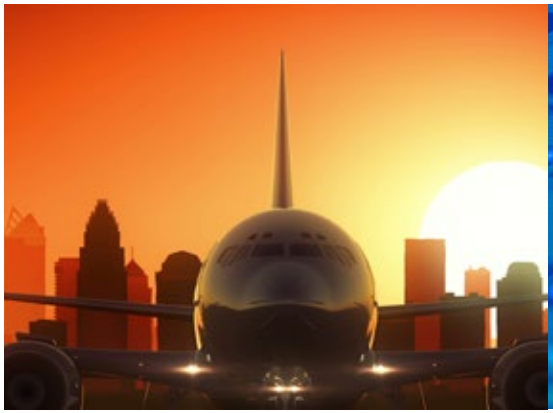
APPENDIX IV:

CHARLOTTE REGIONAL TARGET CLUSTERS



PROSPERITY

FOR GREATER CHARLOTTE

2017-2022 COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

Centralina

Economic Development District

CHARLOTTE REGIONAL TARGET CLUSTER OPPORTUNITIES

PUBLIC RELEASE: JULY, 2016

CHARLOTTE REGIONAL PARTNERSHIP

charlotte CHAMBER

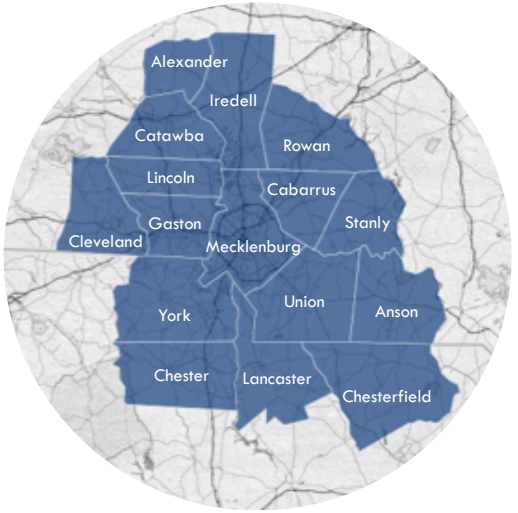
avalanche

ABOUT THE PROJECT & REGION

In early 2016, the Charlotte Region began a process to create the first **Regional Economic Development Strategic Plan** to define and align shared goals for Charlotte and the broader region. The strategic planning process is a joint initiative between the Charlotte Chamber and Charlotte Regional Partnership with engagement from key partners including funders, regional economic development officials (EDOs), and the City of Charlotte and Mecklenburg County.

The partners selected Avalanche Consulting to facilitate and prepare the strategic plan, which encompasses the 16-county Charlotte Region. The Strategic Plan identifies critical regional issues and opportunities over the next 3-5 years and provides an action plan to address these issues and maximize opportunities. The project includes validation of the region's current industry targets and exploration of other potential clusters for future expansion. The plan provides specific recommendations for the region's business attraction (domestic and international) efforts; retention and expansion actions; and small business and entrepreneurial support initiatives.

16-COUNTY CHARLOTTE REGION



PROJECT PARTNERS

The Charlotte Chamber is a membership, volunteer-led 501(c)(6). The Chamber's vision is to make Charlotte the best place to run a business and to live. Its mission is to create competitive advantage by growing the economy, advocating pro-business public policies, and delivering innovative programs and services. The organization is supported solely through membership, sponsorships and advertising. It does not utilize public dollars.

For more information, visit www.charlottechamber.com.

A nonprofit, public/private economic development organization, the Charlotte Regional Partnership, with engagement and input from its economic development partners from the 16-county area, leverages regional resources to market the Charlotte USA region. The Partnership's business development activities position Charlotte USA for sustained, long-term growth, job creation and investment opportunities. The CRP is supported by both public and private dollars.

For more information, visit www.charlotteusa.com.

ACKNOWLEDGEMENTS

The Charlotte Chamber, Charlotte Regional Partnership, and consulting team would like to thank the numerous individuals who provided input to our process. Because of their energy, thought, and collaboration, the region now has its first Regional Economic Development Strategic Plan to guide future efforts.

A Task Force consisting of regional leaders has served as the consulting team's sounding board since the beginning of the project. In addition, the consulting team met with members of the Partnership's Economic Development Advisory Committee (EDAC) in the northern and southern parts of the region and interviewed community leaders from across a range of subjects.

PROJECT TASK FORCE

Peter Acker, President and CEO, Carolinas HealthCare System- Lincoln

Kendall Alley, Regional President, Wells Fargo

Ronnie Bryant, President and CEO, Charlotte Regional Partnership

Brian Collier, Executive Vice President, Foundation For The Carolinas

Jesse Cureton, Chief Consumer Officer, Novant Health

Ned Curran, President/CEO, Bissell

Dena Diorio, County Manager, Mecklenburg County

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Andrea Smith, Global Head of Human Resources, Bank of America

David Swenson, Executive Director, York County EDC

Katie Tyler, CEO, Tyler 2 Construction

Paul Wetenhall, President, Ventureprise

Judy Wishnek, Chair, Charlotte Regional Partnership

Landon Wyatt, Partner-Industrial Division, Childress Klein

Vanessa Goeschl, SVP, Charlotte Regional Partnership

Blair Stanford, COO, Charlotte Chamber

ABOUT THIS REPORT

This report, *Target Cluster Opportunities*, provides a detailed review of the cluster performance of the Charlotte Region's existing clusters. The report also includes a set of unified and updated target cluster recommendations for the overall region.

Targeting specific industry clusters is an important part of an economic development strategy. **No community can be all things to all businesses.** In an ever-changing global market, successful communities must regularly assess their competitive strengths and identify the industry cluster opportunities that best align with those strengths.

Communities also have limited resources and must use them wisely. Targeting specific industry clusters that present the greatest opportunities for growth helps ensure that these resources are utilized efficiently, maximizing the return on investment from every local initiative.

Focusing on target clusters does not mean that other businesses are ignored. Investing in the community and targeted cluster growth will benefit all sectors and residents in the region.

To help the Charlotte Region continue effectively targeting the greatest opportunities, this report includes the following sections:

Performance Evaluation – A summary of the Charlotte Region's overall industry and current target cluster performance. This section provides a baseline for understanding trends across all industries in the region over the past five years and includes a summary scorecard evaluating current target clusters for the Charlotte Chamber and the Charlotte Regional Partnership.

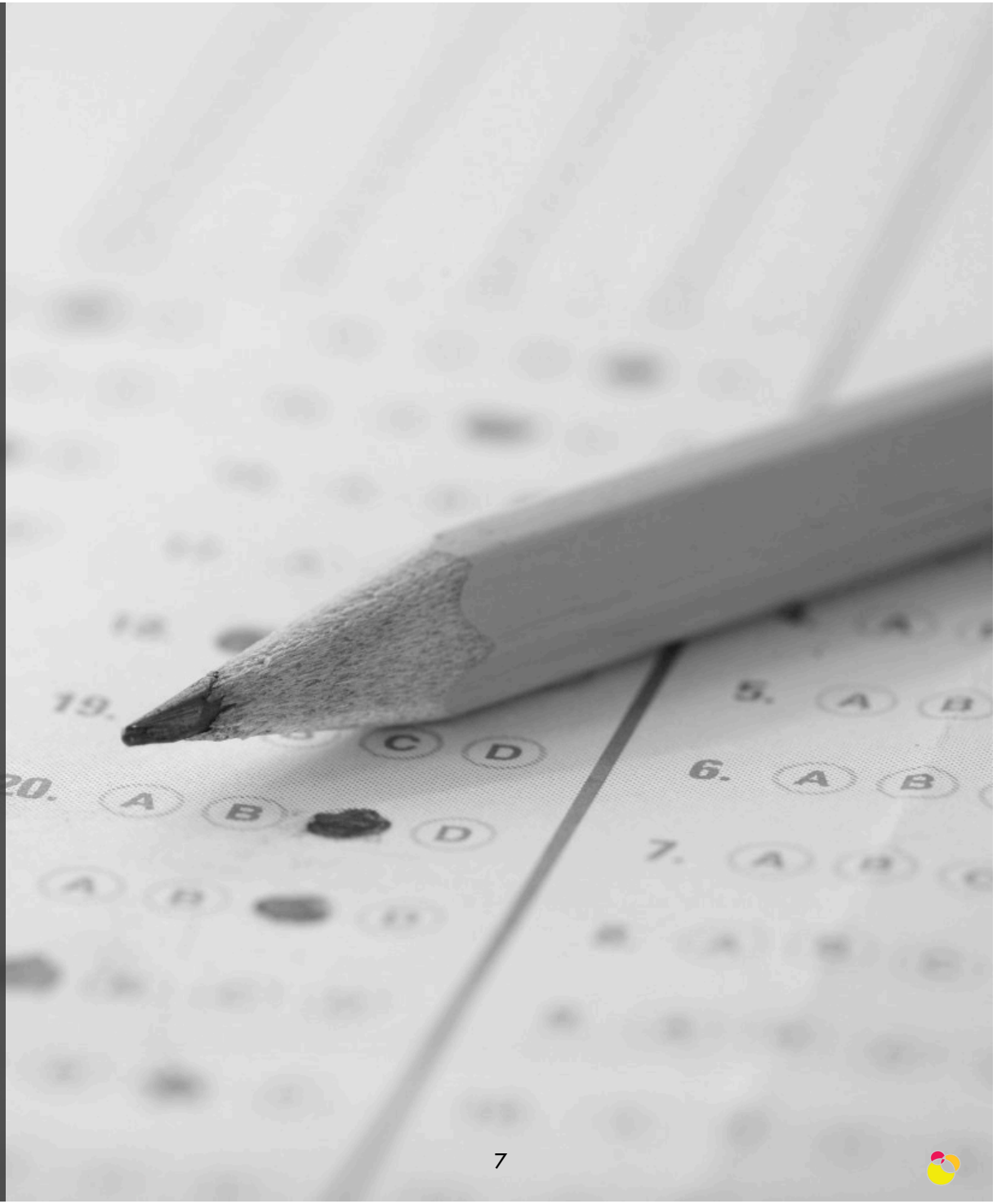
Target Cluster Identification – A description of how new, target clusters were selected for the overall Charlotte Region and a list of these recommended targets. This section also includes a discussion of how current targets were updated and which targets apply to individual counties within the region.

Target Cluster Profiles – Detailed profiles of each recommended target cluster that discuss overall industry trends and needs, niche sector opportunities, leading companies, applicable counties, foundational assets, and regional sales messages.

Appendix I: Industry Cluster Performance – Detailed bubble charts and data tables examining the performance of thirty industry clusters in Mecklenburg County, the Charlotte Metro, and the 16-county Charlotte Region.

Appendix II: Current Target Cluster Scorecards – One-page scorecard evaluations of the performance of each current target cluster.

PERFORMANCE EVALUATION



INDUSTRY CLUSTER PERFORMANCE

The Performance Evaluation begins with an analysis of the Charlotte Region's overall industry cluster trends in recent years. Examining the performance of the region's industry cluster provides insight into the Charlotte Region's strengths and opportunities.

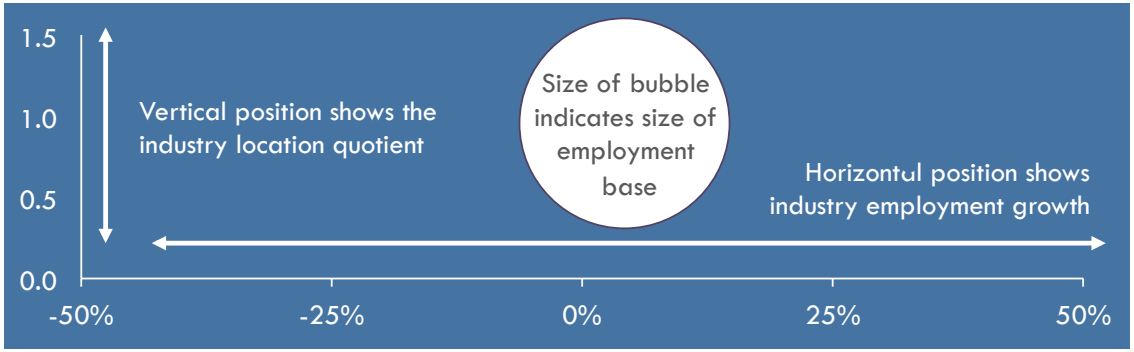
This analysis looked at location quotients (LQs), industry cluster employment, new job creation, and growth rates for thirty industry clusters in the Charlotte Region. Fast-growing clusters, for example, often reflect immediate opportunities for recruitment and expansion efforts. Clusters that are more concentrated in the region relative to the US average may reflect regional advantages such as skilled workforce or geographic advantage than can be leveraged for future economic development efforts.

The bubble charts on the following pages should be interpreted as follows:

Horizontal Axis: Employment growth rate for the past five years.

Vertical Axis: The Location Quotient (LQ). LQs calculate the relative concentration of industry jobs in a community compared to the US average. An LQ of 1.0 indicates the same concentration as the US average. An LQ above 1.0 is more concentrated than the US average, indicating that the cluster has more jobs per capita locally than seen across the US.

Size of Bubble: Total employment in each cluster.



Data and charts for Mecklenburg County and the Charlotte Metro are provided in Appendix I of this report.

INDUSTRY CLUSTER PERFORMANCE

The chart's four quadrants each tell a story:

High Concentration

TOP LEFT (STRONG & DECLINING) Contains clusters that are concentrated in the region but are declining (negative employment growth). These clusters typically fall into the lower quadrant as job losses eventually produce a decline in concentration.	**TOP RIGHT (STRONG & ADVANCING)** Contains clusters that are more concentrated in the region and are growing. These clusters are strengths that help the region stand apart from the competition. Small, high growth clusters can be expected to become increasingly dominant over time.
BOTTOM LEFT (WEAK & DECLINING) Contains clusters that are under-represented in the region (low concentration) and are also losing jobs. In general, clusters in this quadrant lack competitiveness.	**BOTTOM RIGHT (WEAK & DECLINING)** Contains clusters that are under-represented in the region but are growing (often quickly). If growth trends continue, these clusters will eventually move into the top-right quadrant. Clusters in this quadrant are considered "emerging" strengths for the region.

\- Growth

\+ Growth

Low Concentration

CHARLOTTE REGION PAST PERFORMANCE

The Charlotte Region provides employment for over 1.2 million people. From 2010 to 2015 the region added 158,000 net new jobs, a 15% increase.

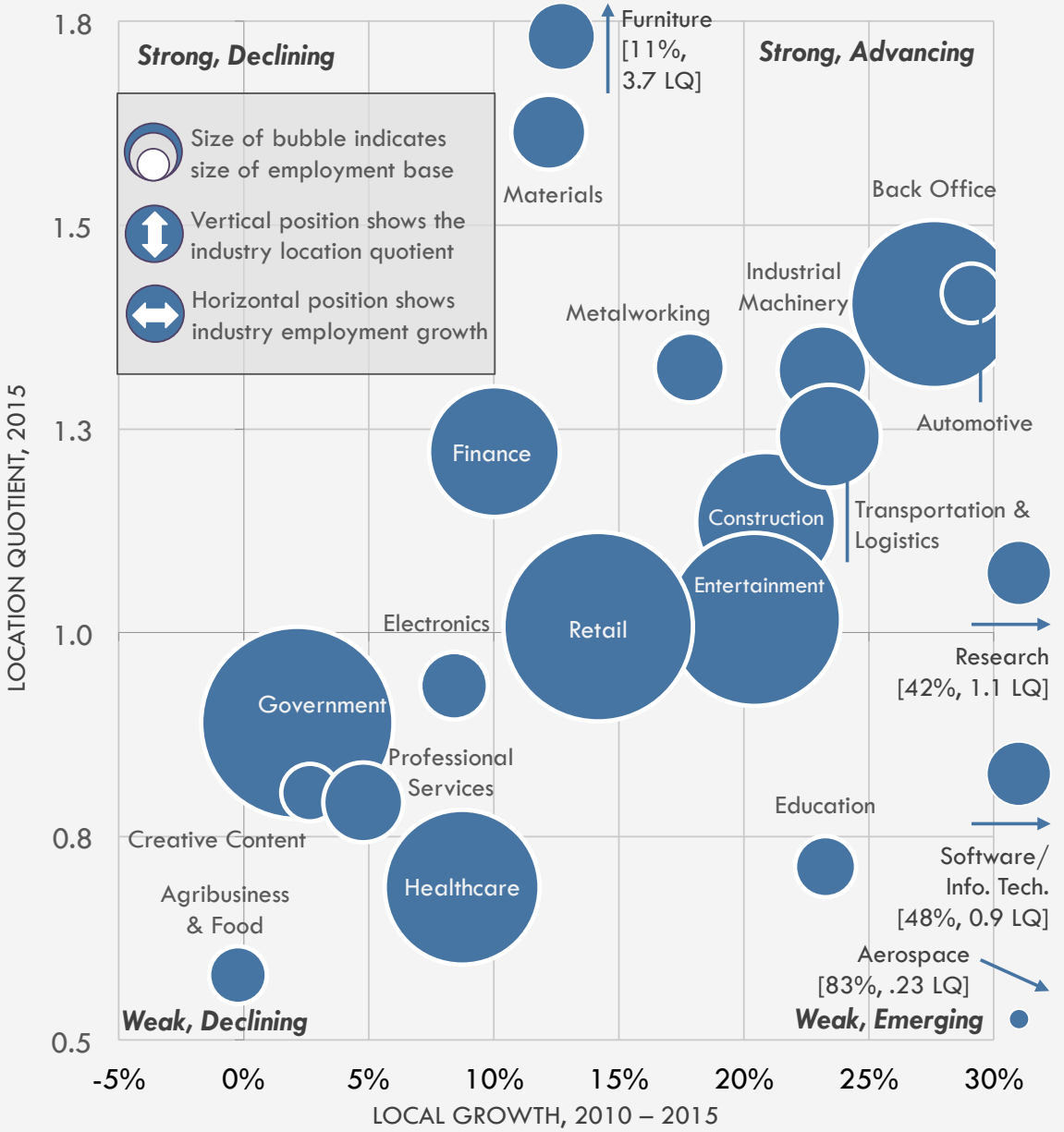
The largest industry clusters in the region are Government (171,000 jobs), Retail (166,000 jobs), Entertainment (139,000 jobs) and Back Office (131,000 jobs). These four clusters account for 49% of the region's employment. Back Office, Entertainment and Retail added the most net new jobs.

From 2010 to 2015 the fastest growing clusters were Software/Info. Tech. (48%), Research (42%), Automotive (29%) and Back Office (28%).

Industrial Machinery, Transport & Logistics and Education also experienced high growth. The only cluster to decline was Agribusiness & Food which decreased 0.2% over the 5-year period.

Highly concentrated industries in the region include Furniture (3.7 LQ), Materials (1.6 LQ), Back Office (1.4 LQ) and Automotive (1.4 LQ). Healthcare, Agribusiness & Food and Education have a lower concentration relative to the national average.

Industry Clusters Past Performance: CRP Region (16-County)



SOURCE: AVALANCHE CONSULTING / EMSI

CHARLOTTE REGION PAST PERFORMANCE

CHARLOTTE REGION				
	Total Jobs		Recent, 2010-2015	
Industry Cluster	2015	LQ 2015	Net New	Growth
Aerospace	992	0.2	452	83.7%
Agribusiness & Food	15,452	0.6	-37	-0.2%
Apparel & Textiles	15,301	3.1	-608	-3.8%
Automotive	16,379	1.4	3,693	29.1%
Back Office	130,932	1.4	28,342	27.6%
Biomedical	6,928	0.7	1,795	35.0%
Construction	90,263	1.1	15,599	20.9%
Consumer Goods Mftg	6,225	1.0	1,225	24.5%
Creative Content	15,360	0.8	396	2.6%
Education	17,295	0.7	3,265	23.3%
Electronics	21,162	0.9	1,642	8.4%
Energy	7,390	0.5	465	6.7%
Entertainment	138,733	1.0	23,534	20.4%
Finance	79,110	1.2	7,207	10.0%
Furniture	16,240	3.7	1,612	11.0%
Government	171,155	0.9	3,584	2.1%
Healthcare	110,996	0.7	8,914	8.7%
Industrial Machinery	37,152	1.3	6,984	23.2%
Materials	26,021	1.6	2,829	12.2%
Metalworking	22,617	1.3	3,424	17.8%
Mining & Logging	1,374	0.7	-102	-6.9%
Non-Profits	5,282	0.4	-228	-4.1%
Professional Services	29,521	0.8	1,345	4.8%
Research	18,922	1.1	5,596	42.0%
Retail	166,309	1.0	20,649	14.2%
Shipbuilding	49	0.0	45	1125.0%
Software / Info. Tech.	20,941	0.9	6,815	48.2%
Telecom Services	8,065	1.0	591	7.9%
Transportation & Logistics	49,073	1.2	9,313	23.4%
Total	**1,245,253**	**1.0**	**158,144**	**14.5%**

CURRENT TARGETS

CHARLOTTE REGIONAL PARTNERSHIP

- AEROSPACE
- DEFENSE
- ENERGY
- FINANCE
- HEALTH / BIOMEDICAL
- INTERNATIONAL BUSINESS
- MOTOSPORTS
- TOURISM

CHARLOTTE CHAMBER

- ANALYTICS & TECHNOLOGY
- ENERGY & POWER INDUSTRIES
- FOREIGN-OWNED FIRMS
- HEADQUARTERS
- LOGISTICS & DISTRIBUTION
- MANUFACTURING

Both the Charlotte Regional Partnership and the Charlotte Chamber have existing target clusters. Part of this strategic process includes evaluating the recent performance of each of these target clusters and identifying ways to streamline and update these into a single, unified set of target clusters for the entire Charlotte Region.

The current target clusters on the left were evaluated across the five metrics listed below. The following page includes a summary scorecard for all the current target clusters. Full performance evaluations of each current target are included in Appendix II.

FIVE TARGET EVALUATION METRICS

- **Local Concentration:** Is the cluster more concentrated within the Charlotte Region relative to the US average? An LQ greater than 1 indicates that on a per capita basis, employment in the cluster is more concentrated in the Charlotte Region than the US average.
- **5-Year Local Growth:** Has cluster employment grown faster in the Charlotte Region than the US average? Comparing regional employment trends against national trends helps contextualize local cluster performance.
- **Average Salary:** Is the average salary of the target cluster greater than the overall regional average? Wealth creation is an important goal of economic development – by targeting clusters with above average salaries, communities can help increase the incomes and well-being of residents.
- **Occupational Diversity:** Does the target cluster offer a range of employment opportunities for residents with different skillsets? Target clusters ideally offer job opportunities for residents with a range of experience – from high school degrees to PhDs. The occupational diversity index calculates the variety of labor force skills required by each cluster. Higher values indicate greater occupational diversity.
- **Geographic Diversity:** Do the target clusters offer opportunities for all the communities in the Charlotte Region? Not every cluster will apply to every county – some require downtown office space and others greenfield sites – but ideally a target cluster provides maximum opportunities for development in each county in the region.

CURRENT TARGET SCORECARD SUMMARY

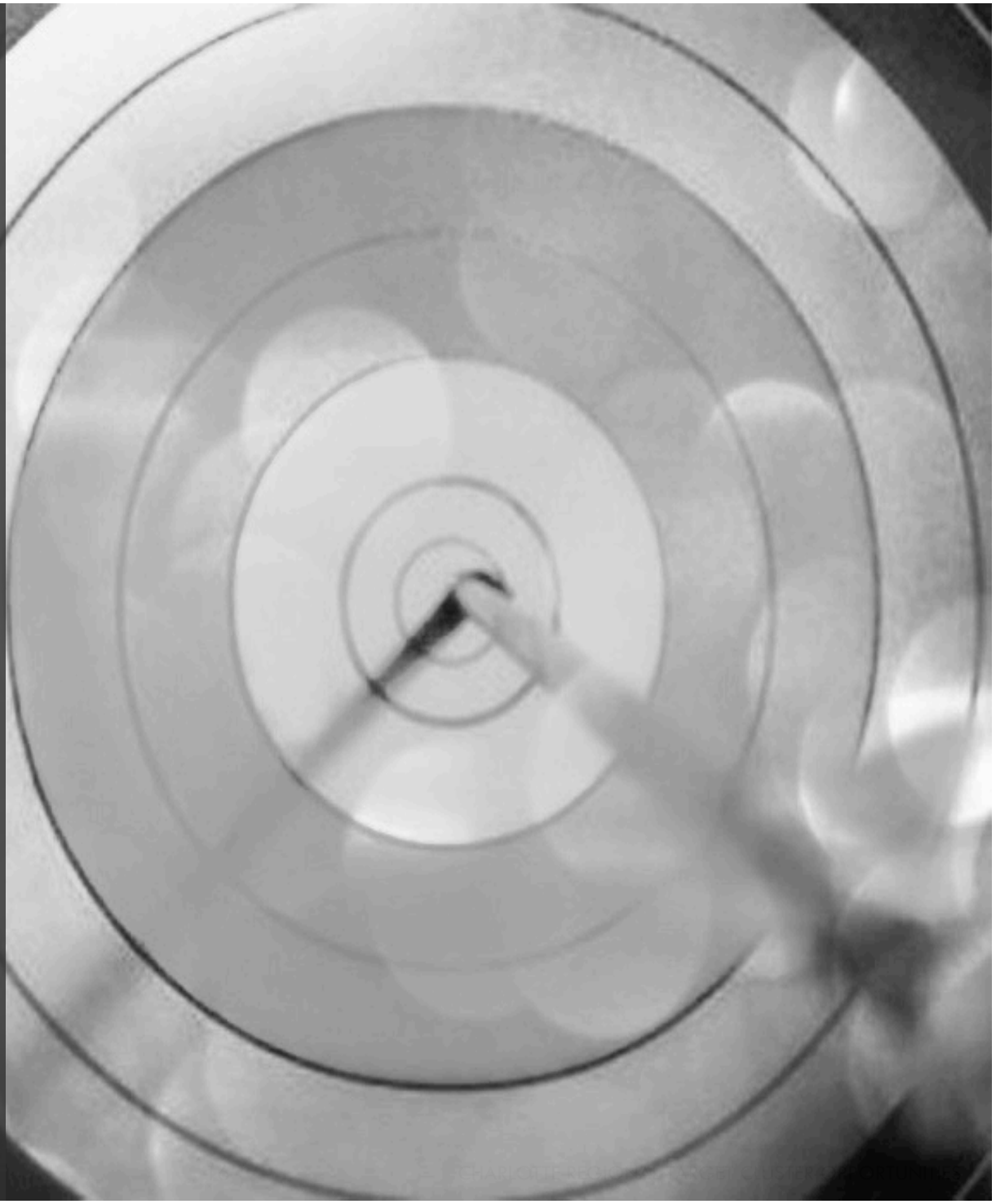
All current clusters performed well over the past five years. In almost every instance, target clusters have outperformed the US average and feature salaries higher than the regional average.

All current target clusters are more concentrated in the Charlotte Region than the US average, with the exception of Aerospace/Defense and Health/ Biomedical. Many current clusters also have a high level of occupational and geographic diversity, offering a jobs to a range of residents spread across the counties of the Charlotte Region.

Given the high level of success in the current targets, the identification of new target clusters for the overall region involves an emphasis on refinement and consolidation rather than reinvention.

AEROSPACE/DEFENSE	A-
ANALYTICS & TECHNOLOGY	A
AUTOMOTIVE	B+
ENERGY	A
FINANCE	A-
HEALTH / BIOMEDICAL	A-
LOGISTICS & DISTRIBUTION	B
MANUFACTURING	A-

TARGET CLUSTER IDENTIFICATION



CLUSTER EVALUATION & SELECTION

Target selection is not an exact science – no single mathematical formula can perfectly identify target clusters. Target selection is instead an iterative process – combining both quantitative and qualitative information. Through a process of data analysis and conversations within the community, target clusters and supporting niche sectors are identified and tailored to each community's needs and opportunities.

Target cluster selection is driven by four primary questions that serve as filters in the selection process:

1. Is the cluster employment growing and projected to grow within the region and the US?

Examining national and international trends helps understand if the target cluster will continue to grow and create opportunities in the Charlotte Region.

2. What clusters have an existing presence in the region?

Clusters with an existing concentration in the region reflect local competitive strengths and present some of the best opportunities for expansion, recruitment, and startup growth.

3. Which clusters are best suited to the region's assets?

The strategic planning process identified the Charlotte Region's strengths, challenges, and assets – summarized in the Competitive Assessment report. The ability of these assets to support cluster ecosystems and expanded activity was an important filter.

4. Which clusters align with the region's goals and values?

Each cluster was evaluated on whether it reinforces the goals and values identified by the Charlotte Region through conversations and focus groups in the strategic planning process.

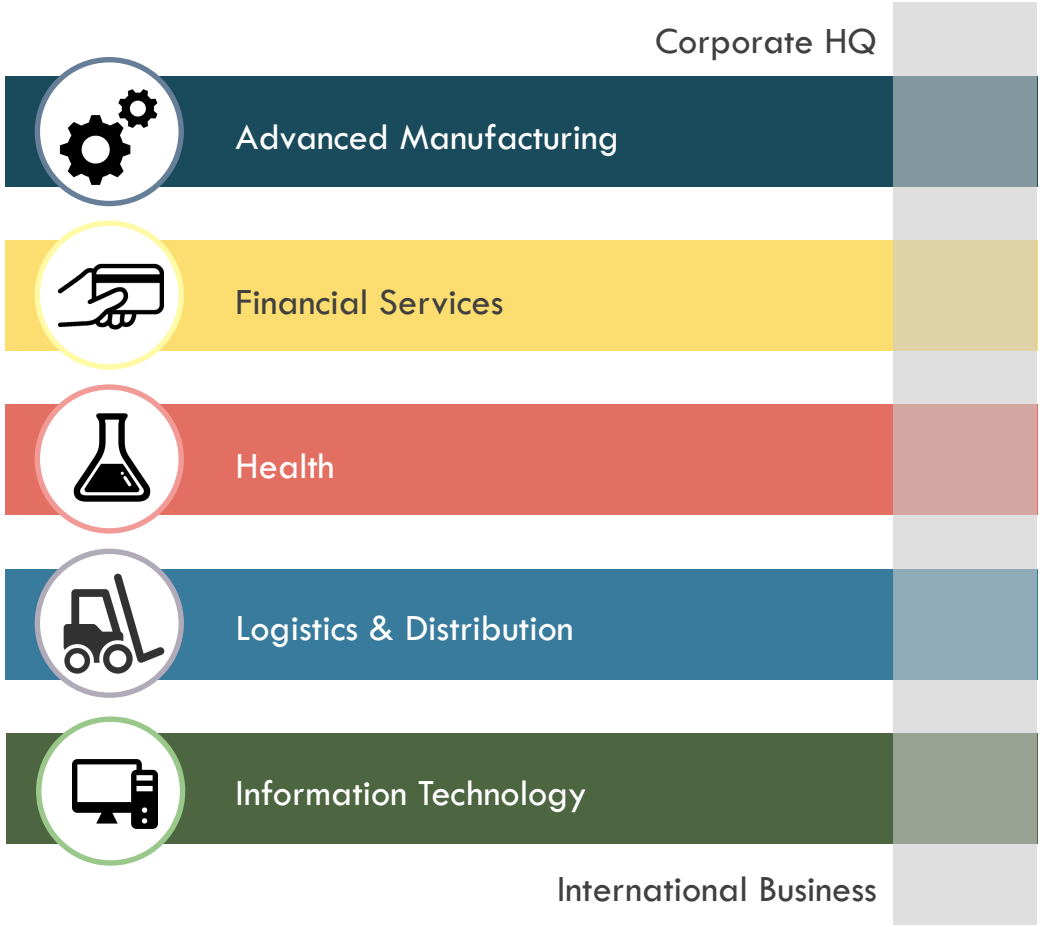
TARGET CLUSTER SELECTION

Following the review and selection process outlined in this report, Avalanche recommends the following five unified target clusters for the entire Charlotte Region.

- Advanced Manufacturing
- Financial Services
- Health
- Logistics & Distribution
- Information Technology

These targets provide high-growth opportunities for a variety of residents and communities within the Charlotte Region.

While not specific targets of their own, Corporate Headquarters and International Business opportunities will be directly impacted by focusing on the recommended target clusters.



TARGET CLUSTER SELECTION

The five recommended clusters unify and update the current targets of both the Charlotte Regional Partnership and the Charlotte Chamber.

The transition of previous target clusters into new clusters and niche sectors is illustrated to the right.

International Business and Corporate Headquarters remain targets, but are layered throughout the five recommended clusters. Corporate HQs and International Businesses are included in many of the recommended niche sectors, and these will naturally grow as a result of increased investment and awareness of the region.

Tourism's in the Charlotte Region: Tourism is not typically recommended as a target cluster for economic development organizations. This cluster's promotion is best led by state and local tourism agencies.

Still, it is important to note the importance of tourism on the Charlotte Region. Tourism draws in billions of outside dollars into the local economy. The tourism industry also helps with economic mobility as it hires and trains many new entrants to the workforce. Tourism will remain an important part of the Charlotte Region economy.

PREVIOUS TARGET CLUSTER	NEW CLUSTER	NICHE SECTORS
AEROSPACE / DEFENSE	ADVANCED MANUFACTURING	Transportation Equipment
AUTO / MOTORSPORTS		Advanced Materials
ENERGY & POWER		Energy Production, Equip. Mfg. & R&D.
MANUFACTURING		Engineering
		Food & Beverage Processing
		Designer Crafts
		Industrial Machinery
		Optoelectronics
FINANCE	FINANCIAL SERVICES	Banking & Insurance
		Banking Regulatory Services
		Financial Technology & Analytics
HEALTH / BIOMEDICAL	HEALTH	Bioinformatics & Genomics
		Biomedical Testing & Supply Sys.
		Healthcare Software & Tech. Svcs.
		Medical Tourism
		Nutraceuticals
LOGISTICS & DISTRIBUTION	LOGISTICS & DISTRIBUTION	Intermodal Distribution
		Logistics Technology & Software
		Third-Party Logistics
ANALYTICS & TECH	INFORMATION TECHNOLOGY	Cloud Computing & Data Mgmt.
		Cyber Security
		Data Centers
		Mobile Technology & Software
		Visualization Software & Analytics

RECOMMENDED TARGET CLUSTERS

The table to the right reflects the current summary view of the Charlotte Region's target clusters.

NEW CLUSTER	NICHE SECTORS
ADVANCED MANUFACTURING	Transportation Equipment
	Advanced Materials
	Energy Production, Equip. Mfg. & R&D.
	Engineering
	Food & Beverage Processing
	Designer Crafts
	Industrial Machinery
	Optoelectronics
FINANCIAL SERVICES	Banking & Insurance
	Banking Regulatory Services
	Financial Technology & Analytics
HEALTH	Bioinformatics & Genomics
	Biomedical Testing & Supply Sys.
	Healthcare Software & Tech. Svcs.
	Medical Tourism
	Nutraceuticals
LOGISTICS & DISTRIBUTION	Intermodal Distribution
	Logistics Technology & Software
	Third-Party Logistics
INFORMATION TECHNOLOGY	Cloud Computing & Data Mgmt.
	Cyber Security
	Data Centers
	Mobile Technology & Software
	Visualization Software & Analytics

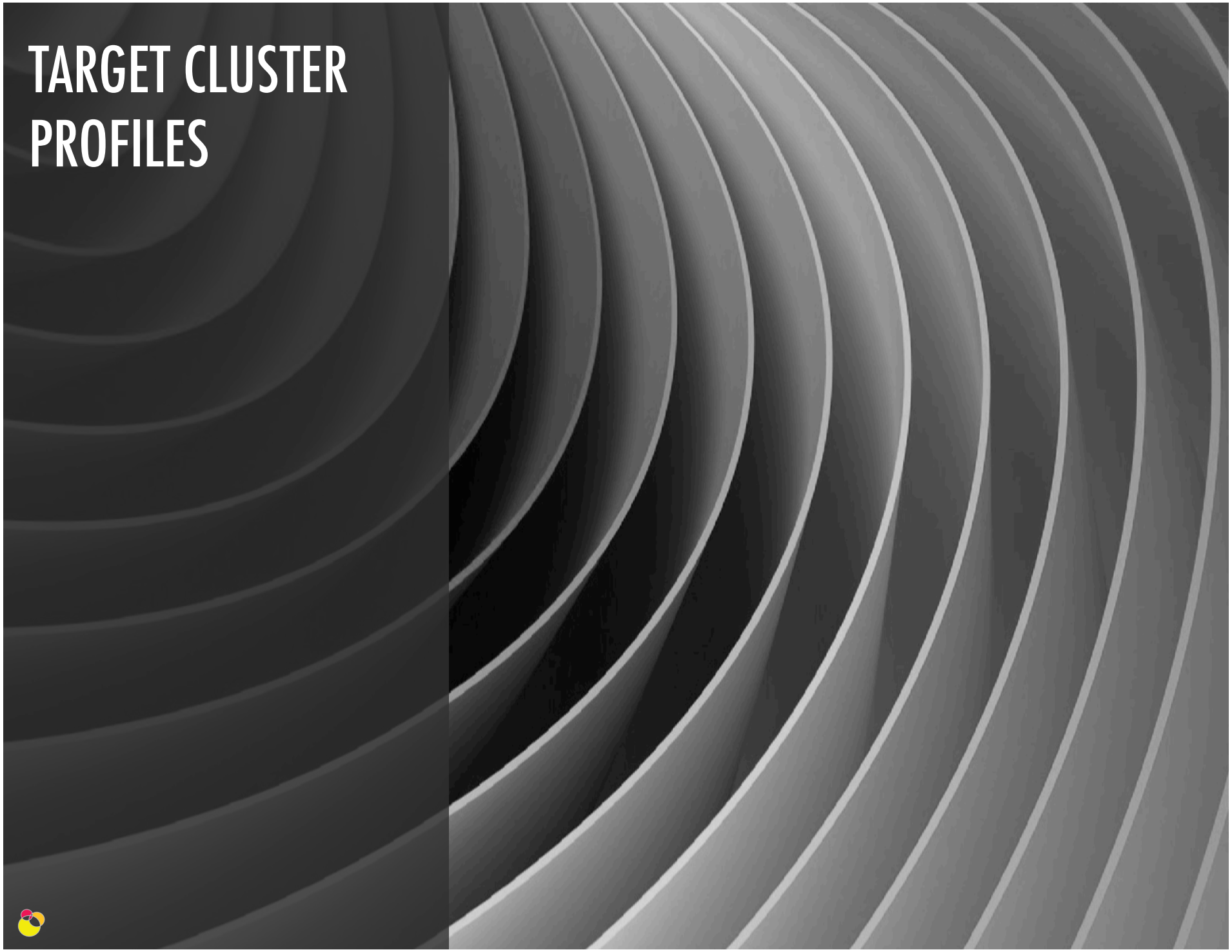
TARGET CLUSTER REGIONAL DISTRIBUTION

Each individual county in the Charlotte Region has opportunities across the recommended target clusters.

The list of targets applied to each county to the right is not exhaustive – the profiles on the following pages highlight niche sector opportunities for each county. New investments and assets will also increase competitiveness of each county for developing target niche sectors.

Alexander , NC MANUFACTURING LOGISTICS	Anson, NC MANUFACTURING LOGISTICS	Cabarrus, NC MANUFACTURING FINANCE HEALTH LOGISTICS IT	Catawba, NC MANUFACTURING FINANCE LOGISTICS IT
Cleveland, NC MANUFACTURING LOGISTICS IT	Gaston, NC MANUFACTURING FINANCE HEALTH LOGISTICS IT	Iredell, NC MANUFACTURING FINANCE HEALTH LOGISTICS IT	Lincoln, NC MANUFACTURING LOGISTICS
Mecklenburg, NC MANUFACTURING FINANCE HEALTH LOGISTICS IT	Rowan, NC MANUFACTURING LOGISTICS	Stanly, NC MANUFACTURING LOGISTICS IT	Union, NC MANUFACTURING LOGISTICS
Chester, SC MANUFACTURING FINANCE LOGISTICS IT	Chesterfield, SC MANUFACTURING LOGISTICS	Lancaster, SC MANUFACTURING LOGISTICS	York, SC MANUFACTURING FINANCE HEALTH LOGISTICS IT

TARGET CLUSTER PROFILES



TARGET CLUSTER PROFILES

The Target Cluster Profiles on the following pages provide detailed information about each recommended target cluster for the Charlotte Region. The profiles include an overview of each cluster, describing the dynamics of the cluster, global forces affecting it, business and workforce needs, and local and national trends. Each profile also includes lists of leading global companies in each niche sector, applicable counties within the region, foundational assets supporting the cluster, and regional sales messages. A recommended "Development Approach" indicates whether a cluster should be targeted through recruitment, expansion, or startup programs.

These profiles are intended to educate regional leadership about each cluster, their niche sector opportunities, and the factors that will influence their growth in the Charlotte Region. The profiles will also arm the Charlotte Chamber and Charlotte Regional Partnership with information and marketing materials to help support business expansion, startup, and recruitment activities in each cluster.

The *Strategic Action Plan* that will conclude the strategic planning process will include specific recommendations to accelerate growth in each target cluster. Recommendations will identify actions for the Charlotte Chamber, the Charlotte Regional Partnership, individual counties, and partner organizations throughout the region.

ADVANCED MANUFACTURING

NICHE SECTORS

Transportation Equipment

Advanced Materials

Energy Production, Equipment Mfg. and R&D

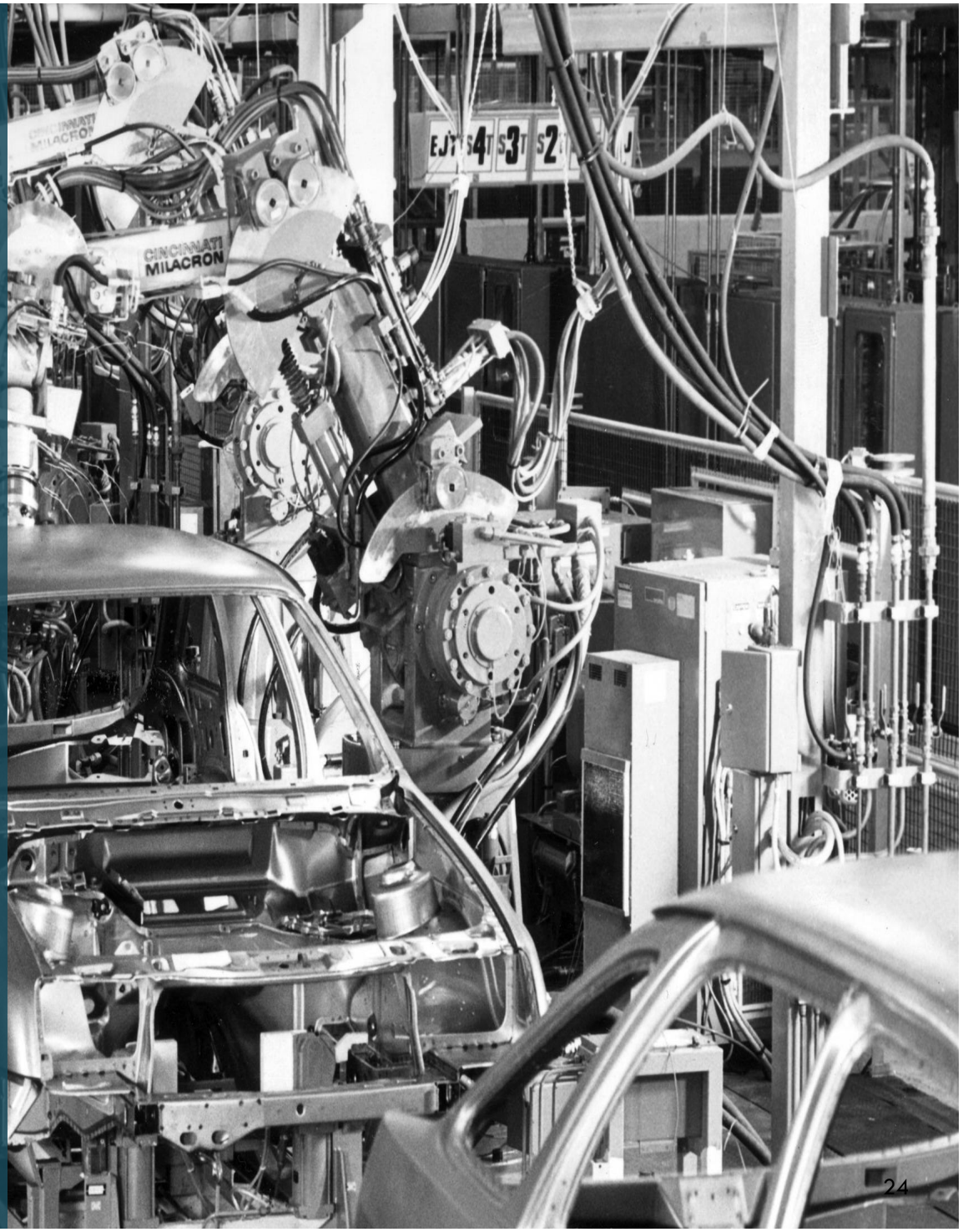
Engineering

Food & Beverage Processing

Designer Crafts

Industrial Machinery

Optoelectronics



ADVANCED MANUFACTURING

NICHE SECTORS

Transportation Equipment

Advanced Materials

Energy Production, Equipment Mfg. and R&D

Engineering

Food & Beverage Processing

Designer Crafts

Industrial Machinery

Optoelectronics

CHARLOTTE REGION

'15 EMPLOYMENT: 91,200
'10 – '15 REGIONAL GROWTH: 19.9%

MAJOR EMPLOYERS:
Daimler Trucks, Ingersoll Rand, Schaeffler Group, Siemens

Cluster Overview

Advanced Manufacturing involves the transformation of raw materials into component pieces and finished products using complex machinery. While the decline of manufacturing remains a common theme in the national media, the US still remains the world's second leading producer of manufactured goods. Manufacturing employment has increased every year since 2010, and the manufacturing currently employs 12.3 million individuals in the US.

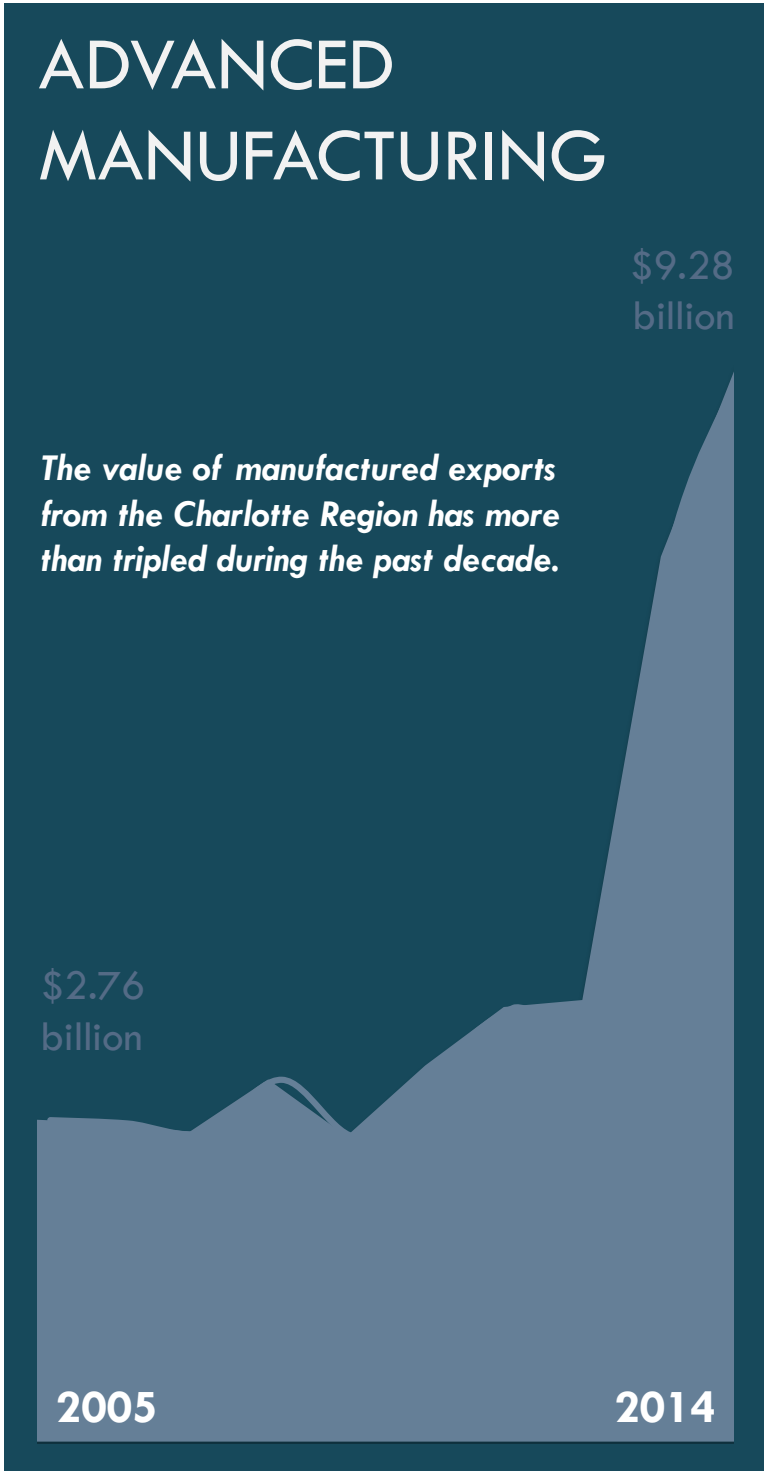
The most competitive Advanced Manufacturers combine efficient operations with a high-skill workforce. Firms typically rely on costly, complex machinery that requires a skilled workforce often with specialized training. High demand for these skilled workers often leads to relatively high wages in this cluster. The combination of high capital investment and high wages makes Advanced Manufacturing among the most sought-after clusters in the US.

Advanced Manufacturing operations have specific infrastructure and workforce needs. Locations with a skilled, low-cost workforce and plentiful, affordable energy supplies are critical in the face of global competition. Specific Advanced Manufacturing niche sectors may also require sizable water and wastewater capacity. Businesses often prefer sites and communities with immediate proximity to an interstate to help facilitate delivery of finished goods. They may also require sites with rail access to facilitate the transport of raw materials. Because they are in high-demand among communities, large-scale Prevision Manufacturing operations may pursue incentive packages when exploring new locations.

Global Forces

Manufacturing employment in the US declined for three decades as companies moved operations abroad to secure cheaper labor. In recent years, however, **US Manufacturing has enjoyed a resurgence** as domestic production has become more globally competitive. **Increased automation** and the continued **adoption of robotics** have helped make US Manufacturers the world's most productive. Stagnant wages at home and **rising foreign labor costs** have increased the cost competitiveness of US workers, though a strong dollar has mitigated this in recent years. **Declining commodity prices**, including a dramatic drop in the price of domestically produced energy, have lowered the cost of US production and transportation. US manufacturers also benefit from growing concerns about **lax intellectual property protection overseas**. The recent **strengthening of the dollar** has dampened demand for US products, but **new trade agreements with Asia and Europe** are likely to fuel additional demand for domestically produced goods.

ADVANCED MANUFACTURING



Niche Sectors

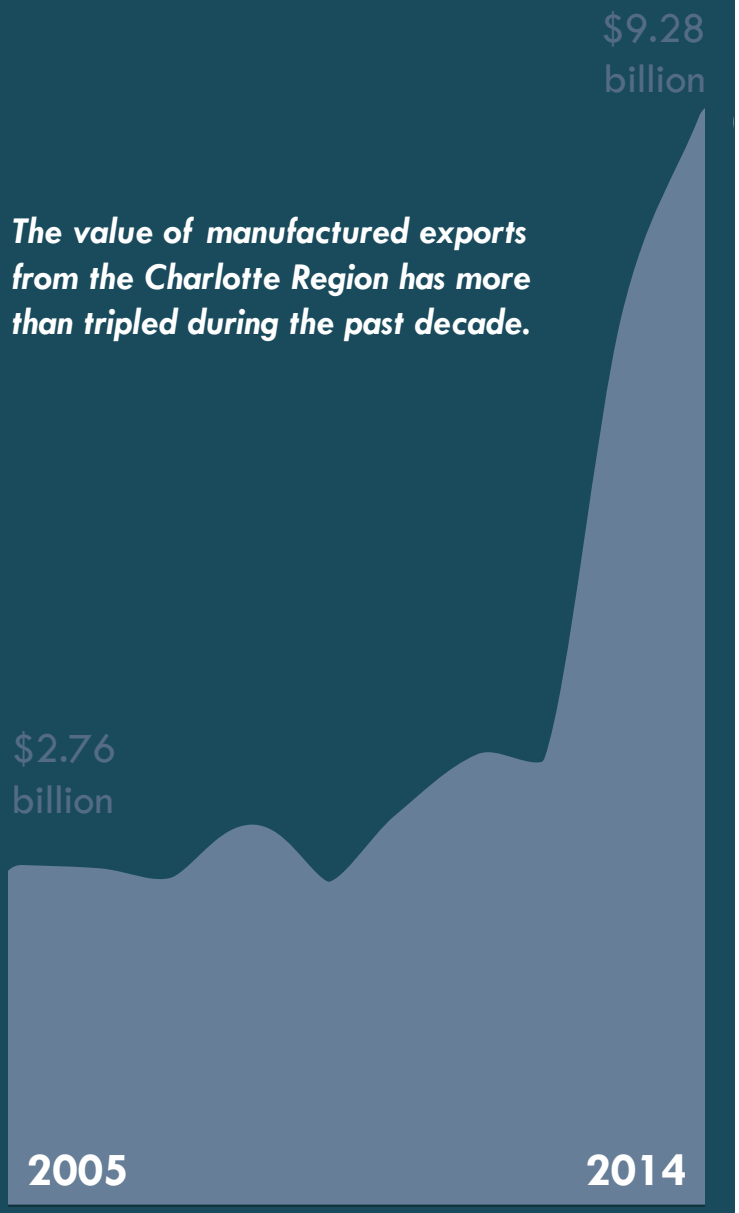
Transportation Equipment – Transportation equipment is a broad niche sector that encompasses the production of motor vehicles, aircraft, defense equipment, and related components. During the past five years, the Transportation Equipment sector has added 200,000 jobs in the US. In recent years, automobile production employment has been buoyed by strong consumer sales and new US production facilities opened by foreign automakers. Increased military spending contributed to strong growth in aircraft and defense employment earlier in the decade. More recently, the growth of air travel worldwide has fueled demand for civilian aircraft and components.

Advanced Materials – Advanced Materials encompasses the research, development, manufacturing, and application of materials derived from innovations in metal, polymers, glasses, composites, and textiles. Advanced Materials are used in many different industries. The need for lighter, stronger component materials in automobiles and aircraft contributes to the demand for composite materials and new alloys. In healthcare, Advanced Materials are employed to enhance or replace natural functions. The convergence of technology and textiles may lead to the creation of "functional fabrics" with novel properties such as exceptional flame resistance, extraordinary strength, or sensing capabilities.

Energy Production, Equipment Mfg. and R&D – Energy Production, Equipment Manufacturing and R&D involves the conversion of renewable and carbon-based energy sources into useable fuels and electricity. The niche sector also includes the creation of devices that generate, store, and distribute electricity. An increased emphasis on efficiency continues to fuel innovations in motors and generators. Battery manufacturing and turbine manufacturing are also benefitting from a diversification in domestic energy production. Even during the height of the recession, for example, turbine and turbine generator manufacturing employment in the US increased. With nearly 400,000 workers, power generation and supply creates high demand for Energy Production Equipment & Components.

Engineering – Engineering encompasses professional businesses that provide contracted technical engineering and design services in a range of fields, including structural, mechanical, industrial, electrical, and other engineering fields. These engineering experts are critical to constructing, upgrading, and maintaining complex modern manufacturing facilities and machinery. Engineering businesses tend to cluster in proximity to their primary clients – manufacturers. This sector hires employees with advanced degrees – at a minimum bachelor's degree holders and often master's. As a result, engineering firms frequently choose locations with a high quality of life to aid employee retention and attraction.

ADVANCED MANUFACTURING



Niche Sectors (continued)

Food & Beverage Processing – Food & Beverage Processing covers the transformation of raw agricultural ingredients into consumer items. Food & Beverage Processing encompasses a variety of inputs, including fruits, vegetables, grains, meats, and dairy products. This sector still employs a high number of US workers, despite declines in farming employment. With approximately 1.7 million employees, there are twice as many Food & Beverage Processing workers in the US than police officers and firefighters *combined*.

Designer Crafts – Designer Crafts focuses on the production of furniture and high-end home goods. Over the past 10 to 15 years, domestic furniture and home furnishing production lost many jobs due to offshoring. Today, employment in the cluster is growing thanks to evolving consumer preferences. In an era of mass production, many customers prefer custom designed goods. The production of Designer Crafts faces less pressure from overseas competitors due to the high level of skills involved and the lower volume of products involved. Luxury goods markets value quality over price and also benefit domestic Designer Crafts manufacturers.

Industrial Machinery - The Industrial Machinery niche sector involves the production of large-scale equipment used in other industries such as agriculture, food processing, technology, and printing. Due to the complexity of Industrial Machinery products, the cluster is highly innovative. Industrial Machinery operations are characterized by the integration of skilled workers with automated assembly methods. Industrial Machinery employment in the US declined during the recession, but the cluster grew consistently during the past five years.

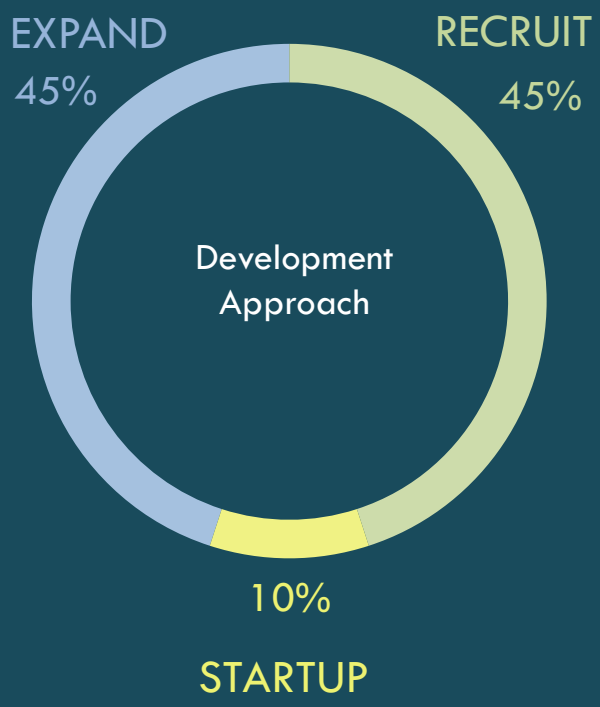
Optoelectronics – Optoelectronics is an emerging field of technology that involves the study and application of electronic devices that interact with light. LED light is probably the best known application, but other Optoelectronic devices are increasingly involved in a wide array of industries – including telecommunications (fiber optic communications), energy (solar cells), and data storage (laser diodes). With sensors increasingly incorporated across a host of devices, from consumer products to medical implants, Optoelectronics will only expand as research uncovers new ways of integrating the technology into other fields.

ADVANCED MANUFACTURING

Leading US Companies

DESIGNER CRAFTS	1. Century Furniture 2. Basset Mirror Company 3. Hooker Furniture
ENGINEERING	1. AECOM 2. Jacobs Engineering 3. Fluor
ENERGY	1. Schlumberger 2. Halliburton 3. Baker Hughes
FOOD & BEVERAGE MANUFACTURING	1. Pepsico 2. Tyson Foods 3. Nestle
MATERIALS	1. DuPont 2. Dow Chemical 3. 3M Co.
INDUSTRIAL MACHINERY	1. Caterpillar 2. John Deere 3. Komatsu Limited
OPTOELECTRONICS	1. Toshiba America 2. Micropac Industries 3. Avago Technologies
TRANSPORTATION EQUIPMENT	1. Robert Bosch Gmbh 2. Continental AG 3. Johnson Controls Inc.

ADVANCED MANUFACTURING



Applicable Counties

	CRAFTS	ENGINEERING	ENERGY	FOOD & BEV.	MATERIALS	MACHINERY	OPTO.	TRANS. EQT.
Alexander , NC	●		●	●	●	●		●
Anson, NC			●	●	●	●		●
Cabarrus, NC		●	●		●	●		●
Catawba, NC	●		●		●	●		●
Cleveland, NC			●		●	●		●
Gaston, NC			●	●	●	●		●
Iredell, NC		●	●	●	●	●		●
Lincoln, NC	●		●	●	●	●	●	●
Mecklenburg, NC		●	●	●	●	●	●	●
Rowan, NC		●	●	●	●	●		●
Stanly, NC			●	●	●	●		●
Union, NC			●	●				●
Chester, SC			●	●		●		●
Chesterfield, SC			●	●		●		●
Lancaster, SC		●	●	●		●		●
York, SC		●	●	●		●		●

ADVANCED MANUFACTURING

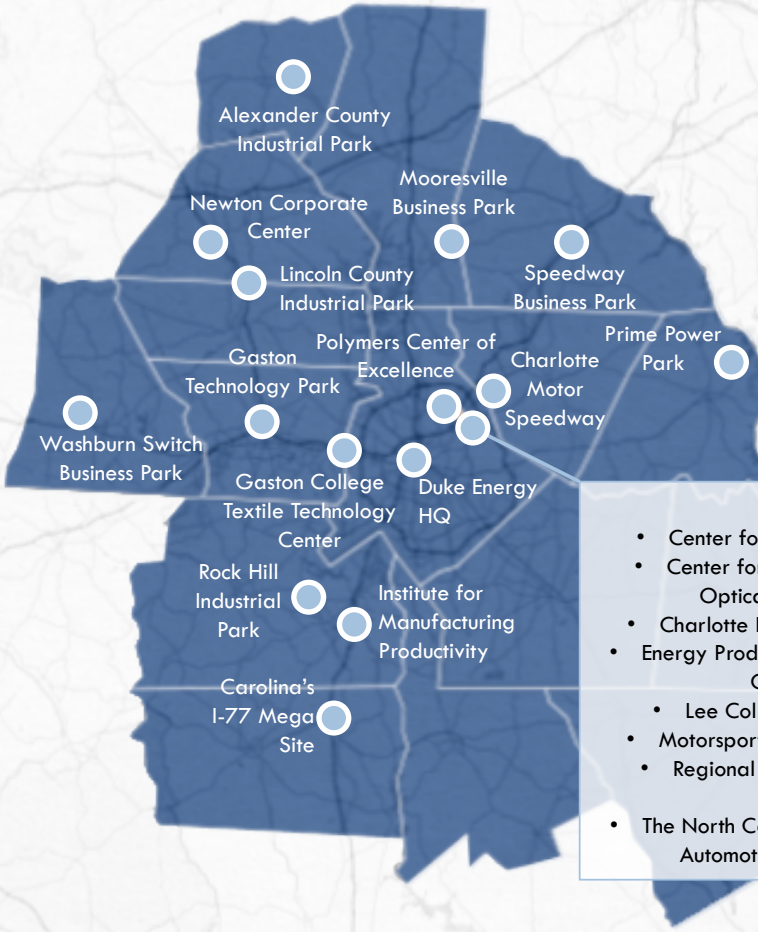
Regional Sales Messages

- The Charlotte Region has abundant power and water resources at highly competitive rates.
- Numerous universities and private organizations are conducting state-of-the-art research in the Charlotte Region – focusing on topics including electric power, nanotechnology, precision metrology, optoelectronics, and more.
- The Charlotte Region is home to over thirty colleges and universities, many of which offer engineering and technical manufacturing programs.
- North Carolina and South Carolina offer some of the nation's top workforce training programs that are flexible and responsive to company needs.
- The Charlotte Region's geographic location and infrastructure allow manufacturers to easily import components and materials and export finished products. Over 50% of the US population lives within 650 miles of Charlotte, and the region is served by Charlotte Douglas International Airport, regional airports, four interstate highways, two major railroads, and a foreign trade zone.

Foundational Assets

The Charlotte Region has a wide mix of assets that serve the Advanced Manufacturing cluster. The region's community colleges and universities educate a skilled workforce in high-demand by manufacturing businesses. Abundant and affordable power and water are available in all counties. Geographic location and distribution infrastructure make import and export of components and products effective and affordable, and the region has many shovel-ready sites, parks, and existing buildings capable of housing modern, Advanced Manufacturing operations.

Some specific foundational assets supporting Advanced Manufacturing include:



UNCC

- Center for Precision Metrology
- Center for Optoelectronics and Optical Communications
- Charlotte Research Institute (CRI)
- Energy Production and Infrastructure Center (EPIC)
- Lee College of Engineering
- Motorsports Lab & Water Tunnel
- Regional Analytical Chemistry Laboratory
- The North Carolina Motorsports and Automotive Research Center

FINANCIAL SERVICES

NICHE SECTORS

Banking & Insurance

Banking Regulatory Services

Financial Technology & Analytics

FINANCIAL SERVICES

NICHE SECTORS

Banking & Insurance

Banking Regulatory Services

Financial Technology & Analytics

CHARLOTTE REGION

'15 EMPLOYMENT: 67,600
'10 – '15 REGIONAL GROWTH: 7.5%

MAJOR EMPLOYERS:
Wells Fargo, Bank of America, TIAA-CREF, Accenture Credit Services

Cluster Overview

The Financial Services cluster involves managing assets, originating loans, pooling risk, issuing securities, and providing related support activities. Deregulation, a vibrant economy, and a rapid increase in asset prices fueled substantial Financial Services gains during the 1990s and 2000s. Between 1997 and 2006, Financial Services employment grew 20% faster than overall US job growth and the gross domestic product of the industry increased 40% greater than the rest of the economy. The global economic meltdown brought an abrupt halt to growth; between 2007 and 2010, nearly 1 in 11 US Financial Services jobs were eliminated.

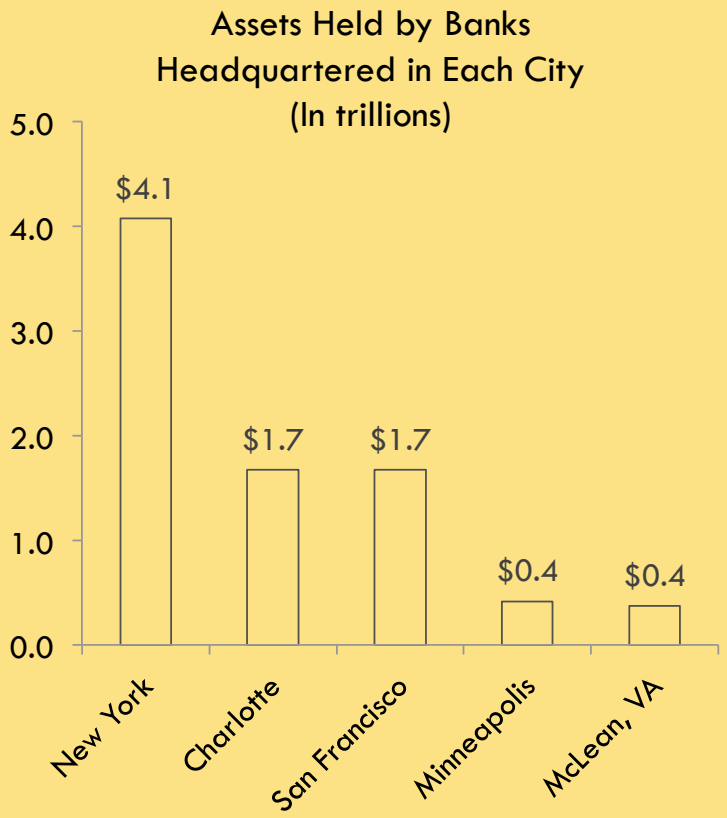
In the years since, the Financial Services cluster has proven remarkably resilient. The performance of Charlotte's Financial Services cluster – the second-most concentrated in the US – has been especially impressive. Since the depths of the recession, Financial Services employment in the region has steadily increased. Although annual federal employment data have yet to be finalized, 2015 is likely to mark an all time level of Financial Services employment within Charlotte. Looking ahead, the region's existing strengths in Banking & Insurance provide a significant advantage in exploiting new market opportunities in areas such as banking Analytics & Technology, Banking Regulatory Services, and Financial Technology (FinTech).

Global Forces

Stringent financial regulations passed in both the US and abroad in the wake of THE global economic crisis **marked the most significant reversal of a decades-long trend toward deregulation. The complex web of rules produced by legislation** such as the Frank-Dodd Act **make compliance and risk management paramount** for Financial Services firms of all sizes. In addition to regulatory changes, Financial Services must also wrestle with **evolving consumer preferences and potentially disruptive technological innovations.** Retail customers, especially younger ones, **demand anytime, anywhere access.** Loyalty is gone—**one third of Millennials don't think they will need a bank in 5 years** and a similar proportion of those surveyed are open to switching banks in the next 90 days. **The entrance of new players** such as Square, Apple, Samsung, and Google into payment services **underscore growing competition from non-banks** and **an increased emphasis on technological innovation** within Financial Services. **Cyber threats will remain a ongoing concern** while **predictive analytics will help reduce risk and increase profitability.**

FINANCIAL SERVICES

Charlotte is the 2nd Largest Banking Center in the US



Niche Sectors

Banking & Insurance – After significant turmoil earlier in the decade, the Banking & Insurance sector has stabilized. Increased regulation in the wake of the Great Recession has had mixed results. Despite calls to reduce the size of the largest banks, the share of total US deposits held by the largest financial institutions actually increased since 2007. Today, JP Morgan Chase Bank, Bank of America, Citibank, and Wells Fargo Bank account for more than 40% of all US deposits. The complexity and cost of regulatory compliance have become a competitive advantage for larger firms and helped reduce the number of smaller players; according to the Federal Reserve, the closure of community banks is the primary cause behind a recent decline in commercial lending institutions.

Although larger bank have fared comparatively well in recent years, the Banking sector faces many challenges. New federal regulations limit certain types of speculative investments. Low interest rates continue to squeeze banking profits. If the current weakness in oil and gas prices continues, highly indebted energy producers will struggle to pay back loans. With memories of the most recent economic collapse fresh in the minds of many, consumers remain hesitant to assume new debt. At the same time, rising retail customer expectations have forced banks to redouble efforts aimed at improving customer service.

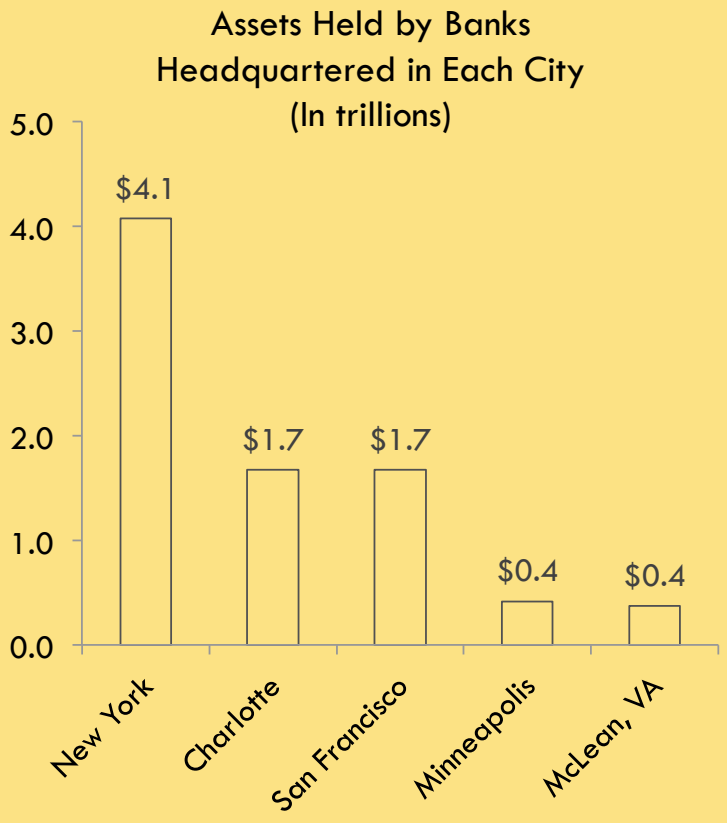
Fortunately, many of the headwinds facing the Financial Services sector may prove short-lived. The Federal Reserve is likely to raise interest rates in late 2016. Oil prices are slowly rebounding. A growing economy is gradually bolstering consumer lending.

Turbulence experienced earlier in the decade by the Insurance sectors has passed, but the sector now faces other ongoing obstacles. The proportion of Americans with private life insurance has steadily declined during the past several decades. Although the retirement of the Baby Boomers generation has renewed interested in fixed-income products such as annuities, low interest rates limit returns. The property and casualty Insurance markets are likely to benefit from the continued economic recovery as strong auto sales and increasingly health housing market help drive growth in new and more expensive policies.

In the longer-term, technological innovation will create significant risks and opportunities for the Insurance sector. The full implications of the sharing economy on home and automobile insurance, for example, remain largely unresolved. The rise of autonomous vehicles will present similar challenges to traditional insurance models. On the other hand, the constant threat of digital breaches is already fueling an increase in cyber insurance. According to the Insurance Information Institute, US businesses spent more than $2 billion for cyber insurance in 2015. PricewaterhouseCoopers estimates the market will grow to $7.5 billion by the decade's end.

FINANCIAL SERVICES

Charlotte is the 2nd Largest Banking Center in the US



Niche Sectors

Banking Regulatory Services – The Dodd–Frank Act has fundamentally changed the regulatory environment for the Financial Services cluster. While the merits of the bill remain hotly contested, there's one point upon which everyone can agree—it's a colossus. Federal agencies tasked with enforcing the law have already written an estimated 14,000 pages of regulations. According to Standard & Poor's, the new rules may cost the 8 largest eight banks $35 billion *annually,* more than the entire gross state product of Vermont ($30 billion).

The enormous cost of compliance has created a growing market for Banking Regulatory Services. The requirement that banks possess a "living will" has made law firms the most immediate beneficiary. Mandated "stress tests" that determine the well-being of large Financial Services firms has spurred demand for complex scenario testing services. New regulations also demand greater oversight and accountability from the board of directors of large banks, creating a new market for governance training services. Technology vendors are developing enhanced data collection systems that meet regulatory reporting requirements as well as modeling programs capable of running simulated stress tests. The Banking Regulatory Services market will likely expand further as the regulations become fully enacted in the years ahead.

Financial Technology & Analytics – The growing integration of Information and Financial Services, dubbed "FinTech", threatens to unsettle traditional banking in three primary ways. Perhaps most importantly, Financial Technology upstarts are leveraging data analytics to bring together disparate data from such sources as social media, mobile phones, and employers to reduce cost and more accurately assess risk. Together, these dynamics may allow companies to offer lower lending rates to more customers. Secondly, Financial Technology firms are scrambling to disrupt the payments market. Since Bank of America introduced the first general use credit card in the 1950s, the way consumers pay for goods and services has experienced little change. Even Apple Pay and Google Wallet rely on existing financial intermediaries to complete transactions. Over time, however, these companies and others are likely to take greater control over the entire payment process. Finally, the Financial Technology sector may revolutionize how financial transactions are secured. Bitcoin, for example, may prove to be a fading fad. The blockchain technology underlying Bitcoin, however, is here to stay. Currently, it can take days to settle securities trades. With blockchain technology, secure transactions can be completed nearly instantaneously. Although JP Morgan CEO Jamie Dimon has warned that "Silicon Valley is coming," the most nimble Financial Services companies will be able to take advantage of market opportunities created by industry disruption. Tech startups, for example, have little experience with financial regulatory compliance. Despite the challenges ahead, traditional banks can prosper by combining their financial expertise with the innovation mindset of technology companies.

FINANCIAL SERVICES

Leading US Companies

BANKING & INSURANCE

1. JPMorgan Chase
2. Bank of America
3. Citigroup

1. Metlife
2. Prudential Financial
3. Berkshire Hathaway

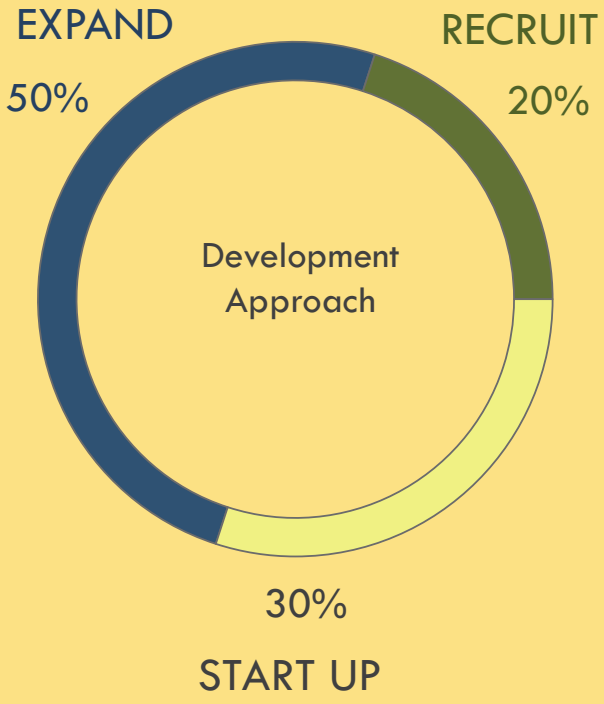
BANKING REGULATORY SERVICES

1. Moody's Analytics
2. SunGard
3. Davis Polk & Wardwell

FINANCIAL TECHNOLOGY & ANALYTICS

1. Lending Club
2. Square
3. Robinhood

FINANCIAL SERVICES



Applicable Counties

	BANKING & INS.	BANKING REG. SVCS.	FIN. TECH & ANALYTICS
Alexander , NC	○		
Anson, NC	○		
Cabarrus, NC	○	○	○
Catawba, NC	○	○	○
Cleveland, NC	○		
Gaston, NC	○	○	○
Iredell, NC	○	○	○
Lincoln, NC	○		
Mecklenburg, NC	○	○	○
Rowan, NC	○		
Stanly, NC	○		
Union, NC	○		
Chester, SC	○	○	○
Chesterfield, SC	○		
Lancaster, SC	○		
York, SC	○	○	○

FINANCIAL SERVICES

Regional Sales Messages

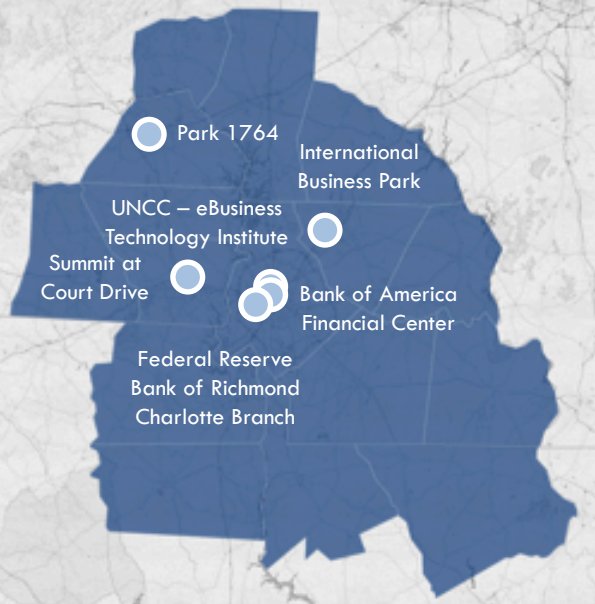
- The Charlotte Region has the second most concentrated Financial Services cluster in the US after New York City, employing over 67,000 across the Region.
- The large existing cluster provides a significant workforce from which to draw and many of the region's colleges and universities offer supportive training in business, finance, and other fields. More than 11,000 residents have professional licenses and registrations.
- Charlotte Douglas International Airport provides nonstop services to cities around the globe, keeping Financial Services businesses easily connected with customers.
- The Charlotte Region is home to seven Fortune 500 headquarters and a large concentration of businesses that require financial services.
- The Charlotte Region offers a high quality of life at relatively affordable costs – including a range of housing and entertainment options throughout the region. This helps recruitment of skilled professionals.

Foundational Assets

The Charlotte Region is home the second most concentrated Financial Services cluster in the US. The region's existing banks provides an extensive foundation from which to further increase Financial Services employment in new niche sectors. The Charlotte Region is also home to seven *Fortune* 500 headquarters. Nearly 300 additional *Fortune* 500 companies have a presence within the metropolitan region.

The corporate Financial Services presence within the Charlotte Region is supported by a large and highly skilled workforce. The Charlotte Region's existing labor supply is complemented by a proven ability to attract talent. Thanks to a high quality of life, quality schools and healthcare options, and a relatively affordable cost of living, the Charlotte Region enjoys a continuous influx of skilled workers from outside of the region; in 2014, nearly 500 new residents with a college degree moved to the Charlotte Region *every week*.

Facilities such as the International Business Park (Cabarrus County), Park 1764 (Catawba County), Summit at Court Drive (Gaston County), among others, provide the Charlotte Region with an abundance of locations well-suited to the needs of Financial Services firms.



HEALTH

NICHE SECTORS

Bioinformatics & Genomics

Biomedical Testing & Supply Systems

Healthcare Software & Technical Services

Medical Tourism

Nutraceuticals

HEALTH

NICHE SECTORS

Bioinformatics & Genomics

Biomedical Testing & Supply Systems

Healthcare Software & Technical Services

Medical Tourism

Nutraceuticals

CHARLOTTE REGION

15 EMPLOYMENT: 123,500
'10 – '15 REGIONAL GROWTH: 10.0%

MAJOR EMPLOYERS: Carolinas HealthCare System, Novant Health, CaroMont Health, Iredell Health System

Cluster Overview

The Health cluster covers a range of technology, products, and services that enhance the delivery of human healthcare services. This includes companies using new technology to better understand human genetics, software companies that allow patients to remotely connect with doctors, and companies developing nutritional supplements that sustain healthy living.

Hospitals, clinics, nursing facilities, and doctors offices – the primary providers of healthcare services – locate where there are patients. A number of factors affect these operations, from public budgets to insurance systems, but their fundamental purpose is to serve patients, and they tend to expand or contract employment based on changes in local population.

Health cluster operations work with these healthcare systems and choose locations in proximity to large hospital networks but are affected by other factors as well. Technology-based Health sectors often concentrate in locations that support attracting talented programmers and researchers and in proximity to universities conducting related research. Other Health sectors such as Biomedical Testing & Supply Systems and Medical Tourism benefit from strong logistical infrastructure – international airports, highway, and rail systems. They rely on these networks to bring in patients for specialized care and distribute medical supplies to regional healthcare networks.

Global Forces

A number of factors are escalating demand for healthcare services and in turn raising the cost of healthcare across the nation. The **growing and aging US population** continues to create new demands for healthcare. **New medical devices, therapies, and pharmaceuticals** increase demand and costs, and changes to insurance and regulation add complexity as the national healthcare system transitions.

Rising costs are directly changing the Health industry – increasing the number **of hospital system mergers,** as they seek to reduce costs through consolidation. The drive for cost reduction is also leading to new emphases in the delivery of healthcare service. More doctors are **prioritizing patient outcomes** and focusing on **behavioral, lifestyle, and wellness strategies**. These in turn push growth in wellness products such as Nutraceuticals.

Technology is also a primary global driver in this cluster. **Mobile devices and software** are allowing doctors to reduce costs by providing distance treatment. The capture, consolidation, and analysis of **patient data and human genetic and biological information** is leading to more **personalized and effective treatments and medicines.**

HEALTH

Charlotte Doesn't Receive its Fair Share of Research Dollars

University of North Carolina at Charlotte
$2.5 million

All Other Colleges and Universities in North Carolina
$2 billion

Niche Sectors

Bioinformatics & Genomics – Bioinformatics & Genomics is an interdisciplinary sector that develops software and other tools to analyze biological and genetic data. Companies in this sector compile and analyze biological and genetic data to build models that simulate human biological systems. These models in turn help develop and test new therapies and medications. This sector is still emerging and often concentrated near research universities and other facilities with computers and equipment capable of supporting data-intensive analysis and modeling.

Biomedical Testing & Supply Systems – This sector covers the testing and diagnosis of human biological samples and the supply of equipment and materials to healthcare systems. This sector is intimately tied to the operations of large hospital networks, providing diagnostic services to doctors and clinics while also supplying the equipment that keeps them operating. Both components require strong logistical infrastructure to maintain on-demand supply networks. New technologies are also allowing medical professionals to more effectively evaluate patient and diagnose conditions and health risks. This sector benefits from and is closely tied to emerging research in genomics and bioinformatics.

Healthcare Software & Technical Services – Healthcare Software & Technical Services includes a range of applications of information technology to serve the Health cluster. This includes the development of mobile software, devices, and services that allow doctors to assess and interact with patients without a hospital visit. It also includes the development of software to better administer complex hospital financial, regulatory, supply, and record keeping systems.

Medical Tourism – Medical Tourism refers to individuals traveling to other cities or countries to receive medical treatment. Medical Tourism often involves residents of wealthier countries traveling to developing countries for lower-cost medical care, but growing incomes in the developing world are creating market opportunities in the US. The availability of high-quality, specialized care and ease of access in the US makes it an attractive destination for wealthier residents of other countries seeking care.

Nutraceuticals – Nutraceuticals is a sector that researches and manufacturers dietary supplements that support nutritional health. Considered food products, Nutraceuticals have strong ties to the traditional agriculture sector – taking food products and converting them into discrete nutritional supplements. Over the past twenty years, the industry has grown rapidly, with the global market recently estimated at $117 billion. Major concerns in the industry remain regulations related to quality and safety of products.

HEALTH

Leading US Companies

BIOINFORMATICS & GENOMICS

1. DNASTAR *(WI)*
2. Gene Codes Corp. *(MI)*
3. Genedata *(Switzerland)*

BIOMEDICAL TESTING & SUPPLY SYSTEMS

1. Roche *(Switzerland)*
2. Abbott Diagnostics *(CA)*
3. Medline *(IL)*

HEALTHCARE SOFTWARE & TECHNOLOGY SVCS.

1. McKesson Corp. *(CA)*
2. Cerner Corp. *(MO)*
3. Allscripts *(IL)*

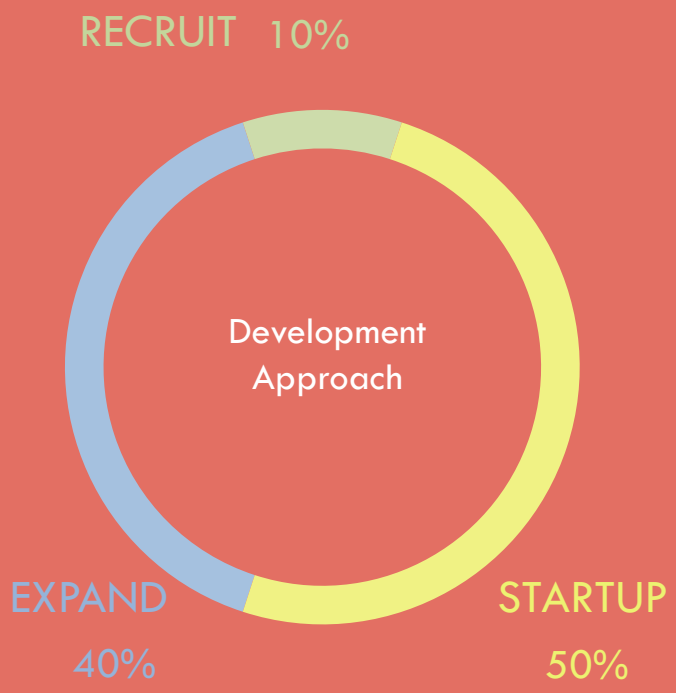
MEDICAL TOURISM *(DESTINATIONS)*

1. New York *(NY)*
2. Cleveland *(OH)*
3. Miami *(FL)*

NUTRACEUTICALS

1. Balchem Corp. *(NY)*
2. Matsun Nutrition *(CA)*
3. Barrington Nutritionals *(NY)*

HEALTH



Applicable Counties

	GENOMICS	TEST. & SUPPLY	TECHNOLOGY	TOURISM	NEUITRACEUT.
Alexander , NC		○			
Anson, NC		○			
Cabarrus, NC	○	○	○	○	○
Catawba, NC		○			
Cleveland, NC		○			
Gaston, NC	○	○	○	○	○
Iredell, NC	○	○	○	○	○
Lincoln, NC		○			
Mecklenburg, NC	○	○	○	○	○
Rowan, NC		○			
Stanly, NC		○			
Union, NC		○			○
Chester, SC		○			
Chesterfield, SC		○			
Lancaster, SC		○			
York, SC	○	○	○	○	○

HEALTH

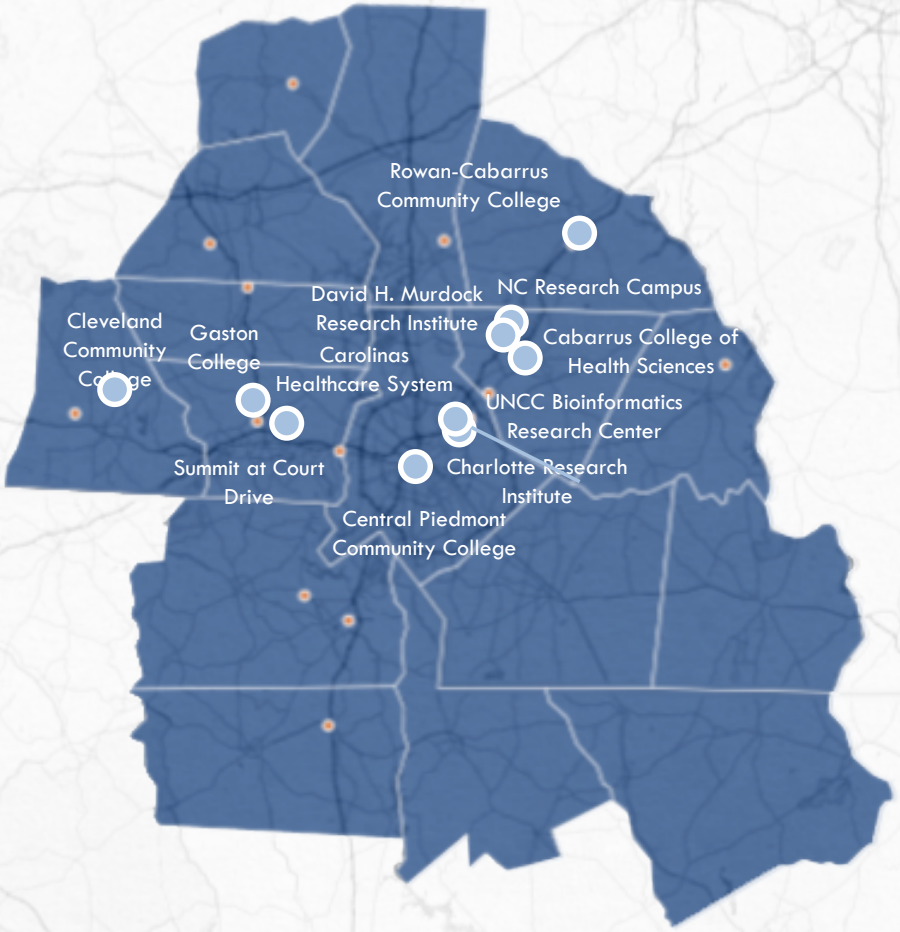
Regional Sales Messages

- The Carolinas HealthCare System is the nation's third-largest public healthcare system – with a network of 29 hospitals, 6,000 beds, and 1,400 physicians across the Charlotte Region.
- Numerous universities and private organizations are conducting state-of-the-art research in the Charlotte Region – including the North Carolina Research Campus, the University of North Carolina at Charlotte, Cannon Research Center, the Charlotte Research Institute, the North Carolina Biotechnology Center, and more.
- The Charlotte Region is home to over thirty colleges and universities, many of which offer healthcare, information technology, and other relevant programming.
- Existing agriculture, food & beverage manufacturing, and nutritional operations in the Charlotte Region make it a competitive location for Nutraceutical operations.
- Charlotte Douglas International Airport has flights around the globe and makes the Region easily accessible for Medical Tourism.

Foundational Assets

The Charlotte Region presents many opportunities for the Health cluster. The region is home to the Carolinas HealthCare System, the third-largest public healthcare system in the US. UNC Charlotte's Bioinformatics Research Center, the North Carolina Research Campus, and the David H. Murdock Research Institute are conducting state of the art research supporting businesses in this cluster. The region has existing agriculture assets that support growth in Nutraceuticals and other wellness products. The region also boasts extensive programming at community colleges and a high quality of life supporting the attraction of talented programmers, researchers, and scientists.

Some specific foundational assets supporting Health include:



LOGISTICS & DISTRIBUTION

NICHE SECTORS

Intermodal Distribution

Logistics Technology & Software

Third-Party Logistics

LOGISTICS & DISTRIBUTION

NICHE SECTORS

Intermodal Distribution

Logistics Technology & Software

Third-Party Logistics

CHARLOTTE REGION

'15 EMPLOYMENT: 51,250
'10 – '15 REGIONAL GROWTH: 25.0%

MAJOR EMPLOYERS: Red Classic, Industrial Distribution Group, XPO Logistics

Cluster Overview

The Logistics & Distribution cluster facilitates the storage and distribution of goods. Global free trade, a resurgent domestic manufacturing sector, and technological innovation have all contributed to Logistics & Distribution growth in recent years. During the past decade, Logistics & Distribution employment increased 60% faster than overall US job market.

The signing of the North American Free Trade Agreement (NAFTA) and China's entry into the WTO in 2001 ushered in a new era of global free trade. In the years since, the US has signed reciprocal trade agreements with 20 countries collectively representing 35% of the world's economy. The Logistics & Distribution cluster has been boosted by fast-growing US import and exports.

The renewed dynamism of the US manufacturing industry has also supported an expansion of Logistics & Distribution operations. As highlighted earlier, US manufacturing operations have become more globally competitive thanks to rising labor costs abroad, flat wage growth at home, and cheap domestic energy sources. During the past five years, exports have accounted for nearly 30% of GDP growth, including gains in Logistics & Distribution.

The Logistics & Distribution cluster has also benefitted from technological advances that increase efficiency and reduce costs. Digital scanning systems, GPS, and supply chain management software allow shipments to be tracked more reliably than ever and facilitate increasingly vast supply chains. Robotics and multi-story distribution centers reduce costs through workforce reduction and maximizing space utilization.

Global Forces

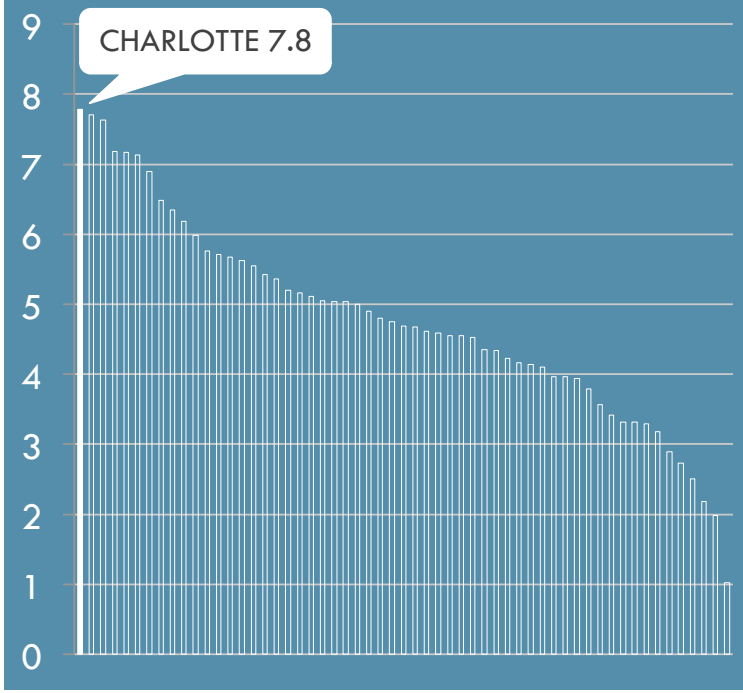
The **anticipated completion of the Panama Canal** expansion in 2016 will enable numerous east coast ports to welcome larger ships. If signed, new **trade agreements with Asian and European** partners may encompass 75% of the global economy. The prospect of **greater cargo** volumes **will underscore the need for continued investment in supporting infrastructure.** Although **a strong dollar has recently dampened demand** for domestically produced goods, possible interest rate increases by **the Federal Reserve may bring some relief.**

As **supply chains have grown more complex,** they have **also become more vulnerable** to disruptions from a variety of environmental, geopolitical, and labor-related risks. Ensuring **supply chain resiliency** is paramount. **Increased automation** in warehouse operations will help **address chronic labor shortages** and further increase productivity. By lowering costs and increasing the ease of deployment, new **cloud-based applications encourage greater adoption of transportation management systems.** The cloud also helps a growing number of Logistics & Distribution companies to leverage data analytics to predict shipment volumes and identify more efficient routes.

LOGISTICS & DISTRIBUTION

In addition to one of the country's busiest airports and four major rail systems, the Charlotte Region has more miles of roadway per capita than any other major metro.

Miles of Roadway per 1,000 Residents, 2014*
*Among metros with at least 600,000 residents



Niche Sectors

Intermodal Distribution – The ability to seamlessly integrate rail, truck, air, and sea transportation modes is one of the marvels of the modern Logistics & Distribution cluster. Intermodal rail is especially important to the US Logistics & Distribution cluster. In 2015, U.S. railroads transported a record 13.7 million intermodal containers and trailers. The growth of intermodal traffic reflects weaknesses in other modes, including a widespread shortage of truck drivers and and a deteriorating national road infrastructure. The growing importance of global trade has also benefitted intermodal distribution as exports and imports represent approximately half of rail intermodal traffic. Intermodal distribution operations thrive in regions rich with infrastructure and geographic advantages.

Logistics Technology & Software – Cloud computing and robotics/automation are among the most promising Logistics Technology & Software applications. Transportation Management Systems (TMS) have traditionally been restricted to high volume Logistics & Distribution firms due to the cost and complexity of deployment. The growing availability of TMS "software as a service" products, which are powered by cloud computing technology, have opened the market to small and mid-sized companies. Automation technologies have enormous consequences for both the transportation and warehousing subsectors. While the consumer market implications of self-driving cars have been widely touted, the impact on industry may prove far more wide-reaching. Self-driving trucks, for example, could help address a critical shortage of drivers while increasing efficiency. Similarly, robots can now handle the selection and packaging of warehouse goods. Already, Amazon utilizes 30,000 robots in its warehousing operations and plans to increase the number further over the coming years.

Third-Party Logistics – Third-Party Logistics (3PL) involves the outsourcing of supply chain management to outside providers. Specific services provided by 3PL firms include transportation, warehousing, customs brokerage, reverse logistics (repairs, returns, etc.), and freight forwarding. 3PL is a $160 billion market in the US and growing. Historically, the 3PL market has been highly fragmented, with several large players such as UPS and FedEx competing against thousands of smaller firms. In recent years, however, the 3PL industry has experienced a rash of mergers and acquisitions as firms have felt pressure to become "one-stop shops" that offer a broad range of services and geographic coverage. The prospect of new entrants such as Uber and Amazon into the 3PL sector raises the specter of significant industry disruption in the years ahead.

LOGISTICS & DISTRIBUTION

Leading Companies

INTERMODAL DISTRIBUTION

1. JB Hunt *(AR)*
2. Swift Transportation *(AZ)*
3. Ryder Supply *(Canada)*

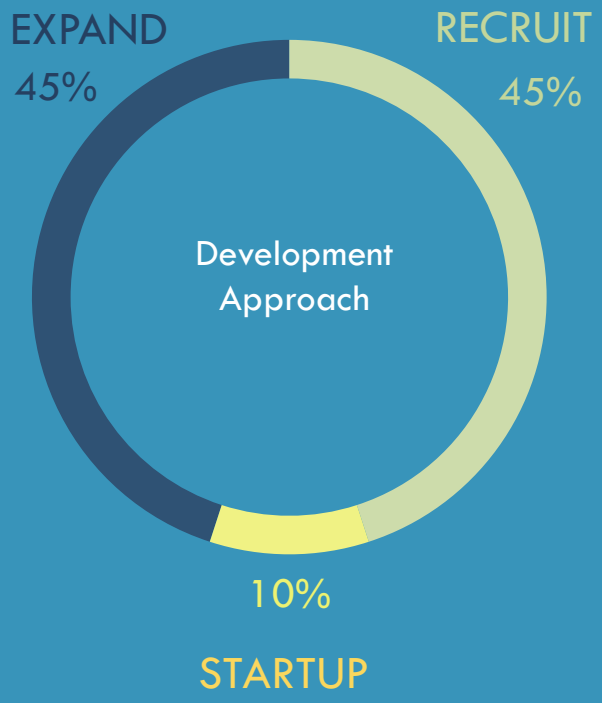
LOGISTICS TECHNOLOGY & SOFTWARE

1. SAP SE *(Germany)*
2. Oracle *(CA)*
3. JDS Software *(AZ)*

THIRD-PARTY LOGISTICS

1. CH Robinson *(MN)*
2. Total Quality Logistics *(OH)*
3. XPO Logistics *(CT)*

LOGISTICS & DISTRIBUTION



Applicable Counties

	INTERMODAL	LOG. TECH.	THIRD-PARTY
Alexander , NC	○		
Anson, NC	○		
Cabarrus, NC	○	○	○
Catawba, NC	○	○	○
Cleveland, NC	○	○	○
Gaston, NC	○	○	○
Iredell, NC	○	○	○
Lincoln, NC	○	○	○
Mecklenburg, NC	○	○	○
Rowan, NC	○	○	○
Stanly, NC	○	○	○
Union, NC	○	○	○
Chester, SC	○		
Chesterfield, SC	○	○	○
Lancaster, SC	○	○	○
York, SC	○	○	○

LOGISTICS & DISTRIBUTION

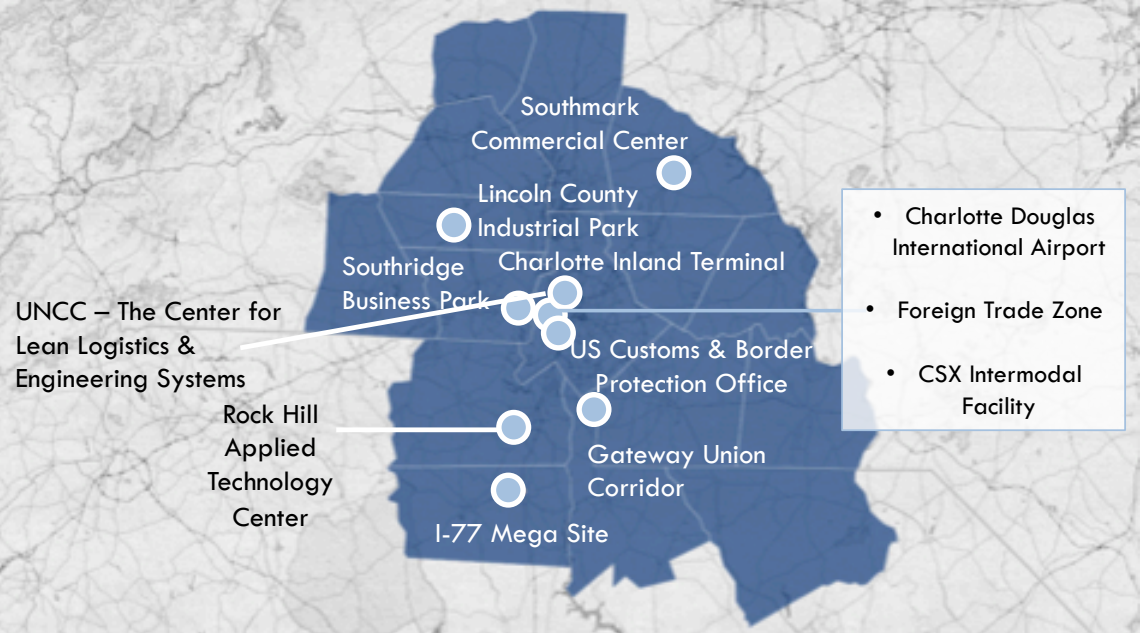
Regional Sales Messages

- The Charlotte Region's geographic location and infrastructure are highly competitive for Logistics & Distribution operations.
- Over 50% of the US population lives within 650 miles of Charlotte, and the region is served by Charlotte Douglas International Airport, regional airports, four interstate highways, two major railroads, and a foreign trade zone.
- The intermodal facility at Charlotte Douglas International Airport allows for efficient transfer of air freight onto rail and highway networks along the US East Coast.
- The concentrated manufacturing and healthcare clusters in the Charlotte Region create significant internal demand for distribution of materials, components, and goods.

Foundational Assets

The Charlotte region is home to a broad collection of land, sea, and air assets. The region features numerous state and interstate highways, including – I-40, I-77, I-85, and I-495. In addition to the Charlotte Douglas International Airport, the Charlotte region also possesses many regional airports, including Stanly County Airport, Lincoln County Regional Business Jetport, Rowan County Airport, Rock Hill/York County Airport. The Charlotte region is also blessed with a multi-directional rail network that encompasses both Norfolk-Southern and CSX facilities. The Charlotte region also provides Logistics & Distribution seaport access through Wilmington and Charleston

Additional foundational assets that supporting Logistics & Distribution include:



INFORMATION TECHNOLOGY

NICHE SECTORS

Cloud Computing & Data Management

Cyber Security

Data Centers

Mobile Technology & Software

Visualization Software & Analytics

INFORMATION TECHNOLOGY

NICHE SECTORS

Cloud Computing & Data Management

Cyber Security

Data Centers

Mobile Technology & Software

Visualization Software & Analytics

CHARLOTTE REGION

'15 EMPLOYMENT: 9,800
'10 – '15 REGIONAL GROWTH: 44.3%

MAJOR EMPLOYERS: CommScop, IBM, Microsoft, Apple

Cluster Overview

Information Technology, or "IT", encompasses software production, Internet services, computer systems design, data centers, data security, and technology consulting services. Cluster growth is fueled by a variety of individual niche sectors.

The Cloud Computing & Data Management niche sector is thriving thanks to the exponential growth in global data production; IBM estimates that 90% of all data ever produced has been created during the past two years. Cloud computing allows companies to outsource data storage and web/mobile applications to off-site third-party vendors such as Amazon Web Services (AWS). Data management, visualization, and analytical services help companies organize and make sense of vast volumes of information. The storage of increasingly critical information on the cloud, combined with highly publicized hacks, has also contributed to a sustained demand for ever more sophisticated cyber security services.

Despite the cluster's emphasis on the next new thing, more mature IT segments such as Mobile Technology & Software remain vibrant. Apple's App Store and Google Play Stores feature an estimated 3.1 million apps. The increased adoption of mobile payment services, the rise of Health IT apps, and other emerging applications will ultimately create new opportunities for additional sector growth.

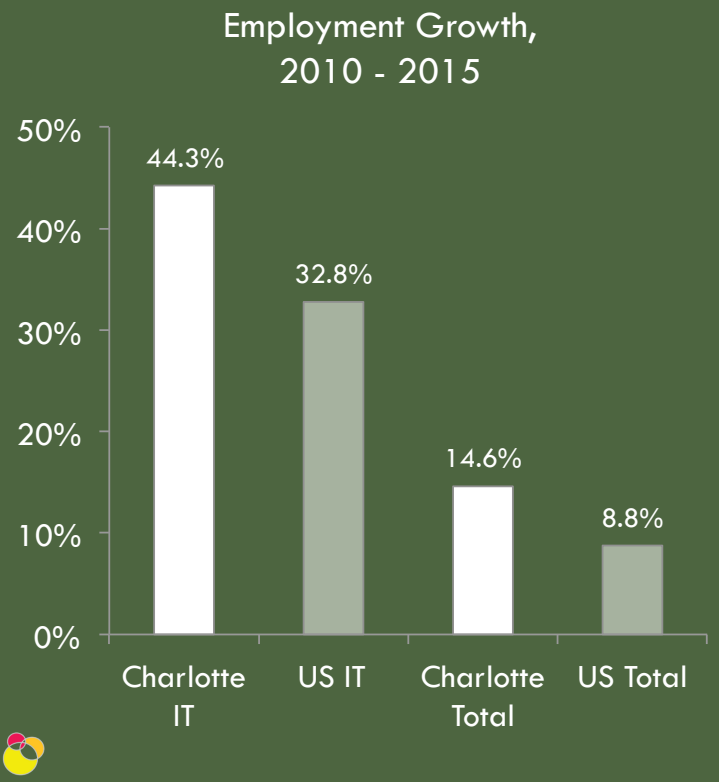
Global Forces

As the data available to corporations has increased, **Big Data has become big business.** By leveraging large data sets, **companies in a variety of industries can employ predictive analytics to identify future outcomes.** The cloud has also helped give rise to **the Internet of Things** as a growing number of consumer objects such as watches and thermostats are connected to digital networks. **The growing ubiquity of devices with access to highly personal information** also contributes to a **growing cyber arms race.** As **smart objects** begin to communicate with each other and **envelop consumers in a "digital mesh,"** the need for advanced cyber security capabilities further increases.

Looking ahead, **advances in artificial intelligence and machine learning** promise to disrupt a host of industries. Oxford University researchers estimate that **a significant number of US jobs could be automated within the next 20 years. Automated chat bots** will soon perform routine customer service requests. **Self-driving cars** are likely to revolutionize the automobile industry. In Health Care, **diagnostic robots** may eventually assume roles previously occupied by medical professionals.

INFORMATION TECHNOLOGY

Charlotte's IT sector is growing 35% faster than the overall US IT sector and three times faster than total regional employment.



Niche Sectors

Cloud Computing & Data Management – Cloud computing involves the use of remote servers to store, manage, and process data and applications via the internet. Cloud computing allows consumers to run up-to-date, secure versions of popular programs such as Microsoft's Office without the need for powerful personal computers. Cloud computing also allows companies such as Netflix and Instagram to scale their operations in real time. Fueled by investments from companies such as IBM, Amazon, Dell, and HP, the market for cloud services is currently enjoying significant growth. According to the US International Trade Administration, spending on the cloud market is projected to expand from $72 billion in 2014 to $191 billion by 2020.

Cyber Security – According to federal government estimates, more than 110 million medical records were compromised in 2015. With cyber attacks growing in sophistication and frequency, Cyber Security spending continues to soar; Bank of America Merrill Lynch estimates that the Cyber Security market will increase from $75 billion to $170 billion by 2020. The White House is already signaling a need for a substantial increase in cyber security spending — the the Obama Administration requested $17 billion in cyber security funding in its final budget proposal, a $5 billion increase above current levels.

Data Centers – Data centers are the backbone of cloud computing and companies continue to invest in new facilities. Google plans on opening an additional 10 data centers in the next year and a half. Apple is expected to spend billions on new data centers during the next several years as it looks to lessen its reliance on Amazon. Microsoft and Facebook have both signaled an increase in data center investments over the coming year.

Mobile Technology & Software – Since the introduction of Apple's app store in 2008, consumers have downloaded 100 billion apps. Today, the mobile software market is a $120 billion ecosystem of developers, marketers, and engineers. The integration of mobile technology with increasingly sophisticated sensors will create new Health IT opportunities in areas such chronic disease management, personal wellness, and remote patient monitoring. Mobile payment technology is another promising market opportunity. Despite various mobile payment plays by the likes of Apple, Google, and Samsung, the market remains immature. The prospects of a cashless society, however, will continue to drive growth.

Visualization Software & Analytics – Visualization Software & Analytics have become increasingly common business intelligence tools. The use of sophisticated statistical techniques enables companies to create models from large data sets to predict consumer behavior. Predictive analytical offerings from the likes of Microsoft, Oracle, and SAS, for example, can help banks identify new customers, establish optimal credit lines, and more accurately pinpoint fraudulent transactions. Visualization tools such as Tableau, Sisense, and Domo bring data analytics to a wider audience across the entire enterprise and government.

INFORMATION TECHNOLOGY

Leading Global Companies

CLOUD COMPUTING & DATA MANAGEMENT

1. Amazon *(WA)*
2. HP *(CA)*
3. Oracle *(CA)*

CYBER SECURITY

1. IBM Security *(MA)*
2. FireEye *(CA)*
3. Palo Alto Networks *(CA)*

DATA CENTERS

1. IBM *(NY)*
2. HP *(CA)*
3. CSC *(VA)*

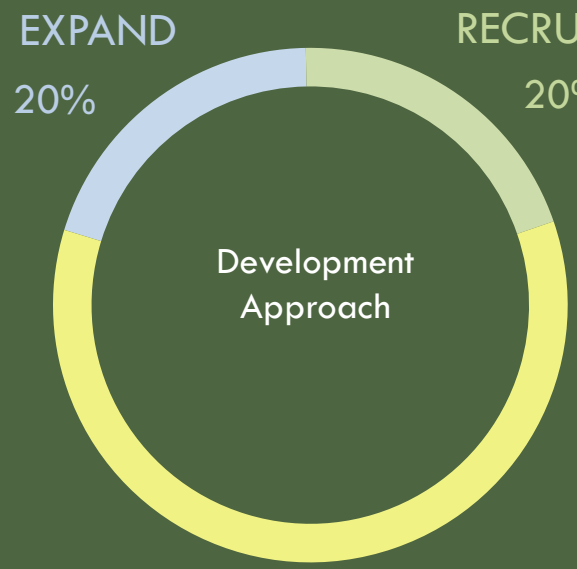
MOBILE TECHNOLOGY & SOFTWARE

1. Apple *(CA)*
2. Google *(CA)*
3. Microsoft (WA)

VISUALIZATION SOFTWARE & ANALYTICS

1. Tableau Software *(WA)*
2. SAS *(NC)*
3. SAP *(PA)*

INFORMATION TECHNOLOGY



Applicable Counties

	CLOUD CMPT.	CYBER SEC.	DATA CENTERS	MOBILE	VISUALIZATION
Alexander , NC			○		
Anson, NC			○		
Cabarrus, NC	○	○	○	○	○
Catawba, NC	○	○	○	○	○
Cleveland, NC	○	○	○		
Gaston, NC	○	○	○	○	○
Iredell, NC	○	○	○	○	○
Lincoln, NC	○		○		
Mecklenburg, NC	○	○	○	○	○
Rowan, NC	○	○	○	○	○
Stanly, NC	○	○	○	○	○
Union, NC				○	○
Chester, SC	○	○	○		○
Chesterfield, SC			○		
Lancaster, SC			○		
York, SC	○	○	○	○	○

INFORMATION TECHNOLOGY

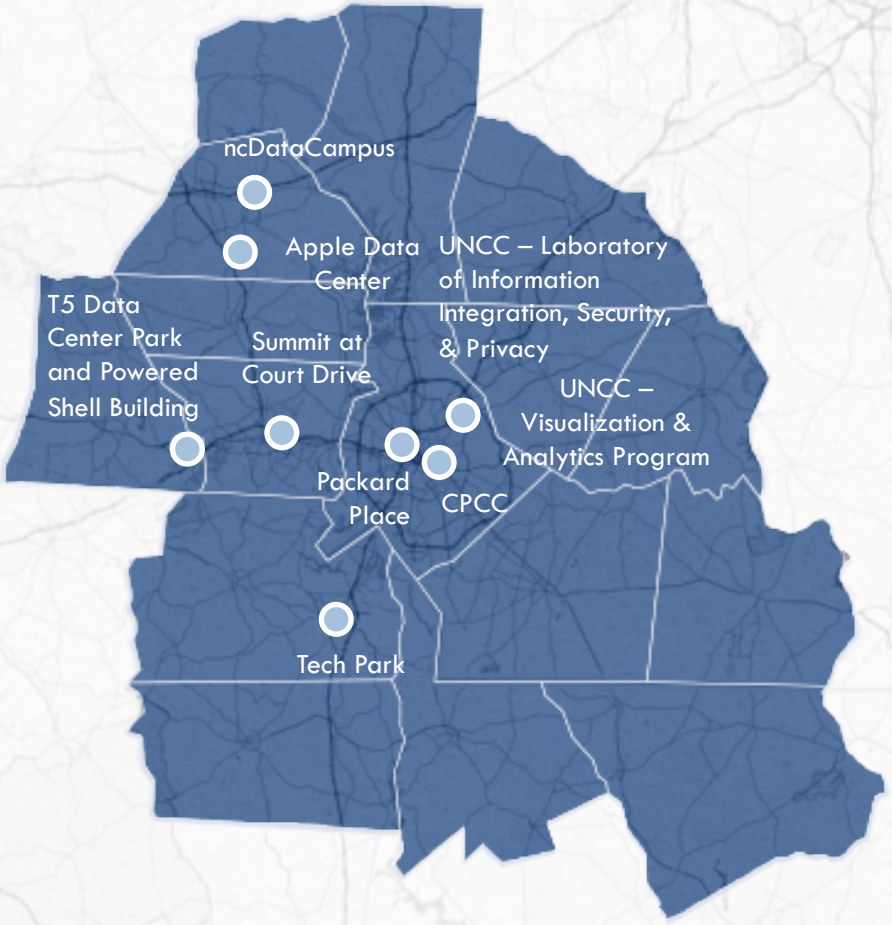
Regional Sales Messages

- Information Technology is one of the fastest growing clusters in the Charlotte Region. Along with innovative new products and services, this cluster provides direct support for the large community of manufacturing, healthcare, financial, and other businesses in the Region.
- The Charlotte Region offers a high quality of life at relatively affordable costs – including a range of housing and entertainment options throughout the region. This helps recruitment of skilled technology professionals.
- The Charlotte Region has abundant power resources at highly competitive rates. Combined with relative geologic stability, availability of skilled workers, and connectivity to clients – this makes the region attractive for Data Center operations.
- The Charlotte Region is home to over thirty colleges and universities, many of which offer software, information technology, and other relevant programming.

Foundational Assets

Charlotte's highly concentrated Financial Services cluster, which requires sustained IT investments, provides one of the region's strongest Information Technology advantages. Already, the Charlotte Region is home to one of the fastest growing number of Computer & Math workers in the US. In addition to a heavy presence of Financial Services companies, the Charlotte Region also benefits from urban area attraction, a high quality of life, an affordable cost of living, and access to abundant outdoor recreational amenities—all of which help attract talent.

Some specific foundational assets supporting Information Technology include:



HIGHER EDUCATION

While Higher Education is not a traditional target for economic development organizations, the Charlotte Region's institutes of higher learning are absolutely critical to the success of nearly every industry cluster.

The Charlotte Region has an abundance of community colleges, colleges, and universities. The number of post-secondary options available locally provides a broad range of educational programming to support the target clusters – from customized equipment training to advanced engineering degrees.

Belmont Abbey College – *Mecklenburg*

Cabarrus College of Health Sciences – *Cabarrus*

Catawba Valley Community College – *Catawba & Alexander*

Carolina College of Health Sciences – *Mecklenburg*

Central Piedmont Community College – *Mecklenburg*

Cleveland Community College – *Cleveland*

Davidson College – *Mecklenburg*

Gaston College – *Gaston & Lincoln*

Johnson C. Smith University – *Mecklenburg*

Mitchell Community College – *Iredell*

North Carolina Research Campus – *Rowan*

Northeastern Technical College – *Chesterfield*

Pfeiffer University – *Mecklenburg*

Queens University – *Mecklenburg*

Rock Hill Applied Technology Center – *York*

Rowan-Cabarrus Community College – *Rowan & Cabarrus*

South Piedmont Community College – *Anson & Union*

Stanly Community College – *Stanly*

University of North Carolina Charlotte – *Mecklenburg*

University of South Carolina at Lancaster – *Lancaster*

Wingate University – *Union*

Winthrop University – York

York Technical College – *York, Chester, & Lancaster*

DATA APPENDIX

APPENDIX I – INDUSTRY CLUSTER PERFORMANCE

Charlotte Metro &

Mecklenburg County

CHARLOTTE METRO PAST PERFORMANCE

The Charlotte Metro added 146,000 jobs from 2010-2015, a 16% increase in total employment.

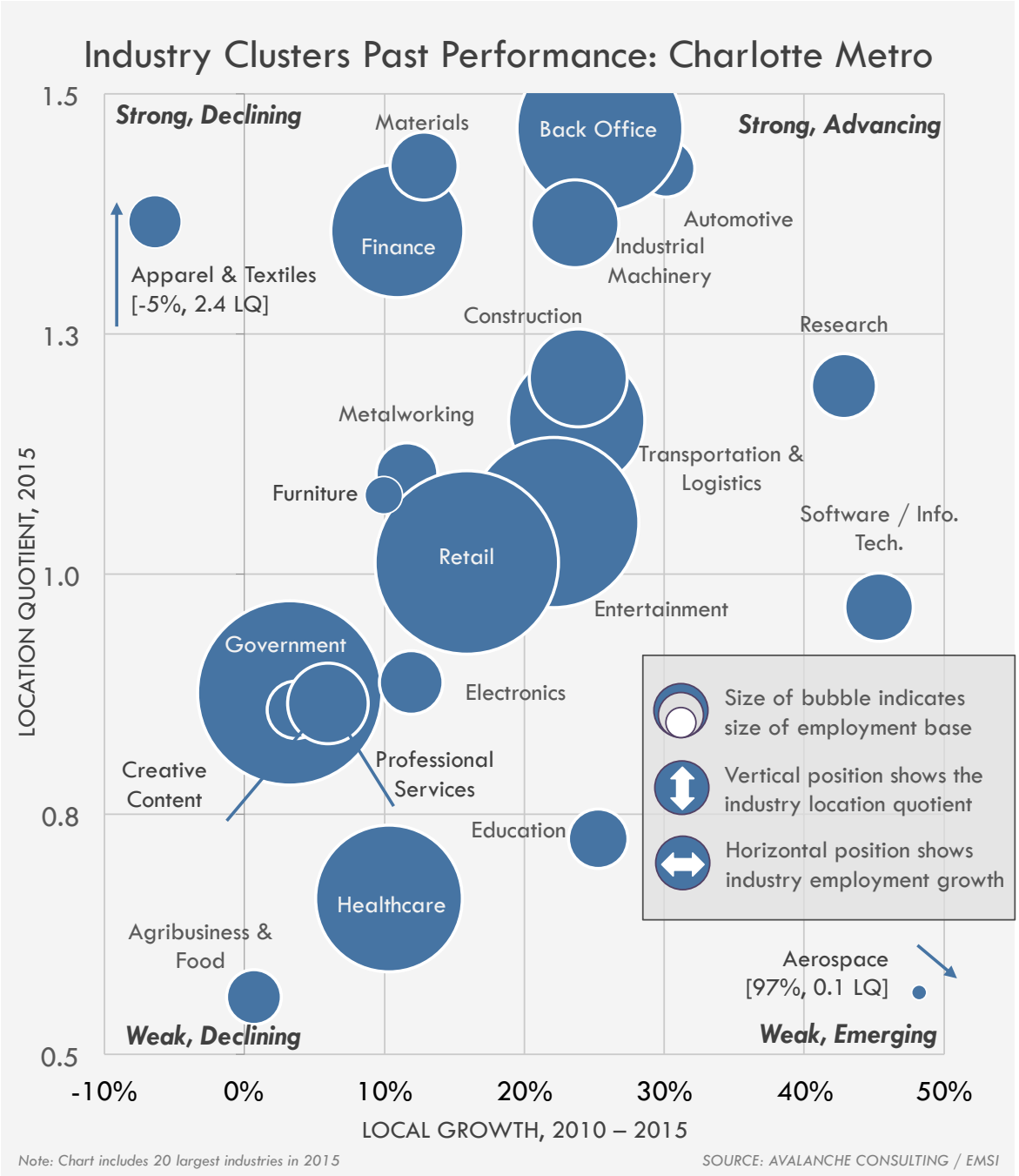
Within the Charlotte Metro, the largest industry clusters are Government (146,000 jobs in 2015), Retail (144,000 jobs), Entertainment (125,000 jobs) and Back Office (118,000 jobs). Together, these industries accounted for 49% of employment in 2015.

The fastest growing industry clusters in the Charlotte metro are Software/Info. Tech. (45%), Research (43%), Automotive (30%) and Back Office (25%).

Construction, Industrial Machinery, Transport & Logistics and Education also grew more than 20% from 2010-2015. The only cluster to decline was Apparel & Textiles, shrinking 5% over the past five years.

Highly concentrated clusters in the metro include Apparel & Textiles (2.4 LQ), Back Office (1.5 LQ), Finance (1.4 LQ), Industrial Machinery (1.4 LQ), Materials (1.4 LQ) and Automotive (1.4 LQ).

Agribusiness & Food, Healthcare and Education are industry clusters with a low relative concentration in comparison to the national average.



Note: Chart includes 20 largest industries in 2015

SOURCE: AVALANCHE CONSULTING / EMSI

CHARLOTTE METRO PAST PERFORMANCE

CHARLOTTE METRO				
	Total Jobs		Recent, 2010-2015	
Industry Cluster	2015	LQ 2015	Net New	Growth
Aerospace	477	0.1	235	97.1%
Agribusiness & Food	12,915	0.6	88	0.7%
Apparel & Textiles	10,101	2.4	-550	-5.2%
Automotive	14,237	1.4	3,296	30.1%
Back Office	118,249	1.5	23,954	25.4%
Biomedical	5,877	0.7	1,448	32.7%
Construction	79,784	1.2	15,309	23.7%
Consumer Goods Mftg	5,277	1.0	939	21.6%
Creative Content	14,207	0.9	505	3.7%
Education	15,219	0.7	3,071	25.3%
Electronics	17,387	0.9	1,852	11.9%
Energy	6,427	0.5	319	5.2%
Entertainment	124,520	1.1	22,541	22.1%
Finance	76,033	1.4	7,491	10.9%
Furniture	4,093	1.1	413	11.2%
Government	146,013	0.9	4,585	3.2%
Healthcare	92,560	0.7	8,669	10.3%
Industrial Machinery	33,196	1.4	6,343	23.6%
Materials	19,882	1.4	2,262	12.8%
Metalworking	16,315	1.1	1,698	11.6%
Mining & Logging	947	0.6	-29	-3.0%
Non-Profits	4,325	0.4	-375	-8.0%
Professional Services	27,934	0.9	1,574	6.0%
Research	18,104	1.2	5,429	42.8%
Retail	144,653	1.0	19,836	15.9%
Shipbuilding	23	0.0	19	475.0%
Software / Info. Tech.	20,111	1.0	6,274	45.3%
Telecom Services	7,621	1.1	543	7.7%
Transportation & Logistics	41,220	1.2	7,939	23.9%
Total	**1,077,724**	**1.0**	**145,511**	**15.6%**

MECKLENBURG COUNTY PAST PERFORMANCE

Mecklenburg County added over 93,000 jobs from 2010 to 2015, a 17% increase in total employment.

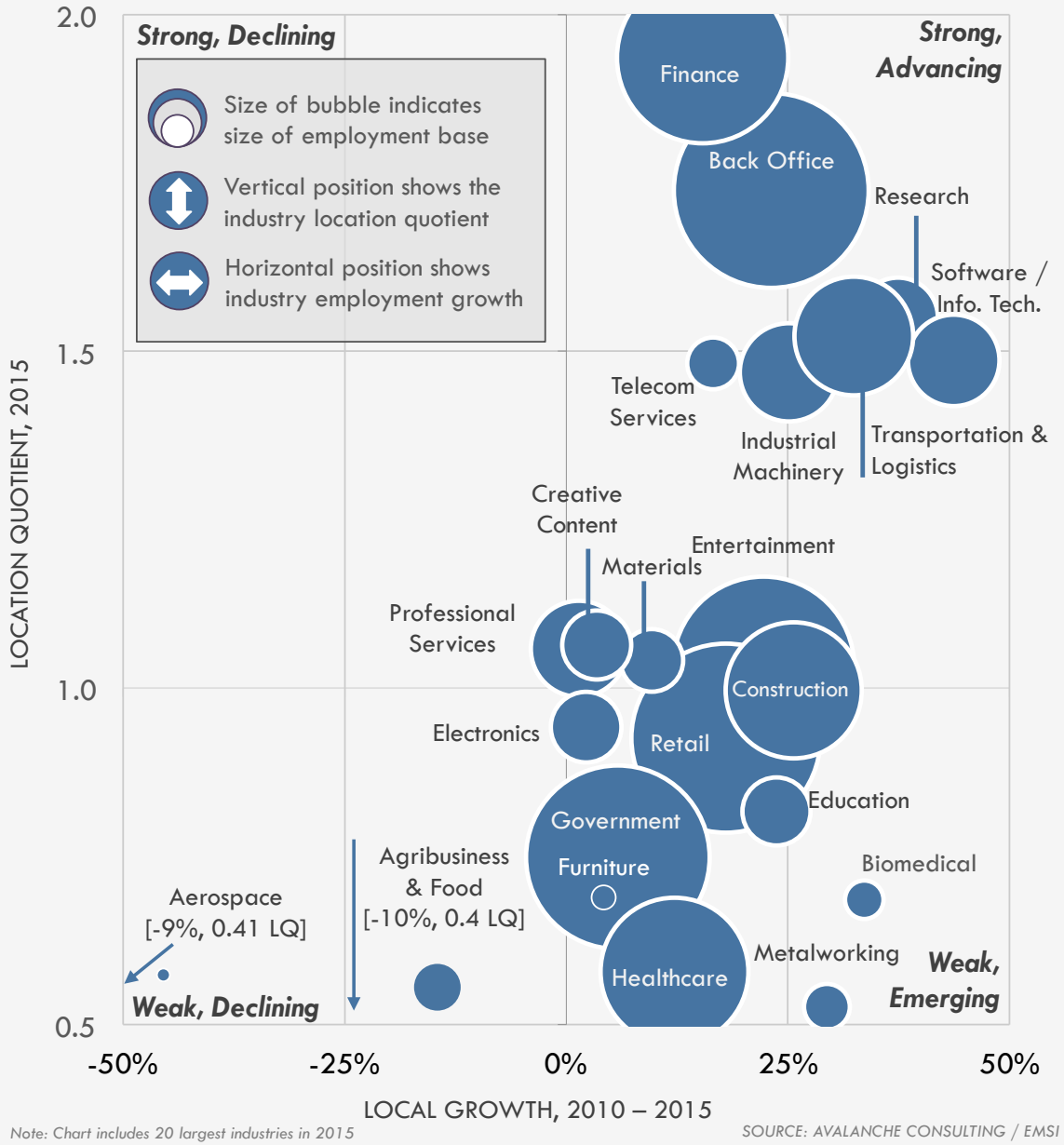
The largest industry clusters in Mecklenburg County are Back Office, Retail, Government and Entertainment. These four clusters account for over 300,000 jobs; 48% of total employment in the county.

From 2010 to 2015, the fastest growing industry cluster was Software/Info. Tech. (44% growth). Other clusters that experienced high growth were Research (37%), Biomedical (34%) and Transport & Logistics (32%).

Construction, Industrial Machinery and Metalworking also grew more than 25% between 2010 and 2015. The only cluster to decline over the past 5 years was Agribusiness & Food. It decreased 10% and employed just 4,800 people in 2015.

Finance (1.9 LQ) is the most concentrated (highest location quotient) cluster in the county. Back Office (1.7 LQ), Research (1.6 LQ), Software/Info. Tech (1.5 LQ), Transport & Logistics (1.5 LQ), Telecom Services (1.5 LQ) and Industrial Machinery (1.5 LQ) are also highly concentrated. Clusters with a low concentration relative to the US include Agribusiness & Food, Healthcare and Metalworking.

Industry Clusters Past Performance: Mecklenburg County



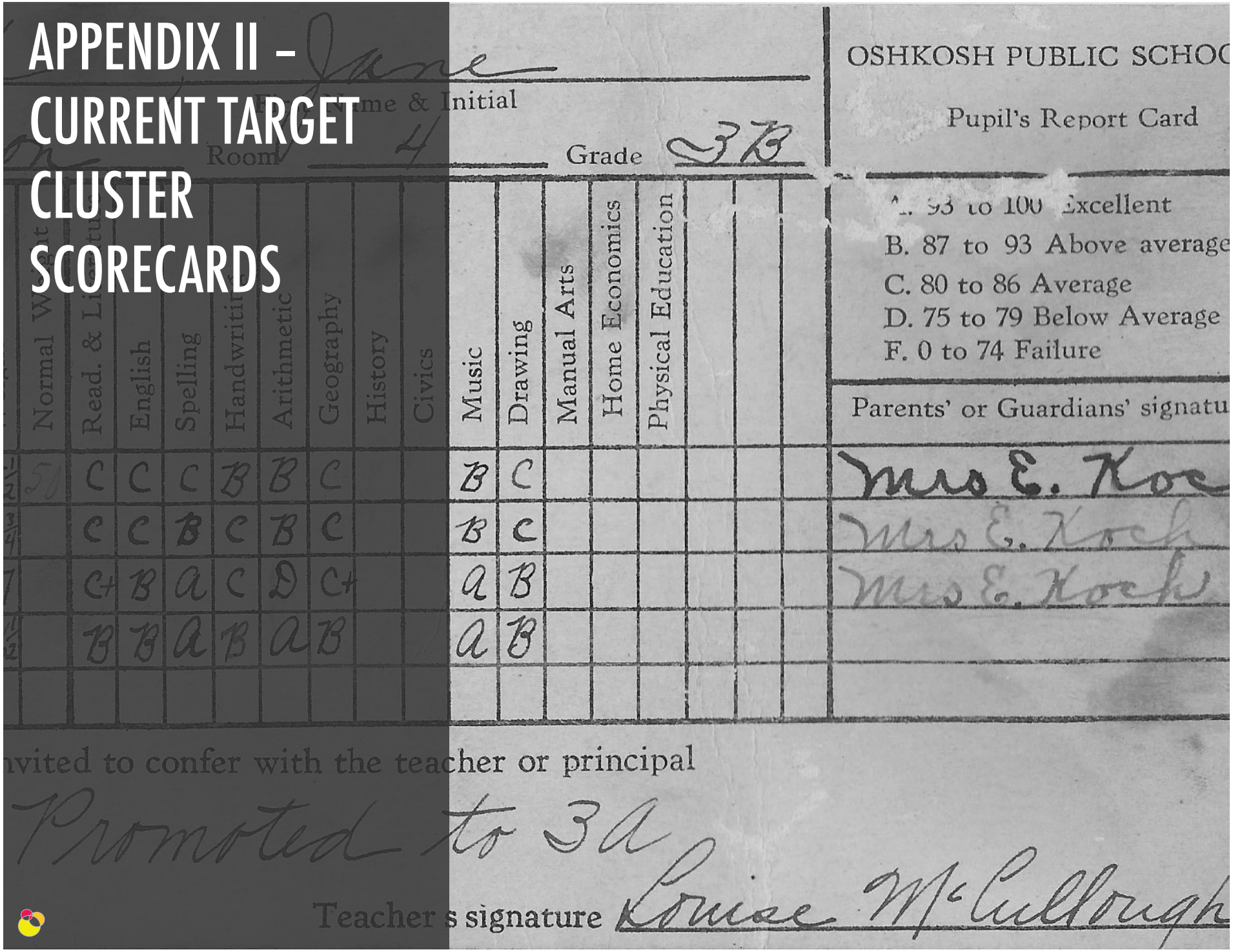
Note: Chart includes 20 largest industries in 2015

SOURCE: AVALANCHE CONSULTING / EMSI

MECKLENBURG COUNTY PAST PERFORMANCE

MECKLENBURG COUNTY				
	Total Jobs		Recent, 2010-2015	
Industry Cluster	2015	LQ 2015	Net New	Growth
Aerospace	118	0.1	-11	-8.5%
Agribusiness & Food	4,757	0.4	-551	-10.4%
Apparel & Textiles	2,186	0.9	51	2.4%
Automotive	2,213	0.4	245	12.4%
Back Office	81,917	1.7	15,376	23.1%
Biomedical	3,205	0.7	806	33.6%
Construction	39,977	1.0	8,158	25.6%
Consumer Goods Mftg	2,633	0.9	746	39.5%
Creative Content	10,267	1.1	340	3.4%
Education	10,006	0.8	1,917	23.7%
Electronics	10,766	0.9	235	2.2%
Energy	2,998	0.4	202	7.2%
Entertainment	71,045	1.0	12,928	22.2%
Finance	63,276	1.9	8,429	15.4%
Furniture	1,548	0.7	93	6.4%
Government	72,753	0.7	3,994	5.8%
Healthcare	47,175	0.6	5,128	12.2%
Industrial Machinery	20,840	1.5	4,182	25.1%
Materials	8,473	1.0	745	9.6%
Metalworking	4,535	0.5	1,030	29.4%
Mining & Logging	300	0.3	32	11.9%
Non-Profits	2,604	0.4	-234	-8.2%
Professional Services	19,925	1.1	278	1.4%
Research	13,691	1.6	3,727	37.4%
Retail	77,150	0.9	11,767	18.0%
Shipbuilding	0	0.0	0	--
Software / Info. Tech.	18,061	1.5	5,491	43.7%
Telecom Services	5,795	1.5	823	16.6%
Transportation & Logistics	30,403	1.5	7,443	32.4%
Total	**628,646**	**1.0**	**93,258**	**17.4%**

APPENDIX II – CURRENT TARGET CLUSTER SCORECARDS



OSHKOSH PUBLIC SCHOO

Pupil's Report Card

Name & Initial June

Room 4 Grade 3B

A. 93 to 100 Excellent
B. 87 to 93 Above average
C. 80 to 86 Average
D. 75 to 79 Below Average
F. 0 to 74 Failure

	Normal W	Read. & Lit	English	Spelling	Handwriting	Arithmetic	Geography	History	Civics	Music	Drawing	Manual Arts	Home Economics	Physical Education				Parents' or Guardians' signatu
1/2	51	C	C	C	B	B	C			B	C							Mrs E. Koc
3/4		C	C	B	C	B	C			B	C							Mrs E. Koch
7		C+	B	a	C	D	C+			a	B							Mrs E. Koch
1/2		B	B	a	B	a	B			a	B							

nvited to confer with the teacher or principal

Promoted to 3a

Teacher's signature Louise McCullough

AEROSPACE / DEFENSE

GRADE

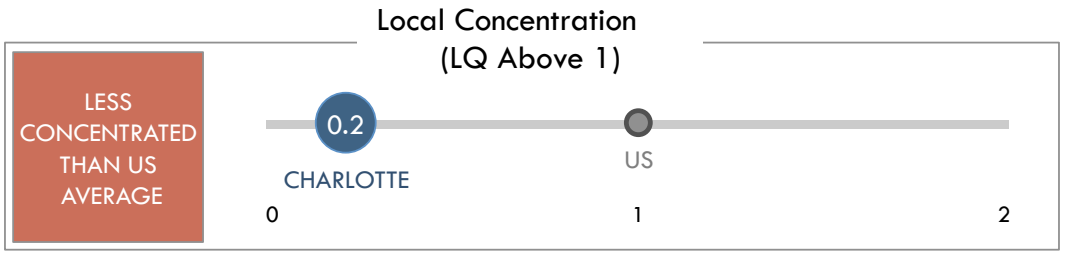
A-

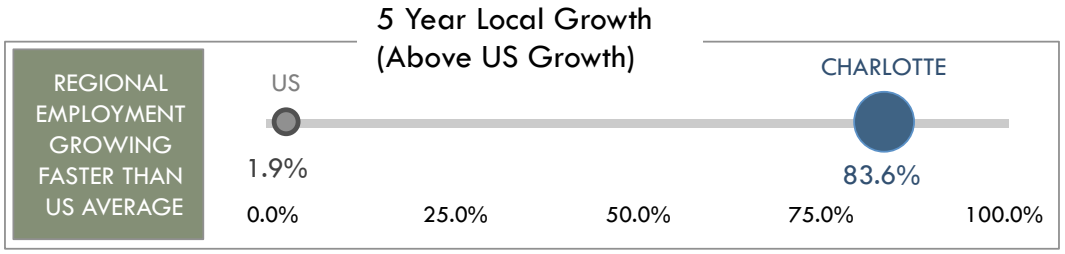
While Aerospace / Defense is less concentrated in the Charlotte Region relative to the US average, the cluster performs well on all other examined metrics.

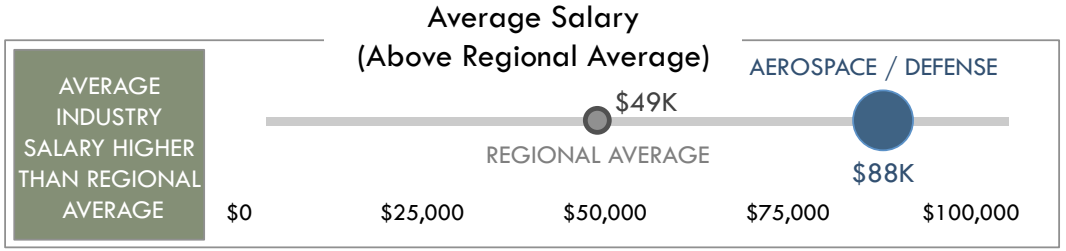
During the past five years, regional employment in the cluster has increased more than 40 times greater than the US average. At $88,000, average annual salaries in the Aerospace / Defense cluster are nearly $40,000 higher than the regional average.

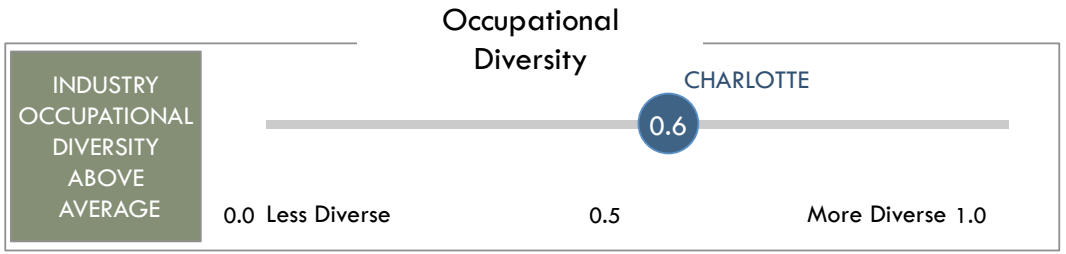
The cluster has an occupational diversity index score of 0.6, suggesting that there are career opportunities across different skill sets.

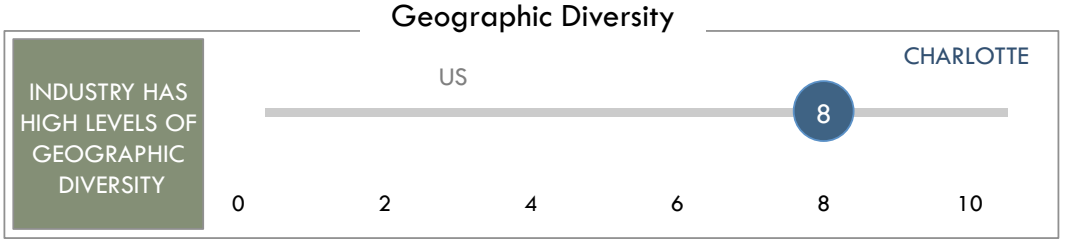
Finally, the Aerospace / Defense is applicable to all 16 counties in the Charlotte Region.











ANALYTICS / TECHNOLOGY

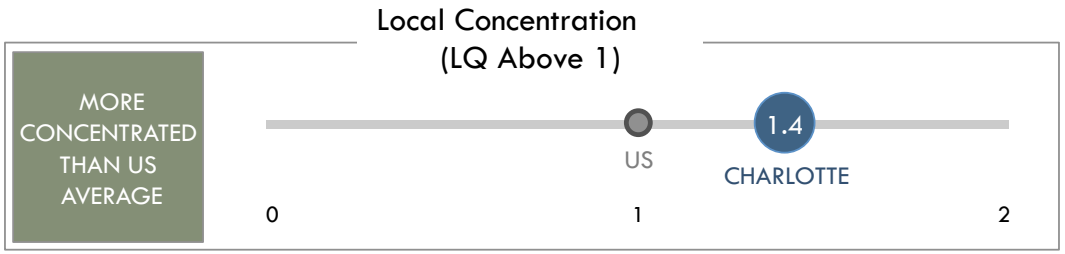
GRADE

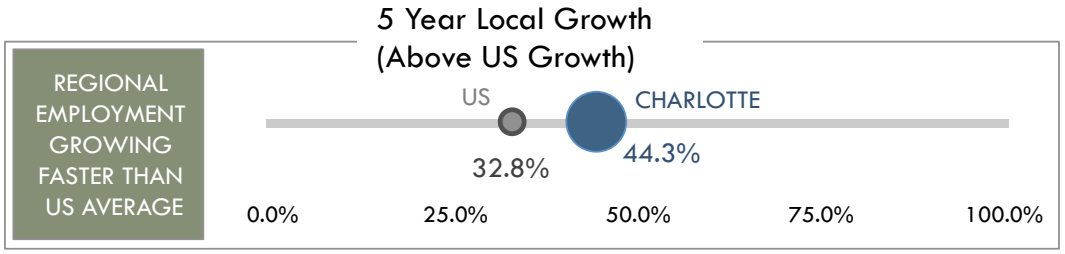
A

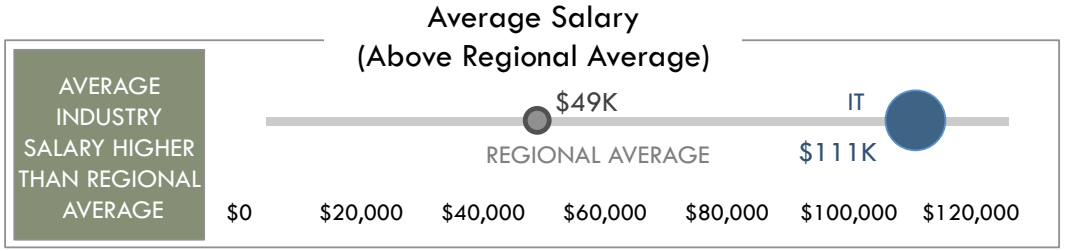
Information Technology is very concentrated in Charlotte; cluster employment in the region is 40% higher relative to the US average. The IT cluster is also experiencing rapid growth in Charlotte.

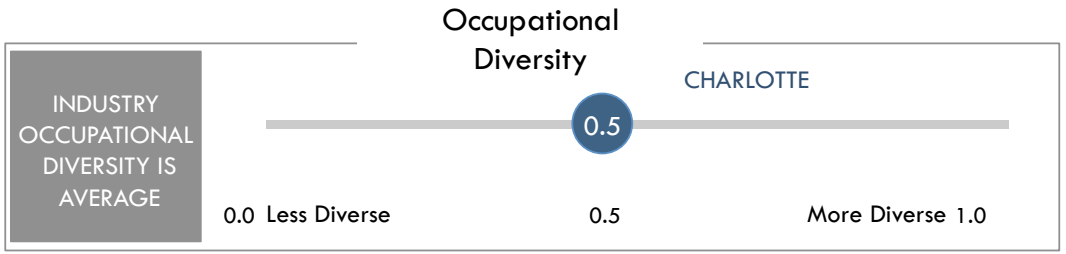
During the past five years, the number of IT jobs in Charlotte increased ore than 44%. The IT cluster is also characterized by extremely high wages; average wages for IT workers in Charlotte exceed $100,000 annually.

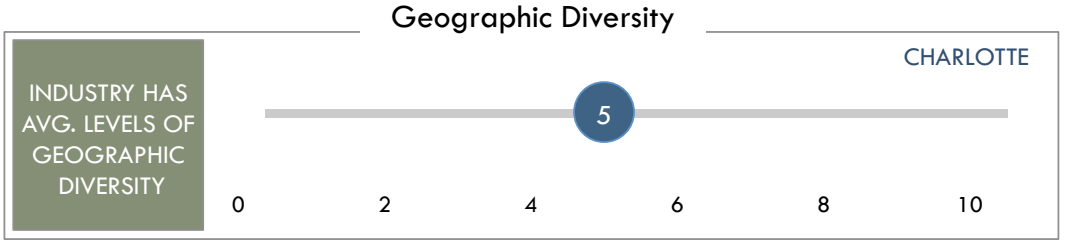
The cluster is moderately diverse from an occupational perspective. Although many IT positions require advanced degrees, opportunities are also available for workers with a post-secondary certificate or associate degree.











AUTOMOTIVE

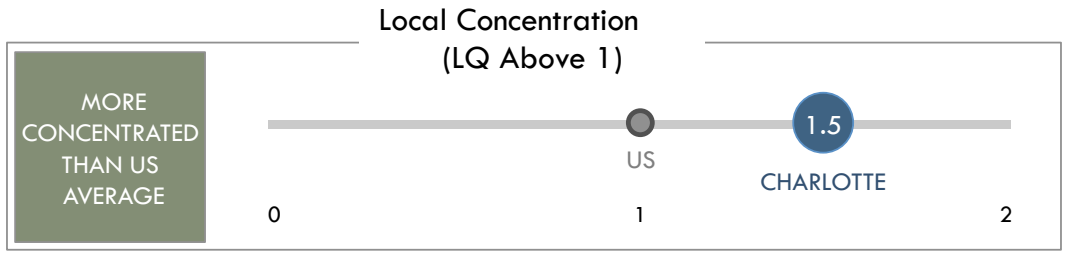
GRADE

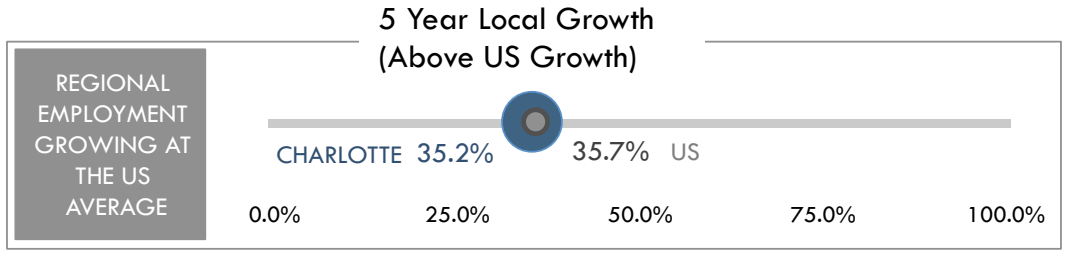
B+

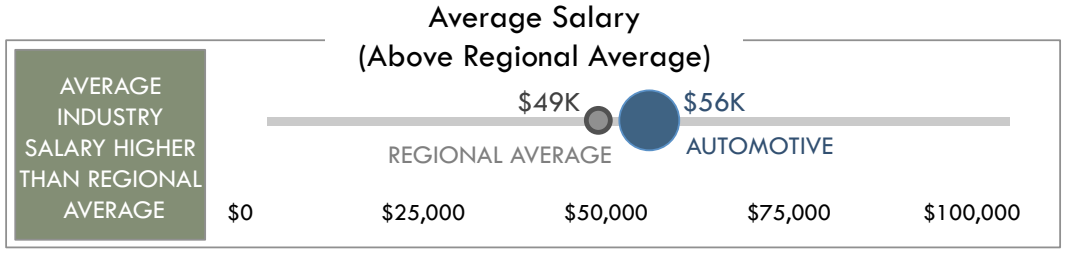
With an location quotient of 1.5, Automotive employment is 50% more concentrated in the Charlotte Region relative to the US average.

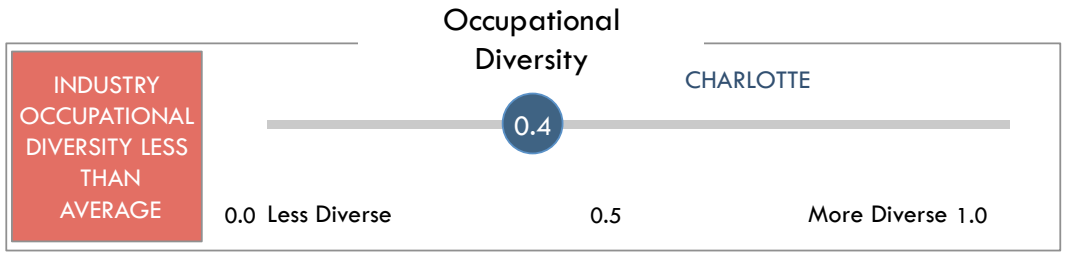
During the past five years, Automotive employment in the Charlotte Region has increased 35%, virtually identical to the US average during this period. At $57,000, average annual salaries for the Automotive cluster are $7,000 higher than the regional average.

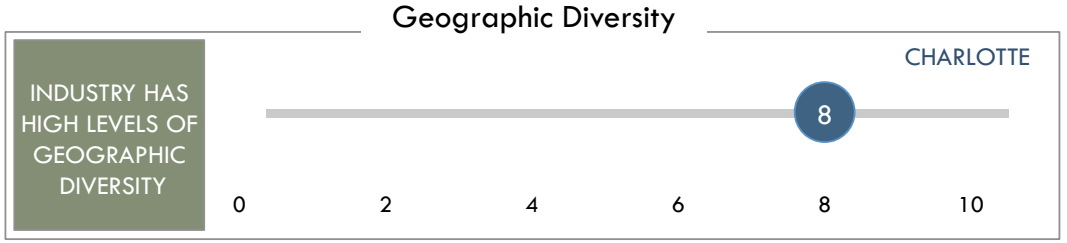
The Automotive industry is not characterized by an especially high degree of occupational diversity, with relatively few jobs requiring an advanced degree.











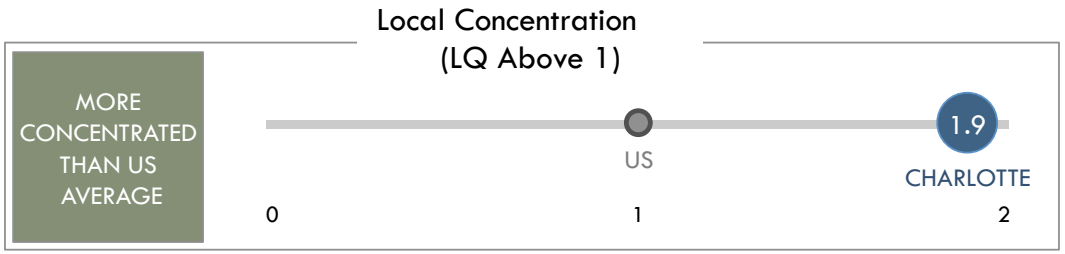
ENERGY

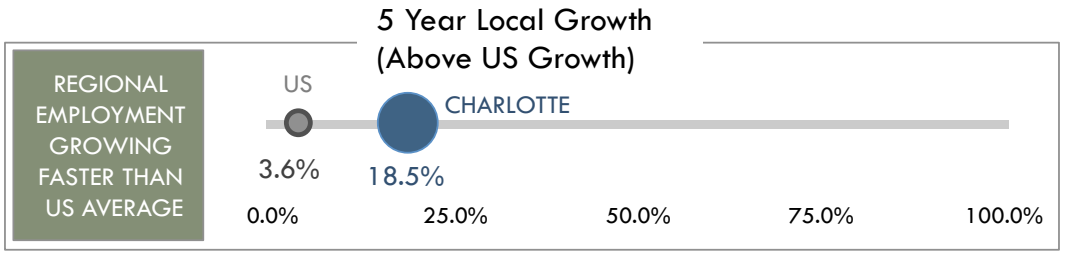
GRADE

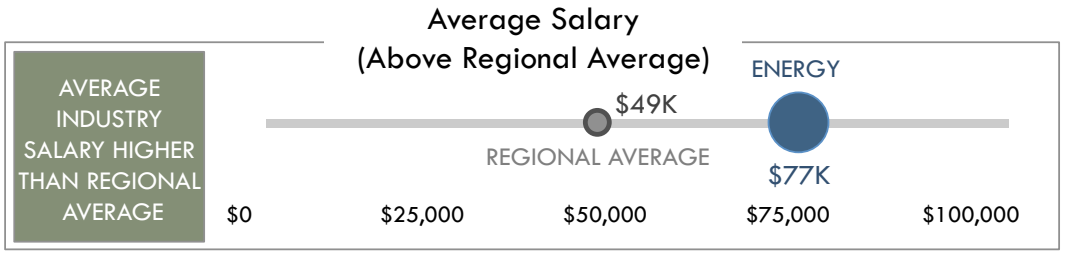
A

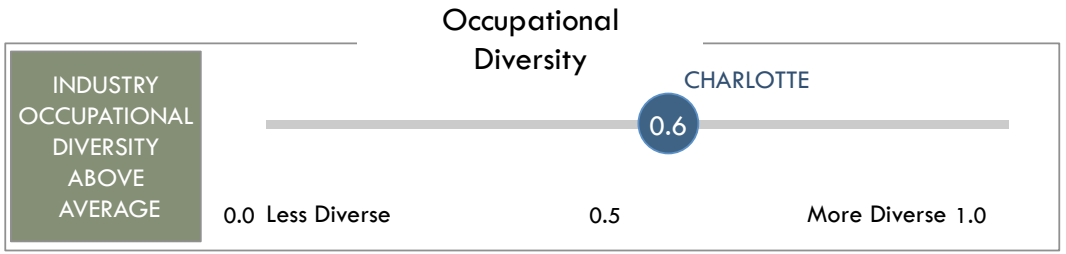
Energy is among the Charlotte Region's most concentrated clusters. On a per capita basis, the Charlotte Region is home to 90% more Energy jobs than the US average.

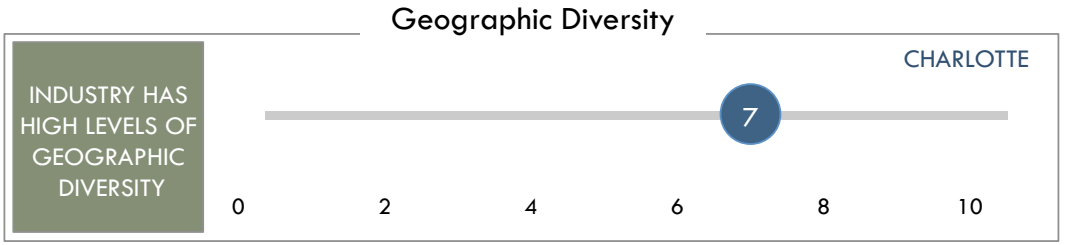
At $77,000, the Energy cluster features high wages relative to the regional average. The cluster also offers employment opportunities for individuals with varying levels of educational attainment.











FINANCE

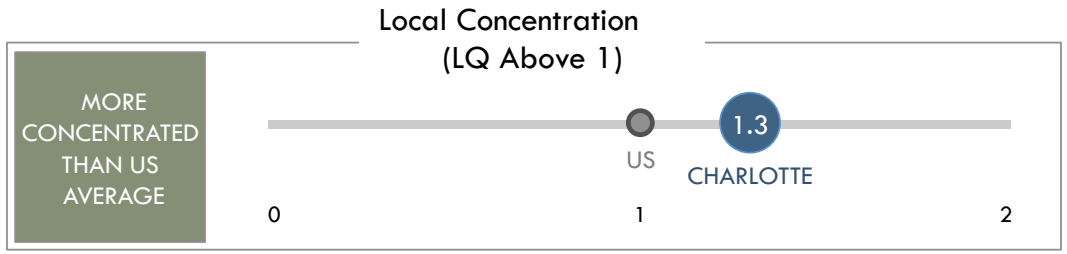
GRADE

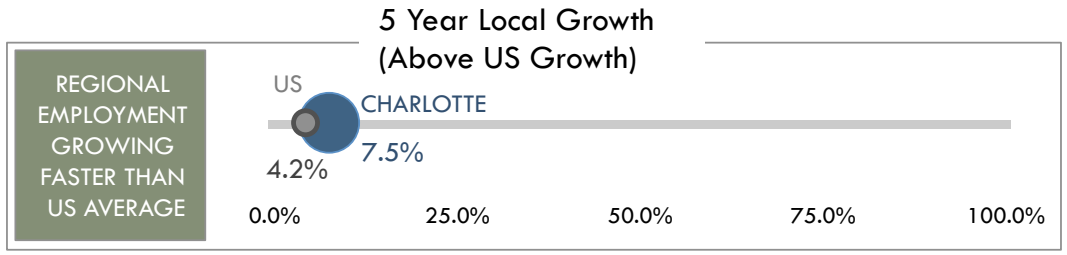
A-

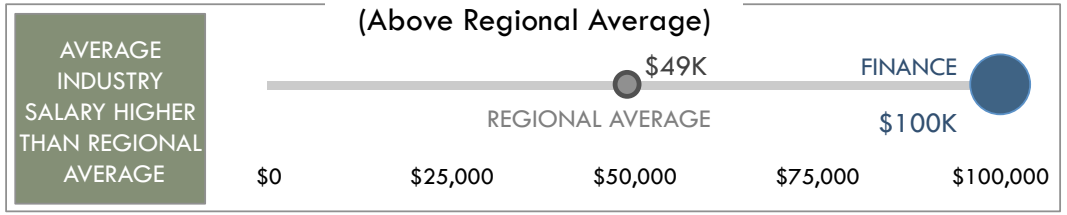
Finance employment is 30% more concentrated in the Charlotte Region relative to the US average.

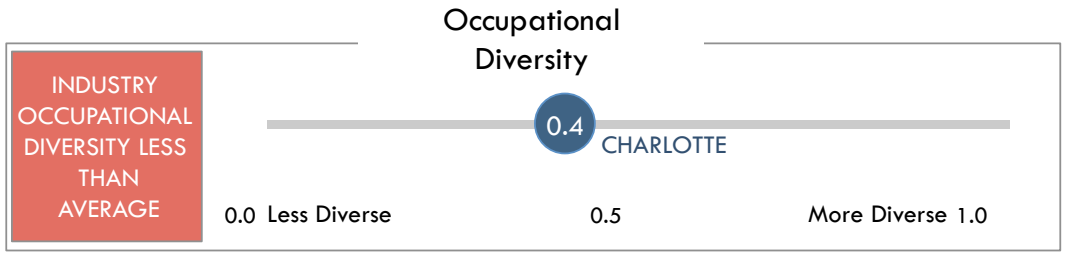
During the past five years, Finance employment in the Charlotte Region has increased 7.5%, nearly double the US rate of growth for the cluster during this period. The Finance cluster is especially well-paying. At $100,000, average annual salaries for the Finance cluster are more than twice the regional average.

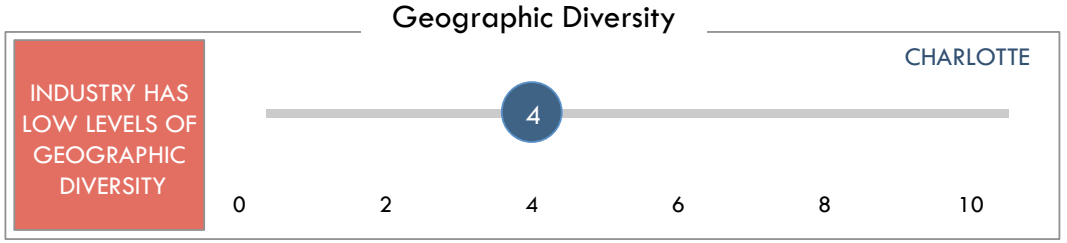
Due to the preponderance of job requiring bachelor's and graduate degrees, the Finance cluster features limited levels of occupational diversity.











HEALTH / BIOMEDICAL

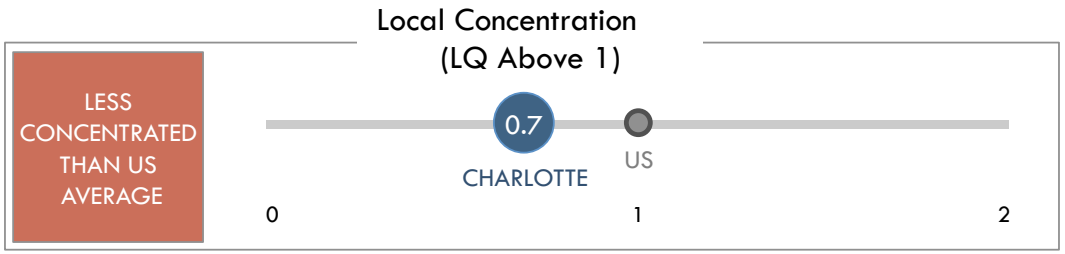
GRADE

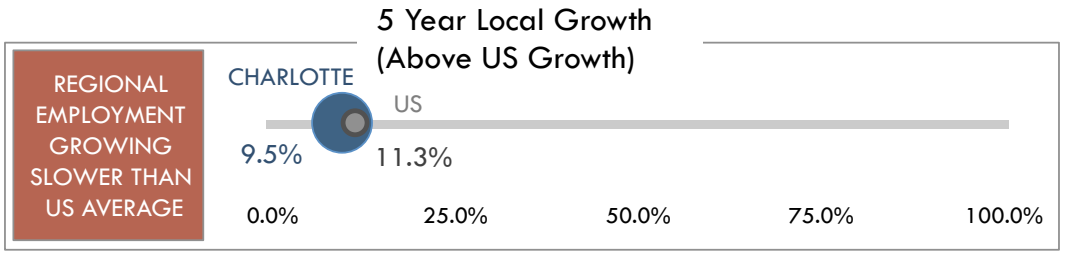
A-

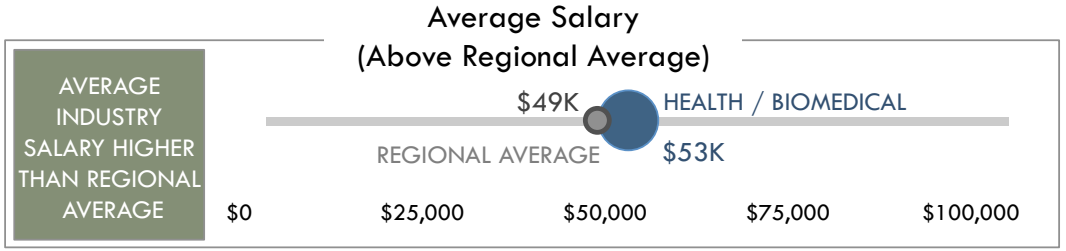
With a location quotient of just 0.7, Health / Biomedical employment in Charlotte is approximately 30% less concentrated regionally relative to the US average. The cluster is also growing slightly slower within the Charlotte Region compared to the US average.

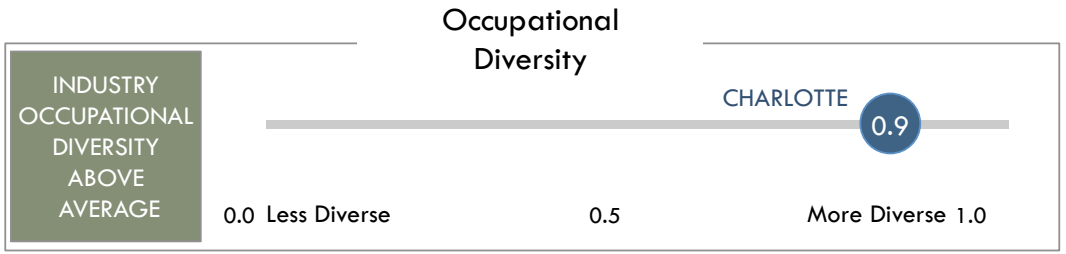
At $53,000, average annual Health / Biomedical wages in are higher than the regional average. T

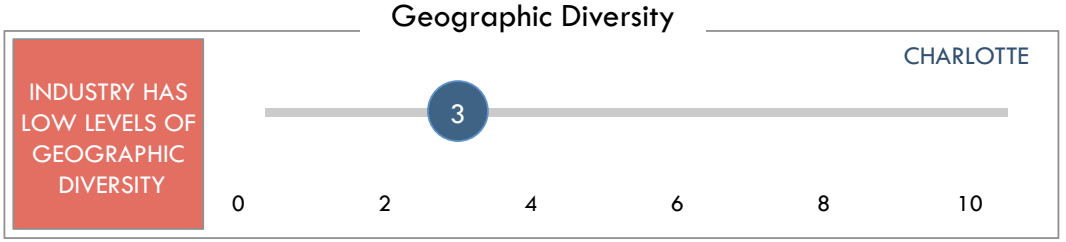
he Health / Biomedical cluster is characterized by a very high degree of occupational diversity, with employment opportunities available at all levels of educational attainment.











LOGISTICS & DISTRIBUTION

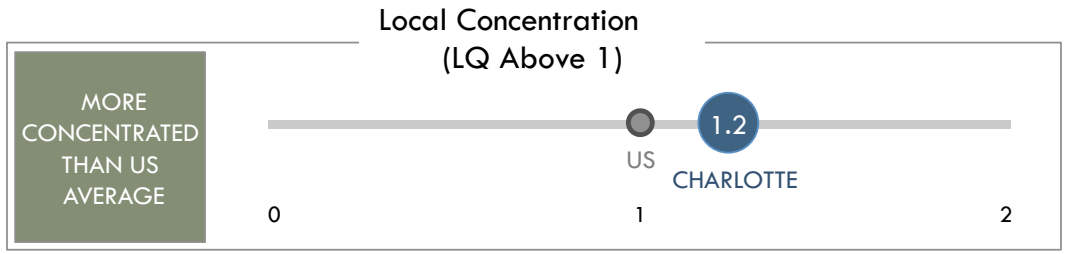
GRADE

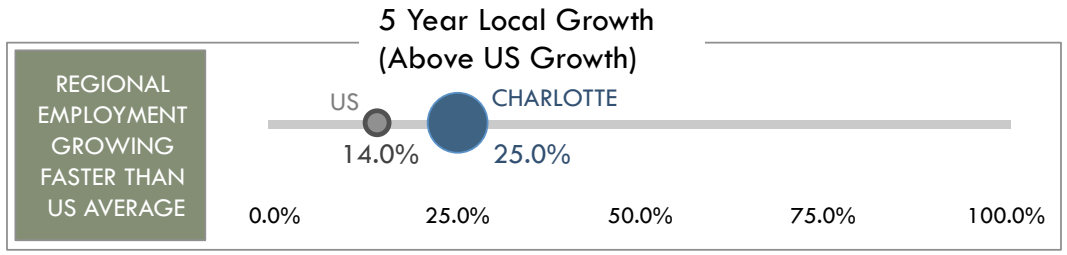
B

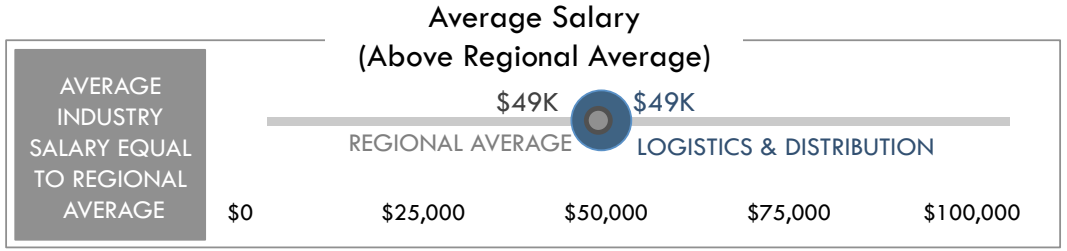
Charlotte is home to a relatively concentrated Logistics & Distribution cluster; on a per capita basis the region has 20% more Logistics & Distribution jobs compared to the US average.

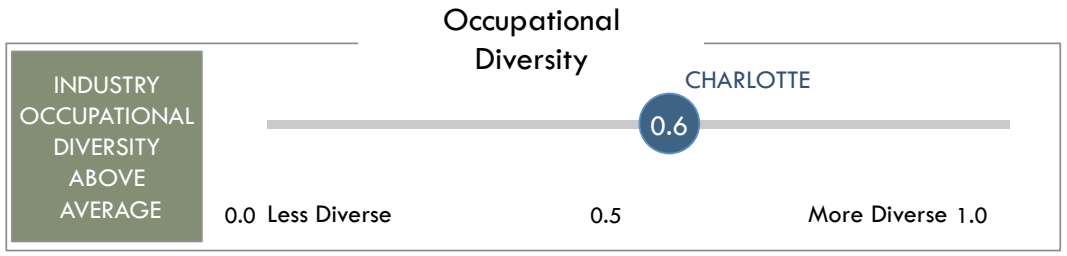
Logistics & Distribution employment is also growing throughout the region; during the past five years, the number of Logistics & Distribution jobs in the Charlotte Region increased 25%. Nationally, Logistics & Distribution employment rose just 14% during this period.

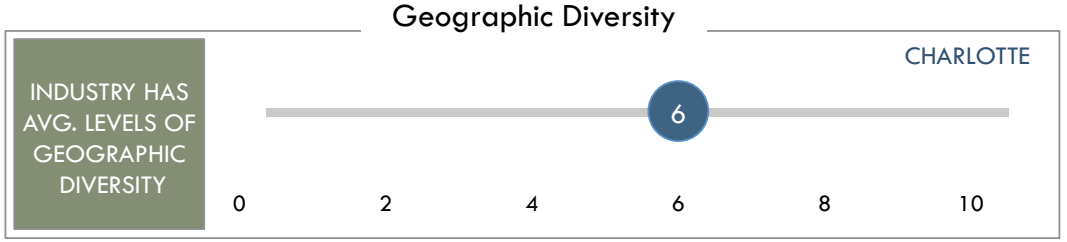
At $49,000, average annual salaries for Logistics & Distribution employment are nearly identical to the regional average. The Logistics & Distribution also features occupational diversity.











MANUFACTURING

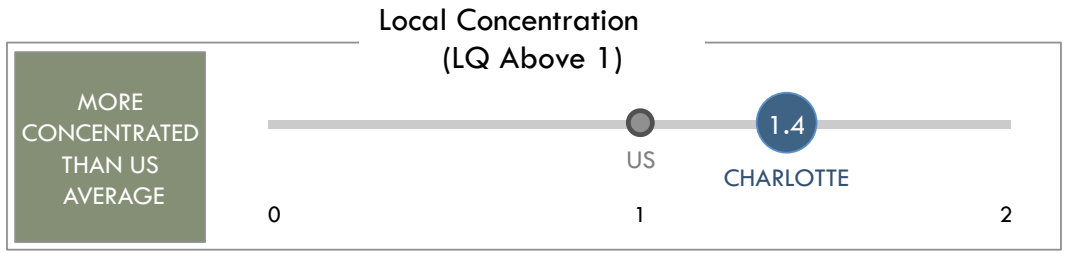
GRADE

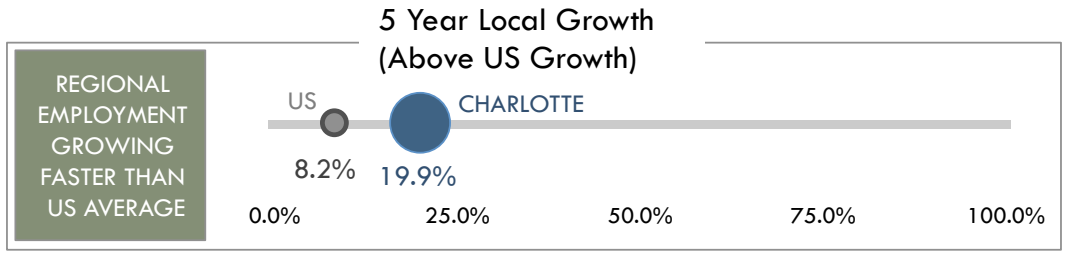
A-

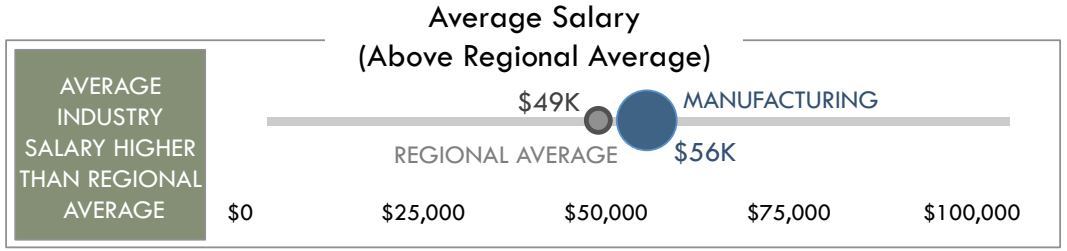
Manufacturing employment is 40% more concentrated in the Charlotte Region relative to the regional average.

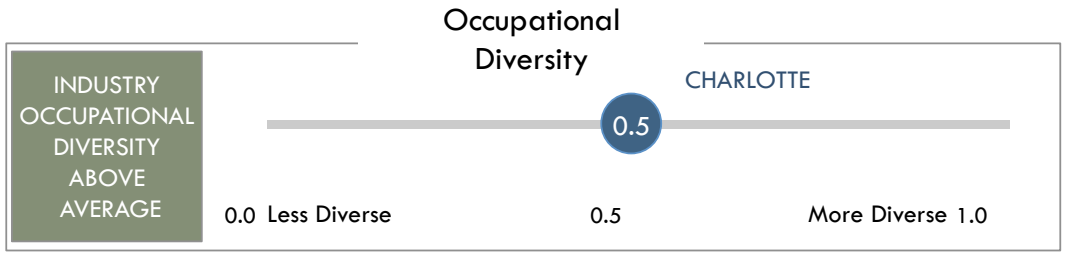
Manufacturing is also enjoying a period of expansion within the region; during the past five years, Manufacturing employment within Charlotte has increased nearly 20%.

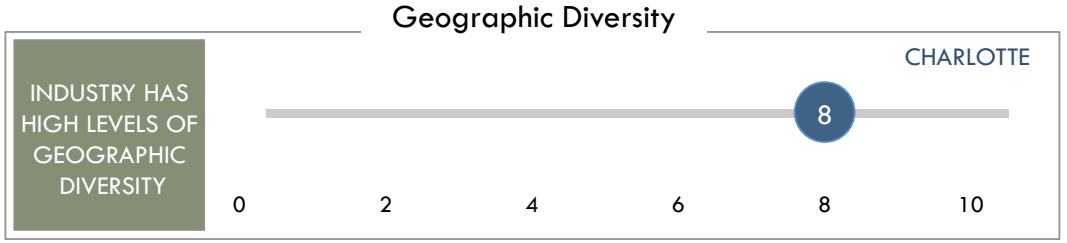
With an average annual salary of $56,000, Manufacturing also offers relatively high levels of compensation. The Manufacturing cluster is characterized by modest levels of occupational diversity.











CLUSTER DEFINITIONS

CLUSTER	NAICS CODES
Aerospace	3364
Agribusiness & Food	3115, 3116, 3117, 3253, 4245, 1110, 1151, 3112, 3113, 3111, 3114, 3118, 3119, 3121, 3122, 1120, 1141, 1142, 1152
Apparel & Textiles	3159, 4243, 3161, 3162, 3169, 3131, 3132, 3133, 3141, 3149, 3151, 3152
Automotive	3361, 3362, 3369, 3363, 4231
Back Office	5614, 5511, 5611, 5612, 5619, 5616, 5617, 5613
Biomedical	3254, 4242, 3391, 6215
Construction	2361, 2362, 2381, 2382, 2383, 2389, 2372, 2373, 2379, 3211, 3212, 3219, 3271, 3272, 3273, 3274, 3279, 4442, 4233
Consumer Goods Mftg	3352, 3399, 4249
Creative Content	5414, 5121, 5418, 3231, 5111, 5122, 5151, 5152
Education	6112, 6113, 6111, 6117, 6114, 6115, 6116
Electronics	3341, 3344, 3345, 3346, 3359, 3342, 3343, 8112, 4236, 4251
Energy	2121, 2211, 4235, 2111, 2212, 3241, 4247, 4861, 4862, 4869, 2131
Entertainment	7111, 7115, 7121, 7211, 7212, 7213, 7113, 7114, 7221, 7222, 7223, 7224, 7225, 7112, 7131, 7132, 7139, 4871, 4872, 4879, 5615
Finance	5211, 5221, 5222, 5223, 5241, 5242, 5251, 5259, 5231, 5232, 5239, 5311, 5312, 5313, 3371, 3372, 3379, 4232
Government	9011, 9036, 9039, 9012, 9029, 9026, 5621, 5622, 5629
Healthcare	6214, 6216, 6219, 6222, 6231, 6232, 6233, 6239, 6241, 6242, 6243, 6244, 6221, 6223, 6211, 6212, 6213
Industrial Machinery	3331, 3333, 3334, 3351, 3336, 3332, 3335, 3339, 3353, 8113, 4234, 4238, 4239
Materials	3251, 3252, 3255, 3256, 3259, 4246, 3221, 3222, 4241, 3261, 3262
Metalworking	3323, 3324, 3326, 3327, 3328, 3329, 3365, 3311, 3312, 3313, 3314, 3315, 3321, 3322, 3325
Mining & Logging	1131, 1132, 1133, 1153, 2122, 2123
Non-Profits	8131, 8132, 8139, 8133, 8134
Professional Services	5412, 5413, 5411, 5419
Research	5416, 5417
Retail	4411, 4412, 4413, 5321, 8111, 4471, 4541, 4543, 4453, 4244, 4248, 8122, 4451, 4452, 4542, 4421, 4422, 4431, 5322
Shipbuilding	3366
Software / Info. Tech.	5182, 5112, 5191, 5415
Transportation & Logistics	4811, 4812, 4881, 4885, 4831, 4832, 4883, 4911, 4921, 4922, 4821, 4882, 4841, 4842, 4884, 4889, 4851, 4852, 4853