# TECHNOLOGY SECTOR IN

## <u>AUSTIN</u>

August 2018

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### 1. GREATER AUSTIN

As the 11th largest city in the United States and one of America's fastest growing cities, the greater Austin area attracts companies and talent from around the world. The capital of the southern state Texas provides a home to dynamic growth industries like Advanced Manufacturing, Data Management, Life Sciences and Technology. It is not without reason that the area is nicknamed as the Silicon Hills<sup>1</sup>.

With the 1st place on Forbes "Cities of the future" and 8th place on "Best places for Businesses and careers", the city attracts talent and key players in the world.

The city has 947,897 people and yearly adds over 100,000 visitors to the bustle with its South by Southwest festival. This yearly organized event attracts global industry leaders in Film, Interactive, and Music as it has established itself as a major gathering of industry leaders in the technology field an essential destination for global professionals looking for networking opportunities. In 2017, the event had a direct participation of approximately 440,000 from 92 foreign countries and impacted the city of Austin with \$348.6 million (an increase of 7% with last year)<sup>2</sup>.

According to the U.S. Technology Office Outlook report conducted by JLL<sup>3</sup>, Austin has a market score of 84.2 with a lower cost- higher industry opportunity. This places the city third in ranking, behind Silicon Valley (95.4) and San Francisco (87.3) but before Seattle (82.3) and Boston (). The JLL Tech Market score is based on economic momentum, talent pool, innovation and average cost.

The editors ranked Silicon Valley as the most resilient technology hub for the forseeable future. They mentioned that the top five share many of the same qualities as Silicon Valley today, such as a highly educated workforce, numerous innovations measured by patent activity and strong net migration as a consequence of booming economies. In Appendix 1 we provide an overview of the top six cities according to the JLL Market score.

### 2. KEY INDUSTRIES

In Forbes' 2015 article, "Five cities poised to be the next Silicon Valley tech hub,"<sup>4</sup> Austin was mentioned as the most attractive hub. The main reasons included a young and educated workforce, the large venture capital presence, and the affordability. Where already established tech hubs such as Silicon Valley are getting expensive and perhaps too crowded, Austin still has a lot of growth potential and opportunities.

<sup>&</sup>lt;sup>1</sup> Analogous to Silicon Valley, as it is home to the headquarters for many technology corporations.

<sup>&</sup>lt;sup>2</sup> South by Southwest, Facts, figures & quotes <u>https://www.sxsw.com/facts-figures-quotes/ consulted on February 26,</u> 2018

<sup>&</sup>lt;sup>3</sup> JLL, Tech office trends fall 2017 <u>http://www.us.jll.com/united-states/en-us/Research/US-Technology-Outlook-2016-JLL.pdf</u> consulted on February 26, 2018

<sup>&</sup>lt;sup>4</sup> Forbes, 5 Cities poised to be the Next Silicon Valley Tech Hub, <u>https://www.forbes.com/sites/navathwal/2015/02/12/5-</u> markets-poised-to-be-the-next-silicon-valley-for-real-estate/#23f7f4f9703e consulted on May 5, 2018

Home to 5,500 tech companies with specializations ranging from hardware, software, social media technology, gaming and clean energy & power technology. This chapter will focus on the data management, cleantech, and advanced manufacturing industries because of their match to Flemish strengths.

### 2.1 DATA MANAGEMENT<sup>5</sup>

The region's data analytics add value to the many business operations through the analysis and manipulation of complex databases. The industry has companies in business intelligence, data as a service, analytics & visualization, apps and databases. High-profile companies in the region are Bazaarvoice, InfoChimps, Sotera Defense Solutions, and Tableau Software. The data management industry thrives on the combination of skilled talent, secure data storage, and reliable, cost-effective infrastructure and utilities available in the Austin region. These advantages attracted key players in the data center industry, including:

- **Dell** with two global data centers, comprising one of the largest storage-area networks in the U.S. and supporting more than 78,000 employees worldwide.
- **Oracle's** 130,000-square-foot data center hosts the world's largest Network Appliance and Dell/Linux installations under one roof. Oracle merged 40 data centers into this site.
- The headquarters, data center, and back-up command of **Electric Reliability Council of Texas** (ERCOT), the entity that manages the electric grid for the State of Texas.
- 300,000-square-foot data center owned and operated by Citigroup
- Hewlett-Packard with two data centers totaling 400,000 square feet

### 2.2 CLEANTECH<sup>6</sup>

The region is home to industry-leading wind turbine manufacturers, system integrators, and solar companies. They support clean energy research and development, biofuels, and energy storage with their educated workforce, technologies and research institutions. Austin has over 200 existing clean technology companies that employ 20,000 people and contributes approximately \$2.5 billion to the Central Texas economy.<sup>7</sup>

Although there is no doubt that California continues to dominate the U.S. Cleantech Leadership Index8, we can see that Texas (only ranked 21 in the state index) is making an effort to keep up by investing in the industry. In 2016, Texas ranked 3th in Clean-energy venture capital with a total investment around \$500 Million and ranked 2nd in clean-energy job by total number (after CA but ranked before New York, Michigan, Illinois, Ohio, Florida, North Carolina) with the biggest growth

<sup>&</sup>lt;sup>5</sup> The Austin Chamber of Commerce, key industries – data management <u>https://www.austinchamber.com/economic-development/key-industries/data-management</u> consulted on April 11, 2018

<sup>&</sup>lt;sup>6</sup> The Greater Austin 2017 Economic Development guide serving Central Texas <u>http://austinedguide.com</u> consulted on February 26, 2018 p. 24-25

<sup>&</sup>lt;sup>7</sup> Austin Technology Incubator <u>https://ati.utexas.edu/wp-content/uploads/Econmic-Impact-of-the-Cleantech-Sector\_05.26.2015-Final\_COMPLETE-2.pdf</u> consulted on April 10, 2018

<sup>&</sup>lt;sup>8</sup> Cleanedge <u>https://cleanedge.com/reports/2017-US-Clean-Tech-Leadership-Index</u> consulted on April 10, 2018

noticeable in wind-energy employment<sup>9</sup>. Texas is also one of the eight states to get credit to have Department of Energy research labs, clean-tech incubators and top-ranked "green" Master's programs.<sup>10</sup>

Austin is already in the top 10 metro areas in the 2017 Clean Tech Leadership Index.<sup>11</sup> It should be no surprise that San Francisco and San Jose are the Index leaders, as it has been the case for the previous five years. Only 0.08 points separates Seattle (number 8) and Austin (number 10). Strongest performances in are in Climate & Carbon Management (9), Green Buildings and Clean-Tech Investment (8 in both). Austin climbed 10 spots to sixth in the number of Energy Star buildings per million residents, and jumps six spots to 15th in per-capita Energy Star square footage.

With the support of the Greater Austin Chamber of Commerce, Austin is trying to establish this new clean energy reputation nationwide. In a CICE Case study from 2013<sup>12</sup>, the Greater Austin Chamber Partners studies how Austin became a booming clean energy hub in a state long famous as a national center for oil and natural gas production. Their finding were that the tech-savy workforce, a leading research university and a forward-thinking utility made the city rapidly attracting new energy businesses and capital from around the country.

### 2.3 ADVANCED MANUFACTURING<sup>13</sup>

Austin is a leader in advanced manufacturing with a highly educated and creative workforce. According to The Austin Chamber of Commerce, the sector creates 57,900 Central Texas manufacturing jobs and the 1,445 Manufacturing Firms account for 13.4% of Metro GDP. Manufacturers ranging from electronics, food production, medical devices, and others have found Austin to provide essential advantages to support the industry. Another advantage is its location and transportation infrastructure. Key players in this industry are IBM, Intel, Oracle, Emerson Process Management and 3M.

The city is a leader in semiconductor, electronics R&D and manufacturing. The semi-conductor industry grew here starting in the 1980s and ranked 9th in per capita patent activity, according to a 2013 Brookings Institute report, with an average of 2,500 patents per year. The US is the worldwide semi-conductor industry leader with about half of global market share. U.S. semiconductor industry sales totaled \$164 billion in 2016, directly employs nearly a quarter of a million in the U.S. and is America's 4th biggest export after airplanes, refined oil, and automobiles (more than 80% of U.S. semiconductor companies' sales are to overseas customers).<sup>14</sup>

<sup>&</sup>lt;sup>9</sup> Cleanedge <u>https://cleanedge.com/reports/2017-US-Clean-Tech-Leadership-Index</u> consulted on April 10, 2018

<sup>&</sup>lt;sup>10</sup> Cleanedge <u>https://cleanedge.com/reports/2017-US-Clean-Tech-Leadership-Index</u> consulted on April 10, 2018

<sup>&</sup>lt;sup>11</sup> Cleanedge <u>https://cleanedge.com/reports/2017-US-Clean-Tech-Leadership-Index</u> consulted on April 10, 2018 (p. 31-46)

<sup>&</sup>lt;sup>12</sup> Chambers for innovation & clean energy <u>https://www.austinchamber.com/upload/files/CICE\_case\_study\_Austin\_7.pdf</u> consulted on February 27, 2018

<sup>&</sup>lt;sup>13</sup> The Austin Chamber of Commerce, key industries –advanced manufacturing <u>https://www.austinchamber.com/economic-development/key-industries/advanced-manufacturing</u> consulted on April 9, 2018

<sup>&</sup>lt;sup>4</sup> Semiconductor Industry Association (SIA) <u>https://www.semiconductors.org/clientuploads/SIA%20-</u> %20Industry%20Brochure%20-%20Web2.pdf consulted on April 11, 2018

### 3. MAIN PLAYERS IN TECHNOLOGY

As the sixth in the top 50 most educated metro areas<sup>15</sup>, Austin has been experiencing booming business and we can notice this in the employment rate and job growth. Unemployment in February 2018 was as low as 2.8%<sup>16</sup> which is 1.3% under the national average. Job growth was at 3.02%. and the expected job growth was 43.13%.

Austin-Round Rock had 60,070 jobs in computer and mathematical, accounting for 6.0 percent of local area employment, double the 3.0-percent national share.

Some of the larger detailed occupations within the computer and mathematical group included applications software developers (13,680), computer systems analysts (10,000), and computer user support specialists (7,530).<sup>T</sup>

Appendix 2 will give you an overview of all the biggest employers in Austin.

### 4. AUSTIN INITIATIVES

#### The Austin Chamber of Commerce<sup>18</sup>

The Austin Chamber of Commerce is a private, membership-driven organization comprising more than 3,000 business enterprises, civic organizations, educational institutions, and individuals. Its mission is to provide leadership that facilitates the creation of a prosperous regional economy and effective advocacy for its members. They are focused on keeping the Greater Austin region attractive and prosperous by addressing our most pressing challenges - infrastructure and talent development, for example- so businesses and communities of all sizes can flourish.

#### Innovative Austin<sup>19</sup>

Innovate Austin is an economic development initiative, powered by the Austin Chamber of Commerce focused on making Austin the number one region to start and grow a technology and innovation based business.

<sup>&</sup>lt;sup>15</sup> Kelly O'Halloran, Meet Austin's Top 100 tech companies: Employee count up 11 percent in 2017, Built in Austin October 31, 2017 <u>https://www.builtinaustin.com/2017/10/31/austin-top-100-tech-companies-2017</u> consulted on February 26, 2018

<sup>&</sup>lt;sup>16</sup> Ycharts, <u>https://ycharts.com/indicators/austin\_tx\_unemployment\_rate</u> consulted on February 26, 2018

<sup>&</sup>lt;sup>17</sup> The bureau of labor statistics, occupational employment and wages in Austin-Round Rock May 2017 <u>https://www.bls.gov/regions/southwest/news-release/occupationalemploymentandwages\_austin.htm</u> consulted on February 26, 2018

<sup>&</sup>lt;sup>18</sup> The Austin Chamber of Commerce <u>https://www.austinchamber.com</u> consulted on February 27, 2018

<sup>&</sup>lt;sup>19</sup> The Austin Chamber of Commerce, Innovative Austin <u>https://www.austinchamber.com/innovation</u> consulted on February 27, 2018

#### Austin Tech Alliance<sup>20</sup>

"Austin Tech Alliance is a nonpartisan nonprofit that promotes civic engagement in Austin's tech sector and using tech as a tool to tackle our community's most pressing challenges. They work to make Austin a city of the future while protecting its unique culture." – Austin Tech Alliance

### 5. STARTUPS IN AUSTIN

It's not without a reason that the city was selected as the Number 1 city for Startup Activity" by the Kauffman Foundation in 2016. The city's reputation as one of the fastest-growing tech communities in the country continues to prove itself, attracting top talent, investors, companies and entrepreneurs ready to launch and eager to innovate. In other words, it has never been a better time to launch a startup in Austin. Successful startups from Austin include:

#### 1. Indeed.com

Indeed is the number 1 job site worldwide with over 200 million unique visitors per month. Indeed is available in more than 60 countries and 28 languages.

#### 2. Homeaway.com

HomeAway is the world leader in vacation rentals with more than 2 million unique places to stay in 190 countries, and is a part of the Expedia, Inc. family of brands. The startup launched in 2005 and from then on focused on offering an extensive selection of vacation rental homes that provide travelers with memorable experiences and benefits, for less than the cost of traditional hotel accommodations. In 2016, the company won **The Travel Weekly Magellan Awards for** best vacation rental service in the hospitality industry.

#### 3. Dell

American <u>multinational</u> information technology corporation based in <u>Round Rock, Texas</u>. Dell was founded in Austin in February 1984 by 19-year-old Michael Dell with only \$1,000.

#### 4. Whole Foods Market

Whole Foods Market was founded in Austin, in 1978, where it still is headquartered. Today, Whole Foods Market, Inc. operates natural and organic foods supermarkets. The company operates approximately 470 stores in the United States, Canada, and the United Kingdom and it also sells products online. Since August 28, 2017, Whole Foods Market, Inc. operates as a subsidiary of Amazon.com, Inc.

<sup>&</sup>lt;sup>20</sup> Austin Tech Alliance <u>https://www.austintech.org</u> consulted on February 26, 2018

## 6. INVESTMENT LANDSCAPE<sup>21</sup>

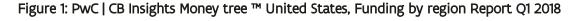
For all of 2017, PitchBook and the <u>National Venture Capital Association noticed that</u> venture capital investors invested more money into fewer Central Texas startups than in 2016. Almost \$1.2 billion was invested into 207 companies last year, up from \$942 million invested in 211 deals in 2016.<sup>22</sup> The city ranks 10<sup>th</sup> based on total VC Funds raised since 2006 and total VC Invested since 2006.<sup>23</sup>

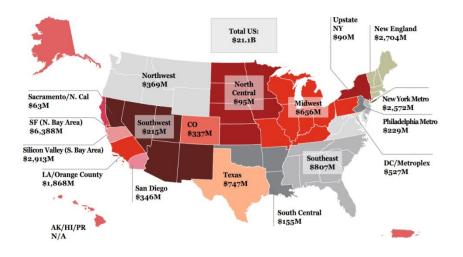
Across the entire country, \$84 billion was invested in 8,035 companies in 2017, a new record since the early 2000s, according to PitchBook/NVCA. Investment in Austin is in line with areas such as Pittsburgh, Seattle and Chicago.

The following map in Figure 1 gives an overview of all funding in the United States for the first quartal of 2018.<sup>24</sup>

According to PwC MoneyTree, investments in in VCbacked startups reached new heights for this decade with \$21.1 billion in the first of 2018 with an \$20M average deal size. They noted that while the amount increased, deal activity declined with 2%.

Top five states for investment are: San Francisco (N. Bay Area with \$6,388M), Sillicon Valley (S. Bay Area with 2,913M), New England (2,704M), New York Metro (2,572M) and Los Angeles (1,868M). The top five industries are internet, healthcare, mobile & telecommunications, software and industrial.





<sup>21</sup> The Greater Austin 2017 economic development guide serving central texas

https://www.austinchamber.com/economic-development/contact/ed-guide consulted on February 26, 2018

https://www.pwc.com/us/en/technology/assets/MoneyTree\_Report\_2018\_Q1\_FINAL.pdf p 33-35, consulted on May 11, 2018

<sup>&</sup>lt;sup>22</sup> Business Journals Austin <u>https://www.bizjournals.com/austin/news/2018/01/09/funding-for-startups-climbs-in-austin-nationwide.html</u> consulted on April 11, 2018

<sup>&</sup>lt;sup>23</sup> Pitchbook <u>https://pitchbook.com/news/reports/2016-us-venture-ecosystem-factbook</u> <u>consulted on April 11, 2018</u>

<sup>&</sup>lt;sup>24</sup> PwC / CB Insights MoneyTree<sup>™</sup> Report Q1 2018

The following table in Figure 2 is a partial view of the VC investment in Austin as we concentrated to technology. The detailed overview can be retrieved from the Austin Chamber of Commerce. Additional venture capital data is available via the Chamber's Economic Indicators page. What we notice right away is that most of the VC is invested in the technology industry. Focus is clearly on the semiconductor, software and energy industry.

#### Figure 2: Venture Capital Investment by Industry/Technology 2011-2015<sup>25</sup>

#### Source: <u>PWC/NVCA MoneyTree Survey</u>.

	AUSTIN MSA MILLIONS	AUSTIN MSA % OF TOTAL	UNITED STATES % OF TOTAL
Biotechnology	\$249.7	7.8%	14.5%
Computers & Peripherals	\$82.2	2.6%	1.5%
Consumer Products & Services	\$223.0	7.0%	5.6%
Electronics/Instrumentation	\$7.0	0.2%	0.8%
Industrial/Energy	\$388.2	12.2%	6.2%
IT Services	\$150.1	4.7%	6.3%
Semiconductors	\$249.0	7.8%	1.2%
Software	\$1,449.0	45.4%	39.6%
Telecommunications	\$0.1	0.0%	1.1%
Total	\$3,189.7	100.0%	100.0%

Appendix 5 will give you an overview of investment capital companies such as angel investors, venture capital, private equity and family offices in Austin. We urge you to seek the guidance of a professional consultant, accountant, and/or attorney to help operating your business. The list is based on The Austin INNO, A guide to the Austin venture capital and angel investing landscape.

<sup>&</sup>lt;sup>25</sup> The Austin Chamber of Commerce <u>https://www.austinchamber.com/economic-development/austin-profile/business-industry</u> consulted May 11, 2018

### 7. FUTURE PREDICTIONS

We believe that the city will keep on growing and attracting money and talent. Nearly 43 percent of Austin-area residents age 25 and older hold at least a bachelor's degree, and the its 86 four-year colleges and universities enroll nearly 468,000 students. Austin is growing in ranking among nonfarm payroll jobs growth (ranked #7 in 2016; Seattle came in at #6 and San Francisco ranked #10). Cost of living is still lower than the already established technology cities such as San Fransisco.<sup>26</sup>

Today, Austin is a leader in semiconductor and electronics R&D and manufacturing. Industries that are expected to continue expanding their production in 2018, with some Austin firms playing a vital role.<sup>27</sup> The city claims that the main reason for this is their human capital of young, highly trained workforce and partnerships between the region's higher education institutions and the private sector. The region is growing in sectors such as automotive technology, medical devices, nanotechnology and aerospace manufacturing, as well as a rebounding of general manufacturing since the 2009 recession.

We expect rapid growth in cleantech as the "Economic impact of the cleantech sector in the Austin-Round Rock-San Marcos MSA" report expects employment to grow 11% in Austin by 2020 compared with 9.3% growth in the sector over the same period at the state level, and 6.37% nationally."<sup>28</sup> They believe in opportunities in Renewables, Energy storage & Smart Grid technology, Smart cities & Resilient Infrastructure, Watermanagement, Recycling and Advanced manufacturing

### 8. ADVICE FOR FLEMISH COMPANIES

The first advantage to note is the accessability of talent in Austin. Ranked as one of the 10 most educated cities in America by Wallethub in 2017, Austin provides you with the right people. Besides, Austin's relatively young tech scene is a win for employers, as total payroll costs for employees in Central Texas are still highly compatible. The employer cost per \$100 of covered wages is only 0.74 in Texas, while the national average is established at 1.32. New York stands at 1.44.

Not only the employer benefits from the Texas payroll system. In a report by online hiring platform Hired, Austin ranks number one as most lucrative city for tech workers. Although salaries in the Bay area are higher in absolute terms, they only ranked 10th after adjusting for the cost of living. The booming startup scene and relative low-housing costs in Austin resulted in an average adjusted

<sup>27</sup> Austin American-Statesman <u>https://www.mystatesman.com/business/austin-2018-economy-tech-challenges-job-growth-more-dollars/w8Ls0nKMVk62ML6m0erezO/ consulted on May 15, 2018</u>

<sup>&</sup>lt;sup>26</sup> <u>http://cdn.coverstand.com/22347/481423/1c4b316c7f5dd7f41dead366ef7a6e84e1c2e210.3.pdf</u> consulted on April 11, 2018 p. 69 and Erin Morales, Austin moves higher among top-ranked cities for tech talent, Austin Business Journal (July 19, 2016)

<sup>&</sup>lt;sup>28</sup> Economic impact of the Cleantech sector in the Austin-Round Rock-San Marcos MSA <u>https://ati.utexas.edu/wp-content/uploads/Econmic-Impact-of-the-Cleantech-Sector\_05.26.2015-Final\_COMPLETE-2.pdf</u> consulted on April 11, 2018

salary of \$202,000 while a real average income is based around \$118,000. San Francisco only received \$142,000 after the cost of living index.<sup>29</sup> In Appendix 3 you can find a real tech salary overview. The second advantage of Austin is its central location in the major U.S. market. Austin is placed within 250 miles of the largest U.S. ports and has access to major highway systems and rail-served industrial sites. There is also a Foreign Trade Zone (FTZ), Freeport inventory exemptions and manufacturing sales tax exemption.

The biggest advantage to opening an office in Austin is the huge economy that Texas offers, but without being as saturated as California by percentage technology companies. Market entry in Texas gives a Flemish company access to high value customers without as much competition. General costs such as taxes and rent are also much lower.

#### Cost of living comparison

You would need around 7,763.22\$ in San Francisco, CA to maintain the same standard of life that you can have with 4,700.00\$ in Austin, 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). You can change the amount in this calculation.

- Consumer Prices in San Francisco, CA are 35.89% higher than in Austin, TX
- Consumer Prices Including Rent in San Francisco, CA are 65.17% higher than in Austin, TX
- Rent Prices in San Francisco, CA are 111.24% higher than in Austin, TX
- Restaurant Prices in San Francisco, CA are 12.92% higher than in Austin, TX
- Groceries Prices in San Francisco, CA are 57.46% higher than in Austin, TX
- Local Purchasing Power in San Francisco, CA is 19.01% lower than in Austin, TX

### 9. MARKET RESEARCH & MEDIA RESOURCES

We found following media and links to be very usufel while conducting this study:

- The Greater Austin Economic Development Guide:
   <u>https://www.austinchamber.com/economic-development/contact/ed-guide</u>
- Silicon Hills news: Technology news about Austin and San Antonio: <u>http://www.siliconhillsnews.com</u>

<sup>&</sup>lt;sup>29</sup> Quartz, Tech salaries in Austin, Texas are effectively \$66,000 higher than in NYC thanks to the cost of living <u>https://qz.com/1195354/tech-salaries-in-austin-texas-are-effectively-66000-higher-than-in-nyc-thanks-to-the-cost-of-living/</u> consulted on May 5, 2018

- **Built in Austin**, online community for Austin startups and tech companies. You can find startup jobs, tech news and events: <u>https://www.builtinaustin.com/</u>
- Austin Business Journal:
- This handbook provides general guidance and assistance to those interested in developing or further expanding their business in Texas and beyond: <u>https://businessintexas.com/sites/default/files/07/24/17/smallbusinesshandbook.pdf</u>
- Texas Secretary of State: <u>https://www.sos.state.tx.us/index.html</u>
- The official website of the **City of Austin / The Austin government**: <u>http://www.austintexas.gov/business/starting-business</u>
- The Austin Chamber of Commerce, <u>https://www.austinchamber.com</u>

### **10.** APPENDIX

### Appendix 1 30

With the huge interest there has been a lack of office space but Austin is big, and there are opportunities with 500,000 square feet coming to the market.

	Austin	Boston	New York City	San Fransisco	Seattle- Bellevue	Silicon Valley
Market score	84.2	82.2	78.7	87.3	82.3	95.4
Office supply (total inventory)	49,895,588	165,961,172	459,872,906	75,805,957	92,866,684	69,533,923
Office cost	34.30	33.73	72.63	73.05	34.86	49.98
Office cost 12- month rent growth	5.3%	4.6 growth	3.7	10.5	8.8	19.5
Employee cost	106,307	135,454	142,846	175,196	149,018	226236
Annual wage growth 2015	4.6	3.1 growth	5.5	-0.2	0.7	6.8
Total cost per employee (real estate and wages)	112,309	141,357	155,556	187,979	155,118	234,983
Venture capital	450.8M	2,345.8M	4,038M	11,316.9M	614.4	5,310.1
Total population	2,00,860	4,774,321	14,413,079	1,629,951	3,733,580	1,976,836
Talent pool (with bachelor or higher / age 25+)	41.5 %	35.2%	37.9	45.9	39.4	47.5
share of millennials (20-34)	24.6	21.9%	22.7	24.7	22.8	21.6
housing average monthly apartment rent	1,222	2,124	2,776	3,297	1,445	2,718

<sup>&</sup>lt;sup>30</sup> JLL, Tech office trends fall 2017 http://www.us.jll.com/united-states/en-us/Research/US-Technology-Outlook-2016-JLL.pdf consulted on February 26, 2018

Appendix 2. Main players in technology<sup>31</sup>

\* Companies with headquarters or regional offices in Austin

#### SOFTWARE

#### Dell Technologies Inc. \*

American <u>multinational</u> information technology corporation based in <u>Round Rock, Texas</u>. Dell technologies Inc. is the result of the "highest-valued tech acquisition in history" between <u>Dell</u> and EMC Corporation in 2015.

Dell with its two global data centers, is the biggest tech company in Austin, comprising one of the largest storage-area networks in the U.S. and supporting more than 78,000 employees worldwide located in Austin.

#### Apple Inc. \*

Apple's massive campus in Austin is home to a customer service center, human resources functions, and its online store and is also <u>home</u> to a Mac Pro manufacturing facility, where the company's high-end desktop is constructed. The office has more than 6,000 employees which makes it the largest office outside its headquarters of Cupertino, California. Note: Top 10 of biggest tech companies in Austin. (2)

#### Indeed.com

Indeed is the number 1 job site worldwide with over 200 million unique visitors per month (Comscore, March 2017). Indeed is available in more than 60 countries and 28 languages. Note: Top 10 biggest tech companies in Austin (7)

#### Google

Google LLC is an American multinational technology company with more than 450 Austin workers. The Google office has rooms named after the South by Southwest exhibition, which again emphasizes the impact of the event in the tech world. (KXAN, September 19, 2017)

#### Mood Media

Mood Media is a leading in-store media solutions company. They create emotional connections between brands and consumers through the right combination of sight, sound, scent, social mobile and systems solutions. They reach more than 150 million consumers each day through more than 500,000 subscriber locations in 100+ countries around the globe.

#### SOCIAL MEDIA SOFTWARE / E-COMMERCE / DATA

#### Facebook

Facebook is an American online social media and social networking service company based in Menlo Park, California. The Austin office was the first office Facebook's sales and online operations expanded outside of California.

Note: Top 20 biggest tech companies in Austin. (11)

<sup>&</sup>lt;sup>31</sup> Kelly O'Halloran, Meet Austin's Top 100 tech companies: Employee count up 11 percent in 2017, Built in Austin October 31, 2017 <u>https://www.builtinaustin.com/2017/10/31/austin-top-100-tech-companies-2017</u> consulted on February 26, 2018

#### EBay \*

EBay Inc. is a multi-billion-dollar and <u>multinational e-commerce</u> corporation with operations in about 30 countries. The Austin office is home to some 500 people supporting finance, risk management, and customer service operations.

Note: Top 20 biggest tech companies in Austin. (13)

#### Bazaarvoice \*

Bazaarvoice is a network that connects brands and retailers to the opinions of their consumers. Network analytics then help marketers and advertisers provide more engaging experiences that drive brand awareness, consideration, sales and loyalty. Note: Top 20 biggest tech companies in Austin. (19)

#### Main Street Hub

Main street hub manages small businesses their <u>social media</u> and spread word of mouth online. Since its launch in March 2010, the company grew to a 27-person team with an estimated worth of \$10 billion.

#### Visa

Visa Inc. is an American <u>multinational financial services</u> corporation that facilitates <u>electronic</u> <u>funds transfers</u> throughout the world. In 2015, the Nilson Report, found that Visa's global network (known as VisaNet) processed 100 billion transactions with a total volume of US\$6.8 trillion.

#### GAMING

#### Activision Blizzard / Blizzard entertainment

One of the world's most successful standalone interactive entertainment company. Their portfolio includes: Call of Duty<sup>®</sup>, World of Warcraft<sup>®</sup>, Candy Crush <sup>®</sup>, Farm Heroes<sup>®</sup>, and Pet Rescue<sup>®</sup>. Their entertainment network has nearly 500 million monthly active users in 196 countries.

Note: Top 20 biggest tech companies in Austin. (12)

#### Electronic arts

Electronic Arts Inc. (EA) is an American <u>video game company</u> who was a pioneer of the early <u>home computer</u> games industry. As of September 2017, Electronic Arts is the second-largest <u>gaming company</u> in the Americas and Europe by revenue and market capitalization after <u>Activision Blizzard</u> and ahead of <u>Take-Two Interactive</u>. Note: Top 10 biggest tech companies in Austin. (10) Appendix 3

City	Adjusted tech salary	2018 average tech salary
Austin	202,000	118,000
Seattle	182,000	132,000
Los Angeles	182,000	129,000
Denver	177,000	112,000
Chicago	173,000	113,000
San Diego	166,000	108,000
Toronto	157,000	73,000
Boston	150,000	1187,000
Washington DC	148,000	116,000
SF Bay area	142,000	142,000
New York	136,000	129,000
London	100,000	78,000
Paris	85,000	56,000

Figure: Real tech salaries and adjusted for cost of living in Silicon Valley. Atlas | Data: Hired

### Appendix 4: Region's largest employers

Employing 6,000 & d	over			
Apple	Dell Technologies	Samsung Austin	St. David's	University of
Austin	Federal	Semiconductor	Healthcare	Texas at Austin
Independent	Government	Seton Healthcare	Partnership	
School District	IBM Corp.	Family	State of Texas	
City of Austin		5		
5				
Employing 2,000-5,9	99			
Accenture	Hays	Leander	Pflugerville	Texas State
Amazon	Consolidated	Independent	Independent	University-
Applied	Independent	School	School	San Marcos
Materials	School	District	District	Travis County
AT&T	District	National	Round Rock	U.S. Internal
Austin	Keller	Instruments	Independent	Revenue
Community	Williams	NXP	School	Service
College	Realty	Semiconducto	District	Whole Foods
Flex		rs		Market
Employing 1,000-1,99	99			
Advanced	Hewlett-	YMCA of	Cypress	JPMorgan
Micro Devices	Packard	Austin	Semiconduct	Chase & Co.
Austin Energy	Enterprise	Employing	or	The
Austin	HomeAway	500-999	eBay	Liquidation
Regional	Intel Corp.	3M	Electric	Channel
Clinic	Lower	Activision	Reliability	Luminex
Baylor Scott	Colorado	Blizzard	Council of	Corp.
& White	River	AECOM	Texas	Maximus
Healthcare	Authority	Alorica	Electronic	Netspend
Capital Metro	Oracle Corp.	American	Arts	Pearson
Transportatio	Pfizer	Cancer	Emerson	Assessments
n Authority	Pharmaceutic	Society	Process	Q2
Charles	al Product	National	Management	Rackspace
Schwab	Development	Cancer	Facebook	Sears
Clinical	Progressive	Information	Farmers	Customer
Pathology	Insurance Co.	Center	Insurance	Care
Laboratories	Spectrum	BAE Systems	Group	Silicon
General	State Farm	Bank of	Grande	Laboratories
Motors	Insurance Co.	America	Communicati	Software
Goodwill		Bazaarvoice		House
	U.S. Dept. of		ONS	International
Industries of	Veterans	Centene Corp.	Harte-Hanks	
Central Texas	Affairs	CFAN Cirrus Logio	H-E-B	SolarWinds
	Wells Fargo	Cirrus Logic	Indeed	St. Edward's
N/ing	Bank Texas	Cisco Systems		University
Visa	Wayne	Xerox		
VMWare	Fueling	Yodle		
	Systems			

#### Appendix 5: The Austin investing landscape

Following list is a brief overview of Investment capital companies in Austin. We urge you to seek the guidance of a professional consultant, accountant, and/or attorney to help operating your business. The list is based on <u>The Austin INNO, A guide to the Austin venture capital and angel investing landscape</u>.

#### Austin's angel investor networks

An angel investor is someone who puts their own finance into the growth of a small business at an early stage, also potentially contributing their advice and business experience. Angels make their own decision about the investment, and in return for providing personal equity they take shares in the business. The amount they invest is flexible.

#### 1. <u>Central Texas Angel Network</u>:

Central Texas Angel Network (CTAN) has invested \$90 million in 150+ companies since 2006. The member-based organization features 185 individual accredited investors from an extensive crosssection of sectors and backgrounds. CTAN members not only invest; they also mentor entrepreneurs and connect them to business resources, providing critical support to the success of early-stage business and the Texas economy.

#### 2. Southwest Angel Network:

The Southwest Angel Network is a non-profit organization with an educational mission. They have programs to help promote entrepreneurship with the underserved in the Austin community and what it means to establish growing and profitable businesses. The Southwest Angel Network supports equal access to capital for companies with diverse management teams, and has taken the <u>Startup Diversity and Inclusion Pledge</u>.

#### 3. Hill Country Angels:

Hill Country Angel Network is a group of investors that are looking to fund promising fledgling companies with identified high-growth potential. They invest in opportunities in high tech, low tech, life science, biopharmaceutical, medical device, education, oil and gas, industrial, clean energy, consumer product, media, sports, and gaming and entertainment sectors. Their goal is to offer capital and mentoring to take companies to the next level, increase valuations, and ultimately get to an attractive exit. Differing them from most other angel investing organizations, participation is not a requirement and living in Texas or the U.S. is also not a requirement.



#### Venture capital Firms

As a general rule in America, groups of angel investors might go as high as £1 million – but VC firms are unlikely to invest less than £1 million. Angel investors specialize in early-stage businesses, while VC firms are generally more unwilling to invest in startups unless they show really compelling promise and growth potential (though this is changing as the startup scene continues to flourish).

CAVIL	Fund size: \$210M
CAVU	Fund size: \$210M
	Stages: all
	Focus: CPG
<u>Sante Ventures</u>	Fund size: \$140M
	Stages: Seed through Series B
	Focus: Healthcare and Life Science
LiveOak Venture Partners	Fund size: \$109M
	Stages: Seed through Series B
	Focus: Technology and Tech enabled
PTV Healthcare Capital	Fund size: \$96M
	Stages: Late Stage
	Focus:
Next Coast Ventures	Fund size: \$88.5M
Next Coast Ventures	Stages: Seed, Series A
	Focus: Healthcare and Life Science
	Fund size: \$75M
Silverton Partners	Stages: Series A, B
	Focus: Technology
<u>S3 Ventures</u>	Fund size: \$75M
	Stages: Series A, B, C, growth equity
	Focus: IT Tech, Med Tech
<u>Texo Ventures</u>	Fund size: \$20M
	Stages: Seed, Series A
	Focus: Tech Enabled Healthcare
ATX Seed Ventures	Fund size: \$25M
<u>ATA Seed Ventures</u>	Stages: Seed
	Focus: Technology
Capital Factory	Fund size: \$10M
	Stages: Seed, Series A
	Focus: Technology
True Wealth Ventures	Fund size: Completed first close and actively investing
That weathr ventares	Stages: Seed
	Focus: Women-led companies; Consumer

#### **Private Equity Firms**

**Private equity (PE)** firms raise funds sourced from high net-worth individuals and institutional investors such as pension funds, insurance companies, and endowments. Their investments are fewer in number than those made by angels and VCs but much larger in value.

They seek out existing companies that are ripe for expansion or are under-optimized. They purport to help a healthy enterprise fulfill their business vision or expand their products and services by providing the needed funds.

Vista Equity Partners Vista Equity Partners was established in 2000 and exclusively focuses on enterprise software, data, and technology solutions. Today, they have over \$30 billion in cumulative capital commitments.	Current fund size: \$11B Stage: Late stage Focus: Software, data, and technology industries
Trilantic Capital Partners Trilantic North America and Trilantic Europe are two separate and independent private equity investment advisors, each focused on control and significant minority investments in their respective geographies.	Current fund size \$2B Stage: Late stage Focus: All
Peak Rock Peak Rock focuses on investing in opportunities where we can support senior management in driving rapid growth and profit improvement through operational and strategic change.	Current fund size \$700M Stage: late middle market Focus: Technology, healthcare, others

<u>CenterGate Capital</u> CenterGate Capital is a private equity firm focused	
on improving and growing lower middle market	
companies. They offer transactional and operational	Current fund size \$350M
experience along with a network of advisors and	Stage: Lower middle market
strategic relationships. They advise their portfolio	Focus All:
companies on team building, strategic acquisitions,	
geographic expansion, operations improvement, KPI	
management and financial reporting.	
Tritium Partners	
Tritium Partners is a private equity firm focused on	
buyouts of growth companies in the lower middle	
market. Tritium's investment approach emphasizes	
acquiring majority positions in profitable companies	
and creating long-term value through internal	Current fund size \$309M
growth initiatives and acquisitions, with a particular	Stage: Growth Companies
focus on three core sectors:	Focus: All
Internet and information services	
Supply chain and logistics	
Financial and business services	
Dos Rios Partners	
The Small Business Administration (SBA) has selected	
Dos Rios to be one of the few Small Business	Current fund size \$225M
Investment Companies (SBICs) in the region. As an	Stage: All
SBIC, they are entitled to access unusually flexible,	Focus: All
long-term, low-cost capital, subject to investing in	
qualified small businesses.	

Blue Sage CapitalFounded in 2003, Blue Saga Capital is a privateequity firm with over \$200 million in managementthrough two funds specializing in growth,recapitalization and buyout financings of smallmiddle-market companies.Their focus is on:\$3-12M EBITDA\$10-20M investment with ability to scale upFlexible capital: Majority/minority equity, Mezzanine debtFounder/family-focused	Current fund size \$150M Stage: Buyouts Focus: All
Strattam Capital Strattam Capital employs a blend of investment and management to spur long-term growth for their portfolio companies. Their goal is to build better business IT companies by removing constraints to growth, allowing their portfolio companies to realize their true potential.	Current fund size \$109M Stage: Late stage Focus: Ent SW, Digital Infrastructure, Tech Services

#### Family Offices

Hurt Family Investments (HFI)	
Hurt Family Investments are involved in 56 startups and	Stage: Cood Series A
counting. HFI has made 45 startup investments, 21 of which	Stage: Seed, Series A
are Software-as-a-Service (SaaS) companies. Out of the 56	Focus: SaaS;
startups HFI are involved in, 39 are headquartered in Austin	Technology
and 28 are SaaS.	

Wild Basin Investments	
Wild Basin operates as an evergreen venture capital firm. They	
invest in software and technology-enabled companies as well	Stage: all
as select life science opportunities. They invest alongside	Focus: all
other venture capital firms and have a flexible mandate that	
allows them to consider varied investment structures,	
including debt offerings.	
<b>CapStar Partners</b> Capstar Partners is a private investment firm that participates in small and middle market buyouts, real estate development, and public investing. Since 2000, Capstar has invested in a broad range of industries including media and broadcasting, healthcare services, e-commerce, financial services and real estate.	Stage: Small and middle market buyouts Focus: all
Acacia Partners	
Acacia Partners is a Texas based private investment firm that	
invests primarily in family owned and operated companies	
seeking equity capital ranging from \$15 million to \$50 million.	Stage: Growth equity,
Acacia does not have a fixed investment mandate which gives	buyouts
them a high degree of flexibility regarding investment	Focus: All
structure and time horizon. Acacia invests in both debt and	
equity and even has the ability to hold investments	
indefinitely.	
Spindletop Capital Management	Stage: Late Stage,
Spindletop specializes in commercial stage & profitable	Growth Equity,
healthcare companies with a focus on Expansion Capital.	buyouts
	Focus: Healthcare