

3-year report • 2017-2020

summary

en route to
innovative
armenia...

WELCOME TO FAST

The Foundation for Armenian Science and Technology – also known as FAST – is the product of a holistic and ambitious development agenda that envisages Armenia’s future as a modern, dynamic and innovative nation. That agenda, conceived of by co-founders Ruben Vardanyan and Noubar Afeyan, places FAST within a wider cohort of institutions likewise pushing towards Armenia’s advancement.

Mission

To foster and accelerate the advancement of science and technological innovation in Armenia and beyond.

FAST’s *raison d’être* is to help stimulate and channel Armenia’s scientific and entrepreneurial realms towards the “moonshot” scenario of Armenia’s transformation into a top 10 global innovator nation and a top 5 Data Science and Artificial Intelligence innovator by 2041.

Technology as the key to Armenian prosperity

“Today, and especially tomorrow, the measure of a nation’s wealth, security and standing will be defined by its engagement with technology: by its status as either a technological innovator or innovation consumer. The former will thrive, setting the trajectory for generations to come. Armenia has the potential to make this its destiny.”

Armen Orujyan

FAST, Founding CEO

Vision

Armenia’s transformation into a **Top 10 Global Innovator** nation, and **Top 5 Data Science and Artificial Intelligence** innovator by 2041.

While ambitious, FAST is also highly systemic, calculated and data-driven in its approach to its mission. It sets evidence-based targets and benchmarks. It pursues a considered, reflexive and symbiotic approach to its programming. At its heart lies a profound understanding that only pragmatic realism, and sustained collaboration and coordination with those in the science, technology and innovation (STI) arena at home and abroad can deliver an Innovative Armenia by the country’s 50th Independence Anniversary.

AN OVERVIEW OF THREE AND A HALF YEARS

The report, En Route to Innovative Armenia, reviews the first three and a half years of FAST programming from July 2017 to December 2020. These years, and the five that follow, should provide the foundation for Armenia's launch as a global innovation leader.

FAST's journey has been far from plain sailing. Plans and timeframes have had to shift and adapt to various unforeseen externalities, including political turbulence and a global pandemic. The organization's resilience has thus been tested, and, so far, found true. This much is evidenced in FAST's successful launch of at least 26 programs and its engagement of over 5,600 beneficiaries to date.

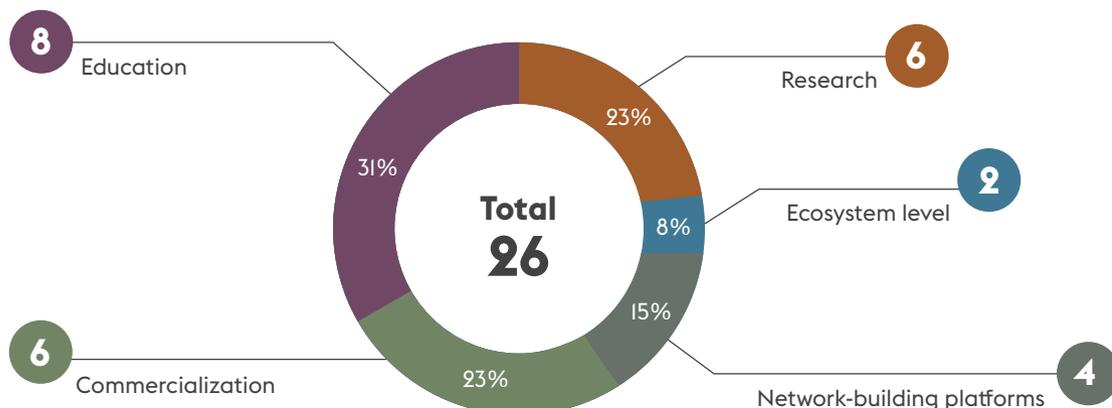
The real results of FAST's labours will take some years to truly shine. This interval reflects the depth of structural interventions that FAST is engaged in. Such long view investments take time to mature, and as they do, stimulate change and interaction among the fundamental but often more slow-moving determinants of innovation success. Here, patience is the deposit for large-scale and sustainable program success.

COVID-19 has had a notable impact on FAST's plans and programs. The financial crisis triggered by the pandemic has occasioned both reduced funding and fewer fundraising opportunities. This, and feasibility challenges for program implementation during lockdown and in high risk settings, saw the implementation and execution of several FAST projects deferred or suspended.

The course of the last three and a half years can nevertheless be plotted against a number of important milestones. At a glance, these include:

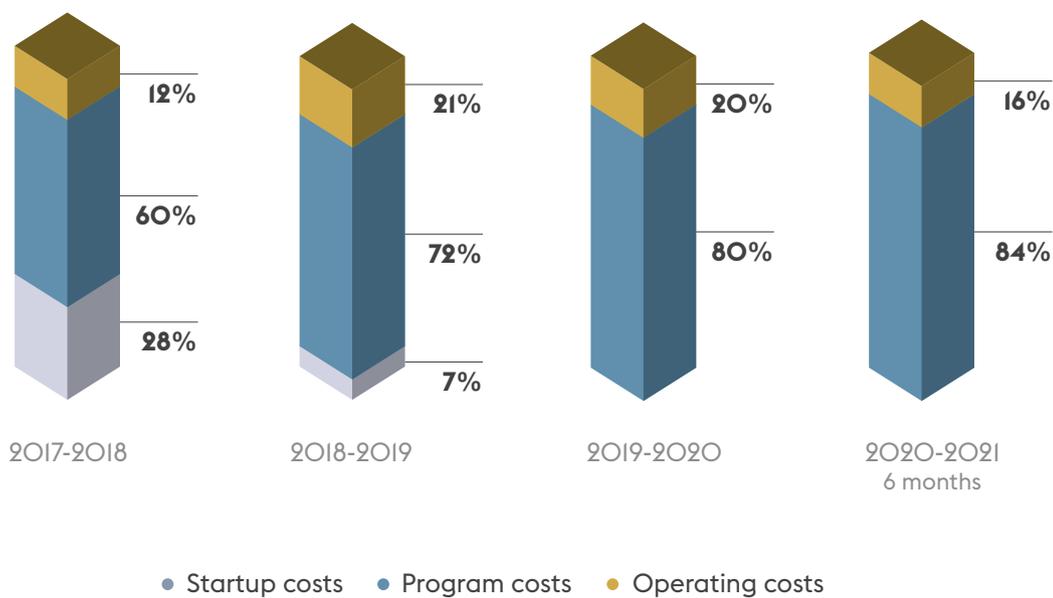
- The **implementation** of a total of 26 programs, including 8 in Education, 6 in Research, 6 in Commercialization, 2 at an "Ecosystem" Level and 4 Network-building platforms. Of these 26 programs, 10 were designed for long-term application and thus remain ongoing.

Graphic I. **Programs for 2017-2020, by type**



- The **engagement** of over 5,600 beneficiaries through its programs, including about 500 entrepreneurs with more than 200 startups, almost 100 foreign and 50 Armenian researchers, and 136 future conscripts.
- The **provision** of deep training and knowledge transfer opportunities to over 2,300 individuals, including students, industry representatives, future conscripts, entrepreneurs and investors in subjects ranging from data science and artificial intelligence, to corporate innovation and entrepreneurship, among other topics.
- The **launch** of science-intensive venture builder programs, ASCENT and InVent, as well as Armenia's first Angel group, the Science and Technology Angels Network, which brings together 25 prominent professionals from all over the world to invest at least 10,000 USD each annually.
- The **compilation** of over 21 FAST research and analysis papers and baseline studies.
- The **contribution** of FAST's institutional knowledge to 8 major reports by international organizations, including World Bank and UNCTAD reports on Armenia's development potentials.
- The **deployment** of 6 million USD - 87% contributed by FAST founders - in establishing the Foundation and launching program work (see below).

Graphic 2. **Cost ratios by type for 2017-2021 financial years**



EDUCATION

training provided to

300

entrepreneurs

125

industry representatives

130

school students in DS/AI

80

university students

RESEARCH

23

international research collaboration projects funded

visits to foreign labs supported

25

100

foreign researchers hosted in Armenia

researchers provided with funding

49

70

scientific papers published, of which 50 in international journals

COMMERCIALIZATION



200+

startups benefited

STAN

Armenia's first angel investors' network created



7

investment pitch events hosted

science-intensive venture builders created



2

NETWORK



80

conferences & events organized



6000

participants & speakers engaged from 24 countries



Flagship conference on AI created

Coming together around the SDGs

The passion with which the FAST's people pursue the organization's mission is fuelled by an appreciation of the deep benefits that STI advancement offers both Armenia and the world – namely, sustainable national and international development.

FAST drives advancement of the United Nations Sustainable Development Goals (SDG) through its programming. It does so by using SDG targets and indicators as objectives and impact metrics. Here, of 26 implemented programs, 18 support SDG4 (Quality Education), 15 support SDG9 (Industry, Innovation and Infrastructure), 17 support SDG17 (Partnership for Sustainable Development) and 11 support SDG8 (Decent Work and Economic Growth). SDGs 5 (Gender Equality) and 12 (Responsible Consumption and Production) are supported by three and one programs respectively.

Targeting the SDGs not only helps FAST advance its own commitment to global development but is also instrumental in helping us to coordinate with the efforts of partners, collaborators and funders.

Graphic 3. FAST impact on SDGs



SETTING THE TRAJECTORY: ARMENIA THEN AND NOW

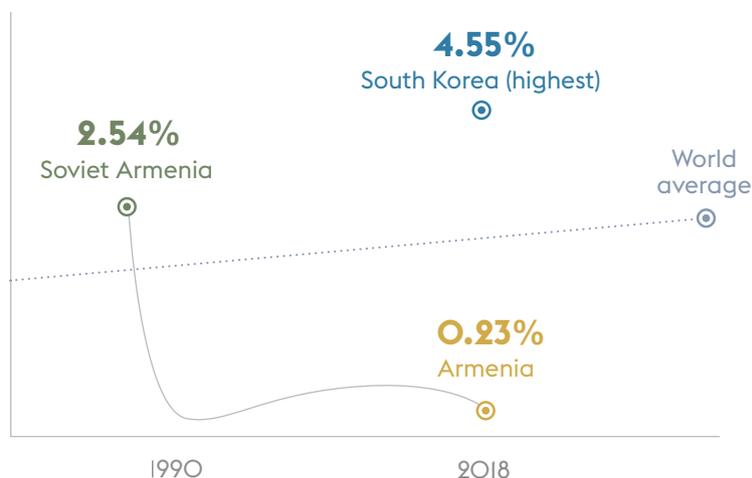
FAST has undertaken multiple baseline and ongoing assessments of STI in Armenia and beyond. Its moonshot scenario for Innovative Armenia 2041 is grounded in its observations from other countries of comparable STI ranking that have already made similarly ambitious technological leaps. Unlike these countries, Armenia itself has previously already enjoyed good standing among global science and technology pioneers.

ARMENIA'S LEGACY AS AN STI LEADER

Armenia was among the vanguard of the world's discovery of digitalization. Ranking second only to Russia among soviet states for its concentration of scientific talent, Armenia was once already a top technology innovator for the eastern bloc – an outcome of concerted efforts by influential, talented and driven Armenians to bring innovation home.

As a result, the concept of an Innovative Armenia is not new. In fact, it appears to have become one of the country's greatest exports, distributing a considerable reserve of Armenian talent across the globe. With the right stimulus, Armenia has the potential to rebuild its profile as an international science and tech hub. Not only could it reverse its current STI trajectory, but it could positively thrive, bringing science and technology innovation home once again. Its success in doing so is a matter of resolve: as competitor nations seek to climb their own way up the innovation charts, Armenia's mobilization will need to be strategic, collective and highly focused.

Graphic 4. **Armenia as a Science & Technology Hub then and now: R&D expenditure as % of GDP**



ARMENIAN INNOVATION DEFICITS AND POTENTIALS

Armenia's current STI standing is currently low to middling – a fact reflected in the country's STI rankings: Armenia ranks 61st among 131 countries on **the Global Innovation Index 2020**, with notable comparative deficits in its human capital and research components. It nevertheless performs above its expected level of development, rendering it an **Innovation Achiever**. This ranking reflects a scenario in which Armenian expenditure on both education and R&D is weak.

Armenia spends only 2.7% of GDP on education, and of that only 13% on higher education. By contrast, OECD states spend around 5% of GDP on education, of which 22.6% goes to higher learning. This spending disparity is reflected in emerging challenges for Armenia's STI human capital pipeline: overall STEM student numbers in 2018 dropped 33% from 2010 figures, while STEM PhD numbers have likewise declined 25-28% annually. With 40% of Armenian researchers over retirement age in 2018, the impact of this regressive trend in STEM uptake poses a significant threat to Armenia's innovative human capital long-term.

R&D expenditure has likewise suffered a decline. Since 2009, gross domestic expenditure on R&D has been 0.23% of GDP on average – of which 76% is spent on engineering & technology and natural sciences. The OECD average R&D expenditure is 2.4%. While Armenia's R&D spending figure excludes private corporate R&D expenditure, which is not properly collated, any overall total remains modest. Moreover, the country still lacks mature science-intensive venture builders to accelerate the process of startup creation and provide the stimulus needed to foster innovative indigenous companies capable of achieving higher valuation than their outsource-oriented counterparts. The result is that Armenian science-backed or deeptech startups remain few.



TUMO Center for Creative Technologies is a free after-school program benefiting around 20,000 teenagers through its 6 centers in Armenia and 5 international centers abroad.

An Armenian consciousness

“Education and knowledge acquisition have been foundational elements of Armenian identity and culture for centuries. As today's Armenian Republic emerges from its past, there is a growing, historic thirst to acquire knowledge, in particular about science and technology, and to apply it to become a productive and competitive nation.”

Dr. Noubar Afeyan

FAST Co-Founder

Flagship Pioneering Founder and CEO

Moderna Co-Founder

Despite these deficits, the Armenian STI ecosystem has nevertheless started to grow, particularly the ICT sector. 2019 saw an average 30% annual growth rate in the number of companies (over 900 total) – up from the 25.6% annual average of 2010 to 2018. Likewise, Armenia’s high-tech sector turnover has also risen over that period from 144 million USD in 2016 to 320 million USD in 2019.

Meanwhile, in the education sector, progressive Armenian initiatives, like the TUMO Centre for Creative Technologies (ranked number one among the World’s Best Innovative Schools), COAF Smart Center and the Armath Engineering Laboratories educational program, are helping to cultivate Armenian youngsters equipped with the skills and knowledge to succeed in the modern digital era from an early age (10 to 18 years).



COAF Smart Center is a 5 million USD development initiative for community and individual growth with a 50 acre campus serving over 1,700 beneficiaries from 27 closest communities in Lori.

NAVIGATING THE TIDE: — ADVANCING STI IN ARMENIA

The programs

FAST conceptualizes Armenian STI as an ecosystem founded on three pillars: Education, Research and Commercialization. These three pillars determine the strength of Armenian STI and are the core drivers of its development trajectory. FAST targets the underlying resource capacities of these pillars – namely, their intellectual, financial and network capacities – with a view to establishing the foundations for accelerated Armenian STI growth by 2030.



PROGRAM INTERVENTIONS IN EDUCATION

Like the Global Innovation Index, FAST recognizes the centrality of education to innovativeness: without a strong and sustained supply of skilled human capital – academic experts and industry professionals – Armenian STI cannot expand. This recognition, and the need to counter Armenia’s burgeoning human capital deficits, see FAST place a strong emphasis on education, capacity building and the enhancement of Armenia’s intellectual capital in its programming.

The vast and as-yet-unharnessed potential of Artificial Intelligence (AI) has already begun to transform every walk of life, and presents a key catalyst for Armenia’s global STI ambitions. As such, FAST has paid particular attention to educational enhancement in data science and artificial intelligence. This saw the development and delivery of advanced AI training for special detachments of the Armenian army in 2019 – a program that in 2020 evolved into the Unit 1991 Education and R&D program. This program, it is hoped, can help to mainstream AI competence into the domestic labour market. FAST also launched an AI Bootcamp, mainly for industry professionals, with a view to addressing future programming needs for advanced data scientists and AI specialists, as well as supporting labor market demands for professionals with industry-ready knowledge and skills. The need to address Armenia’s labor shortage in industry-primed professionals had originally seen FAST launch an Apprenticeship program in 2018. This program piloted a new framework for on-the-job training with several leading Armenian IT companies whilst facilitating continuation in formal education.

FAST’s educational programming has also targeted entrepreneurial knowledge and skills enhancement. In 2018 FAST established entrepreneurial training programs for startups and budding entrepreneurs in the form of a Startup Studio. 2019 then saw FAST go on to run the Aspiring Female Entrepreneurs Program with partners from Aston University. This was followed by the launch of an AgriTech Accelerator in partnership with the UNDP ImpactAim Venture Accelerator and the Armenian National Agrarian University in 2020.

Moreover, a number of programs currently under design aim to advance STEM education in Armenia. For example, educational programs such as SciNova, which offers a curriculum on research design and science commercialization, aim to help orient Armenia’s aspiring STEM talent towards research and innovative work attuned to commercial viability.



Impacts on education outputs

FAST's education-targeted programs have provided domain-specific training for over **700 individuals**, as well as knowledge transfer opportunities for an additional **1,600 participants**, from a wide variety of backgrounds. These trainings and conferences have enhanced capacity in core innovation subjects like data science, artificial intelligence, corporate innovation and entrepreneurship, among others.

Education in focus

AgriTech Accelerator – facilitating agricultural solutions for Armenia and beyond

Working with UNDP ImpactAim Venture Accelerator and the Armenian National Agrarian University, FAST has co-designed and implemented an acceleration program to support startups and budding entrepreneurs offering solutions to agricultural challenges in Armenia and beyond. The program aims to create strong links among program participants, academia and industry stakeholders. The core program lasts 12 weeks and walks participants through a tailor-made entrepreneurial journey. It consists of a series of sessions introducing entrepreneurship, the impact of frontier technologies on agriculture and core startup development, followed by a prototyping stage. In total, 62 entrepreneurs and 15 startups from 12 countries were selected to participate in the program. Four of the first 10 teams to engage in the initial implementation phase received grants to further their projects.



OPPORTUNITIES: FAST's AI education programs and their scale-up provide academic and industry partners, as well as development entities and donors an opportunity to support the growth of a new generation of AI professionals starting from school age.

Interested in getting involved? Get in touch via programs@fast.foundation.



PROGRAM INTERVENTIONS IN RESEARCH

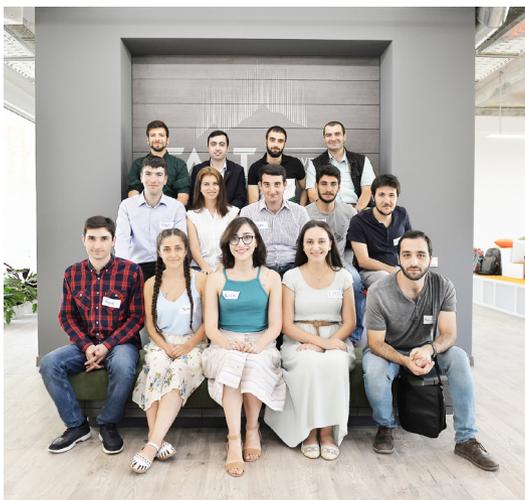
To facilitate the production of globally competitive research output from Armenia, FAST has launched a range of programs to support the local research community and bridge it with other world-leading research institutions and projects.

FAST's early 2018 programming saw it establish its Fellowship program with a view to offering financial support to talented students pursuing PhDs in STEM-related fields. A program inviting guest researchers to Armenia for mid-term visits was also piloted, ultimately leading to the establishment of FAST's Travel Grant for Collaborative Research program in 2019. These initiatives saw FAST establish stronger networks with local scientists, whilst testing the academic community's response to different approaches.

Resultant learnings have led to the establishment of a new framework for research funding – FAST's ADVANCE STEM Research Grant program. Launched in spring 2020, this programme is expected to show its first results in the coming years.

Access to competitive lab infrastructure remains a key challenge in Armenia. While FAST's initial strategy envisaged the establishment of several large contemporary lab facilities, a deeper understanding of existing local infrastructure and other capacity factors, saw FAST shift emphasis towards programming to consolidate existing labs or build new ones in accordance with the development of Armenia's human capital and funding opportunities in STEM.

Inroads are currently being made into bringing lab facility access closer to nascent innovation generation through projects such as FAST's Life Science Incubator (aimed at securing startup access to professional lab infrastructure) and its Masis and Sis Gateway AI Labs (see 'Partners in focus', below).



Impacts on research outputs

FAST has provided funding to **49 researchers**, supported **23 international research collaborations** and **hosted nearly 100 foreign researchers** in Armenia through a variety of initiatives. In addition, it has supported 25 visits to international labs resulting in the production of **70 scientific papers**, of which 50 have already been published in international journals.

Research in focus

ADVANCE STEM research grants – attracting world-class research expertise to Armenia

In 2020, FAST designed an unprecedented grant scheme for the Armenian scientific community. That scheme aimed to bring top expertise in targeted scientific fields to Armenia by connecting international Principal Investigators (PI) with local scientists. New research teams composed of 3 to 5 scientists are to be formed under the direct supervision of international PIs through the selection of the most qualified researchers, regardless of affiliation. The research groups will receive comprehensive long-term institutional and financial support. The funding includes salaries for local researchers, lab supporting materials, travel and capacity building opportunities, as well as publication costs. Each grant ranges from between 45,000 to 65,000 USD per year for a project duration of 2 to 4 years.



OPPORTUNITIES: The ADVANCE program offers donors, academics and corporate sponsors an opportunity to drive competitive research and foster the development of advanced research centers in chosen scientific fields.

Interested in getting on board? Get in touch at programs@fast.foundation.



PROGRAM INTERVENTIONS IN COMMERCIALIZATION

Commercializing the results of scientific research is crucial to driving scientific advancement, innovation and growth through its capacity for revenue generation. Recognizing the critical need to boost scientific commercialization in Armenia, FAST has placed a heavy focus on creating programs to help build science-intensive innovation and ensure pre-seed funding for companies.

In February 2018, FAST initiated Armenia's first science-intensive venture builder through its Advance Solutions Center (ASCENT) first track in AI. Having rapidly developed into a 3-track program, this initiative has since spun off to become a separate commercial entity, ensuring its independent long-term sustainability. 2018 also saw the establishment of Armenia's first Angels Network – the Science and Technology Angels Network (STAN). This was followed in early 2020 by the launch of FAST's InVent program, which draws on learnings from both the ASCENT program and working with startups to generate ventures using an exploration methodology tailored to matching prevailing needs and opportunities. Work is underway to establish two venture capital funds for ASCENT and InVent to further support the development of science-backed ventures in Armenia.

Impacts on commercialization outputs

Well over **200 startups** have benefited from our programs over the last three years. Among them **11** startups received **direct funding**, while **26** startup teams were **created** from scratch. Up to **100** startups received a 2 to 6 month **mentorship and coaching** program, as well as access to coworking space at FAST's Creative Campus.



Commercialization in focus

STAN – providing pre-seed and seed-stage investment opportunities

In early 2018, FAST established Armenia's first ever angel investor network, the Science and Technology Angels Network, to help fill a national vacuum in seed-stage investments. STAN unites a group of prominent Armenian professionals from all over the globe to invest in Armenian pre-seed and seed-stage startups engaged in science and technology innovation. As well as providing access to risk capital, STAN also possesses vast expertise that can be leveraged to support companies through the provision of strategic advice, mentorship, introductions and connections capable of facilitating their further development. Each member of the network has committed to investing 10,000 USD annually for the first 3 years and 20,000 USD thereafter. Three to four Angel investment pitches are organized annually for startups. STAN is a member of the European Business Angels Network.

ASCENT – nurturing ideas from hypothesis to spin off venture

FAST designed the multifunctional ASCENT platform to develop science-intensive ventures with significant potential to become internationally competitive deeptech companies. ASCENT has three tracks: Artificial Intelligence, Computational Behavioural Research and Life Sciences. It uses its innovation model and a stage-gate process to evolve ideas from venture hypotheses through prototype companies to new companies and eventually spinoff ventures. The innovation model is co-designed with Flagship Pioneering, a leading venture-building company based in Boston, which has generated more than 100 companies since 2013, including COVID-19 vaccine manufacturer Moderna. An integral part of the solution is a yet-to-be-established venture capital fund attached to ASCENT to help further fuel company growth.



OPPORTUNITIES: STAN offers individual investors access to pre-seed and seed-stage investment opportunities with a growing focus on AI as a platform technology. STAN also provides a platform through which idea-stage funding can be provided to high-risk, high-return deeptech projects, as well as offering an opportunity for special impact investment in women-led idea-stage startups to leverage women's entrepreneurial potential in Armenia.

See an opportunity? Get in touch via programs@fast.foundation.



NETWORK-BUILDING PLATFORMS

Generating efficient and prolific innovative outputs requires strong links between the various stakeholders comprising the STI ecosystem both within Armenia and the wider world. FAST programming consequently devotes considerable effort to both strengthening existing links between these actors and creating new ones. In addition to organizing small and mid-scale engagements, FAST strives to build regular large-scale scientific and tech conferences, and meetups to strengthen Armenia’s positioning as an emerging innovation hub.

FAST has engaged over **6,000 participants** in more than **80 conferences and meetups**. Such events have ranged from Science Talks by scientists for scientists; meetings with high-level officials, such as the President of Rwanda; special workshops for startups with prominent speakers from world leading venture capitalist firms, like 500 Startups; demo days; and special events for school pupils to meet young successful scientists who can act as role models.

COVID-19 saw FAST quickly adapt to the new reality, organizing webinars involving doctors, economists, data scientists, foreign state officials and industry leaders, among others.

Some of the key programs run to strengthen Armenia’s networking capacity with the wider world have included international roadshows, intergovernmental partnerships – including with Rwanda and Indonesia, the NSF-FAST Workshop on Machine Learning and, not least, FAST’s Global Innovation Forum.

Networking in focus

The Global Innovation Forum – a FAST flagship conference

October 2017 saw FAST organize a 4-day large-scale workshop on “Machine Learning for Discovery Sciences” jointly with the United States National Science Foundation (NSF). The event showcased Armenia’s potential in AI and aimed at creating a platform where world leaders in AI could gather on regular basis. In 2018, this effort evolved into the Global Innovation Forum (GIF). The GIF has seen the participation of over 170 outstanding scientists, innovators, executives and thought leaders from 23 countries, to date. It presents a crucial opportunity to showcase and discuss the latest achievements in AI whilst networking and exchanging with some of the sharpest minds shaping science, technology and innovation today.



THE PARTNERS AND DONORS

Collaboration is key. Engaging partners and networks to harness coordinated work and joint effort is the backbone to FAST's operational approach.

As such, FAST continuously works to establish long-term partnerships with a wide range of stakeholders from government to academic institutions, international organizations to private sector representatives, other foundations and civil society organizations to accelerators and venture capital funds. This has seen it develop a network of about 70 partners over three years of joint programs, setting a trajectory for long-term collaboration.

Key to FAST's successful STI interventions has been its partnerships with the Government of Armenia and its various agencies. These collaborations have proved mutually beneficial in offering the Government scalable tried-and-tested solutions and FAST sustainable programming. This renders FAST a natural implementing partner for government.

With a network over **70 partners** and counting, FAST offers both national and international players exciting opportunities for mutual learning, development and collaboration.

As a native Armenian institution with a long-term (2041) vision, FAST works tirelessly to maintain the continuity and follow-up of its programs irrespective of the upheavals of the day. This allows it to offer collaborators a stable and secure counterpart capable of bringing both the resources, knowledge and vital on-the-ground networks needed to achieve sustainable and transformative results.



FAST's global outlook and strategic interventions to drive home wider national development gains through an STI lens offer innumerable opportunities for alignment with institutional donors and investors, particularly development-focused entities. Moreover, FAST envisages and plans for early-stage philanthropic funding to reap longer-term sustainability rewards by increasingly becoming matched with further private sector investment, including but not limited to impact investment.



FAST's own commitment to its goals means that the institutional investments and contributions of collaborators are generally matched by inputs from its side – FAST contributes its own money, knowledge and labor to ensuring that development outcomes are realized. This renders it careful and conscientious about where it puts both its own resources and those of its partners.

Partners in focus

Innovation District – a FAST Flagship mega-project for an Armenian hub to live, learn, work, create and innovate

In October 2019, FAST convened a donor coordination meeting in partnership with the Deputy Prime Minister, Tigran Avinyan, and his Office. The meeting brought together major institutional and government donors to discuss the establishment of an Innovation District in Armenia – a Flagship mega-project designed to elevate and strengthen Armenia’s position on the global innovation map.

The Innovation District, which is to be driven by an Adaptive Innovation Campus, is slated to serve as a microcosm of a fully functioning science, technology and innovation ecosystem. It will be an all-encompassing sustainable environment where innovators live, learn, work and create. Through active partnerships and collaborations with academia, industry and government – both domestic and international – it will weave a rich network of public and private R&D, investment and educational organizations at the national and international levels. In doing so, it will foment Armenia’s rise up the innovation charts.

Graphic 5. Visualizing Armenia’s Innovation District



THE PEOPLE

FAST's organizational structure is composed of a Board of Trustees and a Chief Executive Officer, who are responsible for the Foundation's strategy and management. They are supported by a Board of Advisors, a NextGen Council and, of course, FAST's operational team.

FAST's founders and other members of our Board of Trustees are highly respected figures in the world of academia, science, business and innovation in Armenia and beyond. They are experts, innovators and leaders in such relevant commercial, strategic and policymaking fields as innovation in biotech, high-tech sector development, finance and investment, renewable energy and education. Our Board of Advisors is composed of prominent leaders of the global scientific community, heads of large international organizations and esteemed government representatives, including the President of the Republic of Armenia – a physicist by training. FAST's NextGen Council, which brings together a pool of talented, accomplished and ambitious young scientists and technologists, acts as an important bridge between today's science and technology leaders and tomorrow's innovative generation in contributing to the planning and building of our programs. The FAST operational team is composed of bright young professionals who work tirelessly and with the utmost dedication to executing FAST's mission.

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THE COURSE AHEAD

AI advancement is a broad trajectory capable of having a profound impact on Armenia's economy. Estimates suggest that AI could raise global GDP by up to 14% by 2030 – equivalent to an additional 15.7 trillion USD in the global economy and more than China and India's current output combined. Those countries that leverage this technology the most stand to make the greatest gains. If Armenia is to do so, it will require restructuring its workforce by nurturing AI professionals and using the technology to its full potential. The rewards brought about by such action can be expected to have spillover effects on other economic sectors.

With this in mind, FAST will focus considerable resources on **growing highly competitive human capital** in the field of science and technology with a strong focus on raising a new generation of scientists, especially in AI and data science. **That means starting young.** FAST plans to help reshape the country's approach to building education to better align it with future societal needs, targeting education from at least high school to PhD level. This means advanced trainings in mathematics, computer science and machine learning for high school teens, and courses on research design for bachelor and master students. Capacity building initiatives will also be essential to boosting the commercialization of science, and helping researchers build stronger networks and collaborations with the outside world.

“Our country will only be able to restore its scientific and technological potential in cooperation with the world and by consolidating its own and the world's unique resources. Today, our brainchild is taking its first steps, but I hope that we have laid a good foundation for moving forward.”

Ruben Vardanyan

FAST Co-Founder

Social Entrepreneur, Impact Investor and
Venture Philanthropist

IDeA Foundation, Aurora Humanitarian
Initiative, UWC Dilijan College, Moscow
School of Management SKOLKOVO
Co-Founder

Throughout this, FAST will continue and scale-up its research programs to help **elevate Armenian research output** to a globally competitive level by building strong collaborations with world-renowned labs and research institutes.

Moreover, to foster greater commercialization capacity, FAST will also continue its strong **focus on science-intensive venture builders** to create a robust pipeline of Armenian startups engaged in deeptech – a cornerstone of FAST's ambition **to see Armenia build tech solutions for the global marketplace.** This will also entail expanding funding opportunities to support this pipeline by backing startups through angel investments and venture funds.

Meanwhile, FAST will continue to strengthen cooperation between various Armenian institutions, while **building strong and efficient bridges with the outside world**. Robust collaboration with government and different international organizations will stay core to FAST's mission as it continues to expand its global connections to generate new opportunities for research and trade partnerships.

Armenia's voyage into the future is both rife with opportunity and fraught with challenge. At FAST, we realize that our goal is highly ambitious and that our mission takes place within a fiercely competitive global context. However, with a collective vision and collaborative effort, we at FAST are confident that Armenia will go far in steering a course towards innovative greatness by 2041. We thus reach out in a genuine spirit of collaboration and invite you to share **in our journey, hoping that we might perhaps likewise have the privilege of sharing in yours**.

"We have managed to earn a strong reputation in the country as a creative organization efficiently and effectively implementing important programs. Some initiatives have become role models. Meanwhile, our approach has seen us set new standards and levels of quality in the creation and implementation of programs and initiatives. ... Three years is a short time. We couldn't – didn't have time to – realize many things we would have liked. Nevertheless, I rate our record so far as having made a good start."

Artur Alaverdian

FAST Co-Founder and Chairman
Serial Entrepreneur, Venture Investor
ProfHolod Owner and Chairman

"FAST is making a real difference in Armenia, and does it with a long-term vision. Innovation for (with) impact entails partnerships fit for a long journey. Among other areas, UNDP is happy to partner with FAST on our journey of impact acceleration through ImpactAIM Venture Accelerator. A partnership that impacts people's lives in a profound way while putting science and tech/innovation together with human development at the core."

Dmitry Mariyasin

Resident Representative
United Nations Development Programme
Armenia



JOIN THE JOURNEY

Are you as ambitious and excited for Armenia's future
in science, technology and innovation as we are



Then, consider partnering with us.
Reach out via **partnerships@fast.foundation**.