DAY ONE PROJECT

Ensuring Manufacturing USA Reaches Its Potential

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Summary

President Biden made advanced manufacturing a major policy priority during his campaign, including calling for a significant expansion[1] of manufacturing programs to reach 50 communities through new manufacturing-technology hubs. Expanded manufacturing programs will invest in our nation's long-term competitive innovation capacity. However, building these programs successfully requires a thoughtful and practical implementation plan. This memo presents two categories of recommendations to improve the U.S. advanced-manufacturing ecosystem:

(1) **Improve the existing Manufacturing USA institutes.** Some new institutes are needed, but the Administration should concentrate first on strengthening support for the 16 existing Manufacturing USA Institutes, renewing the terms of institutes that are performing well, and expanding the reach of those institutes by launching more workforce-development programs, regional technology demonstration centers, initiatives to engage small- and mid-sized manufacturers and build regional manufacturing ecosystems.

(2) **Implement a multi-part strategy for collaboration among the Institutes:** First, the Administration should create a "network function" across the Manufacturing USA Institutes because firms will need to adopt packages of manufacturing technologies not just one at a time. This could be supported by the National Institute of Standards and Technology (NIST) and would combine the advances of different Institutes and package them to be integrated and interoperable for easy adoption by firms. Second, a NIST-led traded-sector-analysis unit should be created to evaluate the manufacturing progress of other nations and inform Institute priorities. Third, the Administration should provide research and development (R&D) agencies with resources to build manufacturing-related R&D feeder systems (e.g., an expanded pipeline of manufacturing technologies) that aligns with Institute needs. Fourth, the administration should establish an Advanced Manufacturing Office within the White House National Economic Council to coordinate and champion all of the above, as well as numerous other manufacturing programs.

Challenge and Opportunity

The United States has failed for too long to understand that manufacturing is part of the innovation system. We thought that innovation was just about R&D, but we failed to consider that innovation in production is just as important. This led to the common belief that we can "innovate here but produce there", which proved counterproductive.[2] Robust and flexible manufacturing capabilities are needed to bring theoretical innovations into reality. And where those capabilities exist, innovations will be implemented; if they don't, the innovation will either be implemented by others or die. Unfortunately, the growing weakness of U.S.

[1] JoeBiden.com. (n.d.). The Biden Plan to Ensure the Future is "Made in All of America" by All of America's Workers.
[2] Bonvillian, W.B.; Singer, P.L. (2018). *Advanced Manufacturing: The New American Innovation Policies*. MIT Press: 12, 37, 58.

manufacturing relative to manufacturing in competitor countries means that much of the economic gain and jobs from what we thought was our strong innovation culture are starting to shift abroad while vulnerabilities emerge at home.

While other nations have been systematically introducing productivity gains into manufacturing, the United States has sat idle. When Japan developed the quality-production revolution, we missed it. When Germany integrated its smaller and larger producers with its engineering schools — and then added regional production financing and an outstanding apprenticeship-training system into the mix — we missed it. And when China developed rapid, integrated, scale-up capacity across regional producers along with focused government support, we missed it. We thought production was moving overseas simply because other countries could offer lower wages. We didn't see the fundamental ways that these countries were focusing on their manufacturing *and* innovation systems.[3]

Our nation's import dependence has exploded as a result. The U.S. trade deficit in advanced technology goods, for instance, jumped from $130 billion in 2019 to $191 billion in 2020.[4] The U.S. invented semiconductors but now makes only 12% of them; a semiconductor shortage will cost U.S. automakers alone at least $100 billion,[5] with corresponding job losses and consumer frustration.

The Biden-Harris administration has placed a major focus on domestic supply chains, trying to restore their resiliency and ensure access to American-made products — especially given the life-threatening supply shortages and supply-chain gaps that emerged during the pandemic. In June, the Administration released a major 100-day report proposing fixes in four supply areas.[6] But lurking behind the supply-chain problems the report identifies is a larger manufacturing challenge. Unless strong supply chains are buttressed and backed by a systematic domestic manufacturing strategy and related programs, industry will lack the innovation needed for long-term improvements.

Since their inception in 2012, the 16 manufacturing innovation institutes that comprise the Manufacturing USA network have aimed to fill a gap in the advanced-manufacturing commons — a gap precipitated by decades of outsourcing[7] that has depleted not just domestic production capacity but domestic innovation capacity as well. The Institutes, which operate at both national and regional levels, are intended to innovate in advanced manufacturing technologies through consortia of small and large firms, state and local government agencies, and education institutions. The hope was that Institute-facilitated advances in new production technologies and processes could help small and mid-sized companies compete at scale. The Institutes were also intended to serve as test beds for collaboration among larger firms, enable smaller tech innovators to prototype and share the costs of transitioning to new

[3] Bonvillian, W.B.; Singer, P.L. (2018). *Advanced Manufacturing*. 37–63.
[4] U.S. Census Bureau. (2021). 2021: U.S. trade in goods with Advanced Technology Products.
[5] Mitchell, J. (2021). Biden's promising bid for strong supply chains risks falling short. Roll Call, July 6.
[6] The White House. (2021). Fact Sheet: Biden-Harris Administration Announces Supply Chain Disruptions Task Force to Address Short-Term Supply Chain Discontinuities. June 8.
[7] Sargent Jr., John F. (2021). *Manufacturing USA: Advanced Manufacturing Institutes and Network*. Congressional Research Service, R46703.

production paradigms, and train workers to use emerging and cutting-edge manufacturing technologies. With the help of the Manufacturing USA network, the United States wouldn't try to compete over low wages. Rather, it would apply its still-strong innovation capability to remain competitive through new productivity and efficiency gains.

The Institutes have had many successes to date[8] and the Manufacturing USA model has proven to be a sound one. Breakthrough advances in manufacturing require deep engagement from industry, university research, and state and federal government — a joint engagement that the Institutes sponsor. Individual companies are reluctant to pioneer production technologies because they can't easily recoup the cost of their investments; collaboration through a Manufacturing USA institute reduces the development risk. But the Institutes, which were initially conceived as short-term, five-year projects, have been too thinly capitalized to fully realize their missions. In a single advanced-technology area, for example, it can take at least five years to develop a transformative manufacturable process and another five to develop the new equipment and production capabilities to go with it, with sustained investment demanded throughout. It was never realistic to expect an Institute to achieve a manufacturing breakthrough in a single five-year term.

Because federal funding was to be phased out after five years, the Institutes have had to concentrate less on manufacturing innovation writ large and more on meeting the needs of large companies that can help sustain their technology development efforts. This large firm membership model in turn means institute programs and initiatives providing services for smaller manufacturers interested in adopting technologies and for upskilling for workers have tended to fall by the wayside. Larger firms can't justify these investments because they fall outside their own investment returns. And when a pipeline of skilled workers fades and supply chains of small and mid-sized manufacturers lack new manufacturing technologies and equipment, our nation's long-term capacity for innovative production shrinks.

Advanced manufacturing equipment problems have been particularly acute for smaller manufacturers.[9] Local banking relationships have largely been replaced with national banking models, making it harder for smaller firms to secure financing. Since the 1980s, the productivity of smaller firms has lagged further and further behind the productivity of larger firms. This productivity lag brings down the efficiency of the whole U.S. production chain.

Small and large firms alike need access to the new production equipment and technology that will enable advanced manufacturing. But several barriers lie in the way. First, industry acceptance of new technologies — and availability of financing to support those technologies — will be limited until and unless the efficiency and financial gains of new technologies are fully demonstrated. Second, worker training goes hand in hand with technology uptake. Manufacturers (especially small and mid-

[8] U.S. Department of Commerce. (2020). *Manufacturing USA Highlights Report*. National Institute of Standards and Technology. December.
[9] Armstrong, B. (2021). *A Firm-level Study of Workforce Challenges at U.S. Manufacturers*. MIT Work of the Future Working Paper 12-2021.

sized ones) typically will not train workers for new tasks until they have new equipment not just on order but physically on their shop floors — that's the moment when a training need hits and forces a response.[10] The catch is that without skilled employees, the new technologies are unusable. Small manufacturers often do not even recognize that they need to adopt those new technologies to remain competitive.

Addressing these issues as effectively and efficiently as possible will require improved coordination across the Manufacturing USA network and beyond. Manufacturing USA institutes today tend to operate in silos focused on particular types of technologies. But the factory of the future will need to combine a variety of advanced technologies, including data analytics, cybersecurity, artificial intelligence and machine learning, additive manufacturing and robotics, as well as application-specific technologies such as power electronics, advanced composites, flexible electronics, or photonics. Facilitating cross-network collaboration among institutes to support integrated technology deployment will unleash a new wave of resilience and competitiveness within the U.S. manufacturing sector.

The Manufacturing USA network must also better harness our nation's competitive R&D system. The United States is home to some of the strongest R&D agencies in the world. But these agencies focus almost exclusively on science and technology research, not on production advances. Other countries, including Japan, Germany, Korea, Taiwan, and China, are "manufacturing-led" — that is, they have innovation systems organized around production.[11] The United States, by contrast, is "R&D-led". We as a nation need capabilities in manufacturing as well as R&D in order to be competitive. Congress is poised this fall to pass new R&D legislation that substantially increases support for research in AI, high-performance computing, advanced electronics, semiconductors, and other manufacturing-related technology areas. But unless this research is connected to follow-on work at the Manufacturing USA institutes, it will fall far short of its potential to transform domestic manufacturing. And without the manufacturing base, the U.S. will not be the technology implementer.

The U.S. manufacturing ecosystem faces immense challenges that require immediate attention. The Manufacturing USA institutes offer a pathway to solutions. The fundamental structure of the Institutes is sound. They bring together key actors (industry, including both large and small firms, education institutions, and state and local government) and cost-share federal funding to spread risks across sectors and justify external investments. But if the Institutes are to do all we are asking of them — to dramatically accelerate manufacturing technology, revive regional manufacturing ecosystems, bring small and mid-sized manufacturers into advanced manufacturing, and upskill the manufacturing workforce — then we must provide the support they need to deliver.

[10] Armstrong, B. (2021). *A Firm-Level Study*. 10–19.
[11] Bonvillian, W.B.; Singer, P.L. (2018). *Advanced Manufacturing*. 34–35.

Plan of Action

This section presents a two-part strategy to strengthen the Manufacturing USA network and unlock the full potential of American manufacturing.

Part 1. Improve the existing Manufacturing USA institutes.

The existing Manufacturing USA network should be strengthened to provide a strong foundation for future growth. Steps that the federal government can take towards this end include the following.

Extend the terms of Manufacturing USA institutes through transparent and consistent formal evaluation processes.

Assured support from mission-driven federal agencies is critical for the overall success of the Manufacturing USA network, but renewal of contracts for individual institutes should be performance-based and rooted in transparent and fair evaluation processes. Some federal agencies have already moved towards performance-based evaluation. The Department of Defense (DOD) commissioned the National Academies to develop evaluation standards and metrics for the Institutes it supports. The Department of Commerce's National Institute for Standards and Technology (NIST) has recently undertaken a similar evaluation effort. These approaches should be emulated by the Department of Energy (DOE), which is the third agency supporting Manufacturing USA institutes. DOE should extend the terms and support of Institutes that are performing well according to review criteria such as:[12]

- Do we still need it? Assess the long-term continuing need for the Institute and progress made on its designated technology area, including in the context of emerging agency and national priorities.

- Are there better alternatives? Evaluate the strengths and weakness of the Institute compared to alternative approaches (e.g., Federally Funded Research and Development Centers (FFRDCs), National Labs, other contractors, private-sector development, etc.).

- How well is it doing its job? Examine the performance of the Institute in meeting institute and agency priorities for developing and implementing technologies, bringing technologies into supply chains (including to smaller companies), improving production processes, fostering collaborations in regional ecosystems, and upskilling workforces.

- Is it making progress? Review trends in the annual operations and performance of the Institute to see whether it is effecting change (e.g., whether its advanced technology entering workplaces at an adequate pace).

[12] The National Academies of Science, Engineering and Medicine. (2021). *DoD Engagement with Its Manufacturing Innovation Institutes: Phase 2 Study Interim Report*. Washington, DC: The National Academies Press.

It is also worth noting that NIST made a much larger commitment of core funding in extending its Institute than DOD is considering. DOD (and later DOE) should consider upping its funding commitment to high-performing Institutes.

Promote adoption of new technologies among small and mid-sized manufacturers, including by working through the Manufacturing Extension Partnership (MEP) and new demonstration centers.

The Manufacturing USA network should prioritize adoption of new manufacturing technologies among small and mid-sized firms. NIST's Manufacturing Extension Program (MEP) already reaches many small- and mid-sized firms with best manufacturing practices, so the Manufacturing USA institutes should collaborate with MEPs on reaching these firms with new manufacturing technologies. In other words, MEP can be a "last mile" technology-introduction program for the Institutes.
To further serve small and mid-sized manufacturers, Institutes need funding for more regional technology-demonstration centers — places where companies can see new technology prototypes and participate in demonstrations and tests. These centers can also serve as workforce-education facilities, training workers to use new equipment and processes. Without hands-on experience with new technologies, firms (especially smaller firms) will simply not adopt them. Most Institutes operate one technology-demonstration center, but manufacturing is location oriented. To engage more regional manufacturers, the Manufacturing USA institutes need more regional centers.

Create programs that engage area firms, educational institutions, and state and local governments to bring new technologies into regional economies.

Manufacturing USA Institutes serve a national need of nurturing new production technologies, but getting those technologies adopted means engaging with regional manufacturing ecosystems of larger firms and their smaller-firm supplier networks. Supply chains are only as strong as their weakest link. Advanced manufacturing must be integrated throughout the entire chain to realize its full benefits. For example, the "internet of things" promises new production efficiencies but only works well if all participants in a production process are connected. Protecting manufacturing supply chains against cyber assaults requires adoption of cybersecurity measures by all firms in the chain.

Manufacturing USA institutes can work up and down supply chains to connect different actors and help make manufacturing ecosystems work. During the early stages of the pandemic, for instance, the State of Massachusetts worked with the advanced fabrics manufacturing institute (Advanced Functional Fabrics of America, or AFFOA) as well as area companies and universities to rapidly switch existing production lines over to manufacturing personal protective equipment (PPE). From April 2020 through the end of the year, the collaboration produced more than nine million protective hospital gowns, three million N95 respirators, five million face

shields, and ten thousand ventilators that met exacting FDA standards.[13] This example shows how an Institute can engage with a regional ecosystem to help rapidly meet a critical manufacturing need, bringing new product lines to participating companies while doing so.

Develop workforce-education programs tailored to different advanced manufacturing technology areas.

New technologies that the Institutes produce will not be adopted unless workers are trained in the new skills needed to use them. But while educational institutions and employers educate for current manufacturing skills, curricula and programs for education and training in advanced manufacturing skills are few and far between. The Manufacturing USA institutes should work with employers, state and local economic-development and education agencies, and educational institutions (from colleges to community colleges to high schools) to fill this workforce-education gap. Specifically, the Manufacturing USA network should consider the following actions:[14]

- Develop, with the involvement of industry and educational institutions, a detailed set of knowledge, skill, and ability (KSA) elements and corresponding competencies in advanced technology areas.

- Systematically develop skill roadmaps that align with technology-development roadmaps for different technology areas.

- Use skill roadmaps to inform educational curricula and training materials tailored to different technology areas. Work with education and industry partners to implement the curricula and training as part of workforce-development initiatives.

- Create online education materials tailored to different technology areas. Make these materials fully accessible to industry and educational institutions.

- Evaluate existing, industry-approved credential offerings in different technology areas. Work with industry to fill credential gaps by either developing or applying industry-recognized credentials.

- Launch a major effort to "train the trainers" in new manufacturing technologies at educational institutions as well as in in industry. Online education may be an efficient and scalable way to upskill workforce-education instructors.

The Manufacturing USA institutes will require additional core funding from their supporting federal agencies to pursue these actions because the large firms that provide ancillary support to the Institutes are not in a position to support workforce-education programs outside their own firm needs.

[13] Reynolds, E.; Trafficante, D.; Waldman-Brown, A. (2021). *Strengthening Manufacturing Innovation Ecosystems Before, During and After COVID: Lessons from Massachusetts*. MIT Work of the Future Working Paper 11-2021.
[14] The National Academies of Science, Engineering and Medicine. (2021). *DoD Engagement*. Appendix C.

<u>Part 2.</u> Develop a coordinated strategy for collaboration among the Institutes.

Agency and White House leadership will be needed to coordinate the intense planning, resource sharing, and strategic direction needed to unlock the full potential of American manufacturing. Steps that the federal government can take towards this end include the following.

Fund a new program element within NIST's Advanced Manufacturing Office to combine Institute technology advances.

Each existing Manufacturing USA institute is organized in silos around a particular technology area. That approach is necessary for focus on their technology development tasks. But firms need packages of technologies — additive *and* robotics *and* digital production — to realize the true potential of advanced manufacturing. This integration will require interoperable testing, demonstration, and feedback systems across the range of new advanced technologies. As indicated by the RAMI Act authorizing the Manufacturing USA program,[15] NIST could play a convening and support role, with the other institute-sponsoring agencies involved, and with an executive panel of institute directors. Combining institute technology advances and packaging it for firms will be key, but NIST must receive funding to fully deliver in this role.

Establish a feeder system of manufacturing-related R&D that connects to the manufacturing Institutes.

The Manufacturing USA institutes work at later-stage technology development levels (so-called technology readiness levels (TRLs)[16] 4 through 7), while most federal R&D agencies work at earlier levels (TRLs 1 through 3). An organized feeder system is needed to help move technologies from earlier stages at the agencies to later stages where the Institutes can pick them up. One way to facilitate this is by creating common technology-development roadmaps that federal agencies, Institutes, and Manufacturing USA industry members alike can follow. The White House Office of Science and Technology Policy (OSTP) has the role and is well-placed to set up task forces to create such roadmaps.

Create an Advanced Manufacturing Office within the White House National Economic Council.

Pending bipartisan legislation appreciates the need for adequate staff and budget to coordinate the numerous manufacturing-related programs that exist across the federal agencies. Manufacturing USA institute operations require much agency coordination, as will implementing the recommendations presented in this memo. Federal agencies also manage numerous additional manufacturing-related programs, including programs focused on R&D, procurement, workforce

[15] Congressional Research Service, Manufacturing USA, Advanced Manufacturing Institutes and Network (March 2021)

[16] National Aeronautics and Space Agency. (2012). Technology Readiness Level.

development, and trade. White House-level coordination is needed for these operations and programs to work as well and as efficiently as possible. An Advanced Manufacturing Office (AMO) should be created within the White House National Economic Council (NEC) to fill this role. While President Biden has emphasized manufacturing, this emphasis will not occur without a much better government-wide coordination mechanism at the top.

As previously stated, getting new production equipment and technology into use at both small and large firms is key to empowering U.S. manufacturers to compete and introduce advanced manufacturing at scale. The first step requires firm buy-in for the new technologies, which may not be readily available unless the efficiency and financial gains from the new technologies are fully demonstrated. One externality also relates to workforce training, where manufacturers, especially small- and mid-sized ones, typically will not train workers for new tasks until they have new equipment not just on order but on their shop floors. Yet without skilled employees to operate them, the new technologies are unusable, and the manufacturers will often not even recognize that they need it to stay competitive. This testing and demonstration role of the institutes can help realize those objectives. The next step is ensuring that firms have the financing they need to secure new technologies once they are ready to do so.

The AMO should fast-track a project to investigate creative financing mechanisms — such as low-interest lending, tax write-offs for new equipment, loan guarantees, and more — that can help manufacturing firms adopt new technologies. One possibility would be to extend authority of the EXIM Bank (which provides export financing) to this area. Senator Chris Coons is working on legislation to establish an Industrial Finance Corporation which could perform this role. Title 3 of the Defense Production Act, widely used in the pandemic to produce vaccines, is another option. Financing is particularly difficult for smaller firms.

Other nations have filled comparable financing gaps. Germany has local community-controlled banks that back local manufacturers. Israel subsidizes private-sector lending to new firms. The UK has a Business Bank with a Patient Capital Program, and Asian nations have systems for government support to industry. The AMO should explore how approaches of other nations could be adopted in the United States. The AMO should also explore how state-level programs in Massachusetts, Connecticut and Indiana for financing manufacturing equipment could be scaled out to other states and/or up to a national level. A menu of tax incentives could, as noted, also be considered; ideas range from vouchers for advanced manufacturing technologies, to new equipment loan guarantees, a more robust tax credit for advanced manufacturing equipment investment, or a competitiveness tax credit for manufacturers. The Biden administration is already looking at financing options to help meet national supply-chain needs. This evaluation should be expanded to include the related problem of financing advanced manufacturing technologies and equipment.

Create a new analysis unit at NIST focused on manufacturing traded sector analysis.

We as a nation are not tracking production advances being applied by international competitors. It took the United States years to understand the quality production system that Japan deployed in the 1970s and 80s that enabled its firms to capture automotive and consumer electronics markets, and U.S. oversight of competitors has not improved since then. We still know little, as a second example, about the regional production scale-up system China is applying. There is also a need for data tracking U.S. manufacturing performance against competitors.

A new manufacturing traded sector analysis unit at NIST should be established to evaluate the state of U.S. manufacturing competitiveness, including understanding key U.S. producers and suppliers, global market competitors, and global production trends. The unit would also develop measures for tracking manufacturing performance. Stephen Ezell of ITIF has developed a detailed proposal for such a unit.[17] As a brief summary, NIST, with support from the Economic Statistics Administration, the Bureau of Industry and Security, the International Trade Administration, and the Bureau of Economic Analysis, would create a new mechanism to comprehensively evaluate the state of U.S. manufacturing competitiveness, including understanding key U.S. producers and suppliers, global market competitors, global market share trends, product and market segments, external R&D and training factors, and key internal competitive elements like cost structures, product attributes, flexibility, speed to market, and innovation. The unit would place special focus on tracking specific technology developments — information that could inform national policy, R&D priorities, and Manufacturing USA initiatives.

[17] Ezell, S. (2020). Policy Recommendations to Stimulate U.S. Manufacturing Innovation. Information Technology & Innovation Foundation.

Frequently Asked Questions

1. Aren't actions already being taken to support Manufacturing USA?

Despite the importance of strengthening the Manufacturing USA institutes and extensive 2020 presidential campaign rhetoric about rebuilding American manufacturing, the follow-through hasn't occurred yet. DOD still plans to cut back its Institute funding: appropriations for its 9 institutes were $164 million in FY21 but its institute budget is only $97 million for FY22, and it remains at that level for the next four years.[18] The NIST[19] and DOE[20] budgets call for two new institutes each, but support for network programs across the institutes is unclear. R&D and manufacturing have been dropped from the bipartisan compromise package over the American Jobs Plan. The Senate's U.S. Innovation and Competition legislation[21] would have provided modest additional funding ($1.2 billion over five years) for the institutes but the House version provided none.[22] This bill is now in conference but is an authorization not an appropriation, meaning that actual funding will require additional Congressional action.

2. How does U.S. support for advanced manufacturing compare to support in other countries?

The United States boasts a $20 trillion economy but invests only $480 million a year (total for both state and federal funds) in the Manufacturing USA institutes. This is an acute underinvestment compared to other nations. Germany, for instance, is a recognized manufacturing powerhouse that runs a massive trade surplus in manufactured goods (including with Asian nations) and pays much higher manufacturing wages than in the United States. Germany's Fraunhofer Institutes have 17,000 employees and an operating budget of around $2 billion across 60 institutes and 80 research units.[23] The Manufacturing USA institutes were loosely modeled on the Fraunhofer institutes but have only a total of about two hundred employees across 16 centers, with about a quarter of the annual German Fraunhofer budget.[24] Germany's highly successful manufacturing system suggests that to scale up to meet rapidly oncoming manufacturing needs, further federal resources and an expanded vision for the Manufacturing USA institutes is needed.

[18] DOD, OSD ManTech FY22 budget, DMS&T FYDP, June 25, 2021.
[19] American Institute of Physics. (2021). FY22 Budget Request: National Institute of Standards and Technology. June 9.
[20] American Institute of Physics. (2021). FY22 Budget Request: DOE Applied Energy R&D. June 30.
[21] S.1260 - United States Innovation and Competition Act of 2021.
[22] American Institute of Physics. (2021). Halftime for R&D Push as Senate Passes Endless Frontier Bill. June 11.
[23] Bonvillian, W.B.; Singer, P.L. (2018). *Advanced Manufacturing*. 179.
[24] Gayle, F.W.; et al. (2021). *Manufacturing USA 2019/2020 Highlights Report*. National Institute of Standards and Technology Advanced Manufacturing Series (NIST AMS). 600-6.

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About the Day One Project

The Day One Project is dedicated to democratizing the policymaking process by working with new and expert voices across the science and technology community, helping to develop actionable policies that can improve the lives of all Americans, and readying them for Day One of the next presidential term. For more about the Day One Project, visit **dayoneproject.org**.

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