

ARIZONA TECHNOLOGY COUNCIL Public Policy Guide





Public Policy Guide 2017

The Arizona Technology Council is the principal advocate for science- and technology-based companies in Arizona. It 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 2017 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 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 2017. In some cases, the positions will advance through development and advocacy of legislation that will be introduced during the Arizona Legislature's 2017 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 Legislative Priorities - 2017

- Recapitalize the Angel Investment Tax Credit
- Restore funding for 9th-grade career technical education (CTE)
- Appropriately fund the state's education system, including pre-K, K-12, postsecondary, joint technical education district (JTED) and CTE programs
- Create and fund a job training program
- Maintain current levels of credit for the Research and Development Tax Credit program and support policies that create value for stranded tax credits earned by companies investing in Arizona
- Support the findings of the Legislature's Surface Transportation Funding Task Force, which is considering options for mediumand long-term funding for Arizona's transportation infrastructure

AEROSPACE, AVIATION AND 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 highpaying jobs. Additionally, the state's military bases contribute approximately \$9 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. 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 increased collaboration with the U.S. Department of Homeland Security. Conduct research and seek additional missions, such as special operations stationing and training for which the Fort Huachuca is best suited in terms of job growth.

AEROSPACE, AVIATION AND DEFENSE

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 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. **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 to increase technical and science degrees, assist with workforce placement, and retain more talent through industry support. Ensure the career technical education (CTE) program provides adequate training for future workforce needs.



AZTC STATE POLICY PRINCIPLES AND POSITIONS

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 systemwide by working collaboratively with the Arizona Board of Regents. Support renewed investment in funding of research facilities at Arizona's universities. Arizona voters in 2000 approved Proposition 301, which resulted in the investment of hundreds of millions of dollars in research and infrastructure 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.

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.

Life Science Innovations Access – Ensure Arizonans have the opportunity to benefit from the lifesaving and life-changing innovations the biotechnology and medical technology industries can offer by working with the industry partners to support the continued expansion of telemedicine services in the state. Ensure Arizonans have access to needed treatments in a fiscally responsible manner. Medical technologies can improve the quality of life for Arizonans and, when used appropriately, lower overall health care costs for individuals and the state.

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 new 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, lacking is uniform understanding of the new telemedicine parity and licensure laws, which 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. However, many firms seeking capital to enter the critical early stage of business development leave Arizona because crucial funding is scarce for them. All states surrounding Arizona, as well as Mexico have created state-supported early-stage funds. Arizona needs to step up because it is losing out on this country's most coveted jobs.

Positions

Angel Investment Recapitalization – Recapitalize the proven and highly successful Angel Investment Tax Credit for the remainder of the program at a level of \$10 million. The Legislature in 2014 extended the program until 2021 but without allocating additional funds. In summer 2015, the program depleted the initial \$20 million authorized when the program was created. The amount of angel investing in the state has decreased significantly without funds in the program.

CAPITAL FORMATION

Research & Development Tax Credit Program

– Maintain current percentage levels Research & Development (R & D) Tax Credit program, which has proven to be extremely successful. In 2010, the R & D tax credit value was increased from 20 percent to 24 percent for the first \$2.5 million in qualifying expenses and increased the rate for qualifying expenses in excess of \$2.5 million from 11 percent to 15 percent. That expansion is set to return to the previous lower rates in 2018. Current levels should be maintained to continue encouraging companies to invest additional research and development monies here in Arizona.

Refundable R & D Tax Credit - Expand the program cap from its current \$5 million per year to \$15 million per year. Historically, this money has been allocated quickly showing a much higher demand than the existing levels. This program needs to be expanded to meet the needs of the earlystage companies that are investing research and development dollars and earning credits before they have the tax liability to apply it to.

Early-Stage Venture Capital – Reduce the number of companies that are being recruited to surrounding states with early-stage venture capital. Early-stage funding is an integral need for startups and earlystage companies as they try to take their products to the market. Most states around the nation have created early-stage venture capital funds where the states take on a role in supporting investments in these companies. Arizona needs to look at how they can attract, encourage and incentivize early-stage funding of Arizona companies. A fund of funds model like that in Utah, specifically, or the use of insurance premium tax credits to raise a fund such as Maryland's are potentially viable methods.

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 start-up 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 start-up community, including potential investors, who can learn about these companies and still comply with the applicable securities laws

Financial Technology – Drive state regulatory reform to allow use of virtual currency that meets the needs of Arizona's financial technology (FinTech) sector. FinTech firms have expanded their presence in the financial system with a diverse range of products and services that have the potential of disruption for traditional financial services companies.

These FinTech innovations primarily rely on virtual currency, which is 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 multijurisdictional by nature and 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 states such as Delaware and North Carolina have undertaken to update their financial services definitions and money transmission regulations, encouraging the growth of dynamic regional FinTech ecosystems. The Conference of State Bank Supervisors and other national policy groups have developed a model regulatory framework and model legislation for state virtual currency regulatory regimes that Arizona should adapt to our particular needs and concerns then adopt. This could potentially include the creation of an "on ramp" with exceptions to licensing rules for new companies based on low volumes and/or limited business activities that pose a lower risk to consumers.

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 cyber attacks at 1.5 million per year in the United States as up to 85 percent of data breaches go undetected. There is no question that we are in a cyberwar being waged globally but primarily in the private sector. As a result, American businesses find themselves at the forefront of the battle. Improving cybersecurity has become critical for businesses of all sizes and types.

Positions

Awareness – Prioritize awareness and intelligence about the risks that unfriendly countries 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 develop the next generation of protection and response professionals.

Regulations – Promote responsible regulation that centers on reasonable and consistent requirements regarding privacy notices and breach responses 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 tools possible and encouraging innovation, business attraction, retention and growth.

Positions

ACA State Promotional Effort – Advocate to public policy decision makers for Arizona Commerce Authority's (ACA) continuation at an appropriate level of funding with assurance that 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 creation of quality jobs for its citizens by 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.

Research and Development Tax Credit – Advocate for the continuance of the current tax credit levels for the non-refundable Research and Development tax credit. The levels are set to decrease by four percent in 2018. However, this tax credit has proven to be highly successful and the current levels should be maintained to continue to encourage companies to make additional research and development investments in Arizona. Additionally, support policies that create value for stranded tax credits earned by companies investing in Arizona.

Global Competitiveness – Support the increase of resources dedicated to Arizona's State Trade and Export Promotion (STEP) program from the ACA and U.S. Small Business Administration. This would help ensure small businesses are able to compete internationally on a level playing field. 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 smalland medium-sized manufacturers.

Infrastructure Investment – Support development of tools to facilitate public and private investment in infrastructure necessary to competitively enable high-tech 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 is a movement to make Phoenix and Tucson communities that support startups and innovation. Those efforts need to be encouraged and supported where possible.

Fewer Regulations – Reduce the strenuous regulations that can strangle businesses and 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 highestpaid employees. In particular, the Council recommends efforts to target the following industries: health and bioscience; semiconductor and electronics; information technology; energy; aerospace, 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 the jobtraining program to help companies attract and retain a competitive workforce, whether produced within Arizona or "imported" from other states and countries. Educator and employer engagement is critical to align employer needs in curriculum development, and the creation of work-based and work-like experiences and pathways to accelerate skills development. These include CTE, and early-college and career high schools. The state also should 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

A high-quality education system provides the foundation for Arizona to have a healthy technology community and innovation economy in two ways: alignment with the needs of companies to train their future science, technology, engineering and math (STEM) workers; and attracting and retaining the talent—whether produced in-state or "imported" from other states and countries—needed to thrive as a technology hub. The lack of skilled talent needed to meet demand is an ongoing top challenge and barrier to business growth for Council members. A robust, aligned education and workforce development system must be developed and supported.

Positions

College and Career Readiness – Increase college and career readiness 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 include support for career awareness and development beginning no later than 7th or 8th grade, understanding of career pathways aligned with Arizona's targeted growth industries, leveraging industry engagement, and increasing work-based and work-like experiences in 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 (according to the Proposition 301 formula) as well as alternative funding ideas to restore K-12, community college and university funding. Over the long-term, comprehensive school funding reform is necessary.

Accountability – Drive attainment of the statewide attainment 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. Support and increase the use of work-

like and competency-based work experience models like career and technical education (CTE), and early college and career high schools in sectors that are high-wage, high-demand and high-growth. Utilize joint curriculum development, creation of work-based and work-like experiences, and pathways to accelerate skills development. Utilize technology for scale and implementation in rural and remote locations.

JTEDs – Restore 100 percent funding to the three remaining JTEDs: Pima County, East Valley Institute of Technology and Western Maricopa Education Center. The budget and programming of career and technical education at 9th grade are essential to education attainment goals and 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-like experiences. Leverage renewed efforts by the federal government—including incentives, tax credits and/or apprenticeship grants—to promote apprenticeship programs.

Career Readiness – Improve awareness of careers and pathways to increase relevance and accelerate career readiness. While career and

technical education (CTE) has always been an integral part of high school curriculum, broader career awareness has not. The American School Counselor Association and organizations that are proponents of CTE have advised beginning career exploration by 7th grade and the exploration of "career pathways" in 7th and 8th grades. Locally, the Morrison Institute for Public Policy report "On the Rise: The Role of Career and Technical Education in Arizona's Future" supports 9th grade programs, while nationally, the report "Pathways to Prosperity: Meeting the Challenge Of Preparing Young Americans for the 21st Century" from the Harvard Graduate School of Education endorses early career awareness and pathways exploration for all students no later than 9th grade.

Talent Gap – Promote active company participation in bridging the talent gap. Engage business, education, workforce and economic development communities in collaborative, integrated 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. Implement business-friendly engagement models, including apprenticeships and other innovative employee training and onboarding programs. 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.

STEM – Champion support for Arizona's educators and counselors; raise awareness about critical teacher recruitment and retention issues, especially in STEM; and dramatically improve STEM education. Critical for the technology and innovation economy that Arizona wants are recruitment, retention and professional development and training for educators across STEM subject areas, and increased access to highly qualified teachers in robust STEM classes for every student in Arizona, including computer science.

Teaching Computer Science – Allocate funding for rigorous computer science professional development and course support. Creating matching fund opportunities to bring computer science to school districts should provide professional development resources. This will expand the capacity for in-service teachers and motivate pre-service teachers to pursue the field of computer science.

High School Computer Science Mandate – Require that all secondary schools offer rigorous, standardsbased computer science, in-person or remote. Given the important role computer science plays in our economy and the world around us, ensuring all students have access to computer science in K-12 is critical. Embedding computer science in the K-5 curriculum to create awareness and build skills could steer students toward computer science courses in middle and high school.

New Standards – Create computer science standards. Currently, states are focusing on teaching students to use technology through existing subjects. Standards should be created to teach students how to create technology through studying the academic subject of computer science. Standards can be informed by K-12 Computer Science Framework and should focus on both the creation and use of software and computing technologies at all levels of K-12.

Internet Access – Enable broadband for rural K-12. The Arizona Governor's Office of Education and the Arizona Department of Education are working with the National

Governors Association and EducationSuperHighway to collaborate with rural community partners to begin closing the Internet access gap for rural Arizona K-12 schools through collaboration and shared effort. FCC rule changes in 2015 allow utilizing funds from the federal E-rate program to help build rural school broadband infrastructure and access. It is recommended that the state provide budgeted funding to leverage E-rate program matching funds, which in many cases would result in no costs to the receiving school.

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 – Advocate for the legislature to 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.

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.

AZTC STATE POLICY PRINCIPLES AND POSITIONS

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 a secure and adequate water supply. Every key Arizona technology cluster—including aerospace and defense, semiconductor and electronics, health and bioscience, cloud/data centers, back-office processing and alternative energy technology—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 in any one type of generation. 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 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 due to the recession, load growth has been recovering since 2014. New generation, however, is needed now. 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 significant 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 increase 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.



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 global reputation of optics industry leadership and academic prowess for related research and development, and it attracts and retains worldclass 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 to assuring world-class optics workforce readiness to promulgating commerce-friendly export control reform that promotes global export revenue growth. In summer 2016, the Arizona Optics Industry Association signed a new partnership agreement with the Council to jointly catalyze, convene and connect a more robust optics industry sector. The policy positions below represent the new joint voice of both the Association and the Council. They are intended to support the goals of attracting future investments in optics and growing a quality workforce.

Positions

Dark Sky – Establish statewide dark-sky standards that protect against legislative or regulatory policies that put at risk more than \$250 million in annual economic impact for research and development at astronomy facilities statewide.

Strengthen opportunities to grow the impact of world-class research and development at Arizona's universities.

Support the National Photonic Initiative and the American Institute for Manufacturing Integrated Photonics Program.

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

AZTC STATE POLICY PRINCIPLES AND POSITIONS

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STATE BUDGET



Principle

Arizona once again has a structurally balanced budget and has about a \$100 million surplus moving into the 2017 legislative session. However, it is the governor and legislature's priority to maintain a structurally balanced budget, reduce rollovers and debt, and maintain the 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 – Recapitalize the proven and highly successful Angel Investment Tax Credit for the remainder of the program. In the 2014 legislative session, the legislature extended the sunset date from 2016 to 2021. However, there were no additional funds allocated to the program. In summer 2015, the program had depleted the initial \$20 million authorized when the program was created and the amount of angel investing in the state has dramatically decreased without the program being funded. An additional \$10 million allocation of tax credits should meet the needs until the program's sunset.

Protect ACA Funds – 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 – Focus on building an Arizona that requires a high-quality education system to develop and maintain the workforce needed to attract and retain high-wage jobs.

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, university and community college funding. Long-term efforts require comprehensive funding reform to modernize and promote a 21st century delivery model of education that focuses on performance and accountability.

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.

Increase for Universities – Endorse and support increased funding for the state's public universities, which are centers of research, innovation, and economic and community development. Drive support for the Arizona Board of Regents' resident funding model in addition to research funding and commercialization support.

AZTC STATE POLICY PRINCIPLES AND POSITIONS

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, growth and retention, allows for a broad, stable tax base, and ensures similar businesses are treated fairly and equitably.

Positions

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.

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. **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, with special emphasis on software and hardware development that enables 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 via multimodal links connecting the state to Mexico, Canada, the Intermountain West and neighboring states, as well as to seaports and airports that link Arizona to the world. Access to supply chains and global markets is critical to all the targeted technology sectors. The multimodal 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

Arizona Ports of Entry – Arizona's ports of entry along our southern border are critical links but can also be bottlenecks for cross-border transportation of goods. The state should focus on encouraging both infrastructure investments and process improvement to better enable and optimize commercial logistics.

- Access to Capital Border-based businesses need access to capital. Much has been made of the border flight by the big three banks — Wells Fargo, Chase and Bank of America — leaving many border-based businesses lacking access to much needed working capital and lines of credit.
- Additional Staffing Fulfill the need for additional staffing at our ports of entry, which in Arizona results in a fulltime equivalent vacancy rate of 20 percent. U.S. Customs and Border Protection was unable to fill 977 of the 2,000 positions authorized and funded in the 2014 budget due to a burdensome vetting process and a polygraph test that exceeds the standards of other intelligence and enforcement agencies, including the Drug Enforcement Administration, CIA and FBI. It is impossible to seek funding for 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. Sens. Jeff Flake and John McCain joined Rep. Martha McSally — all members of the Arizona delegation — to support passage of the Border Jobs for Veterans Act to create a mechanism for military to transition into these enforcement jobs.
- **Recognition as Assets** The border and ports of entry need to be recognized as valuable assets essential to the national and North American economies rather than additional costs in the federal budget. With current NAFTA trade volumes of more than \$1.2 trillion annually, we fail to maximize the opportunity for investment, job creation and economic security without efficient and effective ports of entry.
- Targeted Funding Congress should adequately fund the development and modernization of border infrastructure, particularly at our ports of entry. While the Donation Acceptance Program (DAP) can be useful for certain ports of entry or specific facilities within the ports, they are structured so U.S. Customs and Border Protection simply receives outside donations and excuses the federal government from its responsibilities at the border. The program should be more of a public-private partnership, with private donations serving as

AZTC STATE POLICY PRINCIPLES AND POSITIONS

TRANSPORTATION/DIGITAL INFRASTRUCTURE

leverage for public dollars.

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. 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 spectrums, 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 right-of-way, infrastructure undergrounding requirements and expedited/blanket building permit issuance.

Continued Encouragement of Locating Data Centers in Arizona

International Air Service – Global technology companies need access to worldwide markets. Arizona should market and support additional international air service, for both passengers and freight. Arizona technology companies should use Arizona-based international flights when they need global passenger or freight services.

Interstate 11 – Support federal and state funding for the timely planning and construction of Interstate 11 to connect Phoenix and Las Vegas and extend south of Phoenix to create an important international freight corridor between Mexico and the Intermountain West. Encourage multimodal linkages with rail, telecommunications and energy rights-of-way and facilities. Further, extend I-11 south of Phoenix to create an important international freight corridor between Mexico.

Key Commerce Corridors – Support modernization of the state's key commerce corridors, the corridors that provide Arizona with commercial connectivity and advance international trade. Support transit-related systems and development that add to the quality of life for Arizona residents and visitors.

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

Transportation Funding – Support additional funding for transportation. A combination of additional fuel taxes and support for additional public-private partnerships would help restore transportation funding to more appropriate levels. This approach should represent a bridge to new, long-term transportation funding, as fuel taxes will decline with vehicles moving to electricity and other alternative energy sources.

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 and increase mobility.

AZTC STATE POLICY PRINCIPLES AND POSITIONS

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 to build upon the existing strengths of the university system and ensure world-class research capabilities, access for qualified students and excellent workforce preparation. With the state's improving fiscal situation, the Council supports the universities' budget request, securing the state's financial relationship with the university system as one that is based on per resident student funding, and obtaining funding to support critical capital renewal project needs.

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.
- Allow the universities to trigger employee benefits eligibility status at 30 hours worked per week (federal requirements) in place of the more stringent Arizona Department of Administration requirement of 20 hours worked per week.
- Consolidate state appropriations for Arizona State University's (ASU) campuses—Tempe, Downtown Phoenix, Polytechnic in Mesa, and West in Northwest Phoenix—into a single budget unit.

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 – 2017

- Recapitalize the Angel Investment Tax Credit.
- Restore funding for 9th-grade career technical education (CTE).
- Appropriately fund the state's education system, including pre-K, K-12, postsecondary, joint technical education district (JTED) and CTE programs.
- Create and fund a job training program.
- Maintain current levels of credit for the Research and Development Tax Credit program and support policies that create value for stranded tax credits earned by companies investing in Arizona.
- Support the findings of the legislature's Surface Transportation Funding Task Force which is considering options for medium- and long-term funding for Arizona's transportation infrastructure.



21st Century Workforce



The Arizona Technology Council is involved with many federal policy issues that impact member companies. Through its partnership with the Technology Councils of North America (TECNA) and CompTIA, the Council is regularly interacting with the congressional delegation on a number of critical issues.

EDUCATION INVESTMENTS: BRINGING TECH TO THE CLASSROOM



Principle

The National Center for Education Statistics reports 49.8 million students were enrolled in elementary and secondary schools—35.1 million in pre-K through grade 8 and 14.7 million in grades 9 through 12—in fall 2014. Private school enrollment in fall 2014 stood at 5 million students. Additionally, the U.S. Department of Education estimated 1.8 million students were homeschooled in 2012. This represents 3.4 percent of the school age population. According to CompTIA's 2014 report "The Changing Classroom: Perspectives from Students and Educators on the Roll of Technology in the Classroom," technology occupied a central place in the classroom and its importance was only growing. A survey of educators found 6 out of 10 believed technology would be very important to the education process by 2016, up from the 41 percent who valued tech at the time the report was published. In a survey of middle and high school students for the same report, only 9 percent felt there was little or no technology used in their schools. Most students would have liked to see more technology used in their classrooms and, accordingly, 78 percent of K-12 teachers had significant or moderate involvement in technology decisions at their schools. Technology is a powerful tool to improve education outcomes of students in K-12 and higher

education, and the technology industry recognizes the importance of these budget line items. Investments in classroom technology will prepare students for success in a 21st century digital-age workforce and will enable them to learn in new and creative ways unavailable to previous generations of students.

Positions

The Council supports ConnectED, a White House initiative with the goal of bringing 99 percent of all students into contact with a broadband network by 2018. This connection of all schools to a broadband network will allow students to connect to the Internet and engage in new learning opportunities regardless of socio-economic position or where they reside. The Council believes in tech funding for all levels of P-20 education to ensure a proper infrastructure is in place and to allow for the development of the nation's future workforce. Funding for career and technical education (CTE) curriculum in schools, as well as math and science, is necessary so students may have the requisite building blocks for secondary and higher education pathways that eventually will lead to talent in the tech workforce.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

STEM EDUCATION



Principle

Currently the World Economic Forum ranks the United States as 48th in the world in the quality of math and science education in schools. Without concentration on STEM subjects, the United States may be short as many as 3 million highskilled workers by 2018. Two-thirds of those jobs will require at least some postsecondary education. If we are to strengthen our global competitiveness and succeed as a nation, we must begin to emphasize these subjects from an early age to ensure interest and manage the pipeline of talent from kindergarten through entry-level employment.

STEM education is more important than ever as technology jobs are a more prevalent and integral part of the U.S. workforce. Further, more jobs in the tech sector exist than there is talent to fill those jobs. The Arizona Technology Council wants to ensure future members of the workforce are well-educated and prepared for jobs in the field by basing curriculum foundations on STEM subjects.

Position

The Council supports elementary and secondary educational institutions making STEM subjects the fundamental building blocks of their curriculum. With these subjects as a foundation, children will be able to learn the subjects that are quickly becoming—and in many cases, have already become—the basis of a highly skilled economy in the United States. Science and math historically have been geared toward a specific segment of the population and the Council advocates that all children be exposed to these critical subjects. We also support an emphasis in the "T" in STEM with an increased focus on technology and providing more opportunities to further this skill set in the classroom.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

STUDENT DATA PRIVACY

21ST CENTURY WORKFORCE



Principle

The connection between education and technology is increasingly robust, and the responsible but effective use of student information can improve learning outcomes and preparation for the global marketplace. Yet, this can only happen if there is shared trust and a workable framework among students, parents, educational institutions and technology providers. Policymakers must be apprised of the facts and principles behind tech in the classroom to ensure policies are smartly targeted and do not lead to unnecessary barriers to digital learning and success.

For example, public schools employed roughly 3.1 million full-time teachers as of fall 2014, according to the National Center for Education Statistics. Classroom teachers wield considerable influence in terms of technology adoption in the classroom, albeit to the extent that funding is in place to support their IT requests.

Positions

Educational technology allows students to learn in ways never before seen. In today's digital age, students can use the same technological platforms they use in everyday life to advance their studies and embrace new concepts. The Arizona Technology Council supports the responsible use and stewardship of student data by K-12 classrooms, districts and service providers, including analyzing student data to deliver personalized learning experiences and improve products for use. The Council believes these guidelines should be followed in any policy regarding student data privacy:

- Prohibit the sale of student data to third parties for advertising purposes.
- Use clear, universal definitions of regulated information such as "personally identifiable information" and "targeted advertising."
- Ensure legislation protects students but not at the expense of technology in the classroom.
- Allow use of recommendation engines to empower students who may be struggling.
- Allow communication between providers and teachers, administration and district-level employees on student data.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

WORKFORCE DEVELOPMENT: CLOSING THE IT WORKFORCE GAP



Principle

There are twin challenges facing our workforce. First, the United States faces a shortage of skilled workers to fill in-demand positions. Second, outdated immigration policy limits our ability to retain and nurture high-skilled labor that contributes to our economy and fuels innovation.

In the technology sector alone, there are more than 600,000 IT job postings across the country. Yet, the IT industry and tech industry as a whole often struggle to fill vacancies because of a lack of qualified applicants. To help close this skills gap, education, training, and career awareness and placement programs are necessary elements for successful workforce development programs and policies in the United States.

In fact, according to Burning Glass Technologies, only 31 percent of the 152,000 job postings to date this year for computer user support specialist require a postsecondary or associate degree.

Strong workforce development programs and policies are critical to our national and economic security. To achieve a skilled workforce, we must go beyond solely relying on traditional baccalaureate and postgraduate degrees. These play a critical role in our ecosystem but community colleges and other postsecondary institutions along with high school career and technical education programs must be essential parts of the workforce system to fill jobs that do not require four-year degrees. By providing on-the-job-experience and job placement components in their models, and offering industry-recognized credentials and certifications, these partners and tools are instrumental in addressing the workforce shortages.

Positions

The Arizona Technology Council supports the following types of learning and training programs to help close the IT skills gap:

• Job Training and Placement Programs – These programs help unemployed and under-employed individuals gain their first jobs in the tech field. Jobs in the tech field have above-average wages and lead to long-term careers.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

PUBLIC POLICY 2017

WORKPLACE

21ST CENTURY WORKFORCE

Workforce Development: Closing the IT Workforce Gap Cont.

- Work-Based Learning We support policies that allow students to contextualize the classroom learning by gaining work experience and simultaneously earning credits toward a degree (both for high school and that can be applied toward a postsecondary degree). Apprenticeships, for example, give people the knowledge and skills needed for successful careers and connect people and industry to on-the-job experience opportunities.
- Career and Technical Education (CTE) and Certification Programs – To achieve a skilled workforce, we must go beyond solely relying on traditional baccalaureate and postgraduate degrees. These play critical roles in our ecosystem but community colleges and other postsecondary institutions, along with industry-recognized credentials, also are instrumental partners and tools that should be utilized. Industry-recognized credentials are valuable for both the employer and the employee. According to CompTIA research, industry-recognized certifications are a priority to 86 percent of hiring managers. Well-trained tech professionals are more confident that the skills they possess are appropriate and useful for their responsibilities and can be expected to perform assigned tasks more consistently, increasing reliability and overall organizational execution.



Principle

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

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 on the basis of sexual orientation and gender identity.

Equality for All Workers – Employees should be judged on their merits 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 LGBT 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.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

WORKFORCE DEVELOPMENT – CERTIFICATIONS



Principle

To achieve a skilled workforce, we must go beyond solely relying on traditional baccalaureate and postgraduate degrees. These play a critical role in our ecosystem but community colleges and other postsecondary institutions, along with industry-recognized credentials, are also instrumental partners and tools that should be utilized.

A certification is achieved through an examination that validates the knowledge and/or skills of an individual or an organization. A certification differs from a certificate program, which is usually an educational offering that confers a document at the program's conclusion.

Industry-recognized credentials are valuable tools for both the employer and the employee. When it comes to IT jobs, industry-recognized certification is a priority to 86 percent of hiring managers. Well-trained IT professionals are more confident that the skills they possess are appropriate and useful for their responsibilities and can be expected to perform assigned tasks more consistently, increasing reliability and overall organizational execution.

Positions

The Arizona Technology Council supports passing the America Works Act, which recognizes our nation is facing a critical skills gap in the IT industry. It amends current law by assuring certain programs of study that receive federal funds result in nationally portable, industry-recognized credentials. It also improves certain training programs under the Trade Adjustment Assistance Program established by the Trade Act of 1974, directing the U.S. Secretary of Labor to approve programs that provide nationally portable, industry-recognized credentials.

Additionally, the Council believes Congress should reauthorize and improve the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins). The House passed its version of the Perkins reauthorization in September 2016 and we encourage the Senate to act quickly so the bills can be conferenced and signed into law before the next Congress begins. The updated legislation should ensure all students have access to quality CTE programs in high schools and postsecondary institutions. It should also build on best practices of the last several years while making necessary improvements. In addition, funds should be used to benefit the students by meeting high standards of quality and be focused on ensuring the students' success.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

IMMIGRATION REFORM



Principle

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

The brightest scientists, researchers, innovators and engineers in the world—whether American or foreign-born always will be in demand and drive economic growth and job creation. Regardless of their size, U.S. employers 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 at least half of the master's and Ph.D. level STEM graduates of U.S. universities 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 STEM worker who stays in the United States and works, an additional three jobs are created. America does not have a monopoly on brainpower, and in an increasingly competitive global environment, we must retain the talent that will keep us leading worldwide innovation.

America 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 American companies – and major employers – such as Intel, Sun Microsystems, eBay, Yahoo! and Google were all founded, at least in part, by foreign nationals.

Positions

The Arizona Technology Council supports several policies focused on both international and domestic talent to address job creation in the technology sector:

- Increase Green Cards for High-Skilled STEM Graduates The Council supports increased access to Green Cards for high-skilled STEM graduates by expanding the exemptions and eliminating the annual per country limits for employment-based Green Cards.
- Create New Visas for U.S.-Educated Students and Entrepreneurs These new visas will help fill the thousands of IT-related jobs currently open, furthering opportunities for starting and growing new businesses in the U.S.
- Market-Based Visa Caps Using market-based caps on H1B 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 U.S. STEM education and encouraging more young Americans to choose careers in those fields. Key to that effort is encouraging federal, state and local investment in STEM curriculum for students from kindergarten through high school with a structured pipeline to higher education.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

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WORKFORCE DEVELOPMENT – CYBERSECURITY

21ST CENTURY WORKFORCE



Principle

Our nation's cybersecurity workforce is critical to our national and economic security, and to the day-to-day safety of our citizens. We must invest in our workforce today to improve our current economic standing and to plan for tomorrow. The private sector and the federal government are struggling to recruit and retain the talent they need to protect against and respond to these attacks. "Every year in the U.S. there are 128,000 openings for information security analysts but only 88,000 workers currently employed in those positions—a talent shortfall of 40,000 workers for cybersecurity's largest job," according to CyberSeek, a partnership of CompTIA, Burning Glass and the National Institute for Science and Technology (NIST).

In July 2016, the Office of Management and Budget (OMB) released a memo outlining a federal workforce strategy as it relates to cybersecurity. According to the memo, "These cyber threats demonstrate the need for critical security tools, and equally as important, the need to employ the federal civilian cybersecurity workforce with the necessary knowledge, skills, and abilities to use those tools to enhance the security of the federal digital infrastructure and improve the ability to detect and respond to cyber incidents when they occur." One obstacle to a better cybersecurity workforce is the lack of a known career path into the field of cybersecurity. Industry-recognized certifications are one part of the solution needed to professionalize our cyber workforce. The federal government is working to standardize its cyber job titles and descriptions across the various agencies to assist in recruitment. This is a key effort to help align job definitions, and identify not only what cyber jobs are filled, but also what gaps exist. Once this standardization takes places, it will help the federal government in its cybersecurity hiring practices.

Positions

The Arizona Technology Council supports expanding and enhancing our federal cyber workforce. This is absolutely an instance of how government can lead. This includes updating our existing laws to ensure government can use authorized and appropriated funds to build out its cyber workforce, eliminating unnecessary roadblocks to recruitment of cyber professionals, expanding the government's use of industry-recognized credentials as a way of professionalizing the cyber workforce, and ensuring all future cyber workforce legislation includes avenues for both training and certification.

We also support the OMB's launch in 2015 of the Cybersecurity Sprint, which was designed to rapidly improve cybersecurity across the federal government. The sprint included a review that revealed the vast majority of federal agencies cited a lack of cybersecurity and IT talent as a major resource constraint that impacted their ability to protect information and assets, and there were a number of existing federal initiatives to address this challenge but implementation and awareness of the programs was inconsistent. We encourage policymakers and all audiences to use CyberSeek to create a new interactive website that provides multiple audiences with detailed, actionable data about supply and demand in the cybersecurity job market.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

BIOSCIENCES AND HEALTH CARE MEDICAL DEVICE TAX REPEAL



Principle

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

Positions

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



Technological trends like advancements in cloud computing, mobility and unified communications platforms, the proliferation of the Internet of Things (IoT), and the growing commercial significance of unmanned aerial vehicles are rapidly creating new opportunities for economic advancement while also raising a host of new public policy considerations. Moreover, the historic relationship between publicly funded R&D and private innovation remains a crucial construct to secure our national leadership in a tech-based economy.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

FEDERAL GOVERNMENT INVESTMENT IN RESEARCH AND DEVELOPMENT





Principle

Government research and development (R&D) investment in public-private partnerships 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 never would have stumbled upon a new algorithm that later turned into the Google search engine. The list of innovations goes on and on.

We are living in an era where innovation, agility and imagination are all essential to keep pace with exponential technological transformation taking place in our society. In government, federal agencies are playing catch-up from years of underfunded R&D resulting from economic constraints and sequestration while other nations have increased their public and private R&D investments at faster rates. 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."

Based on recent budget trends, there are reasons for optimism. The federal R&D budget has grown from \$138.2 billion in fiscal year 2015 to \$152 billion in the president's fiscal year 2017 budget request. This is good news as the government invests and partners in programs and solutions for some of our greatest challenges and opportunities, including cybersecurity, smart communities, big data, quantum computing, sustainable energy, space exploration, health and medicine, and the Internet of Things. Continued R&D investment will help drive innovation and spur competitiveness.

Positions

The Arizona Technology Council supports R&D funding increases that advance big data, cloud computing, high-performance computing, automation and cybersecurity as they relate to emerging technologies and services. In particular, we support increases in 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 Program budget request for fiscal year 2017 is \$4.54 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 several issues, including connected vehicles, spectrum, cybersecurity and the Internet of Things.
- The **national labs** and **Federally Funded Research and Development Centers (FFRDCs)** 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.
- The Small Business Innovation Research (SBIR) Program enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

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 the IoT continues to grow, both challenges and opportunities will arise. Central to the continued growth of IoT are policy principles that are transparent on privacy issues, highlight security in the IoT lifecycle and stress open standards.

The world is in the midst of a dramatic transformation from isolated systems to Internet-enabled devices that can network and communicate with each other and the cloud. This new reality is being driven by the convergence of increasingly connected devices, computer and data economics, and the proliferation and acceleration of cloud and big data analytics. This shift in technology is generating unprecedented opportunities for the U.S. public and private sectors to develop new services, enhance productivity and efficiency, improve real-time decision making, solve critical societal problems, and develop new and innovative user experiences.

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

In January 2015, the Federal Trade Commission (FTC) released a wide-ranging report on IoT that urged technology companies to build security into their products and services from the outset in order to minimize data collection, and give consumers more notice and choice about how their data will be used. Although the FTC isn't yet asking for its guidelines to be backed by specific legislation, its report does describe a few security practices that the commission will apply to assess growing IoT companies. Over the past year, Congress has taken several positive steps to help facilitate the IoT discussion. In April 2016, the Developing Innovation and Growing the Internet of Things (DIGIT) Act was passed out of the Senate Committee on Commerce, Science, and Transportation. Also in April 2016, Rep. Leonard Lance (R-NJ) introduced HR 195 that calls for a national strategy on IoT. In May 2016, the House Energy and Commerce Committee established a bipartisan IoT working group.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

INTERNET OF THINGS (IoT)

Positions

In order for innovation and the attendant societal benefits to continue to flourish, the Arizona Technology Council urges policymakers and regulators to tread lightly in this space, which is still in an early stage of development. The Council supports measures in the following areas:

Regulatory and Legislative Moderation – A federal strategy would harmonize 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 (e.g., the DIGIT Act places 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 now will only serve to stifle innovation in a nascent industry. Instead, multistakeholder 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.

Broadband – Deployment of a robust broadband infrastructure would support the IoT. To accomplish this, we need support from federal, state and local governments to assist in facilitating broadband deployment. **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 page 33 for more details).

Privacy & Data Security – Congress should avoid broad IoT-specific legislation regarding companies' privacy and data security practices. Multiple federal and state privacy and data security laws and guidelines are already on the books and provide a sufficient framework to regulate IoT now. That said, industry can and should lead with respect to "design by security" and risk mitigation to provide businesses, government and citizens with maximum trust in IoT.

Standards – A multi-stakeholder approach is needed to set 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 – A government position in the form of federal grants that help facilitate publicprivate partnerships is needed to emphasize research and development. 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 the federal agency stakeholders.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

PUBLIC POLICY 2017

SMART COMMUNITIES



Principle

A smart community uses information and communications technology (ICT) to enhance its livability, workability and sustainability. It collects information about itself using sensors, devices or other systems, and sends the data to an analytics system to understand what's happening now and what's likely to happen next. While 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. Communities can accelerate and enhance the results of their efforts by adopting a smart community approach with supporting technologies. Many already are. According to the CompTIA research brief "Building Smarter Communities," 11 percent of government entities claim to have a formal Internet of Things (IoT) initiative underway while 25 percent report some type of pilot project in the works. Many of these early-stage efforts can be characterized as smart community initiatives, a sub-segment of the broader IoT trend.

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

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

- Infrastructure Communities will need large teams to help deploy the vast array of IoT sensors that will constitute the smart city 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 (a recent survey of government IT professionals found 98 percent believed that "smart communities are at risk of cyber attack").
- Analytics An immense amount of data collected by IoT sensors will need to be analyzed. Local governments will need to beef up their analytical capabilities to ensure citizens gain the most benefits from the analyzed data.

Positions

Continued investment in smart communities will help drive economic growth and innovation, create jobs, and promote citizen services while increasing the adoption of smart technology products and services. We strongly support smart communities' investments by the federal government, most recently the \$40 million Smart City Challenge by the Department of Transportation. We encourage the incoming administration to pursue the next smart community "grand challenge," which should be focused on smart water infrastructure management. We support introduction of the first smart communities bill during the next (2017) Congress. We also support creation of a congressional smart communities caucus to help facilitate adoption of the recommendations in the smart communities bill.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

BROADBAND AND TELECOM



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.

Principle

The Internet is at the heart of today's global economy. However, many Americans still don't have access to broadband under the FCC's new definition of 25 Mbps up and 3 Mbps down, or choice of broadband providers. Additionally, the rapidly-expanding IoT market necessitates a robust broadband infrastructure to support it. 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. Most of those 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.

Deploying broadband infrastructure is a massive undertaking that requires significant upfront 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 Right-of-Way Deploying broadband networks is expensive enough without companies having to navigate mountains of red tape and pay extraordinary costs for necessary access to utility poles and rights-of-way. At the federal level, a set of model practices for state and local governments should be issued to encourage deployment. At the state and local level, governments should work with broadband providers, not against them to encourage deployment. Consistent practices across and within states also would improve predictability.
- **Transparency About Existing Infrastructure** Information about existing broadband infrastructure is often hard to find, incomplete, and inconsistent across communities 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-Once Policies** Dig-once policies refer to coordination between government agencies that provides opportunities for broadband deployment when roads are excavated for other reasons. These policies help lower costs for deployment and minimize disruption time. We encourage the Department of Transportation's Federal Highway Administration to adopt a dig-once policy for federal highways. We similarly encourage state and local governments to develop such policies.
- **Permanent Extension of Bonus Depreciation** An additional 50 percent bonus depreciation allows companies to receive faster 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, which lowers 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 incentivize companies to make these types of major investments.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

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 incentives in place to encourage federal agencies to share their spectrum.

Positions

Congress, the FCC, the National Telecommunications and Information Administration, and other government agencies must do everything within their power to make more spectrum available for both licensed and unlicensed use. 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 representatives will admit that they are not using their spectrum efficiently. Clearing and auctioning spectrum as was done with the FCC's advanced wireless services (AWS) 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 there is more work to be done. The FCC should continue to work towards making spectrum available for unlicensed use in the U-NII-2 and U-NII-4 bands.

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 nearly 11 GHz of licensed and unlicensed spectrum for flexible-use wireless broadband. Still, more work needs to be done. The FCC should continue down this path as its considers opening additional spectrum bands for such use in the future.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

FEDERAL TAX POLICY



The US technology industry is a \$1 trillion market and employs approximately 5.9 million Americans. Fiscal discipline and targeted funding for investments in innovation are essential to continue economic growth. We support reasonable tax policies that promote research and development (R&D), innovation, entrepreneurship, and capital investment.

AFFILIATE NEXUS



Principle

The debate over taxing Internet sales across state lines is likely to continue. In September 2016, Rep. Bob Goodlatte (R-VA), chairman of the House Judiciary Committee, released a discussion draft of the Online Sales Simplification Act of 2016 (OSSA), which differs significantly from the Remote Transactions Parity Act introduced by Rep. Jason Chaffetz (R-UT) and the Marketplace Fairness Act.

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. The bill 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, it 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 more than half the country considering some form of state legislation like that outlined in the Federal Marketplace Fairness Act. With little action at the federal level and Justice Anthony Kennedy's recent opinion in Direct Marketing Association v. Brohl in which he suggests 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, several legislative proposals would require all remote sellers to collect sales taxes and remit them to the state where the consumer resides.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

BUSINESS ACTIVITY TAXES

Affiliate Nexus Cont.

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 in 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 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 also must be weighed.



Principle

As states seek to maintain or expand both their tax bases and collections, we note ever-increasing attempts by some state taxing authorities to tax interstate transactions. As established by the U.S. Supreme Court, the principle requirement allowing a state to require a non-resident business to collect and pay over sales and use taxes is "physical nexus." In Quill Corp. v. North Dakota, 504 U.S. 298 (1992), the Court ruled that a state is not permitted to require a non-resident seller to collect and remit sales and use taxes, unless that seller has a physical presence in the state. Therefore, a business that resides in State A cannot be required by State B to collect and remit sales taxes on sales made to customers in State B, unless that business has a real physical presence in State B. Commonly, physical presence has been interpreted as having an office or place of business in the state, or employing workers that operate within the state.

However, while the Quill decision requires a physical nexus in situations involving sales and use taxes, this decision did not specifically address other forms of taxation. Therefore, while physical nexus typically determines whether states can collect sales and use tax collections, some states are now seeking to ignore this requirement for other forms of taxation – asserting that an "economic nexus" is sufficient. Under this theory some states have attempted to tax any transaction that has an economic nexus to that state.

Imposition of business activity taxes under the economic nexus theory imposes a particularly burdensome regime on the tech industry. For example, a tech company located in State A is engaged by a customer in State B to solve a software issue. The tech company has no place of business in State B and has never done business in State B; without ever entering State B, the tech company connects to the customer's computer via the Internet, the computer is repaired, and the customer is billed for this service. Under the economic nexus theory, State B could assert that income earned by the tech company is subject to income and franchise taxes in State B. Also, because the tech company is a resident and is physically present in State A, State A would likewise seek to tax these earnings.

Positions

The Arizona Technology Council supports the "Business Activity Tax Simplification Act" which would establish consistent rules concerning nexus to (i) expand the federal prohibition against state taxation of interstate commerce to include taxation of out-of-state transactions involving all forms of property (such as intangible personal property and services) and (ii) prohibit state taxation of an out-of-state entity unless such entity has a physical presence in the taxing state.

Before more states move to collect unfair taxes from out-of-state businesses, we urge the Congress to require distinct physical presence requirements to the taxation of interstate business activities. The emergence of a duplicative and overlapping patchwork of state and local tax filing and payment requirements will seriously damage America's business community. It would inflict a substantial burden and cost on all businesses with a disproportionate impact on small- and medium-sized businesses, especially those engaging in electronic commerce.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

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 treat the technology industry equitably – both large companies, as well as small- and medium-sized businesses. Specifically, the Arizona Technology Council recommends the following issues be included in comprehensive corporate tax reform:

Positions

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

- Lower Corporate Tax Rate: U.S. companies are burdened with a corporate tax rate that is the highest among OECD (Organization for Economic Co-operation and Development) countries. This high corporate tax rate makes U.S. companies less competitive globally. The Arizona Technology Council supports lowering the corporate tax rate to 25 percent, without increasing taxes on small- and medium-sized businesses.
- **Territoriality:** The U.S. is one of a handful of developed countries that taxes corporate earnings on a global basis. This means that a U.S. 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. The Arizona Technology Council supports enactment of a territorial international tax system that would remove the punitive tax that effectively prevents foreign earnings from being repatriated to the U.S.
- **Intellectual Property:** The Arizona Technology Council supports tax policies that foster innovation such as a "patent box" to attract and retain domestic IP development and ownership. Such proposals would tax "Innovation Box Profits" at a lower rate than the regular corporate rate of 35 percent. A lower rate of taxation on innovation would encourage companies to continue to invest in domestic IP development while remaining competitive globally.
- **CFC Look-Through Rule:** 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 year 2016 omnibus. Making the CFC look-through rule permanent would allow U.S. based companies to marshal their capital outside the U.S. in a way that would enable them to compete on a more level playing field with foreign competitors.
- **Repatriation of Profits:** The Arizona Technology Council supports legislation that incentivizes U.S.-based companies to reinvest profits back into the U.S. by allowing those repatriated profits to be taxed at a lower tax rate. This influx of capital back into the U.S. would spur innovation, create jobs, and grow the economy. Currently, companies are discouraged from bringing profits back into the U.S. because of the high corporate tax rate that would result.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

DIGITAL GOODS AND SERVICES



Principle

According to recent data, 87 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. The digital marketplace is the foundation of our economy. To ensure this marketplace continues to grow and foster innovation, we strongly support the Digital Goods and Services Tax Fairness Act (H.R. 1643). This legislation will prevent hurdles to growth and create a much-needed tax framework that will provide certainty to consumers, providers of digital goods, and state/local governments, while preventing duplicative and discriminatory taxes.

The Arizona Technology 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. A clear and uniformed standard is needed to ensure that a single purchase is sourced in only one state. Multiple jurisdictions taxing the same good or service is unacceptable as it drives up costs for consumers and stifles innovation.

Positions

The Arizona Technology Council supports legislation such as the Digital Goods and Services Tax Fairness Act. This legislation would (i) provide consistency in determining which jurisdiction can tax a transaction (at the appropriate sales tax rate), and (ii) prohibit unfair and unrelated discriminatory taxes. While the Arizona Technology 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 choses to do so. Congress took a similar approach in 2000 when it passed the Mobile Telecom Sourcing Act, which 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.

As the digital economy continues to play a major role in our economic growth, Congress should establish a clear and uniformed framework that prevents the potential for confusion or – even worse – duplicative taxation. Consumers and providers alike deserve certainty and H.R. 1643 provides that for all stakeholders.

Consistent with our support for the Digital Goods and Services Tax Fairness Act, the Arizona Technology 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.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

PUBLIC POLICY 2017

MOBILE WORKFORCE



Principle

Some states are imposing income taxes on non-residents after very brief workrelated 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. 2315/S. 386, the Mobile Workforce State Income Tax Simplification Act of 2015, which would establish a national standard for state income taxation of non-residents. The House of Representatives passed this legislation on September 21, 2016. This legislation would allow employee wages or compensation to be taxed only by the (i) state of the employee's residence, and (ii) 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 simply 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 Arizona Technology 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.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

PRIVACY

Economic expansion in IT 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.

BIOMETRICS



Principle

Biometrics solutions are now coming online that will help streamline the effort to prevent terrorism, reduce fraud, and improve the reliability and accuracy of identification. At the same time, attention is being paid to broader questions about the privacy and ownership of biometric data—specifically, the collection, storage, usage and destruction of the data that is being captured. Generally, there are two types of laws that affect the use of biometric information by private and government actors: laws specifically addressing the use of biometric identifiers, and broad privacy laws that include biometric information in their definition of personal information. Connecticut, Iowa, Nebraska and Oregon are among the states that have amended their definition of "personal identifying information" to include biometric identifiers. Until recently, there had been little to no federal activity with regards to the use of biometric identifiers.

That changed in 2016 when the Federal Trade Commission and the National Technology and Information Agency both sought to set out best practice guidelines around facial recognition. However, the Government Accountability Office has issued a report on facial recognition suggesting it is premature to develop specific legislation for biometrics and that existing privacy regimes that address personally identifiable information are the preferred avenue to oversee privacy considerations and biometric technology. With limited federal action on the commercial use of biometrics identifiers, we will continue to see state legislatures across the country attempt to address the privacy concerns around the use of biometrics. As this unfolds, it is important to ensure legislatures do not stifle innovation. A balanced approach is needed to allow biometric technology adoption while being mindful of privacy and security concerns.

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PUBLIC POLICY 2017

Positions

Generally, the Arizona Technology Council looks to ensure policies provide a framework for both privacy and consumer protection, not a roadblock for innovation. Ideally, as lawmakers look to address this issue, the Council will work to mitigate a patchwork of state laws that makes compliance extremely difficult. Moreover, the Council advocates for policies that allow the technology sector to foster appropriate use of facial recognition, voice recognition and other biometric technologies. Based on CompTIA's Federal Technology Convergence Commission, we continue to believe that the federal government can be a leader in this field. The Identity Ecosystem Steering Group, a 501(c)(3) created in partnership with the U.S. government and led by the private sector, has been established to facilitate adherence to the National Strategy for Trusted Identities in Cyberspace (NSTIC) with the development of a framework of policies, requirements and evaluation criteria.

The federal government should be an early adopter of this framework, allowing individuals to use their trusted credential to interact with the government rather than having to enroll in each portal. By regularly engaging NSTIC on its current progress and needs, the U.S. government will drive the eventual adoption of a trusted online identity system, which includes biometric technologies. Adoption of this system will make a large impact as it will reduce the amount of Internet fraud, provide convenience to citizens, and ideally tighten the communications gap between citizens and elected officials. As shown by the ongoing NSTIC Pilots Program that has received input from more than 150 organizations, having a multi-stakeholder process in place speeds adoption. The program has impacted more than 5.9 million individuals, with advances occurring across 12 sectors that include the development of 10 multi-factor authentication solutions.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

ENCRYPTION



Principle

Technology companies have widely adopted encryption technologies in recent years to protect data in their possession from the reach of hackers and those who might use it for nefarious purposes. These protections have occasionally put these companies at odds with the needs of law enforcement that may seek access to this encrypted data in the course of their investigations.

The Arizona Technology Council understands the significant challenges faced by law enforcement agencies as they seek to protect the interests of the nation and its citizens in today's digital environment. We believe more financial resources should be provided to the agencies to recruit able technologists and keep pace with the innovative society that we live in.

Encryption and security, however, cannot be a binary conversation between the technology industry and government authorities in law enforcement and national security. The United States faces multiple threats from global and domestic criminal elements, authoritarian governments and terrorists. The ability to innovate and provide services to consumers depends partly on the public's faith in the security of data, and these secure data policies have ramifications far beyond our national borders. Undermining security could well expose citizens—United States and global—to financial disruption, physical harm or political persecution.

Positions

In this context, we must work with the U.S. government to establish frameworks for securing data and explore cooperative approaches to helping law enforcement do its job in securing the safety of U.S. citizens. We believe that the principal avenue to achieving this balance must be through a voluntary dialogue among the relevant stakeholders.

The technology industry relies on accepted and trusted standards that protect individual privacy, and embraces innovation as a means of growth and competitiveness in a global market. We agree with well-respected thought leaders in the intelligence and law enforcement communities who believe the growing threat of terrorism can be countered without restricting consumer privacy and security or limiting innovation within the industry. We will continue to work with industry, consumers and the government to find meaningful solutions.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

DATA BREACH NOTIFICATION



- "Harm" Trigger for Acquired Data The notification requirement should be triggered when there is a risk of actual harm, not a theoretical concept that could lead to overnotification about data breaches that aren't harmful.
- No Private Right of Action Individuals should not be able to sue companies who have suffered a data breach for actions covered by federal data security and data breach notification laws. The businesses who have suffered breaches are victims of criminal activity.
- Narrow Definition of "Personal Information" To avoid over notification of consumers and unnecessary costs, the definition of "personal information" in the legislation should not include information accessible through public records. For example, merely the combination of a name, address and birthday should not qualify as personal information.
- **Preemption of State Laws** Any federal data security and data breach notification law should preempt state laws and requirements.

Principle

There is currently no national standard for how a company must notify its customers in the wake of a data breach. Instead, companies must navigate a complex web of 47 different, often conflicting, regularly changing state data breach notification laws in the aftermath of a breach. With the increasingly mobile and decentralized nature of our economy, data storage and dissemination technologies, it can be nearly impossible for companies to determine which state laws apply when a breach occurs. The current regulatory landscape not only places an immense financial compliance burden on businesses, but also delays the process of getting information into the hands of those who need it most: the customers whose data was compromised.

Positions

A national standard for data breach notification would provide consumers and businesses with consistency and predictability on how consumer notice must be provided. Until Congress passes a national standard, the Arizona Technology Council and its membership continue to advocate for the following in breach notice bills:

Without strong preemption language, the compliance burden for small businesses will not be alleviated and the effectiveness of any law would be significantly undermined.

- Exemption for Use of Technology that Renders
 Data Unusable or Unreadable Federal legislation
 should include an exemption from notification
 requirements for companies who utilize technologies to
 render data unusable or unreadable. This exemption
 should be technology-neutral.
- Limits on Financial Penalties Massive financial penalties are unwarranted, and could force small businesses out of existence. Penalties should be reasonable, and should take into account the size of the company that suffered the breach and the type of data that was accessed.
- No Fixed Data Security Requirements Data security requirements should not be specifically enumerated within the legislation. Instead, the legislation should direct the federal government to work with industry to develop a set of flexible "best practices."

- No Overburdensome Notification Requirements Data breach notification legislation should avoid overly prescriptive requirements. In the event of a breach, companies should dedicate their resources to efforts that most directly notify and protect consumers. Additional requirements, such as those mandating the creation of call centers or the provision of credit reports, would divert resources away from small businesses seeking to protect and inform their customers.
- Reasonable Notification Time Frame Legislation should require a reasonable time frame for notification, which includes allowances for risk assessment without requiring a specific time limit that must apply to every case.
- **Take Other Laws into Account** Companies subject to other data security or breach notification laws such as the Health Insurance Portability and Accountability Act, the Gramm-Leach-Bliley Act or the Fair Credit Reporting Act should be exempt from these requirements.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

PROMOTE PRACTICES TO ALLOW U.S. TECH COMPANIES TO OPERATE IN EUROPE



Principle

In April 2016, the European Union (EU) passed the General Data Protection Regulation (GDPR), a law governing how businesses must protect the privacy and data of EU citizens. GDPR goes into effect in May 25, 2018. Additionally, the United States and EU have agreed on the new Privacy Shield Framework, which provides updated data protection principles for companies transferring personal data from the EU to our country. This measure follows last year's ruling by the Court of Justice of the European Union that overturned the long-standing Safe Harbor.

Despite these significant measures, U.S. companies remain concerned due to considerable uncertainty about both the GDPR and the Privacy Shield Framework. The GDPR contains broad language that could be enforced unevenly against U.S. companies. The Privacy Shield Framework is facing a court challenge that could invalidate it on the same grounds as the Safe Harbor and will be reviewed annually. As of early October, more than 700 companies have self-certified to comply with the Privacy Shield Framework since self-certification began Aug. 1. However, more than 4,400 U.S. companies had relied on the Safe Harbor to transfer data to the United States.

The Asia-Pacific Economic Cooperation (APEC) has established its own rules for global data transfers called the Cross-Border Privacy Rules System. These rules require companies to develop privacy policies consistent with the APEC Privacy Framework and are enforceable by the FTC, as the Privacy Shield Framework is. The United States, Japan, Mexico and Canada are all parties to this agreement.

Positions

The Arizona Technology Council supports even-handed enforcement of the GDPR and our members are seeking compliance guidance in the meantime. Because continued renewal of the Privacy Shield Framework, as well as the pending court case, will rely heavily on the scope of U.S. surveillance programs, we also support significant reforms of Section 702 of the Foreign Intelligence Surveillance Act, which is set to expire at the end of 2017. The National Security Agency has used Section 702 to collect communications en masse from EU citizens, as well as Americans whose communications have been incidentally collected under the law.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

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. Only a subpoena is required to obtain access. The House unanimously passed the Email Privacy Act (H.R. 699), an ECPA reform bill, in April 2016 but the bill stalled in the Senate Judiciary Committee and hasn't received a floor vote.

The 6th U.S. Circuit Court of Appeals ruled in a 2010 case (U.S. v. Warshak) that, under the Fourth Amendment, law enforcement must use a warrant to acquire email content from providers. Most large email providers already are treating this as the law of the land and refusing to comply with subpoenas. Despite asking for an exception to ECPA, the Securities and Exchange Commission (SEC) has testified that it does not currently obtain emails from service providers and has not done so in recent history.

One email provider has publicly announced it already is complying with approximately 75 percent of emergency requests. Another has said it has procedures in place to comply with most emergency requests within one hour.

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 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 derailed it by introducing unrelated amendments opposed by both industry and the public interest community. Congress should reconsider this bill early in 2017.
- 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.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

FEDERAL AGENCY PRIVACY AND DATA SECURITY ENFORCEMENT



Principle

Over the last several years, the Federal Trade Commission (FTC) has used its authority under the unfair and deceptive practices of Section 5 of the FTC Act to sanction companies for failure to adequately protect consumer data. This authority was upheld by the 3rd U.S. Circuit Court of Appeals in the FTC v. Wyndham case.

However, with the FCC's reclassification of broadband Internet service as a telecommunications service last year, 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 proposed new data privacy and security rules earlier this year that dramatically differ from the rules the FTC has been enforcing the past several years, and the Arizona Technology Council still is awaiting the final version of those rules.

Positions

We would prefer that the FTC retain the authority to enforce data privacy and protection practices across the entire technology sector, including ISPs. To accomplish this, we would advocate that Congress 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 moves forward with its new privacy and data security rules, we would encourage it to pass rules that function as close to the FTC's rules as possible to preserve consistency in enforcement.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

GEOLOCATION



Principle

Geolocation is the identification of the real-world geographic location of an object, such as a radar source, mobile phone or Internet-connected computer terminal. Geolocation may refer to the practice of assessing the location or to the actual assessed location. As occurred in California in 2016, we anticipate more states in 2017 will try to broaden the definition of personal information to include geolocation for security purposes.

Over the past few years, several pieces of legislation at the federal and state levels have attempted to establish a footprint on the issue of geolocation. These include:

- GPS Act The Geolocation Privacy and Surveillance Act seeks to establish a legal framework that gives government agencies, commercial entities and private citizens clear guidelines for when and how geolocation information can be accessed and used. The bill would create a process whereby government agencies can get probable cause warrants to obtain geolocation information in the same way that they currently get warrants for wiretaps or other types of electronic surveillance. In addition, the GPS Act would prohibit businesses from disclosing geographical tracking data about its customers to others without the customers' permission.
- Online Communications and Geolocation Protection Act In addition to many of the same provisions as the GPS Act, the Online Communications and Geolocation Protection Act includes safeguards for online communications.
- Location Privacy Protection Act The Location Privacy Protection Act of 2015 would prohibit companies from collecting or disclosing geolocation information from an electronic communications device without the user's consent. It provides exceptions for parents tracking their children, emergency services, law enforcement and other cases. The bill also would prohibit development and distribution of "stalking apps," establish an Anti-Stalking Fund administered by the attorney general, and take other steps to prevent geolocation-enabled violence against women.

Positions

This is still a relatively new area for policy consideration. A predicate to any legislation is how we define geolocation. Prior efforts to achieve consensus on a definition for geolocation were not successful. The Arizona Technology Council will continue to seek a collaborative approach among stakeholders in this regard.



AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

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.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

INTERNATIONAL

95 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, the United States exported more than \$312 billion in manufactured technology goods, software and services in 2015. The Arizona Technology 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 at home and abroad.

ADDRESSING BARRIERS TO DIGITAL TRADE



Principle

The United States is the leading exporter of digital goods, with global digital trade growing exponentially in recent years. According to McKinsey & Company, cross-border data flows grew by 45 times between 2005 and 2014, and will grow another ninefold in the subsequent five years. These data flows generated \$2.8 trillion in economic value in 2014—a greater impact on world gross domestic product (GDP) than global trade in goods. Digital trade impacts all companies, not only tech companies. Any company with an online presence transferring data depends on digital platforms to export goods and services. As the global economy goes digital, information, goods, and services cross borders more frequently and easily than ever before. Firms selling goods or providing services digitally have taken local and national markets to a global scale. Many governments have responded to these changes by seeking to control digital trade in blunt and disruptive ways. Some rules are responsive to legitimate public policy goals while others are explicitly protectionist.

The Council's members have been concerned with the policies enacted by various countries that restrict the free flow of data across borders. Such policies are often in the form of forced data localization measures that require technology service providers to process and store data domestically or in the form of other measures that restrict the transfer of data between countries on the basis of national security or data privacy concerns. Such measures reduce the competitiveness of U.S. companies by restricting their ability to store and process data, regardless of location, and increase the costs of doing business in foreign markets due to the need to develop local data centers and infrastructure.

The United States has set forward objectives to combat barriers to digital trade and promote sound policies to advance global digital trade around the world. These objectives called the Digital 2 Dozen are vital to the technology sector. They stabilize global rules in technology that would prohibit data localization requirements, ensure the transfer of data across borders, protect source code, strengthen intellectual property, and more. To remain the global leader of digital trade, we must maintain access to the world's expanding digital markets. There are several initiatives underway to do this from both a policy and market strategy perspective.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

TRADE IN SERVICES AGREEMENT

Addressing Barriers to Digital Trade Cont.

Positions

To remain the global leader of digital trade, we must maintain access to the world's expanding digital markets. There are several initiatives underway to do this from both a policy and market strategy perspective:

- Multilateral, bilateral or plurilateral trade agreements as tools to preempt barriers in digital trade.
- Inclusion of the digital principles in international fora such as the World Trade Organization (WTO), Asia Pacific Economic Cooperation (APEC), the G-20 and elsewhere.
- The establishment of a digital economy trade interagency working group.
- U.S. Trade Representative's Digital Trade Working Group.
- Department of Commerce's Digital Economy Board of Advisors with a balanced and expanded membership.
- Continued expansion of the Foreign Commercial Service Digital Attaché Program and the State Department Digital Economy Officer Program.
- Training programs to build greater awareness of the digital issues that U.S. companies face around the world that is tailored for U.S. Export Assistance Centers' international trade specialists and state international trade agencies.



Principle

Launched in April 2013, the Trade in Services Agreement (TiSA) is a trade initiative focused exclusively on service industries. The General Agreement on Trade in Services (GATS) under the World Trade Organization (WTO) is the only major services agreement since being established in 1995. Since then, the world has evolved dramatically from the result of technological advances, changing business practices and deepening global integration. The TiSA can establish new market access commitments and universal rules that reflect 21st century trade.

Efforts to reform and expand the GATS have been unsuccessful in the largely paralyzed Doha Round of WTO negotiations. TiSA represents an attempt to salvage a services agreement and move ahead with a coalition of willing members, which currently includes 23 parties.

TiSA's aim is to encompass trade rules aimed at promoting fair and open trade across the full spectrum of service sectors, from telecommunications and technology to distribution and delivery services. TiSA also intends to take on new issues confronting the global marketplace, such as restrictions on cross-border data flows that can disrupt the supply of services over the Internet. TiSA will support the development of strong, transparent and effective regulatory policies, which are so important to enabling international commerce.

TiSA represents nearly 70 percent of the world's \$55 trillion services market. Further opening services trade will help grow U.S. services exports and support more American jobs in a sector where we are the world's leader.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

TRANS-PACIFIC PARTNERSHIP

Trade in Services Agreement Cont.

Services account for three-quarters of U.S. gross domestic product (GDP) and four out of five jobs in the United States. Thanks to our vibrant and open domestic market, the United States is highly competitive in services trade, routinely recording a surplus on the order of \$200 billion per year. With every \$1 billion in U.S. services exports supporting an estimated 7,300 jobs, expanding services trade globally will unlock new opportunities for Americans.

TiSA is based on the GATS, which involves all WTO members. The key provisions of the GATS—scope, definitions, market access, national treatment and exemptions—also are found in TiSA.

The United States had been working toward concluding the agreement by a December 2016 ministerial. However, outstanding proposals from the EU on cross-border data flows and other hurdles have delayed the process.

Positions

The Arizona Technology Council encourages the next administration to continue negotiations. The Council supports a TISA that is comprehensive in coverage to include cross-border data flows and prevents data localization while maintaining strong member participation.



Principle

The U.S. announced its intent to join the Trans-Pacific Partnership (TPP) in September 2008 and formally joined the negotiations in March 2010. In late 2015, the agreement was concluded among 12 countries—Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the U.S., and Vietnam—that produce nearly 40 percent of global GDP. With more than 95 percent of the world's consumers living outside our borders, TPP would significantly expand the export of U.S. goods and services and support American jobs.

The TPP is America's chance to write the rules for trade in the 21st century before others do so without us. Additionally, the TPP is the most effective way to spread American influence and leadership across the Pacific. As we face growing threats in the region, we need allies at our side. China, meanwhile, is busy pushing a rival agreement, the Regional Comprehensive Economic Partnership (RCEP), that excludes the U.S. and will boost their economic leadership across Asia as ours may diminish.

From a technology perspective, the TPP agreement is the most ambitious and advanced digital trade agreement that U.S. has ever concluded. The TPP will eliminate 18,000 tariffs providing significant market access for U.S. exporters of information and communication technologies. According to CompTEA's 2016 Tech Trade Snapshot, manufactured tech goods exported from the U.S. totaled \$204.6 billion in 2015. The TPP also includes cutting-edge obligations that promote high tech digital trade through new disciplines that have never been covered in previous trade agreements. The 12 signatories have started to undergo their own domestic ratification processes, which includes Congressional approval in the U.S. The new administration has proposed to pull out of the TPP.

Positions

The Arizona Technology Council supports new market opening opportunities with countries in the Asia Pacific, by eliminating tariffs, the inclusion of digital principles, and removing regulatory burdens.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

TRANSATLANTIC TRADE AND INVESTMENT PARTNERSHIP



Principle

The Transatlantic Trade and Investment Partnership (TTIP) is a proposed trade agreement under negotiation to broaden and deepen ties between the world's two largest economies, the United States and the European Union (EU). Together, the United States and the EU represent nearly half of global GDP and provide more than two-thirds of global foreign direct investment. While the United States and the EU are already closely integrated, removing remaining barriers to trade and investment through a comprehensive agreement would generate growth and jobs on both sides of the Atlantic and fortify the global rules-based trading system.

Talks were launched in July 2013, with rounds of negotiations held to date. Negotiators have made progress at the technical level but miscues on both sides have slowed momentum, with the most sensitive areas being services, procurement and agricultural market access. The EU has not engaged meaningfully on commitments on digital trade, particularly regarding cross-border data flows and data server localization requirements. Negotiators from both sides had hoped to conclude the negotiations by the end of President Barack Obama's term in January 2017 but that no longer remains the target. Ultimately, the focus is on securing a comprehensive and ambitious agreement, rather than finishing on a target deadline.

Positions

The Arizona Technology Council supports the goal of increased international trade with Europe by eliminating tariffs, the inclusion of digital principles, and removing regulatory burdens that U.S. companies face with our largest trading partner.

AZTC FEDERAL POLICY PRINCIPLES AND POSITIONS

PUBLIC POLICY 2017

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 can help you build global partnerships to grow locally, get your innovations noticed, and stay ahead of the curve.

Whether you're part of 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 membership benefits that will bring you closer to meeting your business goals.





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 Arizona Technology Council offers numerous events, educational forums and business conferences that bring together leaders, managers, employees and visionaries 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.**

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