highlighted a concerning trend regarding the decline of productivity across three major sectors in the United States: housing, healthcare, and education. This situation raised alarms among the Council's leadership and coincided with two major disruptions: a “super convergence” of various technological advancements, and intensified global competition from nations like China. These disruptors prompted the formation of the National Commission on Innovation and Competitiveness Frontiers 2020. A key question from the Commission became how to bring more Americans and communities into the innovation ecosystem.

To address this, the Council launched the Competitiveness Conversations Across America. Mr. Evans noted that while the concept of regional summits was not new, their particular approach focused on identifying existing best practices within communities and scaling these practices nationwide. Pilot events conducted at the University of Wyoming in the summer of 2022 and UC Davis in the spring of 2023 proved both the effectiveness of these events, as well as the demand for more of them exploring the emerging innovation hubs across the country.

In 2024, the series of Competitiveness Conversations Across America commenced with an event co-hosted by the chancellors from Vanderbilt University and the University of Tennessee, Knoxville, focusing primarily on future mobility, advanced manufacturing, and energy. This summit saw participation by several CEOs and local leaders, including representatives from Nissan, Volkswagen, and Google, reflecting a substantial investment and interest in Tennessee's developmental landscape.

Following the Tennessee summit, the initiative moved to Boise in early August 2024, where discussions revolved around the future of semiconductors and clean energy. Mr. Evans highlighted the unique geographical isolation of Boise, making it a paradoxical case of a city that, contrary



“If you look at our 300-million-person economy, not enough Americans are actually on the innovation playing field. In a \$30 trillion economy driven by innovation, not enough communities and Americans are powering the nation’s innovation engine. The upside potential for America is unbelievable. So how can we create an initiative, really a conversation, to get more Americans and more communities involved in our innovation economy? That is the core question and purpose of our new Competitiveness Conversations Across America series.”

Mr. Chad Evans

Executive Vice President and Chief Operating Officer
Council on Competitiveness

to traditional competitiveness theory, performed exceptionally well in innovation. This event also garnered considerable insights regarding massive federal investments in the semiconductor sector alongside rising interest in clean energy.

The third conversation took place in early September 2024 at Purdue University, where a mix of academic and industry leaders from Indiana and Illinois explored topics related to “chips, qubits, and molecules.”

Mr. Evans also noted the importance of integrating local agendas and the Council’s initiatives into these discussions, echoing sentiments previously expressed by his colleagues. He pointed out that nearly all planned events would involve state governors, senators, and members of Congress, which would create opportunities to highlight the TLSI’s *Compact*.

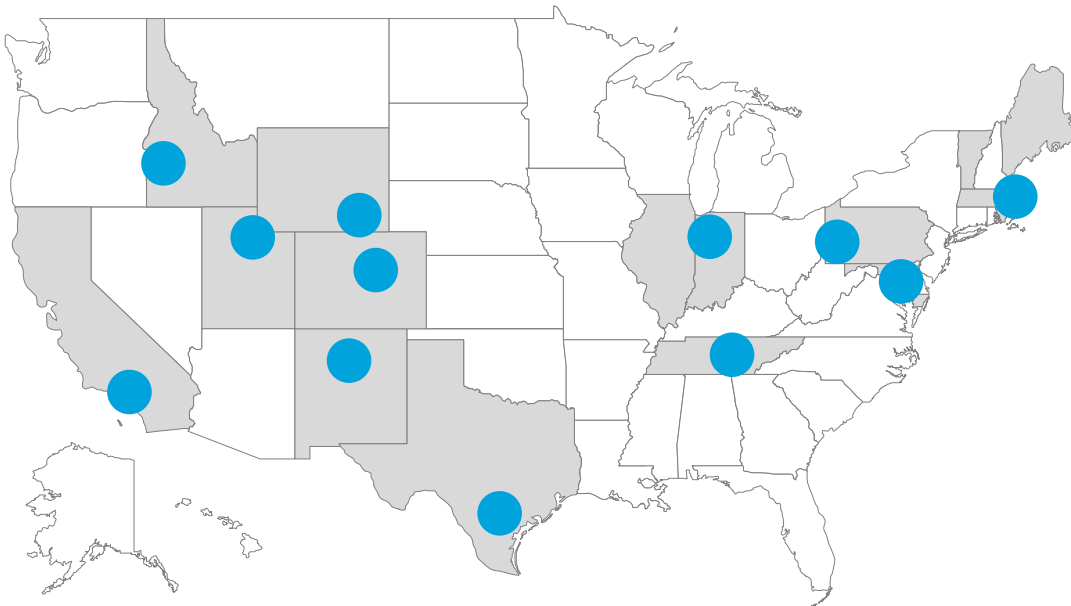
In conclusion, Mr. Evans affirmed the commitment of the Council to actively pursue new opportunities for engagement on place-making efforts, ensuring that the dialogue surrounding innovation and competitiveness would resonate effectively across the United States, culminating in a stronger, more inclusive national economy.

Following Mr. Evans’ remarks, TLSI members involved in the previous Conversations all shared their enthusiasm for the ambitious project. Dr. Raghavan highlighted the Conversation as an opening for ongoing discussions at the state government level about pressing issues. Furthermore, Dr. Deborah Crawford of The University of Tennessee, Knoxville reported a surge in energy surrounding technology-based economic development, fueled by the attendance of influential figures, including the governor.

When reflecting on the Mountain West Conversation in Boise, ID, Dr. Nancy Glenn of Boise State University identified two areas gaining traction post-meeting: geothermal energy, linked to the broader energy conversation, and organized cybersecurity efforts within the state. And Dr. Martin Blair of Idaho State University discussed

the strengthening of relationships with Idaho National Laboratory, noting that the meeting fostered conversations on new themes and funding opportunities.

Competitiveness Conversations: 2024, 2025, and Beyond



2022 Conversation

Jun. 21–22 Laramie, WY

2023 Conversation

Mar. 27–28 Davis, CA

2024 Conversations

Apr. 25–26 Nashville, TN

Aug. 6–8 Boise, ID

Sep. 9 West LaFayette, IN

2025 Conversations

Mar. 10–11 San Antonio, TX

Mar. 30–Apr. 1 Boulder, CO

May 5–6 Santa Fe, NM

Jun. 5–6 Boston, MA

Sep. 18–20 Salt Lake City, UT

Oct. (TBA) Pittsburgh, PA

2026 Conversations

Jan. (TBA) Baltimore &

College Park, MD

Closing Comments

In closing TLSI 30, the TLSI Co-chairs expressed enthusiasm for the upcoming meetings and encouraged members to host events, while also highlighting the Council's exciting 2025 agenda, including the final development and release of the critically important *Compact*.

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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.