



2018

Public Policy Guide



ARIZONA
TECHNOLOGY
COUNCIL
a place to connect and grow

PUBLIC POLICY GUIDE 2018

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 our 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 calling for a technology-based, pro-growth, business-focused agenda.

The Council and its Public Policy Committee hereby submit the 2018 Public Policy Guide. In creating this document, the Committee relied heavily on the Council’s mission by preparing key ideas, goals and legislative initiatives that:

- Improve the business climate for technology-based companies
- Provide sources of risk capital that encourage entrepreneurship
- Create an environment that supports science- and technology-related job retention and creation
- Attract, train and retrain the talent required to compete in a global innovation economy

The Committee created a list of principles in a number of subject areas then established related positions to be used as the foundation of the Council’s public policy efforts in 2018. In some cases, the positions will advance through development and advocacy of legislation that will be introduced during the Arizona Legislature’s 2018 session. In other instances, the positions will be used on an ongoing basis as regulators 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-based 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 affect Arizonans and the Arizona economy for years to come.

ARIZONA TECHNOLOGY COUNCIL
STATE LEGISLATIVE PRIORITIES – 2018

Restore the fourth-year funding for career and technical education (CTE)

Appropriately fund the state’s education system, including pre-K, K-12, joint technical education district (JTED), career and technical education (CTE), and postsecondary programs

Create and fund a job training program

Make changes to the Refundable R & D Tax Credit that make it accessible to more small businesses



STATE POLICY PRINCIPLES AND POSITIONS

Aerospace, Aviation & Defense.....2

Biosciences and Health Care.....4

Biosciences and Health Care: Telehealth5

Capital Formation6

Cybersecurity.....8

Economic Development.....9

Eduction, Workforce, and Workplace.....10

Energy.....13

Financial Technology.....15

Optics, Photonics, and Astronomy.....17

State Budget.....18

Taxation19

Transportation/Digital Infrastructure20

Universities and Higher Education22

FEDERAL PRINCIPLES & POLICY POSITIONS

21st Century Workforce

Support Skills for the 21st Century Workforce24

STEM Education.....25

Workforce Development26

Immigration Reform.....27

Workplace.....29

Biosciences and Health Care

Medical Device Tax Repeal.....30

New and Emerging Tech

Support New and Emerging Technology Platforms through Thoughtful Policies.....31

Artificial Intelligence32

Federal Government Investment in Research and Development34

Lead in Secure Internet-Based Platform Technologies35

Internet of Things (IoT)36

Smart Cities and Communities38

Broadband and Telecom

Address Availability and Delivery of Broadband Communications39

Encourage Broadband Deployment and Improve Broadband Access.....40

Financial Technology.....41

Free Up Spectrum for Innovation, Rural Broadband and IoT.....43

Federal Tax Policy

Advance Tax & Regulatory Policies that Spur Innovation and Grow Our Economy44

Affiliate Nexus45

Digital Goods and Services46

Mobile Workforce.....47

Corporate Tax Reform48

Privacy

Encryption.....50

Work to Reform the Electronic Communications Privacy Act (ECPA).....51

Federal Agency Privacy & Data Security Enforcement52

Promote Rules to Allow Use of Commercial Unmanned Aerial Vehicles.....53

International

Expand Markets, Reduce Barriers, and Advocate for U.S. Tech Globally54

U.S. - China ICT Trade Policy55

Modernizing the North American Free Trade Agreement (NAFTA).....56

AEROSPACE, AVIATION & DEFENSE

PRINCIPLE

Arizona is a vital contributor to U.S. national security interests by having fostered a pioneering spirit in aerospace, aviation and defense for generations. With 1,250 companies in aerospace and defense—including major prime contractors such as Raytheon, Honeywell, Boeing, Lockheed Martin, General Dynamics, Orbital ATK and Northrop Grumman—Arizona boasts thousands of highly-skilled technology workers with high-paying jobs. Additionally, the state's military bases contribute approximately \$11.46 billion annually to the Arizona economy.

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

POSITIONS

Defense Spending – Sustain and grow total billing in defense contracting. Arizona has incomparable aerospace and defense assets, as shown when PwC ranked the state No. 1 in U.S. aerospace manufacturing in June 2016. As such, we must encourage education about 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, Marine Corps Air Station Yuma, U.S. Air Force training for the F-35 at Luke Air Force Base and a unique environment that enables testing of key command and control, intelligence, and communications equipment without extraneous electronic interference in Southern Arizona.

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

Military Base Missions – Protect and increase the missions of the future-focused capabilities and role of Fort Huachuca, which includes 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 continuation of the A-10 mission at Davis-Monthan Air Force Base and/or support an adequate mission replacement, including the F-35. Finally, protect and expand the network and cyber defense mission of U.S. Army NETCOM at Fort Huachuca.

Unmanned Aerial Systems – Expand the capabilities of the largest UAS training center in the world at Fort Huachuca. 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. In addition, support policies that encourage development and use of UAS technology for commercial applications.

Continue to support a single federal standard for integrating UAS into the national airspace while balancing privacy concerns. The current absence of state restrictions in Arizona on the use of UAS is a competitive advantage. Actively promote Arizona's commercial, unmanned systems sector as a pillar of future economic growth through research and development, prototyping and product development by leveraging key state assets and touting the state as an innovation leader in this fast-emerging industry sector.

Commercial Space Technology – With the global commercial space market at over \$360 billion annually and recent new commercial space developments in Arizona including exciting new space technology companies such as Vector Space Systems and World View Enterprises and long tenured businesses such

as Paragon Space Development Corporation, Raytheon, Orbital-ATK, Boeing, Honeywell, Rockwell Automation, Qwaltec, Kinetx, ViaSat and others operating in Arizona plus a long-standing Arizona tradition of university led leadership in space research and development with nationally recognized programs such as OSIRIS-Rx at the University of Arizona and Psyche Mission at Arizona State University, it is imperative that we nurture, support and encourage the development of commercial space applications within Arizona. Arizona should therefore continue to cultivate, attract, retain, and support current and emerging economic activities related to private sector initiatives in the rapidly growing global commercial space tech sector..

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.

Workforce Development and Retention – Proactively support science, technology, engineering and math (STEM) education at all levels. Support workforce placement and retention through coordination with industry. Ensure the career and technical education (CTE) program provides adequate training for future aerospace, aviation and defense workforce needs.



BIOSCIENCES AND HEALTH CARE

PRINCIPLE

Advocate collaboratively with Arizona stakeholders to support the discovery, development, commercialization, delivery and availability of bioscience innovations.

POSITIONS

University Research Funding – Advance the research enterprise system-wide by working collaboratively with the Arizona Board of Regents. Arizona voters in 2000 approved Proposition 301, which resulted in the investment of hundreds of millions of dollars in research and scientific talent, as well as essential funding for K-20 education. The result was a tremendous improvement in the state’s competitive ability to attract and retain valuable private and public investment, commerce, and jobs. Renewed investment will continue to accelerate Arizona’s economic base in the growing bioscience fields. With Proposition 301 funding ending in 2020, a new solution is needed to continue these mission critical funding programs for education and for the academic research that supports the growth of our high-technology and biotechnology industries. To continue Arizona’s position as an innovation leader in the biosciences and other high-tech fields, the Technology Research Innovation Fund (TRIF) must be reauthorized and funding should be in the same proportion as K-12 funding that exists under Proposition 301.

Internships – Develop innovative funding sources to support STEM internships to further enrich Arizona’s educational environment, and attract and retain a highly-talented bioscience workforce.

Access to the Benefits of Life Science Innovation – Lower overall health care costs for individuals and the state because medical technologies can improve the quality of life for Arizonans when used appropriately. Efforts should be made to:

- Ensure Arizonans have the opportunity to benefit from the lifesaving and life-changing innovations the biotechnology and medical technology industries can offer.
- Continue the expansion of telemedicine services and reimbursement across the state, thus supporting both quality care and cost-effective health care delivery.
- Ensure funding previously managed by the Arizona Biomedical Research Commission continues to be applied to bioscience research, education and innovation specifically designed to benefit the people of Arizona.

BIOSCIENCES AND HEALTH CARE: TELEHEALTH

PRINCIPLE

Telehealth and its integration into delivery of health care through electronic means should continue to be enabled throughout Arizona. That includes educating and advocating for uniform deployment and enforcement of the new telemedicine laws at state and local levels, and facilitating expansion of a robust statewide telehealth ecosystem.

POSITIONS

Telemedicine Bill Refinements – Support expanded telemedicine parity, licensure and electronic establishment of doctor/patient relationship laws that are driving Arizona telemedicine adoption and enhancing access to health care. Additional refinements include amending existing policies and rules for implementing the new telemedicine laws. Patients and health care providers are benefitting from initial policy and rule implementations. However, still lacking is uniform understanding of the new telemedicine parity and licensure laws that expanded service coverage and removed statutory and regulatory barriers. This lack of awareness, understanding and enforcement of the new telemedicine laws has resulted in a lag in provider participation, which negates providers’ ability to reach their potential. We need to educate and advocate for uniform deployment and enforcement of the new laws at state and local levels.

CAPITAL FORMATION

PRINCIPLE

The quickest and most efficient way to make Arizona a technology destination is to attract more investors and their financial resources. This can be accomplished by understanding what the risk-capital industry needs to motivate such a move of capital to the state. Arizona has developed a successful Angel Investment Tax Credit program, and has a research and development ecosystem second to none. Despite those programs, many firms seeking capital to enter the critical early-stage of business development leave Arizona because crucial funding is scarce for them. Arizona needs to address this issue because it is losing out on some of this country’s most coveted jobs.

POSITIONS

- Angel Investment Recapitalization – Ensure additional credits recently authorized for the Angel Investment Tax Credit program stay in place for the life of the program. The Legislature in 2014 extended the highly successful tax credit program until 2021. However, the amount of angel investing in the state decreased significantly after the initial \$20 million in authorized funds were depleted in summer 2015. In their 2017 session, lawmakers authorized the Arizona Commerce Authority to certify an additional \$2.5 million of tax credits each fiscal year until 2021 for investments made in a qualified small business plus any unused credit capacity that carries over from the

preceding year.

- Research & Development Tax Credit – Maintain levels of the extremely successful Research & Development (R&D) Tax Credit program to continue encouraging companies to invest additional research and development monies here in Arizona. In 2008, the Legislature approved increasing the R&D tax credit value from 20 percent to 24 percent for the first \$2.5 million in qualifying expenses and increasing the rate for qualifying expenses in excess of \$2.5 million from 11 percent to 15 percent. In the 2017 session, legislators approved maintaining current percentage levels until 2021. An analysis should be done to determine ways that companies can utilize some of their unused credits.
- Refundable R&D Tax Credit – Expand the Refundable R&D Tax Credit program to meet the needs of the early-stage companies that are investing research and development dollars and earning credits without having the tax liability to which they can apply them. Ensure more accessibility for small businesses, maximizing the impact of the overall program. The program is capped at \$5 million per year. Historically, this money has been allocated quickly, showing a much higher demand than the existing funding levels.
- Early-Stage Venture Capital – Increase early-stage funding that is integral for startups and early-stage companies as they try to take their products

to market. In the 2017 legislative session, the Arizona Competes Fund was modified to include grants that support and advance programs for “microenterprises.” Specifically, 30 percent or up to \$1 million of the annual grants in each fiscal year must be used for microenterprise development in Arizona. The statutory termination date of the fund also was extended until July 2026. The modifications are intended to reduce the number of companies recruited to surrounding states with seed and early-stage venture capital. Most states around the nation have created early-stage venture capital funds through which the states take on a role in supporting investments in these companies. Arizona needs to look at how to attract, encourage and incentivize early-stage funding of companies. Various funding models (e.g., Utah’s fund of funds model and Maryland’s insurance premium tax credits) used in other states need to be analyzed to determine which could be potentially viable methods in Arizona.

- Coordination of Angel Investment Activity – Support the efforts of the Arizona Commerce Authority (ACA) to:
 - Coordinate and build a more robust angel investment community by working with existing angel investment groups and accelerators.
 - Celebrate and publicize the “success stories” of the startup community.
 - Develop an “information clearing house” for startup and early-stage companies so that information about these companies can be introduced to other members of the startup community, including potential investors who can learn about these companies and still comply with the applicable securities laws.

CYBERSECURITY

PRINCIPLE

With data moving into the cloud and the digital economy expanding, cybersecurity is now one of the most critical issues facing the nation. As we move deeper into the digital age, new threats and data breaches occur almost daily.

We cannot ignore cybersecurity. Some reports put the number of monitored cyberattacks at 1.5 million per year in the United States, with up to 85 percent of data breaches go undetected. There is no question that we are in a cyberwar being waged globally, although primarily in the private sector. As a result, American businesses find themselves at the forefront of the battle, making cybersecurity improvements critical for businesses of all sizes and types.

POSITIONS

Awareness – Prioritize awareness and intelligence about the risks that unfriendly groups and malicious individuals pose to businesses and the best practices for discerning and blocking attacks.

Education – Support and accelerate cybersecurity education for individuals in order to equip the current workforce and develop the next generation of protection and response professionals.

Regulations – Promote responsible regulation that centers on reasonable and consistent privacy notice and breach response requirements by working to keep public agencies educated and aware of the best cybersecurity practices.

ECONOMIC DEVELOPMENT

PRINCIPLE

Arizona must be able to compete with any state or country by having the most competitive economic development tools possible while encouraging innovation, business attraction, retention and growth.

POSITIONS

ACA State Promotional Effort – Advocate for Arizona Commerce Authority’s (ACA) continuation at an appropriate level of funding and work to ensure it remains as the platform for the state’s economic development efforts. Encourage support for the many ongoing ACA initiatives that are focused on enhancing the Arizona innovation ecosystem. The ACA’s mission is to grow and strengthen Arizona’s economy, and facilitate the production of quality jobs for its citizens by creating, expanding and attracting businesses in targeted, high-value base industries throughout the state. In 2016, Gov. Doug Ducey and the Legislature further expanded upon this mission and created the Governor’s Economic Opportunity Office.

Global Competitiveness – Support the increase of resources dedicated to Arizona’s State Trade and Export Promotion (STEP) program of the ACA and U.S. Small Business Administration. This would help ensure small businesses are able to compete internationally on a level playing field. Also, the Council will participate in trade missions around the world in order to provide economic opportunities for its members.

Additionally, encourage support for RevAZ, which is Arizona’s Manufacturing Extension Partnership (MEP) center created through a partnership between the ACA and the National Institute of Standards and Technology (NIST). 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 medium-sized manufacturers.

Infrastructure Investment – Support development of tools to facilitate public and private investment in infrastructure necessary to competitively enable high-technology manufacturing investments and growth.

Local Efforts – Ensure we foster local economic development by supporting local entrepreneurs who engage with the global economy through broadband and the Internet to deliver goods and services around the world. Additionally, there are initiatives to make Phoenix, Tucson and other Arizona communities more supportive of startups and innovation. Those efforts need to be encouraged and supported.

Fewer Regulations – Continue to reduce the number of regulations that discourage companies from relocating to or growing in the state. There has been increased focus over the last few years to get government out of the way of business and create an environment that fosters growth. There is continued support needed by the Legislature and business community to reduce regulations and create policies that stimulate the economy instead of stifle it.

Target 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 the many technology fields supported by the Council employ the highest-paid employees. In particular, the Council recommends efforts to target the following industries: health and bioscience; semiconductor and electronics; information technology; energy; aerospace — including commercial space — aviation and defense; telecommunications; optics; and medical, financial and education technologies. Support Arizona’s efforts to establish a leadership position that encourages adoption of new, innovative and disruptive technologies.

Workforce Development – 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 engagement among training providers, educators and employers, which is critical for curriculum development and the creation of work-based and work-like experiences that accelerate skills development. Promote ways that companies can actively participate in bridging the talent gap, including apprenticeships and other innovative employee training and onboarding programs.



EDUCATION, WORKFORCE AND WORKPLACE

PRINCIPLE

The lack of skilled talent needed to meet demand continues to be a top challenge and barrier to business growth for Council members. A robust, aligned education and workforce development system must be developed and supported. Such a system will provide the foundation of a healthy Arizona technology community and innovation economy by:

- Aligning with the needs of companies for science, technology, engineering and math (STEM) workers now and in the future.
- Enabling the attraction and retention of the talent — in-state or imported — needed for Arizona to thrive as a technology hub.

POSITIONS

College and Career Readiness – Increase the college and career readiness of Arizona’s youth, and accelerate workforce and economic development by championing support for improvements in pre-kindergarten through postsecondary education and alignment with business needs. Leverage rigor and relevance, and high expectations for all students as key strategies for improvement. Major areas of focus should include supporting career awareness and development beginning no later than 8th grade, understanding

career pathways aligned with Arizona’s targeted growth industries, leveraging industry engagement, and increasing work-based and work-like experiences provided through high school and postsecondary education.

Education Funding – Appropriately fund the state’s education system at all levels. Short-term reforms should include high expectations for all students and equitable funding of K-12 education that supports excellence, such as the Proposition 301 formula. Alternative ideas also should be developed to appropriately fund pre- and full-day kindergarten, CTE, community colleges and universities in addition to K-12. Long-term comprehensive funding reforms should modernize and promote a 21st century delivery model of education focused on performance and accountability.

Accountability – Drive attainment of the statewide goal Achieve60AZ by building support for the Progress Meter framework, and maintaining support for Arizona’s College and Career Ready Standards. Support the implementation of meaningful and aligned accountability systems with appropriate resources and training.

Matching Needs – Align workforce development and education efforts with employer needs. Encourage companies to actively engage with educators and workforce development organizations to create curriculum content, and set

work experience and apprenticeship standards that support certification and credentials. Support and increase the use of business-friendly, work-like and competency-based work experience models and pathways to accelerate skills development in high-wage, high-demand and high-growth sectors. Examples of such models include internships and apprenticeships, CTE, early college and career high schools, as well as the Arizona Advanced Technologies Corridor Project that community colleges recently implemented. Utilize technology for scale and implementation in rural and remote locations.

CTE – Support budgeting and programming for fourth-year funding of career and technical education (CTE) to maximize and accelerate acquisition of knowledge and skills essential to increasing high-demand industry certifications and credentials.

Dual Enrollment – Increase implementation of early college and career high schools by removing the barriers to full participation in dual enrollment, including raising the 25 percent cap on 9th and 10th grade enrollments and developing sustainable funding models. These are strategic investments to maximize high school and postsecondary education attainment, and ensure preparation of the workforce needed by Arizona’s growth industries.

Credit for Experience – Support legislation to allow high school credit for high-impact, work-based and work-like experiences. Leverage incentives, tax credits and apprenticeship grants to promote internships and apprenticeship programs.

Career Readiness – Improve awareness of careers and pathways to increase relevance and accelerate career readiness. Support and provide funding for the beginning of career and career pathways exploration in 7th and 8th grades. While CTE has always been an integral part of high school curriculum, broader career awareness has not.

Talent Gap – Promote active company participation in bridging the talent gap. Engage business, education, workforce and economic development communities in collaborative, integrated sector, and cross-industry strategies and implementation. Leverage programs and agencies charged with addressing skilled workforce shortages in high-tech industry sectors, including energy, information technology, bioscience, health sciences, and mid-skill and advanced manufacturing.

STEM – Raise awareness about critical teacher recruitment and retention issues, especially in STEM. Professional development and training for educators across all STEM subject areas also is essential. Increase access to highly qualified teachers in robust STEM classes, including computer science, as part of dramatically improving STEM education for every student in the state. This all is integral for the technology and innovation economy that Arizona wants.

Teaching Computer Science/High School Computer Science Mandate – Advocate for increased utilization of the national K-12 Computer Science Framework and support Gov. Doug Ducey’s participation in the Governors’ Partnership for K-12 Computer Science. Work toward enabling all high schools to be able to offer at least one computer science course, funding rigorous professional development and creating high-quality computer science standards. This would support a recommendation to require all secondary schools to offer rigorous standards-based computer science in person or remotely. Explore public-private matching fund opportunities to bring computer science to school districts, demonstrate the importance of computer science to Arizona’s economy, and motivate and expand the interest of teachers to pursue this field.

Internet Access – Enable broadband for rural K-12 schools and libraries. The Arizona Governor’s Office of Education and the Arizona Department of Education are working with EducationSuperHighway to collaborate with rural community partners to begin closing the Internet access gap for rural Arizona K-12 schools and libraries through partnership and shared effort. A recent FCC special program allows leveraging E-rate funding to build out new broadband infrastructure such as fiber to rural K-12 schools and libraries through July 2018 and potentially longer. The Arizona Corporation Commission (ACC) has modified the Arizona Universal Service Fund (AUSF) to make \$8 million available for matching purposes with augmentation by \$38 million approved in last year’s state budget. The FCC will pay up to 80 percent of qualified broadband infrastructure costs. However, with the state providing an additional 10 percent of the costs and the FCC providing the last 10 percent, many projects would be fully funded under the program.

In the short-term, the Council recommends that the Arizona Department of Education, and Arizona State Library, Archives and Public Records continue aggressively pursuing the generation of requests for proposals for qualifying projects under the FCC special program that helps form and assist coalitions

EDUCATION, WORKFORCE AND WORKPLACE *CONTINUED*

of school districts, counties and regions to successfully qualify and implement such projects. For the longer term, we recommend the ACC review and evolve the AUSF to apply it more generally toward rural broadband support. In addition, the Legislature should provide additional funds to the newly created Arizona Broadband for Education Initiative of the Arizona Department of Education. This could continue matching funds and subsidies to certified broadband connectivity construction projects for schools, school districts, and libraries beyond the scope and time frame of the FCC special program. All such funds should be leveraged in a cost-effective manner to help improve broadband infrastructure so that it is multipurpose as it meets the rural communities' connectivity needs for residences, businesses, health care and government.

Innovative Learning – Develop infrastructure and a policy framework to support innovative learning opportunities, including e-learning. Leverage technology infrastructure, support effective school administration and promote competency-based education.

Job Training – Reinstate a funding structure to the Arizona Job Training grant program administered by the ACA to help attract and grow businesses in Arizona. In the 2015 legislative session, the Job Training tax was repealed from the fiscal 2017 budget — one year before it was scheduled to sunset. This tax

provided funds to attract new businesses, and support small and rural Arizona companies by offering reimbursable grant money for job training to new and existing employees. Arizona is now the only state that does not have a job training program available.

Job-Driven Financial Support/Assistance – Explore job-driven financial support models, including eligibility for unemployment benefits for underemployed individuals participating in intensive training programs for high-wage, high demand jobs; tuition waivers; and “last dollar” scholarships/ tuition assistance for adult learners to complete in-demand certificates or degree programs. According to the National Skills Coalition, “job driven financial support policies provide money to students seeking access to workforce training and education programs that would lead to middle-skill credentials” that could develop talent for the high-skill, high-wage, high-demand jobs critical to Arizona’s economy.

Employment Non-Discrimination – Encourage policy makers to embrace basic principles for non-discrimination that are critical for attracting and maintaining a competitive workforce, especially in the technology sector. Employees should be judged on their merits instead of identities and employers should foster an environment of acceptance where innovation can thrive.

ENERGY

PRINCIPLE

The link between technology investment and energy is fundamental and unbreakable. To attract investment capital, as well as retain and grow its technology business sector, Arizona needs predictable and investable energy markets. Additionally, Arizona needs to secure an 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 — requires energy markets that are affordable, reliable and competitive. Policy and legislative choices that enable market forces to improve the status quo have historically been favored. There are a number of attractive policy options that would benefit Arizona technology businesses, job creation and economic productivity as described below. There have been several recent efforts to establish and improve the clarity of Arizona’s energy policy. The Arizona Energy Consortium in November 2013 published the “Arizona Energy Roadmap,” which was developed through input from a series of industry stakeholder meetings. Former Gov. Jan Brewer published “emPOWER Arizona: Executive Energy Assessment and Pathways” in February 2014 as a result of a collaborative effort of the Governor’s Office of Energy Policy, ACA, Arizona’s Legislature, Arizona Corporation Commission and leading industry partners. Although the reports had slightly different approaches, the impetus behind

both efforts was to provide more certainty to developing Arizona’s energy policy in the future.

POSITIONS

Diversification of Energy Supply, Utilization – Improve diversification of the state’s energy mix by including cost-effective solar and other renewable energy resources. Enhance the state’s integration of renewable resources and reliability through the use of flexible resource technologies. These policies would help hedge against short supplies or rising prices. Policymakers should enact laws that enable diversification of the energy supply and make certain the benefits of these improvements inure to all Arizona companies.

- **Natural Gas** – Continue to take advantage of Arizona’s natural gas generation resources to provide an attractive in-state, export-ready electricity supply. Intermittent renewable resources augmented by natural gas generation can provide a carbon-reduced, secure power source until other utility-scale renewable options with inherent or built-in storage become available. Adding modern, flexible natural gas generation to existing fleets will be important to maintaining this synergy.
- **Nuclear Energy** – Continue Arizona’s utilization of the low-cost base load power of the Palo Verde Nuclear Generating Station to benefit

ENERGY *CONTINUED*

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.

- **Solar Energy** – Seek ways to attract economic solar investment that takes advantage of the state’s world-class solar energy attributes. Arizona exhibits some of the best attributes for harnessing solar energy in the world. The state’s ideal location, moderate climate, and proximity to substantial and in-place infrastructure provide real world inputs for Arizona to establish itself as the leader of solar energy generation and innovation.

Electric Transmission – Continue to support transmission development that enhances Arizona’s ability to participate in energy markets 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.

Energy Planning – Adopt a more robust regional approach to energy development. Although in-state demand reduced during and after the recession, load growth has been recovering since 2014. New generation, however, will be needed as soon as 2018. With large, high-demand markets in the broader region, Arizona has a tremendous opportunity to prosper through exportation of energy generated in-state. An increased focus on a regional approach could drive an increase in economic and low-cost renewable energy generation without requiring modification of Arizona’s renewable energy standard (RES). With a regional approach to power generation and a grid that supports the regional transmission of power, other states and nations can benefit through the development of appropriately situated generation facilities. For instance, a state where it is more expensive to

develop generation projects may be better served by supporting construction of facilities in regions with lower development costs.

Storage Technology – Look for opportunities to explore storage technology that is rapidly developing and holds promise to be a significant companion to renewable energy. 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.

Technological Advances – Create a regulatory environment not just for today, but that encourages and embraces future technological advancement. There are growing trends towards smaller, highly-efficient, distributed generation units, microgrids 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.

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

FINANCIAL TECHNOLOGY

PRINCIPLE

Arizona’s financial technology (FinTech) sector is among the most promising and fastest growing in our technology community. To proliferate the use of emerging technologies in our financial system, the Council proposes an update to the state regulatory framework and model legislation for Arizona’s use of virtual currency and other blockchain applications. There’s a broad FinTech community here with a diverse range of products and services that have the potential of disrupting the traditional financial services industry which are interested in breaking down regulatory barriers that have the potential to inhibit FinTech innovation and emerging business models.

We will help drive state regulatory reform to allow use of virtual currency that meets the needs of Arizona’s FinTech sector where innovations primarily rely on virtual currency, a digital representation of value used as a medium of exchange, a unit of account or a store of value without legal tender status as recognized by the U.S. government. 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 U.S. adversely impacts the significant cost-effectiveness and efficiencies that their business models offer to other businesses and consumers.

Although virtual currency can offer transactions that are more convenient, faster and much less costly, state licensure and regulation aimed at traditional banking and financial services are often overly onerous and inhibit innovation and emerging business models. Several other states have chosen to update their financial services definitions and money transmission licensing laws, encouraging the growth of dynamic regional FinTech ecosystems. Arizona must provide a robust, streamlined supervisory experience for virtual currency and non-bank firms that is transparent, provides a level playing field for businesses that doesn’t favor larger players over small ones, and appropriately protects consumers from harm. The following recommended paths target several areas in need of reform.

POSITIONS

Digital Signatures and Smart Contracts – Traditional paper contracts can be quite inefficient and prone to fraud, which is why digital “smart contracts” tied to immutable blockchains are emerging as an alternative. Last session, Arizona passed HB2417 that amended the Arizona Electronic Transactions Act to include digital signatures recorded on a blockchain, enshrining their validity and enforceability for records or contracts. This regulatory clarity has helped Arizona emerge as a choice location for blockchain companies that develop



FINANCIAL TECHNOLOGY CONTINUED

applications based on smart contracts and should be updated as necessary going forward.

Fintech Regulatory Sandbox – FinTech startups are particularly disadvantaged by the difficulties and costs of complying with conventional money transmission licensing regimens. Legislation should be passed enabling innovative initiatives to germinate through the 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. The Council will support efforts of the Arizona Attorney General’s Office and other stakeholders in crafting and passing such legislation.

Money Transmission Licensing (MTL) Regulation – Arizona should also adopt regulation or legislation for MTL that explains only virtual currency businesses also dealing in traditional currencies are money transmitters and clarify that businesses dealing strictly in virtual currency are not money

transmitters. Alternately, Arizona should pass new legislation that creates a more appropriate and less burdensome sui generis licensing regime separate from MTL laws for virtual currency businesses that have control strictly over virtual currency on behalf of their customers.

Regulatory Reciprocity Between States – Arizona should work with other states and national organizations in establishing common multistate MTL and virtual money regulations and licensure, consistent with the principles stated above, that would ensure legal and regulatory reciprocity between participating jurisdictions.

OPTICS, PHOTONICS AND ASTRONOMY

PRINCIPLE

The Arizona optics, photonics and astronomy industry contributes an annual economic impact of more than \$3 billion to the state’s economy. Arizona holds a worldwide leadership reputation for both the optics industry and astronomy, as well as the academic prowess for related research and development. Together, they attract and retain world-class technical talent in the state. Leading products and technologies enable many applications that drive Arizona’s robust optics companies.

Vital issues impacting optics range from protecting Arizona’s celebrated dark skies, assuring world-class optics workforce readiness, and promulgating commerce-friendly export control reform that promotes global export revenue growth. Representation of the Arizona optics community is being accomplished by Optics Valley, a committee within the Council. Optics Valley’s mission is to catalyze, convene and connect a more robust optics industry sector. The policy positions below are intended to support the goals of attracting future investments in optics, photonics and astronomy; and growing a quality workforce.

POSITIONS

Dark-Sky – Establish statewide Dark-Sky standards or solutions that protect the \$1.5 billion in capital investment in astronomical infrastructure and more than \$250 million in annual economic impact of research and development at astronomy facilities statewide. Advocate for and encourage Dark-Sky sensitive

and appropriate use of LED technology for outdoor lighting as its use becomes increasingly widespread.

University Research and Development – Strengthen opportunities to grow the impact of world-class research and development at Arizona’s universities.

NPI and AIM Photonics – Support the National Photonics Initiative (NPI) and the American Institute for Manufacturing Integrated Photonics (AIM Photonics). NPI is a collaborative alliance among industry, academia and government seeking to raise awareness of photonics — the application of light — 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. 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.

Export Reform – Assure that export reform policies support and encourage optics companies to engage in global commercial markets.

STATE BUDGET

PRINCIPLE

In 2017, Arizona once again had a structurally balanced budget but has about a \$100 million deficit moving into the 2018 legislative session. However, it is the Governor’s and Legislature’s priority to maintain a structurally balanced budget, reduce rollovers and debt, and maintain a rainy-day fund. Being a business-friendly state has been one of Gov. Doug Ducey’s top priorities since day one of his administration.

Competitive, business-friendly states are those that provide a stable and predictable environment for commerce. Of particular importance is a state budget and process that is strategic and reliable. The state budget should avoid debt financing for operating expenses or use of fiscally unsustainable accounting gimmicks. It should provide for the core needs of the state and reflect opportunities to leverage technology for greater efficiency and effectiveness of state government without sweeping funds from existing programs.

POSITIONS

Angel Investment Tax Credit Program – Protect the funding for the proven and highly successful Angel Investment Tax Credit for the remainder of the program.

Support ACA Programs & Funding – Discourage the Legislature from

sweeping any funds not used in a particular fiscal year by the Arizona Commerce Authority (ACA). This is destabilizing and tends to create a “use it or lose it” mentality even when conditions warrant funds being carried over to the next fiscal year. Ensure flexibility as warranted within ACA’s funding for programs that help it achieve its mission.

Education Funding – Appropriately fund the state’s education system at all levels, including pre-kindergarten, full-day kindergarten, K-12 and postsecondary. Short-term reforms should include funding K-12 education according to the Proposition 301 formula, as well as alternative ideas to appropriately fund pre- and full-day kindergarten, K-12, CTE, universities and community colleges. Long-term comprehensive funding reforms should modernize and promote a 21st century delivery model of education that focuses on performance and accountability. Arizona should require a high-quality education system to attract and retain high-wage jobs and the kinds of businesses that drive the innovation economy.

Reinvest in Community Colleges – Recognize the critical role of community colleges in education and workforce development by supporting legislation that will reinvest in and restore state aid to all of Arizona’s community colleges, and improve and expand the technical education offerings in community colleges.

TAXATION

PRINCIPLE

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

POSITIONS

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 in 2015 still faced property tax assessment ratios 80 percent greater than those of residential property owners.

Capital Gains – Increase the current capital gain deduction from 25 percent to 57 percent 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.

Data Centers – Protect Arizona’s tax advantages in the exemptions given to promote the retention and expansion of enterprise and colocation 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 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 improving safety, reducing travel time and enhancing commercial opportunities through multimodal corridors linking the state to Mexico, Canada, the Intermountain West and neighboring states. The corridors should include roadways and telecommunications pathways coupled with rail and energy rights of way when appropriate. Digital infrastructure is to the 21st century what roads and interstates were to the 20th century. Arizona’s ability to sustain long-term growth depends on the ability to link new and existing businesses via high-capacity broadband.

POSITIONS

Continued Encouragement of Locating Data Centers in Arizona

Support Expansion and Retention of the Data Center Industry by Promoting New Innovations and Services that Expand Technology Opportunities in Arizona

Broadband Support – Remove or reduce barriers that generate unnecessary costs or delays and otherwise inhibit expansion of privately-funded, high-speed digital 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 to encourage private broadband investment and deployment. Continue easing regulatory burdens and simplifying processes for deployment of wireless sites and

vertical infrastructure, including microcellular transceivers and distributed access systems (DAS), in light of the ever-increasing role and importance of mobile connectivity, as well as the infrastructure demands of emerging 5G services. Support the FirstNet initiative for public safety broadband and ubiquitous, reliable communications while ensuring the program carries beneficial infrastructure improvements available to other purposes and applications.

Continue recently launched strategic planning efforts for state broadband that are engaging providers, communities, institutions and other stakeholders to generate actionable analyses and supporting initiatives. Support regional and local governments in their planning efforts to identify opportunities for increased private broadband investment and deployment. Increase the 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. Support regional and local government policies that ensure a level playing field for incumbent and new entrant broadband providers alike, including, but not limited to, access to the use of right-of-way, infrastructure undergrounding requirements, mobile infrastructure expansion, and expedited/blanket building permit issuance.

Modern Surface Transportation System – 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, which will enhance the state’s connectivity by linking Phoenix and Las Vegas. Encourage multimodal linkages

with rail, telecommunications, and energy rights of way and facilities. Further, I-11 should be extended south of Phoenix to create an important international freight corridor between Mexico and the Intermountain West.

Transit – Support transit-related systems and development that add to the quality of life for Arizona residents and visitors, and provide enhanced workforce mobility.

Vehicular Technologies – Continue to support a flexible and competitive environment for the testing and deployment of autonomous automobile and other vehicular technologies in the state that can help make Arizona’s roads safer, increase mobility and make the state a test bed for many emerging technologies.

Transportation Funding Formula – Support reforming the formula to more appropriately fund transportation needs across the state. The current formula is nearly 25 years old and today provides a fraction of the funding level originally intended. Rural communities and the highways that connect Arizona to the world outside of the urban areas have been particularly hit hard by the lack of a modern funding formula.

Arizona Ports of Entry – Focus on encouraging both infrastructure investments and process improvement for Arizona’s ports of entry along our 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. To help, the state should provide:

- **Targeted Funding** – Identify funding streams that 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.
- **Additional Staffing** – Fulfill the need for additional staffing desperately needed at our ports of entry. For Arizona, that means a full-time equivalent vacancy rate of 20 percent, or approximately 250 funded positions. U.S. Customs and Border Protection was unable to fill 977 of the 2,000 positions authorized and funded in the fiscal 2014 budget due to a burdensome vetting

process plus a polygraph test exceeding standards of other intelligence and enforcement agencies, including the U.S. Drug Enforcement Administration, CIA and FBI. It is impossible to seek out new positions until the current vacancies are filled.

- **Promote Border Jobs for Veterans Act** – Work with U.S. Customs and Border Protection and the U.S. Department of Defense to help create a streamlined process for veterans to apply for Customs and Border Protection positions. U.S. Sens. Jeff Flake and John McCain joined Rep. Martha McSally, as well as the other members of the Arizona delegation, to work on the passage of the Border Jobs for Veterans Act to create a mechanism for military to transition into these enforcement jobs. Veterans have the training and skills that make them ideal candidates for these jobs.
- **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.
- **Recognition as Assets** – Recognize the U.S. border and ports of entry as valuable assets essential to the national and North American economies rather than additional expenses in the federal budget. With current North American Free Trade Agreement trade volumes of more than \$1.2 trillion annually, we fail to maximize the opportunity for investment, job creation and economic security.
- **Process Improvements** – Improve processing of cargo — including more collaborative cargo and truck inspection processes by federal, state and Mexican authorities — to reduce the need for physical infrastructure and quicken crossing times.

This upcoming session, efforts will focus on working with executive and legislative leadership 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.

UNIVERSITIES AND HIGHER EDUCATION

PRINCIPLE

The Council actively works to support Arizona’s universities and improve the technology infrastructure upon which they rely. Its 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 and the public universities to build upon the existing strengths of the university system and ensure world-class research capabilities, access for qualified students and excellent workforce preparation. Support the universities’ state budget requests and legislative priorities, secure the state’s financial relationship with the university system as one that is based on per resident student funding, and obtain support for critical capital, equipment.

Enterprise Model – Support an enterprise model of operations, which recognizes and advances each university and its differentiated mission.

- Allow the university system to undergo a strategically placed withdrawal of ties from the state health benefits plan at the expiration of the current contract (expected Dec. 31, 2019) and secure a systemwide health benefits plan or individual university plans.

Sun Corridor Network – Encourage policies that enable the Sun Corridor Network, the Arizona universities’ research and education collaborative network, to flourish. A robust Sun Corridor Network enables discovery, innovation and research outcomes among postsecondary researchers and educators. This infrastructure is critical to attracting world-class researchers and research funding to Arizona. A future-proofed K-12 education technology infrastructure is essential to enable modern digital learning technologies and methods necessary for a workforce equipped for the knowledge-based economy.

Actively support the Sun Corridor Network’s public-private partnership strategy to bring high bandwidth access to Internet2—the national education/research network and community—and the commercial Internet to the Arizona K-20 community. Successful rollout of this strategy will enable the Sun Corridor Network and its member universities—ASU, The University of Arizona and Northern Arizona University—to bring better and low-cost Internet and Internet2 access to K-12 schools, community colleges and other educational institutions by leveraging economies of scale and shared infrastructure.

ARIZONA TECHNOLOGY COUNCIL STATE LEGISLATIVE PRIORITIES – 2018

Restore the fourth-year funding for career and technical education (CTE)

Appropriately fund the state’s education system, including pre-K, K-12, joint technical education district (JTED), career and technical education (CTE), and postsecondary programs

Create and fund a job training program

Make changes to the Refundable R & D Tax Credit that make it accessible to more small businesses





21ST CENTURY WORKFORCE

SUPPORT SKILLS FOR THE 21ST CENTURY WORKFORCE

PRINCIPLE

The Arizona Technology Council is uniquely positioned at the intersection of innovation, education and economic growth. We support policies that expand lifelong education in the computer sciences and basic technology skills, and promote a skilled workforce that spurs job growth and our ability to compete globally.

POSITIONS

- Support the workforce by enacting the Championing Apprenticeships for New Careers and Employees in Technology Act, as well as the Carl D. Perkins Career and Technical Education Act.
- Advocate for policies that emphasize early academic support for science, technology, engineering and math (STEM) instruction, and carry these efforts through higher education institutions to prepare students and workers for lifelong learning opportunities.
- Support the reasonable use and responsible stewardship of student data by schools, districts and service providers, such as analyzing the data to deliver personalized learning experiences and improve products for use.

- Support and develop initiatives that encourage minorities, veterans and underrepresented communities to pursue science and technology career paths.
- Recognize the ability to recruit and retain the strongest workforce means supporting an inclusive workplace that welcomes people of all faiths, races, ethnicities, sexual orientations and gender identities.
- Ensure the government workforce has necessary IT security skills by:
 - Supporting the National Initiative for Cybersecurity Education
 - Seeking adequate awareness support and funding for government IT workforce recruitment, training, certification and retention.
- Support immigration reform by:
 - Increasing the number of permanent resident, or green, cards for high-skilled STEM graduates.
 - Creating new visas for U.S. educated students and entrepreneurs to lessen the demand on the H-1B category.
 - Adopting market-based visa caps.
 - Growing domestic sources of talent through support of STEM at all levels of education.

STEM EDUCATION

PRINCIPLE

STEM education is more important than ever as the technology industry continues to grow. Currently, more jobs in the technology sector exist than talent to fill those jobs.

POSITIONS

The Arizona Technology Council supports efforts to make STEM a fundamental component in elementary, secondary and postsecondary education. Making STEM a fundamental component in education will enable students to better understand our 21st century economy, and enhance our domestic talent pipeline. We believe educators should emphasize the “T” — technology — in STEM and provide increased experiential learning surrounding the subject. The Council also supports efforts to increase the racial, gender and socioeconomic diversity of our STEM talent pipeline.

Key Points:

- Policymakers must emphasize STEM education for the nation to remain globally competitive.
- Nearly half of all STEM jobs do not require a four-year college degree.
- STEM jobs are high-paying and in demand.
- Middle-skill jobs that require technology grew 2½ times faster between 2003 and 2013 than other middle-skill jobs.
- More than 600,000 tech occupations went unfilled in just Q4 2016.
- Over the next decade, more than half of all manufacturing jobs will go unfilled because workers lack the skills needed to fill the positions.

WORKFORCE DEVELOPMENT

PRINCIPLE

Although technology jobs are plentiful, employers often struggle to fill vacancies because of a dearth of qualified talent.

POSITIONS

The Arizona Technology Council supports state and federal policies to upskill U.S. workers. In helping workers acquire the skills today’s economy demands, workforce programs can help shrink the skills gap, open career pathways and ensure our nation remains the global economic engine. Examples of programs include:

- **Job Training and Placement Programs** – Programs like IT-Ready from Creating IT Futures can help the un- and underemployed pursue their first IT careers.
- **Work-Based Learning** – Hands-on, experiential learning enables students to contextualize their classroom learning. Earn-and-learn programs like apprenticeships allow students to continue their education while simultaneously earning an income.

- **Career and Technical Education (CTE) and Certification Programs** – Community colleges and other postsecondary institutions, along with industry-recognized certification programs provide career pathways for many non-traditional students. Portable, industry-recognized certifications are especially critical in today’s workforce. The Carl D. Perkins Career and Technical Education Act is an example.

Key Points:

- Technology jobs are high-paying and in demand.
- Over the next decade, more than half of all manufacturing jobs will go unfilled because workers lack the skills needed to fill the positions.
- Nearly half of all STEM jobs do not require a four-year college degree.
- Four-year college pathways are just one avenue to shrinking the skills gap.
- Technology education programs should be competency-based, not time-based.

IMMIGRATION REFORM

PRINCIPLE

Our current immigration system is broken and causing the United States to lag behind 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

Increase Green Cards for High-Skilled STEM Graduates – The Arizona Technology Council supports increased access to permanent resident, or green, cards for high-skilled 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 would help fill the thousands of technology-related job openings, furthering opportunities for starting and growing new businesses in the United States.

Market-Based Visa Caps – Using market-based caps on H-1B visas are the best way to adjust to the supply and demand in the U.S. economy.

Growing Domestic Sources of Talent – The Council and our member companies are strongly committed to improving education in STEM 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 students from kindergarten through high school with a structured pipeline to higher education. The Council is uniquely positioned at the intersection of innovation, education and economic growth. We support policies that expand lifelong education and promote a skilled workforce that spurs job growth and our ability to compete globally. Quality education and worker training — and retraining — will help ensure the availability of a skilled and competitive workforce.

Advancing a Diverse Technology Workforce – The safety and prosperity of the United States rests not only on sensible border security measures but also in equal measure on the integration of diverse peoples that bring cultural, educational, scientific, and religious perspectives and knowledge that strengthen the fabric of our society. We feel this most profoundly in the technology industry, where so many iconic American companies and major employers were all founded, at least in part by foreign nationals. The Council supports the Deferred Action for Childhood Arrivals (DACA) program, and policies that keep our borders and our businesses open to the best and brightest.



IMMIGRATION REFORM CONTINUED

Key Points:

- Whether U.S. or foreign-born, the brightest scientists, researchers, innovators and engineers in the world will always be in demand and drive economic growth and job creation. U.S. employers, be they small businesses or large multinationals, must be able to recruit and retain highly-educated foreign-born professionals — particularly after they graduate from a U.S. university — as an important complement to domestic sources of talent. The reality is that at least 50 percent of U.S. universities’ master’s and doctoral graduates in STEM fields are foreign nationals.
- Future growth and job creation will be led by innovation, whether it’s new technologies, new cures or new sources of energy. For every foreign-born STEM worker who stays in the United States and works, an additional three

jobs are created. Our nation does not have a monopoly on brainpower, and in an increasingly competitive global environment, we have to retain the talent who will keep us leading worldwide innovation.

- The United States benefits from the contributions of highly educated, entrepreneurial professionals, regardless of where they were born. More than 40 percent of Fortune 500 companies were founded in part by immigrants or children of immigrants. Iconic U.S. companies — and major employers — such as Intel, Sun Microsystems, eBay, Yahoo! and Google were all founded, at least in part, by foreign nationals.
- Some states are imposing income taxes on non-residents after very brief work-related stays. This makes tax compliance more complicated for individuals and their employers. It also deters business-related travel.

WORKPLACE

PRINCIPLE

The Arizona Technology Council is committed to fairness, equality and non-discrimination in the workplace for all individuals.

POSITIONS

Employment Non-Discrimination – Public policy decision makers should be advocated to pass the federal Equality Act and statewide protections in Arizona. The Employment Non-Discrimination Act (ENDA) passed by the U.S. Senate in 2013 with the support of both senators representing Arizona. ENDA would end employment discrimination based on sexual orientation and gender identity.

Equality for All Workers – Employees should be judged on their merits as opposed to their identities, fostering an environment where innovation can thrive. Embracing basic principles of non-discrimination is critical for attracting and retaining a competitive workforce.

Housing and Public Accommodation Non-Discrimination – Public policy decision makers should be advocated to pass legal protections for LGBTQ people in housing and public accommodations. Employees who can operate freely in the marketplace without the stresses of biased treatment are better able to focus on productivity and performance at work.

BIOSCIENCES & HEALTH CARE

PRINCIPLE

Advocate collaboratively with Arizona stakeholders to support the discovery, development, commercialization, delivery and availability of bioscience innovations.

POSITIONS

MEDICAL DEVICE TAX REPEAL

Protect Arizona’s growing medical device industry, which provides direct and indirect employment for nearly 20,000 Arizonans. The federal Medical Device Tax impacts innovation of medical devices and creates an excessive burden upon Arizona’s startup firms. The two-year (2017-2018) suspension of the tax is a significant step in the right direction. Permanent repeal would provide a degree of certainty that is needed by MedTech entrepreneurs, manufacturers and investors in this important economic sector.

NEW AND EMERGING TECH SUPPORT NEW AND EMERGING TECHNOLOGY PLATFORMS THROUGH THOUGHTFUL POLICIES

PRINCIPLE

Advancements in cloud computing, mobility, machine to machine (M2M) and unified communications platforms, as well as the growing commercial significance of unmanned aerial vehicles (UAVs) and applications such as mobile payments are rapidly creating new opportunities for economic advancement while also raising a host of new public policy considerations.

POSITIONS

- Work to establish the investment, regulatory and legal environment that will allow broader adoption of the Internet of Things (IoT) by:
 - Promoting congressional passage of the Developing Innovation and Growing the Internet of Things (DIGIT) Act (S.88).
 - Working with the stakeholder community to continue developing and strengthening the Department of Homeland Security and National Institute of Standards and Technologies IoT Security Frameworks.
 - Working within the National Telecommunications and Information Administration (NTIA) IoT Security Updatability working groups to seek

a common set of IoT-related standards.

→ Monitoring and addressing any IoT security-related legislation.

- Work with the Arizona Technology Council’s stakeholder community to help define and advocate for the role of smart technology in the 21st century infrastructure ecosystem.
- Work with the smart community stakeholders to continue seeking advancements that will lead to more widespread adoption of smart technology products and services.
- Seek policy advancements and best practices around cloud, mobility, big data, open data, data analytics, blockchain and UAVs. Continue to support and collaborate with the Big Data Regional Innovation Hubs.
- While remaining mindful of legitimate privacy and safety implications, resist excessive regulation of UAVs to the point of unnecessarily curtailing legitimate commercial uses.
- Monitor the ongoing discussions on artificial intelligence and automation as they pertain to both the 21st century technology workforce and IoT.

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 sophisticated. AI can be applied in ways that help society tackle some of its biggest problems. It can be harnessed to make driving safer, improve accuracy of medical diagnoses, fight human trafficking, counter cyberattacks, unleash scientific discovery, enable farmers to increase crop yields, help investors maximize returns and help athletes prevent injury. Moreover, AI will augment human abilities in ways that will increase productivity, which stands to foster widescale economic progress.

At the same time, AI will present new ethical challenges and automate broad categories of jobs, which will cause fundamental shifts in the ways people live and work. To ensure we can harness all of AI’s benefits while easing any negative impacts, governments must pursue policies that enable the continued development of AI technologies, mitigate any impacts from increased automation, and protect individual rights and freedoms.

POSITIONS

Foster Innovation and Open Development – To better understand the impact of AI and explore the broad diversity of its implementations, public policy should encourage investment in research and development (R&D). Governments should support the controlled testing of AI systems to help industry, academia and other stakeholders improve the technology.

- **Fuel AI Innovation** – Public policy should promote investment, make available funds for R&D, and address barriers to AI development and adoption.
- **Address Global Societal Challenges** – AI-powered flagship initiatives should be funded to find solutions to the world’s greatest challenges such as curing cancer, ensuring food security, controlling climate change and achieving inclusive economic growth.

- **Allow for Experimentation** – Governments should create the conditions necessary for the controlled testing and experimentation of AI in the real world, such as designating self-driving vehicle test sites in cities.
- **Prepare a Workforce for AI** – Governments should create incentives for students to pursue courses of study that will allow them to create the next generation of AI.
- **Lead by Example** – Governments should lead the way on demonstrating the applications of AI in its interactions with citizens and invest sufficiently in infrastructure to support and deliver AI-based services.
- **Partnering for AI** – Governments should partner with industry, academia and other stakeholders for the promotion of AI and debate ways to maximize its benefits for the economy.

Create New Human Employment Opportunities and Protect People’s Welfare – AI will change the way people work. Public policy in support of adding skills to the workforce and promoting employment across different sectors should enhance employment opportunities while also protecting people’s welfare.

- **Encouraging Human Employment** – Governments should implement programs to mitigate AI’s impact on jobs and devise policies that promote employment. These programs should particularly focus on the effectiveness of incentives in government-funded infrastructure projects.
- **Retraining** – Governments should implement policies that support the upskilling and the reskilling of the workforce. This is particularly true in job areas that are less likely to be automated, such as positions focused on person-to-person interaction and “guided computation” in which individuals direct and oversee the operation of the technology.

Liberate Data Responsibly – AI is powered by access to data. Machine learning algorithms improve by analyzing more data over time. Data access is imperative to achieve more enhanced AI model development and training. Removing barriers to the access of data will help machine learning and deep learning reach their full potential.

- **Keep Data Moving** – Governments should eliminate unwarranted data localization mandates and enable secure international data transfers through international agreements and legal tools.
- **Open Public Data** – While protecting privacy, governments should make useful datasets publicly available when appropriate, and provide guidance to startups and small and medium businesses for its reuse.
- **Support the Creation of Reliable Datasets to Test Algorithms** – Governments should explore non-regulatory methods to encourage the development of testing datasets.
- **Federate Access to Data** – Governments should partner with industry to promote AI tools to access encrypted data for analysis while not requiring transfer of the data.
- **Rethink Privacy** – Privacy approaches like the Fair Information Practice Principles and Privacy by Design have withstood the test of time and the evolution of new technology. But with innovation, we have had to reconsider how we apply these models to new technology.
- **Adopt Robust Privacy Laws** – Based on the OECD Fair Information Practice Principles.
- **Implement Privacy by Design** – Rethink privacy approaches to implement Privacy by Design into AI product and project development.
- **Keep Data Secure** – Policies should help enable cutting-edge AI technology

with robust cyber and physical security to mitigate risks of attacks and promote trust from society.

- **Data to Protect AI Data** – Governments should adopt policies to reduce barriers to the sharing of data for cybersecurity purposes.

Require Accountability for Ethical Design and Implementation – The social implications of computing have grown and will continue to expand as more people have access to implementations of AI. Public policy should work to identify and mitigate discrimination caused by the use of AI and encourage including protections against these harms in the design.

- **Standing for “Accountable Artificial Intelligence”** – Governments, industry and academia should apply the Information Accountability Foundation’s principles to AI. Organizations implementing AI solutions should be able to demonstrate to regulators that they have the right processes, policies and resources in place to meet those principles.
- **Transparent Decisions** – Governments should determine which AI implementations require algorithm explainability to mitigate discrimination and harm to individuals.

As AI continues to advance and become increasingly deployed and utilized, these principles and recommendations will continue to evolve. This is just the first step towards the Arizona Technology Council engaging in AI policy discussions with governments and other organizations regionally and nationally.



FEDERAL GOVERNMENT INVESTMENT IN RESEARCH AND DEVELOPMENT

PRINCIPLE

We are living in an era where innovation, agility and imagination are all essential in order 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 US sustains its investment in R&D.

Based on recent budget trends, there are reasons for optimism. Since fiscal year 2015, the federal R&D budget has grown from \$138.2 billion to \$151 billion in the fiscal 2018 President’s budget request. This is good news as the government invests and partners in programs and solutions for some of our greatest challenges, including cybersecurity, Smart Cities, big data, quantum computing, space exploration, health and medicine, and the Internet of Things.

POSITIONS

The Arizona Technology Council supports increases in R&D funding that encourage advancements in big data, cloud computing, high performance computing, automation, artificial intelligence, biometrics, blockchain technology, and cybersecurity (as it relates to emerging technologies and services). In particular, we support increases to the following federal R&D budgets:

- The Networking and Information Technology Research and Development (NITRD) program, is a federally funded program designed to increase coordination, productivity and effectiveness among federal agency R&D efforts in networking and IT. According to the White House, the NITRD budget request for fiscal year 2018 is \$1.1 billion. This program can be successful in helping to drive innovation.
- The Defense Advanced Research Projects Agency (DARPA) R&D budget. DARPA has helped drive innovation on a number of issues, including

connected vehicles, spectrum, cybersecurity, the Internet of Things, and blockchain technology.

- The national labs and Federally Funded Research and Development Centers (FFRDCs). These are the nation’s R&D incubators and have compiled a treasure trove of technologies and applications for defense and the civilian interests. The benefits of the labs’ role include experienced capability in rapid prototyping of new technologies ready for transitioning; showcasing; and commercialization
- Funding of the Small Business Innovation Research (SBIR) program. SBIR enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization.

Key Points:

Government R&D investment has a rich history of driving technological innovation. Where would we be without the global positioning system (GPS) to guide our way? Without the \$4.5 million in National Science Foundation grants, two Stanford University graduate students would never have stumbled upon a new algorithm that later turned into the Google search engine. The list of innovations goes on and on.

R&D investment that helps drive private-public sector collaboration is critical. The government funds research programs that directly provide grants to academia and institutions, especially for basic and applied research that will create the next generation of ideas and inventions. Many federal agencies, especially the Department of Defense, NASA, the Department of Energy and the Department of Health and Human Services, have critical R&D functions. The research arms of the Department of Defense — the Defense Advanced Projects Agency (DARPA) and the Intelligence Advanced Projects Agency (IARPA) — also have invested greatly in the development of technologies, especially related to national security and the warfighter. The Science and Technology Directorate of the Department of Homeland Security helps fund lab programs with a priority on “leap-ahead” technologies for homeland security. According to the National Human Genome Research Institute, a \$3.8 billion federal investment to launch the Human Genome Project jointly conceived and executed by the National Institutes of Health and the Department of Energy resulted in an estimated economic impact of \$965 billion between 1988 and 2012.



LEAD IN SECURE INTERNET-BASED PLATFORM TECHNOLOGIES

PRINCIPLE

Economic expansion in IT rests on the creation of new and innovative business models that leverage trusted, secure and accessible Internet-based platforms. We support common sense data and cybersecurity policies that secure our networks and promote responsible use of consumer data so the technology experience can continue to expand and improve.

POSITIONS

- Enhance national cybersecurity and critical infrastructure protection through support of an environment that fosters real time threat sharing between the government and the private sector, and addresses the bad actors. This could be done by:
 - Supporting an incentive-based voluntary approach to cybersecurity (articulated in Executive Order 13636 and its directive to the National Institute of Standards and Technologies (NIST) to develop a framework) that utilizes industry best practices and promotes voluntary adoption.
 - Establishing greater penalties for cybercriminals to deter and combat bad actors, and punish criminals.
- Support a national standard for data breach notification that preempts the

patchwork of state laws to allow entities to focus on notification and resolving the breach instead of compliance with a myriad of conflicting laws.

- Develop sensible definitions around nascent technologies such as biometrics and geolocation to ensure neutrality while still allowing technological advancements.
- Encourage Congress to support industry-led standards for consumer data security and privacy for both IoT devices and the broader technology industry as opposed to passing legislation mandating specific regulations on data collection, usage and storage.
- Support continued innovation in encryption technologies and working with Congress and law enforcement to establish frameworks for securing data while exploring collaborative approaches to helping law enforcement keep Americans safe.
- Support surveillance reforms to continue to rebuild trust across the Atlantic and promote even enforcement of the General Data Protection Regulation and continued renewal of the EU-U.S. Privacy Shield.



INTERNET OF THINGS (IoT)

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.

Recently, Congress has taken several positive steps to help facilitate the IoT discussion. In August 2017, the Developing Innovation and Growing the Internet of Things (DIGIT) Act was passed out of the Senate. In 2016, the House Energy and Commerce Committee established a bipartisan IoT working group. In 2015, Reps. Suzan DelBene (D-WA) and Darrell Issa (R-CA) created the Congressional Internet of Things Caucus.

The Arizona Technology Council urges policy makers and regulators to tread lightly in this space, which is still in an early stage of development, so innovation and the attendant societal benefits will continue to flourish.

POSITIONS

Regulatory and Legislative Moderation: The Arizona Technology 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 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. We already have federal and state privacy and data security laws on the books, and passing IoT-specific legislation at this point in time 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 NTIA IoT security multi-stakeholder process as well as the NIST Cybersecurity Framework.

Broadband: The Council supports deployment of a robust broadband infrastructure to support the expansion of IoT. To accomplish this, we need support from federal, state and local governments to assist in facilitating broadband deployment (see Encourage Broadband Deployment and Improve Broadband Access section for details).

Spectrum: To support the growth in IoT devices, 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 (see Free Up

Spectrum for Innovation, Rural Broadband and IoT section for details).

Privacy & Data Security: Congress should avoid broad IoT-specific legislation regarding companies’ privacy and data security practices. A number of federal and state privacy and data security laws and guidelines are already on the books and provide a sufficient framework to regulate IoT at this time. That said, industry can and should lead with respect to “design by security” best practices and risk mitigation to provide businesses, government and citizens with maximum trust in IoT.

Standards: We support 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.

Research and Development: We support a federal government position that emphasizes research and development in the form of federal grants to help facilitate public-private partnerships. Of particular interest are grants focusing on cyber-related IoT R&D.

Governance: A key component of the federal IoT ecosystem is a well-structured governance model. Following the Senate’s DIGIT Act, we support a governance structure led by the Department of Commerce that incorporates all federal agency stakeholders.

Key Points:

- According to the CompTIA’s “Sizing Up the Internet of Things” report, projections estimate 50.1 billion connected devices by the year 2020 and \$1.9 trillion in global economic value-add. This iteration of IoT is different than prior eras due to the dramatic rise in computing power and storage capacity offered at ever-lower prices, coupled with the miniaturization of sensors and chips, robust wireless networks, IPv6 and a software-defined world, to name a few enabling factors. The information being generated by IoT devices has the ability to connect everything to everything else — not just communication between the different devices but across industries.

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 cities and communities approach with supporting technologies.

POSITIONS

The Arizona Technology Council supports the Smart Cities and Communities Act of 2017. The legislation would provide \$220 million of smart city infrastructure investment per year over five years and help coordinate all of the various federal agency smart city initiatives, as well as create a technology demonstration grant program.

As cities grow their smart technology and services capabilities, the Council also believes there can be 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 IoT smart city and community ecosystem.
- **Cybersecurity** – With internet-connected sensors, best-in-class cybersecurity solutions and applications are an absolute necessity. A well-trained workforce will need to implement the cyber solutions across the infrastructure ecosystem.
- **Analytics** – An immense amount of data streaming from IoT sensors will

need to be analyzed. City governments will need to beef up their analytical capabilities to ensure citizens gain the most benefits from the analyzed data.

Key Points:

Anticipated benefits of smart city solutions include cost savings from operational efficiencies, optimized use of resources, improved government services and interaction for citizens, better stream of data to improve decision-making, and the opportunity to attract technology-savvy workers and businesses.

Government personnel remain optimistic about the promise of smart cities. Nearly three-quarters of the 350 government officials surveyed by CompTIA have a positive view of smart city developments.

There are also barriers to adoption. The No. 1 concern of both government personnel and citizens is obtaining funding for a smart city project. Most cities are under tight budget constraints, making it difficult to allocate funds for new projects. Another top concern is cybersecurity. With thousands of sensors being embedded into their infrastructure, cities will have to ensure the physical cybersecurity of the infrastructure. There is also the question of an adequate cyber workforce. Forty percent of government officials and personnel cite skills gaps and a lack of necessary expertise as a primary area of concern affecting the expansion of smart cities initiatives.

Citizen interest is strong. Six out of 10 Americans are interested in living in a smart city. There is reason to be optimistic, as 13 percent of municipalities report a fully operational smart cities initiative and 31 percent have some sort of pilot underway.

BROADBAND AND TELECOM ADDRESS AVAILABILITY AND DELIVERY OF BROADBAND COMMUNICATIONS

PRINCIPLE

The Internet is the infrastructure of the global economy. To ensure innovation, economic growth and social interaction, it is imperative that we keep the Internet open, encourage deployment of new, faster broadband networks and find ways to get more Americans online.

POSITIONS

- Support an open Internet through rules prohibiting blocking, throttling, commercially unreasonable paid prioritization and other anticompetitive behavior by Internet service providers (ISPs).

- Support policies that improve broadband competition and the growth of IoT by removing barriers to the deployment of broadband infrastructure, including wireless infrastructure such as small cells.
- Promote policies to get more Americans online and to increase broadband adoption.
- Advocate policies to make more spectrum available for licensed, lightly licensed and unlicensed use to support 5G, IoT and rural broadband. Specifically, advocate implementing incentives to encourage government spectrum users to share, sell or lease their spectrum.

ENCOURAGE BROADBAND DEPLOYMENT AND IMPROVE BROADBAND ACCESS

PRINCIPLE

The Internet is at the heart of today’s global economy. However, many Americans still don’t have access to broadband Internet under the Federal Communication Commission’s new definition of 25 megabits per second (Mbps) up and 3 Mbps down, and most don’t have a choice of broadband providers. Additionally, the rapidly expanding Internet of Things market necessitates a robust broadband infrastructure to support it.

Deploying broadband infrastructure is a massive undertaking that requires significant up-front investment that companies may not recoup for decades. Yet, deployment is made even more difficult by regulatory barriers at every step of the process. These barriers to deployment keep companies from investing more into infrastructure and potentially keep new entrants from entering the market. Competition is the key to better broadband access. To increase competition, government should be encouraging private investment, not discouraging it.

POSITIONS

At the local, state and federal levels, government should work to remove regulatory barriers to broadband deployment. Specifically, the Arizona Technology Council supports:

- **Improved and Consistent Access to Local Utility Poles and Rights-of-Way** – Deploying broadband networks is expensive enough without companies having to pay extraordinary costs for necessary access to utility poles and rights of way. At the federal level, the Federal Communication Commission (FCC) should implement a one-touch, make-ready rule and limit make-ready fees to reduce pole attachment costs and to speed access to poles. It should also lay out guidelines for best practices for access to rights-of-way. At the state and local level, governments should work with broadband providers, not against them to encourage deployment. Consistent practices across and within states would also improve predictability.
- **Transparency About Existing Infrastructure** – Information about existing broadband infrastructure is often hard to find, incomplete, and inconsistent across cities and states. We encourage the creation of both national and local

databases for this information, which would save broadband providers time and money when trying to deploy infrastructure.

- **Dig Smart Policies** – Dig smart policies, which refer to coordination between government agencies that provides opportunities for broadband deployment when roads are excavated for other reasons, help lower costs for deployment and minimize disruption time. On the federal level, the Council encourages the Federal Highway Administration to adopt a dig smart policy for highways. We encourage state and local governments to develop such policies, and to explore blanket permitting policies to encourage faster deployment.
- **Permanent Extension of Bonus Depreciation** – An additional 50 percent bonus depreciation allows companies to more quickly receive tax benefits for investment in property such as broadband infrastructure. Bonus depreciation reduces the risk of long-term investments because it accelerates payment recovery time, lowering the average cost of capital for long-term assets. A permanent extension would provide companies with more certainty about their ability to recover costs on investments like broadband infrastructure, which can take decades to recoup. More certainty would incent companies to make these types of major investments.
- **Small Cell Deployment** – Next generation wireless networks will incorporate more small cells, private LTE networks and DAS antennas than before. Unfortunately, most federal and state laws and processes regulating tower siting don’t make sense when applied to small cells because wireless providers often need to deploy hundreds of small cells at a time. These laws need to be updated quickly on both the federal and state levels to prevent cities and states from missing out on next generation wireless.

Key Points:

According to the FCC’s “2016 Broadband Progress Report,” 34 million Americans (10 percent) live in areas unserved by broadband, down from 55 million in 2015. Of the unserved people, 23 million live in rural areas where 39 percent of the population doesn’t have broadband access. Only 38 percent of Americans live in a household with access to more than one broadband provider.

FINANCIAL TECHNOLOGY

PRINCIPLE

Emerging financial technology (FinTech) such as blockchain has the potential to revolutionize many sectors of the United States economy promising to bring significant efficiencies to global supply chains, financial transactions, asset ledgers and decentralized social networking if the proper legislative and regulatory measures are taken to enable and foster its development. The federal government must create new laws and regulatory structures as the technology evolves in order to provide a workable and stable legal structure upon which innovators can rely.

The U.S. Commodity Futures Trading Commission (CFTC) has put forth a principle that just as the Internet was not unduly hindered by regulatory structure and allowed to grow through a “do no harm principle” of regulation, now is the time to allow blockchain technology to evolve. This is a common-sense principle that should be the basis of any legislation or regulation in respect to blockchain.

Further, the federal government should take steps to determine its own internal use cases, develop pilot projects and integrate into their processes going forward. This ultimately will provide government officials with a hands-on understanding of the technology, and put administrators and lawmakers in a better position to craft legal and regulatory structures that work for a broad array of stakeholders.

POSITIONS

Congressional Blockchain Caucus – The formation of the caucus has been a great demonstration of the federal government’s commitment to the technology and it should continue to pursue research and development of responsible legislation and governmental applications of blockchain. The caucus should strive to create a working group within the government to identify internal use cases, for example, in the area of governmental record storage and tracking. The more government actors that work with the technology, the better their own understanding will be. With an increase in understanding comes more prudent regulation and legislation.

Initial Coin Offerings – The Securities and Exchanges Commission (SEC) should work with Congress and stakeholders to create a responsible framework for regulating initial coin offerings (ICOs) as differentiated from their regulation of security offerings. The SEC has legitimate cause for concern and needs to protect investors from schemes that have arisen or may arise out of ICOs. However, there cannot be a total prohibition, nor can we simply treat ICOs as securities. Instead, there is a need for rules that allow further development in this area while also incorporating the necessary safeguards for investors.

FINANCIAL TECHNOLOGY *CONTINUED*

FinTech Business Charters – The U.S. Department of the Treasury’s Office of the Comptroller of the Currency should work with Congress and stakeholders to define and offer FinTech business charters that differ from current bank charters, reducing regulatory burdens for non-bank companies and virtual money-based business models.

Currency Regulation – Congress should adopt the Cryptocurrency Tax Fairness Act to allow tax exemptions for cryptocurrency transactions under \$600. This is a positive step for the broader adoption of cryptocurrencies and should be taken in conjunction with state governments clarifying their own regulations for financial technology. For example, state governments should work with the federal government to create uniform laws for virtual currencies that establish common money transmission licensing requirements that would ensure legal and regulatory reciprocity and interoperability between states and jurisdictions.

Regulatory Sandbox – Current regulatory schemes don’t take into account how different blockchain is from other current technologies. Congress should act to create an environment allowing the development and growth of companies with limited regulatory roadblocks that allow innovators to test different applications of blockchain in a regulatory sandbox. This would permit U.S. innovation to keep

pace in dynamic international markets. Defined FinTech geographic zones or sandbox structures based on a limited pool of individuals, capital or other factors allowing companies to experiment and innovate without the burden of certain regulations or licensing requirements could lead to development of many new use cases and provide regulators with a testing ground for rulemaking.

To prevent regulatory overlap between the states and the federal government, federal agencies should use their discretionary regulatory authority to issue no action letters or exemptions for transactions occurring within state regulatory sandboxes. One example of such discretion is Title X, Section 1022(b)(3) of the Dodd-Frank Act allowing the Consumer Financial Protection Bureau to exempt categories of transactions from its authority.

Federal Government Support – The federal government should partner with industry, academia and other stakeholders for the promotion and adoption of blockchain technology in ways to maximize its benefits for the economy, including making funds available for research and development in targeted industry sectors.

FREE UP SPECTRUM FOR INNOVATION, RURAL BROADBAND AND IoT

PRINCIPLE

Wireless broadband use has skyrocketed in recent years and demand for wireless data is expected to continue to grow exponentially in the coming years. Wireless speeds also are increasing, and in some rural areas, it may be a better long-term solution to broadband access than wireline broadband. However, there simply is not enough available spectrum to meet this coming demand, even as unlicensed spectrum begins to carry more and more of the wireless traffic. The growth of the Internet of Things (IoT) market is creating even more demand for spectrum and the number of IoT devices in use will continue to increase.

Auctioning more spectrum licenses alone cannot meet the ever-growing demand today. Unlicensed spectrum is an essential complement to licensed spectrum. It is used for Wi-Fi, Bluetooth, offloading wireless traffic, and providing broadband in rural areas. It also allows companies that cannot afford to purchase spectrum licenses to use spectrum in new, innovative ways. There are no existing incentives in place to encourage federal agencies to share their spectrum.

POSITIONS

Congress, the FCC, NTIA and other government agencies must do everything within their power to make more spectrum available for licensed, unlicensed and lightly licensed use. Specifically, the Arizona Technology Council supports:

- **More Federal Spectrum Available for Both Licensed & Unlicensed Use Without Technology-Specific Restrictions on its Use** – The federal government is the largest holder of spectrum suitable for wireless use, and even its officials admit the government is not using the spectrum efficiently. Clearing and auctioning spectrum is one effective way to get spectrum to market but it is too costly in many situations. We must come up with new,

creative ways to get government spectrum in the hands of those who need it most, be it for licensed or unlicensed use, without placing technology-specific restrictions on how it may be used.

- **Moving Forward on 5 GHz** – The FCC has already made great strides on freeing up unlicensed spectrum in the 5 GHz band but it should continue to work towards making spectrum available for unlicensed use in the U-NII-4 band.
- **Continuing to Pave the Way for 5G** – The FCC took a major step towards making 5G a reality with its Spectrum Frontiers Order, which opened up nearly 11 GHz of licensed and unlicensed spectrum for flexible-use wireless broadband. There is still work to be done. The FCC recently released a notice of inquiry on making mid-band spectrum for both licensed and unlicensed use. We hope it expeditiously moves the proceeding along to a notice of proposed rulemaking.

Key Points:

Cisco forecasts mobile data usage will increase nearly fivefold in the United States from 2016 to 2021. Ericsson projects an eightfold increase in mobile traffic from 2016 to 2022.

Ericsson expects there may be more IoT connections than mobile connections worldwide by 2018. The company also forecasts more than 90 percent of IoT connections will rely on unlicensed spectrum by 2021.

The last major spectrum auction for the foreseeable future, the Broadcast Television Incentive Auction, concluded in 2017 and yielded \$19.8 billion. Made available was 84 MHz of spectrum: 70 MHz for licensed use and 14 MHz for unlicensed use. The auction marked the last known source of sub-3 GHz spectrum suitable for licensed wireless use.

No incentives currently are in place to encourage federal agencies to share their spectrum.

FEDERAL TAX POLICY

The U.S. technology industry is a \$1 trillion market that employs approximately 7 million Americans. Fiscal discipline and targeted funding for investments in innovation are essential to continue economic growth. The Arizona Technology Council supports reasonable tax policies that promote research and development (R&D), innovation, entrepreneurship and capital investment.

ADVANCE TAX & REGULATORY POLICIES THAT SPUR INNOVATION AND GROW OUR ECONOMY

PRINCIPLE

The U.S. technology industry is a \$1 trillion market that employs nearly 7 million Americans. Fiscal discipline and targeted funding for investments in innovation are essential to continued economic growth. The Arizona Technology Council supports reasonable tax policies that promote innovation, entrepreneurship and capital investment.

POSITIONS

Create a fair, competitive, balanced tax code encouraging investment and innovation that does not adversely affect small businesses, including pass-through entities, by:

- Lowering the corporate tax rate to 20 percent and adopting a territorial tax system to incentivize companies to repatriate their profits.
- Creating a “patent box” to encourage companies to invest in domestic intellectual property.
- Protecting the research and development tax credit to incentivize experimentation and innovation.

- Making the CFC Look-Through Rule permanent to give U.S.-based companies the tax-planning certainty needed to compete in a global marketplace.

- Making compliance simplification a key aspect of tax reform.

Ensure simplicity and fairness in interstate taxation by:

- Disallowing interstate sales tax legislation that results in additional compliance burden to businesses and requiring any legislation to include a small business exemption.
- Reducing compliance burdens on today’s digital workforce by enacting the Mobile Workforce State Income Tax Simplification Act of 2017.
- Supporting certainty in sales tax applications by enacting the Digital Goods and Services Tax Fairness Act.
- Supporting fairness in interstate business activities by enacting the Business Activity Tax Simplification Act.

AFFILIATE NEXUS

PRINCIPLE

The debate around the Marketplace Fairness Act may be dead but Congress hasn’t completely given up on the idea of taxing Internet sales across state lines. In September 2016, Rep. Bob Goodlatte (R-VA), chairman of the House Judiciary Committee, released the long-anticipated discussion draft of the Online Sales Simplification Act of 2016 (OSSA), which differs significantly from the Remote Transactions Parity Act introduced by Rep. Kristi Noem (R-SD) and the Marketplace Fairness Act introduced by Sen. Mike Enzi (R-WY).

The proposed OSSA is a hybrid system that would collect sales taxes at a single rate of the state where the consumer resides but remit those taxes to the state where the seller is located. OSSA features include:

- The Bill implements Goodlatte’s much-discussed “hybrid-origin’ approach” and removes the Quill physical presence requirements for sales tax collection obligations under certain circumstances.
- States may impose sales tax on remote sales if the state is the origin state and participates in a statutory clearinghouse, and the tax uses the origin state base and the destination state rate for participating states. (The origin state rate is used if the destination state does not participate in the clearinghouse).
- A remote seller will only have to remit the tax to its origin state for all remote sales.
- A destination state may only have one statewide rate for remote sales.
- Only the origin state may audit a seller for remote sales.

- States that do not participate in the clearinghouse have significant restrictions on the ability to extract the tax from the remote seller.

However, while Congress is still debating a national approach, sales tax nexus legislation is emerging as a national trend with over half the country considering some form of legislation similar to that outlined in the Federal Marketplace Fairness Act. With little action at the federal level and U.S. Supreme Court Justice Anthony Kennedy’s recent opinion in *DMA v. Brohl* suggesting *Quill* may no longer represent the appropriate nexus standard for sales tax collection, states are attempting to challenge *Quill* by introducing state-specific legislation. In an effort to collect state sales taxes for online remote transactions, a number of legislative proposals would require all remote sellers to collect sales taxes and remit them to the state where the consumer resides.

POSITIONS

The Arizona Technology Council supports solutions that would not increase the compliance burden on medium and small businesses, not create systems that would force sellers to abandon Internet sales into other states, continue to foster online commerce, create a small seller exemption for small business, and protect businesses from new and costly regulations or taxes.

The debate over the collection of sales taxes on remote transactions should be refocused to balance the needs of states to collect these taxes with the ability of businesses to cover these new compliance costs. States need to collect sales and use taxes owed but the costs associated with moving this compliance burden from individual taxpayers onto businesses must also be weighed.



DIGITAL GOODS AND SERVICES

PRINCIPLE

According to recent data, 88 percent of Americans are using the Internet and over 200 million Internet users will make an online purchase this year alone. The digital economy continues to play a strong role in both the growth of the Internet and the ability for businesses to better deliver digital goods and services.

Given the importance of the digital economy to our member companies and the need to ensure they can continue to foster innovation and economic growth within this sector, the Arizona Technology Council strongly supports the Digital Goods and Services Tax Fairness Act. This legislation will prevent hurdles to growth and create a much-needed tax framework that will provide certainty to consumers, providers and state/local governments while preventing duplicative and discriminatory taxes.

The Council opposes taxes on digital products. However, for those jurisdictions that have opted to impose these taxes, we recognize the need to provide consistency and simplicity across state borders. There should never be a situation when multiple jurisdictions can tax the same digital good or service, and a framework must be established to ensure a single purchase is sourced in one state, not multiple states

POSITIONS

The Council supports legislation such as the Digital Goods and Services Tax Fairness Act. This legislation would provide consistency in determining which jurisdiction can tax a transaction (at the appropriate sales tax rate), and prohibit unfair and unrelated discriminatory taxes. While the Council opposes taxes on digital products,

we do support legislation that would provide consistent treatment across state lines when digital products are taxed by state or local jurisdictions. The Digital Goods and Services Tax Fairness Act addresses our concerns by accomplishing two key objectives:

- First, the legislation sources the purchase of a digital good or service to the consumer’s home address (not the location of the consumer at the time of downloading a product or the location of the server). Therefore, only one state would have the ability to tax the transaction – if that state chose to do so. Congress took a similar approach in 2000 when it passed the Mobile Telecom Sourcing Act, which essentially sourced wireless and mobile telecommunications services to the consumer’s home address to eliminate confusion around which taxing jurisdiction had the right to tax wireless services.
- Secondly, the legislation would prohibit discriminatory taxes. If a state decides to tax a downloadable song, for example, the rate should be the same as if that same song was purchased in a “brick and mortar” store. Prohibiting discriminatory taxes simply brings parity between digital products and their tangible counterparts.

Consistent with our support for the Digital Goods and Services Tax Fairness Act, the Council calls on states to reject new taxes on electronically transferred digital products and electronically delivered services such as data processing, hosting, and related services. Such a broad expansion of the sales tax base to include electronically transferred goods and services, particularly those that are actually business inputs, is bad public policy and will result in multiple and discriminatory taxation.

MOBILE WORKFORCE

PRINCIPLE

Some states are imposing income taxes on non-residents after very brief work-related stays. This makes tax compliance more complicated for individuals and their employers. It also deters business-related travel.

POSITIONS

The Arizona Technology Council supports H.R. 1393/S. 540, the Mobile Workforce State Income Tax Simplification Act of 2017, which would establish national standards for state income taxation of non-residents. The House passed this legislation on June 20, 2017. This legislation would allow employee wages or compensation to be taxed by only the state of the employee’s residence and the state within which the employee is present and performing employment duties for more than 30 days during the calendar year.

Employees who are required to move from state to state should not be required to file and pay state income taxes for brief periods of work, i.e., 30 days or less. This legislation does not exempt the employee from state taxes. It just provides that only the employee’s state of residence or any state in which the employee worked for more than 30 days are permitted to require the employee to file and remit state taxes.

The Council supports legislation at the state level that simplifies nonresident employee and employer requirements to report and withhold state income taxes. The Council supports the balance between the business needs of today’s mobile workforce and each state’s authority to determine its own tax law.

Key Points:

- The Mobile Workforce State Income Tax Simplification Act of 2017 would establish a fair and uniform 30-day threshold to help ensure the appropriate amount of tax is paid to state and local jurisdictions without placing undue burdens on employees and their employers.
- Most individuals are unaware of the current patchwork of non-resident state income tax filing rules and many employers must incur extraordinary expenses to comply with withholding requirements.
- Each state has its own set of requirements for filing non-resident individual income tax returns and commensurate rules for employers withholding on those employees.

The legislation would enhance compliance with state personal income tax laws while significantly reducing the onerous burdens placed both on employees who travel outside their resident state(s) for temporary periods and on employers who have corresponding withholding and reporting requirements.

CORPORATE TAX REFORM

PRINCIPLE

Our system of corporate taxation puts U.S. companies at a competitive disadvantage with their global competitors and is in urgent need of an overhaul. The last major tax reform occurred in 1986. While many support reform, congressional debate continues and timing for action remains uncertain.

Therefore, during this debate the technology industry must ensure any corporate tax reform proposals equitably treat the technology industry — both large companies, as well as small and medium-sized businesses.

POSITIONS

The Arizona Technology Council supports several concepts within the broader context of corporate tax reform:

- **Reduce the Corporate Tax Rate to 20 Percent** – To better align the U.S technology industry for growth, we support reducing the corporate tax rate to no higher than 20 percent without increasing taxes on small- and medium-sized businesses. U.S. companies are burdened with the highest corporate tax rate among Organisation for Economic Co-operation and Development (OECD) countries, making them less competitive with their foreign counterparts. Although the international average corporate tax rate has declined consistently since 2003, the United States has not followed suit.
- **Enact a Territorial International Tax System** – We support

enactment of a territorial international system that would remove the punitive tax that prevents foreign earnings from being repatriated to the United States. Our nation is one of a handful of developed countries that taxes corporate earnings on a global basis. This means a company’s foreign earnings are subject to U.S. tax when repatriated, increasing the foreign tax rate on these earnings to the U.S. rate. Under a territorial international system, firms will be incentivized to innovate and invest domestically regardless of where the firm’s profits are located. Since 2000, the number of OECD countries that employ a territorial system increased from 17 to 27. Still, the U.S. maintains a global system and ignores reforms with the potential to make available approximately \$1.7 trillion and allow the U.S. tax code to regain a competitive global edge.

- **Tax Repatriated Profits at a Lower Rate** – We support legislation that incentivizes U.S.-based companies to reinvest profits back into the United States by allowing those repatriated profits to be taxed at a lower rate. Currently, companies are discouraged from repatriating their profits because of the high corporate tax rate that would result. Encouraging the return of those profits to the United States would help stimulate domestic economic activity not possible previously. According to a discussion paper by the Society of Economic Dynamics published via the Information Technology and Innovation Foundation, in 2014, labor productivity—just one metric of economic vitality—would have been 4.5 percent higher in “IT-intensive” industries had the repatriation of overseas profits allowed the U.S. economy to realize its full returns.

- **Tax Innovation Box Profits at a Lower Rate Than the Corporate Rate** – We support policies that foster innovation such as a patent box to attract and retain domestic intellectual property (IP) development and ownership. A lower rate of taxation on innovation would encourage companies to continue to reinvest in domestic IP development, which would fuel organic job growth, spur creativity and allow the U.S. technology industry to remain competitive globally.
- **Make the CFC Look-Through Rule Permanent** – The territoriality provisions of most other developed countries allow domestically-based companies operating abroad to structure their foreign operations without the additional home country tax of the sort imposed by the U.S. Subpart F rules. In December 2015, the rule was extended through fiscal year 2020 in the fiscal 2016 omnibus. Making the CFC Look-Through permanent would allow U.S.-based companies to marshal their capital outside the United States in a way that would enable them to compete on a more level playing field with their foreign counterparts.

- **Protect the Research and Development (R&D) Tax Credit** – Made permanent in 2015, the R&D tax credit leverages tax reform to incentivize experimentation and innovation. Consequently, it increases the aggregate amount of knowledge in society and the economy, and elevates productivity, wages and the standard of living. However, since 1990 the U.S. has fallen from first to 25th among OECD nations dedicated to pursuing R&D credits. Given that R&D tax credits have proven to immediately stimulate innovation while also encouraging long-term economic growth, we support such policies that maximize the social value of the dollar and promote the well-being of the U.S. technology industry and global economy at large.

PRIVACY

Economic expansion in technology rests on the creation of new and innovative business models that leverage Internet-based platforms that are trusted, secure and accessible. We support common-sense data and cybersecurity policies that secure our networks and promote responsible use of consumer data, so the technology experience can continue to expand and improve.

ENCRYPTION

PRINCIPLE

The widespread adoption of encryption among consumers and businesses has created a difficult policy dilemma. While advances in encryption have vastly improved information security for consumers and businesses, law enforcement and national security officers are faced with significant new challenges to preventing and investigating crimes and terrorism as a result.

POSITIONS

The Arizona Technology Council supports better cybersecurity practices both domestically and abroad by encouraging continued innovation in encryption. Congress, the administration and state legislatures can rebuild trust in the U.S. technology sector through strong data security practices at home, providing law enforcement with financial resources to recruit new technologists and implement new tools to uphold the law, and projecting the United States’ firm commitment to data security to the world.

The Council opposes, through either legislation or court orders, mandated encryption backdoors and requirements for companies to “unlock” their products on demand. Industry, legislators and law enforcement must instead work together to establish frameworks for securing data and explore cooperative approaches to help law enforcement keep Americans safe. Any changes in law and policy should only come after a collaborative dialogue between the relevant stakeholders.

Key Points:

Any decisions to weaken or limit encryption will have harmful effects on the overall digital economy, including making digital systems more vulnerable, increasing costs for consumers as risks increase and companies pass on greater operational expenses, decreasing competitiveness of U.S. businesses seeking international market share, and diminishing U.S. leadership in setting policies to improve cybersecurity.

The debate over encryption has gained more attention recently as some law enforcement agencies have complained about their lack of access to data. These complaints have been spurred by decisions of some mobile and cloud-based service providers to upgrade their security controls so their customers can retain the keys used to encrypt their data, thereby locking out third parties such as law enforcement.

However, these complaints are not new. The past few decades have seen a steady stream of advancements in encryption, and many companies have integrated encryption into popular products and services to improve security for users. Some government agencies have pushed back on these kinds of improvements, citing law enforcement and national security concerns. But while advances in encryption, along with more widespread adoption, certainly will make it harder for law enforcement and intelligence agencies to access some kinds of data, the overall impact on fighting crime and terrorism will be difficult to measure.

As the debate continues, the Council will oppose federal and state legislation that creates encryption backdoors or other decryption policies that may threaten innovation and the protection of consumer privacy.

WORK TO REFORM THE ELECTRONIC COMMUNICATIONS PRIVACY ACT (ECPA)

PRINCIPLE

The Electronic Communications Privacy Act (ECPA) was originally passed in 1986, when email and text messaging were still nascent technologies, and deemed all stored electronic communications over 180-days-old to be “abandoned.” Under ECPA, law enforcement and government agencies can acquire these abandoned emails and text messages from a service provider without a warrant but simply with a subpoena to obtain access. The House unanimously passed the Email Privacy Act, an ECPA reform bill, in both April 2016 and February 2017 but the Bill repeatedly has stalled in the Senate Judiciary Committee and hasn’t received a floor vote.

POSITIONS

ECPA must be reformed to require government agencies and law enforcement to obtain a warrant to compel service providers to disclose the contents of emails, text messages, and other private communications stored by a service provider.

Specifically, the Arizona Technology Council supports:

Congress Should Pass the Email Privacy Act as Passed by the House – The Email Privacy Act (H.R. 387), 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 have continued to hold up the Bill with unrelated amendments opposed by both industry and the public interest community. The Committee should re-consider this Bill early in 2018.

No Civil Agency Exceptions – Some civil agencies such as the SEC 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 ECPA

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 situation. 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 don’t 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.

Key Points:

On April 27, 2016, the U.S. House of Representatives passed the Email Privacy Act (H.R. 699) with a vote of 419-0. A reintroduced version of the Bill (H.R. 387) passed the House by voice vote on February 6, 2017.

The Sixth Circuit Court of Appeals ruled in a 2010 case (U.S. v. Warshak) that, under the Fourth Amendment of the Constitution, law enforcement must use a warrant to acquire email content from providers. Most large email providers are already treating this as the law of the land and refusing to comply with subpoenas.

Despite asking for an exception to ECPA, the SEC has testified that it does not currently obtain emails from service providers and has not done so in recent years.

Google has announced it already complies with about 75 percent of emergency requests. Yahoo has said it has procedures in place to comply with most emergency requests within one hour.



FEDERAL AGENCY PRIVACY & DATA SECURITY ENFORCEMENT

PRINCIPLE

Over the past several years, the Federal Trade Commission (FTC) has used its authority under the unfair and deceptive practices of Sec. 5 of the FTC Act to sanction companies for failure to adequately protect consumer data. This authority was upheld by the U.S. Court of the Appeals for the Third Circuit in the Wyndham case.

The FCC’s 2015 reclassification of broadband Internet access service as a telecommunications service means the FTC no longer has authority over broadband Internet service providers (ISPs). Instead, the FCC now has authority to enforce data privacy and protection practices for ISPs. The FCC passed new privacy and security rules in late 2016 but they were overturned by Congress earlier this year through the Congressional Review Act. The FCC is currently in the midst of another net neutrality rule-making, and we are awaiting the final version of the rules that could restore the FTC’s authority over ISPs’ privacy and data security practices.

POSITIONS

The Arizona Technology Council would prefer that authority is returned to the FTC to enforce data privacy and protection practices across the entire technology sector, including ISPs. Should the FCC choose not to reclassify broadband Internet access service as an information service in its Restoring Internet Freedom rule-making, we would advocate Congress to remove the common carrier exemption in the FTC Act and allow the FTC to regulate ISPs’ data privacy and protection practices, harmonizing rules across the industry.

If Congress does not act and the FCC does not reclassify broadband service, we would encourage the FCC to pass rules that function as close to the FTC’s rules as possible to preserve consistency in enforcement.

PROMOTE RULES TO ALLOW USE OF COMMERCIAL UNMANNED AERIAL VEHICLES

PRINCIPLE

Unmanned aerial vehicles (UAVs) offer immense opportunities for innovation, from cargo delivery to emergency response to photography. However, regulations are not in place to allow UAVs to be used in many innovative ways. The Federal Aviation Administration (FAA) released its Small UAS Rule in June 2016, which limits UAV use to visual line of sight, during the day and away from people. While a great first step, these regulations still prevent UAVs from being used for a number of commercial purposes.

While the UAV industry is still nascent, a recent Association for Unmanned Vehicle Systems International study estimates the industry will generate more than \$82 billion and create more than 100,000 jobs during the next 10 years.

POSITIONS

The Arizona Technology Council supports a much broader use of UAVs than the FAA permits in its new rules. Congress and the FAA have both demonstrated interest in crafting rules for commercial uses of drones 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 commercial UAVs 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 of UAVs.

INTERNATIONAL

Ninety-five percent of the global market resides outside the United States. The rules of trade—market access, fair and reciprocal treatment, transparency, and compliance—impact the flow of technology goods and services that meet the needs of businesses and consumers. According to CompTIA’s “Tech Trade Snapshot 2017,” the United States exported an estimated \$309 billion in manufactured technology goods, software, and services in 2016. The Council supports trade policies and compliance strategies that create a level playing field for technology companies to compete in the global marketplace, and provide their goods and services to consumers

EXPAND MARKETS, REDUCE BARRIERS, AND ADVOCATE FOR U.S. TECHNOLOGY GLOBALLY

PRINCIPLE

Exports of products and services by the U.S. technology industry totaled an estimated \$309 billion in 2016, according to CompTIA’s “Tech Trade Snapshot 2017.” Further, exports account for approximately \$1 out of every \$4 generated in the nation’s technology industry and directly support 40 percent of technology manufacturing jobs. The rules of trade — market access, fair and reciprocal treatment, and transparency — impact the flow of technology goods and services that meet the needs of businesses and consumers. The Arizona Technology Council supports trade policies that expand and open markets for the U.S. technology sector, and establish new rules in digital trade.

POSITIONS

- Advocate for continued U.S. participation in the North American Free Trade Agreement and its modernization, as well as the Korea-U.S. Free Trade Agreement.
- Advocate for potential new U.S. free trade agreements to enhance trading relationships with key partners, such as the United Kingdom and Japan.
- Advocate for resuming trade negotiations previously launched, including the

Transatlantic Trade and Investment Partnership and the Trade in Services Agreement. Also, ensure they are crafted in such a way that promotes the technology industry and global innovation.

- Promote the future of U.S. trade policy in Asia, given the United States’ withdrawal from the Trans-Pacific Partnership.
- Advocate for a U.S.-China policy that promotes greater access and reduced regulatory and legislative barriers.
- Advocate against foreign barriers or other national security overreaches that pose a threat to industry, including local content requirements or technology transfers as a condition of market access.
- Advocate for commitments in digital trade before multilateral organizations, including the World Trade Organization (WTO) and the Asia-Pacific Economic Cooperation.
- Engage in opportunities to enhance the trading relationship in key markets for the industry, including India, Vietnam, Indonesia and Brazil.
- While considering effects of trade on the U.S. economy and jobs, promote policies that support U.S. workers and the ways the technology industry is creating jobs and economic growth.

U.S. - CHINA ICT TRADE POLICY

PRINCIPLE

China is one of the world’s largest markets for the information and communications technology (ICT) sector, and one that U.S. technology companies cite as a priority for their global operations and competitiveness.

China is currently undergoing a moment of rapid and potentially profound change in its ICT policy, which has created challenges stemming from the incomplete transition of China to a free market economy.

Specifically, U.S. technology companies have experienced a persistent uptick in protectionist policies in the ICT sector designed to nurture domestic technology champions at the expense of international competition and to secure China’s global dominance in strategic emerging technologies.

Despite numerous attempts by the U.S. to engage China to alter these practices, they not only continue to spread but also have become more sophisticated, more institutionalized and more distributed.

Key Issues:

- There is growing concern that these policies could cause long-term damage to U.S. businesses — and the U.S. jobs they support — as those businesses try to sell ICT products into China, a market estimated to be worth about \$465 billion.
- A 2017 study by the American Chamber in the People’s Republic of China found that 81 percent of respondents said foreign businesses were less welcome in China than before, compared to 41 percent who asserted that in 2013. Further, 45 percent of respondents said lack of IP protection was a significant barrier to increasing innovation in China.
- China’s broad Cybersecurity Law and implementing regulations, along with existing and proposed restrictions on cloud and Internet services, limit the ability of U.S. companies to sell products and services in China.
- The Arizona Technology Council encourages the U.S. wherever possible to negotiate outcomes with China through bilateral and multilateral engagement, including through dialogues such as the U.S.-China Comprehensive Economic Dialogue (CED) and multilateral fora such as the WTO, as well as to forge new forms of alliances for cooperation with China such as the EU and Japan.

Current Status:

The Trump administration is developing a policy towards China. On Aug. 18, 2017, the United States Trade Representative Robert Lighthizer initiated an investigation of China under section 301 of the Trade Act of 1974, which seeks to evaluate whether acts, policies, and practices of the Government of China related to technology transfer, intellectual property, and innovation are unreasonable or discriminatory and burden or restrict U.S. commerce. The Council supported comments to this investigation on Sept. 28, 2017.

On September 20, 2017, through the United States Information Technology Office; our partner, CompTIA; along with fellow parent associations submitted comments in response to the Federal Register notice regarding China’s compliance with its accession commitments to the World Trade Organization.

Top policy priority issues the Council supports include:

- Secure commitment that China will refrain from any measure that requires U.S. companies to disclose source code or other intellectual property as a condition of doing business in China.
- Secure commitment that China will not restrict cross-border data flows for business purposes and will grant U.S. cloud service providers with full and nondiscriminatory market access.
- Secure commitment that Chinese government support of China’s technology industry will be consistent with its international trade obligations.
- An open investment regime, both inbound and outbound, as well as the activity of the Committee on Foreign Investment in the United States to determine the effect of inbound transactions on the national security of the United States as it relates to China. The Council also supports sanctions and export controls when they are required to meet U.S. national security and foreign policy goals.
- Encouraging the U.S. wherever possible to negotiate outcomes with China through bilateral and multilateral engagement, including through dialogues such as the CED and multilateral fora such as the WTO. Also, forging new forms of alliances for cooperation with China in these areas of common interest such as the EU and Japan.
- Encouraging China’s integration into the global ICT ecosystem and the global institutions and agreements that support it.

MODERNIZING THE NORTH AMERICAN FREE TRADE AGREEMENT (NAFTA)

PRINCIPLE

The Trump administration seeks to modernize the North American Free Trade Agreement (NAFTA) to reduce the trade deficit, support higher-paying jobs in the United States, and grow the U.S. economy by improving opportunities to trade with Canada and Mexico.

The United States Trade Representative Robert Lighthizer notified Congress in May 2017 of the intent to renegotiate NAFTA. The Arizona Technology Council welcomes a modernization of NAFTA to reflect the digital economy and innovative technology sector that has evolved since NAFTA went into effect.

Council members stress NAFTA should remain a trilateral agreement that rises to the objectives established by Congress in the Bipartisan Congressional Trade Priorities and Accountability Act of 2015 (TPA 2015). Priority negotiating objectives for Council members include market access, customs and trade facilitation, rules of origin, digital trade, government procurement and intellectual property.

Key Points:

- Since NAFTA entered into force in 1994, trade with Canada and Mexico has nearly quadrupled to \$1.3 trillion.
- Trade with Canada and Mexico supports nearly 14 million American jobs, with nearly 5 million of these net jobs supported by the increase in trade generated by NAFTA.
- Since NAFTA was negotiated nearly 25 years ago, the role of the Internet, e-commerce and digital trade in international trade has expanded significantly.
- Modernizing NAFTA presents an opportunity to update the agreement in order to account for the significant growth of digital trade and trade in services that has moved beyond trade in traditional goods.
- Additionally, we urge the administration to preserve those provisions that have worked well and ensure that U.S. businesses are not disadvantaged by any modifications. These include continued elimination of the merchandise processing fee and rules of origin.

Current Status:

Renegotiations between the U.S., Canada and Mexico launched in Washington, D.C. on August 16, 2017, and continue on a swift time-line with negotiators meeting every three weeks, alternating locations between of the three countries. Several important dates limit the time for the negotiation and the ambition to conclude the agreement by 2017 or early 2018. However, President Trump continues to threaten a withdrawal from NAFTA and that looms large in the renegotiations.

POSITIONS

The Council supports the renegotiation of NAFTA with the following objectives:

- Continue to exclude NAFTA originating merchandise from the merchandising processing fee and all other border or customs processing fees.
- Adherence to WTO Information Technology Agreement (ITA, ITA2 and those under ITA 2018 review).
- Duty-free treatment for goods entered for repair or alteration.
- No restrictions on remanufactured, refurbished or like-new goods.
- Parties to comply with the import licensing agreement with respect to

any new or modified import licensing procedure.

- Export licensing notification procedures shared with parties.
- Allow goods produced in a foreign trade zones, meeting rules of origin, to qualify for preferential treatment.
- Adherence to the WTO trade facilitation agreement.
- Adherence to WTO valuation agreement.
- Utilize the current version of the Harmonized Tariff Schedule nomenclature for classification purposes.
- Streamline the process for certifying that imported products qualify for NAFTA originating status.
- Adhere to the Valuation Agreement (Article VII of the General Agreement on Tariffs and Trade).
- Avoid value-content thresholds, avoid process-based rules and confer origin based on classification changes (TPA 2015 statute).
- Prevent barriers to e-commerce trade and cross-border data flows.
- Ensure a free and open Internet, and protect the free flow of information through cross-border data flows.
- Prevent forced localization requirements of data centers and facilities, technology, intellectual property, and other assets.



connect + grow

We exist to help science and technology companies of all sizes and stages succeed. By serving as the principal point of connection, the Arizona Technology Council helps build global partnerships to grow locally, get innovations noticed, and stay ahead of the curve.

Whether you’re a startup, emerging, or well-established company in Arizona, we offer resources designed to gain insight, education and connections. In addition to our networking opportunities, public policy support and professional development programs, our members receive exclusive discounts on products and services and are provided numerous opportunities to get the word out about their unique value.

Take a fresh look and watch us grow with you as we continue to offer you membership benefits that will bring you closer to meeting your business goals.

take a fresh look





ABOUT THE ARIZONA TECHNOLOGY COUNCIL

The Arizona Technology Council is the driving force behind making our state the fastest growing technology hub in the nation, connecting and empowering Arizona's technology community. As Arizona's premier trade association for science and technology companies, the Council is recognized as having a diverse professional business community. The Council offers numerous events, educational forums and business conferences that bring together visionaries, leaders, and innovators to make an impact on the technology industry. Council members work toward furthering the advancement of technology in Arizona through leadership, education, legislation and social action. These interactions contribute to the Council's culture of growing member businesses and transforming technology in Arizona. For more information about membership or attending an event, please visit aztechcouncil.org.

PHOENIX

2800 North Central Avenue, Suite 1530,
Phoenix, Arizona 85004

602.343.8324

TUCSON

9040 South Rita Road, Suite 1150,
Tucson, Arizona 85747

520.382.3281

info@aztechcouncil.org

THANK YOU TO OUR 2018 PUBLIC POLICY GUIDE SPONSOR

IDEAS  COLLIDE