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# V2025 Public Policy Guide

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2025 ARIZONA TECHNOLOGY COUNCIL LEGISLATIVE PRIORITIES

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The Arizona Technology Council is the principal advocate for science- and technology-based companies in Arizona. The Council continuously monitors federal, state and local legislation and policies that impact the sustainability and growth of Arizona's technology industry. Through the collective strength of its members, the Council informs and educates policymakers on issues that are important to Arizona's technology sectors.

From the U.S. Congress and the Office of the Governor to legislative committee rooms and city halls across the state, the Council serves as the voice advocating for a technology-based, pro-growth and business-focused agenda.

The Council and its Public Policy Committee hereby submit the 2025 Public Policy Guide. In creating this document, the Committee relied heavily on the Council's mission by preparing key ideas, goals and legislative initiatives to:

- Improve the business climate for technology-based companies.
- Provide sources of risk capital that encourage entrepreneurship, including in underrepresented communities.
- Create an environment that supports science- and technology-related job retention and creation.
- Attract, train, retrain and retain the diverse talent required to compete in a global innovation economy.
- Support and showcase Arizona businesses in their journey to becoming more diverse, equitable and inclusive.
- Provide pathways for all Arizonans to participate and thrive in a vibrant, high-tech economy.

The committee first created a list of principles in several subject areas then established related positions to be used as the foundation of the Council's public policy efforts in 2025. In some cases, the positions will advance through the development and advocacy of legislation that will be introduced during the Arizona Legislature's 2025 session. In other instances, the positions will be used on an ongoing basis as policy makers introduce new regulations or changes to existing regulations pertinent to Council members. At all stages, the committee will be engaged in various efforts to advance the position of Arizona's technology companies. The following principles and positions will aid elected officials and other stakeholders at all levels of government and business as they craft legislation and policies that will affect Arizonans and the Arizona economy for years to come.



### **ARIZONA TECHNOLOGY COUNCIL LEGISLATIVE PRIORITIES**

- Increase availability of computer science for students to keep Arizona competitive with surrounding states, as well as other countries. Develop a phased-in
  option for students to enroll in a computer science course offered by their schools or an online course approved by the Arizona Department of Education.
  The course should be a standalone computer science course for high school-age students while computer science principles should be incorporated into
  a general education course for students in earlier grades. Support funding for computer science courses and the accompanying teacher development
  to guide these classes.
- Support and protect economic development programs that have proven to work for Arizona. Maintain and fund programs that support manufacturing; encourage research and development; support high-quality, high-paying jobs; and incentivize innovation. Ensure these programs are continued and additional restrictions are not applied that would hamper the economic growth and success Arizona has experienced. During the past several years, the Council has helped extend and expand these programs, and defeat efforts to repeal them. Some economic development tools may require modernization to ensure the most effective utilization to continue spurring economic growth.
- Seek opportunities to positively impact the diversity, equity and inclusion of the workforce and its leadership. Grant equitable access to essential services (e.g., broadband, transportation, employment, education opportunities). Continually measure the progress of these activities.
- Work collaboratively with both the Arizona Corporation Commission (ACC) and the state Legislature to advance energy policy that encourages demandside adoption of energy efficiency, prioritizes clean and renewable energy use, invests in electric vehicle infrastructure development and supports innovation in the industry.
- Look for opportunities to expand Arizona's science, technology, engineering and math (STEM) education, including computer sciences and coding opportunities for students. Focus on long-term, shared, sustainable and flexible STEM missions that bridge, integrate and strengthen the learning opportunities offered by organizations across sectors instead of isolated, independent entities. STEM education helps prepare our students for the jobs of today and the future, and will build a strong, diverse talent pipeline to meet the state's continued growth.

## STATE POLICY PRINCIPLES AND POSITIONS

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## AEROSPACE, AVIATION AND DEFENSE



### PRINCIPLE

For generations, Arizona has been a vital contributor to U.S. national security interests by fostering a pioneering spirit in aerospace, aviation and defense. With more than 1,250 companies in aerospace and defense–including major prime contractors and space sector leaders such as Raytheon, Honeywell, Boeing, Lockheed Martin, General Dynamics, Northrop Grumman, Blue Origin and Virgin Galactic–Arizona boasts thousands of highly skilled technology workers with high-paying jobs.

Additionally, the state's military bases contribute nearly \$15.52 billion annually to the Arizona economy, according to the 2022 "Economic Impact of Arizona's Principal Military Operations" study commissioned by the Arizona Commerce Authority (ACA) and prepared by The Maguire Company. The report also states that Arizona's six military installations and four National Guard operations are responsible for creating more than 78,780 direct and indirect jobs.

State leaders and members of the Legislature should develop, publish and implement strategies that will maintain, strengthen and grow the aerospace, space, defense, aviation, and unmanned-systems industrial base. In turn, this will give Arizona a competitive edge as a top state supporting U.S. national security objectives.

### POSITIONS

### Sustain Defense Spending

Create an environment that enables sustainment and growth of total billing in defense contracting in the state. Arizona has enviable aerospace and defense assets, as shown when PwC ranked the state No. 6 in U.S. aerospace manufacturing attractiveness for 2022. As such, we must encourage, through education, an understanding of and appreciation for key military assets and their continuous economic impact on the state. These assets include the Barry M. Goldwater Range, the Buffalo Soldier Electronic Test Range, U.S. Army Yuma Proving Ground and Marine Corps Air Station Yuma, as well as U.S. Air Force training and readiness at Luke Air Force Base for the F-35 and Davis-Monthan Air Force Base for multiple missions, including the A-10, HH-60W and C-37B. We also need to maintain and protect the state's unique environment that enables testing of key command and control, intelligence, communications, weapons, and vehicle equipment without extraneous electronic or encroachment interference in Southern Arizona.

### Protect Small Business Defense Suppliers in Arizona

Work to ensure cybersecurity requirements do not become overly onerous. Considering growing cyber threats to U.S. national security, the global economy and small-business defense suppliers, the Arizona Technology Council agrees with the relatively new requirements that government contractors become increasingly cyber-resilient. However, it is important for the federal government to understand that cyber requirements will add significant operating costs to small defense businesses in Arizona and elsewhere that are currently active in our nation's defense supply chain. Imposing these additional costs and burdens on small businesses could deter their ability or desire to remain active in defense markets. Ideally, the degree of return on such investment for the added costs should be analyzed. The goal is to avoid reducing the number of Arizona companies in the aerospace and defense supply base due to unnecessary and onerous requirements that do not contribute to cybersecurity resilience.

### Shield Arizona's Military Bases

Shield Arizona's six military bases from development interference. Ensure military airspace provides unfettered access from the bases to military test ranges in the state without restrictions due to overdevelopment.

#### Expand Military Base Missions

Examine the future mission focus for all six military bases in Arizona. Work with local support groups to expand their mission profile in areas such as:

- Artificial intelligence
- Unmanned air and ground systems (offensive and counter operations)
- Robotics
- Cyber operations and defense
- Pilot training
- Space operations

Specifically, protect and increase the missions of Fort Huachuca, which include NETCOM's cyber defense, networks, unmanned aerial systems (UAS) training, intelligence, and exceptional teaming with the U.S. Department of Homeland Security. Conduct research and seek additional missions such as special operations stationing and training for which Fort Huachuca is best suited in terms of job growth. Protect and promote rightsizing of the A-10 mission at Davis-Monthan Air Force Base while supporting adequate mission replacements, including the F-35 and the U.S. Air Force's close air support and rescue Centers of Excellence. Grow F-35 pilot training at Luke Air Force Base and Marine Corps Air Station Yuma. Enthusiastically promote and grow unmanned testing and development at U.S. Army Yuma Proving Ground. Embrace and promote the exceptional Arizona Army National Guard.

#### Expand Unmanned Aerial Systems

Explore opportunities to expand the capabilities of the largest UAS training center in the world at Fort Huachuca. Actively guard against the relocation of the training center to another state and seek ways to cultivate strong ties and additional projects with Nevada, one of the six states in the nation selected as test sites for UAS, by leveraging existing assets statewide. Also, seek new mission growth in the counter-UAS area, which is just beginning at the U.S. Department of Defense. Promote the defense industry in the expansion of private and personal UAS. In addition, support policies that encourage development and use of UAS technology for commercial applications.

#### Build on Hypersonic Systems

Build upon existing corporate and academic infrastructure to position Arizona as the national leader in hypersonic system development. Hypersonic weapon systems and associated technologies have become the leading priority within the Department of Defense. Arizona can leverage Raytheon Missiles & Defense's decades of expertise and the investments made at The University of Arizona (U of A) to create an environment for developing both near-term and far-term systems. Raytheon has demonstrated it is a leader in hypersonic system development with recent successful flight tests. U of A has developed wind tunnel facilities and advanced computational fluid dynamics capabilities that support system development and academic research to advance state-of-the-art processes. Encouraging growth of the local industrial base and advanced manufacturing capabilities can position Arizona as the national center for military and commercial hypersonic system development.

### Support the Newly Reconstituted Arizona Space Commission

Work with the ACA in support of the newly reconstituted Arizona Space Commission. The Commission should refine and build upon previous strategies, incorporating the valuable space sector to attract, retain and educate Arizona's skilled labor while improving the state's competitiveness in the sector. In 1991, the original Arizona Space Commission was formed with the purpose of creating a unified direction for space-related economic growth and educational development. In December 1992, the commission presented its vision for the industry. In 2008, the more broadly named Arizona Aerospace and Defense Commission was established with members from both public and private sectors tasked with a similar mandate to create a strategic plan addressing Arizona's research, workforce, economic development and competitiveness issues related to the aerospace sector. Citigroup analysts report that the space subsector alone should reach \$1 trillion in annual revenue by 2040. In 2024, Gov. Katie Hobbs signed legislation to reconstitute the Arizona Space Commission.

#### Encourage Commercial Space Technology

Attract, encourage and nurture growth of commercial space market applications and companies in Arizona. Continue to support and expand high-profile research and development programs at NASA and other agencies for major end programs such as OSIRIS-REx and NEO Surveyor at U of A and Psyche mission at Arizona State University (ASU). Encourage a market-research report on how to further attract commercial space activities and opportunities to Arizona. Benchmarking against other states that have passed legislation or promulgated rulemaking that supports commercial space activities can lead to faster growth in Arizona.

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According to a report published by the Space Foundation, the global space economy grew to \$469 billion in 2021. Arizona plays a critical role across the commercial space value chain through established corporations such as Boeing, Viasat, Honeywell, Blue Origin, Virgin Galactic and Northrop Grumman. There are also a host of new and early-stage commercial space entrants such as FreeFall Aerospace, Lunasonde, Phantom Space and Katalyst Space Technologies that are shaping Arizona's commercial space technology future.

### **Diversify Commercial Spaceport Launch Sites**

Develop a comprehensive strategy and approach to the possibility of hosting various launch sites in the state, considering growing global demand for more frequent rocket launches with smaller payloads on smaller launch vehicles. Examples include the John McCain Yuma Spaceport, a vertical launch site, and the Coolidge Air and Space Port, a horizontal launch site. Encourage partnerships with other countries' emerging space efforts like the Australian Space Agency and the Japanese Aerospace Exploration Agency (JAXA) to explore the sector's full potential in Arizona. Adding launch locations in Arizona would mean significant differentiation and economic growth opportunities within the massive and growing global commercial space market. Support re-entry and landing site in the Wilcox region.

### Participate in Military Space Missions

Advocate Arizona to begin participating in military space missions now that the United States Space Force (USSF) has been bolstered by bipartisan support. U of A's world leadership in space situational awareness makes it a natural partner for USSF in establishing space domain awareness mission leadership. U of A and ASU both have substantial experience in space mission management that would make Davis-Monthan Air Force Base an ideal home for the establishment of graduate-level USSF professional military education.

### Fund SBIR/STTR

Continue to fund the Small Business Innovation Research (SBIR) program to fully leverage Arizona's strengths across primary research, development, prototyping, and early-stage manufacturing in support of national security objectives. Encourage industry/academia teaming for Small Business Technology Transfer (STTR) and collaboration for SBIRs to retain academic talent and graduates in Arizona.

## BIOSCIENCES AND HEALTH CARE



### PRINCIPLE

Advocate collaboratively with Arizona stakeholders to support the discovery, development, commercialization, distribution and availability of bioscience innovations. These innovations are crucial for addressing current and future health care challenges, enhancing the lives of Arizonans and potentially reducing overall health care costs.

### POSITIONS

#### Protect University Research Funding

Advance the research enterprise systemwide by working collaboratively with the Arizona Board of Regents. Proposition 301 funding allocations, including the Technology and Research Initiative Fund that fuels research and innovation at the state universities, should be protected by voters. Higher funding levels may be contemplated for the future. Increased focus should ensure equitable access to students of diverse identities working on research projects.

#### Support Arizona Health Innovation Trust

Support increased funding of the Arizona Health Innovation Trust, which was created by the Legislature in 2022. The trust supports the creation and commercialization of Arizona-based health innovations by providing workforce development programs, entrepreneurial support for Arizona health innovators and mission-related investments that help these health innovators reach key development milestones and attract additional funding from angel investors and venture capitalists.

#### Internships

Support the development and funding of a pilot program to support STEM internships that reflect the diversity of Arizona's high schools, community colleges and universities, and broaden access to underrepresented students.

#### Make Health Care More Accessible

Make efforts to ensure all Arizonans have equitable access and opportunity to benefit from the lifesaving and life-changing innovations that the biotechnology and medical technology industries can offer. These efforts should also focus on potential cost-saving measures and include ways to reduce the total cost of care for patients where possible.

#### Support Arizona Biomedical Research Centre

Support the Arizona Department of Health Services Biomedical Research Centre's mission and its grant process for funding opportunities designed to identify and select high-impact bioscience research, education and innovation projects for the benefit of Arizonans today and in the future.

### **Create Health Information Exchange**

Support the creation of a nonprofit health information organization designated by the Department of Health Services as Arizona's official health information exchange. This organization would be permitted to receive, use and redisclose the confidential information from the child immunization reporting system and communicable disease-related data for purposes allowed under Health Insurance Portability and Accountability Act privacy standards.

#### Use Evidence-Based Public Health Practices

Use evidence and science-based methodologies and information that is peer-reviewed or accepted scientific consensus in making public health decisions. Work to ensure prevention and reduction of diseases in Arizona.

## **BIOSCIENCES AND** HEALTH CARE: TELEHEALTH



### PRINCIPLE

Telehealth and its integration into electronic delivery of health care should continue to be enabled, encouraged and broadly adopted throughout Arizona. That includes advocating uniform deployment and enforcement of the new telemedicine laws at state and local levels, as well as educating users and others about them. Also, expansion of the statewide telehealth infrastructure and ecosystem should be facilitated.

### POSITIONS

### **Invest in Telemedicine and Telehealth**

Prioritize and invest in the support and expansion of telehealth infrastructure and the availability of the underlying technologies necessary for its robust application. Provide remote social services and behavioral health lifelines, as well as connect medical professionals and families to isolated patients for telehealth services at home or through local community centers and libraries. Telemedicine has become increasingly necessary to Arizona's health care facilities, providers and patients. It will be especially important to health care providers who increasingly depend on broadband to recruit, train and prepare the workforce of the future. Build on past support for participation in medical and nursing interstate licensure through legislation to join the National Council of State Boards of Nursing's Advanced Practice Registered Nurse Compact enabling out-of-state medical professionals to deliver telemedicine consults and services in Arizona and medical professionals based in Arizona to reciprocally deliver teleservices to those in other compact-participating states. Encourage the expansion of health care resources and telemedicine equipment in libraries for patron use onsite and on loan, as well as develop health care navigator programs throughout the state.

Continue to support expanded telemedicine parity, licensure and electronic establishment of doctor/patient relationship laws that are driving enhanced access to health care. Additional refinements include amending existing policies and rules for implementing the new telemedicine laws from which patients and health care providers are already benefiting. Education and advocacy for uniform deployment and education of the new laws at state and local levels are necessary for building a strong working consensus among providers, payers and users of telemedicine and telehealth services.

## **CAPITAL FORMATION**

### PRINCIPLE

To keep Arizona on track as a technology hub, attracting more investors and their financial resources is essential. Achieving this goal requires understanding the needs of the risk-capital industry to encourage the flow of capital into the state. Arizona has developed a successful Angel Investment Tax Credit program and has a thriving research and development ecosystem. There are also several other economic development programs that have helped Arizona become a leader in technology, especially in the advanced manufacturing sector. Despite those programs, many companies seeking capital to enter the critical early stage of business development leave Arizona because crucial in-state funding is scarce. Arizona needs to address this issue because the state is losing out on some of this country's most coveted jobs.

### POSITIONS

#### **Expand Angel Investment**

Explore the opportunity to expand the Angel Investment Tax Credit to better address the growing need. The Arizona Commerce Authority (ACA) certifies \$2.5 million in tax credits each fiscal year for investments made in qualified small businesses. Any unused credit capacity is carried over from the preceding year. The recapitalization of the program led to a dramatic increase in angel investing, demonstrating its effectiveness in incentivizing and encouraging investors who might not have invested otherwise. Currently, the \$2.5 million in tax credits is usually fully utilized within the first half of the year and sunsets in 2031. The innovative companies that benefit from the Angel Investment Tax Credit investments produce high-quality, high-paying jobs, and the success of these companies results in the growth and diversification of the state's economy. Expansion of this program can result in more companies receiving investments, which can further increase the program's positive economic impact on the state.

#### Continue the Research & Development Tax Credit

Explore the possibility of making the current levels of the extremely successful Research & Development (R&D) Tax Credit permanent. The federal government's program is now permanent, and we recommend the state enact similar permanent legislation. This legislation would continue to encourage companies to invest additional R&D monies in Arizona, which is mutually beneficial to both the state and the companies. Some companies have stranded tax credits, meaning they are unable to utilize them due to their tax liability. It is important to note that a company only earns this credit by investing more than its previous year's investment in R&D. Some states have allowed companies to access and utilize these stranded credits in various ways. Arizona should do the same and create a program that requires a company to invest in some of the state's priorities, such as water sustainability and workforce development.

#### Increase Early-Stage Venture Capital

Boost early-stage funding, which is crucial for startups and emerging companies as they develop and market their products. Although Arizona has found creative ways to address some of these issues in recent years through initiatives such as the ACA's Competes Fund for microenterprises, there remains a significant need to reduce the number of companies recruited to surrounding states with seed and early-stage venture capital. Most states have created early-stage venture capital funds through which the states take on a role in supporting investments in these companies. Arizona needs to understand how to attract, encourage and incentivize early-stage funding of companies. Various funding models used in other states (e.g., Utah's fund of funds model, Maryland's insurance premium tax credits) need to be analyzed to determine which could be potentially viable methods in Arizona.

## CYBERSECURITY

### PRINCIPLE

Arizona is a national cybersecurity leader, attracting prominent cyber and technology companies and talent, and promoting robust cyber preparedness for our public and private sectors. The state has also launched innovative cyber response capabilities, including the Arizona Cyber Command Center, and a public-private partnership for cyber intelligence sharing developed collaboratively with the Arizona Cyber Threat Response Alliance (ACTRA) that serves as a model being adopted nationally. With this growth comes an increasing demand for a skilled workforce. There are currently over 9,000 cyber and IT open jobs across Arizona.

Arizona is home to thousands of businesses, organizations, government entities, and educational institutions that are at daily risk of cyber-attacks. The rate and severity of cyber incidents is on the rise, with an estimated 2,200 daily cyber events. In 2023, Arizona ranked eighth in the country for financial losses due to cybercrime at a staggering \$324 million. The state is a leading hub for semiconductor firms, creating a boon for our local manufacturing community, but also increasing the threat level to the semiconductor supply chain as attractive targets for malicious actors.

In 2024, ransomware continued to be a prominent form of cyber-attack. Ransomware and other forms of cyber extortion are increasingly more brazen, threatening to sell extracted data, and posing significant financial and reputational costs to victims. But malicious actors continue to deploy sophisticated techniques, such as social engineering, and exploit system vulnerabilities to access protected networks. Business email compromises have surpassed ransomware in estimated annual financial loss, and extricated data extortion schemes are rising rapidly. Small and medium-sized businesses (SMBs) are particularly vulnerable to cyber threats. Approximately half of all cyber-attacks target small businesses, 70% of which are unprepared to deal with such attacks.

As cyber-attacks increase, so do the costs. Cyber-attacks in 2025 are estimated to result in \$10.5 trillion in total costs globally, while the costs associated with investigating a breach have increased to roughly \$4.5 million per incident. Ransomware payments hit \$1 billion in 2023, with the bulk of that money paid to foreign hackers. Cyber insurance claims also hit record levels in 2023, while premiums and underwriting requirements continue to price many SMBs out of the market.

### POSITIONS

### **Cyber Resiliency**

Promote cybersecurity investment and resiliency broadly, with a particular focus on supporting Arizona's SMBs, government agencies and supply chains to secure critical health, education and consumer data. Arizona's public and private sectors should continue to take a proactive approach to cybersecurity improvements. Cyber preparedness is key to staving off escalating cybersecurity costs.

Explore opportunities to increase cyber awareness; expand the cyber insurance market, including supporting proactive cyber risk management programs; and reduce cybersecurity costs. Effective cyber resiliency can reduce the threat of ransomware and other cyber intrusions, improve cyber incident response, and increase access to cyber insurance and other tools for Arizona businesses. The guiding north star and the primary goal will be to increase the cost of exploitation for the adversary!

### Education and Workforce

Fund cybersecurity education for K-12 students and expand certification programs and post-secondary degrees in information technology and cyber curricula. Increase opportunities for educator training and professional development in this critically important area, including internships, externships and apprenticeships to provide real world experience.

Equip the current workforce with the skills necessary to succeed in the cybersecurity field, reskill those transitioning to the field and develop the next generation of cyber protection and response professionals.

### Laws and Regulations

Enact responsible state and local laws and regulations that promote cyber awareness, education and preparedness for Arizona's private and public sectors, and offer cyber resources and training for SMBs to help alleviate financial barriers to cybersecurity improvements. Support incentives for private sector investment in advanced research and development, particularly focused on artificial intelligence and machine learning to use as defenses against cyber-attacks.

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## DIVERSITY, EQUITY, INCLUSION AND ACCESSIBILITY

### PRINCIPLE

Workplace inclusion efforts can be traced back to the 1940s. The corporate diversity, equity, and inclusion (DEI) initiative gained impetus in the 1960s, driven by the civil rights movement and legislation regarding equal employment.

DEI continues to be a key imperative for organizations. A workforce that reflects diverse communities and creates a culture of tolerance and empathy involving the lived experiences of Black, Indigenous, People of Color (BIPOC), neurodivergent individuals, persons/individuals with disabilities, and those from underrepresented sexual orientations, gender identities, and expression (SOGIE) is essential for innovation, growth and success. Institutional and systemic discrimination – along with barriers to accessing core services like health care, broadband, education, affordable housing and living wages – perpetuates inequities that hinder economic mobility. Addressing these issues by building a comprehensive workforce is vital for attracting top talent, fostering a culture of belonging and driving profitability.

### POSITIONS

### **Promote Awareness**

Prioritize raising awareness of the economic benefits of DEI and emerging best practices. Demonstrate how DEI remains critical to Arizona's economic future and the growth of its technology ecosystem through:

- Deliberate integration of DEI principles and goals across all policy areas, especially workforce development, telecommunications and economic development.
- Supporting businesses in driving DEI internally and externally, showcasing successes and their impact.
- Providing programming and collaboration mechanisms for small and mid-sized businesses to establish shared DEI goals and metrics.

- Increasing awareness of technology deserts by supporting broadband expansion, STEM education programs and access to devices in underserved areas.
- Speaking out against proposed restrictions or barriers to achieving a more diverse, equitable and inclusive Arizona and technology ecosystem.
- Encouraging representation to emphasize the importance of creating a diverse and inclusive environment, addressing systemic barriers, and fostering a sense of belonging for all individuals.

### **Provide Support**

The Council will continue to cultivate a culture of continuous learning and growth by:

- Hosting the Tech Inclusion Forum to showcase DEI champions' progress, programs and personal journeys.
- Sponsoring DEI roundtables and collaboration initiatives.
- Enabling diverse career paths across roles and areas.
- Investing in workforce development, reskilling and upskilling programs to create a more diverse workforce with equitable opportunities.
- Providing transparent career pathways, access to education and training, advancement opportunities and flexible work arrangements.
- Continuing to grow a business community committed to DEI in order to attract new companies and support existing ones in Arizona.
- Offering underrepresented businesses entrepreneurial support, coaching, mentoring and financial investments. Cultivating cultural competence and understanding of intersectionality to foster an inclusive environment.

## EDUCATION, WORKFORCE DEVELOPMENT AND WORKPLACE



### PRINCIPLE

The lack of skilled talent continues to be a top challenge and barrier to business growth in Arizona. Additionally, data continues to show the pandemic has had significant impact on education outcomes from pre-K through higher education, including declines in high school graduation and postsecondary enrollment. Now more than ever, all Arizonans need education and career opportunities that will eliminate inequities and allow workers to better align their skills with labor market needs. A robust, aligned and inclusive pre-K-12 and postsecondary education system that collaborates with workforce development systems is essential.

Expanding access to and participation in quality advanced coursework for all students, particularly those who are typically underrepresented in these courses, is also critical to preparing students for higher education and careers. At all levels, access to high-quality STEM education must be available. Workforce development and retention strategies and funding should be coordinated and aligned with targeted high-skill, high-wage and high-demand industry sectors.

Such a system of support will provide the foundation for a healthy Arizona technology community and innovation economy by:

- Incentivizing and developing cross-institutional partnerships from education, community, government and business that enhance Arizona's STEM ecosystem.
- Focusing on increased graduation from high school for all students, credentials, certificates, credit-bearing coursework, and degrees to prepare for high-wage, highdemand STEM jobs.
- Supporting development of adult education programs to bring new workers into the workforce and retraining those in need of new knowledge and workplace skills.
- Encouraging companies and the public sector to provide work experiences, including internships and apprenticeships, for students from K-12 through higher education.
- Reducing barriers to full participation of all Arizonans in an inclusive, equitable economy.
- Enabling the attraction and retention of in-state, remote and imported talent needed for Arizona to thrive as a technology hub, with a heightened focus on underrepresented talent.
- Eliminating the digital divide by guaranteeing digital literacy skills and ethical digital citizenship training, and increasing access to broadband and needed devices to ensure opportunities for education, training and job opportunities for all.

### POSITIONS

### Career and College Readiness: Dual Enrollment, AP Coursework, CTE and Credit for Prior Learning

Increase Arizonans' attainment of credentials, micro-credentials, certificates and degrees aligned with business needs, and accelerate economic development by championing support for improvements in pre-K through postsecondary education and workforce development. Major focus areas include supporting high expectations for all students; providing funding for career awareness and exploration-including information about pathways aligned to Arizona's targeted growth industries, especially in STEM fields-and legislatively requiring completion of student Education and Career Action Plans (ECAPs); leveraging policy and funding to close equity gaps in participation and performance in advanced coursework; and increasing industry engagement, especially in work-based learning experiences during high school and postsecondary education. Additionally, support innovative approaches to adult basic education that allow adult learners to obtain high school- equivalency diplomas while obtaining a college credential in skills that will support a livable wage.

Ensuring access to dual enrollment, Advanced Placement (AP), and career and technical education (CTE) opportunities for all students to experience the benefits of challenging coursework – regardless of socio-economic status or rural, remote or urban location – is critical to increasing diversity and aligning credential, certificate and degree completion to regional workforce needs. Implementation of high school pathways, early college and career-focused institutions that emphasize dual enrollment, intentionally bridging the gap between high school and postsecondary education. This approach has proven to be a successful model by aligning more closely with today's education, training, and workforce development needs. Increasing collaboration between high school and postsecondary counselors and educators to support seamless transitions for students is an important step in that direction.

Data clearly shows students who are successful in dual enrollment, AP and CTE courses have increased high school and postsecondary completion and support the early talent development needed for Arizona's innovation economy and economic prosperity for its citizens. Additionally, students who take AP computer science principles in high school are more than three times as likely to major in computer science as those who did not take the course, as well as gain invaluable skills.

AP and CTE courses can also work in tandem to support career readiness by encouraging the development of the academic knowledge and technical skills that together are increasingly important to students' overall employability. The Council supports the following actions:

- Increase dual enrollment, AP and CTE course utilization for all students by maximizing additional funding for tuition assistance, supporting exam fees and addressing the key issue of availability of qualified teachers.
- Support solutions to provide teaching capacity and incentivize education required for certification, especially in STEM subject areas. This includes maximizing utilization of Arizona Teachers Academy funding available to support teachers seeking dual enrollment certification. \* Implement innovative approaches to ensure access for underserved schools and students, including building on improvements in live remote learning to bring qualified teachers to students regardless of location.
- Fully restore 9th grade and adult education CTE/CTED eligibility and funding to increase student access to work-based learning and opportunities to complete industry-recognized CTE programs.
- Reauthorize CTEDs to serve students through age 21 regardless of graduation status. Increase access and equity to CTE students by allowing CTEDs to receive adequate transportation route mile funding for transporting students to their CTEDs.
- Support community colleges in designing a dual-credit model for adult learners and youth ages 16-24 who are neither in school nor employed, allowing these individuals to enroll in both adult basic education programs and community college courses simultaneously while building the talent in Arizona.
- Reduce costs and barriers to college entry for working adults who are Arizona@ Work WIOA-eligible clients seeking enrollment in Arizona's community colleges by expanding policies for former and current military members, and awarding credit for prior learning.

### Ensure Transparent Data and Accountability

Fund the strong support necessary to meet the accountability metrics set by the Arizona Education Progress Meter. Provide funding for and support the implementation of aligned accountability systems and transparent reporting of disaggregated data. Drive attainment of the statewide Progress Meter goal of 60% of Arizona adults holding a postsecondary degree or credential by 2030 is supported by strategies including dual enrollment, AP coursework, CTED completion and credit for prior learning.

### Increase Education Funding

Fund the state's P-20 public education system with consistent, dedicated and sustainable revenue streams. More specifically:

- Develop and support mechanisms to fully, equitably and sustainably fund Arizona's Pre-K-12 education system, CTED expansion, access to quality advanced coursework such as AP and dual enrollment courses, and community colleges and universities while focusing on equity, performance and accountability.
- Ensure funding mechanisms that position Arizona Pre-K-12 at minimum with mean-level funding among the 50 states.
- Permanently eliminate the aggregate expenditure limit for district schools or modernize to reflect the current educational landscape crucial to ensuring the equitable distribution of resources.
- Maximize state funding to ensure competitive salaries to attract, reward and retain teachers and staff, including an emphasis on difficult-to-fill positions.
- Support sustainable state finance formula changes by adding an "equity weight" to give school districts the aid necessary to close existing achievement gaps for students in lower socio-economic circumstances.
- Promote inclusion of community colleges into the existing Arizona Promise Program of college scholarships by providing necessary funding and administrative infrastructure for participation, utilization increase, and access to higher education.
- Restore operations funding to Pima Community College and Maricopa Community Colleges, higher education entities that serve 73% of Arizona's community college students.
- Revise the statutory full-time student equivalent formula to reflect predominant learner course-taking, which is part-time, and allow non-credit workforce training to count toward the formula's calculation.
- Ensure funding for adult basic education to support upskilling of adults in need of high school equivalency diploma, or skilled immigrants and refugees needing English to succeed in college and career. Funding would target an increase for core adult education and reinstating community college adult education workforce development.

#### Cultivate STEM Ecosystems

Engage business, K-12 and postsecondary education and workforce and economic development communities in collaborative, integrated sector and cross-industry strategies and implementation through the deployment of Arizona's STEM ecosystem,

creating one system that would allow efficiency, resource sharing, and targeted dollars and coaching for those who need it most to ensure the best return on investment for state-invested dollars.

Advocate and support policies and funding to cultivate a statewide STEM ecosystem including but not limited to state-supported funding leveraging programs, organizations and agencies charged with addressing skilled-workforce shortages in high-tech industry sectors. Investing in a statewide STEM ecosystem will result in expansion of STEM business and education opportunities throughout rural and urban Arizona communities, fueling a strong and diverse talent pipeline prepared to meet the state's anticipated growth.

### Develop Innovative Learning and Educational Technology

Develop a coordinated strategy to promote and support adoption of innovative ideas and new technologies in K-12, higher education and libraries, including digital curriculum, virtual online labs, makerspaces, robotics instruction, and competencyand outcome-based innovative learning approaches.

Drive increased use of digital curricula, including new courses and curriculum in emerging areas of artificial intelligence (AI) and cloud computing to better prepare students for the jobs of the future and improve learning outcomes for diverse student populations. Expand opportunities for online teacher training such as ASU Prep Digital's Arizona Virtual Teacher Institute and other alternative certification programs. Provide ongoing funding and support for the Office of Educational Technology within the Arizona Department of Education (ADE) to serve local education agencies seeking assistance, and act as a bridge to other organizations and institutions with overlapping responsibilities to maintain a keen focus on supporting educator excellence and an increase in academic outcomes for local education agencies.

Expand Broadband Access - Continue to enable broadband availability for rural K-12 schools and libraries, as well as higher education at predictable, reasonable costs while driving online education applications and collaborative activities to improve learning delivery and development of workforce skills and pathways. Support the Office of Educational Technology as a conduit between local education agencies and technology resources in support of digital equity for K-12 in Arizona. K-12 and higher education are facing enormous challenges as they virtualize their services and enable remote access and participation by students who remain unserved or underserved.

Focus, plan and invest to resolve shortcomings that remain in access to computing devices, software and technical support for schools, students, faculty and administrators working remotely. Because libraries have been focal points for community broadband access inside and around their facilities, libraries should continue to expand and be accompanied by public technical support services. Leverage federal E-rate funding to the maximum extent possible to make reliable, affordable broadband available to schools and libraries by providing support for their telecom equipment and services.

ADE has invested \$2.5 million in the Final Mile Project and should further invest in the expansion of this innovative, transformative project for the design, construction, implementation and provision of educational broadband services to students' homes in rural underserved communities. The project enables students to engage in virtual learning, research and skill development while also supporting economic development, health care and more in these communities. Arizona should also establish long-term funding solutions to supplant the federal Emergency Connectivity Fund to help schools and libraries provide the tools and services their communities need for remote learning.

### Use AI to Support Teaching and Learning

The use of AI to improve teaching and learning affords many opportunities to support educators and students. Utilizing AI assistants to provide teachers with information to enhance customization of curricular resources to meet individual student needs along with the use and monitoring of chatbots to help personalize instruction are just a few of the ways AI may help provide educators with the information they need to work even more closely with the unique needs and capabilities of their students.

Promote and fund effective professional development for educators in the utilization of AI and the ability to guide students in safe and effective use. Align policy and funding to support AI research, design and implementation that positions the needs of students at the forefront and is led by educators, students, families and caregivers, policy makers, and systems leaders.

Champion safe, ethical, equitable and culturally responsive development and implementations that have regard for use by all students, including special needs and English learners.

Drive policy that promotes data privacy and security, minimizes bias, promotes fairness, and ensures transparency and accountability in the development and usage of models and resources that educators, students and parents/caregivers and community leaders can trust.

### Prioritize Equitable and Inclusive Talent, Workforce Development and Job Training

Align workforce development and education efforts with employer needs and statewide economic development goals with an increased focus on underserved communities, students and citizens. Utilize tools like Pipeline AZ and My Future AZ platforms and Talent Pipeline Management to better align education, training and workforce development. Support and increase the use of hands-on, competency-based work experience models and pathways to accelerate skills development in high-wage, high-demand and high-growth sectors. Utilize technology for scale and implementation in rural and remote areas. Work with community colleges to market and expand awareness of credit for experience granted through prior learning assessment programs.

Leverage incentives, tax credits, grants, and state, regional and federal investments to promote high-tech internships and apprenticeship programs in fields like software development, cybersecurity, advanced manufacturing and health care. These include Department of Labor grants for Pima Community College (PCC), Arizona State University and Fresh Start, a community-based nonprofit serving women training for nontraditional jobs. New health care apprenticeships in Yuma and a cybersecurity apprenticeship that begins in high school are excellent examples of employer engagement and success utilizing high-tech apprenticeships.

### Reinvigorate Job Training and Career Awareness and Navigation Services

Support efforts to integrate workforce development programs and reinvigorate job training programs to help companies attract and retain needed talent, whether it is produced within Arizona or imported from other states and countries.

Support and provide funding for equitable and accessible career awareness navigation services and tools like Pipeline AZ and My Future AZ, which support middle grades to mature adults seeking career information, guidance and training that can empower individuals and families to make informed decisions about education, careers, and employment pathways and choices.

Promote and support more equitable recruitment and hiring of tech talent through competency-based, "skills first" hiring. Reducing dependency on four-year degree requirements; recognizing certificates, credentials and micro-credentials; and using apprenticeships and other "earn and learn" programs provide an expanded pool of and opportunity for more inclusive talent.

An increased focus on employee development as a source of upward mobility for mid-, senior- and executive-level talent development should also be encouraged



along with the use of internal and comparative data to ensure fairness in pay, promotion and retention. Encourage and support companies' positive experiences with remote work to increase opportunities for hiring diverse talent.

#### Veterans

Increase utilization of existing resources like Pipeline AZ, which has technology translating military occupational codes into civilian positions, as well as SkillBridge, a Department of Defense program providing an opportunity for service members to gain valuable civilian work experience through specific industry training, apprenticeships and internships during the last 180 days of service. Arizona has a strong asset of talent transitioning out of the military every month with the skills required to fill high-demand careers in every job sector.

### Explore Job-Driven Financial Support/Assistance

Explore job-driven financial support models, including tuition waivers and "last dollar" scholarships/tuition assistance for adult learners to complete in-demand certificate or degree programs. Maximize and support utilization of new community college enrollment incentive program for low-wage workers to train for high-tech jobs.

### **Child Care**

Support and fund strategies that increase the availability of child care. This includes educating and training more child care workers, offering competitive wages to make the field attractive, and providing vouchers and subsidies. Many Arizonans lack access to affordable, quality child care, impacting workers and their families, employers and Arizona's economy. The need for accessible and reliable 24-hour care impacts every industry and must be addressed. Addressing this shortage is critical to the full participation of women in the workforce and low-income workers who are disproportionately impacted by the lack of child care. According to a recent study, 48% of Arizona, including rural and urban areas of the state, is considered a "child care desert" where there are too few licensed childcare slots for the families that need them. Additionally, it is estimated that Arizona loses \$1.7 billion annually due to child care challenges.

### Update Employment Non-Discrimination Laws

Encourage policy makers to look at updating Arizona's non-discrimination laws critical for attracting and maintaining a competitive workforce, especially in the technology sector. Non-discrimination statutes should be inclusive of gender, race, religion, sexual orientation, gender identity, nationality, ableness and age in the areas of employment, housing and public accommodation. Employees should be judged on their merits and employers should foster an environment of acceptance and inclusion where innovation can thrive. Updating Arizona's non-discrimination laws will ensure we remain competitive, which is good for our citizens and economy.

### Address Inequality in Criminal Justice

Encourage businesses to build on the state's second chance hiring policy that eliminates the question about prior convictions on hiring applications and allows individuals with a past conviction to be considered based on current merit versus being excluded up front. This would open doors for many qualified individuals, allowing them to restart their lives, support their families and provide companies with an additional diverse talent source since people of color are disproportionately impacted by the criminal justice system. Additionally, maximize licensure for current and new residents by ensuring that any restrictions in obtaining an occupational license are narrowly targeted and provide a means to recognize successful rehabilitation.

## ECONOMIC DEVELOPMENT



### PRINCIPLE

Arizona must have competitive economic development tools possible while encouraging innovation, as well as business attraction, retention and growth because we are competing with other states and countries. This state has become a known technology hub in the nation after creating, attracting and growing many technology companies in the past decade due to its favorable economic climate. Most recently, Arizona has been recognized as a national leader in advanced manufacturing. However, we must ensure we continue programs that assist this process, rather than adopting policies that could be detrimental.

### POSITIONS

### Promote the ACA's Work

Advocate for Arizona Commerce Authority's (ACA) continued funding and work to ensure it remains the platform for the state's economic development efforts. Support the ACA's mission to grow and strengthen Arizona's economy and facilitate the creation of quality jobs for its citizens by expanding and attracting businesses in targeted, high-value industries throughout the state. Encourage support for the many ongoing ACA initiatives focused on enhancing Arizona's innovation ecosystem. Support the Arizona Office of Economic Opportunity's mission to increase the state's workforce quality and business climate through use of economic, demographic and regulatory data; policy development; and relationships with key partners.

### Support Global Competitiveness

Support the increase of resources dedicated to Arizona's State Trade and Export Promotion (STEP) program from the ACA and U.S. Small Business Administration. This would help ensure small businesses are able to compete internationally on a level playing field. The Council will participate in trade missions around the world to provide economic opportunities for its members. Encourage support for RevAZ, which is the Arizona Manufacturing Extension Partnership (MEP) center created through a partnership between the ACA and the National Institute of Standards and Technology. The goal of RevAZ is to become the central resource for technical assistance and all things manufacturing for Arizona's existing community of small and mid-sized manufacturers.

### Encourage Infrastructure Investment

Support the development of tools to facilitate public and private investment in infrastructure necessary to competitively enable high-tech manufacturing investments and growth. Ensure access to essential infrastructure, such as broadband, is available across the state to eliminate roadblocks preventing people from working from home if necessary.

### **Foster Local Efforts**

Foster local economic development by supporting local entrepreneurs who engage with the global economy to deliver goods and services around the world. Encourage and support initiatives to make Phoenix, Tucson and other Arizona communities more supportive of startups and innovation. Ensure local governments do not create ordinances or other roadblocks to doing business in their jurisdictions but instead support streamlined processes when available. Promote access to opportunities, credit, funding, investors and mentors since studies show these challenges can severely limit growth. Ensure funding opportunities are inclusive of startups led by women and people of color as data continues to show significant inequities in access to funding.

Promote increased investment and expand tax incentives for employment in federally certified opportunity zones, where many residents are people of color and low income. By adapting to remote work during the COVID-19 pandemic, companies have learned they can manage and thrive with workers located anywhere, creating an even greater opportunity to increase the diversity of their workforce with respect to hiring qualified talent.

### **Reduce Regulations**

Continue to reduce the number of regulations that discourage companies from relocating to or growing in Arizona. Continued support is needed by the Legislature and business community to reduce regulations and create policies that stimulate the economy instead of stifle it, especially in relation to new innovative and disruptive technologies that challenge some industries' ways of doing business.

### **Elevate Targeted Industries**

Expend substantial public policy efforts and accompanying resources on creating, attracting and retaining those employers that pay the highest wages. Wage studies routinely show that many technology fields employ the highest-paid employees. In particular, the Council recommends efforts to target the following industries: health and bioscience; semiconductor and electronics; IT and cybersecurity; energy; aerospace (including commercial space); aerospace and defense; telecommunications; optics; and medical, financial and educational technologies. Support Arizona's efforts to establish a leadership position that encourages adoption of new, innovative and disruptive technologies such as blockchain, artificial intelligence, machine learning, additive manufacturing, autonomous vehicles and the Internet of Things.

### **Boost Access to Capital**

Provide border-based businesses with access to needed capital. Much has been made of the border flight by the three biggest U.S banks-Chase, Bank of America and Wells Fargo, respectively-leaving many border-based businesses without access to working capital and lines of credit.

### Support Underrepresented Entrepreneurship

Support business efforts to boost underrepresented entrepreneurship by increasing supply chain diversity, creating pitch competitions and mentoring support, and providing additional access to capital for startups and growth of underrepresented or largely underrepresented businesses.

### Protect and Expand Economic Development Programs

There are several economic development programs that have become essential in the attraction and growth of advanced manufacturing in the state. However, some of these programs are becoming targets for some organizations, as well as approaching or hitting their caps due to the growth Arizona's technology industry has seen over the past several years. Look for opportunities to expand these programs to meet the existing needs of the state and ensure they programs are not eliminated, which could hurt Arizona's continued growth in these sectors.





### PRINCIPLE

The link between technology investment and energy is fundamental and unbreakable. To attract investment capital and retain and grow its technology business sector, Arizona needs predictable and investable energy markets that ensure affordability, grid reliability and energy security while enabling companies to meet internal sustainability goals. Additionally, the state needs a secure and adequate water supply. Every key Arizona technology cluster–including aerospace and defense, semiconductor and electronics, health and bioscience, cloud/data centers, back-office processing, and alternative energy technology–shares these needs. Policy and legislative choices that enable market forces to improve the status quo have historically been favored. There are several attractive policy options that would benefit Arizona businesses, job creation and economic productivity. Several trade organizations, including the Arizona Energy Consortium, continue to find ways to provide more certainty in developing the state's energy policy for the future.

Transitioning to low-carbon technologies would provide the ideal landscape for Arizona companies and utilities to meet their sustainability goals. A growing number of companies are setting goals to source 100% renewable energy for their facilities and reduce their carbon footprint. Access to low-carbon or carbon-free energy resources that are cost-effective is an important factor for companies as they consider where to make future investments.

### POSITIONS

### Leverage the Inflation Reduction Act (IRA)

Leverage the benefit of the IRA through the Arizona Office of Resiliency by taking full advantage of the clean energy incentives, clean energy cost reductions, tax credit impact, power sector incentives, and net zero goals of the IRA.

### **Diversify Energy Supply Utilization**

Improve diversification of the state's energy mix by including cost-effective solar, storage and other renewables in addition to distributed energy resources. Utilizing a diversity of resources to generate clean electricity, store renewable energy, use energy more efficiently, and curb usage at critical times are all ways to increase the reliability and affordability of electricity. Policy makers should enact laws that enable diversification of the energy supply while continuing to ensure reliability and stability of costs.

### Wisely Utilize Natural Gas

Intermittent renewable resources augmented by natural gas generation can provide a carbon-reduced, secure power source as Arizona transitions to a carbon-free market. Modern, flexible natural-gas generation will be important to maintaining reliability of the grid in the interim as it transitions to zero carbon.

Explore Nuclear Energy - Continue Arizona's utilization of the low-cost, carbon-free base load power of the Palo Verde Generating Station to benefit the state's residents and businesses. As the largest nuclear power plant in the nation, Palo Verde is the primary energy hub of the Southwest, establishing Arizona as a key market for interstate generation suppliers. Importantly, this excellent source of base-load power is best suited for the steady, predictable power needs of always-on manufacturing, data hosting and bioscientific experimentation.

### Support Clean and Renewable Energy

Support policies that provide the certainty needed to attract clean and renewable energy developers of all sizes, from rooftop to utility scale. Sustained economic investment requires that Arizona utility regulators and legislators create and maintain policies that enable capital-intensive investment in clean and renewable energy technologies. For many companies, clean and renewable energy is the future. Forward-thinking businesses are increasingly demanding that their electricity comes from renewable sources. Economic development is a huge area of focus for Greater Phoenix and Arizona as a whole, so it is imperative to continue developing supportive policies that allow companies to source clean and renewable energy that will encourage business creation, relocation and expansion. Arizona exhibits some of the best attributes for harnessing solar energy in the world. The state's low corporate tax rate, ideal geography, relatively inexpensive land, moderate climate, and proximity to substantial and in-place infrastructure provide real-world inputs for Arizona to establish itself as the leader of clean and renewable energy generation and innovation.

Energy policy that encourages demand-side adoption of energy efficiency, prioritizes clean and renewable energy use, invests in electric vehicle (EV) infrastructure development, and supports innovation in the industry should be prioritized. This process has been expansive over many years and has included several stakeholders. This progress should continue as the importance of clean energy is a top priority for corporations across the state. Any changes to these rules and policies should be done in a thoughtful manner that includes all the different stakeholders across the state.

#### Develop Clean Hydrogen

Prepare a roadmap that positions the state as a leader in clean-hydrogen development and attracts domestic and foreign investment to further expand a clean-hydrogen economy. Hydrogen is an energy carrier that cuts across sectors and has multiple benefits. It can be used to store energy for long periods of time and transport energy over large geographies. Fuel-cell electric vehicles–whether heavy-duty, light-duty or material-handling–powered by hydrogen create no tailpipe emissions. Hydrogen itself can be produced with near-zero carbon emitted, even on a life cycle basis. Additionally, hydrogen can play an important role in domestic energy security by increasing our energy resiliency and is critical for a lower carbon energy mix. It can be used broadly across several industries, including transportation, steel, ammonia and methanol production, and refining, as well as in residential and commercial buildings and power systems. By 2030, the national impact of hydrogen could create \$130 billion in revenue and 700,000 jobs, growing to \$750 billion in revenue and 3.4 million jobs by 2050.

### Embrace Energy Efficiency

Support policies that encourage and embrace energy efficiency to keep Arizona's electricity costs low. Energy efficiency is consistently the least-cost energy resource to meet the state's energy needs. Robust energy efficiency programs and policies with a focus on peak demand will help Arizona businesses and consumers cut energy waste, reduce the need to build expensive power plants and save ratepayers money while creating jobs and economic opportunity in developing and deploying energy efficiency technologies.

#### **Grow Electric Transportation**

Create and maintain a robust and growing transportation electrification market and build out EV charging infrastructure as Arizona continues to foster innovation and grows into a world-class technology hub. The state is already attracting advanced transportation and EV manufacturing companies and has significant opportunity to be a leader in this growing economic sector. Companies will not want to continue to invest in Arizona over other burgeoning EV hubs like Texas and California without demonstrated support to keep their market powered. A primary way to continue this momentum is to invest in charging infrastructure for personal vehicles and electric fleets. This, coupled with effective charging rate design, is critical for the state's electric transportation transition. Beyond personal vehicles and ride-sharing services, electrifying fleet vehicles including delivery vehicles, semitrucks, public transit vehicles, and school buses will result in cost savings for both the public and private sectors in Arizona.

#### Support Electric Transmission

Continue to support transmission development and construction that enhances Arizona's ability to participate in a regional energy market, deliver the planned new resources required to meet sustainability goals and more efficiently use the existing transmission system. Provide the regulatory climate necessary for Arizona to maintain its leadership role in the coordinated and strategic development of transmission lines, allowing the energy industry to continue to prosper and facilitate the influx of private capital into Arizona.

### **Deploy Energy Planning**

Adopt a more robust regional approach to energy development that still maintains Arizona's policy autonomy. New power generation is being required each year as Arizona continues to grow. With large, high-demand markets in the broader region, the expansion of the California Independent System Operator's Energy Imbalance Market, and Nevada and Colorado directing their utilities to join a regional transmission organization, Arizona has a tremendous opportunity to prosper through regional cooperation. A regional transmission operator or wholesale market would enable Arizona to earn revenue by selling energy at critical times—and power through heat waves that drive increased demand on the grid. This would help to integrate the growing amount of renewable energy more seamlessly on the grid and could drive an increase in economical and low-cost renewable energy. Regional energy planning can also offer greater resilience as the grid faces increased extreme weather-related events. Changing customer needs, such as increased integration of EVs, growth of manufacturing and advancements in data centers, can place new demands on the way utilities provide power, making regional cooperation more important than ever. A more fluid and dynamic regional market would provide greater reliability and enhance Arizona and the region's ability to integrate a greater percentage of renewables required to meet the low-carbon goals of today's utilities and businesses.

### Support Energy Storage Technology and Battery Manufacturing

Look for opportunities to support storage technology that is rapidly developing and is an important companion to renewable energy. Electrochemical battery cells of various chemistries, such as lithium-ion, are the foundation of the energy transition, allowing efficient storage and subsequent use of clean energy sources. With substantial regional development of renewable resources, the Western Interconnection electric grid has periods of the year when generation resources and electric load are more difficult to match. A combination of storage technology and flexible natural gas generation may be key tools to successfully address this issue, adding necessary redundancy and supporting resiliency in the grid. As Arizona continues to become a hub for battery manufacturing and innovation, opportunities to support battery energy storage systems (BESS) tied to a variety of developments will continue to present themselves. Further, with the rise of lofty sustainability goals for governments and private organizations, as well as a renewed push for electrification fueled in part by Arizona State University's Electrified Processes for Industry Without Carbon (EPIXC), demand for battery manufacturing is poised to rise exponentially for e-mobility and BESS. Support for these developments, as well as continued investment and incentives for research and development, will help secure the state's leadership in this space.

#### Encourage Technological Advances

Create a regulatory environment not just for today's needs, but one that encourages and embraces future technological advancement. There are growing trends towards smaller and highly efficient distributed generation units, microgrids, smart grids, and energy-storage technology. To the extent that legal constraints and rate structures resulting from existing energy policies prevent Arizona businesses from adopting new technology or artificially increasing the costs of such adoption, such constraints and policies should be modified.



### Address Water Challenges

Support the growth of technology-based industries that are developing innovative solutions to water challenges. This may include a focus on securing early-stage risk capital for these businesses and involve collaborating with economic development entities at local and state levels to attract more businesses. Support collaboration between the public and private sectors to develop new energy technologies that conserve water and augment supplies.

## **ELECTRIC VEHICLES**

### PRINCIPLE

Arizona recognizes the future of personal mobility is increasingly electric and the auto industry will have invested more than \$330 billion by 2025 to reach the goal of a more electrified future. All of that is in addition to continued improvements for conventional cars and light duty trucks to address air quality, greenhouse gas emissions and fuel economy. A new generation of electric vehicles (EVs) is coming, and IHS Markit predicts there will be 130 models for sale in the U.S. market by 2026, up from over 50 models today. These will include battery electric, plug-in hybrid, and fuel cell electric technologies with longer range, more capability, and in different market segments at a variety of price points.

Although EV sales amounted to roughly 2% of all U.S. vehicle sales in 2020, consumer interest is growing because these vehicles are reliable, efficient, safe, and particularly fun to drive. According to Edmunds sales data in May 2024, the percentage of new vehicle sales in the U.S. that were electric cars was 6.8%. In addition, with Environmental Protection Agency guidance to transition to battery electric vehicles (BEVs) by 2035, there is a need for a comprehensive plan and public policy at all government levels to support a cost-effective experience for Americans. Despite the significant number of EVs coming to market, consumers are unlikely to buy a vehicle that cannot be conveniently fueled. Although roughly 80 percent of EV charging takes place at home, more options are needed. This includes affordable and readily available charging infrastructure, easy-to-understand utility rate structures that reward off-peak charging, and improved charging or refueling times. Consumers consider all these elements before buying or leasing an EV.

The shift to EVs also means expanded roles for utilities, energy regulators, and other stakeholders to create opportunities for new and existing businesses to participate in this clean transformation. With this in mind, we need to partner with public- and private-sector stakeholders to advocate policies that create viable business models, attract new capital sources, and stimulate competition and innovation to successfully accomplish this shift in Arizona. We are at a pivotal time on the journey to a cleaner, safer and smarter transportation future. The auto industry is committed to producing EVs. With timely, focused and sustained leadership and investment from a variety of public and private stakeholders, consumers can fully realize the full benefits of EV's.

### POSITIONS

### EV Accessibility and the Advancement of Electrification

Provide no-compromise mobility for EV drivers and fleets by rapidly scaling up access to charging infrastructure at home and work, around town, and on the highway. EV drivers need access to convenient, accessible, affordable, and reliable charging for their vehicles wherever they live, work and play across the state. In addition, public and utility investments are needed to help EV charging networks reach a sustainable scale and to ensure infrastructure is available in more challenging settings, including multifamily housing, underserved communities and rural areas.

### **EV Public and Private Partnerships**

Accelerate the pace of infrastructure deployment through public-private partnerships and collaboration across government entities, industries, and stakeholder groups, and by building on the experience of early-acting states. Work together across all sectors to accelerate infrastructure deployment, fully realize the benefits of transportation electrification, and minimize the cost of this transition.

### **EV** Charging Rates and Affordability

Adopt utility rates and programs for EV charging that ensures it is affordable, compensates EV drivers if providing grid services, supports fleet electrification, and enables high-powered charging business models. EV charging should offer drivers cost savings relative to traditional petroleum-based fuels and be designed to encourage charging when the grid is less congested and as renewable energy is abundant. Utility rate design can make or break the business case for fleet electrification and deployment of charging infrastructure, especially high-powered charging. Utilities and the Arizona Corporation Commission should address this potential barrier.

### Grid Improvements to Support EV Adoption and Consumer Confidence

Prepare for timely, cost-effective grid upgrades to support EV charging. EV drivers need to be confident that grid technology is reliable, resilient and able to accommodate their charging needs. Moreover, collaboration among utilities, automakers, EV charging companies, fleet owners, local governments and others will be critical to ensure grid upgrades take place in a prompt and financially sustainable manner.

### Utility Cost Savings Efforts and Consumer Equity

Ensure all utility customers, especially those in underserved communities, benefit from transportation electrification. Transportation electrification at scale offers many potential benefits, including savings on transportation costs for EV drivers, lower overall energy cost, valuable grid services, lower GHG emissions, and improved air quality around high-traffic areas, including fleet depots, ports and freeways. Cost savings realized from EV rates and programs should be shared between participating EV owners and other utility customers.

### Favorable Building Code to Advance Electrification Efforts

Adopt building codes that promote level 2 chargers in 100% of new residential parking spaces at new multi-unit dwellings and single-family homes, and measurably increase the number of new workplace and public chargers based on dwell time. Installing EV chargers during new construction can be five times as cost-effective as retrofitting to add chargers. Including level 2 chargers as part of future construction and development will advance accessibility to charging infrastructure to residents in high-density housing situations and will advance the electrification efforts by providing a service that currently restricts potential EV ownership.



## FINANCIAL TECHNOLOGY (FINTECH)



### PRINCIPLES

Arizona's financial technology (fintech) sector is among the most promising and fastest growing in our technology community. The broad and robust fintech community offers a diverse range of products and services with the potential to disrupt traditional financial services companies and markets. Arizona has shown leadership in breaking down regulatory barriers that could inhibit fintech innovation and emerging business models. To continue cultivating a fintech-friendly environment, our goal is to help drive state regulatory reform, allowing use of virtual currency and innovative fintech offerings that meet the needs of Arizona's fintech sector where innovations primarily rely on this type of currency. Arizona must provide a robust, streamlined regulatory experience for virtual currency and non-bank firms that is transparent, allows or encourages innovation, provides a level playing field for businesses that does not favor larger players over small ones, and appropriately protects consumers from harm.

### POSITIONS

### Adopt Digital Signatures and Smart Contracts

Continue easing regulatory hurdles by updating Arizona statutes and regulations to enable and encourage broad adoption and use of digital signatures, as well as drive innovation in smart-contract applications. Traditional paper contracts can be quite inefficient and prone to fraud, which is why digital contracts tied to immutable blockchains are emerging as an alternative. Arizona lawmakers previously enacted groundbreaking legislation that amended the Arizona Electronic Transactions Act to include digital signatures recorded on a blockchain, enshrining their validity and enforceability for records or contracts, and additionally empowering use of blockchain technology for state corporate filings. These regulatory innovations have helped Arizona emerge as a choice location for companies that develop applications utilizing blockchain and smart-contract technology. Arizona should continue to evolve and reform our fintech regulatory environment to stay at the forefront.

### Expand Benefits of Fintech Regulatory Sandbox

Continue positioning Arizona as an innovative hub for financial technology while helping prove that lighter regulation and consumer protection can coexist. Fintech startups are particularly disadvantaged by the difficulties and costs of complying with conventional state money transmission licensing regimens. Legislation adopted during the 2018 and 2019 sessions created and clarified the nation's first state-level regulatory sandbox allowing limited access to Arizona's market for testing innovative financial products or services without first obtaining full state licensure or other required authorization.

Innovative initiatives are allowed to germinate through creation of an on-ramp or regulatory sandbox with exceptions to licensing rules for new companies based on low volumes or limited business activities that pose a lower risk to consumers. To date, more than a dozen companies have participated in testing a wide array of innovations. The Arizona Technology Council will work with the Arizona Fintech Council, a joint venture between the Arizona Bankers Association and CCG Catalyst Consulting, to publicize the sandbox to help attract new participants and leverage successful outcomes while supporting further efforts of Arizona's attorney general and the Legislature to evolve and improve the program over time. For example, the fintech sandbox should be expanded to permit testing of select insurance offerings and other financial products and services that can benefit from technological innovation.

### Improve Proptech Regulatory Sandbox

Help improve and evolve the property technology, or proptech, sandbox so Arizona can continue to lead in fostering innovation across the real-estate industry. Continue to allow the Arizona Commerce Authority (ACA) to operate the proptech sandbox

that enables companies to test innovative products or services in the real estate and smart-property industries in a lighter regulatory environment. Approved in the 2019 legislation session, Arizona established the nation's first proptech sandbox. By reducing costly barriers to entry, the sandbox promotes the development of disruptive technologies affecting the way Arizonans rent, sell, buy, develop, and manage commercial and residential property.

#### Fund Blockchain Research

Continue to allocate state funds annually to recapitalize and sustain the Blockchain Research Grant Program to applied research centers going forward. The Legislature recently recapitalized the ACA's Applied Research Centers and Institutes program, including \$2.5 million in funds toward development of applied research in support of defined blockchain products or services for commercial use to help drive research and innovation that will assist in Arizona becoming a leader in this emerging technology sector.

### Involve the Arizona Corporation Commission (ACC)

Encourage the ACC to work towards utilizing blockchain for corporate records and filings initiating trials and pilots to develop capabilities, gauge future direction and, when appropriate, inaugurate full-scale initiatives. Examine the potential to issue and trade securities on a blockchain platform. The ACC has opened a docket to examine the use of blockchain technology in Arizona's energy industry to help manage the distributed power generation and storage, transactive energy with more granular transactions, renewable energy credits, tokenization, Internet of Things, cybersecurity, and other applications for distributed ledger technologies on the grid.

#### Examine State Government Records

Examine potential use cases and drive the application of blockchain by the Arizona executive branch for the management and storage of state government records for cost, efficiency and security considerations through initiating trials and pilots to develop capabilities, gauging future direction and, when appropriate, inaugurating full-scale initiatives. Offer leadership and assistance to Arizona's cities, counties and tribes in digitizing, normalizing and consolidating property records following best practices and ensuring compatibility with other jurisdictions and open-data protocols.

#### Achieve Regulatory Reciprocity Between States

Join the Multistate Licensing Agreement for Financial Services Companies to eliminate redundancies in state licensing of money-service businesses, which streamlines cumbersome regulations relating to virtual currencies. Arizona stakeholders should engage with other state and national organizations working to establish common multistate money transmitter licensing and virtual-money regulation and licensure that would ensure legal and regulatory reciprocity between participating jurisdictions. Companies involved in virtual-currency activities are multi-jurisdictional by nature. Any artificial restraints on their ability to operate without regard to geographical boundary within the United States adversely impacts the significant cost-effectiveness and efficiencies that their business models offer to other companies and consumers.

### Craft Decentralized Corporate Structures

Continue to craft an Arizona policy foundation for decentralized companies and initiatives that break many of the legacy tenets of traditional corporate structures. identity frameworks and governance constructs, and help transcend legacy geographic boundaries. Our global economy and enterprise ecosystem have been pushed into a new realm of decentralization as the global pandemic forced new ways of conducting commerce and organizational interactions through a daily routine of virtual communications and media. As contemporary decentralized constructs emerge and attempt to reconcile with legacy centralized constructs (e.g., cryptocurrency versus fiat currency) across the globe, it is important that Arizona continues to form alliances strengthening trade and technology bonds with foreign municipalities and sovereignties, such as those formed with Israel, Germany, Mexico and Taiwan, and which should be emulated and expanded going forward. States such as Wyoming, Texas and Nevada have announced their commitments to be leaders in the blockchain and decentralized Web 3.0 realms, so Arizona should continue to drive deregulation, fund research and encourage industry innovation to sustain a competitive advantage in attracting commerce from around the world as organizations actively seek policy-friendly locations with clearly defined and innovation-enhancing public policy where they can establish and grow fintech businesses.

## OPTICS, PHOTONICS AND ASTRONOMY



### PRINCIPLE

Optics, photonics and astronomy are important economic drivers for Arizona. Combined, they add more than \$4.3 billion to the state's economy and support more than 19,000 jobs. One of the critical constraints to robust industry growth is the lack of a skilled workforce. As an enabling technology, optics applications are critical for many other industries, including medicine, mining, aerospace and defense, smart cities, and autonomous vehicles.

The University of Arizona (U of A) holds a worldwide leadership reputation for optics, photonics–the application of light–and astronomy while providing academic prowess for related research and development (R&D). The university has been No. 1 in the National Science Foundation rankings for research dollars expended in astronomy and astrophysics since 1998. That ranking represents more than \$123 million spent in the state by U of A in FY 2022. Less than 10% of the investment came from the state while substantial federal, international and philanthropic contributions were attracted to this highly visible scientific enterprise.

There are also large and notable departments in astronomy and planetary science at Arizona State University and Northern Arizona University. The three universities, the state's many affiliated and independent observatories, and the numerous entities in related fields attract and retain world-class technical talent. The output from optics R&D enables development of leading products and technologies that support the many applications that drive robust Arizona companies. Space exploration is renowned for its degree of spin-off technologies that improve society.

The optics industry in Arizona is represented by the Arizona Technology Council's Optics Valley Committee, whose mission is to catalyze, convene and connect a more robust optics industry sector.

The policy positions that follow are intended to support the goals of attracting future investments in optics, photonics and astronomy, and to grow a quality workforce.

### POSITIONS

### Focus on Workforce Development

Strengthen support and enhance funding for community college programs directed at education for technology careers, including optics and photonics. Support the work in progress to supplement the optics education programs at Maricopa Community Colleges (MCC) and Pima Community College (PCC) with certified apprenticeship systems. MCC and PCC are developing optics curriculum for technicians to build the sophisticated products designed by engineers like those who graduate from the James C. Wyant College of Optical Sciences at U of A. Continue to support Joint Technology Education District (JTED) and Career and Technical Education (CTED) programs at the high school level, including Pima JTED's launch of optics classes for preparation through community college and university programs, as well as direct entry into the workforce. Enhance high school STEM education programs to specifically include optics and photonics. Support the SciTech Institute.

### Enforce Dark and Radio-Quiet Sky

Establish statewide dark-sky standards and support the state's \$4.3 billion optics, photonics and astronomy industry. Advocate and encourage dark-sky sensitive and appropriate use of light-emitting diode (LED) technology – specifically, the adoption of increasingly efficient phosphor-converted amber - for outdoor lighting as its use becomes increasingly widespread. Support deployment of active lighting control technologies to reduce lighting levels to the minimum required for safety and visibility based on actual use by time of night. Support regional approaches to reducing and stopping the growth of artificial light negatively impacting observatories and the natural environment. Support suborbital and orbital missions specifically designed to avoid the negative impact of excessive reflected sunlight on astronomical observing facilities. Support efforts of observatories working collaboratively with operators of large satellite fleets to minimize their impact on ground- and space-based astronomy. Support the efforts of the growing number of Arizona communities working toward the official International Dark Sky Community designation awarded by Dark-Sky International headquartered in Tucson. Ensure that state and federally supported wireless connectivity initiatives coordinate with the state's premier radio observatories to minimize interference.

#### Support NPI, NQI, and AIM Photonics

Support the National Photonics Initiative (NPI), National Quantum Initiative (NQI), and the American Institute for Manufacturing Integrated Photonics (AIM Photonics). NPI is a collaborative alliance of industry, academia and government seeking to raise awareness of photonics, and drive U.S. funding and investment in five key photonics-driven fields critical to U.S. competitiveness and national security: advanced manufacturing, communications and information technology, defense and national security, energy, and health and medicine. NQI is a whole-of-government approach to ensuring U.S. leadership in quantum information science. The primary areas of focus are enhancing competitiveness, enabling people, and establishing fundamental science and applications. AIM Photonics is an industry-driven, public-private partnership that focuses the nation's premier capabilities and expertise to capture critical global manufacturing leadership in a technology that is both essential to national security and positioned to provide a compelling return on investment to the U.S. economy.

### Prioritize Export Reform

Ensure export reform policies support and encourage optics companies to engage in global commercial markets.



### Grow University Research and Development

Strengthen opportunities to grow the impact of world-class research and development at Arizona's universities. Nurture the next generation of scientists by growing research partnerships with community colleges, where more than 50% of postsecondary students take introductory biology and other STEM courses and a large, diverse body of students is enrolled.

## STATE BUDGET

### PRINCIPLE

The state of Arizona's fiscal health was more challenging in the 2024 legislative session with a \$1.3 billion deficit that needed to be addressed in the FY2025 budget. With the state transitioned to a 2.5% flat income tax and expansion of the universal empowerment scholarship accounts being utilized beyond what was initially accounted for, the state faced its first deficit in a decade. To address the shortage, there were several cuts across the agencies, including several programs at the Arizona Commerce Authority (ACA) and other agencies of interest. A deficit is expected to continue into the next budget cycle, which means continued work to ensure key programs and agencies of importance to the technology industry have the funding to accomplish core missions and functions. Also, if funding is available, there will need to be reinvestment in some programs to better support the state's growth.

### POSITIONS

#### Protect Angel Investment Tax Credit Program

Protect funding for the proven and highly successful Angel Investment Tax Credit and look for opportunities to expand the program, which is discussed more in the Capital Formation section.

### Support ACA Programs and Funding

Restore some of the funding for the ACA, which did not escape the budget sweeps and cuts in the 2024 legislative session. Discourage the Legislature from further sweeping any funds not used in a particular fiscal year by the ACA and its various programs, including the Arizona Competes Fund. Ensure flexibility as warranted within the ACA's funding for programs to help it achieve its mission.

#### **Prioritize Education Funding**

Prioritize increased and sustainable funding of the state's public education system consistently at all levels-including pre-K, full-day kindergarten, K-12 and postsecondary-and with accountability in a dedicated and sustainable revenue stream. Short-term reforms should include finding a sustainable and dedicated revenue source for education funding that does not endanger the state's economic climate. The reforms should include funding of K-12 education with a formula like that of Proposition 301, which positions Arizona at a minimum with mean-level funding among the 50 states. Additionally, reforms should consider alternative ideas to appropriately fund pre-K and full-day kindergarten, K-12, CTE, equal-access dual enrollment courses, universities and community colleges.

Additionally, computer science courses should be included in the state's educational plans and necessary funding should be appropriated. Long-term comprehensive funding reforms should modernize and promote a 21st century delivery model of education that focuses on performance and accountability. Arizona should ensure a high-quality education system to attract and retain high-wage jobs and the kinds of businesses that drive the innovation economy.

### Protect State Contracts with Vendors

Preserve and honor negotiated contracts with state vendors as many look for ways to reduce spending. Many technology companies have contracts throughout state government. If the state does pursue reductions in this area, there should be an open process involving the vendor instead of unilateral changes made by the state or agencies.



### PRINCIPLE

Many taxes, especially those solely targeted at business, may have the effect of limiting potential growth in existing and new technology businesses. Policy makers should strive to institute tax policy that encourages existing businesses to expand; increases Arizona's competitiveness in business attraction, growth and retention; allows for a broad, stable tax base; and ensures similar businesses are treated fairly and equitably.

### POSITIONS

### Equalize Business Property Tax

Pursue the eventual equalization of business and residential property taxes. Although Arizona has begun to reduce business property tax assessment ratios, businesses still face property tax assessment ratios 80% greater than those of residential property owners.

### **Increase Capital Gains Deductions**

Increase the current capital gain deduction from 25% to 57% to help reduce the advantage enjoyed by other states that have tax systems more closely aligned with the federal government. In most instances, Arizona's tax system conforms with or closely mirrors that of the federal government except in capital gains.

#### **Promote Data Centers**

Protect Arizona's tax advantages in the exemptions given to promote the retention and expansion of enterprise and co-location data centers and continue to promote all levels of data center activity, including the migration of technology centers to Arizona.

#### Modernize Tax Code

Promote modifications in and modernization of the tax code that reflect changing technologies and how products and systems are taxed. Special emphasis should be placed on software and hardware development, as well as digital goods and services that enable the Arizona tax code to remain updated with innovations in the marketplace.

## TRANSPORTATION/DIGITAL INFRASTRUCTURE

### PRINCIPLE

Arizona citizens benefit from improved safety, enhanced mobility, reduced travel time, and bolstered commercial opportunities through multimodal corridors linking the state to Mexico, Canada, the Intermountain West and neighboring states, particularly California. The corridors should include roadways and telecommunications pathways coupled with rail and energy rights-of-way when appropriate.

There remain major gaps and deficiencies in the availability, reliability and affordability of broadband internet connections in society. This is especially true in rural and tribal areas, as well as low-income neighborhoods and other disadvantaged communities necessitating investment in new infrastructure, advanced technology solutions and support services to help close these gaps.

All Arizona citizens require affordable devices such as computers, tablets and smartphones; digital literacy and digital skills training; quality and available technical support including digital navigator services; as well as access to digital content, applications and other resources and help with cyber safety and security. Substantial federal funds are flowing to digital equity efforts through state block grants and individual grant opportunities that should be leveraged to pursue maximum positive impact with the targeted demographic groups through broad and innovative state and community-based initiatives. When citizens have reliable and affordable access to digital resources, quality of life improves while Arizona's businesses and institutions thrive.

The federal government recently invested in transportation-related activities and digital infrastructure at nearly unprecedented levels. Funds distributed by the American Rescue Plan Act and Coronavirus Aid, Relief and Economic Security Act (CARES Act) provided initial support for broadband and connectivity deployment. The Infrastructure and Jobs Act (IIJA) then provided funding not only for traditional transportation projects but for mobility technology, such as EV charging, and

substantial improvements in broadband and connectivity emphasizing serving unserved and underserved communities, including rural areas alongside new digital equity programs.

Arizona is expected to receive up to \$200 million per year through FY2026 in highway funding. Additional federal grant money is available for major projects, bridges, safety projects and tribal transportation funds. In addition, the Arizona Department of Transportation (ADOT) has used federal funds to complete a plan under the National Electric Vehicle Initiative for EV charging development. The agency received additional funds for deployment and installation of charging facilities. The Arizona Commerce Authority (ACA) has taken a leadership role in broadband development in collaboration with ADOT, allowing additional use of transportation right of way for fiber and small-cell wireless installation.

### POSITIONS

### Support Emerging Technologies

Continue to support policies and efforts to foster the advancement of Arizona's technology sector and drive the state's position as the leader in emerging technologies.

Support ACA initiatives that promote economic growth of emerging technologies such as the Institute of Automated Mobility and Smart State efforts.

Promote and support the following growth areas in Arizona: 5G, Internet of Things (IoT), autonomous vehicles, smart cities, artificial intelligence, distributed ledger technology, augmented reality and rich mobile-content delivery will drive edge-computing deployment and massive growth in data center computational and storage capabilities.

Promote policies that encourage the development and growth of new and emerging technologies that further establish Arizona as a global innovator. Support a regu-

latory environment that provides appropriate safety and protection standards but otherwise reduces regulatory burdens to unleash the power of human creativity and ingenuity.

### Encourage Broadband Regulatory Reform and Support Policies

Overall, policies for broadband should be pragmatic and recognize its unique economics: high fixed costs, spillover effects and lengthy deployment along with rapid technological change. Remove or reduce barriers generating unnecessary costs or delays and otherwise inhibiting expansion of privately- funded, public-private partnership and municipal robust, redundant and affordable high-speed broadband infrastructure that meets the needs of all Arizonans. Proactively coordinate with government at all levels to ensure rights of way are readily and affordably available and support fair and predictable government permitting and oversight across jurisdictions to encourage private broadband investment and deployment.

Encourage and support field test opportunities for 5G and other advanced wireless services to help position Arizona as a living lab for these transformative communication technologies. Encourage cities and towns to adopt reasonable engineering standards for shallow depth trenching to allow a more cost-competitive broadband deployment. Continue to ease regulatory burdens and simplify processes for deployment of wireless sites and vertical infrastructure, including micro-cellular transceivers and distributed access systems for necessary densification, considering the ever-increasing need for mobile connectivity, 5G infrastructure demands and other advanced wireless services. To the greatest extent practical, state, regional and local governments should make their current infrastructure of buildings, water tanks, towers and other vertical structures available for utilization by wireless providers at reasonable costs and share an inventory of such assets to aid wireless industry planning and expansion. State and local transportation agencies should be funded for the costs of adding broadband-enabling infrastructure such as highway adjacent conduits, as traditional transportation funds cannot normally be used for this purpose.

### Leverage State Government Broadband Planning and Initiatives

Leverage ACA's Statewide Broadband Middle-Mile Strategic Plan and more recent Broadband Equity, Access and Deployment (BEAD) strategic planning to advance a comprehensive statewide broadband strategy. Utilize the state's Interagency and Community Broadband Advisory Council to inform and drive broadband policy, as well as coordinate and optimize use of these digital-equity funding resources by Arizona communities, education institutions and nonprofit organizations. Ensure a level playing field for incumbent and new entrant broadband providers and optimize available funds with a balanced technology approach favoring fiber deployment where cost-effective and other appropriate technologies as needed for high-cost areas to optimize the impact of available funding.

With the demise of the federal Affordable Connectivity Program, Arizona needs to continue to monitor and support strategies for the accessibility and affordability of critical service infrastructure. This could involve multiple tools, options and resources to support the people in need in concert with possible future federal subsidy programs leveraging E-rate funding, private sector and foundation funding, internet service provider support, BEAD low-cost requirements, and state and local funding.

Ensure broadband speeds meet standards adequate to support data intensive applications such as IoT, telemedicine, e-learning and entertainment that will have ever-increasing bandwidth requirements.

Guide infrastructure investments and program implementation while considering geography, topography and excessive cost factors.

Support ACA and ADOT in concert with their middle-mile asset manager and operations, maintenance and commercialization vendors granting private telecommunications companies access to its broadband conduit in a non-exclusive and non-discriminatory manner while creating the Smart Highway Trust Fund to manage leasing revenues and allowing private service providers to install, operate and maintain telecommunications equipment within ADOT right of ways. Provide additional funding for Arizona's Smart Highways initiative for building additional fiber capacity on other strategic highway segments, leveraging the availability of federal and broadband-designated funds to drive expansion of open access middle mile enabling a wide range of public and private communication uses going forward. Consider additional regulatory reform and incentives that further drive rural broadband deployment by electric cooperatives.

Provide up-to-date state broadband mapping capabilities to track broadband coverage and fiber deployments integrated with Federal Communications Commission broadband map data, crowdsourced speed test data, and demographic and community anchor institution (CAI) details. Make the data and mapping tools publicly available through the AZGeo Clearinghouse and open sourcing driving state allocations and targeted communities for IIJA broadband, equity, access and deployment funding.

### Leverage the ACA's and Other Broadband Grants

Support the ACA's Broadband Office to continue awarding and managing broadband infrastructure grants with clear, achievable plans that provide or improve broadband

services, particularly in rural areas. Assist communities with needs assessments, technical design and procurement support. With the recapitalization of the ACA's Broadband Grant Fund through the BEAD program and other sources, the focus shifts to providing matching funds to offset planning and construction costs for expanding broadband services and digital equity programs for underserved populations. Restore \$23.6 million swept from the FY 2025 budget for the Rural Broadband Accelerated Match Fund to provide technology support and potential capacity matching funds for upcoming BEAD grants. The state should consider committing ongoing funding for future broadband grant purposes to continue expanding and sustaining the broadband grant program beyond the current surge of generational federal spending. Additionally, the state should continue to appropriate funds that can be used by eligible E-rate entities to leverage additional E-rate grants.

#### **Expand Digital Access**

Ramp up Digital Equity Act programs in Arizona to promote equity and digital inclusion through planning and capacity competitive grants partnering with the Digital Equity Institute; state, tribal and public libraries; Arizona Broadband Stakeholder Network; and others to pursue maximum positive impact among targeted demographic groups through broad and innovative community-based initiatives. Digital access encompasses not only fast, affordable and reliable broadband but also affordable devices such as computers and smartphones; digital literacy training, quality and available technical support; access to digital content and applications; and cybersecurity assistance. There's an urgent need for cybersecurity resources to be included under the E-rate program to enhance CAIs' protection measures.

Develop a robust statewide digital inclusion ecosystem that includes technical assistance and training for local organizations, community planning; support for nonprofits that are collecting, refurbishing and distributing free or low-cost devices to schools, organizations or directly to families and students; digital literacy tools; cyber safety and security funding; and research for resources for private funding opportunities. The library community's vital role in providing digital literacy education should receive increased funding and support. As front-line service providers, libraries can enhance their efforts through expanded digital navigator programs, upskilling and reskilling opportunities, mobile hotspot lending, and telehealth access with necessary equipment for their patrons. By supporting the existing work of libraries, many aspects of digital equity and inclusion can be leveraged through community outreach and inter-governmental partnerships to create a robust network of resources.

Arizona has created a digital equity plan in concert with the National Telecommunications and Information Administration that clarifies what our state needs beyond infrastructure to advance digital inclusion in vulnerable "covered" populations as defined targets for digital equity funding. The comprehensive plan will serve as a roadmap to invest in initiatives selected to serve targeted needs and provide the most benefit for the covered populations. Arizona should leverage the planning grant, capacity grant and competitive grant opportunities to pursue maximum positive impact through broad and innovative state and community-based initiatives, implementing the most cost-effective solutions as part of a balanced statewide digital inclusion ecosystem. Arizona also needs to develop a long-term strategy to support digital inclusion after the current digital equity plan funding has been expended.

### Deepen Arizona's Community Role in Broadband

Activate and support broadband action teams (BATs) with regional and local stakeholders to encourage and plan for broadband deployment, including adopting streamlined and consistent processes for right-of-way use with best practices for planning and permitting. Such BATs should also support digital inclusion planning with localized digital equity plans and initiatives. To achieve common broadband goals, rural leaders should engage all interested parties, including service providers, governments of different jurisdictions, residents, business owners, utility service providers and other key parties to provide maximum leverage of the federal investment. In addition, the Council supports utilization of the Federal Reserve's Community Reinvestment Act funding for broadband and digital access remediation where applicable.

### Focus on Cyber Safety and Security Strategy for Consumers

While there is much focus on cybersecurity for enterprises and institutions, cyber safety and security need to play a key role in our digital inclusion strategy for end users. Threat actors are attacking both vulnerable technologies, as well as vulnerable people, therefore cybersecurity focuses on securing the internet and devices while cyber safety focuses on helping people avoid scams, theft, identity theft, misinformation and other deliberate acts. End users such as students, families and seniors receiving connectivity and devices, especially through broadband and digital equity programs, may not be aware of the potential privacy and data risks and require training, resources, tools and support to protect against cyber threats. Arizona needs to develop an ongoing and coordinated strategy and provide additional funding for cyber safety and security initiatives to protect various entities and citizens to ensure that everyone has safe access to digital technologies while also being protected from cyber threats.

### Evolve the Arizona Corporation Commission (ACC)

Examine and evolve the ACC's long-standing Arizona Universal Service Fund currently geared only toward legacy telephone support in high-cost areas. Modernizing the fund as many other states have would allow broadband deployment support in similar high-cost circumstances or be programmatically applied as matching funds to community and electric cooperative broadband infrastructure projects.
## Support Expansion and Retention of the Data Center Industry

Continue to support and evolve a business-friendly operating environment and economic development programs to further Arizona's data center attractiveness and growth. The advantageous operating environment promotes the retention and expansion of enterprise and co-location data centers, which has contributed to unprecedented growth in existing and planned data center inventory.

#### Adopt Digital-Government Best Practices

Adopt digital-government best practices for internal operations and delivery of citizen services while driving the increased use and adoption of high-capacity digital connectivity and technologies across major application sectors, including education, health care, public safety, e-commerce, e-government, remote work, and mobile enablement. State, local and tribal government should continue to migrate to cloud services and use platform as a service (PaaS) and software as a service (SaaS) offerings to provide staff and operational efficiencies at lower cost while ensuring reasonable cybersecurity and data privacy protections are in place.

### Leverage National Public Safety Broadband Network

Leverage FirstNet-driven infrastructure improvements built out by AT&T to provide interoperable, wireless public safety communications for first responders, including fiber extensions, tower construction and small-cell deployment to facilitate expansion of broadband for rural communities. The Council supports policies for cost-effective and timely FirstNet deployment through easing regulatory requirements such as permitting and right-of-way access, as well as broad adoption by public safety agencies to provide extended benefits to rural Arizona.

#### Modernize Surface Transportation Systems

Support modernization of the state's transportation infrastructure to improve mobility, move freight to market faster and advance international trade. The upgraded system should include federal and state funding for Interstate 11 (I-11), which will enhance the state's connectivity by linking Phoenix and Las Vegas. I-11 should be extended south of Phoenix to create an important international freight corridor between Mexico and the Intermountain West. Modernize and add capacity to existing infrastructure through continuous improvements critical to keeping these key corridors fully functional. Encourage multimodal linkages with rail, telecommunications and energy right of ways and facilities. Modernization should also include technology upgrades to support smart transportation systems and vehicles. Besides additional public funding, Arizona should use a variety of innovative means to provide enhanced infrastructure, including public-private partnerships and other types of alternative finance and delivery.

#### Ramp Up Transportation Funding

Consider a more modern, robust revenue method to support transportation. Arizona is operating its statewide highway system on a declining revenue source: a gas tax that has not been increased in more than 30 years. Particularly hard hit are rural communities, which do not have an adequate tax base to support sales taxes that help fund transportation in urban areas. Since 2013, more than 30 states have enacted some combination of increased gas taxes, taxes to support alternate fueled vehicles, and user fees such as tolls and high-occupancy toll lanes. Arizona lags behind and needs to consider all options to keep pace with the state's growing population and economy.

#### Use Intelligent Transportation

Use intelligent transportation systems (ITS) to help manage surface transportation traffic, maximize existing infrastructure and minimize congestion and incidents. The general lack of ongoing transportation funding will limit Arizona's opportunity to take maximum advantage of these new and improving technologies since funds to support ITS are generally from the same revenue streams as those that fund construction and rehabilitation of infrastructure.

#### **Elevate Transit and Mobility**

Support transit systems and development to enrich the quality of life for Arizona residents and visitors, reduce traffic congestion, improve air quality, and provide enhanced workforce mobility. Alternative mobility assets such as bike-share facilities and bicycle infrastructure are helpful in providing a robust urban transportation system. Transit continues to be a critical component of a robust transportation system and needs to be financially supported by both state and federal revenue sources.

#### Support Vehicular Technologies

Continue to support a flexible and competitive environment for the testing and deployment of autonomous automobiles and other vehicular technologies in the state-particularly the Institute of Automated Mobility-to help make roads safer, increase mobility and establish Arizona as a test bed and commercialization launchpad for many emerging technologies.

### Invest in Arizona's Ports of Entry

Focus on encouraging both infrastructure investments and process improvement for Arizona's ports of entry along the southern border to better enable and optimize commercial transportation logistics. Despite being critical links, the ports of entry are frequent bottlenecks for smooth and timely logistics of cross-border transportation of goods. Recent federal initiatives have expanded funding for ports of entry. Thanks to Arizona's border planning efforts and collaborative border-wide approach to funding, the state's ports are well represented on the federal priority list. To continue to motivate federal support, the state should:

- Leverage the IIJA Leverage the Infrastructure Investment and Jobs Act for funding.
- Identify Targeted Funding Identify funding streams to support the development and modernization of border infrastructure, particularly at our ports of entry. While there is a big push for the Donations Acceptance Program to support infrastructure needs at ports of entry, it is structured so U.S. Customs and Border Protection simply receives the contributions and excuses the federal government from its responsibilities at the border. The program should be more of a public-private partnership, not necessarily focused on donations or a fee structure, which can discriminate against smaller ports in smaller communities.
- Focus on Additional Staffing Fulfill the need for additional staffing desperately needed at ports of entry. For Arizona, that means a full-time equivalent vacancy rate of 20%, or approximately 250 funded positions. Support and promote efforts such as the Border Jobs for Veterans Act, which has created a mechanism for the military to transition into these enforcement jobs.
- Recognize Ports of Entry as Assets Recognize the U.S. border and ports of entry as valuable assets essential to the national and North American economies. Attention to the border as an economic engine provides the opportunity for investment, job creation and economic security. With supply chain disruptions, the concept of nearshoring supply chain components within North America will continue to gain traction. Ports of entry and supporting infrastructure are critical for the national and Arizona economies.
- Make Process Improvements Continue to improve processes related to commercial carriers. For example, Unified Cargo Processing, which enables U.S. and Mexican customs inspectors to work side by side on the inspections process, has revolutionized the border. Launched in Arizona, the joint inspection program has drastically reduced the time it takes to cross the border. Similar improvements, such as more collaborative truck inspections processes between ADOT and federal authorities, can reduce the need for physical infrastructure and improve crossing times.

 Conduct Long-Term Planning - Work with the Office of the Governor and Legislature, as well as other key stakeholders, to develop long-term improvements in transportation funding, including consideration of fuel tax, license renewal fees, locally generated sales tax initiatives, public-private partnerships and other components of a funding package. Arizona should continue to regularly update the border master plan, which is used by both state and federal funding agencies to prioritize funding. The process also encourages unified border-wide support for priority projects.

#### Support International Trade Transportation

Continue to support state and local facilities leading to and from the ports of entry so roads do not become bottlenecks for cross-border trade. The U.S. Department of Transportation should reinstate a separate pool of funds for the Coordinated Border Infrastructure program, a small pool of funds for border-related infrastructure. Without those funds, Arizona and other border states must use their own limited funds while supporting trade from Mexico and Canada, much of which simply passes through the border states and benefits the economies of states far from the border. Ports of entry and related infrastructure should be recognized as national assets.



## SEMICONDUCTORS



### PRINCIPLE

Arizona has a proud history of advanced manufacturing. Recent historic and large-scale investments from the federal government and the private sector are positioning Arizona to become the nation's leading semiconductor hub. While a strong semiconductor ecosystem is growing, policy decisions must ensure our state can attract the top talent and skilled workforce to meet the demands of tomorrow.

### POSITIONS

### Protect and Expand STEM Education and Community College and University Funding

Continue investments in postsecondary schools to ensure their curricula, labs, research and faculty offer state-of-the-art experiences. A strong K-12 public education system with STEM activities accessible to all students also is crucial to success. Arizona's universities and community colleges are working closely with the semiconductor industry to align with the industry's needs. With innovation in the semiconductor industry happening quickly, it's important to link students to internships and state-of-the-art training.

### Workforce Needs

Make investments needed to build a crucial pipeline of highly skilled workers, technicians and trades for the semiconductor industry in order to compete globally. Arizona has the opportunity to meet the need with its P-20 system. A recent Semiconductor Industry Association (SIA) report projects jobs in the semiconductor industry will grow by 33%. However, 58% of new jobs are at risk of going unfilled based on current degree completion rates.

### Infrastructure Support

Invest in infrastructure to support the vast ecosystem of suppliers, vendors and customers critical to the industry's success. Access to energy, utilities, reliable transportation and broadband are all essential components of a strong and competitive semiconductor ecosystem.

### **Continue Friendly Business Climate**

Continue advocacy for a business climate that reduces burdensome regulations that prohibit growth and innovation. Support the Arizona Commerce Authority and the Arizona Office of Economic Opportunity.

## UNIVERSITIES, COMMUNITY COLLEGES AND HIGHER EDUCATION



### PRINCIPLE

The Arizona Technology Council actively works to support Arizona's universities–Arizona State University (ASU), The University of Arizona (U of A) and Northern Arizona University (NAU)–and improve the technology infrastructure upon which they rely. The Council's members and the state rely heavily upon Arizona's universities and community colleges to provide a highly skilled and talented workforce. In addition, the universities provide a world-class platform for research and development, which can be translated into commercial opportunities that include the transfer of technology to Arizona's private sector. The universities engage the communities throughout the state and rely upon technology to provide education, research and other valuable community services.

### POSITIONS

### Stable Funding, Enhanced Flexibility

Collaborate with the Arizona Board of Regents (ABOR) and the public universities to build upon the existing strengths of the university system and ensure worldclass research capabilities, access for qualified students and excellent workforce preparation. Support the universities' budget requests and legislative priorities, especially related to the technology sector; secure the state's financial relationship with the university system; and obtain support for critical capital.

#### Increase SPEED Bonding Authority

Support an increase in Stimulus Plan for Economic and Educational Development (SPEED) bonding authority to fund infrastructure needs at the universities. This initiative supports other university priorities, including AZ Healthy Tomorrow and workforce development. The debt service on these bonds is funded with 80% lottery revenues and 20% university revenues.

#### Expand AZ Healthy Tomorrow

Expand AZ Healthy Tomorrow to deal with Arizona's critical shortage of health care professionals and numerous health care disparities. The initiative involves the coordinated expansion of health care education across the three state universities to address persistent and projected health care workforce needs in Arizona. This initiative includes expansion of U of A's schools of medicine in Tucson and Phoenix with the aim of doubling the number of medical students at each college within five years; establishment of Arizona State University Health, which will include a school of medicine and advanced medical engineering, a school of public health technology and a health observatory that will leverage ASU's engineering expertise and complement existing programs in nursing and public health; and expansion of NAU's allied health offerings to address key workforce needs.

Support the Nursing Training Pilot program, especially with the projected legislative budget shortages expected in the next fiscal year. Arizona is experiencing a critical shortage of nursing, and the state's community colleges train more nursing students than any other educational institutions in Arizona. The recent legislative budget cuts nearly eliminated the program. However, it was saved (but reduced) by a group of legislative leaders who found American Rescue Plan Act dollars to continue the program in the short term.

#### Support Arizona Promise Program

Support the expansion of the Arizona Promise Program and the Community College Promise Program to fully fund need-based aid for the eligible student population, providing direct financial relief to Arizona students and families. The expansion proposed by ABOR would compare favorably to other states that operate mature, stable Promise programs, ensuring access to opportunities in higher education for all residents.

#### Fund Arizona Teachers Academy

Support maintaining funding for the Arizona Teachers Academy in an ongoing manner to sustain programmatic funding that develops more and better-qualified educators in Arizona without financial burden.

### Invest in Workforce Development

Support Arizona public universities' and community colleges' workforce initiatives that invest in the development of skilled Arizona workers and enhanced economic opportunity. These initiatives leverage the universities' and community colleges' existing strengths to address critical workforce shortages and solve challenges in national defense, cybersecurity, health care, sciences/STEM and engineering.

#### Support Tri-University Digital Equity Initiatives

Support Arizona's three state universities in addressing digital equity disparities and developing a variety of outreach experiences, stakeholder engagements, innovative initiatives, and grant-funded opportunities for research and proof-ofconcept projects connecting the underserved and disadvantaged while advancing community infrastructure. ASU's Lighting Up the Future has been cooperating with the other universities, the Arizona Commerce Authority, Sun Corridor Network, the Institute for Digital Progress, and the Digital Equity Institute among others, building a coalition to address digital equity challenges.

#### **Prioritize Enterprise Model**

Support an enterprise model of operations, which recognizes and advances each university and its differentiated mission. Allow the university system to negotiate its own health benefits to ensure it is only paying proportionally for its share of the state benefits plan.

#### Enable Sun Corridor Network

Encourage policies to enable the Sun Corridor Network (SCN), the Arizona universities' research and education collaborative network, to facilitate discovery, innovation and research outcomes among postsecondary researchers and educators while expanding services to a broader base of users. SCN's infrastructure is critical to attracting world-class researchers and research funding to Arizona and future-proofing P-20 education technology infrastructure to enable modern digital-learning technologies and methods necessary for a workforce equipped for the knowledge-based economy. The Council encourages the Arizona Department of Education, which is currently limited in its ability to partner with SCN due to it being a provider (i.e., vendor) in E-rate transactions with schools and districts, to explore avenues for partnership with SCN, possibly transitioning from provider to statewide consortium lead and shared service provider. SCN, with its expertise in building and managing public-sector broadband networks, should expand its mission to include providing cost-effective broadband infrastructure and services for low-income and rural communities. Additionally, SCN should offer consulting on new community and municipal broadband networks, and develop a statewide network to connect and support universities, community colleges, nonprofit organizations, health care organizations, and local communities.

Support the network's public-private partnership strategy to bring high-bandwidth access to Internet2-the national education and research network and community-and the commercial internet to the Arizona P-20 community. Support the network's participation in Arizona Department of Transportation's investment in highway-corridor fiber deployments and its public-private partnerships to grow and manage a robust state network. This will lead to the improvement of rural broadband network capacity and availability across the region, as well as improved regional research collaborations. Successful rollout of these strategies will enable the network and its member universities-ASU, U of A and NAU-to bring better and lower-cost internet and Internet2 by leveraging economies of scale and shared infrastructure while driving better broadband availability for all. Support the network's National Science Foundation grant-funded efforts to interconnect Arizona's community colleges in support of joint science-research drivers and STEM education initiatives. Support SCN's efforts in expanding eduroam as a solution that enables authorized users on specific educational, library and public space wireless networks to roam with their existing credentials onto a great, cooperative collection of such networks, boosting the value proposition of all the institutional infrastructure investments being made in these networks.

## 2025 ARIZONA TECHNOLOGY COUNCIL LEGISLATIVE PRIORITIES



- Increase availability of computer science for students to keep Arizona competitive with surrounding states, as well as other countries. Develop a phased-in option for
  students to enroll in a computer science course offered by their schools or an online course approved by the Arizona Department of Education. The course should be a
  standalone computer science course for high school-age students while computer science principles should be incorporated into a general education course for students
  in earlier grades. Support funding for computer science courses and the accompanying teacher development to guide these classes.
- Support and protect economic development programs that have proven to work for Arizona. Maintain and fund programs that support manufacturing; encourage research and development; support high-quality, high-paying jobs; and incentivize innovation. Ensure these programs are continued and additional restrictions are not applied that would hamper the economic growth and success Arizona has experienced. During the past several years, the Council has helped extend and expand these programs, and defeat efforts to repeal them. Some economic development tools may require modernization to ensure the most effective utilization to continue spurring economic growth.
- Seek opportunities to positively impact the diversity, equity and inclusion of the workforce and its leadership. Grant equitable access to essential services (e.g., broadband, transportation, employment, education opportunities). Continually measure the progress of these activities.
- Work collaboratively with both the Arizona Corporation Commission (ACC) and the state Legislature to advance energy policy that encourages demand-side adoption of energy efficiency, prioritizes clean and renewable energy use, invests in electric vehicle infrastructure development and supports innovation in the industry.
- Look for opportunities to expand Arizona's science, technology, engineering and math (STEM) education, including computer sciences and coding opportunities for students. Focus on long-term, shared, sustainable and flexible STEM missions that bridge, integrate and strengthen the learning opportunities offered by organizations across sectors instead of isolated, independent entities. STEM education helps prepare our students for the jobs of today and the future, and will build a strong, diverse talent pipeline to meet the state's continued growth.

# FEDERAL POLICY PRINCIPLES AND POSITIONS

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## ARTIFICIAL INTELLIGENCE



### PRINCIPLE

Artificial intelligence (AI), computerized systems that perform tasks we normally associate with people, is science fiction no more. It is commonplace-think talk-to-text, web searches, photo tagging or fraud detection-growing and becoming increasingly more sophisticated.

Among the various facets of AI, "generative" AI has captivated the global population over the past year, largely due to OpenAI's tool called ChatGPT. This revolutionary technology empowers computers to swiftly generate vast volumes of text, art and sound on virtually any subject or in any style. What's more, it can adapt the output based on user instructions. Consequently, it's the fastest-adopted new technology in history.

Unlike its predecessors, which often remained exclusive, inaccessible and costly, this technology is open to anyone with access to the public internet and to some extent is available for free. The technology's growth has been underpinned by an open-source licensing model and collaborative experimentation. This has led to an array of tools that aid tasks traditionally handled by humans in an explosion of innovation reminiscent of the Cambrian era.

While concerns about job displacement are valid, others hold an optimistic view, anticipating the emergence of new roles. The net impact on job numbers remains uncertain and will take years to unfold. Nonetheless, one thing is evident: Attempts to hinder or rigidly regulate this technology's economic implications should be discouraged. Unlike prior technological leaps, excessive regulation or uncertainty could yield substantial economic and societal consequences, particularly if new regulations prove unenforceable by current or future technology.

Al's potential applications extend to addressing some of society's most pressing issues, from enhancing driving safety and improving medical diagnoses to combating human trafficking and thwarting cyberattacks. New solutions can include unleashing scientific discoveries, boosting agricultural yields, optimizing investments

and preventing injuries among athletes. Furthermore, AI can enhance human capabilities, spurring economic advancement through increased productivity and improved outcomes.

Nevertheless, the rise of Al brings forth ethical dilemmas related to privacy, potential biases, liability and decision-making processes. As automation gradually encompasses various categories, it will prompt transformative shifts in both lifestyles and work patterns. This shift will elevate knowledge-based work as routine human tasks are automated. To harness Al's benefits while mitigating negative repercussions, governments should pursue policies that foster Al development, safeguard individual rights and address the consequences of heightened automation.

### POSITION

### **Urge Development of National Framework**

The Arizona Technology Council Artificial Intelligence Ecosystem Committee firmly believes that fostering innovation and responsible development in the AI sector is crucial for Arizona's economic future. We urge the federal government to lead in establishing a comprehensive and unified national framework for AI regulation. This approach recognizes the transformative potential of AI while promoting a responsible and ethical AI ecosystem across the nation.

A national framework would streamline regulations, ensuring consistency and clarity for businesses operating across state lines. This would prevent a patchwork of conflicting state-level regulations that could stifle innovation and create unnecessary complexities for businesses. By establishing a federal framework, we can create a level playing field for all states, fostering a more competitive and dynamic Al landscape nationwide.

Due to lack of a national framework, states are beginning to attempt to regulate AI, creating challenges for the adoption of the technology and those companies or individuals using it.

### Understanding California's SB-1047 and Colorado's AI Regulation

California's proposed SB-1047 (Safe and Secure Innovation for Frontier Artificial Intelligence Models Act) aims to regulate the development and use of advanced Al models. It would require developers to conduct safety assessments before training Al models, comply with safety standards and report safety incidents. The bill places a strong emphasis on mitigating potential harms and risks associated with Al.

#### Challenges

- Innovation Hindrance Strict regulations and compliance costs could stifle innovation and slow down the development of new AI technologies.
- **Economic Impact** May deter companies from investing in or relocating to California, potentially hindering the growth of the state's AI industry.
- **Technical Feasibility** Some safety requirements may be difficult to implement or assess accurately due to the rapidly evolving nature of AI.
- **Enforcement Challenges** Enforcing complex regulations for a rapidly developing technology could be challenging for regulatory agencies.

### Colorado's SB24-205 Consumer Protections for Artificial Intelligence

Colorado's approach is focused on consumer protection, fairness and transparency in AI applications. This includes regulations on how AI is used in decision-making processes, especially in areas like insurance, employment and credit scoring. While this was signed into law by the governor, the business community and the governor are very concerned about the negative potential impacts on innovation and AI investment in the state. The Legislature planned to study the bill during the summer and bring amendments for consideration in the 2025 legislative session.

#### Challenges

- **Uncertainty** Because the bill was vaguely written, local businesses are very concerned with the difficulty in assessing the full impact of the regulations, which include a very open rulemaking process by the attorney general.
- **Potential for Overreach** Overly strict regulations could stifle innovation and create barriers for businesses, especially smaller startups.
- **Compliance Costs** Businesses may face increased costs associated with compliance and reporting requirements.

### Why a National Approach is Ideal

- Innovation Catalyst A balanced regulatory environment encourages experimentation and rapid iteration, allowing companies to lead in cutting-edge AI development. This fosters a culture of innovation, attracts top talent and positions the United States as a global leader in AI research and development.
- **Economic Growth** A unified national framework would prevent companies from relocating to states with more favorable regulatory climates, ensuring a level playing field and promoting economic growth across all states.
- Adaptability Al technology is evolving rapidly. A national approach allows for greater adaptability to emerging trends and challenges, ensuring that regulations remain relevant and effective.
- Collaboration A collaborative approach encourages industry, academia and government to work together to develop best practices, share knowledge and address potential risks proactively nationally.

#### Implementation

- Establish an Al Advisory Council Create a council composed of diverse Al experts, industry leaders, policymakers and ethicists. This council would provide guidance on best practices, emerging risks and potential areas of regulation from theoretical and practical viewpoints.
- Develop Voluntary Guidelines Encourage the development and adoption of voluntary industry guidelines for AI development and deployment. These guidelines would address ethical considerations, bias mitigation, transparency and accountability.
- **Focus on Education and Awareness** Invest in educational initiatives to inform the public and policymakers about AI technology and its potential benefits.
- **Promote Research and Development** Encourage collaboration between academia, industry and government at a national level to advance AI research and development in a responsible and ethical manner.
- **Monitor and Adapt** Continuously monitor the AI landscape for emerging risks and challenges.

The Council's Artificial Intelligence Ecosystem Committee is committed to working with federal policymakers to create a regulatory framework that empowers the United States to lead the world in responsible Al innovation. By fostering a collaborative environment that encourages innovation while prioritizing ethical Al development, we can harness the full potential of this transformative technology for the benefit of our economy, workforce and society.

## BROADBAND, DIGITAL ACCESS AND DIGITAL EQUITY FOR ALL



### PRINCIPLE

The COVID-19 pandemic exposed major gaps and deficiencies in the availability, affordability and reliability of broadband internet connections in the United States at large, but especially in rural and tribal areas. These underlying issues have existed since the broad adoption of the internet as a fundamental utility for commerce and communication. However, the pandemic has amplified the digital divide and reinforced the importance of having available, affordable and reliable broadband connectivity for all as government, businesses, the workforce, schools and health care systems have transitioned to digital platforms and practices.

The transition to digital learning by K-12 schools and higher education has proved particularly difficult for many rural and low-income communities due to lack of broadband connectivity at home. Tribal nations and remote rural communities continue facing barriers to planning and deploying communications services, including their remote settings, sparse population densities and limited access to middle mile and long-haul fiber connections.

### POSITION

### **Prioritize Investment in Underserved Communities**

The federal government has recognized these mounting needs as reflected in recent, precedent-setting broadband policies focused on new investment and regulatory reforms. As the exponential increase in citizen, business and institutional broadband needs continues, the government should further prioritize, invest in and evolve regulations, enabling new broadband infrastructure, advanced technology solutions and support services to help close these gaps and better provide sufficient digital access to all.

## BROADBAND REFORMS AND INITIATIVES ACROSS FEDERAL AGENCIES



### PRINCIPLE

Given the number of federal agencies and programs involved in regulating the telecommunications industry with responsibilities to help remediate the digital divide, especially supporting rural broadband deployment, it can be challenging for state government, institutions, small providers and rural communities to identify and pursue appropriate federal investment and deployment opportunities. Businesses, local governments, electric and telephone cooperatives, tribes and other rural entities also face imposing burdens in applying for and managing federal funds. Telecommunications reform has always come in spurts as we once again find ourselves on the cusp of incredible innovation and sweeping transformations.

### POSITIONS

### Simplify and Streamline

The Federal Communications Commission (FCC) and the National Telecommunications and Information Administration (NTIA), a research and development agency of the Department of Commerce (DOC), along with the Department of Agriculture's (USDA) Rural Utility Service (RUS) lead most of the federal wireless and broadband regulatory evolution, grant and loan programs, wireless spectrum availability and auctions, and project and industry oversight. The federal government should work to simplify and reform industry regulations while streamlining the processes and management burdens through which grants and loans are handled. The government should also streamline the fragmented, overlapping patchwork of funding from multiple agencies and programs by consolidating or synchronizing them with an optimized national broadband strategy as recommended by the Government Accountability Office.

### Adopt Minimum Broadband Speeds

Federal agencies have been adopting minimum broadband speed goals of 100 megabits per second (Mbps) download and at least 20 or 100 Mbps upload (100/20 or 100/100 Mbps) for households and 1 gigabit per second symmetric service for community anchor institutions (CAIs) due to the large number of simultaneous users to guide infrastructure investments and program implementation to the greatest extent practical. Many broadband applications that promote rural, economic and community prosperity are better enabled by such increased speeds, especially telehealth, e-learning, business and other applications relying on real-time performance or moving large amounts of data. The applications should continue to be scaled up as bandwidth needs and network capacity continue to grow. However, consideration should be given to not unnecessarily preclude solutions from fixed and mobile terrestrial wireless and emerging satellite constellations. Clear criteria and formulas for how much backhaul providers must have in place should be provided to support reasonable anticipated use across populated communities at the minimum required speed offerings.

## Explore Broadband Mapping and Grant/Loan Determinants

High-quality data is necessary to ensure public broadband investments and deployment efforts correctly prioritize areas that are cost-effective and lack access. Significant recent broadband mapping progress has been made down to the broadband serviceable location (BSL) level. Although the mapping remains fraught with inaccuracies and issues, it is undergoing continuous improvement with biannual updated data collection and state Broadband Equity, Access and Deployment (BEAD) map challenge processes. With congressional funding, the FCC and NTIA should build on recent progress to create better public mapping tools with improved user interfaces and experiences, high accuracy assurances, better information on available providers and services, relevant CAI data, and the overlay of demographic and open-source data sets to aid individual and institutional broadband consumers, as well as economic development stakeholders.

### Provide Federal Grants, Loans and End-User Support

Congress has drastically increased infrastructure funding for broadband grants and loans to providers, communities, education, libraries, telehealth and public safety that will be managed through FCC, NTIA and USDA programs. This generational wave of pandemic relief funding will need continuity brought by new broadband infrastructure funding. There also should be reconsideration of long-standing barriers, revisiting the concepts and metrics for unserved and underserved, excessive application and reporting procedures, and significant match or cashon-hand requirements. Further, Congress should amend the federal tax code so grants received from the Infrastructure Investment and Jobs Act and the American Rescue Plan Act are not considered taxable income.

Restrictions should be reformed that inherently limit deployment of adequate broadband capability in many rural areas BEAD rules should be moderated regarding letters of credit; workforce requirements; Build America, Buy America (BABA) Act guidance; program income restrictions; pole ownership and replacement guidance; and other elements that could limit the program's applicability to and access by smaller internet service providers, and tribal and local governments. CAIs should receive equal priority in funding considerations alongside unserved residential customers, be enabled to establish gigabit-level connections and have those CAI infrastructure investments further leveraged by "to and through" policies.

Congress should renew permanent funding for the Affordable Connectivity Program to help continue defraying the cost of broadband subscriptions, devices and skilling for the 22 million low-income Americans benefiting from the program. This will be instrumental in getting and keeping low-income and disadvantaged communities online as the BEAD program is realized.

### **Provide E-Rate Support for Schools and Libraries**

Efforts to promote flexibility within the FCC's E-Rate program should be supported to deliver home connectivity solutions for unserved and underserved students and respond to connectivity issues. The FCC, with congressional enablement, if necessary, should:

 Open E-rate-funded networks to the surrounding community (provided E-rate dollars do not pay for these extensions), generally waiving the E-rate cost allocation rule. Funding would support school bus Wi-Fi and other creative efforts that seek to bring broadband into the community to address the homework gap.

- Allow a rolling deadline for Category Two equipment and services while continuing to expand what is covered, including adding coverage for necessary cybersecurity products and services.
- Replicate the discontinued "Special Construction" program in which Arizona and 16 other states that provided 10% matching funds were able to leverage hundreds of millions of dollars in new fiber infrastructure project funding to reach underserved rural schools and libraries.
- Establish long-term funding solutions to replace the Emergency Connectivity Fund to help schools and libraries provide the tools and services their communities need for remote learning with rigorous rules and procedures to limit fraud and abuse.
- Allow and fund the use of satellite services for remote areas where the cost of laying fiber or reaching by wireless is prohibitive and population sparse.

### Simplify and Strengthen the Universal Service Fund

The FCC's Universal Service Fund (USF) provides essential and ongoing financial support to ensure all consumers have affordable access to telephone services. The FCC should determine how best to evolve the universal service mandate by reforming the high-cost support mechanism and low-income support mechanism to allow broadband deployment support while reengineering the programs' funding basis to make the program more stable with a long-term funding source. The FCC also should simplify and streamline applications for funding from the E-rate and Rural Health Care (RHC) programs, and reject placing an overall cap on the entire USF.

### **Reform the RHC Program**

Congress should substantially increase funding based on demand data and the FCC should improve the administration of its RHC program that currently suffers from insufficient funding and a slow, cumbersome administrative process. Additionally, applications should be processed faster with more transparency. Rates should be established based on competitive market forces and actual costs, and program rules should be reformed to no longer discriminate against consortia.

### Empower Land Management and Rights of Way

Federal land management agencies-particularly the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, and Federal Highway Administrationplay crucial roles in permitting and siting broadband infrastructure. The federal government should implement improved planning and permitting coordination between public lands management agencies and tribal governments, as telecommunications projects often cross multiple federal lands and tribal jurisdictions. The government should drive collaboration across agencies, simplify processes and improve timelines for permitting broadband infrastructure projects crossing federal and tribal lands and rights of way, including the introduction of shot clocks. States should be included to further coordinate, data share and ease multijurisdictional project planning and permitting, which has traditionally presented obstacles to private and public investment.

### **Reform Wireless Siting**

FCC wireless siting reform is key to 5G leadership as the uptake of more advanced, higher-speed mobile services continue unabated and traditional mobile providers make inroads into fixed wireless services. As wireless providers invest in necessary upgrades and new networks, the escalating costs and burdens of siting new towers and transmitters have become significant barriers. Densification with small cells necessary for 5G urban performance makes reform even more critical even as advanced antenna and signal processing technology improve urban service delivery. Each locality may have its own rules and timelines governing the permitting and installation of wireless infrastructure, leaving providers to navigate a maze of disparate policies and potential project timelines, often antiquated procedures, and at times impractical fee structures. The FCC previously set some national guidelines for states and municipalities regarding wireless infrastructure, but it now needs to implement a national strategy and framework to enable and drive the wireless networks of the 21st century.

## Net Neutrality and the Carriage of Content and Packets

Net neutrality is critical to maintaining a vibrant internet. A modern framework is needed that encourages the freedom and innovation that makes the internet the vital tool it is today. The FCC should be allowed to lock in widely agreed upon protections for internet traffic with clear rules that prohibit providers from blocking or throttling access to lawful content. This would provide market stability, system transparency, consumer choice, and freedom for online-service vendors to innovate and scale new applications and businesses.

### Support Alternative Connect America Cost Model (A-CAM)

The Council urges the FCC Wireline Competition Bureau to provide sufficient ongoing support for services delivered over existing networks capable of delivering 100/20 Mbps or better speeds as part of finalizing Enhanced A-CAM offers ensuring a reasonable reserve to address concerns with the support threshold.

### Free Up Spectrum for Innovation, Rural Broadband, 5G and Internet of Things/ Industrial Internet of Things (IoT/IioT)

Wireless spectrum is a valuable resource that supports innovative and cost-effective connectivity solutions across the nation. Auctioning additional spectrum licenses alone cannot meet the ever-growing demand for data and innovative pathways to market. Unlicensed spectrum and lightly licensed spectrum are essential complements to licensed spectrum and can open new applications and markets in innovative and dynamic ways as Wi-Fi and Citizens Broadband Radio Service have ably demonstrated. NTIA's recent declarations that broadband networks based solely on unlicensed spectrum are "unreliable" goes against the positive performance of many such networks done right and should be reconsidered.

Demand for wireless data and broadband speed is expected to continue to grow exponentially as wireless broadband use has skyrocketed. The FCC and NTIA should continue to free up additional licensed and unlicensed spectrum real estate. The two agencies should continue to pave the way for 5G, V2X for autonomous/connected vehicles, and IoT/IIoT for smart everything and more with Iow-band, mid-band and high-band (mmWave) spectrum reform and reallocations under licensed, lightly licensed and unlicensed strictures from sub-GHz to at least 100 GHz. The Council also supports working to catalyze the development and adoption of open, interoperable and standards-based networks such as open radio access networks through the Public Wireless Supply Chain Innovation Fund funded through the CHIPS and Science Act of 2022 to help drive wireless innovation and interoperability, foster competition and strengthen supply chain resilience.

The FCC and NTIA should strive to increase competition and availability of services through additional and innovative access to licensed and unlicensed spectrum, maximizing the potential for unlicensed use of TV white space spectrum with its non-line-of-site capabilities and reach well suited to remote rural service provision. It should provide schools, libraries, nonprofit organizations, local governments and tribes the opportunities to obtain unused educational broadband service and other spectrum licenses to serve rural markets. They should also pass the spectrum auction reauthorization, including the allocation of a percentage of future auction funds to recapitalize the NTIA Middle Mile Grant program.

## CONGRESSIONAL BROADBAND REFORMS AND INITIATIVES



### PRINCIPLE

Congress holds the power of the purse and sets the guidelines and rules by which federal agencies operate. There has been much progress since the Telecommunications Act of 1996, but a major update in governance expectations and structures is long overdue.

### POSITIONS

### Support One-Off Rural Broadband Acceleration Funding

Congress has allocated substantial one-time funding focused on accelerating rural broadband infrastructure deployment in genuinely unserved and underserved areas where the economic benefit from increased connectivity is greatest. A multipronged approach should be used to build on existing agencies and their programs leading to long-term strategic investments and ongoing support to secure gains and continue to address the remaining digital divide.

### Moderate BEAD Program Regulation

Congress should take additional action in concert with NTIA to moderate the BEAD program rules regarding letters of credit; workforce requirements; Build America, Buy America (BABA) Act guidance; program income restrictions; and other elements that could limit the program's applicability to and access by smaller internet service providers, and tribal and local governments.

Make Broadband Subsidies Directly to Citizens - Having established a robust subsidy program with the Affordable Connectivity Program's provider credits to help low-income Americans gain connectivity by underwriting their broadband access costs, Congress and the Federal Communications Commission (FCC) need to follow up with universal service reform and other programmatic solutions to make such benefits permanent.

#### Expand Tribal Broadband Support

Congress and federal agencies should pursue policy, programmatic and fiscal opportunities to improve broadband connectivity on tribal lands, including designing federal programs to promote partnerships among tribes, states and various broadband providers. Federal broadband programs should allocate a designated portion of their available funding to supporting projects on tribal lands. Special attention should be given to encourage competitive broadband service offerings from multiple providers on tribal lands to ensure tribal citizens are provided options on par with their nontribal neighbors.

### Help Remove Regional and Local Barriers to Deployment

Federal financial support should be used to encourage local jurisdictions to remove deployment barriers. Local and state governments should streamline access to public rights of way and utility poles, adopt "dig-once" policies, install conduits during roadwork, and ensure fees are based on costs and remain competitively neutral. Congress could go further by making receipt of federal infrastructure funds

contingent on adopting a model municipal code that would streamline access to rights of way and municipal infrastructure such as utility poles and government buildings.

Policies governing access to utility poles can have a significant impact on the pace of broadband deployment to unserved and underserved markets. This means regulators and pole asset owners need to provide a consistent framework that recognizes the variety of circumstances that affect local pole attachment use, streamlines the pole attachment process, and expedites broadband deployment to communities with rates, terms and conditions that are non-exclusive, non-discriminatory, reasonable, predictable, and prompt.

#### Allow Electric Cooperatives to Take the Field

Federal agencies should continue expanding the eligibility of electric and telephone cooperatives to pursue USDA and FCC broadband deployment program support, as cooperatives' existing infrastructure and access to rights of way can help promote low-cost connectivity solutions for rural communities. Congress also should fund robust new federal cost-share to spur investment in a nationwide middle-mile backbone along the nation's existing electricity grid.

#### Leverage CAI-Funded Connections to Communities

Federal programs often direct broadband infrastructure funding to community anchor institutions (CAIs) such as schools, libraries, health care and regional government. These institutions could help leverage additional public and private investments in surrounding rural areas if Congress would legislate a more holistic funding approach that supports infrastructure deployment "to and through" CAIs.

#### Promote Regional Internet Exchanges

Congress should take steps to encourage the growth of regional internet exchanges, as they would help promote cost-effective, reliable broadband service in rural areas by serving as open interchanges and peering points available to all broadband providers serving the area.

#### **Other Action**

Congress should revisit and replace the legacy Communications Act to better define and refine definitions of services and modernize regulatory structures. Lawmakers also should reform the FCC's merger review process and provide funds necessary to implement the Broadband DATA Act (S.1822). Additionally, Congress should fund research and test beds for innovative new wireless equipment and services.



## CYBERSECURITY



### PRINCIPLE

Virtually every facet of Americans' daily lives is facilitated by technology. We communicate, shop, travel and work through globally connected systems that are increasingly vulnerable to cyberattacks. This spike in cyberattacks–particularly nation state-sponsored attacks that simultaneously impact multiple systems–is prompting a growing body of federal policies to promote cyber readiness, modernize government infrastructure, and monitor and respond to cyber incidents. "Security-by-design" and "security-by-default" are just examples of the myriad federal approaches to cyber resilience.

Congress and the administration have implemented a series of sweeping reforms to critical infrastructure and defense industrial security, international engagement, and incident response and reporting. Likewise, there is increased focus on shifting liability to software and hardware vendors that fail to build cybersecurity into their solutions, along with continued workforce development and education initiatives. The administration has ramped up investigative efforts to disrupt international cyber gangs, convened an international summit on countering ransomware and launched new efforts to strengthen America's K-12 schools' cybersecurity.

The Council supports federal policies that promote public-private collaboration and incentivize a proactive, risk-based approach to cybersecurity. We support frameworks that help entities efficiently identify, manage and communicate risk to foster a more resilient cyber ecosystem.

### POSITIONS

### Implement Uniform, Simplified Cyber Incident Notification

The Cyber Incident Reporting for Critical Infrastructure Act of 2022 (CIRCIA) proposes the first-of-its-kind reporting mandate for America's critical infrastructure. The draft rulemaking for CIRCIA, published in spring 2024, proposes sweeping reporting requirements for private sector critical infrastructure entities, contractors and vendors, including many SMBs that may be ill-equipped to comply with this mandate. While the final CIRCIA rule is not expected until fall 2025, a growing number of federal agencies are adopting redundant, or even conflicting reporting requirements for American businesses. The Securities and Exchange Commission, for instance, implemented its cyber incident reporting rule in December 2023, with definitions, reporting triggers and time frames that differ from CIRCIA's.

This patchwork of federal reporting mandates has the potential to undermine their very purpose: real-time, actionable cyber intelligence. The government, businesses, and consumers should be provided accurate, reliable information to promptly and effectively prevent or respond to a cyber threat. Indeed, the Department of Homeland Security identified more than 45 distinct federal cyber incident reporting requirements that are redundant or even conflict with one another. Many of these reporting mandates cannot be harmonized without congressional action.

The Council calls on Congress and the administration to streamline and harmonize the multiple federal reporting requirements and structure systems and processes to rapidly disseminate timely actionable information. Ideally, this intelligence sharing should be automated to facilitate outcome-driven results. We encourage federal lawmakers to adopt clear, efficient and cost-effective policies that do not stifle innovation or unnecessarily burden the private sector, particularly small- and medium-sized businesses (SMBs).

### Expand Cyber Education and Workforce

An estimated 700,000 cybersecurity jobs are unfilled across the U.S., despite a cyberattack occurring every 39 seconds on average. America's cyber future is dependent upon a high-skilled workforce and preparing this future workforce must begin in America's elementary schools. The Council is dedicated to closing the cyber talent gap and supports federal initiatives, including the National Cyber Workforce and Education Strategy, to equip our educators with the tools to inspire our future cybersecurity experts and to meet the demands of one of the fastest growing and most critical industries in the U.S.

#### Supply Chain Security

The Council supports federal government efforts to enhance the security and reliability of software, firmware and hardware supply chains through open and transparent private sector partnerships that are mutually beneficial and ideally incentive-driven.

- Develop Policies for Objective Assessment Focus on coordinated, whole-of-government efforts to develop clearly defined policies and standards for objectively assessing supply chain risk and security.
- Encourage Public and Private Sector Collaboration Expand on the National Telecommunications and Information Administration's work with industry stakeholders to produce a Software Bill of Materials that promotes supply chain transparency and reduces risk. Key focus areas are:
- **Expand Task Force Action** Support the Federal Acquisition Security Council/U.S. Department of Homeland Security's Information and Communications Technology Supply Chain Risk Management Task Force.
- Put Policy in Action Craft and pass legislation (e.g., United States 5G Leadership Act of 2019) that preserves national security while spurring innovation in a globalized economy.
- Refine While Measuring Impact Work to transparently continue to refine and adopt the U.S. Department of Defense's Cybersecurity Maturity Model Certification while continuing to track, assess and spread awareness of its impact on Arizona's defense industrial base.

### Internet of Things (IoT) Cybersecurity

Increasingly, the threat landscape broadened by the exponentially growing IoT includes cyber compromises that result in physical consequences. This both raises the concern and response of government and the private sector, particularly when the consequences manifest themselves in potential life-threatening situations. The

Council supports the development of a flexible, stackable baseline of IoT security requirements to be built upon and tailored to fit individual ecosystem needs and evolve as technology progresses. This will happen through:

- Passage of the IoT Cybersecurity Improvement Act.
- Development of the National Institute of Standards and Technology (NIST) Core Cybersecurity Feature Baseline for Securable IoT Devices (NISTIR 8259) and C2 Consensus on IoT Security Baseline Capabilities.
- Coordination with the Federal Trade Commission to deem conformance with the NIST baseline presumptively reasonable.
- International harmonization of IoT security practices.

#### **5G Security**

The Council supports rapid deployment of 5G infrastructure utilizing trusted sources of supply, as well as maintaining a focus on security as 6G technology develops and is introduced into the infrastructure. Key focus areas are:

- Certified Information Systems Auditor strategic risk management.
- Communications Security, Reliability and Interoperability Council guidance on network security and reliability.
- National Security Telecommunications Advisory Committee 5G and supply chain.

# DIGITAL GOODS AND SERVICES

### PRINCIPLES

The digital economy plays a strong role in the life and growth of Arizona industry. Given the importance of digital goods and services to the Arizona Technology Council's member companies, the Council supports policy that fosters economic growth, reduces barriers to innovation and does not lay undue technical burdens on companies. Where regulatory frameworks are introduced, the Council supports policy that is clear and non-contradictory across the multiple states and regions that companies serve. Digital services often include a communication component, and the First Amendment rights of digital services' users to speak should be upheld.

### POSITIONS

### Fair and Level Field

Congress has recently sought to limit the power of large technology companies in the United States. These bills often target distinctive business practices of Amazon, Facebook, Google, Twitter, Apple and other large companies in attempts to level the playing field for smaller competitor companies. The Council supports a level playing field but does not support hobbling incumbent companies in this effort. Any bills working to address competition issues under the aegis of antitrust, fairness, or open markets should balance the needs of existing companies against the needs of emerging companies. Bills that seek to eliminate perceived conflicts of interest, such as hosting third-party markets and being a seller on those same markets, should similarly balance the needs of the host and the sellers in any consideration of fair commerce practices.

#### **Content Providers**

Proposed laws seeking mandatory content filtering at the device or platform level must respect the First Amendment rights of users of digital services and not lay an undue technical burden on digital services providers. Proposed laws must respect existing laws regarding removal of digital services' liability for digital content provided by the platform. Similarly, mandatory content moderation laws must comply with existing laws regarding removal of liability for content and the upholding of digital services providers' ability to make content moderation decisions for themselves.

As online advertising is a core business model of many digital service providers, proposed regulations on such advertising must not hinder economic growth, lay an undue technical burden on providers or take away platforms' ability to moderate content on their own platforms.

#### **Data Privacy**

Privacy on social media platforms is an area of concern for digital service providers. Proposed laws must acknowledge and balance the rights of privacy that the individual has but not lay an undue technical burden on digital service providers.

# ENERGY



### PRINCIPLE

The link between technology investment and energy is fundamental and unbreakable. To attract investment capital and retain and grow its technology business sector, the United States needs predictable and investable energy markets that ensure affordability, grid reliability and energy security while enabling companies to meet internal sustainability goals. Additionally, the country needs a secure and adequate water supply. Every key American technology cluster shares these needs. Policy and legislative choices that enable market forces to improve the status quo have historically been favored. There are several attractive policy options that would benefit businesses, job creation and economic productivity.

Transitioning to low-carbon technologies would provide the ideal landscape for companies and utilities to meet their sustainability goals. A growing number of companies are setting goals to source 100% renewable energy for their facilities and reduce their carbon footprint. Access to cost-effective, low-carbon or carbon-free energy resources is an important factor for companies as they consider where to make future investments.

### POSITION

### Clean Hydrogen Development

Support the development of clean regional hydrogen hubs and continued federal investments in hydrogen and fuel-cell technologies and related research and development. The Infrastructure Investment and Jobs Act identified \$9.5 billion for federal investment in hydrogen-related programs and the Inflation Reduction Act further identified energy and climate-related tax credits, as well as additional funding of programs across agencies that positively impact upstream, midstream and downstream applications related to the development of a national hydrogen marketplace. The United States has an opportunity to establish itself as a leader in the global hydrogen economy. Hydrogen offers a unique solution to drive deep emissions reductions in energy-intensive, hard-to-decarbonize sectors, including shipping, aviation and industrial applications like steel manufacturing. Hydrogen and fuel cells can help reinforce clean-energy grids by providing long-term energy storage options and offering dependable, cost-effective backup power. Hydrogen energy and fuel cells can also enhance energy security in the transportation sector, reducing petroleum imports and supplying a dependable, domestically produced source of energy.

## FEDERAL GOVERNMENT INVESTMENT IN RESEARCH AND DEVELOPMENT

### PRINCIPLE

We are living in an era when innovation, agility and imagination are all essential to keep pace with exponential technological transformation taking place in our society. In government, federal agencies are playing catch-up from years of underfunded research and development (R&D) impacted by economic constraints and sequestration while other nations have increased their public and private R&D investments at a faster rate. There is a longstanding notion that R&D is the backbone of a globally competitive, knowledge-driven economy. In 2010, economist Gary Becker stated that "modern economies are based on the command of knowledge and information." It is essential that the United States sustains its investment in R&D.

Michael D. Griffin, the former undersecretary of defense for research and engineering, placed an emphasis on emerging technology while supporting an R&D budget. Griffin stated: "The reality is that we live in a time of global access to technology and global access to scientific talent. It is no longer preeminently concentrated here in America. Innovation will remain important, always, but given this global dispersion of technology and talent, greater speed in translating technology into fielded capability is where we can achieve and maintain our technological edge."

This is good news as the government invests in programs that will address some of our greatest challenges, including Department of Defense (DoD) priorities for countering changing global threats such as cybersecurity, hypersonic weapons, access to space, astronomy and microelectronics. The ecosystem of government, large industry, small business and universities will help drive innovation and spur competitiveness. Beyond defense, the nation will benefit from government investments in smart cities; big data; quantum technologies including sensing, space exploration, health and medicine; blockchain; artificial intelligence; and Internet of Things. Additionally, increased emphasis of R&D will also help to bring various industries' R&D back to the U.S. to help reduce some of the challenging supply chain issues that surfaced in recent years.

### POSITIONS

The Arizona Technology Council supports increases in R&D funding that encourage advancements in efficient, sustainable aerospace, including power and propulsion, autonomous operations, advanced operator interfaces, advanced sensors, and photonics. The Council further supports R&D at all levels from basic research to advanced development in big data, cloud computing, high-performance computing, automation, AI, biometrics, blockchain technology and cybersecurity. In particular, the Council supports increases to the following federal R&D budgets:

- Networking and Information Technology Research and Development Program The federally funded program is designed to increase coordination, productivity and effectiveness among federal agency R&D efforts in networking and IT. This program can be successful in helping to drive innovation if it has an adequate budget.
- Department of Defense (DoD) Science & Technology Organizations These include the Defense Advanced Research Projects Agency (DARPA) and DoD labs that fund development in large industry, small business and academia. DARPA is continuing to seed revolutionary transformations in defense technology capabilities in universities and industry, as well as industry funding through DoD labs. These are critical to bridging the gap between products and to fielding new capability in DoD.
- **NASA** Through funded partnerships with industry, the agency's centers can catalyze the aerospace supply chain by making pivotal investments in technologies for the next generation of aircraft and both manned and unmanned space exploration.
- Federal Aviation Administration Key investments by the agency are paving the way for future greener aircraft and more efficient management of an increasingly challenged national airspace. Further investment will enable advances in commercial propulsion and power technologies to be applied across all segments of the aerospace industry.
- National Labs and Federally Funded Research and Development Centers The R&D incubators have compiled a treasure trove of technologies and applications

for defense and civilian interests. The benefits of the labs' role include experienced capability in rapid prototyping of new technologies ready for transitioning, showcasing and commercialization.

- Small Business Programs The broad-based Small Business Innovation Research
  program is funded by many agencies. It enables small businesses to explore their
  technological potential and provides the incentive to profit from its commercialization.
  The Small Business Administration Regional Innovation Cluster (RIC) program is
  designed to promote innovation and commercialization in geographic areas with a
  concentration of one or related technologies. The Council's Optics Valley Committee
  is a past participant in the RIC program. In addition, the Economic Development
  Agency provides grants (requiring matching funds) for capital projects critical to
  small business innovation and development.
- Congressional Innovation Support Science and technology funding should be funneled to universities, small business, and large industry, with assurance that funding is available to industry to complement government labs' in-house efforts and the most efficient use is made of overall government investments. As one specific example, Congress has formed the bipartisan, bicameral congressional optics and photonics caucus co-chaired by Sens. Kyrsten Sinema, I-Ariz., and Steve Daines, R-Mont., along with Reps. Joe Morelle, D-N.Y., and Brian Mast, R-Fla. The caucus will work to educate members of Congress and their staff about the importance of light-based research and technologies to the economy, security and scientific excellence. It will also advocate for federal investment in this innovative and exciting space. The caucus will serve as a positive, proactive voice for the optics and photonics community within Congress and as a bridge to the administration.
- Reverse the Tax Law Changes Impacting R&D For nearly 70 years, American businesses have been permitted to deduct 100% of R&D expenses from taxable income in the year those expenses were incurred. This favorable tax treatment promoted innovation by powerfully incentivizing critical investments in research and technological advancement. Those investments led to countless scientific breakthroughs, powered economic growth, and produced significant commercial and military advantages for the United States.

In 2022, companies were unexpectedly required to amortize R&D costs over five years instead of the year in which the costs were incurred. This change resulted in a substantial increase in federal tax liabilities for many businesses, which harmed their ability to invest in more R&D and grow. Companies faced difficult choices to pay the new tax obligation, such as entering into tax repayment plans, borrowing against homes, incurring credit card debt, dipping into retirement or savings, hiring freezes, suspending projects, and laying off valuable staff. Weathering a second year of this could be catastrophic, not only for the companies but also the country's overall innovation. In some cases, this could mean laying off more staff, filing for bankruptcy or closing the business.

#### Impact on Industry

- Since amortization took effect in 2022, the rate of growth of R&D spending has slowed dramatically. After growing an average of 6.6% over the previous five years, R&D spending actually declined over the past 12 months.
- In the first year following its passage, the cash tax cost to companies in 2022 from this change was \$40 billion. Failure to fix amortization is the equivalent of increasing the corporate tax rate by 1.5% to 2.0%.

### Impact on Small Business and Innovation Community

Small- and medium-sized businesses have been laying off workers to account for the additional tax liability. On October 24, 2023, the Wall Street Journal published a story detailing how some businesses had laid off 35% to 40% of their workforce due to the need to amortize research expenses.

 The nation's startups are disproportionately impacted, as they invest heavily in the development of new products or services. A tax liability that is substantial and unexpected can be devastating for new companies earning little income in the crucial early years. Indeed, for many startups across the country, the required amortization of R&D investments can be fatal, despite the fact that startups are disproportionately responsible for the innovations that drive productivity growth and economic growth, and account for virtually all net new job creation.

#### Impact on Global Competitiveness

- The United States is one of only two developed countries with R&D amortization rather than allowing an immediate deduction, making it an even less attractive place to invest in and conduct R&D.
- Our strategic competitors know this and are taking advantage of it. In fact, 17 countries provide a deduction that is more than 100% of eligible R&D expenses. China, for example, has permanently expanded its deduction for R&D expenses, allowing a first-year deduction that is 20 times greater than the first-year deduction for the same investment in the United States. In other words, a manufacturing company in China that spends \$100 on R&D gets to deduct \$200.
- R&D amortization is especially damaging given the strategic imperative of preserving America's innovation leadership in the face of heightened global competition, particularly from China. For decades, China has worked relentlessly to wrest the mantle of global innovation leadership from the United States. The Belt and Road global infrastructure initiative, the Made in China 2025 plan to dominate global manufacturing, and the China Standards 2035 blueprint are critical aspects of China's ambition to be the 21st century's unrivaled economic superpower. To meet that competitive threat, America must redouble its commitment to aggressive pro-innovation policies.

## FEDERAL TAXES

### PRINCIPLE

Innovation and economic growth should be at the forefront when considering tax policies. The Council supports members of Congress and the administration's advancing tax and regulatory policies that spur innovation and grow the economy.

### POSITION

#### **Incentivize Investment in Business**

Create a permanent and competitive tax code that incentivizes investment for businesses of all sizes, including:

- Improving access to capital and providing expanded support mechanisms for high-growth businesses.
- Maintain federal corporate tax rates established during the previous administration.
- Ensure simplicity and fairness in interstate taxation:
  - Interstate sales tax legislation should not result in additional compliance burden to businesses, and any policies should include a small business exemption.
  - Support policies that provide consistent, balanced and predictable sales tax treatment across international, state and local jurisdictions. These policies should prohibit unfair and unrelated discriminatory taxes.
  - Reduce compliance burdens on the digital workforce by supporting legislation that simplifies nonresident employee and employer requirements to report and withhold state income taxes.
  - Support interstate tax fairness by treating digital products the same as tangible goods.
- Maintain federal corporate tax rates established during the previous administration.

## FINANCIAL TECHNOLOGY (FINTECH)

### PRINCIPLES

Distributed ledger technology (DLT), otherwise known as blockchain, is perhaps the most talked about yet most misunderstood emerging technology in the world today. Since its inception, secure DLT has been widely viewed through the lens of virtual currencies, particularly the hype surrounding the buying and trading of bitcoin and other digital coin offerings. Indeed, surveys have shown that consumers are largely aware of what bitcoin is but do not know about or understand the impact of fintech advances and the blockchain technology that powers it.

Blockchain has the potential to revolutionize many sectors of the U.S. economy if the proper legislative and regulatory measures are taken to enable and foster its development, correcting the ineffective and confusing patchwork of policies. Today's patchwork system of divergent laws and regulations is unsuitable for this diverse and fast-evolving industry in need of a comprehensive regulatory approach. The technology brings significant efficiencies to not only currency and financial transactions but also asset ledgers, global supply chains, Internet of Things (IoT) data collection and decentralized social networking.

### POSITIONS

Federal policymakers should consider developing policies and regulatory structures for fintech and blockchain environments that encourage developers and market participants to continue innovating and providing solutions that will aid the public sector in achieving its mission and goals. To do so, policymakers should understand the promise, uses and questions that blockchain currently presents. The Council supports:

 Securities Law Clarification - The linchpin for tokenized projects in the United States is the application of federal securities law to token sales. Initial coin offerings (ICOs) have arisen as forms of crowdfunding for blockchain projects through the sale of digital tokens, many without adherence to federal securities law. However, if conducted properly, they are legitimate forms of crowdfunding. Additionally, not all initial token sales are ICOs but merely a means of getting a new good or service to market. Unfortunately, the U.S. Securities and Exchange Commission's (SEC) framework for investment contract analysis of digital assets does little to clarify the circumstances in which a token sale will be treated as a security offering and our antiquated securities laws simply do not fit the modernday use of digital assets. In the continuing absence of the statutory clarity, the industry is in turmoil and many innovators have left U.S. markets to launch their projects overseas. Congress, the SEC and other financial regulators should work with stakeholders to create a responsible framework for regulating ICOs and non-security token sales, such as the Financial Innovation and Technology for the 21st Century Act that would amend existing securities and commodity regulatory statutes to facilitate the use of digital assets.

- Multi-Agency Coordination and Regulatory Alignment In accordance with the Government Accountability Office report "Blockchain in Finance: Legislative and Regulatory Actions Needed" (2023), the federal agencies involved in fintech regulation should jointly establish or adapt an existing formal coordination mechanism for collectively identifying risks posed by blockchain-related products and services and formulating a timely regulatory response including the Federal Reserve System, Federal Deposit Insurance Corporation, SEC, Comptroller of the Currency (OCC), National Credit Union Administration, Commodity Futures Trading Commission, and Consumer Financial Protection Bureau.
- Digital Currencies Often associated with blockchain and DLT, digital currencies are entering a new and heightened era of importance exhibiting properties like traditional currencies, but generally not having a classical physical form of fiat currency. The risks and benefits of establishing any centralized government digital currencies must be carefully weighed. A related and rapidly developing realm called decentralized finance (DeFi) is experiencing an organic and global wave of innovation that introduces advantageous alternatives to almost every form of legacy financial instrument. DeFi is supplanting more centralized fintech with institutional and retail investors likely to use whatever platform is offering the greatest variety of services and assets. Because DeFi innovation is driving powerful and fundamental shifts in the foundations of the global economy, it is important that federal policymakers continue to innovate with regulation and legislation that adjust to this new world of digital assets to prevent losing relevance and competitiveness.

- Decentralized Web (DWeb) The decentralized web proposes the reorganization of the internet to remove centralized data hosting services, using instead a peer-to-peer infrastructure due to content constraints and lack of trust with the current internet. Traditional platforms are being disrupted and disintermediated, opening the possibility of a world in which people can own their data and grant applications permission to use it on a limited basis rather than having that data scattered across hundreds of centralized databases. Decentralized identify as an open, standards-based identity framework using digital identifiers and verifiable credentials that are self-owned and independent and enable trusted data exchange should be enabled and adopted for end-user control, privacy and security reasons. The federal government itself and in concert with international organizations should work to adjust regulatory paradigms to encourage DWeb development and adoption, driving progress, opportunity and inclusion.
- Non-Fungible Tokens A new and dynamic method of creating property rights known as non-fungible tokens (NFTs) has emerged and grown rapidly in popularity. NFTs are being applied to digital art, sports, real estate, documents and other forms of unique assets. They are created on blockchains and traded on various cryptocurrency exchanges, representing powerful versatility within the formerly static realm of asset ownership. While NFTs are still in their infancy, they represent an innovative alternative to traditional forms of property ownership and are challenging to regulate with legacy policies. Congress and federal regulators should evolve updated and innovative ways to blend NFTs into legacy approaches to property rights through an approach that encourages entrepreneurial innovation while recognizing and fostering this new tokenization of assets.
- Regulatory Clarity Regarding Custody The SEC, OCC and state regulators each have differing custodial requirements for digital assets and often offer conflicting guidance that becomes subject to jurisdictional battles. Providing increasing clarity on how existing custody rules apply to digital assets while allowing the traditional, regulated financial system to interact with digital assets will provide a safer arena for users to navigate the digital asset ecosystem. Customers should have the choice to hold digital assets with exchanges, regulated banks or broker-dealers. Yet, traditional U.S. custodians are reluctant to offer digital asset services due to unclear regulatory approval requirements. Additionally, the SEC has made it financially unworkable to hold digital assets by requiring custodians to hold an equal asset on the balance sheet as a liability. Congress should require the SEC to rescind the requirement in favor of a notice and comment rulemaking and regulators should provide clear custody guidance for incumbent and entrant providers.
- Self-Custody The freedom of self-custody through a self-hosted wallet plays
   an important role, allowing users to preserve financial privacy and to securely

store their assets without threat of loss from the security breakdown of a thirdparty custodian though with some higher degree of risk. Policymakers should ensure that the option to self-custody is not infringed and that federal agencies are kept from promulgating rules that would impair a person's ability to act as a self-custodian. Policymakers and industry should partner on educational outreach to ensure self-custody risks and benefits are thoroughly understood.

- Regulatory Sandboxes Following on the heels of Arizona's groundbreaking Fintech Regulatory Sandbox, regulatory sandbox proposals have been introduced or enacted in more than a dozen states. In addition, the Consumer Fraud Protection Bureau launched a sandbox for businesses subject to its regulations and the District of Columbia established the Financial Services Regulatory Sandbox and Innovation Council. The Council encourages additional federal blockchain and emerging technology regulatory sandboxes to reduce barriers to technological innovation and create an agile environment for the testing and offering of fintech and blockchain applications. By fostering innovation, the United States can keep pace in dynamic international markets and develop many new use cases. Federal agencies should issue broad regulatory waivers for state sandbox participants and exemptions for transactions occurring within state regulatory sandboxes, exerting a light regulatory touch on nascent state blockchain initiatives. We also encourage adoption of an agency-wide federal sandbox so innovators can take full advantage of this testing model nationally and internationally, ensuring legal and regulatory reciprocity between participating jurisdictions.
- A Federal Blockchain Stakeholders Working Group The Council, along with a broad coalition of national, state and regional technology councils, strongly support the reforms codified in the Blockchain Promotion Act of 2019 and urge Congress to pass this or similar important legislation directing the Department of Commerce to establish a blockchain working group that recommends a consensus-based definition and regulatory framework for the technology. The working group should develop specific recommendations for the National Telecommunications and Information Administration and Federal Communications Commission to examine marketplace opportunities; support current and future security requirements, standards and interoperability; explore the potential impact of blockchain on spectrum policy; and promote the adoption of blockchain to promote efficiencies within the federal government.

Federal Government Records - Federal agencies and Congress should examine utilizing blockchain for the management and storage of government records for cost, efficiency and security considerations. Trials and pilots should be initiated to develop capabilities, gauge future direction and, when appropriate, inaugurate full-scale initiatives.

## **GLOBAL TRADE AND MARKET ACCESS**

### PRINCIPLE

After rebounding from the economic fallout of the pandemic, U.S. total trade (i.e., goods and services, exports plus imports) declined 1.5% in 2023. This mirrored trends in global trade, which were estimated to have contracted in 2023 amid geopolitical tensions, continued supply disruptions, high inflation and rising debt. The top U.S. trade partners in 2022 were the European Union bloc (\$1.322 trillion), Canada (\$919 billion), Mexico (\$864 billion), China (\$761 billion), Japan (\$310 billion) and Germany (\$304 billion).

Despite worldwide declines in high-tech exports, U.S. high-tech exports in 2023 are projected to have risen 4.4% to \$282.5 billion. Shipments to Germany, the Netherlands and Belgium all rose by double digits. U.S. exports of smartphones, routers, board and panels, parts for gas turbines, and computers increased.

For additional growth, market opportunities should be expanded worldwide, tariff and non-tariff barriers reduced (including in areas such as digital trade), foreign direct investment encouraged, infrastructure that supports international trade should be strengthened and U.S. technology advocated globally.

### POSITIONS

The Arizona Technology Council supports trade policies and infrastructure investments that expand and open markets for the technology sector, prevent or eliminate trade barriers, promote U.S. foreign direct investment, and boost the global competitiveness of the industry. In addition, Council supports uniformity of international data privacy and security laws to encourage innovation and policies that preserve the free flow of information across national boundaries.

• **Trade Promotion Authority** - Encourage U.S. Trade Representative (USTR) to actively negotiate new trade agreements and encourage Congress to pass Trade

Promotion Authority (TPA) legislation. The most recent TPA expired in 2021. The Biden administration has not requested TPA and has pursued trade initiatives as executive agreements that lack a formal role for Congress in approving outcomes.

- **Support the United States-Mexico-Canada Agreement** Continue to support utilization of the United States-Mexico-Canada Agreement (USMCA).
  - Assist Council members in developing USMCA compliance policies and procedures for making and supporting claims and maximizing trinational nearshoring opportunities resulting from international supply chain and economic security issues revealed because of the pandemic.
  - Monitor U.S. Customs and Border Protection's proposal to apply USMCA marking rules to determine non-preferential country of origin of products imported from Canada and Mexico, as well as enforcement actions under the USMCA labor and environmental provisions.
  - Leverage the USMCA agreement as a template for new trade agreements.
- Support the Australia, United Kingdom, United States Enhanced Trilateral Security Partnership - Continue to support the relaxation of export controls on the UK and Australia under the Export Administration Regulations, and use of the new license exception under the International Traffic in Arms Regulations with the UK and Australia.
- **Monitor China** Continue advocating the Council's position on Section 301 and additional trade remedies and resulting tariffs.
- Monitor proposed tariffs under Section 301 to be levied on electric vehicles, certain batteries, solar cells, chemicals and machinery from China.
- Monitor ongoing Section 301 tariff refund litigation before the Court of International Trade.
- Monitor and update members on expanded sanctions on China (e.g., Entity List additions, Specially Designated Nationals List additions).

- Monitor and update members on the evolving export controls imposed against China, Macau, Hong Kong and other countries on advanced computing, supercomputers, high performance integrated circuits, and semiconductor manufacturing equipment.
- Continue advocating for intellectual property protection in general and trade secret protection and enforcement of proprietary data in particular, and support Council members in implementing more effective internal company procedures, policies and risk management to protect against theft of intellectual property, proprietary data and trade secrets.
- Advocate for stability between the United States and China, including de-escalation of the trade war to restore confidence and predictability in the trade relationship and global economy.
- Monitor Taiwan Monitor advances under the US-Taiwan Initiative on 21st Century Trade, aimed at increasing trade in goods between the two countries and removing discriminatory barriers through trade facilitation and anti-corruption measures, and policies addressing technology standards and digital trade, among others.
- Advocate for a Strong Relationship with the United Kingdom On June 8, 2023, the White House announced a trade framework entitled, "The Atlantic Declaration: A Framework for a Twenty-First Century U.S.- UK Economic Partnership." The Atlantic Declaration is intended to serve as a framework for bolstering binational cooperation on clean energy transition, artificial intelligence and national security. The framework signals that a full trade agreement with the UK is currently off the table and refocuses diplomatic efforts on areas of mutual interest. In a related move, the White House also announced an intent to designate both Australia and the UK as "domestic sources" under Title III of the Defense Production Act. This would permit the U.S. government to invest and issue grants to firms in those two countries in the defense manufacturing sector, which is a privilege currently granted only to Canadian firms. Given the importance of the relationship between the U.S. and UK, the Council should continue to advocate for advances under The Atlantic Declaration framework and support future efforts to expand the framework into a more fulsome trade agreement over time.
  - The Council supports recent developments under the Atlantic Declaration, including the new Strategic Dialogue on Biological Security, the U.S-UK Sanctions Dialogue, the signing of a Memorandum of Understanding on AI Safety and the launch of the U.S.-UK Data Bridge.
- Monitor Russia Monitor and update Council members on the evolving sanctions and export controls imposed against Russia and Belarus by the United States and its allies.

- Monitor and Support the Americas Monitor and support the Americas Partnership for Economic Prosperity, an initiative advanced by the State Department and Office of the USTR with partner countries across the Americas–Barbados, Canada, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Mexico, Panama, Peru and Uruguay–based on a framework similar to the Indo-Pacific Economic Framework for Prosperity. The ongoing consultations have five focus areas: reinvigorating regional economic institutions and mobilizing investment; making more resilient supply chains; updating the basic bargain; creating clean energy jobs and advancing decarbonization and biodiversity; and ensuring sustainable and inclusive trade.
- Monitor the U.S.-Central Asia Trade and Investment Framework Agreement At the 15th meeting of the U.S.-Central Asia Trade and Investment Framework Agreement Council-which included senior officials from the U.S., Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan-the participants discussed the challenges of developing new trade routes to improve supply chain resilience and economic diversification. Goals for the region require the Central Asian countries to pursue policy reforms that will facilitate trade and create a predictable business environment, including improved regulatory transparency, consistent stakeholder consultation during the development of regulations, implementing high-standard measures to promote trade in quality goods and services, and increasing alignment between domestic labor laws and international labor standards. Participants agreed to accelerate efforts within the TIFA working groups on issues like harmonizing customs and border procedures; adopting science-based food safety and plant and animal health measures and processes; developing open, inclusive, and secure digital infrastructure and government interfaces; strengthening intellectual property protection and enforcement; and facilitating a public-private dialogue to spur women's economic inclusion.
- Monitor and Support the U.S.-India Initiative on Critical and Emerging Technology - Ongoing efforts will include preventing the leakage of sensitive and dual-use technologies to countries of concern; addressing longstanding barriers to bilateral strategic trade, technology, and industrial cooperation, including in the commercial and civil space sector; working with Korea, Japan, and the European Union to enhance resilience for supply chains for active pharmaceutical ingredients and reduce dependencies on single-source suppliers; continuing to build a robust semiconductor and information communication technology ecosystem in India; pursuing numerous projects to diversify supply chains and expand collaboration with respect to critical minerals; and lowering barriers to U.S. exports to India of high-performance computing and source code.

- Make Permanent the WTO Advocate to make permanent the World Trade Organization moratorium on customs duties on electronic transmissions and advocate for an early agreement on e-commerce negotiations by promoting ambitious and inclusive digital trade rules.
- Finalize EU-U.S. Privacy Shield Agreement Support negotiations with the European Union to finalize a new agreement that reinstates the United State under the Privacy Shield Adequacy Decision of the European Commission on personal data transfer from the European Union to our country.
- Promote Digital Trade Advocate for the Council's position on digital services taxes and promote a digital economy committed to the movement of data across borders and data privacy approaches that enable cross-border data flows. As global digital integration accelerates, companies must be able to move data freely and securely across borders to maintain operations, reach customers and compete. The Council supports working with U.S. allies to counter digital authoritarianism and establish international standards for emerging technologies.
- Develop International Digital Tax Framework The United States and more than 130 countries in June 2021 agreed to update the global tax system and develop an international digital tax framework at the Organization for Economic Co-operation and Development (OECD). In support of the G-20/OECD Inclusive Framework negotiations, the United States and other G-7 countries announced agreement on how to allocate taxing rights of the largest and most profitable multinational enterprises, including digital companies, and a global minimum tax. The United States in October 2021 reached a compromise-the agreement on digital services taxes (DST)-with several European countries to withdraw their national DSTs once the multilateral deal goes into effect and to credit companies with any excess taxes paid. As part of it, the United States agreed to terminate the suspended Section 301 trade actions against Austria, France, Italy, Spain and the United Kingdom. The United States reached a similar agreement with Türkiye and India in November 2021. The USTR and Treasury Department are monitoring implementation. The Council supports this position.
- Monitor Emerging and Foundational Technologies Monitor and advocate for efforts to identify and establish export requirements for emerging and foundational technologies under the Export Control Reform Act.
- Monitor Proposed Carbon Border Taxes and Tariffs Monitor and advocate for proposed carbon border taxes on certain carbon-intensive products from countries lacking adequate emissions controls.
- Support the Industrial Deep Decarbonization Initiative established via the Clean Energy Ministerial (United Kingdom, India, Germany, Canada and the

United States) and focused on supporting and identifying policies that lead to decarbonized industrial materials. This includes standardized carbon assessments, procurement targets and policies, and targeted investments.

- Support U.S.-EU Trade and Technology Council (TCC) Monitor and support high-level cooperation between the European Union and the United States on trade and technology with the goal of promoting competitiveness and prosperity while focusing on strengthening trans-Atlantic technological and industrial leadership, compatible technology standards and regulations, green technology, supply-chain security, data governance, export controls, investment screening, and global trade issues. Provide technical leadership and expertise to federal authorities, as appropriate, to ensure industry concerns relating to trade and technology are informing the development of U.S.-EU standards and regulations.
  - Monitor the recently-announced Clean Energy Incentives Dialogue (will be integrated into the TCC) focused on coordinating incentive programs to avoid trans-Atlantic trade tensions and ensure that such programs are mutually reinforcing and do not lead to windfall profits for companies that could play the two against each other for more and better subsidies, keeping the focus on clean energy deployment and strong domestic economies.
  - Monitor the Global Arrangement on Sustainable Steel and Aluminum between the U.S. and EU, which combines the goals of decarbonization and competitiveness in the steel and aluminum sectors. This collaboration includes initial commitments to drop tariffs and duties on each other's products and aims to establish a market for steel and aluminum that is based on lowering carbon intensity and combating global overcapacity–all while placing barriers in front of nonparticipating nations.
- Support CHIPS and Science Act Support continued development of regulatory measures to implement provisions of the CHIPS and Science Act. Assist Council members in understanding and maximizing business attraction and foreign direct investment opportunities resulting from federal incentives and grants available under the act.
- Continue to coordinate with local and regional economic development agencies to ensure the free flow of information between companies, federal agencies, academic institutions, and state and local governments regarding economic development opportunities available under the act.
- Support development of international market opportunities for technology exports developed by the onshore semiconductor industry.
- Support Trade Agreements and Special Trade Programs Considering several major shifts in domestic economic policy and global economic governance that are impacting U.S. trade policy, advocate for the expansion of bilateral and multilateral

"framework" and free trade agreements with other nations that advance strategic priorities. The shifts include a pivot toward industrial policy in the United States driven by three major pieces of legislation-the Inflation Reduction Act, the CHIPS and Science Act, and the Infrastructure Investment and Jobs Act; a dramatic turnabout in global attitudes toward supply chain management and the balance between efficiency, resilience, and security in cross-border trade; and the obsolescence of the WTO as a forum for resolving trade disputes. The targets should be the United Kingdom, Japan, Taiwan, Kenya, the European Union, Uruguay, Brazil, and India. Support also is encouraged for the Indo-Pacific Economic Framework for Prosperity launched in May 2022 among the United States and partner nations Australia, Brunei, India, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand and Vietnam; the Indo-Pacific Economic Framework for Prosperity Supply Chain Agreement designed to build supply chain resilience among the member nations; renewal of the Generalized System of Preferences; and enactment of the latest Miscellaneous Tariff Bill. The advocacy focus should be to ensure inclusion of robust technology provisions in any agreements and special trade programs, including strong digital trade and intellectual property protection provisions. Trade agreements must include specific provisions that accomplish the following objectives:

- Enable the Free Flow of Data Companies must be able to move data securely across borders and should not be forced to localize data or infrastructure as a condition of doing business. Trade agreements must include specific provisions protecting the movement of data across borders and the ability of companies to operate without requiring them to use local infrastructure or build expensive and redundant data centers.
- Protect Source Code and Algorithms and Prohibit Forced Technology Transfers - Companies should not be forced to share source code and algorithms or transfer technology as a price for doing business. Trade agreements must protect innovation by prohibiting governments from requiring companies to hand over source code and algorithms or transfer their technology, intellectual property, trade secrets, production processes or other proprietary information as a condition for accessing the market.
- Ensure Technology Choice and Encourage Open Digital Architectures Innovative companies should be able to utilize the technology that best suits their needs. Closed architectures prevent interoperability and competition, limiting the ability of companies to use the most cost-effective, secure and innovative technologies. Trade agreements should encourage widespread use of open architectures to drive innovation in key technologies–including cloud computing, artificial intelligence and 5G telecommunications–and ensure companies can choose their suppliers of choice, irrespective of where they are

headquartered. Each party should accord non-discriminatory treatment to the services, service suppliers and digital products of the other party, including for new and innovative digital products and services.

- Foster Innovative Encryption Products Encryption is a critical tool to protect privacy and security in the digital ecosystem. Trade agreements should protect innovation in encryption products to meet consumer and business demand for product features that protect security and privacy while allowing law enforcement access to communications consistent with applicable law.
- Prohibit Digital Customs Duties Trade agreements should prohibit all customs duties for digital products, ensuring that duties do not impede the flow of software, information and digitally enabled services that drive innovation for companies and consumers.
- Expand U.S.-Japan Digital Trade Agreement Advocate for expansion of the U.S.-Japan Digital Trade Agreement, which entered into force in January 2020 as "stage one" of an executive agreement that anticipated a broader trade agreement with Japan.
- Support U.S.-Japan Critical Minerals Agreement Support the U.S.-Japan Critical Minerals Agreement entered on March 28, 2023, to strengthen and diversify critical minerals supply chains and promote the adoption of electric vehicle battery technologies.
- Support UK-Arizona Trade Relationship Given the reluctance of the U.S. to move forward with a comprehensive U.S./UK trade agreement, support state-level trade negotiations between the United Kingdom and Arizona to enter a memorandum of understanding covering such measures as technology and innovation, services, opportunities for improved access to procurement contracts, and mutual recognition of professional gualifications.
- Advocate for Trade Remedies Advocate for trade remedies (e.g., Section 201, Section 232, Section 301, anti-dumping and countervailing duties); monitor implementation status, exemptions and exclusions; and update impacted members.
- Promote International Trade Legislation and Regulation Advocate for customs modernization, as well as clear, transparent and reasonable customs procedures, export regulations and sanctions. Support and assist members in developing effective compliance programs.
- Educate on Forced Labor Update members on the increased enforcement of U.S. laws and regulations prohibiting the use of forced labor, including the Uyghur Forced Labor Prevention Act of 2022 and new additions to the Entity List, as well as educate members on supply chain best practices.

- Monitor Import/Export Enforcement Monitor and update Council members on the increased enforcement of U.S. import, export and sanctions laws and regulations by U.S. government agencies, including newly launched enforcement cooperation strategies and voluntary disclosure policies.
- Monitor Anti-boycott Compliance Monitor and update members on U.S. antiboycott compliance and reporting requirements, including increased enforcement and penalties for violations.
- Support Export-Import Bank Continue to support and reauthorize Ex-Im bank as an essential financial tool for small and medium-sized businesses, many of which would be unable to de-risk and finance their export transactions without it. Consider the need for flexibility regarding the China and Transformational Exports Program, congressional support for the Make More in America Initiative and the congressional mandate for EXIM to maintain impartiality on energy-related projects.
- Monitor Foreign Direct Investment Monitor and update Council members on developments in U.S. government reviews of inbound and outbound investments. Promote a trade and regulatory environment that attracts foreign direct investment into the United States, particularly in areas that generate high-wage job creation.
- Support U.S. and Foreign Commercial Service Advocate for support for the U.S. and Foreign Commercial Service and oppose any legislation or other efforts to eliminate the agency, reduce or defund the annual budget allocations associated with operations that support U.S. exports and foreign direct investment, or move functions associated with the agency from the Department of Commerce to the State Department or other federal agency.
- **Support State and Defense Departments** Advocate support of the State and Defense departments and strategic foreign operations like the U.S. Agency for International Development, Millenium Challenge Corporation and the U.S. International Development Finance Corporation.
- Advocate for International Organizations Advocate for support of international and multilateral organizations that underpin a system of global cooperation in the areas of trade and security, including the WTO, World Customs Organization, North Atlantic Treaty Organization, United Nations, Wassenaar Arrangement, Nuclear Suppliers Group, Australia Group, and Missile Technology Control Regime.
- **Support SBA STEP Grants** Advocate support of the Small Business Association's State Trade Expansion Program (STEP) grants and a more predictable funding mechanism for states, and an increase in the overall expenditure amount.
- **Reduce Tariff and Non-Tariff Barriers to Trade** Promote the development of trade policy positions that reduce the use of tariff and non-tariff barriers.
- Monitor Import and Export Classifications Monitor new opinions and amendments by the World Customs Organization's Harmonized System Committee with respect

to the Explanatory Notes and Harmonized System of tariff classification, monitor amendments to the export laws and regulations relative to commodity jurisdiction and classification and update Council members who may be impacted.

- Address Supply Chain Disruption Advocate for legislation and regulatory measures against exorbitant detention and demurrage fees for shippers, as well as for solutions to ensure open access to instruments of international traffic and shipping containers.
  - Support and promote secure and resilient international supply chains in critical areas, including transportation of agricultural products, semiconductor manufacturing and advanced packaging, large capacity batteries, critical minerals and materials, and pharmaceuticals and active pharmaceutical ingredients.
  - Support the launch of a pilot early warning system to expand information sharing and enhance policy coordination on possible disruptions to global supply chains, and better prepare to confront and overcome economic coercion. Similar early warning systems are already in place with the European Union and the Indo-Pacific Economic Framework for Prosperity (IPEF). The U.S. and 13 IPEF partners reached agreements on supply chain resiliency, clean energy, infrastructure and tax/anti-corruption in November 2023.
- **Market Access** Oppose prohibitive regulatory requirements as market access conditions, including cybersecurity mandates and source code disclosure requirements.
- Oppose barriers to trade such as tariffs on technology products, customs classification requirements for digitally enabled goods and services, unilateral digital tax measures, and prohibitive regulatory requirements.
- Engage in opportunities to enhance trading relationships in key markets for the industry, including India, Vietnam, Indonesia and Brazil.
- Support Development of Physical Infrastructure & Staffing That Enhances Market Access - Support and advocate federal investment in physical infrastructure in the state of Arizona that increases the capabilities and efficiency of systems that are necessary to the free flow of trade, including but not limited to roadways, port-of-entry facilities, airports, railways, and warehousing and logistics facilities.
  - Advocate adequate staffing of human resources required to support trade while ensuring national security, including increased staffing of U.S. Customs and Border Protection personnel at Arizona ports of entry.
- Advocate federal investment in digital infrastructure, automation, AI and cybersecurity that increases the efficacy, reliability and security of Arizona's physical trade infrastructure.

## **IMMIGRATION REFORM**



### PRINCIPLE

Our current immigration system is broken and causing the United States to lag in a competitive global marketplace for talent. By not addressing the failings of our immigration system, we are threatening our future productivity, ingenuity and the competitiveness of key sectors of our economy, including and especially technology.

### POSITIONS

### Double or Eliminate the Caps on EB1 and EB2 Visas

The technology and advanced manufacturing sectors are starving for talent that can be addressed through EB1 and EB2 visas. The EB1 category is only available for people who fit in one of three subcategories: people of extraordinary ability, outstanding professors and researchers or multinational executives and managers. As these subcategories make clear, EB1 applicants are generally at the top of their fields, so are required to meet stringent requirements as proof. The EB2, however, is for individuals who have an advanced degree, exceptional ability or are eligible under the National Interest Waiver. The threshold is lower for the EB2, as it does not require exceptional ability or to be outstanding. For example, an EB2 can be granted if you have a master's or doctorate degree or an equivalent. The Council supports raising the existing limits or eliminating them all together. This could have a profound positive impact on the nation's workforce.

### Support DACA Recipients and Dreamers

In Arizona, 30% of DACA recipients work in advanced manufacturing. Facing a huge workforce shortage in the technology and manufacturing sectors in Arizona, as well as the technology industry in general across the country, the Council supports retaining the DACA program and converting more Dreamers to be DACA eligible.

### Increase Green Cards for High-Skilled STEM Graduates

The Council supports increased access to permanent residency, or green cards, for high-skilled science, technology, engineering and mathematics (STEM) graduates by expanding the exemptions and eliminating the annual per-country limits for employment-based cards.

### Create New Visas for U.S.-Educated Students and Entrepreneurs

These new visas will help fill the thousands of information technology-related jobs currently open, furthering opportunities for starting and growing new businesses in the United States.

### Use Market-Based Visa Caps

Using market-based caps on H1B visas is the best way to adjust to the supply and demand in the U.S. economy.

### Grow Domestic Sources of Talent

The Council and its member companies are strongly committed to improving STEM education and encouraging more young Americans to choose careers in those fields. Key to that effort is encouraging federal, state and local investment in STEM curriculum for K-12 students with a structured pipeline to higher education. The Council is uniquely positioned at the intersection of innovation, education and economic growth. It supports policies that expand lifelong education and promote a skilled workforce that spurs job growth and the ability to compete globally. Quality education and worker training–and retraining–will help ensure the availability of a skilled and competitive workforce.

## **INTERNET OF THINGS**



### PRINCIPLE

The Internet of Things (IoT) is a series of smart devices connected to one another and to analytics and hosting platforms via the internet. As IoT continues to grow, challenges and opportunities will arise. Central to the continued growth of IoT are policy principles that are transparent on privacy issues, highlight security in the IoT lifecycle and stress open standards. The Arizona Technology Council urges policymakers and regulators to tread lightly in this space, which is still in an early stage of development, so innovation and the accompanying societal benefits will continue to flourish.

### POSITIONS

- Support Regulatory and Legislative Moderation The Council supports a federal strategy for IoT that harmonizes guidelines for IoT devices across all agencies and industries. To accomplish this, Congress must pass legislation that will direct one agency to lead the discussion. The Developing Innovation and Growing the Internet of Things (DIGIT) Act, for example, would place the Department of Commerce in this role. Congress should, however, avoid broad legislation regulating IoT, particularly regarding privacy and data security practices. With federal and state privacy and data security laws already on the books, the passing of IoT-specific legislation will only serve to stifle innovation in a nascent industry. Instead, multi-stakeholder groups involving actors from government and industry should work together to develop guidelines and industry best practices in this space based on existing privacy and data security laws and frameworks. The Council supports both the National Telecommunications and Information Administration IoT security multi-stakeholder process, as well as the National Institute of Standards and Technology's IoT Cybersecurity Framework.
- Deploy Broadband Infrastructure The Council supports deployment of a robust broadband infrastructure to support the IoT. To accomplish this, support is needed from federal, state and local governments to facilitate broadband deployment.

- Make Spectrum Available To support the growth in IoT devices, the Council believes the federal government needs to make more spectrum available for both licensed and unlicensed use without placing technology-specific restrictions on how it can be used.
- Create Regulatory Sandboxes To incentivize more IoT innovation and experimentation, companies need to be assured that the risk/reward balance is favorable. To help manage risk, drive economic development and develop a strong regulatory regime, the Council recommends the federal government consider creating an IoT regulatory sandbox. A sandbox would provide a set of pre-approved, published rules that allow companies to test their products and business models. The rules would help limit exposure and provide innovative best practices and steps for testing them.
- Lead with Privacy and Data Security Congress should avoid broad IoT-specific legislation regarding companies' privacy and data security practices. Several federal and state privacy and data security laws and guidelines are already on the books and provide a sufficient framework to regulate IoT currently. That said, industry can and should lead with respect to design by security and risk mitigation to provide businesses, government and citizens with maximum trust in IoT.
- Set Agreed-Upon Standards The Council supports a multi-stakeholder approach for setting voluntary IoT standards for interoperability. We are concerned that without agreed-upon standards, we could encounter a problematic piecemeal regulatory approach that stifles innovation in the industry.
- Facilitate Research and Development The Council supports a federal government position that emphasizes research and development in the form of federal grants to help facilitate public-private partnerships, especially grants focusing on cyber-related IoT research and development.
- **Establish a Governance Model** A key component of the federal IoT ecosystem is a well-structured governance model. Following the Senate's DIGIT Act, the Council supports a governance structure led by the DOC that incorporates all federal-agency stakeholders.

## **OPTICS AND PHOTONICS**

### PRINCIPLE

Since 2012, the global photonics components industry has grown at a rate of more than twice global gross domestic product in the same period. Federal investment in optics and photonics is key to enhancing our country's competitiveness and national security and driving forward the development of some of our nation's most productive and rapidly evolving technology industries.

### POSITIONS

#### **National Photonics Initiative**

Support the National Photonics Initiative (NPI), a collaborative alliance of industry, academia and government seeking to raise awareness of photonics–the application of light. Funding and investment in five key photonics-driven fields are critical to competitiveness and national security: advanced manufacturing, communications and information technology, defense and national security, energy, and health and medicine.

 One of the key accomplishments of NPI is the formation of a Congressional Optics and Photonics Caucus. This bicameral, bipartisan caucus has the objective of educating Congress and driving funding for optics and photonics issues and opportunities. Arizona Sen. Kyrsten Sinema is an honorary co-chair and Arizona Sen. Mark Kelly is a member of the caucus. The Council encourages all Arizona congressional delegation members to join and actively promote caucus priorities.

#### National Quantum Initiative

Support the National Quantum Initiative, a whole-of-government approach to ensuring U.S. leadership in quantum information science. The primary areas of focus are enhancing competitiveness, enabling people and establishing fundamental science and applications.

 Quantum information technology has emerged as one of the key components for future computing and communications development. The University of
 Arizona is a leader in this new area and heads the Center for Quantum Networks (CQN), a National Science Foundation-funded Engineering Research Center focused on building the quantum internet in collaboration with academic and industrial partners. The U of A also recently established the Arizona Quantum Initiative (AQuI), which is focused on building Arizona as a world leader in quantum information science and engineering. Efforts should be made to support and expand the mission of CQN and AQuI as they drive toward product commercialization and application acceleration.

#### Additional National Initiatives

- Support AIM Photonics, an industry-driven, public-private partnership that focuses the nation's premier capabilities and expertise on capturing critical global manufacturing leadership in a technology that is both essential to national security and positioned to provide a compelling return on investment to the economy. As a stable ongoing program, this partnership does not currently require policy attention.
- Work collaboratively with and support AmeriCOM, a DoD-funded initiative focused on improving national optics manufacturing to enhance national security and global competitiveness.
- Begin developing specific program proposals for the CHIPS and Science Act passed in 2022. The act is key to helping transition the semiconductor industry to photonics, making more than \$50 billion in funding available for semiconductor manufacturing and R&D.

#### Support Export Reform

Ensure export reform policy support and encourage optics companies to engage in global commercial markets. The Council's Optics Valley Committee is a co-founder and coordinator of the Global Photonics Alliance, a network of more than 50 optics and photonics clusters around the world, offering extensive export opportunities.

# **PRIVACY/DATA BREACH NOTIFICATION**

### PRINCIPLE

Economic expansion in technology rests on the creation of new and innovative business models that leverage trusted, secure and accessible internet-based platforms. Data policies should promote responsible use of consumer data so the technology experience can continue to expand and improve.

There is currently no national standard for how a company must notify its customers in the wake of a data breach. Instead, companies must navigate a complex web of 50 different, often conflicting and regularly changing notification laws for each state in the aftermath of a breach plus additional laws for U.S. territories. This difficulty is compounded by data breach notification requirements under the laws in other parts of the world that assert global jurisdiction to protect the data of their residents. The current regulatory landscape not only places an immense financial compliance burden on businesses but also delays the process of getting information into the hands of those who need it most: individuals whose data has been compromised. Given Congress' authority and responsibility to regulate interstate commerce, it is difficult to think of any area that calls more for federal standards than the breaching of personal data that inherently falls within interstate commerce.

### POSITIONS

- Harm Trigger for Acquired Data The notification requirement should be triggered when there is a real risk of actual harm, not a theoretical concept that could lead to excessive notification about data breaches that really are not harmful. Such unnecessary notices risk so-called breach-notification fatigue that is counterproductive by causing consumers to become jaded rather than take proactive measures to protect themselves.
- No Private Right of Action Individuals should not be able to sue companies that have suffered a data breach for actions covered by federal data security and data breach notification laws. Businesses that act responsibly to protect consumer data but have suffered breaches are victims of criminal activity.

- Narrow and Plainly Understandable Definition of Personal Information To avoid excessive notification of consumers and unnecessary costs, the definition of "personal information" in legislation should not include information accessible through public records. For example, merely the combination of a name, address and birthdate should not qualify as personal information. The definition should also be clearly understandable and well-defined in plain English to avoid the types of confusing phrasing used in several state statutes.
- Preemption of State Law Any federal data security and data-breach notification law should preempt state laws and requirements. Without strong preemption language, the compliance burden for small businesses would not be alleviated and the effectiveness of any law would be significantly undermined.
- Exemption for Use of Technology that Renders Data Unusable or Unreadable Federal legislation should include an exemption from notification requirements for companies that utilize technologies to render data unusable or unreadable. Although encryption has become standard today, this exemption should be technology neutral.
- Passage of the Email Privacy Act as Passed by the House The Email Privacy Act, which unanimously passed the House in February 2017, was the product of a carefully negotiated compromise between industry, public interest groups and House Judiciary Committee staff. Despite overwhelming support for the bill, several members of the Senate Judiciary Committee held up the bill with unrelated amendments opposed by both industry and the public interest community. The House has since passed the bill again in the 115th Congress (2017-19) and again in the 116th Congress (2019-21), but the bill failed to receive a vote in the Senate. Congress should pass this proposal in 2025.
- Continued Work on the American Data Privacy and Protection Act to Create National Standards - Congress should continue working on the American Data Privacy and Protection Act (H.R. 8152), introduced by the House Energy and Commerce Committee in June 2022 to create a comprehensive federal consumer privacy framework. The bill reflects bipartisan recognition of the need to create robust data privacy protection at the federal level while increasing national uniformity, which is critically important for businesses currently subject to





increasingly divergent laws in the 50 states and U.S. territories. This divergence is growing and accelerating with the passage of several new state data privacy laws that went into effect in 2023, with more going live by 2026 (and several states poised to pass more such laws in the meantime). While issues remain under discussion and debate, the bill reflects a serious and welcome effort to craft bipartisan legislation in this area. Congress should continue these discussions to define the scope of consumer data that businesses may collect, set standards for collection, protect children's data, encourage and promote adoption of data security standards, and provide appropriate relief for small and mid-size businesses from certain requirements, such as allowing them to delete data rather than correcting it in appropriate circumstances. In proposing that the Federal Trade Commission assumes even greater responsibility with respect to enforcing data privacy requirements, strong federal preemption and avoiding subjecting businesses to additional potential liability should also be goals of this proposed legislation.

- Limits on Financial Penalties Massive financial penalties are unwarranted and could force small businesses out of existence. Penalties should be reasonable and consider the size of the company that suffered the breach and the type of data accessed.
- Safe Harbor Designation Businesses that make a reasonable, good-faith effort to use consensus best practices as prescribed by National Institute of Standards and Technology or other generally recognized similar standards

should be accorded a "safe harbor" from government monetary fines or similar penalties in the event of a data breach. Businesses that substantially adhere to data protection requirements under more stringent laws from other jurisdictions, such as the European Union's General Data Protection Regulation, should likewise be accorded this safe-harbor protection.

- No Fixed Data Security Requirements Data security requirements should not be specifically enumerated within the legislation. Benchmark security standards of today may become outdated over time, requiring companies to possibly maintain outdated systems because of government mandate.
- No Overly Burdensome Notification Requirements Data breach notification legislation should avoid overly prescriptive notification requirements. In the event of a breach, companies should dedicate their resources to efforts that most directly notify and protect consumers. Additional requirements, such as those mandating the creation of call centers or the provision of credit reports, would divert resources away from small businesses seeking to protect and inform their customers.
- Take Other Laws into Account Companies that are subject to other data security and/or breach notification laws-such as the Health Insurance Portability and Accountability Act, Gramm-Leach-Bliley and the Fair Credit Reporting Act-should be exempt from these requirements.
- No Civil Agency Exceptions Some civil agencies have asked for an exception to the warrant requirement because they do not have the ability to issue warrants. Such an exception would destroy the benefits gained by Electronic Communications Privacy Act reform. It would erode privacy by codifying new powers for civil agencies that they do not already have. Civil agencies can still get access to emails and texts by serving subpoenas on users, not service providers.
- No Emergency Exception Under current practice, the government may request digital content from providers by declaring an emergency. Providers then may decide whether to comply based on the circumstances. However, there has been a push to require providers to comply any time the government declares an emergency. This has dangerous potential for abuse. Service providers do not want to be responsible for derailing criminal investigations but requiring compliance with emergencies means the government simply needs to declare an emergency to get the information it wants.

## SMART CITIES AND COMMUNITIES



### PRINCIPLE

While cities and communities are making progress toward improving living standards and social and environmental sustainability, the impact can be limited by narrow project scopes and obsolete systems. Cities and communities can accelerate and enhance the results of their efforts by adopting a smart city and community approach with supporting technologies.

### POSITIONS

Federal investment in smart cities and communities will help drive economic growth and innovation, create jobs, promote citizen services and increase adoption of smart technology. The Arizona Technology Council supports the Smart Cities and Communities Act, which has a primary focus of helping coordinate the various federal agency smart city initiatives, as well as creating a technology demonstration grant program. The Council also supports legislation to provide grants to small and medium-sized cities on a competitive basis. In addition, the Council supports the creation and focus of the Congressional Smart Cities Caucus.

#### Implement State-Led Smart Community Planning Funds

Most cities with a population greater than 750,000 have at least one but usually multiple smart city projects underway. But few cities and communities have comprehensive, long-term and integrated plans. There are only a handful of cities worldwide well on their way to a full adoption of smart city technology in an integrated way across all sectors. Investing in the foundational planning necessary to create sustainable and thriving communities of the future that can adapt to and solve the future needs of our cities will be imperative to the continued growth and prosperity of Arizona.

Support Regional Approach and Shared Infrastructure Integration - Many of the real-world smart city examples are often much larger or smaller than how we traditionally define cities. They are either occurring on a more regional basis or as small neighborhood-by-neighborhood projects. Formation of permanent and sustainable regional innovation-driven organizations will provide the necessary capacity and knowledge transfer across public, private and academic sectors to establish Arizona as a national leader in the creation of smart, connected and resilient communities of the future. These organizations will connect community leadership across municipal boundaries and institute a collaborative operational framework to mobilize the community ecosystem in pursuit of identifying, developing, testing and implementing innovative solutions for the region's shared civic challenges at scale. The Council supports the work being done by The Connective, otherwise known as the Greater Phoenix's Smart Region Consortium, and the Pima Association of Government's Smart Region Initiative efforts managed by the Regional Partnering Center. These connective-tissue organizations were established to galvanize the public-private ecosystems that can advance smart-community solutions in their respective regions. For the future, establishment of a Northern Arizona smart-region consortium that is brought under a cohesive umbrella including the Greater Phoenix and Southern Arizona initiatives offers the potential to help support our economy and establish Arizona as a global leader in smart-community development.

### Support Innovation Sandboxes and Regional Procurement Initiatives

A critical barrier plaguing the development of smart communities across the globe is local government's inability to identify, develop, test, prove and procure innovative technology solutions in a scalable and repeatable manner that keeps up with the speed of innovation. Through establishment of a connected network of geographically bounded innovation sandboxes in our cities and towns, regulatory policies can be established to allow quickly-implementable proof-of-concept testing with real infrastructure, real scenarios and real data. This can optimize the ability of communities to make more informed and appropriate technology solution decisions while de-risking full-scale implementation programs. With the ability to cooperatively procure solutions, communities can be more efficient with their resources by not having to engage in individual contracting efforts for the same solutions, as well as further establishing their unique comparative advantages and core competencies that help support the greater region.

### Encourage Regional Data Collaboration

Smart cities and communities use information and communications technology to enhance their livability, workability and sustainability. They collect information using sensors, devices and other systems that then send the data to analytics systems to understand what is happening now and what is likely to happen next. Data is invaluable to creating a sustainable and resilient smart community of the future. The ability to seamlessly intake data from multiple sources to aggregate and analyze the data then securely and safely share information will be paramount to Arizona's continued growth. Currently, our communities are operating in silos with varying levels of resources and expertise when it comes to data analysis.

The Council supports the development of a regional shared data standard, governance structure and shared data exchange. This will enable cities and towns with the ability to collaboratively access and analyze necessary data sets that can be layered to develop more informative insights, creating better service delivery and unlocking new programs and solutions to shared challenges. Allowing approved academia and private-sector subject matter experts to participate in this regional data collaboration will effectively add capacity and expertise to local government teams charged with solving these complex challenges while creating the potential for exponential benefits to be realized without negatively impacting communities' budgets.

### **Maximize Potential**

There is vast potential to provide smart city and community benefits to a larger number of citizens and those advantages are immense. First is the potential to empower citizens, allowing access to unparalleled services provided by local government. These services-spanning several different sectors including transportation, energy, water management and public safety-have the potential to be transformational to citizens while creating significant efficiencies for the city and community.

Another possibility is the creation of new jobs. As cities grow their smart technology and services capabilities, there are several emerging employment opportunity sectors:

- Infrastructure Cities will need to have large teams to help deploy the vast array of sensors that will constitute the Internet of Things (IoT) smart city and community ecosystem.
- **Cybersecurity** With internet-connected sensors, best-in-class cybersecurity solutions and applications are absolute necessities. A well-trained workforce will need to implement cyber solutions across the infrastructure ecosystem.
- **Analytics** An immense amount of data coming from IoT sensors will need to be analyzed. City governments will need to beef up their analytical capabilities to ensure their citizens gain the most benefits from the analyses.


# TECHNOLOGY TRANSFER



### PRINCIPLE

Congress enacted the Patent and Trademark Act Amendments of 1980 (commonly called Bayh-Dole or the Bayh-Dole Act) to ensure basic innovations discovered through federal research are developed into commercially available products. Before Bayh-Dole, the results of federally funded research were owned by the government and typically remained "on the shelf" with fewer than 5% of nearly 30,000 government-held patents licensed. The system did not incentivize further development of countless new medicines and technologies, which meant vital innovations were not benefiting the public or improving–possibly saving–lives.

Bayh-Dole revolutionized technology transfer from academia to industry by allowing universities, small businesses and nonprofits to retain ownership of these resulting innovations and work to turn the discoveries into viable consumer products. By ensuring academic institutions and companies retain ownership of any inventions created because of federal funding, the Bayh-Dole Act spurred the transformation of laboratory discoveries into new products benefitting the American taxpayer and consumers worldwide. The results have been staggering: trillions dollars in economic impact, thousands of patents, tens of thousands of startups, and millions of new jobs–all ensuring America's global innovation leadership.

Bayh-Dole is widely considered the cornerstone for public-private R&D partnerships, which have long fueled America's innovation engine. Without the act's long-standing and consistent framework to enforce and exclusively license patent rights, industry would be discouraged from investing in the risky process of creating new products that utilize federally backed research.

#### Key Provisions of the Bayh-Dole Act

- The university is entitled to retain ownership of any inventions created as a result of federal funding.
- The university must patent all inventions it elects to own and commercialize.
- The university must attempt to develop and commercialize the invention. If an attempt is not made, the federal government retains the right to take control of the invention. The government also may step in for other reasons, such as a need to alleviate health or safety concerns, or a company's intentional inaction to commercialize the invention. This provision is referred to in the law as the government's "march-in" rights.
- The university must provide the U.S. government with a nontransferable, nonexclusive license to use the invention.
- In granting licenses to use the invention, the university also generally must give priority to small businesses while maintaining the fair-market value of the invention.
- When granting an exclusive license, the university must ensure that the invention will be "manufactured substantially" in the United States.
- Excess revenue must support research and education, and the university must share a portion of the royalties with the inventor(s).

## POSITIONS

### **Defend Bayh-Dole**

In December 2023, the U.S. Department of Commerce's National Institute of Standards and Technology (NIST) issued a request for information seeking public comments on its draft guidance, which NIST envisions as a tool to help federal agencies evaluate when it is appropriate to exercise "march-in rights." March-in rights allow an agency to grant compulsory licenses on federally funded patents to third parties if the agency finds that certain statutory criteria apply.

The Arizona Technology Council strongly opposes NIST's proposed framework and is deeply concerned it would significantly distort the criteria for compulsory licensing of patented technology, thereby upending the law that has been the basis for public-private R&D partnership for more than 40 years. Below is a summary of the Council's opposition.

### The Current System is Working

The march-in rights system is essentially a policing mechanism to curb abuses of the act. It is important to note that march-in rights have existed for more than 40 years, but no federal agency has ever exercised its power to march-in and license patent rights to others. This indicates that the innovation sector understands and is complying with the requirements of the act, and that the intent of the act is being effectuated.

### March-in Rights Should Not Include "Reasonable Pricing"

The proposed framework inappropriately considers "reasonable pricing" in determining whether the government can exercise its march-in authority. Furthermore, the proposed framework does not define what would constitute "reasonable pricing." The Bayh-Dole Act did not intend for the government to set prices on resulting products. In fact, price is mentioned nowhere in the legislative text as a potential trigger for march-in, and the law's drafters, Sens. Birch Bayh (D-IN) and Bob Dole (R-KS), explicitly stated that "this omission was intentional." Simply put, it introduces subjective and ambiguous language that could cause confusion and inconsistency in the adjudication process and will create uncertainty and instability for the innovation community.

### **Negative Impact on Small Business**

Bayh-Dole has served as the cornerstone for the Small Business Administration's (SBA) Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. The proposed framework puts these successful programs in jeopardy and creates a predatory environment whereby large corporations can file march-in petitions against smaller companies that have already assumed all the risk and development costs for innovative products. It enables large corporations, copycat companies or foreign adversaries to unfairly piggy-back off their smaller competitors' efforts or, in some cases, to kill future competition simply by petitioning on "reasonable pricing."

### Negative Impact on Innovation

Entrepreneurs and investors are willing to take a chance on risky technologies only if they are certain they can reap the rewards of any successful efforts. If patents that touched federal research funding come with the risk that the government can step in if it doesn't agree with the pricing set by the company, identifying partners willing to take a chance on bringing inventions to market will be incredibly difficult. Simply put, misusing the act to control after-market pricing will result in a severe distrust in federally funded partnerships and a massive decline in innovation. It sends a clear signal to private investors-often key in bringing early-stage technologies to the marketplace-that future U.S. patent management cannot be trusted and will steer industry away from leveraging federal funding.

## USE OF CONSUMER AND ENTERPRISE ADVANCED AIR MOBILITY VEHICLES



## PRINCIPLE

Unmanned aerial vehicles (UAVs), also known as drones, offer immense opportunities for innovation, from cargo delivery to emergency response to simply photographing places where humans cannot travel. Urban air mobility (UAM) vehicles provide the ability to move people in more sustainable and more efficient ways. Combined, UAV and UAM innovation is occurring rapidly. However, regulations are not in place to allow these vehicles' use in many innovative ways. The Federal Aviation Administration (FAA) released its Small Unmanned Aircraft Systems (UAS) Regulations (Part 107) in 2016, which limits UAV use to visual line of sight during the day and away from people. While a great first step, these rules still prevent UAVs from being used for several enterprise purposes. Further, the FAA in May 2022 confirmed a change to the regulatory approach for "powered-lift" certification and the pilots who will be operating these vehicles, which will use performance-based airworthiness standards found in Part 23 of the FAA regulations.

## POSITION

### **Modernize Rules**

The Arizona Technology Council supports a broader use of UAVs and UAM vehicles than the FAA permits in its current rules. Congress and the FAA have demonstrated interest in crafting rules for enterprise but there is much to be done before they are put in place. We believe Congress and the FAA should strive to establish flexible rules that allow use to go beyond line of sight and above populated areas. Further, Congress and the FAA should work to continue to develop standards for airspace management to allow for safer, broader operation.

- The Council supports and advocates policy changes that will not only embrace but encourage the growth of this emerging and important industry. These include measures to:
- Permit the operation of small UAVs beyond visual line of sight.
- Support the development of infrastructure to safely manage the widespread use of low-altitude airspace.

- Enable broader UAS access to commercial mobile services and unlicensed spectrum vital to the safe and widespread integration of UAS.
- Embrace the cargo and human carriage and delivery potential of UAV technology in a wide array of capacities ranging from humanitarian aid to commercial operations.

The Council believes the government must implement thoughtful regulations that reflect and anticipate the rapid growth of the industry. Ultimately, the Council supports policies that enable rather than hinder the use of UAVs and UAM vehicles, and advocates for risk-based regulations that allow the safe and expedited integration of these into the national air space.

# WORKFORCE

## PRINCIPLE

A recent report suggests that 92 million workers are stuck without quality jobs and face systemic barriers to advancement. At the same time, the world of work has never seen such rapid changes in emerging and declining skills. The incredible pace at which AI and generative AI are impacting work requires approaches to education, training and workforce development that move faster than ever and attempt to eliminate dead ends at work, school and in life. Focusing on foundational digital literacy skills for every citizen is imperative. Also critical are ongoing updating and upskilling for those required to use IT, cybersecurity and AI in their jobs. Focus to promote and expand lifelong skills in STEM and STEM-related jobs must continue to fuel the U.S. innovation economy. Policy and practice that acknowledge and reflect the opportunity to train for and advance a career and have a healthy family should be paramount. Only diverse, equitable and inclusive education, training and workplaces will ensure a democratic, thriving citizenry and economy.

### POSITIONS

### Support high-skilled immigration reform.

- Increase green cards for high-skilled STEM graduates.
- Create new visas for entrepreneurs.
- Adopt market-based visa caps.

### Modernize the workforce.

- Increase alternative pathways into the workforce through additional career awareness tools and navigation systems, as well as work-based programs such as apprenticeships. Specifically, the Arizona Technology Council supports the Cybersecurity Workforce Expansion Act.
- Increase foundational digital literacy skills in almost every occupation by establishing capacity within postsecondary education, adult education and workforce development systems to design and deliver digital skills training. Support the Digital Skills for Today's Workforce bill.
- Support continuous training and upskilling for job roles impacted by AI and the roles in which it is a critical.
- Modernize Pell Grant eligibility to include short-term credit and noncredit workforce training to be able to respond to labor market needs for short-term training. Review and minimize funding for outdated credentials with little value in the workplace.
- Modernize Workforce Innovation and Opportunity Act (WIOA) funding to support a high-tech, inclusive workforce by passing legislation like the 21st Century Skills are Key to Individuals' Life-Long Success (SKILLS) Act.

- Link critical policy and programs support for pursuing career and opportunities to advance and take care of one's family.
- Support and enable fair chances at economic advancement for people with criminal records by increasing access to postsecondary education and training aligned with quality jobs.

## Modernize the high school and postsecondary education and training systems.

- Make targeted P-20 STEM investments to ensure students of all ages can benefit from the digital economy.
- Support the JOBS Act to expand access to Pell Grants for lower-income students enrolled in quality industry aligned STEM short-term training programs that fall below the standard 600 clock hours or 15 weeks in length.
- Pass the 21st Century Workforce Act to ensure all workers have access to critical digital skills necessary in their current or future workplace.
- Reauthorize and adequately resource the WIOA into a program that can deliver industry-aligned education and skills training that strengthens business. Create an adequately resourced program that grants equitable access to industry-aligned skills training that strengthens business.
- Support and develop initiatives that encourage underrepresented communities and veterans to pursue STEM career paths, including IT, cybersecurity, computer science, advanced manufacturing, and health care.
- Support policy and funding that make awarding credit for prior learning and work experiences common and consistent in education and workforce systems to support all learners.
- Increase the adoption of experiential hands-on learning, including apprenticeships, youth apprenticeships and internships, as well as using technology to support virtual internships and industry relevant projects.
- Support and build innovative high school graduation pathway models that allow students to earn high school and postsecondary credit and credentials-including advanced placement, career and technical education, and dual enrollment-that blend and blur the lines between K-12 and college to reflect labor market needs for talent with more than a traditional secondary education.
- Promote policy and programs that drive and support an inclusive workplace-one that welcomes all people regardless of faith, race, ethnicity, sexual orientation, gender identity or any other defining identity or characteristic-and maximize the ability to recruit and retain the strongest workforce.

## Support sustained investments in a STEM ecosystem.

- Between 2017 and 2027, STEM jobs are expected to grow 21%. This growth will
  occur largely in the fields of computers and technology, advanced manufacturing,
  aerospace and defense, bioscience, and business and financial services. Opportunities
  in these sectors, however, can only be harnessed by a workforce proficient in
  STEM skills and the creativity and critical thinking fostered by STEM literacy.
- Leverage federal investments for a potential 300% to 500% return on investment. This investment is needed for the expansion of STEM opportunities to nearly all of Arizona's 1 million-plus students and their families, 90,000 teachers, 550,000-plus small businesses, and myriad industry and corporations.

### FY25 Budget Request

Establish matched savings programs for Pell-eligible, postsecondary students. Grants will be awarded as partnerships between states and nonprofits to establish and expand matched savings programs for eligible students that provide postsecondary cost assistance and financial wellness training. The grantees will establish savings accounts for each participating student, support financial literacy education and support matching funds for amounts deposited by students and their families.





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