BUILDING THE FUTURE

Picture an Arizona that is a model of innovation.

Picture an Arizona that is a leader in education.

Picture an Arizona where R&D is as obvious as ABC.

Picture an Arizona where partnerships,
not rivalries, illuminate the way forward.

This is the state we are working to create, every day.

A leader, a model, a global competitor, a trusted partner. Dedicated to advancing knowledge, diversifying the economy and improving the lives of Arizona citizens.

Scientists keep journals to record what they find, observe and collect. This is where they gather evidence and begin to shape conclusions. Sometimes this leads to a valuable insight or discovery. Field journals also can be useful reference tools for other investigators – that's why we decided to share our journal with you.

THE BEGINNING

It began in 2006, inspired by the belief that the state's long-term economic prosperity depends on innovation and diversification, expanded research and development, and strong partnerships between government, industry and universities. Created as a non-profit public-private partnership, Science Foundation Arizona (SFAz) was backed by the Governor, the Arizona legislature and the private sector. "Our state cannot be competitive on a global scale without investments like this," said Tim Bee, then Arizona Senate President (R-Tucson).

Bee's determination was shared by others. And not just in spirit.

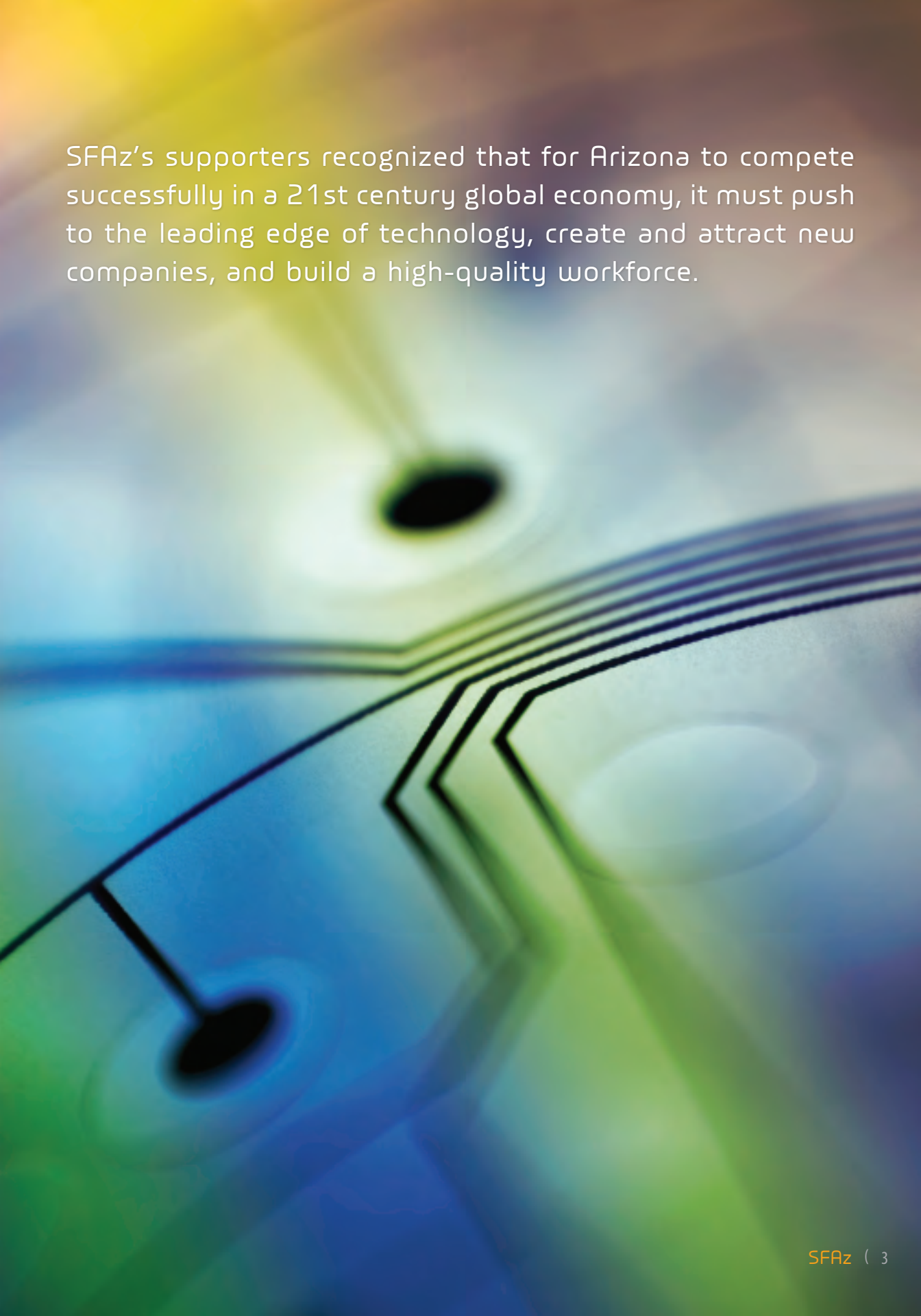
Arizona's three leading CEO groups – Greater Phoenix Leadership, Southern Arizona Leadership Council and Flagstaff Forty – invested significantly. So did the Virginia G. Piper Trust and philanthropist/developer Jerry Bisgrove's Stardust Foundation.

SFAz's initial areas of strategic importance were biomedical research, information and communications technology, and sustainable systems.

Bisgrove explained the purpose. "By leveraging public and private contributions, we will be able to work together to create a synergy that accelerates advances in research and technology, helps cultivate a pool of knowledge workers at our three state universities and brings higher paying jobs to our state," he said. "**This investment is about the people of Arizona and our future,** and I feel very blessed to be able to give back to the community that I love."

Here's how founding chairman Don Budinger described the vision in an *Arizona Republic* op-ed announcing SFAz's birth. "For decades, Arizona's economy has been driven by our inherited assets, things like great climate, awesome physical beauty and available land," he wrote on February 26, 2006. "Now, the day has come when the future we want cannot be generated by inherited assets alone. We will need to develop statewide proficiencies in the industries of the future so our citizens are **prepared to be competitive and prosperous** with the economic realities of the 21st century."

But that was only the beginning, the first blush of enthusiasm. Soon, SFAz transformed that ambitious dream into concrete action – new research, new talent, new projects and partnerships, real results.



SFAz's supporters recognized that for Arizona to compete successfully in a 21st century global economy, it must push to the leading edge of technology, create and attract new companies, and build a high-quality workforce.

THE PEOPLE

First it required assembling **a skilled and seasoned team**. Renowned leaders in science and technology, engineering and education. Accomplished **experts in partnership-building**, so crucial to transforming the landscape and competing globally. People with their pulse on the latest trends and **wired into the strengths and needs** of Arizona.

People like William C. Harris, SFAz's founding President and CEO. He led a number of industry/university R&D collaborative programs for the National Science Foundation and served as the founding Director General of Science Foundation Ireland, an influential public-private partnership that connected industry, government and universities.

People like former Intel CEO and Chair Craig Barrett and Rodel Foundation Chair Don Budinger, both dedicated advocates of education reform and the critical role of science and engineering…Leroy Hood, a pioneer in genomics and biotechnology…Erich Bloch, a former director of NSF and key force at IBM for its supercomputer development… Alastair Glass, a veteran of Bell Labs-Lucent Technologies and an expert in information and communications technologies…Robert Millis, a planetary astronomer and former director of the Lowell Observatory…Martina Newell-McGloughlin, a biotech expert and director of the University of California's Biotechnology Research and Education Program, which includes national labs at Livermore, Berkeley and Los Alamos…This is just a sampling of SFAz's Board of Directors.

SFAz staff brings diverse expertise from the scientific, medical, education and engineering fields.

These leaders, these extraordinary resources, were only the start. SFAz drew on a skilled and passionate staff plugged into Arizona and inspired to expand its promise. Veterans of research and education, they have worked diligently to connect the best and the brightest for the clear and urgent goal of **commercializing knowledge and advancing Arizona's future**.

SFAz Board of Directors

Donald Budinger
Phoenix, Arizona
Chair, SFAz

Craig Barrett, PhD
Phoenix, Arizona
Vice Chair, SFAz

Erich Bloch
Washington, DC

Fred Boice
Tucson, Arizona

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Robert Millis, PhD
Flagstaff, Arizona

Martina Newell-McGloughlin, PhD
Davis, California

PAST BOARD MEMBERS

Thomas Browning
John Murphy
Steven Lynn
Frank McCabe
Rick Myers

Left: President and CEO William Harris

"We were determined to bring together the best and brightest in Arizona. The innovations of scientists following the trail of an idea can lead to incredible discoveries that have a real impact on the world."

William C. Harris, SFAz President and CEO

THE PROCESS

SFAz developed a unique process to enhance the state's existing assets, lure talent and spur new businesses, attract significant out-of-state dollars, link industry partners willing to provide matching funds, and ultimately diversify and strengthen Arizona's economy. SFAz has demonstrated its singular ability to:

- Identify ideas and build partnerships with great economic potential
- Engage world-class experts to review and validate the quality of the projects chosen
- Manage the research and education work that is funded
- Track outcomes to broaden the impact and ensure the most reliable return on investment

This independent and consistent approach has enabled SFAz to serve as a **critical conduit**, a **trustworthy ally** capable of connecting competing businesses and even university rivals for their mutual advantage. This helps satisfy the critically important need for Arizona to establish innovative centers in science, technology, engineering and education.

In 2010, C-Path attracted an industry match of $30 million, more than triple the SFAz grant.

Take the case of Tucson-based Critical Path Institute, better known as C-Path. SFAz funded C-Path's work to safely accelerate the pace that new drugs come to market. This unique research-sharing collaboration involves more than 1,000 scientists, virtually every major pharmaceutical company and regulators from the FDA. It has spawned four spin-off companies and matching industry investment far exceeding the SFAz contribution.

"The fact that Science Foundation funds us and monitors what we're doing gives us **tremendous credibility**," says C-Path President and CEO Ray Woosley. "Our application had to be reviewed by international experts. We have milestones and deliverables. It's not like a lot of other grants. It requires rigor and accountability. **We're doing it better because of Science Foundation.**"

"If it weren't for Science Foundation, we wouldn't be in Arizona today."

C-Path President and CEO Ray Woosley

THE PARTNERSHIPS

SFAz has energetically pursued the role of matchmaker, exploding the familiar equation of 1+1=2. Put together the right partners and 1+1 will always lead to a greater sum. That's what a trustworthy third party knows.

With that simple notion, SFAz has worked tirelessly to take advantage of Arizona's existing assets by connecting traditional competitors. Why can't private businesses ally with each other when each can benefit from independent R&D? Why can't our universities align with industry partners? Indeed, why can't they partner more with each other? Everyone gains, including our state.

SFAz's investments have **spurred important collaborations**. SFAz's Solar Technology Initiative connects universities, solar companies and utilities, for example. SFAz's Arizona STEM Network brings together educators and students with support from business and the public sector.

Consider just a few highlights among more than 140 individual research and education grants:

- Genetic research designed to develop tools to diagnose Valley Fever connected scientists and other experts from the Translational Genomics Research Institute (TGen), Northern Arizona University (NAU), the University of Arizona (UA), the Arizona Department of Health Services and Applied Biosystems.
- Solar research to produce large-scale, low-cost electricity by concentrating the sun's rays up to 1,000 times onto solar cells brought together renowned astronomer Roger Angel, UA and its Steward Observatory Mirror Lab, Arizona State University (ASU) for microelectronics, several manufacturers and a start-up company to commercialize the technology.
- Cancer research analyzing how to use military imaging technology for early detection of melanomas linked researchers from the Arizona Cancer Center and Raytheon.
- SFAz Graduate Research Fellows in science and engineering at Arizona's three research universities spend time in middle- and high-school classrooms to work with students and teachers.
- To expand aerospace and defense R&D and drive strategic growth, SFAz's Aerospace and Defense Initiative connects industry partners from Prescott, Tucson and Phoenix; military installations statewide; and the state's research-performing institutions, including ASU and UA.

In 2007, SFAz began granting exceptional researchers capable of attracting federal grants later, research that would spur new businesses and technology, and industry/research group partnerships.

Roger Angel, seen here at the UA Mirror Lab, is developing a mirror-based system to achieve affordable solar electricity.

Mining for the Future

Several years ago, the University of Arizona's Mary Poulton wondered whether the school's Department of Mining and Geological Engineering would survive. Mining, a critical industry for Arizona, struggled with declining interest. The number of undergraduate students had dwindled to 19. "It could have been the end of mining at the university after 124 years," says Poulton, the department's head.

In 2009, the Lowell Institute for Mineral Resources (IMR) at UA was created with a four-year, $8.7 million grant from SFAz and matched by 15 industry partners. This infused **fresh focus and renewed purpose** in a state blessed with one of the world's largest repositories of copper ore (an increasingly important mineral for high-tech products).

The funding has supported 30 research projects involving mineral discovery, extraction and processing. This includes technological innovations in mine safety and environmental sustainability – the use of underground robotics to shrink the environmental footprint, for example, and advances in water usage. **Rival companies now work together** with local and international researchers for mutual gain. And the university's invigorated mining program not only provides practical training for miners, it also boasts 70 undergrads.

"**Science Foundation has made an enormous difference**," says Poulton, director of IMR. "It put us on the map and on a par with [leading institutes] in Canada and Australia."

What has made the difference? Poulton credits SFAz's "stringent process" that requires multiple rounds of review. "It shows that **there is rigor and that creates credibility**…with Science Foundation Arizona, we have flexibility and speed to bring in new projects to meet the needs of our industry partners."

Growing in the Desert

Since 2007, SFAz has funded algae research, including the creation of the Arizona Center for Algae Technology and Innovation (AzCATI) based at ASU's Polytechnic campus in Mesa (with an industry match of $2 million). The goal: no less than **propel Arizona into the global forefront** of innovation in biofuels and bio-product R&D.

ASU researchers Milton Sommerfeld and Qiang Hu attracted national attention with their work to transform algae to jet fuel: It was cited by *Time* magazine as one of the best inventions in 2008 and by *The Wall Street Journal* as one of the "Five Technologies That Could Change Everything" in 2009. Their progress led to the formation of Heliae Development, LLC, which is working to bring algae-based jet fuel and other products to market such as animal and aquaculture feed. Recognizing its breakthrough potential, SFAz provided $3.5 million that was matched by Heliae to advance the research.

"**SFAz has been a valuable partner** in supporting our public-private collaboration with ASU," says Heliae President Dan Simon. "If it wasn't for our relationship with SFAz, we probably wouldn't have progressed to the production stage and we may not be in Arizona at all."

"SFAz is key to driving scientific, technological and educational aspects of science innovation, and the critical purpose-driven research and partnerships that will power the state's economy and enhance quality of life."

Richard Adkerson, President and CEO, Freeport-McMoran Copper & Gold

THE TALENT PIPELINE

No vision of a vibrant and diverse 21st century economy can be realized without a workforce possessing the necessary skills. That will take technical knowledge, analytical agility and personal ability – in other words, the hunger to discover, the capacity to think critically and the desire for innovation and communication. On a parallel path to its research work, SFAz has pursued education programs and community-based projects in STEM (science, technology, engineering and math) that will train our state's students (our future workforce) to **prosper in an increasingly innovative and economically diversified Arizona**.

SFAz's commitment to rigorous and relevant education in STEM reaches from the early grades straight through graduate programs. Engaging young students by the excitement of science and math, technology and engineering places them on **a pathway that can pay great, lifelong dividends**.

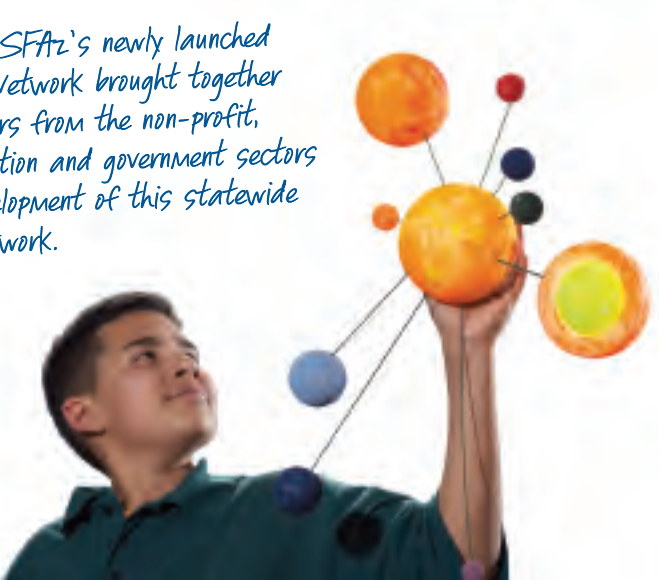
Flagstaff STEM high-schoolers are investigating erosion and proposing solutions.

SFAz's STEM projects also look for opportunities to link traditionally separate worlds. Why not bring our Graduate Research Fellows into the middle and high schools to share their knowledge with students and teachers? Why not involve K-12 teachers in professional research labs so they can experience the activity and thought process of scientific investigation, then bring what they learn back to their classrooms?

SFAz's STEM efforts provide teachers a wide range of professional development opportunities to learn new techniques and expand their content knowledge. Programs for students engage them in the process of scientific discovery, relevant and rigorous mathematics, and other hands-on, project-based exploration – **approaches that can inspire students** often resistant to traditional approaches to science and math.

This is about building Arizona's future. "I am a strong supporter of the economic benefits brought on by the Arizona STEM initiative," House Speaker Kirk Adams told a national STEM summit, "specifically more skilled persons to support the diverse economy we are working so hard to put in place."

In September 2010, SFAz's newly launched Arizona STEM Network brought together more than 80 leaders from the non-profit, corporate, education and government sectors to support the development of this statewide STEM Network.



Bringing Science to Life

Students at Metro Tech High School in Phoenix constructed rainwater-harvesting systems, designed solar shade structures, and created an "eco café." These are just a few of 33 projects resulting from a two-year SFAz grant to integrate sustainability into the curriculum. "**It's bridged the real world onto our campus**," says Kate McDonald, Metro Tech's principal, a strong advocate of project-based learning. "It's allowed our kids to think about the global conversation and implement ideas and projects that can be solutions."

SFAz intends to establish international-level standards and measures for STEM education in Arizona.

The eco café involves more than a dozen teachers from different fields and about 30 students, connecting career-minded courses with more academic ones. Working in collaboration, they designed and built the space, grow food in an organic garden, created an interactive computer kiosk, and service the functioning café open to the public. Most of these students came from outside the traditional science curriculum. "This project requires systems thinking, a good cognitive skill for our students," McDonald says. "We often tend to be narrow in our path of thinking. Don't we want our kids to be citizens who are informed and balanced in their thinking and decision-making?"

McDonald's palpable excitement led her to write a letter to *The Arizona Republic*, discussing her school's progress in bringing "science to life" as a result of the SFAz grant. "Our hope is to sustain these efforts beyond the grant because we see the results," she wrote. "**We see students who are excited about learning**. We see smart, curious and engaged students who want to be part of the national and global conversations about our future. **That will serve them well in life**."

Above: Metro Tech High School Principal Kate McDonald (center) joins Fashion Interior Technology student Sammy Ruiz and Culinary Arts student Julia Lopez, both involved in the Phoenix school's eco café sustainability project.

THE IMPACT

The work of SFAz has been based on the simple but powerful notion that **exceptional ideas** – when matched with talented individuals, the right management structure and partners, a process that can assess and enhance their quality, and a system to measure results – **raise the probability of successful outcomes**. This not only benefits the research, STEM education and their participants – it also can lead to advances for the state.

From its earliest days, SFAz laid out a plan to diversify and strengthen Arizona's economy:

Establish significant industry and university R&D partnerships

Attract and retain world-class talent and jobs

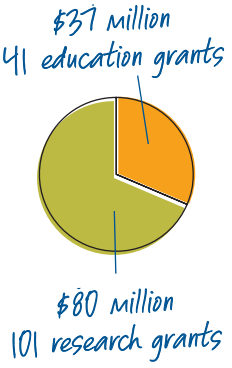
Create a competitive advantage through science and innovation

Enable Arizona to compete effectively in a global economy

Increase access to quality STEM education to grow a pipeline of future talent.

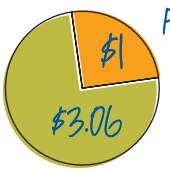
This effort relied on performance-based, competitive grant programs, many of which required matching funds from industry and other outside partners. They also were expected to identify and address areas of strategic importance to Arizona's economic future.

With the help of the independent Battelle Technology Partnership Practice, SFAz tracked its performance since the first grants in 2007. By the end of 2010, SFAz awarded nearly $120 million for 142 individual grants, including more than $80 million for 101 research grants and $37 million for 41 education grants.



By Battelle's assessment, for every $1 that SFAz has awarded toward university and non-profit research funding initiatives, an additional $3.06 has been committed from industry matching and non-state research funding (including venture capital money, federal grants and non-profit funding). That has generated more than $330 million in economic impact for the state.

The research efforts also have spurred 2,600 additional direct and indirect jobs, 16 new companies, 760 publications, 84 patents and 12 technology licenses filed – all healthy signs that SFAz continues to make progress. In STEM education activities, SFAz has engaged nearly 160,000 students and 2,900 teachers at the K-12 and community college levels, as well as nearly 270 graduate research fellows.



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"SFAz is strategic and outcome-based. I've become a strong believer in what they do and how they do it."

Kirk Adams, Arizona Speaker of the House

Those are some of the numbers. But numbers alone don't tell the story. Is SFAz achieving its goal of building competitive advantages in innovative, high-paying knowledge sectors, so critical to driving Arizona's long-term growth? SFAz's efforts take on greater urgency amidst increasingly intense global competition and the recent Great Recession.

In 2010, *Inc.* magazine showcased SFAz's initiative in "Innovation Nation: Where Great Ideas are Born." That means start-up companies and research groups recognize that SFAz provides a critical resource to drive their R&D. Ongoing solar research may lead to game-changing, low-cost technology that can produce all of America's electricity. Ongoing algae research could change the fuel equation for flight travel and feeding the nation's livestock. Research on a new low-cost material for a digital medical pump may change the way millions of Americans receive daily doses.

SFAz STEM has touched 160,000 students and 2,900 teachers.

One by one, motivated by the promise of progress. This is the path to advancing Arizona's economy, indeed every American's future. It's a process that can be long, complex and frustrating. But you cannot win the game if you do not play.

In 2010, SFAz backed the creation of the Arizona Biosignature Laboratory, a national resource for setting standards and best practices for new diagnostic medical tests and clinical research. With SFAz monitoring the work, the Critical Path Institute (C-Path) and Roche's Ventana Medical Systems are working with the FDA to speed the safe testing of new therapies for lung cancer, Alzheimer's, kidney disease and other human diseases.

Governor Brewer recognized the potential impact: "Bioscience industries are fast-growing employment sectors that have **the potential to create high-quality jobs** – the very kind we need in our state," she said in announcing the state's support. "With our excellent universities and non-profit research entities already here, we have **the potential to put our state on the international map** as a leader in medical treatment breakthroughs and prevention of major diseases."

Just two years earlier, SFAz provided another major grant to C-Path that helped the institute sustain and advance its efforts in Tucson. At that time, other states were knocking on their door. "**If it weren't for Science Foundation, we wouldn't be in Arizona today**," acknowledges C-Path's Ray Woosley.

THE COMMITMENT

Building the future we want does not happen overnight. Nor can one organization do this singlehandedly. That's why, from the beginning, Science Foundation Arizona created a results-oriented framework that provides **rigor and credibility, confidence and accountability, speed and flexibility** for its partners. This is our path – a collaborative effort – to achieve a globally competitive and prosperous Arizona that provides a good education and high-quality, well-paying jobs.

Arizona leaders see algae-based renewable fuels could produce billions of dollars for the state. Governor Brewer said: "With this clean energy, it will expand Arizona's potential as a national and global leader in research and production of algae fuel."

Just since 2010, SFAz has moved ahead with funding from the Governor's Office of Economic Recovery:

- **Launching the Arizona Center for Algae Technology and Innovation (AzCATI).**

  The purpose: provide a statewide and international resource hub for algae-based goods; find innovative commercial uses for algae; operate as a learning environment for next generation scientists; facilitate collaboration between higher education, industry and national entities; and be a national "test bed" for algae technology.

- **Leading the Arizona STEM Network.**

  The purpose: build a dynamic community of educators, students and citizens, backed by business and public grants, that will advance and communicate the importance of STEM education for Arizona's economic future; identify opportunities to align and embed STEM principles into the state's education system; provide an ongoing resource for educators; and develop international-level benchmarks for quality and best practices to advance STEM-literate students.

- **Incubating the Arizona Aerospace and Defense Initiative.**

  The purpose: protect and expand Arizona's significant aerospace, defense and security activity; expand A&D academic research with industry partners; and expand and deepen the partnerships between the military, universities and other research institutions, and private industry.

Aerospace and Defense, Arizona's leading export sector, contributes an estimated $18 billion to the economy. The co-directors of SFAz's A&D Initiative are both former Air Force generals.

- **Backing the Arizona Biosignature Laboratory in partnership with C-Path and Roche's Ventana Medical Systems.**

  The purpose: establish a national resource in Arizona for setting standards and best practices for new diagnostic medical tests and clinical research that translate science into health care. Working with the FDA, this can speed the safe testing of new therapies for such diseases as lung cancer, Alzheimer's and kidney disease.

- **Continuing to support the Solar Technology Initiative.**

  The purpose: develop new technologies to make solar energy more affordable and attract solar producers and manufacturers to the state; foster collaboration between the universities, solar companies and utilities; and organize and develop a pilot effort for solar export to benefit the state.

- **Continuing to support the Graduate Research Fellows program.**

  The purpose: strengthen the three research universities by providing access to the best and brightest prospective scientists and engineers; deepen the pool of candidates for Arizona jobs in aerospace and defense industries, electronics and IT, bioscience and biomedicine, environmental protection and construction; and engage the fellows in the STEM education program as teachers and mentors for middle-school and high-school students on a regular basis.

- **Establishing the Bisgrove Post-Doctoral Scholars program.**

  The purpose: attract the best and brightest early career scientists and engineers to the state to focus on complex, multidisciplinary research problems at ASU and NAU; foster innovation and expand the knowledge-based economy with these skilled and experienced scholars; and create a prestigious mentored career awards program at the level of Rhodes Scholars that raises the state's profile for global competitiveness.

- **Continuing to administer and track ongoing research projects.**

  The purpose: sustain the focus and follow-up on significant multi-year projects in the pipeline. This includes work in the biosciences, sustainability and information and communications technology.

The Bisgrove Scholars program recruits and mentors top-tier, post-doctoral scientists and engineers.

THE ROAD FORWARD

SFAz's emerging alliance with the Arizona Commerce Authority will strengthen its position as the state's "go-to" organization for new opportunities tied to science and technology R&D. SFAz will continue to be quick, open and adaptable for new initiatives with new partners and, inevitably, in new fields. We like to flex our partnership-building skills.

But SFAz will also energetically and strategically expand on its current work in several important ways.

First, SFAz will make available its peer-reviewed system for identifying, analyzing and tracking research projects to individuals seeking greater control of their targeted investments. Investors seeking to support research in a specific field – cancer, Alzheimer's or kidney disease, for example – can turn to SFAz to increase the probability that their targeted investments will achieve **productive and measurable results**.

Second, over the next several years, SFAz will be unveiling and executing a new group of **high-profile initiatives**. These will take advantage of SFAz's core strengths in building partnerships, employing its process to enhance research outcomes, and identifying new areas of interest with substantial economic growth potential for the state. This effort will draw on Arizona's existing assets, SFAz's burgeoning alliance with the Arizona Commerce Authority, and new opportunities to attract business and talent.

Here is a sampling of **what we envision**: new institutes in such fields as cybersecurity, neuroengineering, predictive medicine and sustainable cloud computing, and an expansion of Arizona's STEM education effort.

- Cybersecurity is an expanding and increasingly critical field. Not only could our military fall prey to cyberattack, but also our national electrical grid, transportation system, water system, manufacturing plants and financial institutions. SFAz's effort will draw on its burgeoning partnerships formed through our Aerospace and Defense Initiative.
- Neuroengineering is an emerging field that uses engineering techniques to understand, repair and replace functions of the brain. It involves R&D in computation, neurology, electrical and optical engineering, signal processing, robotics, optical science, material science and nanotechnology. By influencing R&D that can lead to new technologies, products and patient care, SFAz can provide critical support in the fight against Alzheimer's, Parkinson's and other neurological disorders.

"SFAz starts with return on investment. It's not just a research organization. It looks at return first."

Bill Post, former CEO, APS

"I've been a champion of Science Foundation Arizona since I was appointed by Governor Brewer. It's just the right model. We should embrace and celebrate its accomplishments."

Donald E. Cardon, President and CEO of Arizona Commerce Authority and former director, Arizona Department of Commerce

- Predictive medicine promises to transform a health care system that reactively focuses on chronic and preventable conditions. Rather than wait for symptoms to appear, physicians will be able to see warning signs from a drop of blood analyzed by genomic instruments and software, then take action to prevent or slow the progression of a disease. This effort can draw on advances in high-throughput genomics, proteomics and metabolomics; help spur new inventions; and bring together Arizona's expanding bioscience resources to secure the state's national prominence.
- STEM education will play an increasingly influential role in Arizona's schools and beyond. A regional infrastructure of innovation hubs can help integrate STEM and its themes into the state's communities. So will an expanded network of project-based partnerships enhance how our private companies and schools work and learn together.

This is just the beginning, limited only by imagination or the will to build Arizona's future. But it will take strategic leadership, engaged citizens and a sustained commitment to achieving our state's promise.

MAKING A DIFFERENCE

Science Foundation Arizona began with the support of leaders in the state's business and philanthropic community, the governor and the state legislature. Five years on, SFAz remains committed to its status as a public-private partnership.

SFAz expects to be an integral partner of the state's Arizona Commerce Authority (ACA), while at the same time forge a new self-sustaining path that increasingly allies with the private sector.

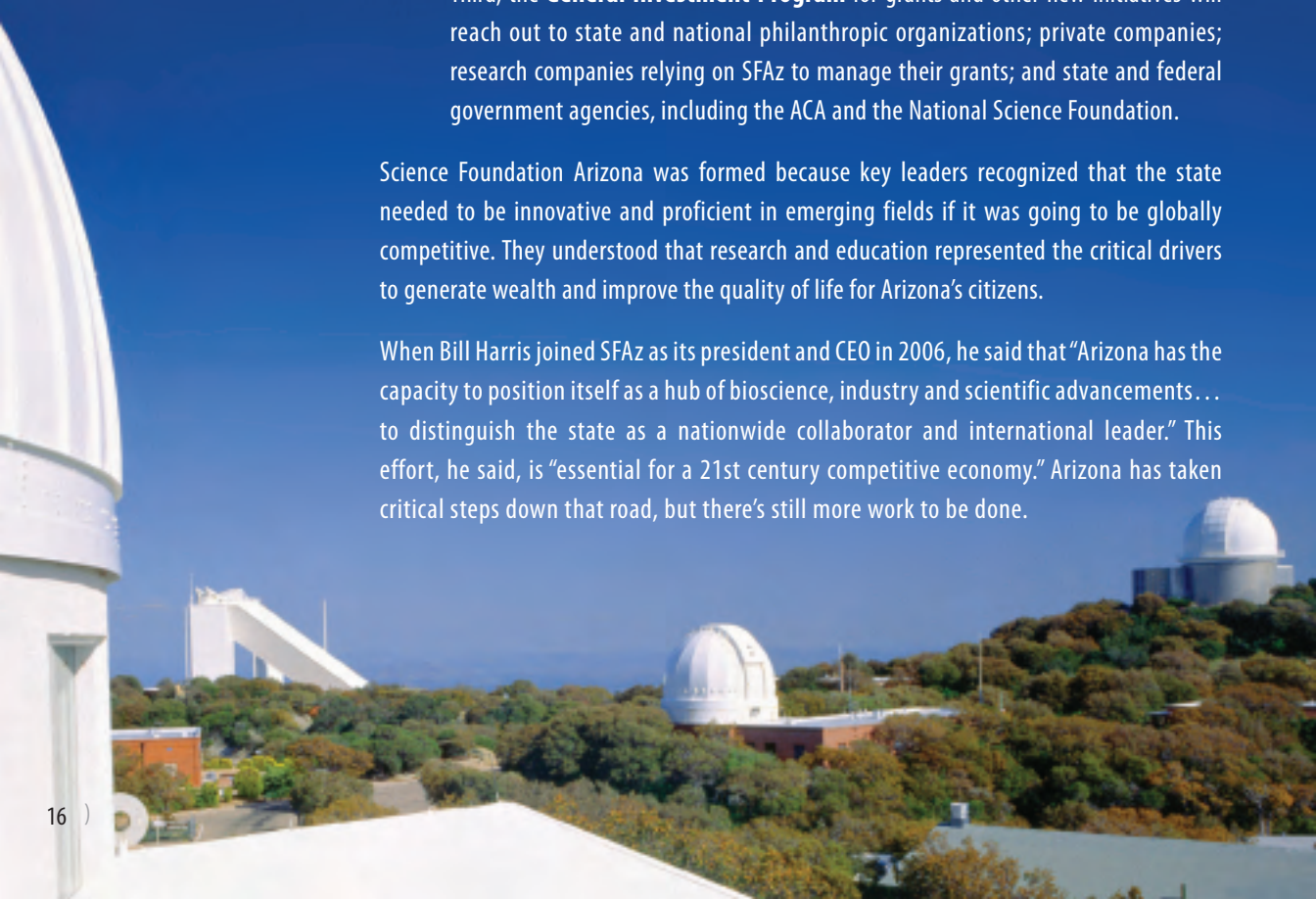
This is essentially a three-pronged program.

- First, the **Strategic Development Fund** for core operations and development draws on support from foundations, private companies, private individuals, other business groups and the ACA. Principal donors will be invited to participate on SFAz's new Strategic Development Advisory Council.
- Second, the **Targeted Philanthropy Program** enables private individuals and companies to invest in specific areas of science, medicine and technology with SFAz seeding appropriate research, then managing and tracking the performance. This will be set up so that individual contributions will be matched by industry partners, in effect doubling the investment. This raises the probability that such investments can achieve their most productive and measurable outcome.
- Third, the **General Investment Program** for grants and other new initiatives will reach out to state and national philanthropic organizations; private companies; research companies relying on SFAz to manage their grants; and state and federal government agencies, including the ACA and the National Science Foundation.

To learn more about Science Foundation Arizona, head to www.sfaz.org.

Science Foundation Arizona was formed because key leaders recognized that the state needed to be innovative and proficient in emerging fields if it was going to be globally competitive. They understood that research and education represented the critical drivers to generate wealth and improve the quality of life for Arizona's citizens.

When Bill Harris joined SFAz as its president and CEO in 2006, he said that "Arizona has the capacity to position itself as a hub of bioscience, industry and scientific advancements… to distinguish the state as a nationwide collaborator and international leader." This effort, he said, is "essential for a 21st century competitive economy." Arizona has taken critical steps down that road, but there's still more work to be done.



SFAz Research and Education Grants

Research Grants	Awards	Amount
Competitive Advantage Awards	57	$8.5 million
Small Business Catalytic	14	$5.5 million
Strategic Research Groups	30	$66.3 million
Total	**101**	**$80.3 million**

Data as of January 1, 2011.

Education Grants	Awards	Amount
Bisgrove Scholars	2	$420,000
Graduate Research Fellows	12	$18.7 million
K-12 Teacher Programs	18	$14.6 million
Math or Science Achievement	6	$2.4 million
Other STEM	3	$1.3 million
Total	**41**	**$37.4 million**

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