THE MIDDLE GEORGIA INNOVATION PROJECT

INNOVATION PERFORMANCE AND GAP ANALYSIS REPORT

Part 1: Potential for Innovation and Comparable Case Studies

March 2021

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INNOVATION PERFORMANCE AND GAP ANALYSIS REPORT
Part 1: Potential for Innovation and Comparable Case Studies

This report is a deliverable of Task 2 of The Middle Georgia Innovation Project and is Part 1 of the Middle Georgia Innovation Performance and Gap Analysis Report. The objective of Task 2 was to perform an innovation performance and gap analysis of the Middle Georgia region in two parts. The first part is an in-depth look at the potential for innovation in Middle Georgia and explores comparable regional case studies in Georgia, Alabama, Tennessee and Ohio. The second part examines the technical results and data that indicate both gaps and opportunities for innovation in Middle Georgia compared to the regional studies. Parts 1 and 2 represent the second of three reports for The Middle Georgia Innovation Project.

More information on The Middle Georgia Innovation Project can be sourced at
https://lab2.future-iq.com/middle-georgia-innovation/

March 2021

Report Prepared by:

future→iQ®

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1.0   INTRODUCTION

In 2018, the State of Georgia received an initial grant from the Department of Defense Office of Economic Adjustment (OEA) to implement a region wide planning process. This supported the Middle Georgia Charrette and Regional Planning Initiative, which produced a Regional Action Plan that identified six pillars of action. It was concluded there was a regional need for an innovation performance and gap analysis to identify the current innovation ecosystem including the gaps and clusters within that ecosystem.

This resulted in a second grant extension in 2020, that funded The Middle Georgia Innovation Project. This next phase will provide an innovation gap analysis across the 11 counties of the Middle Georgia region. The overall purpose of the project is to build innovation in Middle Georgia, focusing on the concept of developing the region as a 'Software Center of Excellence'. This will require understanding and enhancement of the current innovation ecosystem within the region. The final outcome will be a Middle Georgia Innovation Roadmap Report and recommendations for the path forward.

This report presents Part 1 of the Middle Georgia Innovation Performance and Gap Analysis Report. Part 1 explores the potential for innovation in Middle Georgia and examines comparable regional case studies, their successes, and lessons learned.

MIDDLE GEORGIA BUILDING AN INNOVATION ECOSYSTEM
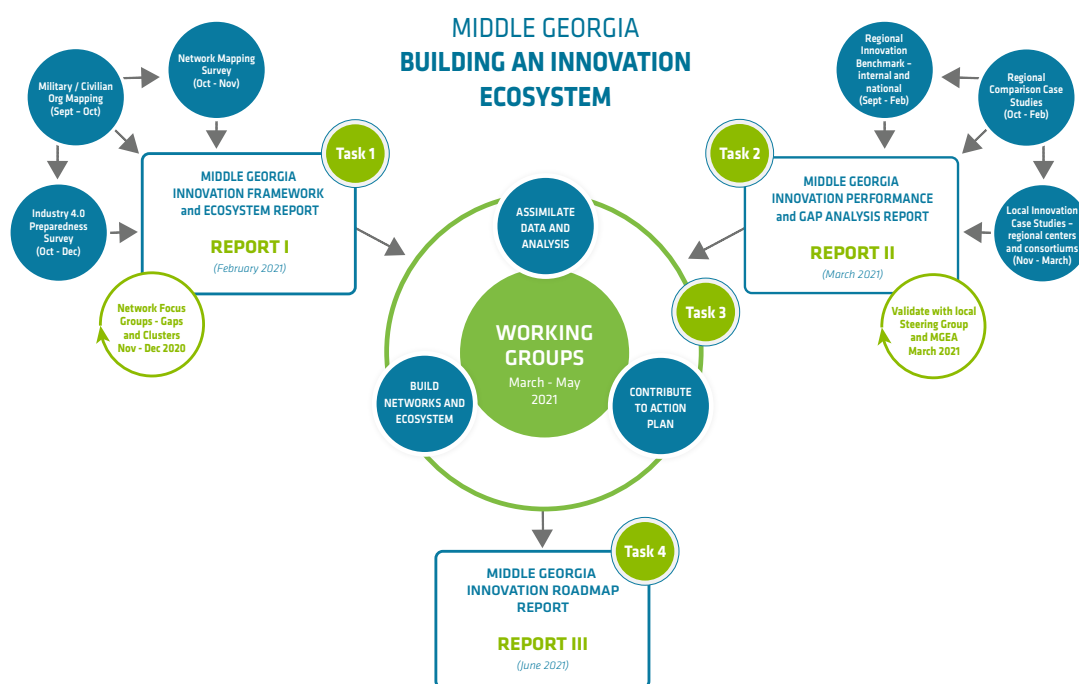
"The Middle Georgia Innovation Project explores the innovation ecosystem across the 11 counties of Middle Georgia. The effort builds upon the existing assets found in the area, particularly among the region's educational institutions, existing companies and Robins Air Force Base. This initiative intends to bolster innovation in the Middle Georgia region to attract new industry, businesses and most importantly talent. The success of this project is supported by the existing innovation centers and educational institutions in the region."

- Angie Gheesling, Executive Director, Development Authority of Houston County

2.0 MIDDLE GEORGIA – BUILDING BLOCKS FOR A REGIONAL INNOVATION ECOSYSTEM

The Middle Georgia innovation ecosystem is at a tipping point. Progress to date on this project shows both tremendous appetite and potential for growth and expansion of the existing innovation ecosystem. Task 1 report identified the need to build the innovation ecosystem by placing a deliberate focus on Industry 4.0 technologies and by promoting existing innovation and the region's livability story. By looking at specific case studies, this report examines what other regions in the state and country have done to build their innovation ecosystems and highlights existing gaps and opportunities. The data clearly shows the Middle Georgia region has comparable building blocks that may be grown and nurtured. Four key building blocks have emerged that support Middle Georgia's potential to become a high performing region:

- **Robins Air Force Base (RAFB):** The RAFB is the largest employer in the Middle Georgia region and has an unmet demand for skills in Industry 4.0 technologies, especially the digital sciences and software engineering.

- **Strength in knowledge creation:** The educational institutions in Middle Georgia are critical in their promotion of innovation in the region. The high concentration of STEM degrees produced and their role in supporting start-ups and entrepreneurs are important elements needed to build an innovation culture in the region.

- **Rapidly growing technical and computer science sectors:** There has been solid growth in these sectors. Building a collaborative network of businesses in these sectors will be critical to attracting and maintaining highly skilled talent.

- **Proximity to Atlanta and emerging regional identity:** Downtown Macon has flourished in the past five years and has the potential to become an attractive urban alternative to Atlanta. This may be especially appealing to remote workers. Additional attractive community experiences exist in other Middle Georgia communities such as Warner Robins, Centerville and Perry. The geographic location of the region also positions it as a potential logistical hub in the state, especially for manufacturing and agriculture.

The following sections will examine these building blocks as key elements of Middle Georgia's innovation ecosystem.

2.1   ROBINS AIR FORCE BASE – A KEY DRIVER OF INNOVATION

The largest employer and contributor to the Middle Georgia regional economy by a substantial margin is the Robins Air Force Base (RAFB). Located in Houston County, the military base employed 23,967 individuals in 2019 (6,188 military, 14,821 civilian, and 2,958 other employees) and contributed an estimated total economic impact of $3.38 billion. The base awarded $7.1 billion in contracts during 2019 fiscal year with $518 million to Georgia firms and $224 million to firms in Houston County. (*Data sourced from the Robins Air Force Base Economic Impact Statement, 2019*)

The RAFB's tremendous economic impact is an engine of demand for talent and businesses to support the needs of the base. As noted in the Task 1 report, the base's needs are unmet in its demand for skills in Industry 4.0 technologies, especially digital science and software engineering. This gap is a huge opportunity for the region's 'off-base' localities to expand their innovation ecosystems and to build on its existing core of technology firms.

> Like other military base regions across the country, Middle Georgia benefits greatly from the Robins Air Force Base. Its dependency is also a risk for the region, so building out the innovation ecosystem across the region will be important for long-term resiliency.
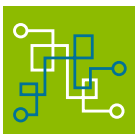
FUTURE INSIGHTS:

- Houston County has the highest employment rate of all counties in the Middle Georgia region (68,567) due in large part to the presence of the RAFB. As new missions become less 'people' intensive, it will be important to cultivate the innovation ecosystem off-base to support those exiting the RAFB.
- The RAFB's demand for digital science and software engineering is a key driver in the potential for Middle Georgia to become a Software Center of Excellence.

2.2   STRENGTH IN KNOWLEDGE CREATION

Middle Georgia's educational institutions are key pipelines of talent and support for the region's innovation ecosystem. According to the U.S. Economic Development Administration's 2016 Innovation Index 2.0, the core counties of Middle Georgia rank comparably in the Human Capital and Knowledge Creation Core Index to the regional and local case studies in this report. This is important because this shows the existing labor support for innovative activities in the Middle Georgia region to be significant. It should also be noted that in 2019, the total number of STEM degrees awarded (6,886) in Middle Georgia represented almost half (49.8%) of all degrees awarded in the region. STEM degrees are a key component in the workforce training needed to support Industry 4.0 technology development.

The existence of a strong university system of support along with a high concentration of STEM degree production in Middle Georgia position the region well to expand its innovation ecosystem.

Human Capital and Knowledge Creation Core Index for Middle Georgia

Areas	State	County	Largest City/Town	Headline Index	Rank (3110)	Capacity
Middle Georgia	Georgia	Baldwin County	Milledgeville	93.4	1,402	Normal
	Georgia	**Macon-Bibb County**	**Macon**	**108.5**	**788**	High
	Georgia	Crawford County	Roberta	69	2,690	Low
	Georgia	**Houston County**	**Warner Robins**	**124.5**	**426**	Very High
	Georgia	Jones County	Gray	84.7	1,853	Normal
	Georgia	Monroe County	Forsyth	92.9	1,419	Normal
	Georgia	**Peach County**	**Fort Valley**	**131.4**	**308**	Very High
	Georgia	Pulaski County	Hawkinsville	78.2	2,227	Low
	Georgia	Putnam County	Eatonton	90.7	1,529	Normal
	Georgia	**Twiggs County**	**Jeffersonville**	**60.5**	**2,967**	Very Low
	Georgia	Wilkinson County	Gordon	65.5	2,820	Very Low
Regional Case Study	Tennessee	Hamilton County	Chattanooga	126.3	396	Very High
	Alabama	Madison County	Huntsville	142.8	144	Very High
	Ohio	Hamilton County	Cincinnati	147.3	95	Very High
Local Case Study	Georgia	Richmond County	Augusta	102.5	991	Normal
	Georgia	Muscogee County	Columbus	131.3	309	Very High
	Georgia	Chatham County	Savannah	127.2	382	Very High

Source: StatsAmerica – Innovation Index 2.0, U.S. Economic Development Administration
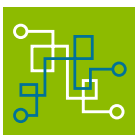
FUTURE INSIGHTS:

- All of the case study participants interviewed for this report emphasized the importance of strong university support systems for innovation development. Middle Georgia will need to strengthen partnerships across industries to build a network of talent support for businesses in the region.
- Fort Valley State University's new Center for Agriculture Innovation and Entrepreneurship will be a key driver for innovation in the region's agricultural sector.

## 2.3 RAPIDLY GROWING TECHNICAL AND COMPUTER SCIENCE SECTORS

The technical and computer science sectors are growing at a rapid rate in the Middle Georgia region. High performing Tier II Middle Georgia employment in the Scientific Research and Development Services industry grew by 366% from 1991 to 2019. During the same time period, high performing Tier I industries Middle Georgia employment grew by 103% in the Management, Scientific and Technical Consulting Services industry and 59% in the Computer Systems Design and Related Services industry. The rapid growth of these industries is a clear indication of the potential to grow the innovation ecosystem in these sectors.

The significant number of core technology and software engineering companies in Middle Georgia represent an industry cluster that can support innovation in the region.

High Performing Industries Tier II: Average Wage by Employment Change and Employment Level
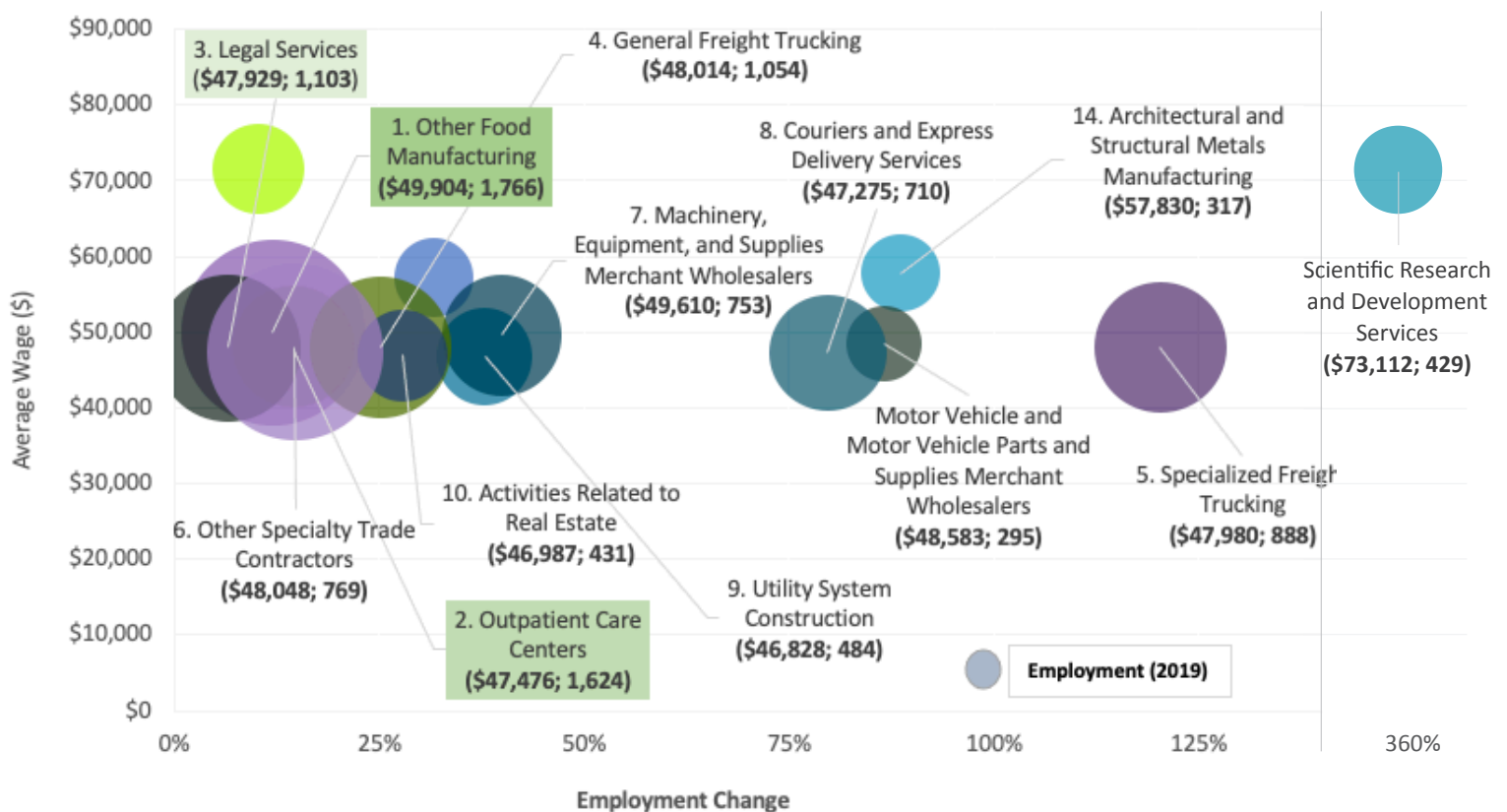
Source: BLS, Local Area Unemployment Statistics(1991-2019), Quarterly Census of Employment and Wages(1991-2019)
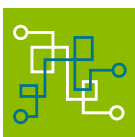
FUTURE INSIGHTS:

- The highest paying industry in the Middle Georgia region in 2019 for Tier II industries was in Scientific Research and Development Services, and for Tier I industries, Computer Systems Design and Related Services. This support for high-level skillsets will be an important component of building a Software Center of Excellence in the region.

- Innovation ecosystem development requires funding, partnerships, collaboration and a cultural environment that is open to start-ups and entrepreneurship. The combination of RAFB demand for skillsets in digital technology and software engineering, a pipeline of STEM talent from local universities and rapidly growing technology and computer science sectors are a very conducive set of conditions for creating an entity to support this type of innovation in the region.

2.4   PROXIMITY TO ATLANTA AND EMERGING REGIONAL IDENTITY

One of the critical needs that emerged during this project's analysis of the current innovation ecosystem framework was the need to promote the region's livability story to attract people to the region. The City of Macon has enormous potential as a Tier 2 city to draw people seeking an urban living experience from the Atlanta area. Macon's proximity to Atlanta makes it a good alternative to the suburbs with a high quality of life and lower cost amenities. The livability of Macon has attracted a significant number young people and new businesses in recent years. In 2018, Macon-Bibb and Houston counties had the largest average number of new business start-ups in the Middle Georgia region. Middle Georgia's geographic location in the state also makes it a natural logistical hub with corridors running to Atlanta and the regions incorporating Augusta, Columbus and Savannah. This emerging regional identity will only enhance Middle Georgia's ability to grow its innovation ecosystem as more people move to the region.

> Middle Georgia's geographic location makes it a perfect alternative to Atlanta, especially with the rise of remote work. The region's proximity to Atlanta, the airport, its central location within the state, and low cost amenities all are amenable conditions to promoting it as a go-to place to locate.

Average Annual Number of New Businesses in Middle Georgia (2018)
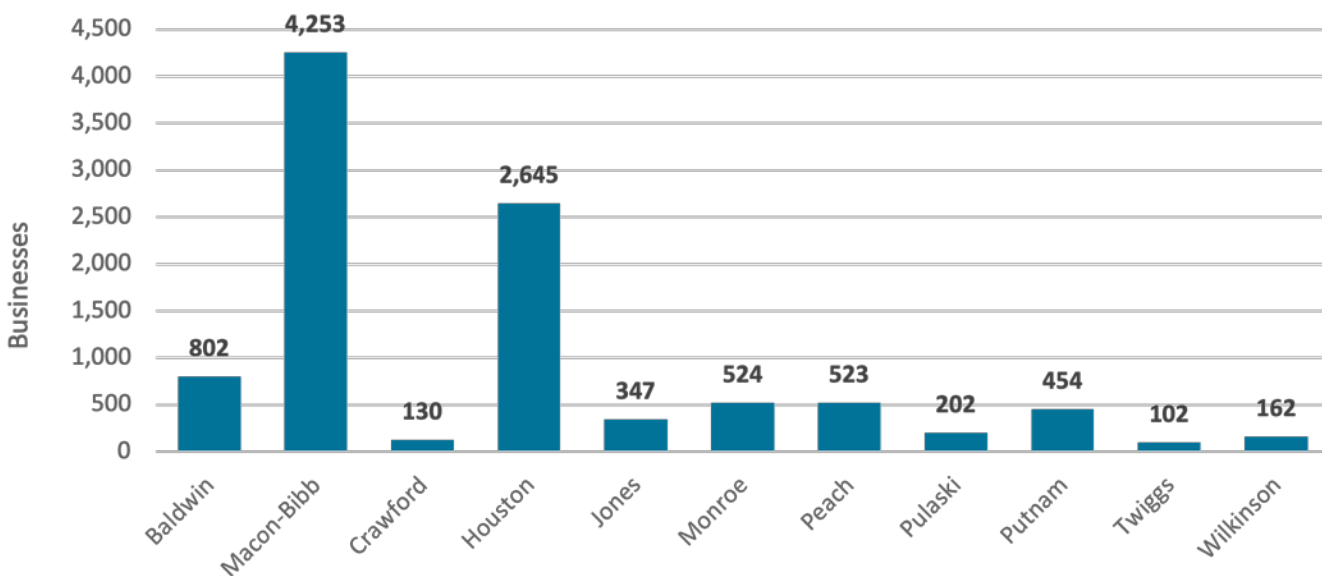
Source: 2018 5-Year American Community Survey
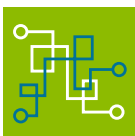
FUTURE INSIGHTS:

- Macon-Bibb County has demonstrated potential to support rapid growth private firms. In 2019, the County had three of the fastest growing private firms in the United States: Langford Allergy, ASP-Macon, and LBA Ware (*www.inc.com*)

- Between 2010-2019, Middle Georgia's specialized freight trucking industry grew in employment by 120% and average wage by 24%. This could point to significant potential to grow the region's capacity as a logistical hub.

- Additional attractive community experiences exist in other Middle Georgia communities such as Warner Robins, Centerville and Perry. Warner Robins and Centerville are bedroom communities with excellent schools, close to shopping and access to the big city. The City of Perry has a great downtown and is close to rural living.

The case studies provided in this report represent communities that are embracing innovation and a future of change. Those interviewed provided thoughtful advice and wholeheartedly encouraged a collaborative, inclusive, forward-thinking perspective for Middle Georgia's approach to innovation.

3.0 INNOVATION CASE STUDIES - HIGH PERFORMING EXAMPLES

The Middle Georgia region contains innovation initiatives; the concentrated areas simply aren't connected. Significant concentrations of existing innovation centers and partnerships radiating from the universities, Robins Air Force Base (RAFB), Macon, and individual businesses have created a burgeoning pipeline of talent, supply chains and entrepreneurial culture within segments of the economy. Highlighted in the results of the ecosystem mapping in Task 1 of this project, one of the challenges has been to overcome the existing silos of innovation in the region so that innovation may flourish across Middle Georgia.

The data in this report has shown gaps and thus opportunities for innovation growth and development in Middle Georgia. This section explores innovation by comparing the Middle Georgia region with specific case studies on different levels. It examines innovation initiatives in military communities, successful out-of-state communities, regional in-state communities, and local businesses. The purpose is to highlight what works and lessons learned, current and future needs and to explore ideas that could be emulated.

The methodology used has involved considerable research as well as interviews. The questions asked in the interviews were similar but appropriate to the situation. At the end of each interview, requests for quotes, photos and logos were made to personalize the report and to show the breadth of input and the wonderful generosity of those who helped with this project. A list of those interviewed is available in Appendix A.

Below is a sampling of the questions:

- Can you tell us about the innovation ecosystem in your region and what is making it a successful area for innovation?
- What is the role of your business/base in the region's innovation ecosystem?
- What do you consider the key drivers for innovation for your region?
- What are the necessary elements to support innovation in your region?
- What do you see as the challenges and successes of innovation for your region?
- What are the gaps in support for innovation in your region?
- Do you have lessons learned that you can share with us?
- What would you recommend for businesses in the Middle Georgia region wanting to pursue innovation as a business strategy? What can leadership do to help?

"Always ask, 'Why do we do it that way?' If the answer is' I don't know?' Then that is a good place to start. If you want to innovate something, look at your process and evaluate the layers. Innovation is a mentality, an ethos of always being open to change, even if something is working well. It can always be optimized."

- Russell Moore, Automation Optimizer, TAG Representative

3.1   MILITARY BASE/COMMUNITIES CASE STUDIES

3.1.1   HILL AIR FORCE BASE, ODGEN, UT

As the largest single-site employer in the state of Utah, Hill Air Force Base (Hill AFB) represents over 50% of Utah's defense sector and contributes almost $5 billion to State GDP annually and almost 30,000 jobs. This significant economic driver is a launching pad for innovation in the region. Key to the Base's success has been the encouragement from the top down to think outside the box. Key foundational elements that help support Hill AFB innovation initiatives include:

- **Supportive community members and local leadership:** Hill AFB works closely with the local school system to support the community in STEM programs for 5th graders and middle schoolers through its Star Base program (*http://www.starbasehill.org/*). The Base also participates in a monthly civic leadership meetings with community partners.

- **Partnerships with local institutions:** Hill AFB works closely with Weber State University to develop degree plans that align with talent needs at the AFB, including a job fair and internships.

- **Enhanced Use Lease (EUL) facility:** The Falcon Hill Aerospace Research Park is the largest EUL facility in the United States Air Force, and one of the largest commercial EULs in the Department of Defense (*https://business.utah. gov/news/falcon-hill-aerospace-research-park-invests-over-250-million-into-utahs-economy/*). This public-private partnership has allowed development of commercial property both on-and off-base and has built synergies between facilities.

Recommended strategies to foster innovation:

- It's about building and maintaining supportive relationships with local leadership and the community

- Partner with educational institutions to develop talent pipelines

- Create efficiencies at lower levels

CASE STUDY INSIGHTS:

CaseStudy

- The most successful businesses looking to partner with Hill Air Force Base are plugged into the mission and aligned with what the Base is trying to do.

- One of the great challenges to attracting skilled talent to the base is overcoming competition for talent in the private sector. Hill AFB has begun exploring ways to develop quality of life amenities on base and to partner with additional communities to build the pipeline that attracts the talent to meet current and future workforce needs.

Interview sources: Representatives from Hill Air Force Base.

3.1.2 FORT BENNING, COLUMBUS, GA

Fort Benning has an economic impact on the bi-state region (Georgia and Alabama) in the amount of $4.75 billion. The base employs 11,016 permanent military, 16,785 military trainees, and 6,845 federal civilian employees. With 70% of Fort Benning population living off post, one of the critical areas of research and development has been in finding ways to get people on installation in times of crisis or power outage. This applies not only to military personnel, but dining, childcare and other workers as well. The Regional Sustainability Conference each year is an innovative opportunity to explore solutions to this dilemma. Base leadership also works hard to foster strong connections and communication with local governments, the Chamber, and local schools and participates in monthly meetings with local leadership. Additional Fort Benning innovation initiatives include:

- Increasing the intelligence of military buildings
- Building strong cybersecurity
- Growing opportunities to expand robotics beyond the training installation, including with the Chamber, CSU and local schools
- Establishing itself as a pilot site for new technologies the military is working on

Recommended strategies to foster innovation:

- Don't be afraid of innovation because it is unknown; find your champions of innovation
- Partnerships are key; find out what others are doing
- Not everyone speaks military; talk business talk and get into the community and provide for experiential learning opportunities

> 'Lessons Learned': Relationships are only as good as the person there. Strong partnerships with the community are critical for success.

CASE STUDY INSIGHTS:

- Named the Army's Installation of the Future, leadership at Fort Benning is always looking at what are the biggest challenges and what are new technologies that can revolutionize what they are doing. A key example would be the base's Smart Barracks Initiative (*https://www.army.mil/article/243288/army_plans_smart_barracks_pilot_on_fort_benning*).
- Sharing information and collaboration are key to fostering innovation and creativity. As a result of this study, Fort Benning and Robins Air Force Base has initiated quarterly meetings to share information and ideas.

CaseStudy

> Fort Benning is located in Columbus, GA, a local Georgia case study for this report in Section 3.3.2

Interview sources: Representatives from Fort Benning.

3.1.3   FORT GORDON, AUGUSTA, GA

Due to the increased need and use of cyber technology in the U.S. Army, the Army consolidated its Cyber Command into one location at Fort Gordon in 2013. In March 2014, Fort Gordon was designated the U.S. Army Cyber Center of Excellence and as a result, the base has received a consistent influx of federal funding support for innovation initiatives. This funding has spurred innovation in the area and has led to a burgeoning pipeline of highly skilled talent, creative thinkers, and significant economic development in the surrounding communities. Key to the success of the region has been the collaboration between the base and communities. Over the years the base has supported youth cyber education programs at local schools and in 2016, the area was named a 'Cyber Patriot Center of Excellence'. The high schools compete annually in this national high school program and in 2019-2020, the Fort Gordon Cyber District/Alliance for Cyber Education (*https://fortgordonalliance.com/*) was named the 2019-2020 Cyber Patriot Center of Excellence of the Year.

'Lessons Learned': Make sure innovation is not a single element. Always look to support quality of life in the community including housing and schools.

Recommended strategies to foster innovation:

- Assemble a panel of bright community servant leaders and innovation thought leaders to figure out what meets your community needs; know your problem set

- Get behind something to push forward and commit to; bring people together under an idea to give your innovation efforts direction

- Be sure to show you have the capability to support innovation

"Innovation requires creative thinkers and people who, as my mother used to say, whose 'want to' is not broken."

*- Dr. Tom Clark, Executive Director,
CSRA Alliance for Fort Gordon*

CASE STUDY INSIGHTS:

- One of the predominant representations of support for innovation in Augusta is the Augusta Innovation Center. The complex houses businesses, academia, nonprofits and government entities. The funding from the state of Georgia that went into building this complex has been a key support to the region's innovation ecosystem.

- In 2003, Central Savannah River Area (CSRA) business leaders and elected officials came together to form the CSRA Alliance, an organization that builds on the strong bond between Fort Gordon and its surrounding communities. The 25-member Board of Directors has played a significant role in building synergies and erasing county lines throughout the region.

Fort Gordon is located in Augusta, GA, a local Georgia case study for this report in Section 5.3.1

Interview sources: Representatives from Fort Gordon and the CSRA Alliance for Fort Gordon.

3.2 REGIONAL CASE STUDIES

3.2.1 CHATTANOOGA, TN

Between 2008-2010, Chattanooga's publicly owned utility company, the Electric Power Board (EPB), began the process of modernizing the city's electrical system. The company's vision for the city was to install smart grid technology using fiber optics that enabled a suite of gigabit-level advanced communication services available to every home and business throughout its entire 600-square-mile service area. These improvements have become known as the Gig and are among the fastest communication services in the world. (Brooks Rainwater and Terrah Glenn. Innovation Districts: The Chattanooga Story. National League of Cities, 2016)

'Lessons Learned': Be inclusive from the start – then we all succeed.

This connectivity has been the key driver for innovation in Chattanooga. Drawn to the Gig, Chattanooga's Innovation District is a thriving downtown district filled with creative thinkers, entrepreneurs, students and tech-savvy innovators. Additional key drivers for innovation in the city are the availability of resources (in particular philanthropic), its beautiful location, the collaborative mindset of people, effective marketing and economic development initiatives, networking opportunities, and a commitment by local leadership to deal with tough issues head on and with transparency. The importance of strong entrepreneurial support organizations such as The Enterprise Center (*https://www.theenterprisectr.org*), a non-profit whose mission is to establish Chattanooga as a hub of innovation and to support research and development initiatives as well as digital equity, have also been critical elements in fostering innovation in the region.

Recommended strategies for innovation:

- Ask questions and keep up with the world; allow yourself to be stretched and don't be discouraged
- If something works, don't recreate it - take whatever others have done and replicate
- Be consistent and transparent so people understand what you are doing; tell the story and be able to share successes and failures
- Get funding, and partner – collaboration is key

"At CO.LAB, we work to increase the capability and viability of startups in the Southeast by connecting entrepreneurs with the resources they need. This involves building partnerships and developing the storytelling that fosters innovation and collaboration throughout the region."

*- Katie Hendricks, Chief of Staff, The CO.LAB (*https://colab.co*/), Chattanooga, TN*

CASE STUDY INSIGHTS:

- Challenges for innovation in the region have included a lack of diversity, especially in hiring, and lack of networking opportunities for those not linked in to the greater innovation ecosystem. Intentional programming to address these issues are necessary in any community.
- Open source resource for the Middle Georgia region: A Resiliency Checklist for nonprofits, start-ups and entrepreneurs: *https://resilient.theenterprisectr.org/about*

Interview sources: Representatives from The Enterprise Center and CO.LAB.

3.2.2   HUNTSVILLE, AL

Huntsville (2019 pop. 296,219) is a unique region that contains a high concentration of research and development (R&D) and is known for having the most PhDs in the United States in a city relative to its size. The three primary drivers of innovation are government enterprise (Army, NASA, Redstone Arsenal, etc), Biotechnology (Biotech Center, HudsonAlpha, etc), and manufacturing (Toyota, Polaris, ADTRAN, etc). The city also hosts the second largest research park in the U.S. (Cummings Research Park) and the FBI is moving 5,000 FBI forensic and ballistics experts to the area in the near future. City residents enjoy a high quality of life, good schools, great higher education, and innovation is championed by local government and the Chamber of Commerce.

'Lessons Learned': The people who are most successful are those who don't get distracted and who focus on a specific area; they also bring in help in areas they are not expert.

The University of Alabama at Huntsville was made an autonomous university in 1969 and quickly became the steady driver of talent for the many R&D facilities in the region. With the emphasis on R&D for government contracts, one of the challenges to the innovation ecosystem has been a lack of support for startups and entrepreneurs. To address this gap, the university created the Invention to Innovation Center (I^2C, *https://www.uah.edu/i2c*) to support innovation through entrepreneurship by championing new venture creation. The anchoring of entrepreneurship with the university has been a critical factor in the success of Huntsville's innovation ecosystem at all levels.

Recommended strategies for innovation:

- Create a culture around small businesses that supports their movement into innovation spaces
- Host proof of concept events that open dialogues about government and business needs (for example, Innovation Days)
- Adapt to and identify those who are motivated to support innovation; highlight and learn from those experiences
- Champion entrepreneurship in a regional sense; get support from others and give everyone a fair chance

"Developing and sustaining a successful Innovation Ecosystem requires a synergy between the scientific and engineering talent, academia, government, and business. This is manifested by the intellectual curiosity of innovators who take risks through the sharing of ideas and the financial support to make it happen. "

- David Berkowitz, Ph.D., Dean of the Graduate School and International Services, University of Alabama - Huntsville

CASE STUDY INSIGHTS:

- Operating in silos has been one of the greatest barriers to innovation in Huntsville. With cutting edge R&D, it has been difficult to overcome the fear of sharing information. This is significant for Middle Georgia as this project has revealed the issue of innovation silos also exist in the region.

- Innovation requires resources (people) and drivers (institutions, government, education, local agencies and businesses). It is important to evaluate what the innovation landscape looks like across the Middle Georgia region in terms of these factors, and to focus on specific strengths as engines of innovation (for example, software and agriculture).

Interview sources: Representatives from the University of Alabama-Huntsville, including the Invention to Innovation Center.

3.2.3 SOUTHWESTERN OHIO – CINCINNATI AND THE DAYTON REGION, OH

Often referred to as the Cincinnati-Dayton Cyber Corridor, Western Ohio has two primary areas of innovation – Cincinnati and the fourteen county region that includes Dayton. Cincinnati's Innovation District is driven by the University of Cincinnati. At the core of the District is the Uptown Innovation Corridor (*http://www.uptowncincinnati.com/innovation-corridor*), a 65-acre innovation and technology hub. The hub is the district's center for future-facing research and talent, supported by the nonprofit Uptown Consortium – a partnership between five of Cincinnati's largest organizations: Cincinnati Children's, University of Cincinnati, Cincinnati Zoo and Botanical Garden, TriHealth and UC Health. The corridor project has been catalytic in neighborhood development in the Cincinnati area by taking a three-pronged approach to achieve the vision. The approach involves concerted efforts to work closely with community leaders and developers in the areas of transportation, community development, land use, planning and design.

The Dayton region's key innovation drivers are Wright Patterson Air Force Base (W-P AFB), and the region's academic institutions. The base's Air Force Research Laboratory (AFRL) conducts research looking 20-30 years into the future and is a significant draw of cutting edge support industry and talent to the area. The Southwest Ohio Consortium for Higher Education (SOCHE) and the Dayton Development Coalition (DDC) are two regional organizations that work to make connections and support the synergies between the base, academia, industry, small businesses, and workforce talent. The DDC's Accelerant Fund (*https://daytonregion.com/accelerant*) is an example of strong financial support available to small businesses and startups looking to grow and compete in the Dayton region.

Recommended strategies for innovation:

- Think big with a vision from the beginning
- Work closely with surrounding neighborhoods and build support; have an economic inclusion plan that builds credibility in the community. Do this from the very beginning—not after development plans have already been submitted'
- Networking and communication are key; get involved and find out what's happening in your region – build relationships
- Show up – put yourself out there so people learn what you are about
- Review national best practices for innovation districts across the country and network with key stakeholders from those regions

"Orville and Wilbur Wright launched Dayton's aerospace research and development industry more than a century ago when they decided to design a flying machine in their Wright Cycle Company. That legacy lives on today in the groundbreaking work conducted by the U.S. Air Force Research Laboratory (AFRL) and the Dayton Region's thriving R&D community."

- Amber Begly, Director of Military Affairs, Dayton Development Coalition, OH

CASE STUDY INSIGHTS:

- Like Middle Georgia, the Dayton region's small businesses experience difficulty in finding opportunities to work with the W-P AFB. Addressing this gap in the regional innovation ecosystem is key to broadening the scale of support from startups.
- Retaining talent in the Dayton region is a significant challenge; many who graduate from the area head to the three Cs: Cincinnati, Columbus or Cleveland. Key to success have been the efforts of the Dayton Development Coalition (*https://daytonregion.com*) and Jobs Ohio in promoting and supporting incentives for companies to stay in the Dayton region.

Interview sources: Representatives from the Uptown Consortium and the Dayton Development Coalition.

3.3   LOCAL GEORGIA CASE STUDIES

3.3.1   AUGUSTA, GA

Augusta is known for its innovation initiatives at Fort Gordon and in cyber security. Key drivers include the abundance of talent, available challenges to solve, and government financial support. However, there is a tension building in the innovation ecosystem as the success of government-funded programs have impacted the ability of smaller start-ups to succeed. Opportunities and quality of life are high in Augusta, making it and the available high tech jobs magnets for talent. On the one hand, this has been a boon to the community, but on the other, it is becoming harder for smaller entities to afford to operate there. Economic inclusion has become a fundamental issue that innovation proponents are trying to address, and efforts to create synergies that build collaboration across the ecosystem have been critical for the survival of new entrepreneurs. An example of success in support for smaller entities has been The Clubhou.se (*https://www.theclubhou.se/*), a non-profit membership organization dedicated to growing a culture of innovation and collaboration through educational and community building programs to support inclusive entrepreneurship and technology development.

'Lessons Learned': A common mistake by institutional supporters is to duplicate innovation. Building innovation should be focused on building density, not duplication; innovation relies on increasing intersections between people.

Recommended strategies for innovation:

- Innovation is messy and fun - support failure; the worst thing is to tell someone they only have one shot

- Very few businesses or individuals care about the underlying drivers for people to make decisions; know your audience and struggles they face

- Innovation does not operate in normal avenues; limit your interactions with bureaucracies to enable you to think outside the box

- Make the need for change obvious and easy so that people realize it's a mistake not to change

"Innovation requires unbiased thinking out of the box; it requires the ability to be nimble and to get after problems quickly. At the Georgia Cyber Center (https://www.gacybercenter.org/), we look for challenges to work on and solve. This takes an entrepreneurial mindset that is not confined to bureaucracies or silos."

- Michael Shaffer, Executive Vice President,
Strategic Partnerships and Economic Development,
Augusta University

CASE STUDY INSIGHTS:

- The success of Augusta's innovation ecosystem has been in part due to the influx of funds and talent from the Department of Defense. However, lack of capital available to small entrepreneurs is making it difficult for other types of innovation to occur.

- The secret sauce for innovation in the Augusta region will be to continue to build the community and fellowship and to solve the economics to make it all work.

Interview sources: Representatives from The Clubhou.se and the Georgia Cyber Center at Augusta University.

3.3.2   COLUMBUS, GA

Columbus maintains a tradition of being a place where innovation has been cultivated beginning with among others, the Coca-Cola Company in the 1800's. The region today hosts several key drivers for innovation including Fort Benning, large global companies (TSYS, Aflac, Synovus, NCR, etc.), a higher education system with innovative programs, a supportive start-up culture, and a significant number of smaller, agile firms. Fort Benning military base provides stability and a cool diversity for the Columbus region. The base's presence demands high quality talent, requires quality of life amenities, supplies a pipeline of skilled talent post-service and fosters community building and intra-state collaboration throughout the region. The presence of large employers creates significant hubs of people that encourage innovative mindsets and provide the capital resources needed to support innovation. The large companies also provide a pipeline of highly trained workers for smaller firms looking for skilled talent. Key to success for the region has been the cumulative effect of the employment opportunities offered. Those looking for the challenge of innovative careers are able to grow up, go to school and join a company that can change the planet.

'Lessons Learned': It is critical to remain agile and nimble. The challenge is to get people to stray away from their norms and to have an open mind.

Recommended strategies to foster innovation:

- Allow for failure and adopt a 'fail fast' mentality
- Empower your employees to be able to do innovation the way they need to, then let teams empower themselves
- Go to Atlanta events – find people doing innovative work in your space and connect
- If you do something more than twice, automate it
- It's scary, but taking on outside investments/private equity investors can be key to having the capital to do innovation

"Continuous innovation doesn't happen by chance. You have to make it a priority."

- Tyson Begly, CFO, Delta Data

CASE STUDY INSIGHTS:

- One of the challenges to innovation in the region is a factor of its success – many people are content with the status quo. In order to remain a truly innovative place, supporters of innovation in the region will need to continue to develop strategies that optimize processes and push the boundaries of comfort.
- Connectivity has been a critical factor in Columbus's success in enabling innovation. A concerted effort to address its dead zones by building out its 5G network and programs such as school buses serving as Wifi hubs in rural areas are steps that provide more equitable access to the technologies needed to succeed from a young age.

Interview sources: Representatives from TAG, Delta Data, and Uniti.

3.3.3   SAVANNAH, GA

Founded in 1733, Savannah is the oldest city in Georgia. Its beautiful old European city style provides a high quality of life that attracts new residents and travelers from around the world. The Port of Savannah is the dominant economic driver as number one in exports and number three in shipping traffic in the United States. The traffic flow at the Port demands constant innovation in logistics, advanced manufacturing and IT technology to support its operations and Terminal Operating System. The demand for skilled talent is a consistent challenge. Fortunately, Savannah also has a strong collaborative education system that supports all educational paths, as well as a significant number of highly skilled post military retirees that contribute to the demands for talent. One of the key features of the region is the significant number of small innovative businesses that are able to compete with big companies for contracts. The small business community has a neighborhood synergy that is supported by organizations such as The Creative Coast (*https://thecreativecoast.org/*), a SEDA nonprofit focused on creating social and educational programs that catalyze the innovation economy in Savannah.

'Lessons Learned': Be able to adjust out of your comfort zone and don't spin your wheels when you want to get traction. Get the right people in the room who see the vision and value added.

Recommended strategies to foster innovation:

- Don't be ashamed of who you are - seize opportunities that are yours by nature and allow innovation in areas that embrace naturally occurring assets and resources
- Avoid complacency and challenge yourself to test and reevaluate whatever your norms might be to see if they are fundamentally strong
- Don't dismiss the different and unusual; embrace creativity
- Support innovation ecosystem builders

"Communities and individuals both should figure out a way to challenge themselves to follow the status quo and to consider and embrace change. It's always about adaption, creating a balance and being inclusive in the broadest sense."

-Bill Hubbard, President/CEO,
Savannah Area Chamber of Commerce & Visit Savannah

CASE STUDY INSIGHTS:

- One of the challenges to innovation in Savannah has been a culture of resistance to change. Efforts are being made to encourage the three Cs: connecting, communicating and collaborating through purposeful programming and educational platforms.
- Branding efforts have been very successful in positioning Savannah as a 'go to' location. Especially since the pandemic, its 'airplane factor' has helped to attract younger people away from larger cities. Middle Georgia has the opportunity to do the same and to brand itself as an alternative to the suburbs of Atlanta.
- Jen Bonnett, The Creative Coast, advice on innovation: Thoughtful change = good; introspection = really good

Interview sources: Representatives from the Savannah Area Chamber of Commerce, Georgia Ports, Georgia Southern University, and The Creative Coast.

3.4   LOCAL MIDDLE GEORGIA BUSINESS CASE STUDIES

3.4.1   LBA WARE, MACON, GA

Founded in 2008, LBA Ware is one of the fastest growing private firms in the country. In 2018-2019, LBA Ware was ranked 3,466 in the top 5,000 fastest-growing private firms in the United States. The company is one of the mortgage industry's leading provider of incentive compensation management and business intelligence software. Their products automate traditionally manual business processes to enhance mortgage lender experiences with software that integrates data, incentivizes performance and inspires results. Key to LBA success has been its open, innovative work culture that provides high quality computer science jobs, a great place to work, and emphasizes giving back to the community through mentoring programs and partnerships with local universities and nonprofits.

'Lessons Learned': Try to stay bootstrapped. Structure your business so you don't give away equity if you can help it.

Recommended strategies to foster innovation:

• Educate yourself in your area of expertise

• Know how to do whatever you want to do yourself; don't outsource

• Reach out and ask for help – Mercer Innovation Center (*https://mic.mercer.edu/*) is a good start

"Thanks to a tradition of discipline, training and teamwork that permeates Middle Georgia, our region offers remarkable human and structural capacity. By collaborating toward a shared outcome, we can cultivate an environment that encourages the growth of both entrepreneurship and innovation, which will bear fruit in the form of vast opportunities and improvements across all facets of our community."

- Lori Brewer, Founder & CEO, LBA Ware

CASE STUDY INSIGHTS:

• LBA makes a concerted effort to hire locally. One of the most significant challenges has been accessing a talent pipeline of computer scientists. One successful strategy has been to work with local universities to hire interns and provide mentorships to students.

• Macon was the perfect location for LBA Ware to start and grow its operations. Easy access to the airport, low traffic volume, good restaurants and low cost of living have provided a great alternative and competitive edge to Atlanta.

Interview source: Lori Brewer, LBA Ware.

3.4.2   FORT VALLEY STATE UNIVERSITY, FORT VALLEY, GA

As Georgia's only 1890 Land-Grant Institution, Fort Valley State University (FVSU) is on the cutting edge of innovation initiatives in many subject areas. The University offers programming in agriculture, agribusiness, family and consumer sciences, extension, and military science, as well as liberal arts and humanities, social sciences, and natural and physical sciences. Located in an Opportunity Zone, the University strives to provide access to those who don't traditionally have access to education, resources, knowledge, skills and technology.

One of FVSU's key areas of innovative success is in agricultural research and development, particularly small ruminants and plants. Its programs include teaching and research in subjects such as reproductive physiology, parasites, molecular biology, products technology, agricultural engineering, emerging technologies, bioenergy and specialty plant bio technology. The University's agribusiness department promotes innovation in the community by working closely with small scale farmers to help build sustainable businesses. This is done by teaching skills in packaging, labeling, and how to run and sustain start-up businesses. FVSU recently received a $3 million grant to build a Center for Agriculture Innovation and Entrepreneurship (*https://www.fvsu.edu/news/fvsu-partners-with-global-hbcu-headquarters-for-innovation/*). The University is renovating an old grocery store building that will serve as a hub for agricultural innovation – a place where local farmers and start-ups can rent space for offices and product display, the University will host training programs, and students have access to a maker space.

Recommended strategies to foster innovation:

- Small companies can partner with educational institutions to connect ideas, translate ideas, and access resources
- Broadband is critical in rural areas to provide the access to the information, services and resources needed to support innovation in those areas
- Economic development organizations have a role in connecting startups and small businesses with higher education

"Middle Georgia is a perfect location for establishing innovation centers and developing businesses because of its proximity to the Robins Air Force Base and accessibility to interstate highways and the Savannah port. More importantly, there is endless opportunity for industry groups to partner with several higher education institutions in the vicinity for developing innovative ideas and workforce."

- Govind Kannan, Ph.D., Vice President for Economic Development and Land-Grant Affairs, Fort Valley State University

CASE STUDY INSIGHTS:

- A key priority of FVSU is to train rural youth and farmers. The University's statewide cooperative extension offices operate in 15 Georgia counties and provides training assistance. FVSU's Mobile Information Technology Center also supports this effort as a mobile information lab that travels statewide to transfer knowledge and skills to rural areas. (*https://www.fvsu.edu/about-fort-valley-state-university/academics/college-of-agriculture-family-sciences-and-technology/outreachextension/mobile-information-technology-center/*)
- Middle Georgia's agricultural sector provides an open window of opportunity for innovation. The availability of land, its central location, access to transportation and the resources at FVSU are ideal elements to foster innovation in this industry.

Interview source: Dr. Govind Kannan, Fort Valley State University.

3.4.3   ATRIUM HEALTH NAVICENT, MACON, GA

Atrium Health Navicent was the top employer in the Middle Georgia region in 2019, not including the Robins Air Force Base. The hospital in Macon is the second largest hospital center in the state of Georgia. In 2018, Navicent Health (headquartered in Macon, GA) announced its strategic combination with Atrium Health (headquartered in Charlotte, NC). The Atrium Health Innovation Team based in Charlotte, NC, currently consists of 10 teammates who focus primarily on business model innovation and efficiency innovation. The small framework of the program makes it easy to adapt and innovate quickly. One of the key elements of their success has been the strong support of the hospital system's CEO, as well as physicians. Leadership with a vision that champions and supports innovation has been critical to the ability of the Innovation Team to remain flexible to execute on proof of concept initiatives. Having access to a rich ecosystem has allowed for the launch of several proof of concepts and pilots with startups as well as the creation of partnerships with established organizations.

'Lessons Learned': Be willing to experiment and work with companies 'outside your sandbox'. This can lead to unlimited creativity and innovation – for Atrium Health, this approach led to the prototyping of a one-of-a-kind healthcare app.

Recommended strategies to foster innovation:

- Innovation is messy; don't hesitate to experiment
- Being small makes it easier to be nimble and agile
- Use different measures for success; innovation involves failing mindfully
- Poke around, be resourceful and look for different skillsets; this will attract younger talent and build a culture that is ready for change

"Atrium Health Navicent's Innovation Engine team designs and tests new business models to deliver consumer-driven health and care technologies such as digital health offerings to the communities we serve. Because healthcare is local, we co-develop innovative approaches to care delivery with our regional partners by leveraging a robust and agile incubation process. We are excited about the development of the Middle Georgia Innovation Ecosystem which will advance exploration opportunities to innovate with local consumers and industry leaders."

- Isabelle Magnin, Innovation Leader, Atrium Health Navicent

CASE STUDY INSIGHTS:

- With 5,100 employees in 2019, Atrium Health Navicent represents a significant portion of the largest industry sector in the Middle Georgia region: Health Care and Social Assistance. This sector accounts for 36,479 employees or 16.8% of total employees and consists of federal, state, local and military employees.

- As a small team, leadership support to try innovation in different areas has helped the Atrium Health Innovation Team to stay at the front edge of experimentation.

Interview source: Isabelle Magnin, Atrium Health Navicent.

3.4.4   WAYNE REAVES SOFTWARE, MACON, GA

After starting his dealership in 1973, Wayne Reaves became one of the most successful automobile dealers in the Southeast for more than 25 years. In 1987, the company began selling dealer management software and the endeavor was so successful, he closed the dealership. Jason Reaves now runs the family owned software business with a growing staff of over 40 employees. The vast majority of the company's customers are not based in Middle Georgia. The company's success relies on sourcing cutting edge talent from all over the United States. This has become a bit easier since the pandemic and the rise of remote work. With a preference for hiring talent from the local universities and regional sources, the biggest challenge for the company has been finding enough cutting edge talent locally. Most who graduate from the local universities head to Robins Air Force Base, Atlanta, or elsewhere. It will be important to support the regional software ecosystem with significant workforce development initiatives if the ecosystem is to continue to thrive and grow.

'Lessons Learned': On the IT side, program for the future - develop for 5 to 7 years out; we develop for the next generation, not now.

Recommended strategies for innovation:

- Don't be afraid to pay for talent
- If you need to hire from other places, that's ok – but otherwise hire locally and train people
- Degrees aren't important – hire for talent and capability
- Middle Georgia needs a business attraction plan to attract high end IT companies to locate in the region

"Through the collaboration of the technology companies, the strong Universities in the area and partnership with the local governments, I believe that the future of this area has never been more bright. Middle Georgia has a great core set of software development firms that could help to spearhead the effort to make the region a Software Center of Excellence."

- Jason Reaves, President, Wayne Reaves Software

CASE STUDY INSIGHTS:

- With a good core set of software development technology firms in Middle Georgia, the region creates a significant draw for talent. Jason Reaves suggested that IT firms could collaborate to make a plan to attract high quality cutting edge talent to the region and to build its reputation as a 'go-to' place for programmers. This would require organization and commitment by local firms and would serve to benefit the region in its quest to become a Software Center of Excellence.

- Historically, slow internet speeds have been an impediment to attracting youth and others to downtown Macon and the region. However, that has changed in recent years and a community initiative to highlight the low cost of living and quality of life in Macon would help to attract talent to the area.

Interview source: Jason Reaves, Wayne Reaves Software.

3.5   LESSONS LEARNED FROM THE CASE STUDIES

Innovation in the Middle Georgia region is a complex mixture of capacity, 'want to', challenges, and opportunities. Overall, Middle Georgia lags behind the case studies when it comes to capacity for innovation, but four counties – Macon-Bibb, Houston, Monroe and Peach – are more in the normal or better range of capacity for innovation. Research conducted from the visioning process to this point has repeatedly shown that appetite to grow the Middle Georgia innovation ecosystem is strong, yet siloed, with high concentrations of innovation activity centered around the Robins Air Force Base and the universities. Importantly, this analysis has shown additional innovation capacities that can be built upon to expand the innovation ecosystem in the region.

> As drivers of job creation and employment in the Middle Georgia region, the strengths of the high performing industries clearly indicate the region's ability to become a Software Center of Excellence.

Eight industry clusters have emerged from this project as having significant opportunity for innovation development in Middle Georgia. Of those industries, several highlights should be noted among High Performing Tier I (industries with 500+ employees) and Tier II (industries with 250+ employees) industries in terms of their average wage by employment change and employment level during the timeframe of 2010 to 2019. These important indicators of job creation and employment in the region are critical elements that support the most important resources for needed for innovation: people.

High Performing Industries Tier I

- **Nonmetallic Mineral Mining and Quarrying** industry employment grew the most (by 276%) and wages grew by 56% in the region. This would suggest a growing capacity for innovation in the Kaolin and mining companies.

- **Computer Systems and Design Related Services** saw the highest wages in the region with an increase of 57%. Employment in the industry saw an increase of 59%, suggesting strong alignment around the potential to support the region's desire to attract the talent needed to become a Software Center of Excellence.

- **Management, Scientific, and Technical Consulting Services** experienced the second greatest employment growth at 103%. Although this industry also experienced average wage loss during this time (-11%), this is most likely due to the creation of lower wage support positions as technology companies expand in the region.

High Performing Industries Tier II

- **Scientific Research and Development Services** experienced the highest level of employment growth at 366% with an increase in average wage of 8%. This rate of growth highly supports initiatives to expand technology and software innovation ecosystems in the region.

- **Specialized Freight Trucking** experienced the second highest level of employment growth at 120% and an average wage increase of 24%. Middle Georgia's central location makes it a natural hub for growth in logistics.

- **Architectural and Structural Metals Manufacturing** saw the greatest increase in average wages at 136%, and a growth in employment of 89%. These numbers support Middle Georgia's emerging industrial capacity in an adaptive maintenance and manufacturing cluster.
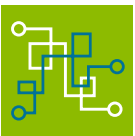
FUTURE INSIGHTS:

- The data from the high performing Tier I and Tier II industries in Middle Georgia are aligned with this project's initiative to conduct working groups to create five year plans for ecosystems supporting start-up innovation, Industry 4.0 technologies, and software engineering.

- Representatives from local Middle Georgia case study businesses LBA Ware, Wayne Reaves Software, and Atrium Health Navicent all call for a collaborative 'go-to' place for businesses looking to connect and build around innovation initiatives.

3.5.1   MIDDLE GEORGIA AND CASE STUDY INSIGHTS

The case studies selected for this report offer best practice examples of what works, as well as honest reflections on challenges to innovation in the respective communities. The Regional Case Studies were chosen not only because of their very high rank in capacity for innovation but also because they seemed closely aligned with aspirations for the Middle Georgia region. For example, Chattanooga was selected as a southeastern city with a focus on the Gig technology and innovation. The Gig has attracted and enabled innovation to flourish across the region, something Middle Georgia also hopes to accomplish. Huntsville, AL and Southwestern Ohio are both defense community regions with innovation corridors. Middle Georgia's central location in the state makes it a logical hub for innovation corridors, especially in manufacturing, software and agriculture. The Local Case Studies are studies of Georgia communities that all have defense industry presence, and strong industry presence or centers of excellence. Columbus has an innovation ecosystem heavy into robotics and software, Augusta in cybersecurity, Savannah in logistics, and all three also have strong university systems to support innovation. How they got there and what they are doing to pursue innovation are windows into successful strategies Middle Georgia may employ to build its innovation ecosystem, especially as it seeks to become a Center for Software Excellence.

Where overall, the Regional Case Study communities rank higher than Middle Georgia in innovation capacity, the Local Case Study communities in general rank similar or higher with two notable exceptions:

- Macon-Bibb, Houston and Peach counties rank high or very high in capacity for innovation in the Human Capital and Knowledge Creation Index. This suggests a high capacity tor the region's population and labor force to engage in innovative activities and supports building off of this capacity by working closely with all levels of education to further this capacity as the project looks to create its roadmap for innovation.

- Macon-Bibb, Houston, Jones and Monroe counties all rank normal in capacity for innovation in the Employment and Productivity Index. This is the same capacity as for Chattanooga, Cincinnati, and Augusta. This suggests the Middle Georgia counties have the potential to be competitive in economic growth, job growth, regional desirability and other outcomes of innovative activity such as cluster diversity and strength.

It is clear that Middle Georgia is within reaching distance of becoming a regional hub for innovation. The next steps in the process will be transformational for the region.
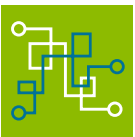
FUTURE INSIGHTS:

- One of the key takeaways from the military base/community case studies was the importance of increased open dialogue, collaboration and sharing of information with communities 'outside the fence' as part of innovation initiatives.

- The local Middle Georgia case study Fort Valley State University highlights the potential for diversifying Middle Georgia innovation ecosystem through its success in agricultural research and development. The new Center for Agriculture Innovation and Entrepreneurship should be included as a key driver in the roadmap for innovation for the region.

FutureInsight

3.5.2   KEY IMPLICATIONS – WHERE ARE THE GAPS AND OPPORTUNITIES?

The following gaps and opportunities were identified by those interviewed for this report as key elements to consider when building out the innovation ecosystem in Middle Georgia.

Gaps and Opportunities Related to Innovation and Becoming a Software Center of Excellence

Gaps are opportunities waiting to be filled. Macon and the core Middle Georgia counties offer a compelling case for becoming a hub for remote working post-pandemic.

GAPS	OPPORTUNITIES
Innovation in Middle Georgia currently exists in silos and there is a lack of information sharing across sectors. Lack of connections to get the word out to those not in networks; need to get people better connected, especially those out of the downtown areas.	Collaborate with regional entities interested in working with Middle Georgia innovation leaders. Build on relationships established during this project. Expand Macon Start Up Week regionally to build connections in the ecosystem.
No network exists in Middle Georgia for innovators. Need for a single organization to tap into for information (like the Advanced Technology Development Center in Atlanta or SCAG Incubator in Savannah).	Build on the appetite for change among innovators to create a central 'go to' platform or small business center for information for startups and entrepreneurs.
Middle Georgia lacks an overarching entrepreneurial vibe; a group of entrepreneurs to tap into to share ideas. Need to build the entrepreneurial spirit/mindset in the region and create more mentorships.	Convene a wide range of interested entities on a quarterly basis to share insights and communicate – streamline the number conversations so that many voices may be heard in one event.
There is a significant talent gap in cutting edge software development talent (coders, Linux). Need to attract and maintain talent in the region.	Increase technology research capacity at local universities to produce more cutting edge talent to support RAFB and local businesses. Engage in Placemaking to attract talent.
Broadband access in rural areas, especially for farmers, has been a barrier to innovation capacity. Need to capitalize on strength of the agricultural sector to create connections and opportunity for farmers.	Build out MG agriculture sector relationships – use the rural aspect (land), central location and transportation to develop innovation ecosystem. Work with FVSU's new Center for Agriculture Innovation and Entrepreneurship.
Lack of private investment/venture capital/access to capital – There is a shortage of funding resources for innovation from start up to incubation.	Convene software development and Industry 4.0 companies to develop a strategy to attract talent and funding to the region.
Middle Georgia's central location in the State could be leveraged more to build corridors of innovation and industry-specific specialties. Need to develop more relationships with hubs in other regional areas.	Take advantage of the North-South traffic flow. Middle Georgia's central location provides opportunities to create corridors of activity with MG operating as a hub. For example, from Savannah to MG, a corridor for manufacturing.
There is a need for more promotion of Middle Georgia as an alternative to Atlanta and larger cities. Need more storytelling of the quality of life in Middle Georgia to attract and retain talent.	The increase in remote work makes Middle Georgia's central geographic location and low cost of living an attractive place to live. Take advantage of Middle Georgia's proximity to Atlanta and build synergies with its innovation ecosystem.

3.5.3   ADDITIONAL CONTRIBUTOR INSIGHTS

At least 27 individuals were interviewed in the creation of this report. The majority of interviews were case-study related; others were Georgia-specific. All were asked for advice and thoughts on how to promote innovation in the Middle Georgia region, and the responses were overwhelmingly supportive and encouraging. Those not provided on the case study pages are included below as additional valuable insights.

"The innovative collaboration between Wright-Patterson Air Force Base and the Greater Dayton region directly contributes to our national security, ensuring our nation is ready for the technological challenges of the coming decades!"

- Jason W. Henderson, Director, Federal Affairs and Projects,
Dayton Development Coalition, OH

"I love how Chattanooga's Innovation District strives for equity, and even though we have ways to go our District continues to work together to make this a place where everyone feels welcomed to live, work, and play."

- Lya Kimbrough, Events and Outreach Manager,
The Enterprise Center, Chattanooga, TN

"I like to quote Nelson Mandela on innovation: 'It always seems impossible until it's done.'"

- Kevin Love, Director, Innovation Programs,
The Enterprise Center, Chattanooga, TN

"Connectivity is critical for the enablement of innovation! Uniti Fiber's network in Georgia consists of over 186,000 fiber optic strand miles supporting wireless, enterprise, and educational connectivity. Muscogee County School District, St. Francis Hospital, and the Georgia Department of Public Health depend on Uniti Fiber to provide the mission critical connectivity needed to drive innovation during the Covid pandemic crisis and beyond."

- Kelly Mallory, Market Account Executive,
Uniti Fiber, Columbus, GA

"On innovation - You can't do anything without partnerships and collaboration."

- Kyle Marrero, President,
Georgia Southern University, Savannah, GA

"According to the TAG State of the Industry Report, technology leaders in Georgia believe that access to capital, access to skilled labor, access to industry thought leaders/experts and tax incentives for research and development are key to becoming an innovation center. We have time and again seen innovation begin to flourish once those important factors are invested in and addressed by a community".

- Heather Maxfield, Interim Head of TAG-Ed
Alpharetta, GA

"Georgia Ports has been fortunate that our structure and diversification of facilities and assets has allowed us to establish complimentary facilities throughout Georgia that best position us for success in fostering international trade on behalf of the State. However, that service depends on partnerships with communities and companies throughout the region to identify trade opportunities and innovative solutions throughout the supply chain. Modern logistics requires constant data integration to allow for the accurate and efficient flow of goods and services. Middle Georgia is a vital partner in our effort, particularly with regards to agricultural trades as well as its inherent role as a transportation hub at the center of the state. Seizing upon those natural advantages has been and will remain a key for economic growth and prosperity."

- James C. McCurry, Jr., Chief Administrative Officer,
Georgia Ports Authority, Savannah, GA

"We focused our attention on developing the (Cincinnati) area into the region's first innovation district, leveraging the Uptown anchor institutions' strengths –research, medicine and innovation advancements–to attract high-growth businesses and top talent to the region. As the innovation district's master developer, UCI controls the district's planning and design, types of developments, and, most importantly, the economic inclusion and community engagement efforts incorporated into the projects. Community engagement has always been a priority for UCI to ensure that community organizations and residents have a seat at the table to determine their neighborhoods' future. To do this, we work closely with neighborhood development corporations and community councils to make sure that existing residents and businesses benefit from development efforts. It's critical that these key members are brought to the table from the very beginning of the planning process–not after development plans have already been established, which is often a criticism of other construction projects in similar urban neighborhoods,"

- Beth Robinson, President and CEO,
Uptown Consortium, Cincinnati, OH

"Innovation and entrepreneurial activity, when it works well, is collaborative, inclusive, and transformational. We must intentionally seek ways to create and build an environment where all of our neighbors have the opportunity, connections, and information they need to pursue their dream."

- Debra Socio, President/CEO, The Enterprise Center, Chattanooga, TN

"The ADAMC consortium membership is diverse, experienced, and poised to leverage regional partners to achieve its objectives of further developing the workforce, facilitating the adoption of advanced manufacturing technologies and supporting the development and integration of new and emerging technologies. Together, these regional resources and collaborative efforts will help meet the demands of the defense industrial base in its quest to develop and modernize DoD weapon systems."

- Brian Tucker, ADAMC Program Principal Investigator, Office for Operational Excellence,
University of Alabama in Huntsville, AL

4.0   CONCLUSION

This report has explored research, data and anecdotal evidence on innovation in Middle Georgia, and other similar regions in the United States, from a range of sources. Through the course of this study, a number of ideas have emerged for consideration in Task 3 of this project. The following are suggested approaches that emerged through the research and interviews to help foster innovation in the Middle Georgia region.

Continue to build Start-up Culture and Ecosystem

- A fledgling start-up ecosystem already exists in the region. This could grow to become a 'go-to' platform for start-ups or a small business center for information for startups and entrepreneurs.
- Macon Start Up Week is a great way to build networks for start-ups and entrepreneurs. This could be expanded to sponsor competitions to draw statewide interest and talent.
- Fort Valley State University already is a key resource for innovation centered around agriculture and business. Leveraging the new Center for Agriculture Innovation and Entrepreneurship will be a key step in building the innovation ecosystem in the region.

Build on existing key economic strengths and drivers

- The high performing Tier I and Tier II industries in the region are already key foundations of innovation support in the region. This strength could be grown by convening industry cluster conversations around sharing information and building partnerships.
- The RAFB is a well-established driver of innovation in the region. Increasing the base's presence in 'off-base' innovation activities would help to educate local businesses on how to align themselves with the needs of the base.
- The large number of technology companies in the region form a significant building block in the process of becoming a Software Center of Excellence. This group could be used to create a collaborative association of regional IT companies that could work together to create a plan to attract quality cutting edge talent to the region. The plan could include a branding strategy that portrays Middle Georgia as a 'go-to' place for software engineers.
- Middle Georgia's central location and significant trucking industry are key elements whose strengths have yet to be leveraged. Explore how to build innovation corridors to other regional centers in the State.

Focus on knowledge creation

- Education is a key building block of the Middle Georgia region. Innovation capacity could be expanded by convening a coalition of educators to develop a K-22 program for STEM education and to provide options for non-degree certifications. This could include a platform for sharing information across university systems and making it accessible to K-12 schools in the region.

Next Steps for this project include the establishment of Working Groups to build out the strategies and action steps of the final innovation roadmap for the Middle Georgia region.

"I believe that Middle Georgia has an amazing opportunity to take both our natural and economic resources and leverage them to grow our innovation and entrepreneurial ecosystems to be one of the strongest in the state. We just have to ensure everyone is working toward a common set of goals. It doesn't mean just one vision or plan, but it does mean we all have to want to see Middle Georgia grow and thrive first and foremost."

- Robert C. Betzel, Grit Consulting, Macon, GA

5.0   ACKNOWLEDGMENTS

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6.0   FOR MORE INFORMATION

For more information about The Middle Georgia Innovation Project

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For more information, and to access additional reports, please visit:

https://lab2.future-iq.com/middle-georgia-innovation/

The Middle Georgia Innovation Project Innovation Framework and Ecosystem Report

February 2021

The Middle Georgia Innovation Project Innovation Performance and Gap Analysis Report - Part 1

March 2021

The Middle Georgia Innovation Project Innovation Performance and Gap Analysis Report - Part 2

March 2021

7.0   APPENDIX: CASE STUDY INTERVIEWS

- Earl Alexander, *Hill Air Force Base*, Ogden, UT
- Charles Auer, *Plans Analysis & Integration Office*, Fort Benning, GA
- Amber Begley, *Director of Military Affairs,* Federal Affairs and Projects*,* Dayton Development Coalition, OH
- Tyson Begly, *CFO*, Delta Data, Columbus, GA
- Robert Betzel, *Professional EOS Implementer*, Grit Consulting, LLC, GA
- Jen Bonnett, *Vice President*, SEDA/Creative Coast, Savannah, GA
- Lori Brewer, *President*, LBA Ware, Macon, GA
- Edward Buckner, *Chief of Training*, Cyber Center of Excellence, Fort Gordon, GA
- Dr. Tom Clark, *Executive Director*, CSRA Alliance for Fort Gordon, GA
- Brandon Cockrell, *Fort Benning*, Columbus, GA
- Jason W. Henderson, *Director,* Federal Affairs and Projects, Dayton Development Coalition, OH
- William Hubbard, *President & CEO*, Savannah Chamber of Commerce, GA
- Rigved P. Joshi, *Director,* Invention to Innovation Center, University of Alabama-Huntsville, AL
- Govind Kannan, Ph.D., *Vice President for Economic Development and Land-Grant Affairs*, Fort Valley State University, GA
- Lya Kimbrough, *Events and Outreach Manager*, The Enterprise Center, Chattanooga, TN
- Kevin Love, *Director*, Innovation Programs, The Enterprise Center, Chattanooga, TN
- Isabelle Magnin, *Innovation Leader,* Atrium Health, Macon, GA
- Kelley Mallory, *Enterprise Account Executive,* Uniti, Columbus, GA
- Dr. Kyle Marrero, *President,* Georgia Southern University, Savannah, GA
- Heather Maxfield, *VP,* Government Affairs & Statewide Economic Development, TAG, GA
- James C. McCurry, Jr., *Chief Administrative Officer*, Savannah Port Authority, Savannah, GA
- Russell Moore, *Automation Optimizer & TAG Representative*, Columbus, GA
- Jason Reaves, *President*, Wayne Reaves Computer Systems, Macon, GA
- Beth Robinson, *President & CEO*, Uptown Consortium, Cincinnati, OH
- Deb Socia, *President and CEO*, The Enterprise Center, Chattanooga, TN
- Beth Topa, Hill Air Force Base, Ogden, UT
- Brian Tucker, *ADAMC Program Principal Invetigator*, Office for Operational Excellence, University of Alabama-Huntsville, AL
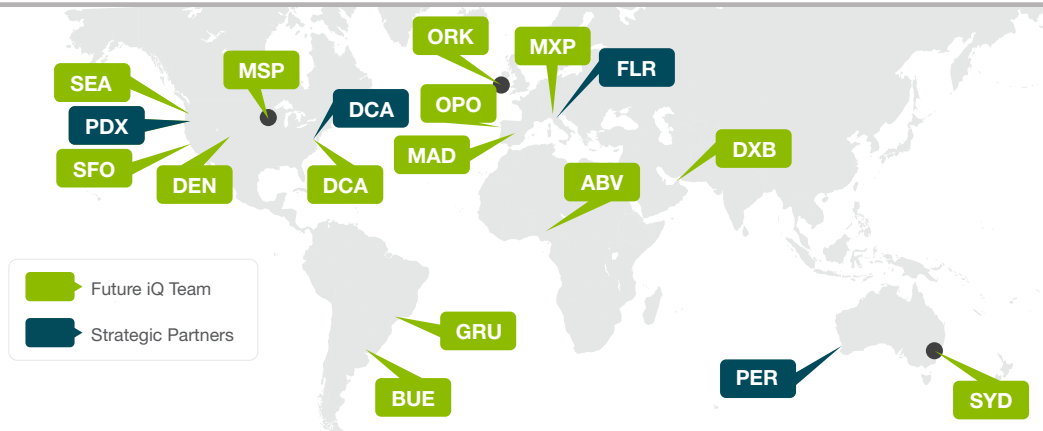
8.0   ABOUT FUTURE IQ

Future iQ specializes in applying innovative tools and approaches to assist cities, organizations, regions and industries shape their economic and community futures. With nearly two decades of experience, the company has a global clientele spanning three continents.

To learn more about Future iQ, and our recent projects visit **www.future-iq.com** or by email at **info@future-iq.com**

For more details, and to access additional information about the Middle Georgia Innovation Project please visit **https://lab2.future-iq.com/middle-georgia-innovation/**

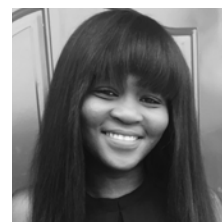**David Beurle**

CEO, Future iQ

Heather Branigin

VP, Foresight Research

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Creative Director

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Data Analyst