Flanders
State of the Art

TECHNOLOGY SECTOR
IN SAN ANTONIO

FLANDERS INVESTMENT & TRADE MARKET SURVEY

TECHNOLOGY SECTOR IN

SAN ANTONIO

August 2018

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1. SAN ANTONIO

San Antonio is the seventh largest city in the United States and the second most populous city in both Texas and the Southern United States with 1,327,407 people in 2017.[1] The city, part of the famous "Texas Triangle", has been the fastest-growing city of the top 10 largest cities in the United States from 2000 to 2010. Beside proven growth in population, San Antonio is ranked first in the 2016 Metro Rankings Report in Economic Growth Potential.[2]

With strengths in Aerospace, Biosciences, Information Technology, New Energy Economy (ranked sixth in the 2018 edition of Shining Cities' list of the Top 20 Solar Cities), Financial Services and Military/Defense, San Antonio has a strong economic base. The city is also home to seven Fortune 500 companies and the South Texas Medical Center.

San Antonio is ranked in the Top 10 Cities to Work in Tech in 2016, according to a SmartAsset study.[3] 3% of San Antonio's workers are in tech with a median tech salary of $84,070, which is 1.92 times the city's average salary for all work. This was at the same time the fourth-highest wage ratio of any of the cities in the SmartAsset study, while the cost of living in San Antonio is the lowest in the top ten.

With its business friendly environment and the overall affordability (a cost of living which is 11.9 percentage points below the national average), San Antonio became a magnet for millennials with a 14.4 percent spike in its population aged between 18 to 34 from 2010 to 2015.[4] Between February 2017 to 2018, 24,600 jobs were added to the San Antonio workforce.[5] The unemployment rate was only 3.4% in February 2018, in comparison to an 4.1% national average.

2. KEY INDUSTRIES

San Antonio, historically known for its military training and operational excellence, has now expanded its role as a premier center for Information Technology and Cybersecurity in the U.S.[6] Today, over 40 Cybersecurity firms are headquartered in San Antonio and the city has one of the largest concentrations of IT, Information Assurance (IA) and cybersecurity professionals in the nation.

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[1] Suburban Stats https://suburbanstats.org/population/texas/how-many-people-live-in-san-antonio consulted on May 15, 2018
[2] Business facilities, 2016 Metro Rankings Report: San Antonio, TX Is No. 1 In Economic Growth Potential https://businessfacilities.com/2016/08/san-antonio-tops-in-economic-growth-potential/ consulted on May 15, 2018
[3] Smartasset, The Top 10 Best American Cities to Work in Tech in 2016 https://smartasset.com/mortgage/the-top-10-best-american-cities-to-work-in-tech-in-2016 consulted on May 15, 2018
[4] Culturemap San Antonio, San Antonio sees huge surge in millennial population http://sanantonio.culturemap.com/news/city-life/02-20-18-san-antonio-millennial-population-surge-brookings-institute/ consulted on May 15, 2018
[5] San Antonio Economic Development Foundation http://www.sanantonioedf.com/media/economic-snapshot27/ (Urea of labour statistics, not seasonally adjusted) consulted on May 14, 2018
[6] San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/information-technology-cybersecurity/ consulted on May 15, 2018

2.1 INFORMATION TECHNOLOGY

The Information Technology (IT) industry plays a major role in San Antonio. In 2017, the industry, both large and diverse, consisted of almost 34,000 professionals.[7] The majority of jobs were in Computer Systems Design, Data Processing, Hosting, and Related Services with a median compensation of $78,042 compared to the national median wage of $82,826.[8] The three major subsectors are IT companies producing IT products and services (ranging from large, established firms to small, innovative startups), IT workers at non-IT companies and U.S. Federal Government departments and agencies. In 2014 the industry generated an economic impact of nearly $10 billion.[9]

San Antonio has around 900 Department of Labor-designated IT companies. The IT products sector includes manufacturers of computer and electronic equipment and components, wholesale trade (including business-to-business electronic market), retail trade, and Internet and software publishing and employs 3,605 in the area.[10] The services companies include providers of custom computer programming and internet services, web hosting companies, IT training, and equipment repair services. Services now provide nearly 80% of the industry's jobs and a majority of its economic impact.

2.2 CYBERSECURITY[11]

As global connectivity continues to rise, cybersecurity has become an important challenge. A cyberattack is never unthinkable and could have major consequences. More and more sensitive data is stored online, and this increases the cost and complexity of securing personal, enterprise and government data.

According to Cybersecurity Ventures, a research and advisory company, global spending on cybersecurity reached $77 billion in 2015, and is expected to reach $170 billion by 2020. This is still small if you compare it to the estimated global cost of cybercrime. CSIS estimated in 2014 that cybercrime cost the world between $345 billion and $445 billion or in other words 0.62% of the global GDP.[12] In more recent reports, including one from Juniper Research, the estimated global impact of cybercrime is projected to reach over $2 trillion by 2019.[13]

San Antonio offers a large population of experienced cyber technology personnel and Certified Information Systems Security Professionals. Around 60,000 people are involved in the science and

[7] San Antonio Economic Development Foundation http://www.sanantonioedf.com/images/uploads/SAWorks_2018_Jobs_Report.pdf consulted on May 15, 2018
[8] San Antonio Economic Development Foundation http://www.sanantonioedf.com/images/uploads/SAWorks_2018_Jobs_Report.pdf consulted on May 15, 2018
[9] San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/information-technology-cybersecurity/ consulted on May 15, 2018
[10] San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/information-technology-cybersecurity/ consulted on May 15, 2018
[11] San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/information-technology-cybersecurity/ consulted on May 15, 2018
[12] McAfee, Economic impact of cybercrime – no slowing down https://www.mcafee.com/us/resources/reports/restricted/economic-impact-cybercrime.pdf consulted on May 15, 2018
[13] Juniper Research, Cybercrime will cost businesses over $2 Trillion by 2019 https://www.juniperresearch.com/press/press-releases/cybercrime-cost-businesses-over-2trillion consulted on May 15, 2018

technology workforce and 80,000 in the Department of Defense. There are over 80 companies in the San Antonio Defense Technology Cluster and they host major nationally recognized cyber-related professional events.[14]

2.2.1 Military technology[15]

San Antonio has one of the largest concentrations of IT, Information Assurance (IA) and cybersecurity professionals in the nation. Therefor it attracts major headquarters of government agencies such as the 24th Air Force, the Air Force Cyber Command, and the Air Education and Personnel Command. Other entities with a significant local information security mission include 25th Air Force, FBI, National Security Agency (NSA), The Cryptologic and Cyber Systems Division, U.S. Army North, U.S. Army South, U.S. Secret Service, U.S. Navy, and Department of Homeland Security (DHS).

Additionally, the Joint Base San Antonio (JBSA) serves as a major hub for medical treatment, flight training, cyber operations and military intelligence. With its size and prominence the base has a substantial impact on the local economy in San Antonio and in Texas. JBSA contributes 65% of Texas' total military GDP, generates an annual disposable personal income of approximately $17 billion and an overall impact estimated at $48.7 billion (together with The Texas Comptroller of Public Accounts). The military organization accounts for 3.4% of the area's total employment and 64% of Texas' total military population. Nearly one out of every eight people is associated with JBSA. They are employees, retirees or family members!

3. MAIN PLAYERS IN TECHNOLOGY

The State of Texas is number two in the nation for science and technology. And according to Computerworld Magazine, San Antonio is number two in the nation for information assurance, behind only Washington, D.C.[16] The city's association with the military and with scientific research has helped create a unique combination of cyber resources useful to many business operations. The city offers the kind of network connectivity needed to support all security levels of Global Cyber Operations such as the Joint Worldwide Intelligence Communication System and the National Security Agency Nets, DISA GIG Network (Defense Information Systems Network) and GIG-BE (Global Information Grid Bandwidth Expansion, which helps link major government intel community sites). San Antonio also has the second largest concentration of data centers in the U.S., as well as 80-plus companies specializing in defense technology.[17]

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[14] The San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/information-technology-cybersecurity/ consulted on May 15, 2018
[15] The San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/military-defense1/ consulted on May 15, 2018
[16] San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/information-technology-cybersecurity/ consulted on May 15, 2018
[17] The Business Journals San Antonio https://www.bizjournals.com/sanantonio/news/2017/10/24/utsa-partners-with-rackspace-on-new-center-to.html consulted on May 15, 2018

San Antonio is also home to seven of the top 500 Cybersecurity firms 2017. In Appendix 1 you can find a brief description of these seven firms.

4. SAN ANTONIO INITIATIVES

The San Antonio's Cyber Innovation Technology & Research Consortium (CIRC), formed in 2007 with the intention of linking San Antonio's academic institutions with government, industry, and economic development initiatives, has cultivated a public-private partnership that supplies an experienced cyber technology workforce. The program supports San Antonio's current initiative to become CyberCityUSA. It also strives to meet the information technology needs of organizations within the city of San Antonio as well as the surrounding communities.[18]

Some of these academic and research institutions are (Marked with an * are nationally recognized as Centers of Academic Excellence by the National Security Agency and the Department of Homeland Security.):

The University of Texas at San Antonio (UTSA) Institute for Cyber Security (ICS)*
The University of Texas at San Antonio is the largest university in the San Antonio metropolitan region with nearly 31,000 students. It has the number one cybersecurity program in the nation according to Hewlett-Packard (Ponemon Institute). Their College of Sciences spends more than $26 million each year on research and provides top programs in nanotechnology, brain health, stem cells, medicinal drugs, infectious diseases and vaccine development, and cybersecurity.[19] Only recently UTSA received a $1 million grant to increase student success and diversity in computer science.[20]

Texas A&M University, San Antonio, Center for Information Technology and Cyber Security.*
Texas A&M University-San Antonio has been designated as a National Center of Academic Excellence for providing quality training in cyber-security and information assurance.[21]

Other schools are: St. Mary's University School of Law - Center for Terrorism law, Southwest Research Institute – awarded 1st DHS Cyber Security Research & Development Program, Texas Research & Technology Foundation - Texas Technology Development Center and the Information Technology & Security Academy.

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[18] San Antonio Magazine http://www.sanantoniomag.com/SAM/August-2013/Cyber-City-USA/ consulted on May 14, 2018
[19] The University of Texas at San Antonio https://www.utsa.edu/about/glance/marks-of-excellence.html consulted on May 14, 2018
[20] The University of Texas at San Antonio http://www.cs.utsa.edu/news/161/51/UTSA-receives-1-million-grant-to-increase-student-success-and-diversity-in-computer-science/ consulted on May 14, 2018
[21] Business journals https://www.bizjournals.com/sanantonio/news/2012/04/18/texas-am-san-antonio-earns-excellence.html consulted on May 14, 2018

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There are nearly 160,000 students enrolled in 15 colleges and universities in the San Antonio area, most of which offer specific cyber science curricula, training and certification.[22]

4.1 EVENTS

San Antonio hosts around a dozen nationally recognized, cyber-related professional events. They were the first city in the nation to do a "dark screen" cybersecurity exercise, where one evaluates a city's ability to respond to a cyber-attack. Other events are:

- The annual San Antonio Cyber Summit, that offers hands on training and social events.
- The UTSA Center for Infrastructure Assurance and Security (CIAS) hosts the finals of the National Collegiate Cyber Defense Competition on a yearly basis, in which college students from around the U.S. compete in real-time exercises defending an enterprise from attacks. CIAS has led cybersecurity exercises in 12 states and seven Texas communities.
- SMEs for Cyber Storm exercises (local/metro area focus).

5. STARTUPS IN SAN ANTONIO[23]

San Antonio's startup culture has often played second fiddle to other Texas cities such as Austin or Houston, particularly on the tech side. Therefore the city developed a mission to change this mentality. The key was to find out what San Antonio was good at and develop around it. San Antonio seemed primed for tech startups with a more technical focus, the so called "infrastructure tech".[24]

Initiatives such as The San Antonio Economic Development Foundation (SAEDF), San Antonio small business development center, Institute for economic development and The San Antonio MBDA Business Center are dedicated to helping entrepreneurs flourish and grow in today's marketplace.

Collaborative co-working spaces such as Geekdom and the initiatives from the Port San Antonio to provide newly built office spaces for companies in the industry make San Antonio more and more attractive for startups.

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[22] The San Antonio Economic Development Foundation http://www.sanantonioedf.com/industry-sectors/information-technology-cybersecurity/ consulted on May 14, 2018
[23] San Antonio Business Journal https://www.bizjournals.com/sanantonio/news/2017/12/29/year-in-review-major-san-antonio-tech-milestones.html consulted on May 14, 2018
[24] Xconomy https://www.xconomy.com/texas/2017/08/16/coming-of-age-san-antonio-startups-experience-busy-summer-of-ma/ consulted on May 14, 2018

Once you're convinced you want to start a business in San Antonio, more information on how to start a business in San Antonio can be retrieved from the City of San Antonio's Small Business Resource Guide: http://www.sanantonio.gov/SBO/Start-A-Small-Business

6. INVESTMENT LANDSCAPE

The Unites States is known for spending a lot of money on defense. And while much of that funding goes toward buying missiles, planes, and ships, cybersecurity is gaining greater importance. President Trump's budget proposal[25] includes a $3 billion boost to cybersecurity funding in the Department of Homeland Security, according to The Hill, which already rose to $6.7 billion under former President Barack Obama in the 2017 fiscal year.[26]

San Antonio is not a hotbed for venture capital activity, but it is improving. According to American City Business Journals, San Antonio's investors have deployed $863.4 million of venture capital into San Antonio-area companies since 2006, including deals in 2017.

This area saw a 10-year increase in VC funding of 456 percent through 2016, making San Antonio the sixth-fastest-growing metro area when it comes to venture capital flowing to local startups from 2006 to 2016, ACBJ's data shows.

Besides scoring high for its 10-year change in VC funding volume, San Antonio showed a significant increase in its number of deals. The 170 local companies funded since 2006 coincides with a 10-year increase of 567 percent, placing the Alamo City area third behind the Nashville and Cincinnati areas at 1,350 percent and 640 percent, respectively.[27]

In Appendix 2 we list local, San Antonio based, resources that can assist you with your desire to start a business by providing guidance, ideas, networking, legal advice, funding and more.

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[25] The Hill, Trump budget seeks $3B for Homeland Security cyber unit http://thehill.com/policy/cybersecurity/334773-trump-budget-seeks-15-billion-for-homeland-security-cyber-unit consulted on May 14, 2018
[26] Department of Defense https://www.defense.gov/Portals/1/features/2016/0216_budget/docs/2-4-16_Consolidated_DoD_FY17_Budget_Fact_Sheet.pdf consulted on May 15, 2018
[27] San Antonio Business Journal https://www.bizjournals.com/sanantonio/news/2017/08/22/san-antonio-areas-venture-capital-pipeline-among.html consulted on May 14, 2018

7. FUTURE PREDICTIONS

According to the 2017 Official Annual Cybercrime Report[28], more and more companies will cross paths with cybercrime. Cybersecurity Ventures predicts that a business will fall victim to a ransomware attack every 14 seconds by 2019, increasing from every 40 seconds in 2017 and attacks on healthcare organizations are expected to quadruple by 2020. Small businesses will make nearly half of all cyberattacks victims.

Therefor Cybersecurity Ventures expects 2018 to be the "Year of Security Awareness Training". Global spending on security awareness training for employees is predicted to reach $10 billion by 2027, up from around $1 billion in 2014. The 5 most cyber-attacked industries in 2017 — healthcare, manufacturing, financial services, government, and transportation — are predicted to remain the same for 2018, although the rank order may change.

Cisco estimates that Internet of Things (IoT) devices will be the biggest technology crime driver in 2018. The number of IoT devices will be three times as high as the global population by 2021. There will be many new opportunities as every industry has gone "Tech" — AdTech (advertising), FinTech (financial services), EdTech (educational technology), GovTech (government), LegalTech (law firms), etc.

These problems open up new and surprising opportunities for companies in the cybersecurity industry.

8. ADVICE FOR FLEMISH COMPANIES

For Flemish organizations active in cybersecurity, San Antonio presents a valuable opportunity. To become successful in this domain, one needs access to knowledge, talent, and support. All three are available in San Antonio.

Historically known as America's home for military training and operational excellence, the association with the military and scientific research has helped create a unique combination of resources that includes the second largest concentration of cybersecurity professionals in the U.S. and multiple National Centers of Academic Excellence in Information Security. Local cybersecurity experts are engaged at places like the National Security Agency's Texas Cryptology Center and U.S. 24th Air Force Cyber Command.

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[28] Cybersecurity Ventures, Cybercrime Damages $6 Trillion By 2021 https://cybersecurityventures.com/hackerpocalypse-cybercrime-report-2016/ consulted on May 15, 2018

Like other Texas cities, San Antonio benefits from a low cost of living and high ease of doing business.

COST OF LIVING COMPARISON

You would need around 7,875.53$ in San Francisco, CA to maintain the same standard of life that you can have with 3,600.00$ in San Antonio, TX (assuming you rent in both cities). This calculation uses our Cost of Living Plus Rent Index to compare cost of living. This assumes net earnings (after income tax).

- Consumer Prices in San Francisco, CA are 64.59% higher than in San Antonio, TX
- Consumer Prices Including Rent in San Francisco, CA are 118.76% higher than in San Antonio, TX
- Rent Prices in San Francisco, CA are 228.03% higher than in San Antonio, TX
- Restaurant Prices in San Francisco, CA are 65.94% higher than in San Antonio, TX
- Groceries Prices in San Francisco, CA are 85.51% higher than in San Antonio, TX
- Local Purchasing Power in San Francisco, CA is 16.62% lower than in San Antonio, TX

9. MARKET RESEARCH & MEDIA RESOURCES

ORGANISATIONS:

The City of San Antonio: http://www.sanantonio.gov

The City of San Antonio's Economic Development Department (EDD) – Business & Incentive guide FY 2018 http://www.sanantonio.gov/Portals/0/Files/EDD/IncentiveProgramGuide.pdf

San Antonio podcast CityInsider: http://www.sanantonio.gov/Manager/CityInsider

International relations office: http://www.sainternationalrelations.org

MEDIA:

The Rivard Report is San Antonio's leading local online news source that focuses on business, technology, and other topics that may be an interest to business owners.: https://therivardreport.com

San Antonio Business Journal: https://www.bizjournals.com/sanantonio/

Silicon Hills News: Website that shares technology news with companies and entrepreneurs. They discuss issues for creative people and provide a calendar of technology based events. It covers the Austin and San Antonio region. http://www.siliconhillsnews.com

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10. APPENDIX

APPENDIX 1

Top 500 Cybersecurity firms 2017 with HQ in San Antonio include:

1. **Digital Defense (16):** Digital Defense, Inc. delivers managed security risk assessments that help organizations across the globe defend data and keep brands and reputations secure. www.digitaldefense.net

2. **Inspired eLearning (50):** Inspired eLearning delivers eLearning solutions to help clients nurture and enhance workforce skills, protect themselves against cyberattacks and regulatory violations, and maximize the return on their investment in organizational training.

3. **Globalscape (120):** Globalscape is a pioneer in securing and automating the movement and integration of data seamlessly in, around and outside your business, between people and places, in and out of the cloud. They have over 13,000 customers in over 150 countries worldwide, including global enterprises, governments, and small and medium enterprises.

4. **Infocyte (280):** Infocyte is developed by former US Air Force cybersecurity officers, Infocyte's dedicated forensics-based threat hunting platform discovers post compromise activity of cyber attackers and malware that have bypassed other defenses.

5. **Denim Group (292):** Denim Group was founded in 2001 and provides cybersecurity solutions to both the public and private sectors. They perform risk assessments across enterprise systems and help remediate vulnerabilities in both developed software and software that is still being developed.

6. **Innove (309):** Innove offers solutions that help federal, state & local and multilateral development agencies address complex cybersecurity issues.

7. **Dragos security (437):** Dragos security delivers unprecedented passive detection and visibility into ICS assets and activity, detects threats, and provides the context, tools, and knowledge to respond to attacks.

Other Top 500 Cybersecurity firms with presence in San Antonio[29] are Root9B, PwC, Booz Allen Hamilton, Accenture, Northrop Grumman, Lockheed Martin, Fidelis, General Dynamics, Futurex and EndGame.

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[29] NBSO Texas http://www.nbso-texas.com/cybersecurity-in-san-antonio-tx consulted April 20, 2018

APPENDIX 2: INVESTMENT LANDSCAPE

Launch San Antonio	LaunchSA, previously called Café Commerce, tries to make entrepreneurship easier and to strengthen the support infrastructure for small business owners. One of their initiatives is called ONE MILLION CUPS, where on a weekly basis two local entrepreneurs present their startups to an audience of mentors, advisors, and entrepreneurs in 6 minutes. Afterwards there is a Q&A, where they gain insight into possible ways they can improve their businesses and connect with a community that truly cares about their progress. http://launchsa.org/about/
Velocity TX	The next generation of the Texas Technology and Research Foundation is gathering a group of co-investors to match early stage funds in an effort to keep startups growing in San Antonio. Velocity TX is also bringing international technology startups to San Antonio inside an innovation hub under construction on the city's East Side. https://velocitytx.org/
LIFT FUND	LiftFund is a non-profit organization that provides credit and services to small businesses and entrepreneurs who do not have access to loans from commercial sources and provides leadership and innovation to the micro-lending industry. They partner with SBA lenders and other lending institutions to provide small business loans, SBA 504 Loans, and microloans in Texas and throughout the South Eastern USA. https://www.liftfund.com
T3DC	T3DC is a leader in providing early-stage investment capital and support services for entrepreneurs in medical, scientific, and tech fields in Central Texas. http://t3dc.org/
VENTURE WEEKEND – 3 DAY STARTUP	VentureWeekend San Antonio is a program run by VentureLab, where you start a company over the course of three days. The organization rents work space, recruits 40 students and young professionals with a wide range of backgrounds, caters food and

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	drinks and invites top-notch entrepreneurs and investors. The goal is to create a motived environment among a network of motivated people to sustain a company beyond the weekend. http://sustainablewater.3daystartup.org
GEEKDOM FUNDING	The Geekdom Fund creates a source of funding for startup companies who are active in the Geekdom community. https://geekdomfund.com
THE SAN ANTONIO WORDPRESS MEETUP GROUP	The San Antonio WordPress Meetup Group is a group of local San Antonio WordPress enthusiasts using the most complete, efficient and versatile way to create websites and blogs: WordPress Beginners, bloggers, coders, designers and more. https://www.meetup.com/nl-NL/SanAntonioWordPress/discussions/
Alamo Angels	Previously called the San Antonio Angel Investors, the Alamo Angels are a group of business leaders and corporate sponsors who promote local business growth. They identify and grow startup companies by providing financial investment, educational resources, and business services to entrepreneurs. http://alamoangels.com
Active Capital LP	An early stage technology startup fund co-created by former Rackspace founder Pat Condon alongside previous Rackspace executives Pat Matthews and Cat Dizon. Active Capital LP raised at least $13 million from investors with plans to hit $20 million. The fund plans to invest in startups across the country, but continues to watch the San Antonio and Austin markets. https://www.activecapital.com/
Scaleworks Associates	Scaleworks focusses on company building, positioning, strategy and growth. They acquire companies through Venture Equity or provide loans through Venture Finance. https://www.scaleworks.com
RealCo Accelerator	RealCo's accelerator program lasts up to 15 months and offers startups as much as $125,000 in early operating capital for a small equity stake in return. They provide early stage funding, mentorship, etc. for business-to-business Internet tech companies. https://realco.com

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