

BioNexus | KC

Kansas City  
Regional Life Sciences  
Industry Census 2021



## Prologue

The Kansas City region is a global leader at the nexus of human and animal health benefiting all our citizens and the economy. BioNexus KC strengthens this crossroads by facilitating regional collaboration and acting as a catalyst for innovation in the life sciences. The success of the region, and of BioNexus KC, depends on a detailed understanding of all life sciences economic activity. The Kansas City Regional Life Sciences Industry Census plays a major role in building this understanding and constructing our region's roadmap to success.

Companies included in the BioNexus KC Census are required to meet a formal definition of a life sciences company: *a company that engages in research and development for the benefit of humans, animals, or plants and/or directly supports research and development activities within life sciences*. The 2021 Census identified 286 companies in 26 counties in the Kansas City metropolitan service area, and regions surrounding St. Joseph, MO, Kansas State University in Manhattan, KS, the University of Kansas in Lawrence, KS, and the University of Missouri in Columbia, MO.

Since 2003, BioNexus KC has commissioned the Kansas City Regional Life Sciences Industry Census every three years to define the composition and scope of economic activity in this vital sector of the economy. The updated data provides insights that can influence policy making, workforce development, and area funding. Most importantly, it helps identify economic and research trends that will help steer the KC region towards life sciences success.

*A note from BioNexus KC*

## **Resilience and Opportunity**

The competitive environment across the life sciences industry falls right in line with the stock market: it's fast, unpredictable, and constantly battling a pandemic. Despite turbulent times, the Kansas City life sciences ecosystem stands poised for success. The 2021 Kansas City Regional Life Sciences Industry Census depicts a growing KC region that is building on a strong foundation and ready for expansion.

Expansion requires sustainable opportunities. The KC region boasts a considerable number of opportunities in the life sciences for businesses, investors, and researchers. The 2021 Census estimated that, across the 286 companies identified, the KC life sciences industry employs 35,000 people. The number of university research centers rose to 149 in 2021, and the number of medical centers performing clinical trials increased to 32. These measures of progress in the KC regional life sciences are all competitive with top performing hubs in the United States. Our competitive standing, along with new government interest in funding for the life sciences industry, designates the KC region as an area rife with opportunities.

Around the Midwest, people are known for their work ethic and can-do attitudes; that is especially true right here in the KC region. Despite the difficulties presented by the pandemic, the 2021 Kansas City Regional Life Sciences Industry Census displays record-setting forecasts for advancements in research expenditures, revenues, and workforce capacity. Nearly 88% of respondents to the 2021 Census reported expectations of significant workforce expansion. Almost a third of respondents plan to spend over \$1 million on research endeavors this year alone, the highest projections reported since before the pandemic. These forecasts represent confidence in the KC region and excitement for the future of the life sciences industry.

The KC region is unique among life sciences hubs in many ways. The collaborative nature of our ecosystem provides a "secret sauce" that fosters relationships within the community and attracts talent and companies to the region. The recruitment of two USDA offices and the attraction of the National Bio and Agro-Defense Facility to the KC region are just two examples of recent life sciences industry migrations to the area. Across the entire region, in academia and industry alike, collaborative facilities are expanding to meet future needs. We truly sit at the nexus of human and animal health, a unique quality not present to this extent anywhere else in the world. The KC region is collaborative and uniquely positioned for substantial prosperity. Our future depends on seizing this moment.

The 2021 Kansas City Regional Life Sciences Industry Census certainly shows areas requiring continued attention, but it also paints a bright future. We have a proven model for stable progress in a time of uncertainty, and the conditions are excellent for exceptional growth. What needs to happen now is what we in the KC region do best: Come together, roll up our sleeves, and get to work.



Dennis Ridenour  
President & CEO, BioNexus KC



Daniel Kennedy  
Vice President, BioNexus KC

# A Quick Look:

Kansas City Regional Life Sciences  
Industry Census 2021

286 ~ 35,000  
companies employees

Kansas City, KS  
Kansas City, MO  
St. Joseph, MO  
Manhattan, KS  
Lawrence, KS  
Columbia, MO

68%  
Human Health

23%  
Animal Health

9%  
Plant Science

+14%  
in university  
research centers  
focused on the  
life sciences

+87  
net increase of  
Life Sciences  
companies  
since 2006

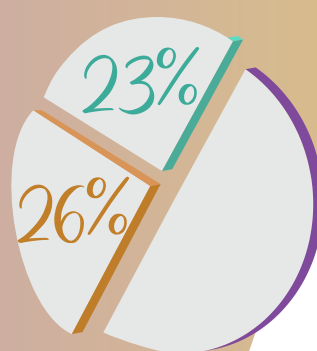
-6  
net decrease of  
Life Sciences  
companies  
since 2018

27  
notable merger  
or acquisition  
transactions  
since 2018  
(record high)

+28%  
increase in clinical  
trial activity  
performed in  
regional hospitals  
and medical centers  
to advance research

+10%  
of respondents plan to  
add 100+ employees  
in the next three years

Companies in the  
**Biotechnology  
Research & Testing,**  
and **Drugs &  
Pharmaceuticals**  
segments account  
nearly half of the companies  
in the region.





## Table of Contents

Executive Overview.....	1
Background/History .....	3
Methodology.....	5
Industry Presence, Overview & Analysis.....	11
Presence and Overview .....	12
Regional Developments 2019-2021 .....	12
Mergers and Acquisitions .....	14
Expansions and Relocations.....	19
Life Sciences Capital .....	23
Incubators, Accelerators and New Business Facilities .....	28
Universities .....	32
Hospitals and Medical Centers .....	35
Analysis .....	37
Company Changes from Previous Census Reports .....	38
Companies by Life Sciences Industry Segment.....	43
Companies by Geographic Segment .....	56
Companies by Employment .....	59
Full Listing of Companies .....	68
Census Survey Results.....	75
Workforce .....	79
Diversity, Equity and Inclusion .....	91
Sales and Research Expenditures.....	93
Quantitative Summary.....	99
Acknowledgements.....	102
APPENDIX.....	104

## Executive Overview

The 2021 Kansas City Regional Life Sciences Industry Census is a ‘snapshot in time’. It is an asset that catalogs the companies and research assets that compose the regional life sciences ecosystem, as well as the broad industry developments, transactions, and trends that impact the region over time. It highlights the projections of the region’s life sciences and healthcare organizations, providing insight into the anticipated opportunities that lie ahead. The life sciences industry is shaped by the competitive environment not just in the KC region, but around the world. Within that environment, the KC region is consistently competitive and poised for growth, despite the ongoing pandemic. From beneficial mergers and acquisitions to workforce growth, the 2021 Kansas City Regional Life Sciences Industry Census purports a strong foundation and steady progress across the region.

Innovation requires access to cutting-edge technology. In that regard, the KC region has benefited from several significant regional developments since 2018 including, among others: the initial talent recruitment for the new National Bio and Agro-Defense Facility, the opening of both the Children’s Mercy Research Institute and the University of Missouri’s Roy Blunt NextGen Precision Health Institute, and the recruitment of the headquarters for the USDA’s ERS and NIFA. Additionally, expanded facilities in Topeka, KS, the University of Kansas, MRIGlobal, and Kansas City University bolster innovative research and education initiatives. These collective efforts strengthen the life sciences ecosystem and have the potential to spur additional company formation in the KC region.

Numerous success stories exist that are not necessarily reflected in the numbers. Health Information Technology companies Netsmart, Bardavon Health Innovations and Wellsky have grown significantly since 2018. Early-stage companies with promising technology such as Ronawk, Cingulate, and Spinal Simplicity have raised capital to advance their technologies. Biotechnology Research and Testing companies such as Viracor Eurofins, KCAS and Thermo Fisher Scientific have expanded their physical footprint as well as employment in response to the pandemic. These achievements lay the groundwork for future innovation and economic prosperity in the life sciences industry.

Mergers and acquisitions have had a mixed impact on the landscape of companies in the region over the years. Of the 101 companies who were in the region in 2006 and still operate here, nearly a quarter of them, 22, have changed ownership at least once in the last 15 years. Fourteen of these 22 companies have grown their total employment by just over 2,000 employees since 2006, while the remaining seven have declined by about 400 employees. Other companies have grown through acquisitions of their own throughout the country. Twelve companies in 2021, and 11 in 2018 were relocated away from the region post-acquisition. Mergers and acquisitions are a part of the dynamic landscape of the life sciences industry; fortunately, the KC region boasts considerable experience.

Access to capital and funding is a critical component for early-stage company growth and expansion. The region has seen an increase in funding, in both the number and size of investment deals since 2018. However, the pandemic has hindered some new company formation efforts and increased the closure and acquisition of companies in the region. Seven of the closed companies identified in this report, and four who were acquired and relocated from the region, were clients of incubator and accelerator programs in 2018. Thirteen companies on this year’s list received SBIR or NIH funding in the last three years. While companies starting and closing is innate to the entrepreneurial ecosystem, events since the last Census report, particularly the pandemic, significantly affected these activities. Enhanced support



and resources, including funding, mentorship, connectivity and guidance for fledgling companies will be needed to continue growing the life sciences company base in the KC region.

As noted in the 2018 report, the lines between industry segments continue to blur, as information technology advances impact all the industry segments. Big data and artificial intelligence can enable Pharma companies to improve drug development and patient care. Medical Device and Research and Testing companies can enable the shift from a disease focus to an integrated approach from prevention, screening, diagnostic, treatment and aftercare. Collaborations and cross-functional teams will push for solutions for new food and plant technologies to feed a growing population. Such changes will continue to drive shifts in industry segments and classification of companies, making segment definitions and comparisons over time more difficult.

While employment gains have been basically flat, average employment has slightly declined for the largest (over 500) and smallest (under 25 employees) companies since 2018. Regionally, netting out the Cerner reduction in employment since 2018, the Kansas City Metro (Kansas City, KS, Johnson County, KS and the 8-county Kansas City, MO) has seen the most employment growth, and only the St. Joseph, MO region has seen employment decline. While there are some areas for improvement in the KC region, almost 90% of responding companies predicted adding employees over the next 3 years. This is the largest reported hiring outlook ever recorded by the Kansas City Regional Life Sciences Industry Census.

While the future of the “work from home” trend is still uncertain, companies who can effectively manage a remote workforce will be better able to capitalize on a broader talent base, beyond their immediate geographic area. However, this also complicates programs and policies designed to develop regional talent. Moving forward, the life sciences industry will have to adopt creative strategies that can accurately respond to talent needs and monitor employment trends in a specific geographic area.

Census responses are slightly over-represented by small companies with fewer than five employees. Despite this limitation, the respondent base projects a positive outlook for both employment growth and research expenditure growth. This indicates that despite challenges in 2020 and in 2021 due to the pandemic and workforce shortages, many companies have a positive outlook for 2022.

While overall results did not show an increase in the number of companies or employment, the COVID-19 pandemic was a mixed bag. The pandemic brought growth and opportunity to a number of regional companies, but stymied formation and growth or led to the closure of many others. The exciting regional developments, combined with a slow march towards economic recovery from pandemic measures, should help the region bolster its strong foundation and drive growth in this vital sector through the coming years.

The 2021 Kansas City Regional Life Sciences Industry Census represents a one-of-a-kind ‘snapshot in time’ of regional life sciences companies, their subsectors, geography, size, and employment. It also guides BioNexus KC in their commitment to catalyze and positively impact the growth of life sciences. The Census clearly projects future increases in employment and research spending, while also highlighting a slight decrease in the number of companies operating in the KC region. This information describes a life sciences environment unique to the KC region, and one inundated with opportunities. While this triannual assessment paints a picture of a challenging operating environment for life sciences companies in the current pandemic, the KC regional life sciences industry is poised for progressive expansion.

## Background/History

BioNexus KC has commissioned the Kansas City Regional Life Sciences Industry Census every three years since 2003 to map the scope and activity of the vital life sciences sector. The initial Census was conducted in partnership with the Kansas City Area Development Council (KCADC). After the first Census in 2003, BioNexus KC has collaborated with Investment Resources for each Census project since 2006. This partnership provides consistency in methodology and definitions that permit appropriate comparisons between the 2021 report and previous reports through 2006.

- In 2003, the methodology was significantly less stringent than those used in subsequent years. The 2003 report, spanning a 23-county region, documented 155 life science companies employing about 15,000 people.
- The 2006 Census identified 199 life sciences companies in 23 surrounding counties that comprise the Kansas City region. Nearly 90% of companies (174 of 199) reported their actual or estimated number of employees, indicating regional life sciences employment between 17,500 and 20,000 people.
- The 2009 Census identified 206 companies in 24 counties, defined as the 18 counties serviced by the KCADC, the three counties in the University of Missouri in Columbia, MO, region, and Riley County, KS, home of Kansas State University in Manhattan, KS. One company each was identified in Geary County, KS and DeKalb County, MO, although those counties were not included in the original search process. Estimates for these 206 companies indicated that regional companies in the life sciences sector conservatively employed between 18,000 and 20,000 people.
- The 2012 Census identified 240 companies in 25 counties, both clustered around the Kansas City metropolitan statistical area (MSA) and appropriate counties clustered around the University of Missouri in Columbia, MO, and around Kansas State University in Manhattan, KS. Estimates for these 240 companies indicated that regional life sciences companies conservatively employed between 22,000 and 24,000 people.
- The 2015 Census identified 249 companies in 26 counties, both clustered around the Kansas City MSA and appropriate counties clustered around the University of Missouri in Columbia, MO region, and Riley County, KS, home of Kansas State University in Manhattan, KS. Estimates for these 249 companies indicated that regional life sciences companies conservatively employed between 28,000 and 30,000 people.
- The 2018 Census identified 292 companies in 26 counties, in the same Census region examined in 2015. Conservative estimates for these 292 companies indicate that regional life sciences companies employ nearly 35,000 people.

Companies included in the 2021 Census were required to meet a formal definition of a life sciences company. A Census life sciences company is defined as *“a company that engages in research and development for the benefit of humans, animals, or plants and/or directly supports research and development activities within life sciences.”*

The 2021 Census identified 286 companies in 26 counties in the Kansas City metropolitan service area (MSA), and regions surrounding St. Joseph, MO, Kansas State University in Manhattan, KS, the University of Kansas in Lawrence, KS, and the University of Missouri in Columbia, MO. Conservative employment estimates indicate about 35,000 employees for all 286 companies. The number of companies and employment levels for the region have been essentially flat compared to the 2018 Census, with a net decline of six companies and about 250 employees.

The Census report is a significant tool used in both the recruitment of companies to the area and the development of workforce development programs to address the ever-changing needs of regional employers. It also tracks regional progress when it comes to growing both the number of companies in the region and the number of employees working in the life sciences. Census reports have been widely circulated to policymakers, economic and workforce development professionals, scientists, educators, and companies seeking to contribute to the growing regional life science industry. The 2018 Census report was downloaded from the BioNexus KC website hundreds of times and physical copies distributed widely to various organizations across the region. Given that three years have elapsed since the 2018 study, BioNexus KC commissioned a follow-up study of life sciences companies in the region.

The purpose of the Census report is:

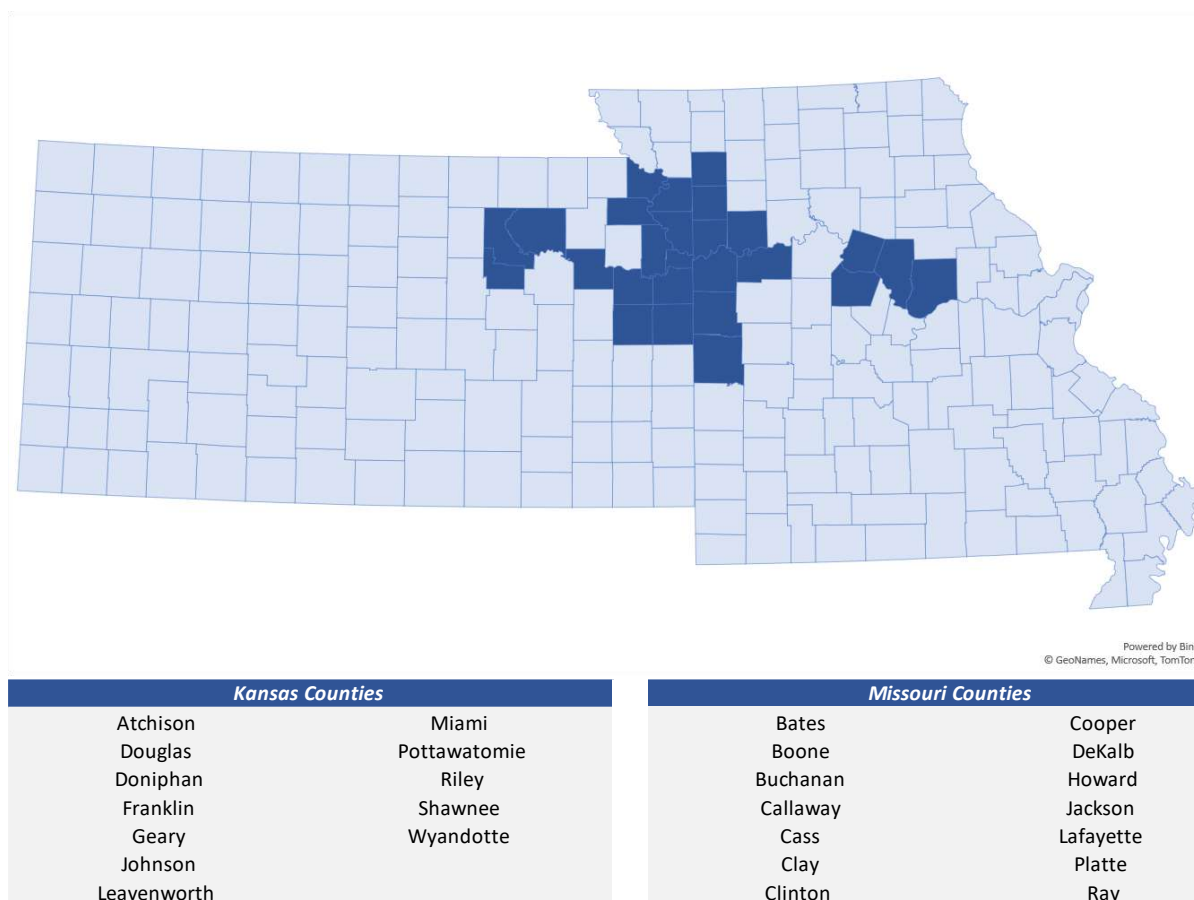
- Track the regional life sciences industry and illustrate areas of growth and expansion
- Identify industry employment and research and development trends
- Provide an accurate and timely resource for policymakers, economic and workforce development professionals, educators, scientists, and companies
- Update the previous Census of life sciences companies

## Methodology

### Defining the Life Sciences Region

Each Census report effort since 2006 includes the counties designated as the Greater Kansas City Area, plus four counties in the University of Missouri in Columbia, MO, region, and three counties in the area of Kansas State University in Manhattan, KS. Additional companies located in adjacent counties over previous Census efforts have added DeKalb and Bates counties in Missouri, and Doniphan County in Kansas.

#### *Life Sciences Region in 2021 Census*



It should be noted that while the number of counties searched has increased from 23 in 2006 to 26 in the 2018 and 2021 Census efforts, this expansion has not had a significant impact on the overall count of companies and employees. In each case, the county was added as a result of the identification of a single company whose activities fell within the life sciences definition, which has been consistent since the 2006 Census.

## **Life Sciences Defined**

Reports and surveys often utilize the North American Industrial Classification System (NAICS) codes to classify companies within a definition of life sciences companies. While industry databases were searched using these codes for initial leads, the key criteria for inclusion in this report was meeting a formal definition of a life sciences company.

For each Census report since 2006, **life sciences** are defined as *the study of the biology or chemistry of animals, humans, or plants*. A more elaborate and commonly used definition is *any of the several branches of science dealing with the study of living organisms and their organization, life processes and relationships to each other and their environment*.

The following definition has remained constant in each of the last six reports, to maintain the ability to compare results across previous Census efforts.

---

For the purposes of this Census, a **life sciences company** is defined as ***a company engaged in research and development within life sciences and/or an organization that directly supports research and development activities within life sciences, and includes health IT companies supporting improved patient outcomes.***

---

## **Industry Segments Defined**

The life sciences industry is broad and includes research and development activities applicable to plants, animals, and humans, that cross many different industry sector boundaries. For the 2006 Census report, the six industry segments, or areas of expertise below were chosen as a more specific representation of the life sciences activities that were dominant in the region. With the exception of the Life Sciences Software industry segment, still an emerging industry 15 years ago, now broadened to Health Care and Life Sciences Information Technology, or Health IT for short, all segments have been consistent in every Census report period. This allows for comparison of the data over time.

Following the 2015 Census, it was noted that some companies over time would shift between some of the industry segments from one Census period to the next. While some companies pivot to reflect changing technology and market opportunities, especially early-stage companies, feedback also noted that there was a lack of clear definition creating some uncertainty in respondents. To ensure clarity, the 2018 and current 2021 Census forms included the industry segment definitions listed below.

## Life Sciences Industry Segments Definitions:

**Drugs & Pharmaceuticals** - Developing and/or manufacturing medicinal, botanical, and biological products for therapeutic or diagnostic applications

**Biotechnology Research and Testing** - Laboratories providing critical analysis and services, excluding exclusive consumer health labs, and/or firms performing Research and Development to advance new discoveries, treatments or services

**Healthcare & Life Sciences IT** - Developing software and technology to expand the capabilities of the bioscience industry

**Medical Devices and Instruments** – Researching & developing products with applications for animal or human health

**Organic or Agricultural Chemicals** - Companies whose research and/or development support plant science and agricultural sectors within the life sciences

**Food Science/Feed or Plant-Based Products** - Food science companies research, develop and produce products integrating biological, chemical, and physical sciences. Plant-based product companies engage in research and development activities producing biofuels, composite materials, enhanced nutritional feeds/food, or synthetic meats

## Process

Utilization of SIC or NAICS codes that represent life sciences activity provides an initial list of companies to review for inclusion in the Census report. These codes in databases, however, may not fully capture the full activity of the companies, or may be incorrect. The industry code search is just one of the many approaches used to discover the number and kinds of companies fitting the life sciences definition.

Some changes are made to the NAICS classification system as industries change and evolve. The list noted in the following table has had minor changes over time, but the effect of these changes is not a factor in the total company count, as over half the companies are identified by other resources as noted in the following process.

### Life Sciences Industry Codes Searched

Industry Codes Used in Preliminary Identification					
SIC		NAICS	SIC		NAICS
2048	Prepared feeds, NEC	311119	3844	X-ray apparatus and tubes	334517
2833	Medicinals and botanicals	325411	3845	Electromedical equipment	334510
2834	Pharmaceutical preparations	325412	7372	Prepackaged software	511210
2835	Diagnostic substances	325413	7371	Custom Computer Programming Services	541511
2836	Biological products, except diagnostic	325414	8069	Specialty hospitals, except psychiatric	622310
2869	Industrial organic chemicals, NEC	325199	8071	Medical laboratories	621511
2879	Agricultural chemicals, NEC	325320	8099	All other misc ambulatory healthcare svc	621999
3559	Special Industry Machinery, NEC	333298	8731	Commercial physical research	541711
3821	Laboratory Apparatus and Furniture	333999	8731	Commercial physical research	541714
3829	Measuring and controlling devices, NEC	339112	8731	R&D in the Physical, Engineering, & Life Sciences	541715
3841	Surgical and medical instruments	339112	8733	Noncommercial research organizations	541712
3842	Orthopedic appliances	339113	8734	Testing laboratories	541380
3843	Dental equipment	339114	8999	Other Scientific & Technical Consulting Svc	541690
3851	Ophthalmic Goods Manufacturing	339115	8748	Other Scientific & Technical Consulting Svc	541618

These codes were used to review lists from commercially available databases. Secondary sources were then utilized to capture additional results due to misclassification, omission, or relocation. This process resulted in a list of over 1,000 companies. These companies were then reviewed for suitability for list inclusion, including phone calls, website reviews, and consultation with industry resources.

Initially, an email from BioNexus KC was sent out to the 4,713 members of the BioNexus KC email list, asking for participation in the Census report survey via a link prominently featured on the BioNexus KC website in mid-March 2021. A further list refinement process pared the original database list to approximately 350 companies. A letter from Dennis Ridenour, President and CEO of BioNexus KC was sent in April 2021 to these 350 companies explaining the purpose of the Census and providing instructions for completing the Census/survey online, or by mail or email. The complete questionnaire is provided as part of the Appendix to this report.

As commercially available lists included companies whose activities do not fall within the life sciences definition, and omitted some companies whose activities do fall within the definition, secondary sources for identifying additional companies, were used to further refine the list, including:

- Correspondence or conversations with over 25 chambers of commerce or economic development professionals from throughout the region
- Internal lists maintained by BioNexus KC
- Companies listed as part of the Animal Health Corridor by the KCADC
- Companies listed as members of BioKansas and Missouri Biotechnology Association
- Companies listed as members of KC Digital Drive
- Companies listed in the Kansas City Business Journal Book of Lists
- Companies awarded NIH, SBIR or STTR grants between 2018 and 2021
- Companies listed as clients of business incubators or accelerators
- Correspondence and interviews with area business development professionals, early-stage business advisors, and business incubator managers

These activities resulted in the identification of additional companies who were contacted by phone and email, asking for their participation in the Census effort. Respondents had the option of returning the Census/survey form via US mail, email, or by completing it online at the BioNexus KC website. Follow up requests were also made via both targeted and broad based BioNexus KC emails, and personal outreach by BioNexus KC staff and other regional contacts.

All companies who were sent the targeted mailing and/or email were contacted by phone at least once. Ninety-eight company responses fitting the primary life sciences definition were received via the online survey tool, mail, email or via response over the phone. The remaining 191 company representatives either declined to participate or did not return calls.

The full scope of the information gathering used to produce this report is referred to as 'Census' activity. One activity as part of this information gathering process was the questionnaire sent to all targeted companies, which had two parts: Section One was the Census form, or basic classification information:

- Company name and address
- Approximate number of employees
- Primary area of focus – plant, animal or human
- Primary area of expertise (Drugs and Pharmaceuticals, Health IT, etc.)

Section Two, referred to in this report as the ‘survey’, asked companies for insights into workforce needs, sales, research expenditures and growth expectations. Respondents were assured that only aggregate data would be reported to indicate trends and totals to maintain confidentiality.

### **Criteria for Inclusion**

To be considered a “life sciences company” at least one of the company’s stated areas of expertise must include ***research and development*** *focused on the biology or chemistry of animals, humans, or plants and/or an organization that directly supports research and development activities within life sciences.* While supporting companies play a vital role in sustaining a life sciences economy, the primary focus of this report is to create an accurate picture of companies whose efforts directly support the creation of new products or intellectual property.

Early Census efforts from 2006-2015 included ‘Life Sciences Software’ as an area of expertise. However, information technology contributions to life sciences research have expanded beyond just software. For instance, Orion Integrated Biosciences uses computer technology to manage large sets of genomic data. Also, Abada Health has created predictive analytics platform designed to help providers and payers gain a deeper understanding of their patient populations. As a result, Life Science Software was renamed Healthcare and Life Sciences Information Technology (Health IT) beginning with the 2018 Census report.

Non-responding companies were investigated using the internet, via a website review, articles written about the company, or third-party information such as an economic development professional from their geographic area. From the initial target list, companies were reviewed and subsequently excluded from the list for the following reasons:

- The company’s areas of expertise did not fit the life sciences definition. For example, companies who were identified by a life sciences NAICS code in a database but only maintain a sales office in the region were excluded.
- No information could be located about the company – letters were returned, phones disconnected or not answered.
- The company was confirmed as no longer in business, or the location in this region closed.
- The company relocated out of the region.

### **Employee Headcounts**

For companies who did not respond to the Census report request, estimates for employee headcounts for the report sections regarding employment were obtained via commercial databases, local economic development professionals, media coverage of the company, the SBA’s PPP database, company press releases, or websites. As these sources are reasonable sources to obtain this information, but may not be the most current figures, employment data should be considered an estimate. Employment numbers are reported in aggregate either at the headquarters location, or the location where research and development activities take place if the headquarters is not in the region. Each company is listed once, unless the activities at each location differ.



### **Changes Since Previous Census**

In past Census reports, Dupont Industrial Biosciences and Dupont Nutrition and Health were listed separately. With the acquisition by IFF, both plants have the same name, and with no responses to Census outreach, the listing was reduced to a single entity. Conversely, EAG Laboratories' two Columbia, MO locations were listed as one entity in previous reports. With the acquisition by Eurofins, the locations were renamed Eurofins Agrosience Columbia and Eurofins BioPharma Product Testing Columbia, Inc., and so were listed separately in the current report. For the 2018 report, Cerner's company's size and impact on employment totals necessitated that employment figures include a count for both Missouri and Kansas locations, so as not to skew employment totals reported by region. However, with Cerner announcing the closure and sale of their Kansas City, KS location in the summer of 2021, the headcount was again consolidated at the Missouri headquarters location.

Many companies responded to the pandemic by moving some employees from an office location to a work from home situation, either temporarily or permanently. This complicates the headcount by geography calculation. Some companies have remote employees throughout the country, or world. The Census report form specifically asks for employment numbers in the Census region only, but for companies who did not respond, efforts were made to determine local employment numbers via phone calls, LinkedIn company pages, and outreach to local development professionals. This trend will continue to make employment estimates by state, county or city less precise, as, for instance, an employee may physically work from home in Missouri, but for a company located in Kansas, and vice versa.

# Industry Presence, Overview & Analysis

## Introduction

The intervening years between the 2018 and 2021 have seen many changes in the presence, employment, and number of companies. The region saw a decline in the total number of companies from the last Census period for the first time since the Census report in the current framework was first published in 2006. There were fewer new companies than in any of the reports since 2006. Employment only declined modestly and was somewhat offset due to growth in university research centers and in hospital and medical centers conducting clinical trials.

Twenty-seven companies have either been acquired, merged or made acquisitions, and, in some cases, multiple acquisitions. In comparison, here are the number of transactions in previous Census reports:

- 2006 – 7 transactions
- 2009 – 11 transactions
- 2012 – 14 transactions
- 2015 – 11 transactions
- 2018 – 15 transactions

Most of these companies have stayed in the region. Notable losses include Celgene’s relocation from the area following their acquisition by Bristol Myers Squibb, Kantar Health being absorbed into Cerner, and Aratana being acquired by Elanco. In some cases, acquired companies remain in the area only in the short term. AMPRO Products, a developer of specialty feed products, was acquired by Tyson in 2017, and has since relocated from the region. Xenometrics, a CRO specializing in the non-clinical assessment of new drug candidates was acquired by Citoxlab Group in late 2017 and is no longer operating in the region.

Large regional employer Bayer announced it was seeking buyers of their Animal Health division in late 2018. The division, which included its Shawnee, KS headquarters facility, was acquired by Elanco; with the transaction closing in August 2020. In August 2021, contract manufacturer TriRX Pharmaceutical Services announced that it had finalized and closed on an agreement with Elanco to acquire the ownership and operations of its manufacturing site in Shawnee, KS.

Companies closing and relocating is part of the business ecosystem, and the number of closures has been eclipsed by new companies being formed in all previous Census periods. Just over half, 101 of the 199 companies listed in the 2006 Census are still operating in the region. In 2018, a record number of 71 new companies were identified in the region since the 2015 Census. However, 2019-2021 saw the fewest number of new companies, 41, since the Census reports were first published in their current format, 2006.

New company formation was likely made more difficult due to conditions surrounding the COVID-19 pandemic, especially in a field where in person participation in research and development activities were delayed. Rapid shifts in research funding priorities for companies outside of the infectious disease response likely stymied efforts for companies not focused on infectious disease response. Conversely, COVID-19 has put the spotlight on the global need for rapid, reliable, readily available diagnostic tests for infectious diseases, indoor air quality technology, and effective treatments.

Nationwide, the pandemic has ushered in many changes at a rapid pace. According to Deloitte’s 2021 Life Sciences Outlook, the shift in health care delivery—from an office centered, episodic visit model to a real-time, trigger-and-response model—is likely to provide a better understanding of the role and effectiveness of pharmacology in treatment. Prescriptions, fill rates, lapses, and switches are expected to have a new pace and cadence adjusting to this new reality. An industry poll in Q1 2021 showed that more than one-third of participants believe COVID-19 accelerated digital transformation of the pharma industry by five or more years, with shorter times to market, new trial designs, and new technology.

Nationally, supply chain challenges are driving changes in how companies think about sourcing decisions. Life sciences companies are responding by improving collaborations across the ecosystem to address supply chain challenges. End-to-end visibility has emerged as a major need for supply chain management, with digital and data technologies seeking solutions. Companies who can respond to these challenges stand to see a greater chance for success.

### **Presence and Overview**

The number of companies is influenced by numerous factors in and outside of the regional ecosystem, including mergers, acquisitions, expansions, and closures. The life sciences company presence is also bolstered by University and Hospital research, access to capital and support from Business Accelerators, Incubators and New Business Facilities. The following report segment documents notable developments and resources that impact life sciences companies.

### **Regional Developments 2019-2021**

#### ***Children's Mercy's Research Institute Opens***

BioNexus KC Stakeholder Institution Children’s Mercy Kansas City announced the opening of a 9-story, 375,000 square-foot, pediatric research facility on the hospital’s Adele Hall campus in downtown Kansas City in February 2021. The new building is home to the Children’s Mercy Research Institute® (CMRI), which was established in 2015 to accelerate precise diagnoses and treatments for complex childhood diseases and move kids to the forefront of research discoveries. As CMRI fosters a unique focus on pediatric translational research, it has established four areas of emphasis including genomic medicine, precision therapeutics, population health, and healthcare innovation. In 2018, the Hall Family Foundation and the Sunderland Foundation each donated \$75 million to kickstart the construction of the new research building and the recruitment of top researchers. The combined \$150 million is the largest one-time gift ever made to a children’s hospital for pediatric research and was augmented by hundreds of members of the community who contributed to make the Institute a reality.

#### ***EDA Awards Grant to KU for Innovation Park***

The Bioscience & Technology Business Center (BTBC) was awarded a \$1.5 million grant by the U.S. Economic Development Administration towards the creation of the KU Innovation Park, a university-affiliated research park on the University of Kansas campus in Lawrence, KS, which will formalize and expand its innovation, commercialization, and entrepreneurship support services under a new program, the Innovation-to-Industry Cluster Accelerator (i2i). Through i2i, the park will systematize and scale BTBC’s existing cluster-focused development strategy by creating hubs of research and commercialization resources around specific areas of technological innovation.

### ***KU BTBC Expansion Project Breaks Ground***

The official groundbreaking ceremony for the University of Kansas Bioscience and Technology Business Center (BTBC) Project was held on October 15, 2020, in Lawrence, KS. Opening early 2022, the BTBC phase III expansion facility will have nearly 70,000 square feet of specialized wet lab, offices, and shared spaces. Funding for the facility came from a \$7.8 million Economic Development Administration grant matched with \$14 million in state and local funds.

### ***KCU-Joplin Graduates First Class of Physicians***

BioNexus KC Stakeholder Institution Kansas City University (KCU) held its inaugural commencement for the KCU's Farber-McIntire Joplin campus in May 2021. The class of 131 doctors from the KCU-Joplin medical school were the first class of student doctors to enter the building in 2017. The Farber-McIntire campus was once a temporary hospital, constructed following the May 22, 2011, EF5 tornado, and donated to KCU by Mercy Hospital Joplin. Renovations included an expansion of nearly 20,000 square feet that with a large lecture hall, learning studio and lab dedicated to osteopathic manipulative medicine courses. KCU-Joplin was the first medical school campus to open in Missouri in nearly 50 years, and the only medical school in the southwest region.

### ***NBAF Nears Completion***

After a three-year selection process, Kansas was selected from among 29 applications and 34 potential sites around the United States to be home to National Bio and Agro-Defense Facility (NBAF), a biocontainment laboratory facility that will provide state-of-the-art infrastructure for developing vaccines, performing diagnostics, and developing countermeasures against large animal foreign animal diseases and zoonotic diseases. NBAF will include a biosafety level-4 laboratory and will replace the aging Plum Island Animal Disease Center in New York. NBAF is expected to be operational by 2022 or 2023.

### ***NBAF Development Spurs Expansion of Support Agencies in Manhattan***

As a result of the National Bio and Agro-Defense Facility (NBAF) development in Manhattan, KS, Kansas State University's Office Park has expanded to accommodate government/university/industry research and development partnerships will provide solutions to existing and emerging biological threats that jeopardize U.S. agriculture — crops, livestock, food and people.

- The U.S. Department of Agriculture (USDA) launched operations in support of NBAF, from offices in the K-State Office Park in June 2019. The USDA's Agricultural Research Service, known as ARS, and Animal and Plant Health Inspection Service, or APHIS, are ramping up their workforce for operating the NBAF facility.
- The Kansas Department of Agriculture (KDA) Laboratory relocated from Topeka to the K-State Office Park in March 2020. KDA protects the health and safety of all Kansans and facilitates accuracy in labeling of products offered for sale in Kansas. The laboratory performs a wide range of diverse testing across several different laboratory sections - Dairy, Microbiology/Meat, Feed and Fertilizer, Prohibited Materials/BSE, and Pesticides.

### ***UM System Opens Roy Blunt NextGen Precision Health Building***

The University of Missouri (UM) System launched the NextGen Precision Health Institute in June 2019. The Initiative, which harnesses and supports the research activities of the UM System's four universities and health system is expected to accelerate medical breakthroughs for patients in Missouri and beyond, increase collaboration among UM scientists and industry partners, attract research funding, generate jobs and train a new generation of healthcare scientists and practitioners who will help Missouri address the healthcare needs of the future. The University of Missouri Board of Curators, university leaders,

state and federal dignitaries attended the grand opening of the Roy Blunt NextGen Precision Health Building in October 2021. The 265,000 square foot building integrates multi-disciplinary lab space with advanced analytical instrumentation, computational processing, and pilot-scale manufacturing under one roof.

### ***Topeka Innovation Campus to Open in 2022***

Topeka, KS will be home to a new \$13 million innovation campus developed by Go Topeka, the city's economic development group. The new campus, opening in 2022, will house Plug and Play's Animal Health/Ag Tech Startup Accelerator program, as well as serve as a research and development space for startup companies and corporate partners. The campus supports Topeka's vision of being a hub of innovation in the heart of the Animal Health Corridor. The 60,000+ square-foot facility will house an incubator, office, coworking and wet lab space and will be located in downtown Topeka.

### ***USDA Announces Kansas City Region as Location for ERS and NIFA***

In June 2019, the U.S. Department of Agriculture announced the relocation of two agencies: the Economic Research Service (ERS) and the National Institute of Food and Agriculture (NIFA), from Washington, DC to Kansas City. Following a site selection process, the USDA signed a lease for office space in downtown Kansas City, MO, and the first wave of employees moved from Washington in October 2019. Out of 329 total ERS positions, the department said, 76 positions remained in Washington, while 253 positions would be in Kansas City. Out of 344 total NIFA positions, 21 positions remained in Washington while 323 would be in Kansas City. The USDA said the move would save as much as \$300 million over 15 years, through lower rent than the government was paying in Washington and because the two agencies can be located together. The two agencies employed 354 people in Kansas City — 152 at ERS and 202 at NIFA — and 437 people in total, including staff in Washington, as of a Jan. 27, 2021, USDA memo, in part due to some employees declining to relocate to Kansas City.

## **Mergers and Acquisitions**

### ***Adare Pharmaceuticals, Inc. Acquires Orbis Biosciences***

Adare Pharmaceuticals, Inc., a clinical-stage pharmaceutical company in Lawrenceville, NJ, and a leading global provider of advanced pharmaceutical technologies, development and manufacturing, announced in May 2020 that it had acquired Orbis Biosciences. Orbis Biosciences is a Lenexa, KS-based pharmaceutical manufacturing technology company focused on licensing its technology to companies to optimize their product portfolios. Orbis develops customized formulations and intellectual property for pharmaceutical product manufacture, leveraging Orbis' novel Precision Particle Fabrication® technology platforms.

### ***Albaugh Acquires Prime Source Turf and Ornamental Business***

Albaugh LLC, a manufacturer and supplier of crop protection and specialty products announced in December 2020 that it had completed the acquisition of the assets of Prime Source from Excelsior Equity. The Prime Source acquisition expands Albaugh's reach into the turf and ornamental market with a focus on tailored customer solutions that improve profitability, flexibility, and are more convenient to use than the leading brands. Albaugh LLC is a St. Joseph, MO family-owned business that was started 40 years ago and is recognized as one of the leading manufacturers and suppliers of crop protection and seed treatment products in North America.

### ***Artio Medical Merges with Flow Forward Medical***

Artio Medical, Inc. acquired Flow Forward Medical, Inc., a medical device company developing innovative methods for establishing and maintaining high-quality vascular access sites to improve outcomes for hemodialysis patients. The stock-for-stock merger transaction in which Flow Forward merged with and into Artio closed on June 8, 2020. Artio Medical is a Prairie Village, KS-based medical device company committed to developing innovative endovascular products for the treatment of peripheral vascular, neurovascular, and structural heart diseases.

### ***Artisan Technology Group Acquires Engage Mobile Solutions***

Artisan Technology Group, LLC acquired Engage Mobile in March 2019. Artisan specializes in technology solutions and digital experiences to solve the most complex business challenges. Engage Mobile Solutions provided digital strategy, mobile and software development services for healthcare companies. Both companies are located in the KC region, and the combined company will continue to operate in the region under the Artisan brand.

### ***AlcheraBio is now Argenta***

Argenta announced in October 2020 that it would rename AlcheraBio to Argenta to reflect one global company brand. The brand unification amplifies the comprehensive Molecule to Market services portfolio and the seamless experience provided to customers across the full product development journey. AlcheraBio, founded in 2001, has been part of the Argenta Group since 2008 and is an industry leader in veterinary clinical studies.

### ***Biodesix Acquires Oncimmune***

Biodesix, Inc. announced in November 2019 that it had completed acquisition of Oncimmune's laboratory and incidental pulmonary nodule (IPN) malignancy test in the US, further extending the company's blood-based lung cancer diagnostic portfolio. The United Kingdom-based company's U.S. commercial and lab operations, including a Clinical Laboratory Improvement Amendments (CLIA) lab in DeSoto, KS, have transitioned to Biodesix. The Kansas lab is the sole US provider of the EarlyCDT Lung® test.

### ***Bristol Myers Squibb Acquires Celgene***

Bristol-Myers Squibb closed its acquisition of Celgene in November 2019, a cash and stock transaction with an equity value of approximately \$74 billion. Pursuant to the terms of the merger agreement, Celgene became a wholly owned subsidiary of Bristol-Myers Squibb Company. At the close of the deal, the combined companies had nine products with more than \$1 billion in annual sales and significant potential for growth in the core disease areas of oncology, immunology and inflammation and cardiovascular disease.

### ***CentralReach Acquires Pathfinder Health Innovations***

CentralReach, a Holmdel, New Jersey-based provider of EHR and practice management solutions for Applied Behavior Analysis (ABA) clinicians and educators for people with autism and related disorders, announced the acquisition of Pathfinder Health Innovations in June 2019. Pathfinder Health Innovations, based in Kansas City, MO, is a practice management and data collection software solution designed for small to medium-sized (SMB) businesses. CentralReach continues to grow by acquisition, acquiring Thread Learning, a mobile data collection solution designed for center-based clinics and schools in February 2020, and scheduling algorithm company, Cartocal in November 2020.

### ***Cerner Acquires Kantar Health and AbleVets***

Cerner Corp. acquired Kantar Health LLC in a transaction valued at \$375 million, which closed in April 2021. Kantar Health provides data, analytics, and research to the life sciences industry with a particular focus in oncology and rare diseases. The combination of Cerner and Kantar Health is expected to enable a two-sided collaboration between providers and the pharmaceutical industry, where researchers can generate insights and use differentiated real-world data assets and expertise to address the most complex clinical research questions. In October 2019, Cerner acquired Washington, DC area-based AbleVets—a strategic IT consulting and engineering firm—as a wholly-owned subsidiary. The companies had previously worked in partnership on federal programs, and the acquisition provides Cerner even greater scale and technical expertise in designing and implementing modernization solutions, particularly in the federal space. Additionally, in August 2020, Cerner and LRVHealth collectively invested \$6 million in Xealth, a digital health prescribing platform that allows doctors to find, order and monitor digital health tools for patients through their electronic health record system. Cerner plans to integrate Xealth's platform into its technology and patient portal.

### ***Clinical Reference Laboratory Acquires Confirm BioSciences***

Following successful joint partnerships with the company, Lenexa-based Clinical Reference Laboratory's acquired San Diego-based Confirm BioSciences Inc. in December 2020. Terms were not disclosed, though Confirm BioSciences will operate as a subsidiary and retain its name. CRL and Confirm BioSciences have partnered on health and wellness offerings, including the CRL Rapid Response COVID-19 saliva test, as well as Confirm's strategic platforms, HealthConfirm and TestConfirm. The acquisition will deliver synergies to both companies since their organizational skill sets are complementary.

### ***CutisPharma Inc. Acquires Silvergate Pharmaceuticals Inc.***

Massachusetts pharmaceutical company CutisPharma Inc. acquired Silvergate Pharmaceuticals Inc., in June 2019, creating a new, unified company called Azurity Pharmaceuticals, which will focus on meeting the needs of underserved patients, such as children and the elderly. Silvergate, which develops pediatric medications, was formed through a partnership with the University of Kansas, Children's Mercy and the Kauffman Foundation. Silvergate's niche in pediatric medication complements CutisPharma's focus on oral solutions, topicals and suppositories. Silvergate's offices in Overland Park, KS, will become the company's research-and-development campus. Additionally, Silvergate announced in February 2021 the purchase of the neurology portfolio from Eton Pharmaceuticals. The product portfolio includes lamotrigine (ET-105), Zonisamide (ET-104), and topiramate (ET-101), all currently under review with the U.S. Food and Drug Administration as new drug applications.

### ***Elanco Animal Health Acquires Aratana Therapeutics***

Aratana Therapeutics Inc., based in Leawood, KS announced in April 2019 that it had agreed to sell for \$245 million to Elanco Animal Health. Indiana-based Elanco, at the time, a subsidiary of Eli Lilly and Co., already had a licensing deal with Aratana for its canine osteoarthritis drug Galliprant. According to Elanco CEO Jeff Simmons, Aratana's strong position in the specialty market – with their current portfolio and pipeline – complements Elanco's field presence and capitalizes on new opportunities for key existing Elanco pet therapy brands.

### ***Elanco Animal Health Completes Acquisition of Bayer Animal Health***

Bayer AG, which had a large presence in Shawnee, KS, announced the sale in August 2019 of its animal health business to Elanco in a transaction initially valued at \$7.6 billion. The combination creates the world's second-largest animal health company with roughly 13% of the market. Following a lengthy review of potential antitrust issues by the Federal Trade Commission, the FTC gave its approval in July



2020, conditioned on Elanco divesting three products. The deal closed in August 2020, at a value of \$6.89 billion. The transaction strengthens Elanco's R&D pipeline, and expands Elanco's omni-channel presence, to focus on both veterinarian and consumer markets. The company announced on December 4, 2020, that it plans a \$100 million new headquarters in Indianapolis, IN. The Shawnee, KS facility was subsequently sold to TriRx in August 2021.

#### ***Elanco Animal Health Acquiring KindredBio***

Elanco announced definitive agreement to acquire KindredBio in June 2021. The acquisition further accelerates Elanco's expansion in the pet health market, particularly advancing Elanco's presence in the fast-growing billion-dollar dermatology category. KindredBio, with a location in Elwood, KS, is a biopharmaceutical company focused on developing novel pet therapeutics based on validated human targets. The company holds three potential dermatology blockbusters expected to launch through 2025, as well as several additional R&D programs for other chronic disorders and unmet needs, including canine parvovirus.

#### ***ICON Acquires PRA Health Sciences***

ICON plc, a Dublin, Ireland-based global provider of outsourced drug and device development and commercialization services to the pharmaceutical, biotechnology and medical device industries, and government and public health organizations, announced in February 2021 that it had entered a definitive agreement to acquire PRA Health Sciences, Inc. in a cash and stock transaction valued at approximately \$12 billion. PRA is one of the world's leading global contract research organizations by revenue, providing outsourced clinical development and data solution services to the biotechnology and pharmaceutical industries. The combined business will be number one or two in key clinical market segments and have formal strategic partnerships with a majority of the top 20 biopharma companies, providing a platform for growth and innovation. Headquartered in Raleigh, NC, PRA operates a laboratory and a research and development facility in Lenexa, KS.

#### ***IFF Completes Merger with DuPont's Nutrition & Biosciences Business***

IFF announced completion of the merger of IFF and DuPont's Nutrition & Biosciences business, pursuant to a Reverse Morris Trust transaction in February 2021. The combined company will continue to operate under the name IFF. Under the terms of the transaction, which was previously announced on December 15, 2019 and received approval from IFF shareholders on August 27, 2020, DuPont received a one-time \$7.3 billion cash payment, subject to adjustment. At transaction close, DuPont shareholders owned 55.4% of the combined company and IFF's shareholders owned 44.6%. The deal gives the company leadership positions within the Taste, Texture, Scent, Nutrition, Enzymes, Cultures, Soy Proteins and Probiotics ingredient categories.

#### ***Mediware Unites Brands Under WellSky Name, Continues Acquisitions***

Overland Park-based Mediware Information Systems, Inc., a portfolio company of TPG Capital, announced its strategic transformation to WellSky in September 2018, effectively merging more than 30 unique health care and human services brands. In November 2019, the company announced acquisition of ClearCare, Inc., the leading provider of a software-as-a-service (SaaS) platform used by more than 4,000 personal care agencies in the U.S. and Canada. In October 2020, WellSky announced the acquisition of Boston-based CarePort Health from Chicago-based Allscripts. CarePort provides care coordination software that connects acute and post-acute providers and payers.



### ***Merck Animal Health Acquires IdentiGEN***

Merck Animal Health announced the completion of its acquisition of IdentiGEN, a leader in DNA-based animal traceability solutions for Livestock and Aquaculture from MML Growth Capital Partners Ireland, in August 2020. Merck Animal Health acquired three other animal monitoring technology companies in 2019 and 2020. IdentiGEN continues to maintain a regional presence in Lawrence, KS, and Merck Animal Health operates a manufacturing facility in DeSoto, KS.

### ***Midmark Acquires Schroer Manufacturing Company***

Midmark Corporation, a clinical environmental design company for the medical, dental and animal health markets, announced in September 2021 that it acquired Schroer Manufacturing Company (“Shor-Line”), an animal health equipment manufacturer based in Kansas City, KS. Founded in 1927, Shor-Line offers a full range of quality products, including containment, scales, surgery and exam tables, tubs, anesthesia, grooming and lighting. It also provides design and build services to its customers. Midmark was founded in 1915, has 2,200 teammates worldwide, and is headquartered in the Dayton, OH, area. The company also has production facilities and administrative offices in Versailles, OH, and nine additional locations in the US as well as subsidiaries in India and Italy.

### ***MGP Ingredients Completes Asset Purchase of Inclusion Technologies, LLC***

MGP Ingredients announced in June 2021 that it had agreed to purchase substantially all of the assets of Atchison, KS based Inclusion Technologies, LLC. Inclusion Technologies is a manufacturer of nut alternatives and functional sensory ingredients sold to food OEMs primarily in the baked goods and snack foods sectors, including nut-free, allergen-free and non-GMO. Its dedicated nut-free facility in Atchison has been SQF (Safe Quality Food) certified since 2015. MGP Ingredients, also in Atchison, is a producer and supplier of Distillery Products and Ingredient Solutions, including premium distilled spirits, specialty wheat protein and starch food ingredients and high-quality industrial alcohol for use in both food and non-food applications. The acquisition is part of MGP’s strategic initiative to expand its production capabilities to diversify its product offerings in the food ingredients sector and to broaden its geographic presence.

### ***ProPharma Group Acquired by Odyssey Investment Partners; Acquires Diamond Pharma Services***

Odyssey Investment Partners entered into an agreement to acquire ProPharma Group from Linden Capital Partners in September 2020. Financial terms of the transaction were not disclosed. Founded in 2001, ProPharma Group is a leading provider of regulatory and compliance services to pharmaceutical, biotechnology and medical device customers. Dawn Sherman, CEO, as well as the ProPharma Group management team invested in ProPharma Group alongside Odyssey and continues to lead the company. In March 2021, ProPharma Group announced the acquisition of Harlow, United Kingdom-based Diamond Pharma Services. Diamond Pharma Services provides regulatory affairs, pharmacovigilance, and compliance & quality services to support pharmaceutical and biotechnology companies in obtaining and maintaining medicinal product licenses throughout all stages of a product's life cycle.

### ***Pivot International Acquires Digital Concepts of Missouri, Inc.***

Pivot International announced its biggest acquisition ever by employees, revenue and acquisition price in December 2020, with its acquisition of Digital Concepts of Missouri Inc. Digital Concepts, headquartered in Maryland Heights, MO, is a design, engineering and manufacturing firm, best known for the technology behind some of the most popular and advanced treadmill and indoor cycling home fitness machines on the market. The company has developed and owns the intellectual property that makes these machines work, and has a location in Juarez, Mexico.

### ***TriRx Acquires Elanco Facility in Shawnee***

TriRX Pharmaceutical Services announced in August 2021 that it had finalized and closed on an agreement with Elanco Animal Health Incorporated to acquire the ownership and operations of its manufacturing site in Shawnee, KS. Elanco Animal Health Inc. had announced in June 2021 that it would sell the former Bayer Animal Health North American headquarters in Shawnee, Kansas to TriRx. TriRx also executed a previously announced agreement with Elanco to acquire its Speke site in the United Kingdom, and expects that deal to close in the first quarter of 2022. TriRx provides contract research and development and manufacturing services. The company is based in Norwalk, CT and has additional facilities in Huntsville, AL, and Segré, France.

### ***Thuasne acquires Knit-Rite, Inc. and its Therafirm Division***

The Thuasne Group acquisition of Kansas City, KS- based Knit-Rite, and its Therafirm division closed on December 31, 2020. Founded in 1847, headquartered in Levallois-Perret, France, with US headquarters in Bakersfield, CA, Thuasne imagines, develops and manufactures medical devices and innovative health solutions in the fields of orthopedics, medical compression, home care and sport. The transaction marks Thuasne's fourth and largest acquisition in the US in ten years. Knit-Rite, Inc. is a leading designer, marketer, and manufacturer of innovative textiles for medical and consumer markets, and will continue to operate in Kansas City, KS.

### ***Vitruvian Partners Acquires Majority Stake in KCAS***

Vitruvian Partners, a growth-focused investment firm, announced the acquisition of a majority ownership stake in KCAS Bioanalytical and Biomarker Services (KCAS) in April 2021. Both management and current majority shareholders KVCI are making a significant reinvestment in the company. Other financial terms of the transaction were not disclosed. KCAS is a Kansas-based contract research organization providing comprehensive GLP-compliant bioanalytical and biomarker development testing services for the biotech, pharmaceutical, and animal health industries. Vitruvian's investment positions KCAS to continue growing its operations in Kansas City, including a new facility in Olathe currently under construction; continue the rapid hiring of top scientific talent and focus on outstanding customer service. Vitruvian's global reach and significant available capital positions KCAS as a platform for accelerated future growth through acquisitions and continued expansion of its current operations.

## **Expansions and Relocations**

### ***Bardavon Health Innovations Expands Regional Presence with Series C Funding***

Bardavon Health Innovations, a privately held, Overland Park, KS-based digital health partner, announced a Series C funding round of \$90 million in October 2021, led by investor Matrix Capital Management, a public and private investment firm, joined by WestCap, a growth equity firm. Bardavon connects all stakeholders to better manage Workers' Compensation and musculoskeletal health, combining digital health technology with differentiated clinical physical rehabilitation services. Bardavon will use the investment to accelerate go to market activities, expand capabilities, and introduce new offerings and services to all payer classes, including an expansion beyond the Workers' Compensation segment.

### ***Cereal Ingredients, Inc. To Build New Facility in St. Joseph***

Cereal Ingredients Inc., (CII) headquartered in Leavenworth, KS, with a sister food lab company (Great Plains Analytical Lab) location in Kansas City, MO announced in March 2021 that it will build a new 80,000 square foot facility in St. Joseph, MO, with new technology to enhance its product line. This expansion represents an investment of \$24 million and more than 60 new jobs by the end of year six of

operations. Robert Hatch, CEO, anticipates a completion date in the first quarter of 2022. CII is a privately held, employee-owned specialty ingredients manufacturer established in 1990 to research, develop and market unique, new food ingredients. The Company holds multiple worldwide product and process patents.

### ***Corteva opens R&D center in Wamego***

Corteva Agriscience officially announced the opening of the Corteva Agriscience Wamego, Kansas research and development center in January 2020. Corteva Agriscience is a publicly traded company and an outcropping of a merger between Dow and Dupont, which started in 2018. The Wamego facility will research new technology and traits for corn, sorghum, wheat and soybeans. The project hails the first success of the Greater Manhattan Economic Partnership (GMEP), a formal partnership between the Manhattan Area Chamber of Commerce and the Pottawatomie County Economic Development Corporation (PCEDC). The research center opened with 15 employees and the company expects to add additional positions in the future.

### ***Eurofins Viracor Breaks Ground on Lenexa HQ***

Eurofins Viracor Inc. broke ground in February 2021 on its 110,000-square-foot Lenexa facility, which is slated to be finished in late February 2022 at Meritex Lenexa Executive Park. The company, doing business as Viracor Eurofins, is currently in Lee's Summit, MO, in multiple facilities. The new building will provide room to grow and add new business lines as well as consolidate facilities to maximize workflow efficiencies. The site purchased in Lenexa also has enough land to allow for future expansion. The new facility will house 450 full-time employees from subsidiary Eurofins Viracor BioPharma Services and the new brand, Eurofins Transplant Diagnostics, which includes Eurofins Viracor and Transplant Genomics, Inc.

### ***Garmin Expands Partnerships***

Garmin International, Inc., listed in this report for their role in health monitoring, continues to expand its number of mobile health partnerships. In April 2021, Garmin, WellteQ, and UFIT joined forces to produce a hybrid corporate health and wellness solution that combines wearables plus virtual and in-person health and fitness services on WellteQ's platform. In November 2020, Garmin and RTI International, a nonprofit research institute, announced a collaboration to research the potential for wearable devices to detect COVID-19 and other infectious diseases sponsored by the Defense Advanced Research Projects Agency (DARPA).

### ***Hill's Expands Production and Opens Pet Nutrition Center with Focus on Small Dogs***

Hill's Pet Nutrition held a groundbreaking in August 2019 for a new \$20 million, 25,000 square foot nutrition facility focused on the needs of small dogs - 'Small Paws' - as well as a new Engagement Center developed for veterinarian and other pet caregiver engagement. The Small Paws center includes state-of-the-art facilities and is home to small dogs under 12 lbs. who will have the benefit of specially formulated nutrition developed to their unique needs. The Engagement Center has dedicated space to host educational seminars and continuing education programs for veterinary students and professionals. In September 2020, Hill's announced a \$31M investment to produce an onsite wastewater treatment facility, followed by a new diet-making system. Hills announced an additional 33 jobs in order to support this new equipment.

### ***Hills Announces New Location in Tonganoxie***

In June 2021, Hill's Pet Nutrition announced plans to build a \$250 million factory in Tonganoxie, KS. Construction will begin in 2021 and is expected to be complete by 2023. This will be the fifth Hill's facility in the region, joining plants in Topeka and Emporia, KS. The Tonganoxie operation will create 80 jobs and be built on 80 acres in Tonganoxie Business Park.

### ***KCAS Breaks Ground on New Olathe Facility***

KCAS Bioanalytical and Biomarker Services broke ground in April 2021 on their new state-of-the art facility in the Kansas Bioscience Park in Olathe, KS. Expected to open in the spring of 2022, the new facility will be twice the size of their current facility in Shawnee. The building will feature 39,000 SF of office space, 20,000 SF of biosafety level II laboratory space, and 9,000 SF of freezer and refrigerator storage rooms. The lab will also include gas and liquid supply systems and an HVAC system designed for strict temperature and humidity and ventilation requirements. KCAS is a progressive growing contract research organization serving clients and improving health worldwide, providing stand-alone bioanalytical services to the pharmaceutical, biopharmaceutical, animal health and medical device industries.

### ***Merck Animal Health Expands DeSoto Facility***

Merck Animal Health, a division of Merck & Co., Inc., announced an investment of \$100 million in facility expansion and enhancement efforts in its US manufacturing site in DeSoto, KS in June 2020. A technological expansion of the vaccine production facility came online in late 2020, and an additional investment of \$66 million will provide for added enhancement capabilities to be realized over the coming years. The DeSoto site develops and manufactures a broad portfolio of vaccines for Swine, Cattle and Equine with key technologies in research and development, manufacturing and quality operations. Particularly, the site houses large-scale fermentation and cell culture, blending and filling operations and packaging, along with monoclonal antibody manufacturing for Companion Animals.

### ***Scollar Relocates Headquarters to Kansas City, Missouri***

Scollar, a pet technology company announced in April 2019 that the company would relocate from the San Francisco Bay Area to Kansas City, MO. Co-founder and chief executive Lisa Tamayo noted the region's animal health presence, lower operating costs and lower competition for talent as factors in the decision. Scollar selected Kansas City as its new home after presenting at the Kansas City Animal Health Investment Forum in 2018. Scollar is a full stack open platform consisting of three tightly integrated technologies, a modular smart collar, a mobile app, and a data cloud service. The technology is designed to address the needs of pet parents, protein producers and veterinarians, as well as animal service providers and product manufacturers.

### ***TheraWe Acquired and Relocates***

In tandem with the August 2020 announcement of a strategic investment from K1 Investment Management, LLC, New York-based Rethink First also announced its acquisition of TheraWe, a telehealth and parent engagement platform focused on ABA pediatric care. TheraWe allows providers to capture both live and asynchronous telehealth sessions, engage in group and one-on-one chats, and record parent and therapist notes, strengthening parent involvement and improving clinical outcomes. ReThink offers cloud-based tools, training and clinical support for individuals with developmental disabilities and their caregivers. TheraWe founder Kirby Montgomery remains involved with the company, which no longer has a physical office in the Census region.

### ***Thermo Fisher Scientific Expands in Lenexa***

Thermo Fisher Scientific Inc. opened a \$40 million facility dedicated to viral transport media (VTM) production in Lenexa, KS in August 2020. The company leased 120,000 square feet in an existing building in the Renner Business Park. In early May 2020, Thermo Fisher received a contract from the U.S. government to provide a significant quantity of highly specialized VTM for COVID-19 sample collection. Built in just six weeks, the facility created more than 300 new full-time jobs and added 120,000 square feet of manufacturing capacity in Lenexa. The new facility is the third location in Lenexa for Thermo Fisher, who also has locations at 87th Street Expressway and Quivira Road, and underground space at Meritex Executive Park in western Lenexa.

### ***WellSky Opens New World Headquarters in Overland Park***

WellSky formally opened its new world headquarters in July 2019 with a ribbon cutting ceremony and the announcement of a \$50,000 donation from the WellSky Foundation to inaugural recipient Midland Care Connection, an integrated health care services provider. WellSky's expansion occupied the entire CityPlace Corporate Centre III building, developed by Block Real Estate Services. WellSky's headquarters includes a Client Experience Center, which brings to life the transformative work WellSky does for clients every day and serves as a welcoming space for employees to host a range of visitors. The company, formerly known as Mediware Information Services, relocated from their Lenexa, KS location.

## **Announced Closings**

### ***Celgene Location Closed Following Bristol-Myers Squibb Acquisition***

Bristol-Myers Squibb Company announced in November 2019 the completion of its acquisition of Celgene Corporation following the receipt of regulatory approval from all government authorities required by the merger agreement announced on April 12, 2019. Upon completion of the acquisition, pursuant to the terms of the merger agreement, Celgene became a wholly owned subsidiary of Bristol-Myers Squibb Company. Post-acquisition, the Celgene Overland Park location was closed; Bristol-Myers Squibb does not maintain any R&D presence in the region.

### ***Terumo Acquires All Assets of Health Outcomes Sciences, Inc.***

Terumo, a global leader in medical technology signed a definitive agreement to acquire all assets of Health Outcomes Sciences, Inc. (HOS) in February 2021. HOS specializes in predictive analytics and clinical decision support that enable healthcare organizations to deliver personalized, predictive insights at the point of care, resulting in significant and measurable improvements in clinical, patient and financial outcomes. Terumo is a 100-year-old company based in Tokyo which operates globally, with more than 25,000 associates worldwide providing innovative medical solutions in more than 160 countries and regions. As a result of the purchase, the Overland Park, KS location has been closed.

## **Life Sciences Capital**

Access to capital is the lifeblood of any company, but especially true for those companies in the pre-revenue stage, and for those in the life sciences, where the process of research and development is often long and sometimes uncertain. Numerous efforts in the last decade have highlighted regional capital gaps, helping to increase the number of capital sources active in the region. However, the venture capital and private equity industry has grown even faster, with a pace of record setting volume and capital deployment.

According to PWC's Money Tree report (which was discontinued in the first quarter of 2021), US-based, VC-backed companies raised nearly \$130B in 2020, up 14% year-over-year from 2019, despite the impacts of COVID-19 around the world. Much of this deal flow occurred in the second half of 2020. Despite the high-water mark in dollars raised, the number of deals (6,022) declined 9% from 6,599 in 2019 and was down almost 15% from the 7,052 deals closed in 2018. Mega-deals, defined as those with over \$100 million in funding, broke records for the third year in a row in 2020 with 318 deals raising \$63 billion in funding, nearly half of all recorded volume, up from 44% in 2019.

In the Pharma and Biotech sectors, the 2020 PitchBook-NVCA Venture Monitor report noted a record 998 deals with \$274 million in funding, also a record. In 2018, 873 deals raised \$198 million and 934 deals closed in 2019, raising \$173 million. The report showed that the split between angel and seed, early-stage, and late-stage deals to be nearly even over the last three years, with about 30% of deals in the angel and seed space. However, both median and average deal sizes have also continued to climb, mimicking the overall US trend.

Regionally, Crunchbase and Dundee Venture Capital released their America's Mighty Middle report in early 2020 to look at startup activity in locations between the US coasts over the past 10 years. Omaha-based Dundee Venture Capital collectively calls the region in the middle of America the Mighty Middle, a term that describes the 25 states constituting America's heartland, bounded by the Rocky Mountains to the West and the Appalachian Mountains to the East.

Among the Report's findings:

- Total venture capital investment deployed into the Mighty Middle over the past decade was \$92.6 billion.
- Over the decade, invested dollars grew from \$5.8 billion in 2010 to \$20.2 billion in 2019, a 13% compounded annual growth rate.
- While the surge in invested dollars in the Mighty Middle at the end of the decade was largely driven by large, late-stage deals, investment across all stages increased significantly throughout the decade.

Locally, a KC Sourcelink search of the CBInsights database showed 11 deals in the Kansas City MSA Healthcare space (biotech, disease diagnosis, drug delivery, drug manufacturing, medical devices and equipment, medical information), more than double the number in 2019. Missouri saw higher deal flow and dollars raised compared to Kansas, but both states were dwarfed by the Mid-Central US leaders Colorado and Texas and were only a fraction of the national total.

### *Local and National Life Sciences Venture Capital Funding*

Deal Type	Life Sciences Investment					
Year	2018		2019		2020	
Region	Deal Count	Value (M)	Deal Count	Value (M)	Deal Count	Value (M)
KC Metro Region*	7	\$7.73M	4	Not disclosed	11	\$28.8M
Missouri	20	\$32.6M	9	\$30.3M	21	\$81.8M
Kansas	8	\$11.6M	4	Not disclosed	8	\$28M
Texas	78	\$224.5M	82	\$371M	100	\$533.6M
Colorado	53	\$296.3M	74	\$419.1M	70	\$550.4M
California	421	\$7.84B	479	\$7.66B	726	\$13B
U.S. Total	1,465	\$15.9B	1,693	\$19.2B	2,411	\$28.1B

\* Within 150 miles of central Kansas City zip code 64108

Source: KC Sourcelink

Despite the capital totals for the four Kansas-based deals not disclosed, capital deployed in the Metro rose sharply. The three-year period 2018-2020 saw 22 deals closed, raising \$36 million, compared to the previous 2018 Census, which reported 19 deals raising \$11.9 million from 2015-2017.

Federal Research and Development funding is another potential source of capital to spur company growth and development. The State Science & Technology Institute (SSTI) released a 2021 report analyzing National Science Foundation data on federal R&D funding obligations in 2019, and examined how that funding is distributed within states among:

- Industry
- Universities and colleges
- Federal agencies
- Federally Funded Research and Development Centers (FFRDCs)
- Other nonprofits
- State and local governments

Federal R&D funding increased by \$12.4 billion over 2018, to \$138.2 billion in 2019. Federal R&D spending in states varies widely from state to state, and among research performers.



## Federal Research and Development Funding

Agency	Federally-funded R&D - Industry Performers						
	Missouri		Kansas		United States		
	Industry Funds	Industry as % of Total	Industry Funds	Industry as % of Total	Total R&D	US Industry Total	US Industry Total
All Agencies	\$ 1,496,564,500	63%	\$ 13,031,900	31%	\$ 138,170,255	\$ 44,229,941	32.0%
Department of Agriculture	\$ 3,100	0.0%	\$ 600	4.6%	\$ 2,634,034.60	\$ 32,004.60	1.2%
Department of Commerce	\$ -	-	\$ -	-	\$ 1,533,324.00	\$ 38,583.00	2.5%
Department of Defense, research	\$ 27,140,900	56.7%	\$ 498,100	0.0%	\$ 8,153,949.80	\$ 2,804,415.70	34.4%
Department of Defense, total experimental development	\$ 920,484,500	93.7%	\$ 5,622,400	2.2%	\$ 50,081,826.00	\$ 29,428,324.30	58.8%
Department of Energy	\$ 500,373,500	96.6%	\$ 805,400	70.7%	\$ 14,374,516.30	\$ 2,126,437.30	14.8%
Department of Health and Human Services	\$ 16,067,600	2.5%	\$ 4,129,500	7.6%	\$ 38,926,197.00	\$ 2,718,490.70	7.0%
Department of Homeland Security	\$ -	-	\$ -	-	\$ 637,191.00	\$ 360,905.30	56.6%
Department of the Interior	\$ -	-	\$ -	-	\$ 824,028.50	\$ 19,546.60	2.4%
Department of Transportation	\$ 3,836,100	31.6%	\$ 76,000	1.1%	\$ 1,011,941.10	\$ 341,946.60	33.8%
Environmental Protection Agency	\$ 3,719,500	98.9%	\$ 3,000	100.0%	\$ 485,305.00	\$ 182,729.50	37.7%
National Aeronautics and Space Administration	\$ 24,039,600	45.5%	\$ 1,672,200	43.5%	\$ 13,536,853.30	\$ 5,773,308.10	42.6%
National Science Foundation	\$ 899,600	1.9%	\$ 224,800	0.7%	\$ 5,971,088.20	\$ 403,249.30	6.8%
All Agencies	\$ 1,496,564,500	63%	\$ 13,031,900	31%	\$ 138,170,255	\$ 44,229,941	32%

In Missouri, 63% of all Federal R&D funds were awarded to industry, more than double the rate of Kansas funds. Missouri funds distribution, at nearly \$1.5 billion, far outpaced Kansas, although the vast majority of those funds were awarded by the Departments of Defense and Energy. The agencies with the most applicability to life sciences: Department of Agriculture (1.2%), Health and Human Services (which includes National Institutes of Health) (7%) and the National Science Foundation (6.8%) provide fewer research grants to industry when compared to many of the other funding agencies.

The following funding sources have made one or more investments in the region's life sciences companies. Where disclosed, the portfolio companies in the life sciences sector are listed.

### **BioNovus Innovations**

Founded in 2015 in Kansas City, BioNovus Innovations creates collaborations to move discoveries "from bench to bedside." BioNovus brings together research institutions, industry expertise and capital to develop promising advances in drug therapy, medical devices, medical service providers and information technologies. With a variety of structures for public-private partnerships, the mission is to accelerate translational research in important fields of healthcare and to advance the capabilities of the Kansas City region's life sciences community. Portfolio companies include Ciclomed, Elias Animal Health, Pathfinder Health Innovations, and Smart Diagnostic Systems. <https://www.bionovus.com/>

### **Firebrand Ventures**

Kansas City-based Firebrand Ventures invests in early-stage startups in the greater Midwest. Since its launch, the fund has invested in 27 portfolio companies in places like Austin, Boulder, Denver, Chicago, Des Moines, and Kansas City. The venture capital fund merged with Blue Note Ventures in Boulder, Colorado, a seed stage fund serving entrepreneurs committed to authentic leadership in 2019, and closed a second fund, Firebrand Ventures II. Portfolio companies include life sciences companies FitBark and Sickweather. <https://www.firebrandvc.com/>



### ***Flyover Capital***

Flyover Capital was formed to invest in early-stage technology companies to create the next generation of technology success stories in 'flyover' region. Headquartered in Leawood, KS, Flyover Capital, founded in 2014, invests in early-stage high-growth B2B companies transforming Flyover Country's largest industries through technology. Flyover seeks to partner with exceptional teams with an actionable vision who can solve big problems in a scalable way. Portfolio companies in the life sciences are Innara Health and TripleBlind. <https://www.flyovercapital.com/>

### ***Fulcrum Global Capital***

Fulcrum Global Capital invests in innovative and promising Agriculture, AgTech and Animal Health companies that capitalize on the compelling market opportunities driven by the explosive growth of the global population and the resulting strain on the food supply. Fulcrum seeks to bring value beyond capital through industry expertise and strategic partners to early-stage companies. Based in Kansas City, Fulcrum closed its first fund of \$36 million in March 2020. In October 2021, Fulcrum secured the first close of its second fund, which concluded its initial close above \$44 million. Investors in both funds are about 70 percent comprised of U.S.-based ag producers, who represent millions of head of production animals and millions of crop production acres. <https://www.fgcvc.com/>

### ***iim, LLC***

iim: Innovation in Motion invests in seed stage companies where the founder has personally invested in the company; raised some money from friends and family; and has a plan for how to scale the company. The fund focuses on companies, mostly in the Midwest, making innovative changes in the agriculture, animal health, and human health sectors. Regional life sciences portfolio companies to date are SMRxT, Mobility Designed and Mazen Animal Health. <https://www.iimkc.com/>

### ***KCRise Fund***

Launched in 2016 in conjunction with the regional KC Rising economic initiative, KCRise Fund is a traditional venture capital fund which invests side-by-side with other institutional VC investors in early-stage companies based in Kansas and western half of Missouri. Investors include corporations, university endowments, family offices and prominent business leaders in the region. In 2019, KCRise Fund II was launched, bringing total committed capital to over \$60 million under management. Regional life sciences investments are Bardavon Health Innovations, SMRxT, and Triple Blind. <https://www.kcrisefund.com/>

### ***Nueterra Capital***

Nueterra Capital is a healthcare-focused venture capital firm that invests in companies on the leading edge of healthcare reform. Nueterra Capital invests in healthcare providers, services, and technology companies whose business model reshapes the healthcare industry through advanced payment methods, innovative risk transfer models, data analysis, and advocating patient consumerism. Nueterra Capital has offices in Leawood, KS and Nashville, TN. Regional life sciences portfolio companies to date include NueHealth, Patheous Health, Sickweather, Healium, and Spinal Simplicity. <https://www.nueterra.com/>

### ***Open Air Equity Partners***

OpenAir Equity Partners is a venture capital firm solely focused on the wireless communications and mobile Internet sectors. Founded in 2008 in Kansas City, the investment team is comprised of wireless pioneers and experts who invest only in that market sector where experience, knowledge, industry contacts, and ability to navigate through the complex wireless and communications ecosystem will power ventures and companies to success. <https://www.openairep.com/>

### ***Open Prairie Ventures***

Open Prairie, headquartered in Effingham, IL, was founded in 1999 as a venture capital firm focused on Midwest-based technology companies. Since its initial founding, Open Prairie has managed three funds and over \$100M in investments with a strong focus on agriculture technology and medical devices. Open Prairie has invested in local companies Metactive, Flow Forward Medical and Innara Health. <https://www.openprairie.com/>

### ***Technology Accelerator Partners, LLC***

Technology Accelerator Partners LLC, or TechAccel, is a technology and venture development enterprise in the agriculture and animal health sector founded in 2014 by Michael Helmstetter, Kansas State University and the Bicknell Family Holding Company. TechAccel seeks to accelerate sustainable innovations to market in agriculture, animal health and food technology. The fund invests in technologies spun out from global multinational strategic partners, universities, and emerging companies, and helps to accelerate their entry into the marketplace. <https://techaccel.net/>

## **Angel Capital and Pre-Seed Stage Funding**

### ***Angel Capital Group***

The Angel Capital Group is a national Angel investing organization specializing in funding companies with unique products or services in large opportunity markets typically needing \$300,000 - \$1,000,000 in capitalization. The first chapters of the group were in Nashville and Knoxville, TN, but the group has a chapter in the KC region. Since 2008, the Group has invested \$48 million in 140 companies nationwide. Regional companies that have been funded include Innara Health, TVAX Biomedical, and ABPathfinder. <https://theangelcapitalgroup.com/>

### ***Digital Sandbox KC***

Digital Sandbox KC provides proof-of-concept resources including market validation, prototyping and beta testing support for development of digital technologies within new and existing businesses. Since its inception in 2013, The Sandbox has provided project development funding for 142 area startups, which has spurred an additional \$129 million in total follow-on funding. The Digital Sandbox KC program serves early-stage businesses in the metro area. Life sciences companies Abada Health, HeartToHeart Network, PatientsVoices, pHLOGISTIX, Ronawk, TeraCrunch, Triple Blind, and Zorilla Research (now Eir Pharmaceuticals) have received early-stage support from Digital Sandbox. <https://www.digitalsandboxkc.com/>

### ***Fountain Innovation Fund***

The Fountain Innovation Fund, located at the Enterprise Center of Johnson County, seeks to increase the number and pace of investable, scalable firms by investing in the most promising early-stage firms, and providing them an accelerated pathway to success. The fund leverages tax-deductible donations to make those investments and reinvests earnings back into this effort. This approach creates a perpetual source of early-stage funding and an economic growth engine producing more scalable firms and quality jobs. <https://www.ecjc.com/for-investors/fountain-innovation-fund/>

### ***LaunchKC***

LaunchKC is designed to attract tech entrepreneurs locally, regionally and nationally to apply and compete for grant funding to launch their business. Since 2015, LaunchKC has awarded \$1.5 million in cash grants to 20 startup businesses willing to call Downtown Kansas City home. Life sciences companies iShare Medical, Mobility Designed and Sickweather have been a part of the LaunchKC grants program. <https://www.launchkc.org/>

### ***Mid-America Angels***

Founded in 2006, Mid-America Angels (MAA) is a regional network of accredited investors dedicated to identifying and funding the most promising early-stage companies in the Kansas-Missouri region. The MAA network funds deals in the investment range of \$250,000 to \$1,500,000. MAA typically participates in seed, Series A and Series B rounds. Depending on the size of the capital raise, MAA can either lead the round or be part of the investment syndicate. Life science companies funded include Aratana Therapeutics, Flow Forward Medical, Metactive Medical, and TVAX Biomedical. <https://www.midamericaangels.com/>

### ***Women's Capital Connection***

Women's Capital Connection (WCC) is a regional network of accredited angel investors dedicated to identifying and funding the most promising start-up business opportunities in the region. Over 125 women investors have been involved in supporting angel investing, with 157 companies moving forward for investor presentations, and 23 companies receiving funding since the January 2008 launch, with nearly \$5 million dollars contributed to the region. Life sciences investments to date: Aratana Therapeutics, Elias Animal Health, Fitbark, Flow Forward and Metactive Medical (merged as Artio Medical), Orbis Biosciences, and Ossifi. <https://womenscapitalconnection.com/home>

## **Incubators, Accelerators and New Business Facilities**

Business incubators, accelerators, and related business support facilities catalyze the process of starting and growing companies, providing entrepreneurs with the expertise, networks and tools they need to make their ventures successful. Incubation programs diversify economies, commercialize technologies, create jobs and build wealth.

An incubator's main goal is to produce successful firms that graduate from the program as financially viable and freestanding businesses. These incubator "graduates" create jobs, revitalize neighborhoods, commercialize critical new technologies and strengthen local and national economies.

Traditional definition of an incubator includes on-site management, which develops and orchestrates business, marketing and management resources tailored to a company's needs, access to appropriate rental space and flexible leases, shared basic office services and equipment, technology support services, and assistance in obtaining the financing necessary for company growth.

The term 'incubator' has expanded over time to include facilities that include formal company development programs both with and without permanent physical space for companies to locate. The following list provides an overview of the resources available to fledgling life sciences companies in the region.

### ***Biomedical Devices of Kansas Medical Device Park***

Biomedical Devices of Kansas (BMDK) is a business accelerator for the emerging, human, or animal health medical device company. BMDK provides complete design services, proof of concept, prototypes, and production for medical device companies, from concept to commercialization. BMDK offers a robust and proven, title 21, CFR 820 FDA Quality System that is regulatory compliant and ISO 13485:2016 certified to guide product development and regulatory approval, with over 100 successful FDA 510k submittals.

### ***Bioscience & Technology Business Center (BTBC) Main Facility***

The BTBC Main Facility, which opened in 2010, is a 51,400 square foot facility located on the University of Kansas (KU) West Campus in Lawrence, KS. The BTBC provides wet lab and office space, and professional business services to emerging bioscience and technology companies, spinouts from KU, KU research collaborations, and established companies benefiting from close proximity to university assets. The BTBC is a unique partnership between the City of Lawrence and Douglas County, KS, KU, and the Lawrence Chamber of Commerce.

### ***Bioscience & Technology Business Center (BTBC) – KU Medical Center***

The BTBC-KUMC Facility is located at the University of Kansas Medical Center in Kansas City, KS. The building is comprised of 20,000 square feet of office and wet lab space adjacent to KU Medical Center. It houses emerging bioscience and technology startups, university startups and collaborations, and companies seeking to locate close to resources at the KU Medical Center.

### ***Christopher S. “Kit” Bond Science and Technology Incubator***

The 25,000 square foot wet laboratory incubator is located at Missouri Western State University (MWSU) and operated by the Institute for Industrial and Applied Life Sciences, DBA Innovation Stockyard, an independent 501(c)(3) organization, under a long-term management agreement as a state-affiliated Innovation Center. The incubator has a primary focus on animal health and nutrition start-up companies, seeking to leverage St. Joseph’s long history in this sector and the facility’s central location within the Animal Health Corridor.

### ***CoLAB Accelerator***

DFA’s CoLAB Accelerator is a 90-day, immersive program that accelerates and grows ag-tech and dairy foods startup businesses through mentoring and educational programming. DFA has partnered with various startups across the dairy value chain that provide valuable services to family farm-owners, nutritious dairy-based products to consumers or helpful insights to businesses.

### ***Edge Collaboration District***

The Edge Collaboration District is designed to inspire industry collaboration on campus. It’s where industry, research and talent come together to produce meaningful innovations and real outcomes. At the heart of the Edge Collaboration District are the Kansas State University Office and Research Parks. Multi-tenant and dedicated office and lab buildings have been developed adjacent to the Kansas State University campus and the National Bio & Agro-Defense Facility (NBAF) with several shovel-ready sites available. By co-locating at Kansas State University, corporate partners will have the chance to build professional relationships as well as leverage the university’s strengths and access talent.

### ***Enterprise Center of Johnson County***

The Enterprise Center in Johnson County is a non-profit organization that connects entrepreneurs with the resources they need to grow and scale by providing education, mentoring, coworking space and connections to capital through the Mid-America Angels investment network and the Fountain Innovation Fund. Since it was founded in 1994, ECJC-assisted companies have had a 3.2 billion impact on the regional economy.

### ***Independence Regional Ennovation Center***

The Independence Regional Ennovation Center is a mixed-use business incubator which focuses on three core areas for the development of new businesses in the biotechnology, kitchen/culinary, and business technology sectors. The 28,000 square foot facility opened in late 2010 as part of the renovation of the former Independence Regional Health Center (IHRC). The center includes office space, collaborative office suites, workstations, common areas, and four laboratories of varying sizes (600 to 1200 square feet). In addition to the business technologies and life sciences-focused wet laboratory incubator, the Ennovation Center also houses a culinary business incubator equipped with five commercial kitchens. Upon date of publication the Ennovation Center is home to over 55 developing and operating companies.

### ***Kansas Bioscience Park Venture Accelerator***

The Kansas Bioscience Park Venture Accelerator, near College Boulevard and Valley Road in Olathe, KS, was custom-built to serve emerging bioscience companies focused on successfully commercializing their discoveries. The 39,000-square-foot building, which is adjacent to Kansas State University-Olathe, is available for bioscience companies and offers flexible wet lab and office space, shared equipment and fully equipped conference rooms.

### ***Kansas Entrepreneurial Center (KEC)***

The City of Manhattan owns the Kansas Entrepreneurial Center, a 6,000 square foot wet lab incubator facility for emerging bioscience and manufacturing companies, as well as those using university and research technologies in collaboration with Kansas State University. This facility was renovated by the KEC partnership which consists of the City of Manhattan, KS,, the Manhattan Area Chamber of Commerce, the Pottawatomie County Economic Development Corporation, Kansas State University Innovation Partners and the North Central Kansas Regional Planning Commission in Beloit, KS. The facility is managed by the Manhattan Area Chamber of Commerce.

### ***MU Life Science Business Incubator at Monsanto Place***

The University of Missouri (MU) Life Science Business Incubator at Monsanto Place is a 33,000 square foot wet laboratory facility opened in 2009 in Columbia, MO and is currently home to 30 biomedical, animal health, technology and Internet/software ventures. These companies participate in the technology commercialization program offered by the Missouri Innovation Center. Seventeen of the resident companies are MU spin-off companies; the incubator also recruits both domestic and international companies to the region. The incubator facility is owned by MU and managed by the Missouri Innovation Center, an independent, non-profit organization focused on the translation of research innovations into technologies, products, processes, and new ventures that benefit society.

### ***Plug and Play Topeka***

Plug and Play is building a world-class animal health ecosystem by pairing Silicon Valley technology with the Kansas region's state-of-the-art industry R&D, workforce, and animal health companies. Launched in 2020, the program accelerates 10-12 startups in animal health, ag tech or sustainability every six months. Selection of the startups is based in large part on the focus areas determined by corporate partners, including Hill's Pet Nutrition, Cargill, and Evergy. Ten startups in the animal health space graduated the inaugural Topeka program in June 2021.

### ***Regnier Institute for Entrepreneurship and Innovation***

The Regnier Institute for Entrepreneurship and Innovation programs helps facilitate early-stage startups from the concept phase to a sustainable launch in a safe environment of learning, experimenting and mentoring. The Institute offers formal entrepreneurship education to enrolled University of Missouri-Kansas City (UMKC) students and provides educational opportunities for members of the community who are looking for guidance and support as they prepare to launch new ventures.

### ***T-Mobile Accelerator***

T-Mobile Accelerator serves as a hub for driving ideas, innovation and action. Focused on collaborative experiences for growth, it delivers year-round programming and activities, including entrepreneurial and tech community engagements, expert speakers and mentorship sessions. Since its inception in 2014 in the smart city corridor of Kansas City, the T-Mobile Accelerator has worked with 67 startup companies that have raised an aggregate of over \$51 million since participating in the program. Additionally, 82% of the alumni companies are still in business today.

### ***UMKC Innovation Center***

From whiteboard to boardroom, the University of Missouri-Kansas City (UMKC) Innovation Center partners with the university and the community to spark entrepreneurial efforts within the region and across the country. With a suite of high-impact programs that serve tech ventures, deliver entrepreneurial education and build our entrepreneurial ecosystem, the center helps emerging and existing business owners, including students, faculty and community members, to hone their business basics, evaluate commercialization opportunities and connect with the right resources at the right time.

## **Universities**

University and hospital research centers were not included as life sciences companies due to the academic nature of their research activities; however, they represent critical centers of discovery and innovation that feed into the regional life sciences industry. Moreover, they employ a significant number of life sciences workers in addition to the data published in the current study. Due to the broad range of position classifications within these institutions, this Census report makes no employment estimates of those associated with life sciences research and development. The region is home to 149 university and hospital research centers actively contributing to the intellectual capital and research base of the life sciences industry. This represents a 14% increase from 2018, when 131 research centers were identified.

### ***Children's Mercy Kansas City***

Children's Mercy Research Institute  
-Center for Clinical Effectiveness  
-Center for Data Science  
-Center for Population Health  
-Center for Innovation in Healthcare Delivery  
-Genomic Medicine Center  
-Center for Pediatric Precision Therapeutics  
Biostatistics and Epidemiology Core  
Center for Bioethics  
Center for Children's Healthy Lifestyles and Nutrition  
Center for Pediatric Cancer Research  
Center for Perinatal Research  
Ward Family Heart Center

### ***Kansas City University of Medicine and Biosciences***

Center for Clinical Competence  
Score 1 for Health

### ***Kansas State University***

Beef Cattle Institute  
Bioprocessing and Industrial Value Added Products Innovation Center - BIVAP  
Biosecurity Research Institute - BRI  
Biotechnology Core Facility  
Bulk Solids Innovation Center  
Center for Genomic Studies on Arthropods Affecting Human, Animal, and Plant Health  
Center for Hazardous Substance Research  
Center for Cognitive and Neurobiological Approaches to Plasticity  
Center for Outcomes Research and Epidemiology  
Center for Risk Management Education and Research  
Center for Sorghum Improvement  
Center for STEAM Education  
Center of Excellence for Emerging and Zoonotic Animal Diseases  
Center of Excellence for Vector-Borne Diseases



***Kansas State University***

Center of Excellence for Translational and Comparative Oncology Research  
Center on Emerging and Zoonotic Infectious Diseases  
Center on Aging  
Ecological Genomics institute  
Food Innovation Accelerator  
Food Science Institute  
Konza Prairie Biological Station  
KSU Bioinformatics Center  
KSU Herbarium  
Midwest Institute for Comparative Stem Cell Biology  
Nanotechnology Innovation Center of Kansas State  
National Agricultural Biosecurity Center  
Sensory Analysis Center  
US-China Center for Animal Health  
Wheat Genetics Resource Center

***University of Kansas Medical Center Research Centers (Life Sciences)***

Alzheimer's Disease Center  
Cancer Center  
Cardiovascular Research Institute  
Center for Child Health and Development  
Center for Children's Healthy Lifestyles and Nutrition  
Center for Epigenetics and Stem Cell Biology  
Center for Healthcare Informatics  
Center for Medical Informatics and Enterprise Analytics  
Center for Molecular Regulation of Cell Development and Differentiation  
Center for Novel Approaches for Control of Microbial Pathogens  
Center for Outcomes Research & Education  
Center for Telemedicine & Telehealth  
Center for Viral Oncology  
Clinical Research Center  
Diabetes Institute  
- Cray Diabetes Self-Management Center  
Frontiers: The Heartland Institute for Clinical and Translational Research  
Hoglund Brain Imaging Center  
Institute for Advancing Medical Innovation  
Institute for Neurological Discoveries  
Institute for Reproductive Health and Regenerative Medicine  
- Center for Perinatal Research  
- Center for Reproductive Sciences  
Juntos: Center for Advancing Latino Health  
Kansas IDeA Network of Biomedical Research Excellence  
Kansas Intellectual and Developmental Disabilities Research Center  
Kidney Institute  
Landon Center on Aging



**University of Kansas Medical Center Research Centers (Life Sciences)**

Liver Center  
Midwest Stem Cell Therapy Center

**Saint Luke's Health System**

Saint Luke's Marion Bloch Neuroscience Institute  
Saint Luke's Cancer Institute  
Saint Luke's Mid America Heart Institute  
Saint Luke's Central Office of Research Administration

**University of Kansas**

Biodiversity Institute  
-Biodiversity Informatics  
-Biodiversity Research and Collections  
Center for Environmentally Beneficial Catalysis  
Higuchi Biosciences Center  
- Alzheimer's Disease Center - Mitochondrial Genomics and Metabolism (MGM) Core  
- Center of Biomedical Research Excellence in Chemical Biology of Infectious Disease  
-Center for Biomedical Research Excellence, Molecular Analysis of Disease Pathways  
-Center for Neuroscience and Neurodegenerative Diseases  
Information & Telecommunication Technology Center  
-Bioinformatics and Computational Life Sciences Laboratory  
Institute of Bioengineering Research  
Kansas Biological Survey  
Life Span Institute  
-Biobehavioral Neurosciences in Communication Disorders Center  
-Kansas Center for Autism Research and Training  
NIH Chemical Methodologies  
NIH Specialized Chemistry Center  
Ralph N. Adams Institute for Bioanalytical Chemistry

**MU Research Centers (Life Sciences)**

Animal Science Research Center  
Center for Agroforestry  
Center for Applied Research and Environmental Systems (CARES)  
Center for Health Policy  
Center for Precision Medicine  
Center for Translational Neuroscience  
Child Health Research Institute  
Christopher S. Bond Life Sciences Center  
Dalton Cardiovascular Research Center  
Ellis Fischel Cancer Center (clinical trials)  
Grape and Wine Institute  
Health Activity Center

### ***MU Research Centers (Life Sciences)***

Health and Behavior Risk Research Center  
Institute for Clinical and Translational Science  
Institute for Continental Climate Viticulture and Enology  
Interdisciplinary Center on Aging  
Interdisciplinary Plant Group  
International Institute of Nano and Molecular Medicine  
Laboratory for Infectious Disease Research  
Metagenomics Center  
Midwest Biomedical Accelerator Consortium  
Missouri Center for Addiction Research and Engagement  
Missouri Innovation Center  
Molecular Imaging and Theranostics Center  
MU Institute for Data Science and Informatics  
MU Research Reactor (MURR)  
Mutant Mouse Regional Resource Center (NIH)  
NextGen Precision Health  
National Center for Gender Physiology  
National Center for Soybean Biotechnology  
National Swine Resource and Research Center (NIH)  
Research Center for Human-Animal Interactions  
Swine Somatic Cell Genome Editing Center  
Thompson Center for Autism and Neurodevelopmental Disorders  
Thompson Laboratory for Regenerative Orthopaedics

### ***UMKC***

Center for Aging Studies  
Center for Applied Environmental Research  
Center for Health Insights  
Center for Research on Interfacial Structure and Properties (UMKC-CRISP)  
Center of Excellence in the Study of Dental and Musculoskeletal Tissues (CEMT)  
Institute for Human Development  
Lung Research Center  
National Center of Excellence in Women's Health  
Shock Trauma Research Center  
Vision Research Center

## **Hospitals and Medical Centers**

Hospitals, health systems and medical centers are not listed as life sciences companies in this report. However, their role in conducting clinical trials is a critical part of the overall life sciences research effort. Thirty-two hospitals, health systems, or medical centers in the region were listed as clinical trial sites on the clinical trials registry run by the US National Library of Medicine at the National Institutes of Health. This represents a net increase of seven entities since the 2018 Census, when 25 hospitals, health systems, or medical centers in the region were listed.

<i>Hospitals Conducting Clinical Research</i>			
<i>Hospital</i>	<i>City</i>	<i>ST</i>	<i>County</i>
AdventHealth - Shawnee Mission Medical Center	Overland Park	KS	Johnson
Belton Regional Medical Center	Belton	MO	Cass
Cancer Center of Kansas-Manhattan	Manhattan	KS	Riley
Centerpoint Medical Center LLC	Independence	MO	Jackson
Cotton O'Neil Cancer Center / Stormont Vail Health	Topeka	KS	Shawnee
Ellis Fischel Cancer Center	Columbia	MO	Boone
Harry S Truman Veterans Memorial Hospital	Columbia	MO	Boone
Heartland Health Mosaic Life Care	St. Joseph	MO	Buchanan
Kansas City Research Institute	Kansas City	MO	Jackson
Kansas City Veterans Affairs Medical Center	Kansas City	MO	Jackson
Lawrence Memorial Hospital	Lawrence	KS	Douglas
Lee's Summit Medical Center	Lee's Summit	MO	Jackson
Liberty Hospital	Liberty	MO	Clay

<i>Hospitals Conducting Clinical Research</i>			
<i>Hospital</i>	<i>City</i>	<i>ST</i>	<i>County</i>
Menorah Medical Center	Overland Park	KS	Johnson
Minimally Invasive Surgery Hospital	Lenexa	KS	Johnson
North Kansas City Hospital	Kansas City	MO	Jackson
Olathe Health Cancer Center	Olathe	KS	Johnson
Overland Park Regional Medical Center	Overland Park	KS	Johnson
Providence Medical Center	Kansas City	KS	Wyandotte
Research Medical Center.	Kansas City	MO	Jackson
Saint Francis Hospital and Medical Center	Topeka	KS	Shawnee
Saint Luke's Mid America Heart Institute	Kansas City	MO	Jackson
Saint Luke's South Hospital	Overland Park	KS	Johnson
Sarah Cannon Research Institute at HCA Midwest Health	Kansas City	MO	Jackson
St. Joseph Medical Center	Kansas City	MO	Jackson
St. Luke's Health System	Kansas City	MO	Jackson
The University of Kansas Cancer Center	Kansas City	KS	Wyandotte
University Health Truman Medical Center	Kansas City	MO	Jackson
University Health Richard & Annette Bloch Cancer Center	Kansas City	MO	Jackson
University of Kansas Health System	Kansas City	KS	Wyandotte
University of Missouri Health System	Columbia	MO	Boone
VA Eastern Kansas Health Care	Leavenworth	KS	Leavenworth

*Source: U.S. National Library of Medicine, Clinicaltrials.gov*

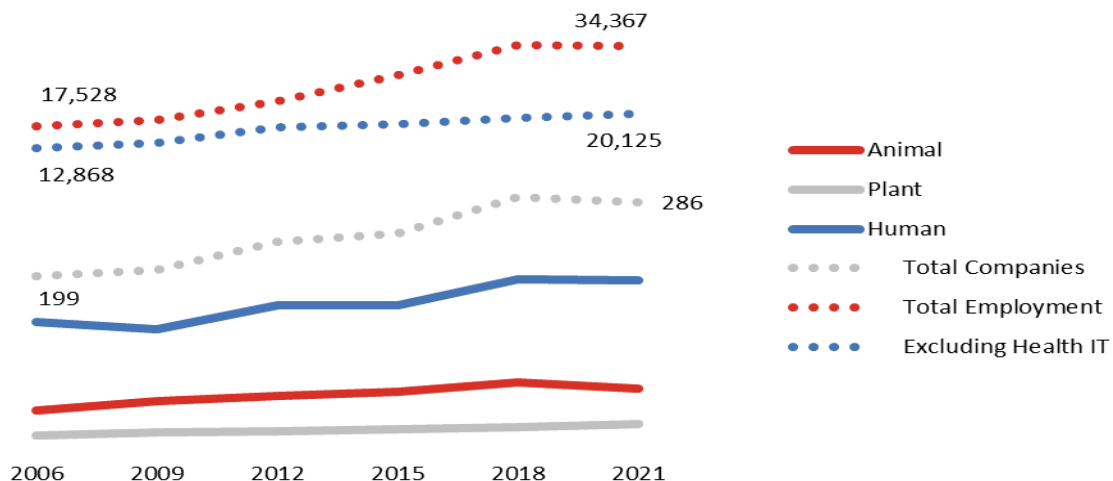
## Analysis

The following report sections analyzes the results of the data gathering process outlined in the Methodology section of the report. The Manhattan, KS, to Columbia, MO, region has 286 companies, employing an estimated 34,367 workers. Regionally, growth has been flat, with a net tally of 286 companies, down from 292 in the 2018 Census. Employment has held steady overall, with a net loss of an estimated 244 jobs, or less than 1% of the total.

<i>Life Sciences Industry Focus 2021</i>				
<i>Focus</i>	<i>2021 Companies</i>	<i>%</i>	<i>Employment</i>	<i>%</i>
Human	194	68%	26,364	77%
Animal	67	23%	5,438	16%
Plant	25	9%	2,565	7%
<b>Total</b>	<b>286</b>		<b>34,367</b>	

Since 2006, the region's life sciences total employment has nearly doubled, to almost 35,000 people, a gain of 96%. While the growth of Cerner and the Health Information Technology sector has had an outsized influence on the growth numbers, employment has grown 56% since 2006 outside of this sector, or about 7,300 people. The number of companies has grown about 44% since 2006 from 199 to the 286 operating in the region today.

### *Life Sciences Industry Focus Over Time*



<b>All companies:</b>	<b>2006</b>	<b>2009</b>	<b>2012</b>	<b>2015</b>	<b>2018</b>	<b>2021</b>
Human	145	137	165	165	196	194
Animal	42	53	58	64	74	67
Plant	12	16	17	20	22	25
<b>Total Companies</b>	<b>199</b>	<b>206</b>	<b>240</b>	<b>249</b>	<b>292</b>	<b>286</b>
<b>Total Employment</b>	<b>175</b>	<b>188</b>	<b>229</b>	<b>283</b>	<b>346</b>	<b>344</b>
<b>Excluding Health IT</b>	<b>129</b>	<b>139</b>	<b>173</b>	<b>179</b>	<b>192</b>	<b>201</b>

The proportional representation between companies whose primary focus is human health, animal health, or plant science has stayed reasonably stable over the previous Census periods, with a slight uptick in animal health and plant science companies relative to human health, but human health is still the dominant primary focus. The slight decline in overall employment in 2021 can be mainly attributed to the decline in the Health IT employment sector.

### *Life Sciences Focus Change Over Time*

	2006	2009	2012	2015	2018	2021
Human	73%	67%	69%	66%	67%	68%
Animal	21%	26%	24%	26%	25%	23%
Plant	6%	8%	7%	8%	8%	9%
<b>Total Companies</b>	<b>199</b>	<b>206</b>	<b>240</b>	<b>249</b>	<b>292</b>	<b>286</b>
<b>Percent Change from Previous Census:</b>						
Total Companies		3.5%	16.5%	3.8%	17.3%	-2.1%
Total Employment		7.5%	21.4%	23.6%	22.4%	-0.7%
Excluding Health IT		8.1%	24.6%	3.1%	7.6%	4.6%

### **Company Changes from Previous Census Reports**

A review of the Census report company lists since 2006 reveals numerous changes over the last 15 years. Since 2006, 101 companies remain on the list as life sciences companies in the Census region. Some have changed names over the years, due to mergers, acquisitions, or rebranding efforts, but have remained in the region. In 2018, a record number of new companies were added to the list, while only 29 were removed, for the largest net gain over the six Census periods. While the 46 companies removed was not a high-water mark, fewer new companies were started or located in the region than were removed.

In past reports, the activities at the two locations now owned by IFF reported different areas of focus, expertise and company names (Dupont Industrial Biosciences and Dupont Nutrition and Health), so they were counted as separate companies. The company did not respond to the Census report outreach, and no formal information was located regarding the areas of focus and expertise post-acquisition at the locations, so they were combined into one entry, but did not count as a 'removed' company, which explains the discrepancy in the net loss calculations.

### *Companies Over Time*

	2006	2009	2012	2015	2018	2021
<b>Total Companies</b>	<b>199</b>	<b>206</b>	<b>240</b>	<b>250</b>	<b>292</b>	<b>286</b>
Net Change from Previous Census		7	34	10	42	-6
Companies New to the List		45	65	65	71	41
Companies from Previous Census Removed		38	31	55	29	46
<b>Companies still in the region in 2021 from this year</b>	<b>101</b>	<b>124</b>	<b>151</b>	<b>188</b>	<b>245</b>	

\*IFF locations, reported separately in 2018, were combined to one entry in 2021

The Appendix section of the report lists the companies still in the region from each of the Census periods. While some of the companies may have been in the region for longer than listed, the list notes their presence in the year they were identified in the process of compiling the report. While the identification process is very thorough, it is still possible that a company may be missed.

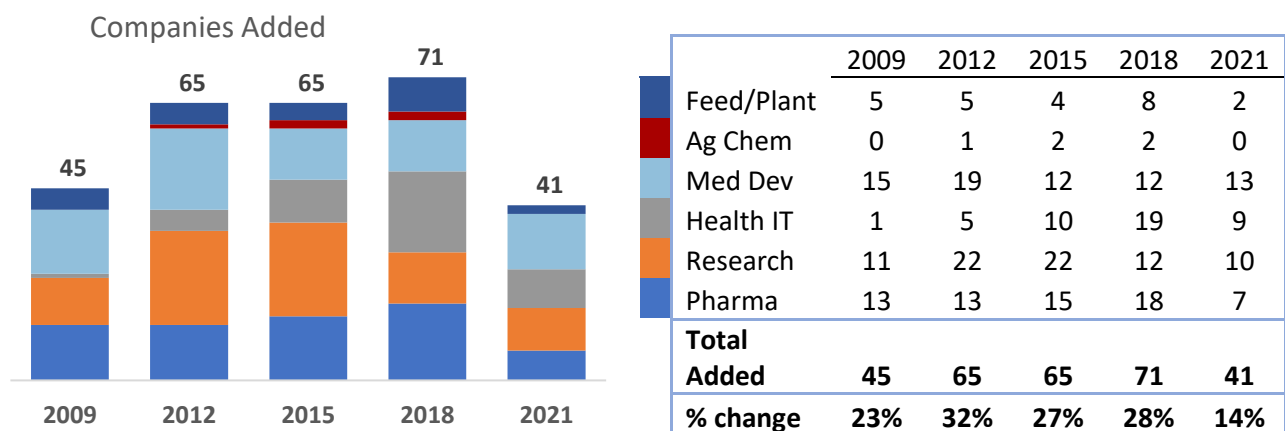
Companies are removed from previous Census report lists due to various reasons:

- Company has been confirmed as closed, or no current information can be located about the company (website is down, phone disconnected, and/or letter was returned)
- Company has relocated out of the region
- Company merged with or is acquired by another company located in the region
- Company merged with or is acquired by a company, and the location in the region is subsequently closed or relocated
- Company response to outreach indicated that their activities no longer fit with the life sciences definition

In the 2009 Census, the life sciences definition criteria were amended slightly to exclude hospitals and university centers from the list of Census report companies. The 2006 Census report included a small number of hospitals and university centers in the region. The 2009 and newer reports include such entities in report headings outside of the company list.

As previously noted, 30 fewer companies were added to the region from 2019-2021 compared to the 2016-2018 period. The largest proportional drop in new companies was noted in the Drugs and Pharmaceutical, and the Health Information Technology industry segments. The Biotechnology Research and Testing segment has seen a decline in new entries during the last two Census periods.

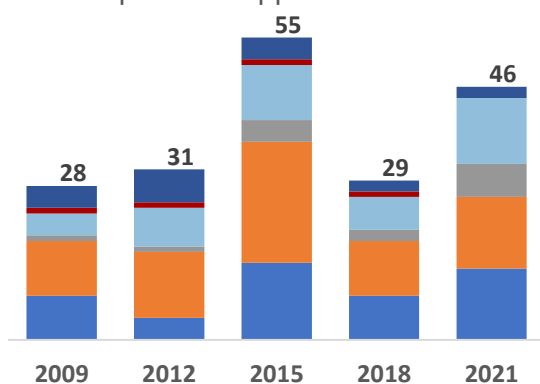
### *Companies Added Since Previous Census*



The Biotechnology Research and Testing and Drugs and Pharmaceutical segments are two of the largest industry segments in the Census region and thus also have the highest number of companies closing or relocating. Anywhere from half to nearly two-thirds of the dropped companies are from these two segments in the last five comparative Census periods. Roughly 16%, or 46, of the companies listed in 2018 are not listed in 2021. The highest proportional drop in companies was in the 2013-2015 period, when 23%, or 55 companies from 2012 were dropped from the list.

### Companies Dropped Since Previous Census

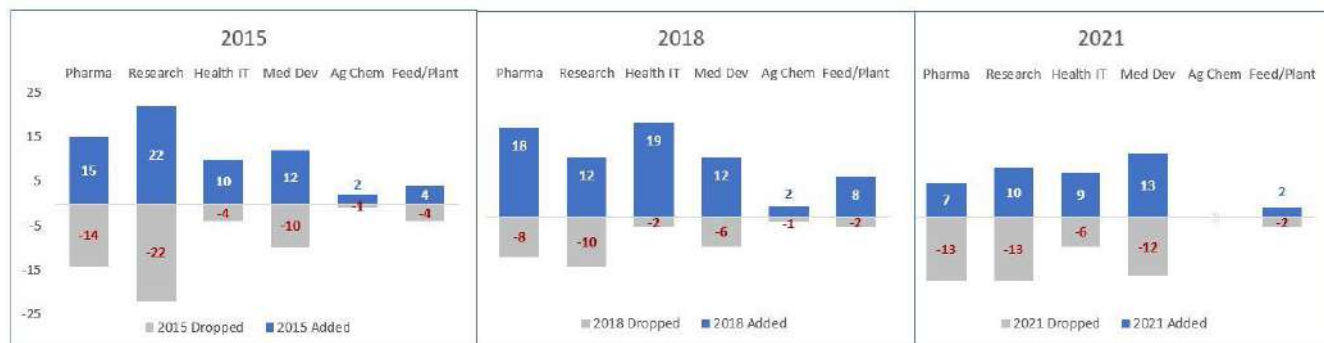
Companies Dropped From the List



	2009	2012	2015	2018	2021
Feed/Plant	4	6	4	2	2
Ag Chem	1	1	1	1	0
Med Dev	4	7	10	6	12
Health IT	1	1	4	2	6
Research	10	12	22	10	13
Pharma	8	4	14	8	13
<b>Total Dropped</b>	<b>28</b>	<b>31</b>	<b>55</b>	<b>29</b>	<b>46</b>
<b>% change</b>	<b>14%</b>	<b>15%</b>	<b>23%</b>	<b>12%</b>	<b>16%</b>

In 2015 and 2018, all industry segments experienced either a zero or net gain in the number of companies. This trend did not continue in 2021, with the Pharma and Research segments both losing more companies than they gained, and two segments, Agricultural Chemicals and Feed/Plant companies remaining flat in the net total companies.

### Changes by Industry Segment – Dropped and Added 2015-2021



Nineteen companies who were listed in 2018 are still operating in the region in 2021 under new names. Eleven companies who were acquired since 2018 continue to operate and employ workers in the region following the acquisition. One company, listed as Bayer Animal Health in 2018, was acquired by Elanco and changed its name in 2019, and was then acquired by TriRx in 2021. Eight companies have not changed ownership but have renamed or re-branded since 2018.

### *Company Name Changes Since 2018*

<i>Acquired, Still a Location in the Region</i>	
<i>Company Name in 2021</i>	<i>Company Name in 2018</i>
Adare	Orbis Biosciences
Artisan Technology Group	Engage Mobile Solutions
Azurity Pharmaceuticals	Silvergate Pharmaceuticals, Inc.
Biodesix	Oncimmune USA LLC
CentralReach	Pathfinder Health Innovations Inc.
Eurofins Agrosience Columbia	EAG Laboratories
Eurofins BioPharma Product Testing	EAG Laboratories
Huvepharma	AgriLabs
ICON	PRA International
IFF	DuPont Industrial Biosciences
IFF	DuPont Nutrition & Health
TriRx	Bayer Animal Health (Elanco)
<i>Name Change with No Change in Ownership</i>	
Ciclomed, LLC	BioNovus Innovations, LLC
Endevica Bio	TCI Peptide Therapeutics
Ensite Vascular	Woundcare 360, LLC
Land O'Lakes Purina Feed	Purina Mills, LLC
Onebiol, LLC	Jinyu Bio-technology
PrairieFood	PrairieChar
Wyatt Cytoconsulting	KC Bio, LLC
Your Life Lived Well, LLC	Chronic Cow, LLC

Thirteen companies acquired between 2019 and September 2021 were removed from the list. Six of those were purchased by companies who currently maintain a presence in the region but are no longer operating independently at their former address. These locations were either confirmed as no longer housing these companies, or mailings to the company's pre-acquisition address were returned. Seven companies were acquired by companies who are not located in the Census region and have been relocated from the region.



***Merged with or Acquired by another company 2019-2021; Removed***

<b><i>Merged with or Acquired by another company, no longer listed</i></b>	
<b><i>Acquired/Merged</i></b>	<b><i>Purchaser</i></b>
AlcheraBio, LLC	Merged with Argenta
Aratana Therapeutics	Elanco
Flow Forward Medical	Merged to form Artio Medical
Metactive Medical, Inc.	Merged to form Artio Medical
Kantar Health	Cerner
Pro-Pet	Cargill
<b><i>Merged with or Acquired by another company, relocated from the area</i></b>	
<b><i>Acquired/Merged</i></b>	<b><i>Purchaser</i></b>
AMPRO Products	Tyson
Celgene Corporation	Bristol Myers Squibb
Health Outcomes Sciences	Turomo
Scientific Analytics Inc.	DariMotion
Simcro	Datamar
TheraWe Connect	ReThink
Xenometrics, LLC	Citoxlab

Thirty-three companies were removed from the list due to either closure or relocation from the area. Companies were marked as closed due to a lack of viable contact information, and/or corporate listings with the Secretary of State noted as either terminated or forfeited due to failure to file a timely annual report, or the owner verifying via phone that the company was no longer active.

***Closed, no information or no longer operating in the region***

<b><i>Closed, No Information, or No Longer Operating in the Region</i></b>	
<b><i>Company Name</i></b>	<b><i>Status</i></b>
Analab Clinical Research	Closed
Ansera Analytics	Closed
Bio-Interface Engineering	Relocated out of the region
Biopharma Services	Closed
Bond Biosciences	Relocated out of the region
Brenoak Labs LLC	Closed
Cardioptimus LLC	Closed
Cardiovascular Outcomes	Closed
CC Medical (aka ArNeu)	Closed
Compliant Clinical Research	Closed
Cottonwood Medical/ASP Medical	Closed
Effexus Pharmaceutical	Closed
Ehrhardt Clinical Research LLC	Closed

***Closed, No Information, or No Longer Operating in the Region***

<b><i>Company Name</i></b>	<b><i>Status</i></b>
Enovation, LLC (iRheum)	Closed
Exodus Biosciences	Closed
Global Biologics LLC	Closed
ImmuPep Inc	Closed
ImpeDx Diagnostics	Closed
IMT Labs	Closed
Informed Health Solutions	Closed
Innovative Products, Inc.	Closed
Itamark Diagnostics LLC	Closed
Meta Bioscience LLC	Closed
Oceanic Medical Products, Inc.	Closed
Proteon Therapeutics	Relocated out of the region
Quality Research Services	Closed
Rex Animal Health	Closed
Simplicated Innovation	Closed
Sopharmbique	Closed
Teva Pharmaceuticals	Relocated out of the region
Triad Isotopes, Inc.	Closed
Veritas Clinical Specialties	Closed
West Device Innovations LLC	Closed

### **Company Structure**

About three-fourths of the life sciences companies operating in the Census region are either a single location company or headquartered in the region. This metric has been consistent throughout all Census periods, with about 20% of the companies indicating their location is a branch with headquarters outside the Census region, and about 5% of the companies a US headquarters of a company with a world headquarters located outside the country.

***Life Sciences Companies by Company Structure***

<b><i>Company Structure</i></b>	<b><i>2012</i></b>	<b><i>2015</i></b>	<b><i>2018</i></b>	<b><i>2021</i></b>
Headquarters of company/Single location	180	192	212	217
Branch location	52	48	61	57
US headquarters of a multinational company	8	10	19	12

### **Companies by Life Sciences Industry Segment**

Census respondents were asked to identify their ***primary*** expertise but were also given the opportunity to indicate areas of secondary expertise. If newly added companies did not respond to the request, industry segments were assigned utilizing company websites, and/or third-party resources, such as economic developers or innovation center directors. For companies who were listed in the 2018 Census, those segments were carried over into 2021.

It should be noted that many companies claim expertise across more than one area. For example, many medical device companies are also capturing data for research and analysis, but their primary expertise is developing products for animal or human health. For the purpose of this analysis, only one primary area was associated with each company to avoid counting companies more than once, and to provide comparisons with previous Census report results.

Drugs and Pharmaceutical companies are the largest industry segments in the region, followed closely by Biotechnology Research and Testing companies. While the Health IT segment is the fourth largest in terms of total number of companies, this segment employs 41% of the life sciences workers in the region. The presence of Cerner in the region has an outsized influence, the remaining 38 companies are relatively small in comparison.

### *Companies by Life Sciences Industry Segment*

<i>Industry Segment 2021</i>	<i># of Companies</i>	<i>% of Industry</i>	<i>Employment Estimates</i>	<i>% of industry</i>
Drugs and Pharmaceuticals	73	26%	5,621	16%
Biotechnology Research and Testing	67	23%	7,317	21%
Health IT	39	14%	14,242	41%
Medical Devices	59	21%	1,515	4%
Organic or Agricultural Chemicals	11	4%	1,520	4%
Food Science/Feed	37	13%	4,152	12%
<b>Total Number of Companies</b>	<b>286</b>		<b>34,367</b>	

### *Employment Size*

<i>Average Employment</i>			
<i>Segment</i>	<i>2015</i>	<i>2018</i>	<i>2021</i>
Pharma	87	85	77
Research	82	81	109
Health IT	650	427	365
Med Dev	24	25	26
Ag Chem	151	161	138
Feed/Plant	111	92	112
	<b>114</b>	<b>119</b>	<b>120</b>

Companies in the region are predominantly categorized as small businesses, with average employment per company at about 120 employees. Biotechnology Research and Testing companies are getting larger over time, while the change in the Healthcare Information Technology segment is both a function of an increased number of companies, and some slight publicly announced reductions in headcount at Cerner. Medical Device companies in the region are small, and employment averages have been the most consistent over the last three Census periods, as have been the number of companies as well.

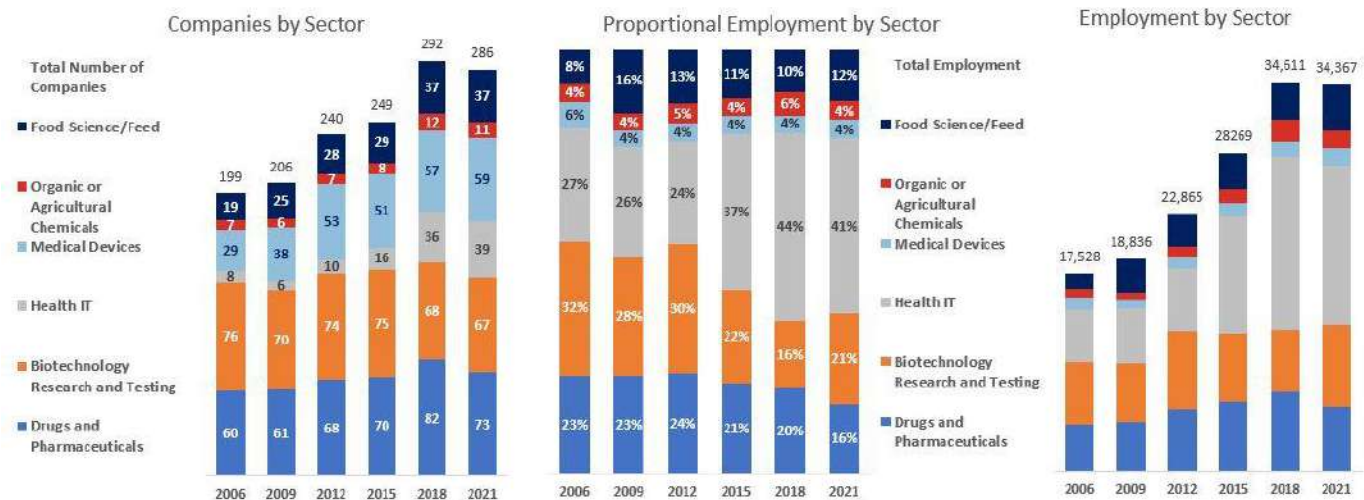
## Change Since 2006

Changes Since 2006		
Segment	Net Change	% Change
Pharma	13	22%
Research	-9	-12%
Health IT	31	388%
Med Dev	30	103%
Ag Chem	4	57%
Feed/Plant	18	95%
<b>Overall</b>	<b>87</b>	<b>44%</b>

Long-term, the region has seen a net increase of 87 companies since 2006, a 44% increase. The Biotechnology Research and Testing and Drugs and Pharmaceutical segments have declined in relative dominance in the region compared to 15 years ago, when the combined Pharma and Research segments were 68% of regional companies, compared to about half of the region's companies in 2021. The net total of Research segment companies has declined, with more companies exiting the region than entering, while the Health Information Technology segment has seen the largest net gains in total number of companies.

A big picture review of the relative size and employment of the six primary industry segments is provided below. The number of Medical Device companies increased dramatically in the early Census periods, but has leveled off in the last three periods, while this trend has reversed with Health IT companies growing in number since 2015.

## Historical Life Sciences Industry Segments



	<u>2006</u>	<u>2009</u>	<u>2012</u>	<u>2015</u>	<u>2018</u>	<u>2021</u>
Drugs and Pharmaceuticals	60	61	68	70	82	73
Biotechnology Research	76	70	74	75	68	67
Health Care IT	8	6	10	16	36	39
Medical Devices	29	38	53	51	57	59
Organic/Agricultural Chemicals	7	6	7	8	12	11
Food Science/Feed	19	25	28	29	37	37
<b>Total Number of Companies</b>	<b>199</b>	<b>206</b>	<b>240</b>	<b>249</b>	<b>292</b>	<b>286</b>

Census forms have provided an opportunity for respondents to provide secondary areas of expertise/industry segment using the same six categories since 2006. However, due to a limited number of respondents who complete this optional question, and the difficulty of determining a response for non-respondent companies, responses to this question have not been formally shared or analyzed in previous reports.

In 2021, BioNexus KC noted that some industry sub-segments were rising in prominence in the Census report region. In response, additional areas of expertise, as defined below, were added to examine any trends in these areas.

### **Life Sciences Industry Secondary Segments Definitions:**

---

**Neuroscience** – The research, development, and application of innovative technologies to revolutionize our understanding of the human brain and nervous system to treat neurological, psychiatric and neurodevelopmental disorders.

**Cancer Research & Care** – The research, development and application of innovative diagnostics and treatments for all types of cancer, including medical oncology, radiation oncology, and surgical oncology.

**Cardiometabolic** – The research, development and application of innovative diagnostics, treatments and therapies for cardiovascular disease and metabolic diseases. Cardiovascular diseases are disorders affecting the heart and blood vessels, whereas metabolic diseases are disorders that impact metabolism (chemical processes within the body).

**Biologics** – The research, development and manufacturing of novel products, including vaccines, gene therapies, recombinant proteins, and many more, derived from natural sources (such as blood, skin, plants, etc.) that are used in healthcare, veterinary, and agricultural settings.

---

Respondents were instructed to choose up to two responses for their secondary expertise, although some opted to choose more than two. If companies responded to the secondary expertise question in 2018, but did not respond to the request in 2021, those responses were carried over to 2021. Between the carried over responses, and the current responses, the data below reports the secondary expertise for only 86 of the 286 companies operating in the region.

The responses below indicate some possible uncertainty as to the nature of the question. For instance, six of the respondents who noted that their primary industry segment expertise was Drugs and Pharma, also chose that category as their secondary expertise as well. Nevertheless, a relatively large number of respondents noted that activities related to Biotechnology Research and Testing and Biologics were segments their company was participating in, in addition to their primary focus.

Companies whose primary expertise was Drugs and Pharma were the most likely to note a secondary expertise, while companies in the Organic and Agricultural and Food Science, Feed or Plant-Based Products segments were the least likely to indicate a secondary industry segment.

### Secondary Industry Segments by Primary Segment

Secondary Industry Segment	# of Companies	Primary Industry Segment Responses					
		PHARM	BIOTECH	HC IT	MED DEV/Tech	AG CHEM	FEED /PLANT
Drugs & Pharma	10	6	1	3			
Biotechnology Research	33	14	4	3	5	1	6
Health IT	9	4	3		2		
Medical Devices	21	5	9	2	5		
Organic/Ag Chemicals	4	1	1		1		1
Food Science/Feed	4	2				2	
Neuroscience	9	3	1		5		
Cancer Research & Care	9	5	2		2		
Cardiometabolic	3	2			1		
Biologics	22	16	3	1	2		

#### **Drugs and Pharmaceuticals**

Drugs and Pharmaceuticals companies comprise the largest number of companies in the 2021 Census, with 73 companies representing 26% of the region's life sciences industry, and an estimated 5,621 employees, or 16% of the life sciences employment base. Human Health is the primary focus for 50 of these companies, while 23 have a primary focus on Animal Health.

Companies in this segment develop and/or manufacture medicinal, botanical, and biological products for therapeutic or diagnostic applications. Several companies in this category provide supporting products or services to the pharmaceutical industry, including contract research organizations that provide direct benefit to pharmaceutical research companies, such as testing, clinical trials, or placement of researchers. Additional companies provide services encompassing the entire spectrum of clinical development programs and/or perform *in vitro* drug metabolism and drug-drug interaction studies for pharmaceutical and chemical companies.

After a slow but steady increase in the net number of companies in this segment over the last five Census periods, this segment declined by eight companies since 2018. Thirteen companies listed in 2018 have either been closed, or relocated, while seven companies are new to the list since 2018. The remainder of the shift is due to companies reporting a different primary industry segment than in 2018. After a 15% increase in employment in this segment reported in 2018, this segment has seen a decline, in both average number of employees per company, 77 from 85 in 2018, and in total employment, about 1,300 fewer employees, a 19% decline.

The decline in employment is due to a number of factors. Several companies that were either headquartered in the region or were a US Headquarters have been acquired by companies outside of the region. While the companies continue to operate in the region, the corporate support staff become redundant post-acquisition, and those positions are typically eliminated. The 13 companies removed from the list employed just over 300 people; the largest being Teva Pharmaceuticals' relocation of their remaining staff to New Jersey in early 2019, although the reduction in force had already affected headcount in 2018. Companies focused on animal health employ about 500 fewer people than in 2018, mostly attributed to shifting headquarters out of the region. Lastly, two companies with sizable employment shifted primary segment reporting since 2018. Sinclair Research Center shifted to

Biotechnology Research and Testing, and the former EAG Laboratories, now owned by Eurofins, was shifted when the company announced that one of the Columbia, MO locations would be focused on agriscience/plant research and testing.

### *Drugs and Pharmaceutical Companies*

<i>Drugs and Pharmaceuticals</i>									
<i>Human Health</i>									
#	New	Company	City	ST	#	New	Company	City	ST
1		Acceleration Laboratory Services, Inc.	Lee's Summit	MO	26	N	Insignia Strategies	Overland Park	KS
2		Adare Pharmaceuticals	Lenexa	KS	27		Johnson County Clin-Trials, LLC	Lenexa	KS
3		Altasciences Clinical Research	Overland Park	KS	28		Kangen Pharmaceutical	Kansas City	KS
4		Azurity Pharmaceuticals	Overland Park	KS	29		Kansas City Safety Alliance & Research	Lenexa	KS
5		B.F. Ascher & Company, Inc.	Lenexa	KS	30		KrolPharma Resources	Overland Park	KS
6		Bio Med Valley Discoveries, Inc.	Kansas City	MO	31	N	Latham Biopharm Group	Manhattan	KS
7		Biodesix	De Soto	KS	32		Likarda, LLC	Kansas City	MO
8		Cardinal Health Regulatory Services	Overland Park	KS	33	N	LPOXY Therapeutics, Inc.	Platte City	MO
9		Catain Laboratories LLC	Kansas City	MO	34		Microprotein Technologies Inc	Lenexa	KS
10		Catalent Pharma Solutions	Kansas City	MO	35		Millipore Sigma	Lenexa	KS
11		Central Solutions Inc	Kansas City	KS	36		Motega Health	Lawrence	KS
12		Ciclomed, LLC	Kansas City	MO	37		Nostrum Laboratories Inc.	Kansas City	MO
13		Cingulate Therapeutics	Mission	KS	38		Novadiol, Inc.	Shawnee	KS
14		Clinical Research of The Ozarks, Inc.	Columbia	MO	39		Now System, Inc.	Kansas City	KS
15		Crititech, Inc.	Lawrence	KS	40	N	Oak Therapeutics	Lawrence	KS
16		Deciphera Pharmaceuticals	Lawrence	KS	41		OsteoGeneX/OssiFi	Overland Park	KS
17		Eir Pharmaceuticals	Olathe	KS	42		PETNET Solutions, Inc.	Overland Park	KS
18		Endevica Bio	Columbia	MO	43		ProPharma Group Inc	Overland Park	KS
19		Fennik Life Sciences, LLC	Kansas City	KS	44		Rowe Neurology Institute	Lenexa	KS
20	N	Full Effect Biotech, Inc.	Kansas City	KS	45	N	Shift Pharmaceuticals Holdings, Inc.	Columbia	MO
21		Hafion LLC	Lawrence	KS	46		Trinity Biotech	Kansas City	MO
22		Hunkeler Eye Institute	Overland Park	KS	47		TVAX Biomedical, LLC	Olathe	KS
23		Hyalogic LLC	Riverside	MO	48		UBC – An Express Scripts Company	Kansas City	MO
24		HylaPharm	Lawrence	KS	49		Ventria Bioscience	Junction City	KS
25		ICON PLC	Lenexa	KS	50	N	ViroVax	Lawrence	KS
<i>Animal Health</i>									
1		Addison Biological Laboratory, Inc.	Fayette	MO	13		Kindred Biosciences	Elwood	KS
2		Argenta Research LLC	Lawrence	KS	14		Mazen Animal Health	St. Joseph	MO
3		BioPharmaPotentials	Parkville	MO	15		Merck Animal Health	De Soto	KS
4		Boehringer Ingelheim Vetmedica, Inc.	St. Joseph	MO	16		Nika Biochemicals Inc	Overland Park	KS
5		Ceva Animal Health	Lenexa	KS	17		Norbrook Inc	Lenexa	KS
6		Clipper Distributing Co	St. Joseph	MO	18		One Medicine Consulting	Olathe	KS
7		Conklin Company, Inc.	Kansas City	MO	19		Onebiol, LLC	Manhattan	KS
8		Dechra Veterinary Products	Leawood	KS	20		Parnell Inc	Overland Park	KS
9		Elanco Animal Health	Lenexa	KS	21		Prommune	Overland Park	KS
10		ELIAS Animal Health, LLC	Olathe	KS	22		Sparhawk Laboratories, Inc.	Lenexa	KS
11		ENDOVAC Animal Health	Columbia	MO	23		TriRX	Shawnee	KS
12		Huvepharma	St. Joseph	MO					

## **Biotechnology Research and Testing**

Biotechnology Research and Testing companies comprise the second largest industry segment in the region, with 67 companies representing 23% of the total number of companies and about 7,300 employees, or 21% of the region's life sciences employment base.

This industry segment is comprised of laboratories providing critical analysis and services to advance new discoveries, treatments or services. Companies within this sector can be broadly classified into two primary groups:

- Companies generating new products or processes.
- Companies providing research and/or testing services to support companies that develop new products and technology.

Laboratories whose primary function is to provide testing services to the consumer health market were excluded. Those companies conducting testing for both research purposes and consumer health, however, were included on the list. Employee numbers were not broken out by function, so counts reflect all of those working in the region at their respective companies, which is consistent with the methodology for the past Census reports.

Of the 67 companies in this industry segment, 51 have a primary focus on Human Health, 14 focus on Animal Health, and two provide research and testing for plant sciences companies. The 10 companies new to the list employ about 326 people. Thirteen companies were removed from the list; 11 were closed, and two were acquired. The remaining additional net additions were due to shifts from other industry segments since 2018. While formal definitions for each of the industry segments were provided to the 2018 and 2021 respondents, there is still some shifting between the Drugs and Pharmaceutical and the Biotechnology Research and Testing segments. The net result of these changes was one less Biotechnology Research and Testing company from 68 in 2018 to 67 companies in 2021.

Employment in this segment has increased 33%, or by nearly 1,800 employees from just over 5,500 employees in 2018, to about 7,300 in 2021. Notable employment increases were reported by Clinical Reference Laboratories, Eurofins Viracor-IBT, Stowers Institute for Medical Research and Thermo Fisher Scientific. Most of the employment gains can be attributed to those focused on Human Health, with more modest gains reported in the Animal Health-focused companies.

Average employment has also grown since 2018, from an average of 81 per company to 109 in 2021. This segment is characterized by the 10 largest companies (15% of the total) employing just over 6,000 people, or 82% of overall segment employment. The remaining 57 companies employ about 1,300 people or 18% of total employment. It should be noted that of the 13 companies with more than 100 employees, only six of them responded to the Census report request. While employment totals for the remaining companies came from generally reliable sources, they may not reflect the most recent employment situation, which, in this current environment, can fluctuate quickly, in an either positive or negative direction. Regardless, this industry segment has seen the largest average gain of all the industry segments, with much of that gain attributed to the largest companies in the segment.



## Biotechnology Research and Testing Companies

### Biotechnology Research and Testing

#### Human Health

#	New	Company	City	ST	#	New	Company	City	ST
1		4m Healthcare LLC	Overland Park	KS	27		Kansas Regenerative Medicine Center	Manhattan	KS
2		Alburtylab, Inc.	Drexel	MO	28		Keystone Laboratories, Inc.	Kansas City	KS
3		Alliance for Multispecialty Research	Kansas City	MO	29		Lab Corp	Overland Park	KS
4	N	Attentive Science	Stilwell	KS	30		Liberty Pharma Inc	Liberty	MO
5	N	Attentive Science	Stilwell	KS	31		MAWD Pathology Group, Inc.	Lenexa	KS
6		BioFluidica	Lawrence	KS	32		Missouri Cancer Associates LLC	Columbia	MO
7		Cancer Research Center	Columbia	MO	33		MRIGlobal	Kansas City	MO
8		Cardiovascular Imaging Technologies L.L.C.	Kansas City	MO	34		Nectagen, Inc.	Kansas City	KS
9	N	Cell Origins LLC	Columbia	MO	35		Pace Analytical Services, Inc.	Lenexa	KS
10		Clinical Reference Laboratory, Inc.	Lenexa	KS	36	N	PepGel LLC	Manhattan	KS
11		Clinical Research Consultants	Kansas City	MO	37		pHLOGISTIX LLC	Kansas City	MO
12		DeNovo Genomics	Kansas City	KS	38		Phoenix Medical Research	Prairie Village	KS
13	N	Design-Zyme, LLC	Lawrence	KS	39		ProTox Services	Lenexa	KS
14		Durrie Vision	Overland Park	KS	40		PTC Laboratories, Inc.	Columbia	MO
15	N	Elixell Therapeutics Inc.	Kansas City	KS	41	N	PTS Pharmaceutical Consulting Svcs	Lenexa	KS
16	N	Eurofins BioPharma Product Testing	Columbia	MO	42		Quest Diagnostics Inc	Lenexa	KS
17		Eurofins Viracor-IBT	Lee's Summit	MO	43		Sekisui XenoTech, LLC	Kansas City	KS
18		Evogen Inc.	Overland Park	KS	44		Sinclair Research Center	Auxvasse	MO
19		Excite Pharma Services	Lee's Summit	MO	45	N	Sinochips Diagnostics	Kansas City	KS
20		GTC Research	Shawnee	KS	46		SJK Global, LLC	Olathe	KS
21		Heart of America Eyecare, PA	Overland Park	KS	47		Stowers Institute for Medical Research	Kansas City	MO
22		Integris BioServices dba KCAS	Shawnee	KS	48	N	Sunflower Genomics	Lawrence	KS
23		IntelligeneCG – Cancer Genomics	Stilwell	KS	49		The Great Plains Laboratory	Lenexa	KS
24		IQVIA	Overland Park	KS	50		Thermo Fisher Scientific Inc.	Lenexa	KS
25		KanPRO Research, Inc.	Lawrence	KS	51		Wyatt Cytoconsulting	Lenexa	KS
26		Kansas City Allergy & Asthma	Lee's Summit	MO					

#### Animal Health

1		Allied Monitor Inc/Addison Labs	Fayette	MO	8		Hennessy Research Associates	Shawnee	KS
2		Antech Diagnostics, Inc.	Overland Park	KS	9		Herschel J Gaddy & Assoc	St. Joseph	MO
3		Centaur Animal Health	Olathe	KS	10		Identigen North America, Inc.	Lawrence	KS
4		Central Biomedica Inc.	Lenexa	KS	11		IDEXX BioAnalytics	Columbia	MO
5		CIA Labs	St. Joseph	MO	12		Veterinary and Biomedical Research Center	Manhattan	KS
6		Ecto Development Corporation	Blue Springs	MO	13		Veterinary Specialty Products	Shawnee	KS
7		Enso Discoveries	Manhattan	KS	14		Zoetis Inc.	Kansas City	MO

#### Plant Science

1		Eurofins Agrosience Columbia	Columbia	MO	2		SCD Probiotics	Kansas City	MO
---	--	------------------------------	----------	----	---	--	----------------	-------------	----

## **Health Information Technology**

As data capture, analysis, and information technology advance, digital ecosystems are playing an increasingly important role in life sciences. As a result, the Healthcare and Life Sciences Information Technology (Health IT) segment has seen the largest growth in both the number of companies and in employment since 2006. In 2006, eight companies (4% of the industry) employed about 4,600 people (27% of the region's employment). In 2021, 39 companies, 14% of the industry, employed over 14,000 people, about 41% of the total region's life sciences employment.

Health IT companies develop software and technology to expand the capabilities of the bioscience industry. Past Census efforts included a category of Software and Medical Information Services that was shortened to 'Software' as an area of expertise. As information technology contributions to life sciences research have expanded beyond just software to include data analysis and research support, the terminology for this report has changed to Healthcare & Life Science IT, or 'Health IT' to better define this industry segment.

While there was a net gain of three companies over 2018, 2021 Health IT employment has declined from about 15,300 in 2018 to around 14,200 in 2021. The Health IT segment employment is dominated by the presence of Cerner, a provider of health information technology solutions and services to health systems, which is headquartered in the region. Cerner's publicly announced layoffs over the 2019-2021 period were a partial driver of the decline in employment in the segment since 2018.

This segment is also bolstered by the 38 companies employing over 1,800 people, including three with sizable employment gains since 2018: Bardavon Health Innovations, Netsmart, and Wellsky. Nine companies were added to the list since 2018, employing 56 people; the six who were dropped from the list due to closure or acquisition and relocation employed 20 people in 2018. Health IT has the largest average employment, with 365 employees per company. However, removing Cerner from the analysis makes the employment average 50 employees per company. So aside from the three companies with large gains, most of the remaining Health IT companies are small, with three-quarters of them with fewer than 25 employees.

Garmin was added to the list beginning with the 2018 Census as a result of their health data research collaborations. An estimate of the number of employees focused on these efforts was utilized, to not skew the results by adding the entire Garmin workforce to the segment total.

### ***Healthcare and Life Sciences Information Technology Companies***

<b><i>Healthcare and Life Sciences Information Technology</i></b>									
<b>Human Health</b>									
<b>#</b>	<b>New</b>	<b>Company</b>	<b>City</b>	<b>ST</b>	<b>#</b>	<b>New</b>	<b>Company</b>	<b>City</b>	<b>ST</b>
1	N	Abada Health	Kansas City	MO	9		Asuun	Kansas City	MO
2		Adaptivepharma, LLC	Leawood	KS	10		Bardavon Health Innovations	Overland Park	KS
3		Advanced Clustering Technologies	Kansas City	KS	11		Captify Health	Lenexa	KS
4		AEGLE Palette LLC	Shawnee	KS	12		CentralReach	Kansas City	MO
5		AKCIA Inc	Independence	MO	13		Cerner Corporation	Kansas City	MO
6	N	Alden	Columbia	MO	14		EMB Statistical Solutions	Overland Park	KS
7		AnalyzeDirect	Overland Park	KS	15		Garmin International Inc.	Olathe	KS
8		Artisan Technology Group	Kansas City	MO	16		Heart to Heart Network LLC	Fairway	KS

## Healthcare and Life Sciences Information Technology

### Human Health, Continued

#	New	Company	City	ST	#	New	Company	City	ST
17		Illuminate	Overland Park	KS	27		Redivus Health	Overland Park	KS
18		iShare Medical	Kansas City	MO	28	N	SaRA Health	Kansas City	MO
19	N	iSocial	Lawrence	KS	29		Sickweather	Kansas City	MO
20		LifeScience Technologies, LLC	Leawood	KS	30	N	SMRxT	Overland Park	KS
21		Netsmart	Overland Park	KS	31	N	SureShow	Kansas City	KS
22		Oberd	Columbia	MO	32		Telecare Global, LLC	Sedalia	MO
23		PatientsVoices™	Parkville	MO	33		TeraCrunch	Leawood	KS
24		Play-it Health	Overland Park	KS	34	N	TripleBlind	Kansas City	MO
25	N	QA Compliant	Stilwell	KS	35		WellSky	Overland Park	KS
26		Quest Analytics, LLC	Overland Park	KS	36		Your Life Lived Well, LLC	Kansas City	MO
1		FitBark Inc.	Kansas City	MO	3	N	Scollar	Kansas City	MO
2		Orion Integrated Biosciences	Manhattan	KS					

### **Medical Devices**

Medical Device companies comprise the third largest industry segment in the 2021 Census, with 59 companies representing 21% of the total number of companies. The region's medical device companies employ roughly 1,500 employees, or about 4% of the region's life sciences employment base. This represents a modest gain over 2018, when this segment had 57 companies with just under 1,400 employees.

Companies who produce or distribute medical devices, but do not have a research and development capability in the Census region were excluded from the list.

This segment is comprised of mostly small companies with an employment average of around 25 for the last three Census periods, compared to the Census-wide average of about 120 employees per company. However, this industry segment is only one of the three segments with a net increase in employment, with a net employment gain of 8%, or 117 more employees compared to 2021. Of the 59 companies in this industry segment, 53 have a primary focus on Human Health, five focus on Animal Health, and one develops equipment for plant sciences companies.

The net increase in two companies since 2018 is the result of 13 new companies added to the list, 12 removed, and one company was added to the segment list due to the current company's change in primary segment. The 13 companies new to the list are early stage or small companies, employing about 50 people. Of the 12 companies removed from the list; eight were closed, two were acquired and relocated, and two, Flow Forward and Metactive Medical, merged to form Artio Medical, which is still operating in the region.

The Medical Device segment is second only to Healthcare Information Technology in increases in the total number of companies since 2006, growing from 29 companies in 2006 to 59 companies in 2021. Employment has grown from just over 450 employees in 2006 to just over 1,500 in 2021. Only three companies, Schroer Manufacturing, Labconco, and Pivot International have over 100 employees, and Pivot's organic growth and acquisitions have made it the fastest growing company in the segment.

### Medical Device and Instrument Companies

Medical Devices and Instruments									
Human Health									
#		Company	City	ST	#		Company	City	ST
1	N	Acenxion Biosystems	Kansas City	KS	28		Knit-Rite, Inc.- Thuasne	Kansas City	KS
2		ARE Labs Inc.	Olathe	KS	29	N	Kremenak NanoTech	Columbia	MO
3	N	Artio Medical	Prairie Village	KS	30		Labconco Corporation	Kansas City	MO
4		Biomedical Devices of Kansas LLC	Tonganoxie	KS	31		Medical Device Solutions	Lenexa	KS
5		Blue Endo	Overland Park	KS	32		Medical Positioning	Kansas City	Mo
6		Brownmed	Kansas City	MO	33		Mobility Designed	Kansas City	MO
7		Certtech, LLC	Lenexa	KS	34		Nanova Inc	Columbia	MO
8		Clara Biotech	Lawrence	KS	35	N	Nemechek Technologies, LLC	Overland Park	KS
9		ContourMD	Lenexa	KS	36	N	New Frontier Mobile Diagnostics	Kansas City	MO
10		Cramer Products, Inc.	Gardner	KS	37		Nexus Medical, LLC	Lenexa	KS
11		Creche Innovations	Overland Park	KS	38		Ortho-Care, Inc.	Overland Park	KS
12		CryoCrate	Columbia	MO	39	N	Patheous Health	Leawood	KS
13		CSS Analytical Co Inc	Shawnee	KS	40		Phoreus Biotechnology, Inc.	Olathe	KS
14		Disposable Instrument Company	Lenexa	KS	41		Pinnacle Technology Inc.	Lawrence	KS
15		EMCI	Olathe	KS	42		Pivot International	Lenexa	KS
16		Engenious Design	Prairie Village	KS	43		Plastikon Healthcare, LLC	Lawrence	KS
17		Ensate Vascular	Olathe	KS	44	N	Precision Microwave Inc.	Manhattan	KS
18		Evoke Medical, LLC	Lawrence	KS	45		QVM Services, LLC	Trimble	MO
19		Exocytronics, LLC	Columbia	MO	46		RBC Medical Innovations	Lenexa	KS
20	N	Foothold Labs	Olathe	KS	47	N	Ronawk	Olathe	KS
21	N	Frosty Tech/Hecto Group	Olathe	KS	48		Southwest Technologies Inc	N Kansas City	MO
22		Hans Rudolph, Inc.	Shawnee	KS	49		Spinal Simplicity	Overland Park	KS
23		HEMCO Corp	Independence	MO	50	N	Vesarex LLC	Lawrence	KS
24		Innara Health	Olathe	KS	51		Vitalograph Inc	Lenexa	KS
25		InnovaPrep LLC	Drexel	MO	52		Worldwide Innovations & Tech	Lenexa	KS
26	N	Invisian Medical, LLC	Prairie Village	KS	53		Zutron Medical	Lenexa	KS
27		J2 Scientific	Columbia	MO					
Animal Health									
1	N	Calving Technologies	Columbia	MO	4		Schroer Manufacturing Company	Kansas City	KS
2		Equinosis LLC	Columbia	MO	5		Stone Manufacturing & Supply Co., Inc.	Kansas City	MO
3		Pulse Needle Free Systems Inc	Overland Park	KS					
Plant Science									
1		Steinlite Corp	Atchison	KS					

## **Organic or Agricultural Chemicals**

Organic or Agricultural Chemical companies comprise the smallest industry segment in the 2021 Census, with 11 companies representing 4% of the total number of companies. This segment employs about 1,500 people, or 4% of the region's life sciences employment base. This has been the smallest segment since the 2006 Census report, with a net gain of only four companies since the 2006 Census reported seven companies with about 750 employees.

Organic or Agricultural Chemical companies perform research and/or development to support plant science and agricultural sectors within the life sciences. Four companies: Albaugh, Bayer Cropsience, MFA and PBI/Gordon are the largest companies in this segment, with 85% of the employment. Employment average in the region is 138 employees per company, which is the highest average of all of the industry segments, if Cerner is excluded from the Health IT average. Nationally, this segment is dominated by large companies; according to the US Census Bureau, only one-third of the companies in this segment have fewer than 500 employees.

While the number of companies is small, and has remained small since 2006, the segment has seen a doubling of employment in this time, from an estimate of 750 in 2006 to 1,500 in 2021. This is a 21% decline from the 1,900 reported in 2018. No new companies were added since 2018, and none were removed from the list. One company, Inovatia Laboratories changed their primary focus to Food Science/Feed or Plant-Based Products since the 2018 Census, although this change did not have a sizeable influence on the employment total. Six of the 11 companies had employment reductions since 2018, while the remaining five were either unchanged or increased.

### ***Organic or Agricultural Chemical Companies***

<b><i>Organic or Agricultural Chemicals</i></b>									
#	New	Company	City	ST	#	New	Company	City	ST
1		Albaugh, LLC	St. Joseph	MO	7		Omnium LLC	St. Joseph	MO
2		BASF Corporation	St. Joseph	MO	8		PBI/Gordon	Shawnee	KS
3		Bayer Cropsience LP	Kansas City	MO	9		Phytotechnology Laboratories, L.L.C.	Lenexa	KS
4		HPI Products, Inc.	St. Joseph	MO	10		Rockwell Labs LTD	Kansas City	MO
5		KALO Inc	Overland Park	KS	11		SynTech Research	Stilwell	KS
6		MFA Inc	Columbia	MO					

## **Food Science/Feed**

Food Science companies comprise the 5<sup>th</sup> largest industry segment in the 2021 Census, with 37 companies representing 13% of the total number of companies. This segment employs about 4,200 people, or 12% of the region's life sciences employment base. The number of companies in the region is unchanged since 2018, but employment in this segment has grown 22%, by over 700 employees.

Food science companies research, develop and produce products integrating biological, chemical, and physical sciences. Plant-based product companies engage in research and development activities producing biofuels, composite materials, enhanced nutritional feeds/food, or synthetic meats.

Companies in this segment are generally larger, with an average employment of 112 in 2021, and have generally seen few changes over the last 12 years. Two companies, employing 36 people were dropped

from the list: one closed and one was acquired and relocated. Two new companies currently employing about 60 people were added since 2018. Like the Biotechnology Research and Testing Segment, a dozen companies, about one-third of the total companies in the segment, employ about 85% of the segment's regional employment.

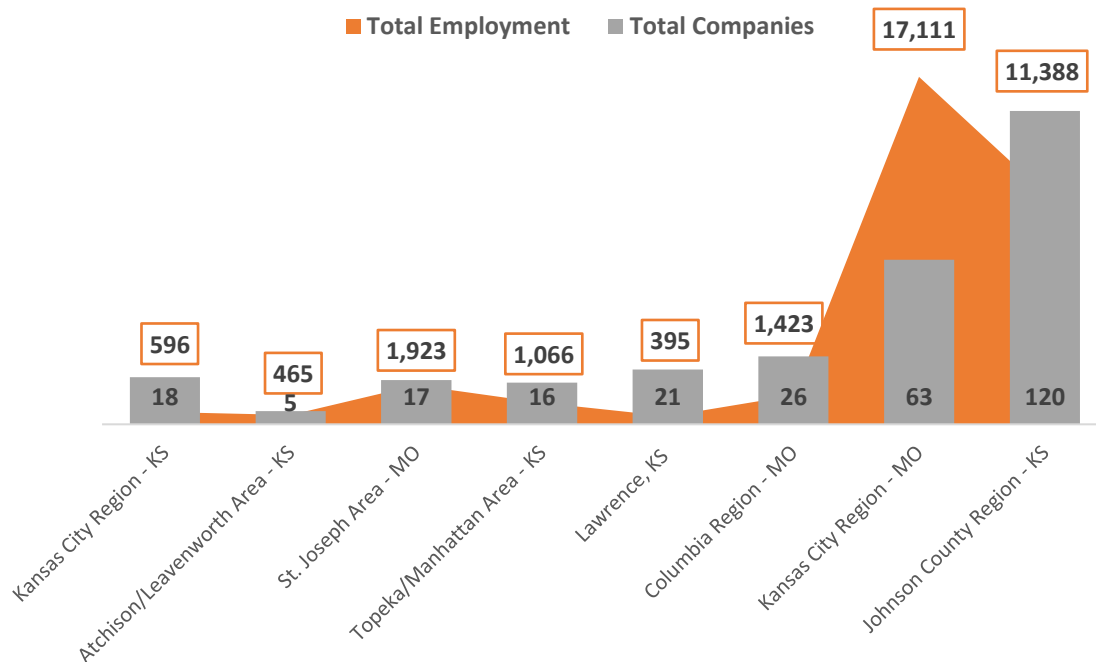
Hill's Pet Products is the largest company in the segment, and although their employment has grown in the region since 2018, 23 of the 37 companies in this segment have also seen employment gains since 2018. Three have seen employment remain the same, and one third of the companies had decreases in headcount since 2018.

<i>Food Science/Feed or Plant-Based Products</i>									
#	New	Company	City	ST	#	New	Company	City	ST
1		Advanta Seeds	Manhattan	KS	20		Ioditech, Inc.	Kansas City	MO
2	N	AgriThority	Kansas City	MO	21		iVet Professional Formulas	Parkville	MO
3		AIB International	Manhattan	KS	22		Land O'Lakes Purina Feed	St. Joseph	MO
4		Big Heart Pet Brands	Lawrence	KS	23		Lifeline Foods LLC	St. Joseph	MO
5		BioGen Ag Systems	Paola	KS	24		Manna Pro Products, LLC	Kansas City	KS
6		Biomim	Overland Park	KS	25		Mars Petcare	Kansas City	MO
7		Biozyme Incorporated	St. Joseph	MO	26		MGP Ingredients, Inc.	Atchison	KS
8		Cargill Animal Nutrition	Kansas City	KS	27		Mid-South Milling Company, Inc.	Kansas City	KS
9		Cargill Inc	Olathe	KS	28		MS Biotech	Wamego	KS
10		Cereal Ingredients, Inc.	Leavenworth	KS	29		NBO3 Technologies	Manhattan	KS
11		Compass Minerals	Overland Park	KS	30		Nestle Purina PTC	St. Joseph	MO
12		Corbion	Lenexa	KS	31		PrairieFood	Lawrence	KS
13	N	Corteva	Wamego	KS	32		Star Labs/Forage Research, Inc.	Clarksdale	MO
14		DeLaval Manufacturing	Kansas City	MO	33		Tiger Energy Solutions	Columbia	MO
15		Great Plains Analytical Laboratory	Kansas City	MO	34		Tonistry Inc.	St. Joseph	MO
16		Heartland Plant Innovations	Manhattan	KS	35		Vita A Zine Inc	Butler	MO
17		Hill's Pet Nutrition, Inc	Topeka	KS	36		Wilbur-Ellis Feed	St. Joseph	MO
18		IFF	New Century	KS	37		ZuPreem	Shawnee	KS
19		Inovatia Laboratories, LLC	Fayette	MO					

## **Companies by Geographic Segment**

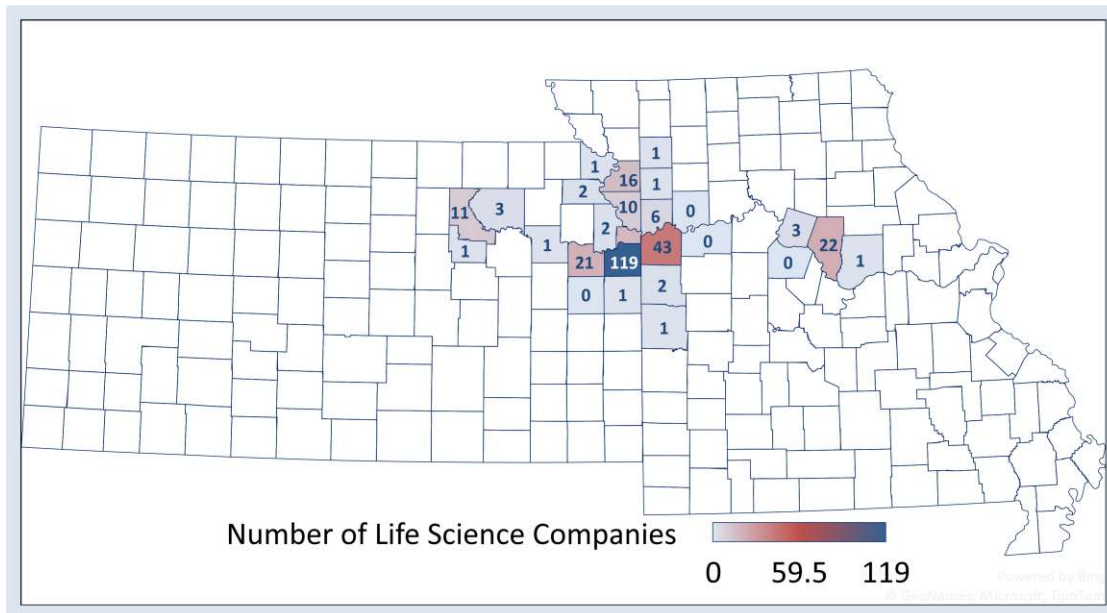
Companies with more than one location in the region are counted by the location of their headquarters, or by the primary research facility location. Roughly two-thirds of the region's life sciences companies are located in, or have their primary headquarters or research facilities in, Kansas City, MO, or in neighboring Johnson County, KS, and these two regions provide 83% of the region's total life sciences employment.

### ***Companies and Employment by Region***



Previous Census reports provided a table with the number of companies along with employment totals by county, but due to confidentiality, those counties with fewer than five companies had employment totals suppressed. The map below shows the concentration of the target counties, and again, notes the increased concentration of companies in the urban centers relative to the rural counties.

### Life Sciences Companies by County



Comparisons by state show that Kansas has about two-thirds of the region’s life sciences companies, while Missouri leads in total employment. This analysis is somewhat limited due to some companies having locations in both states, increasing work from home arrangements, and the closure of the Cerner campus in Kansas City, KS. This move resulted in all of Cerner’s headcount being allocated to Missouri, which impacted Kansas employment by about 2,500 employees. Removing the Cerner relocation, Kansas actually showed a net increase of about 1,700 employees since 2018.

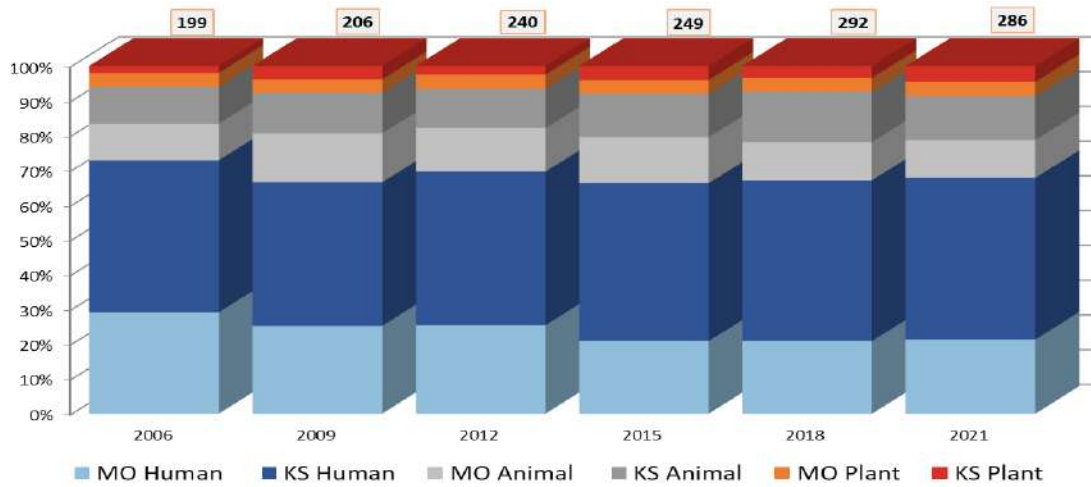
### Companies’ Primary Focus by State

Primary Focus	KS Companies	KS Employees	MO Companies	MO Employees
Human Health	133	10,139	61	16,225
Animal Health	36	3,138	31	2,300
Plant Science	13	960	12	1,605
<b>2021 Totals</b>	<b>182</b>	<b>14,237</b>	<b>104</b>	<b>20,130</b>
<b>Percent of Overall Region</b>	<b>64%</b>	<b>41%</b>	<b>36%</b>	<b>59%</b>
<b>Change from 2018 Census</b>	<b>-3%</b>	<b>-6%</b>	<b>-1%</b>	<b>3%</b>

As previously noted, the region is dominated by companies whose primary focus is Human Health. While the overall proportion of Human Health companies relative to Animal Health and Plant Science companies has declined slightly over the six Census periods, Kansas-based Human Health companies have increased significantly relative to Missouri Human Health companies. Animal Health companies have been increasing over time, but some of the growth in number of companies has leveled off in 2021, partly due to consolidation.



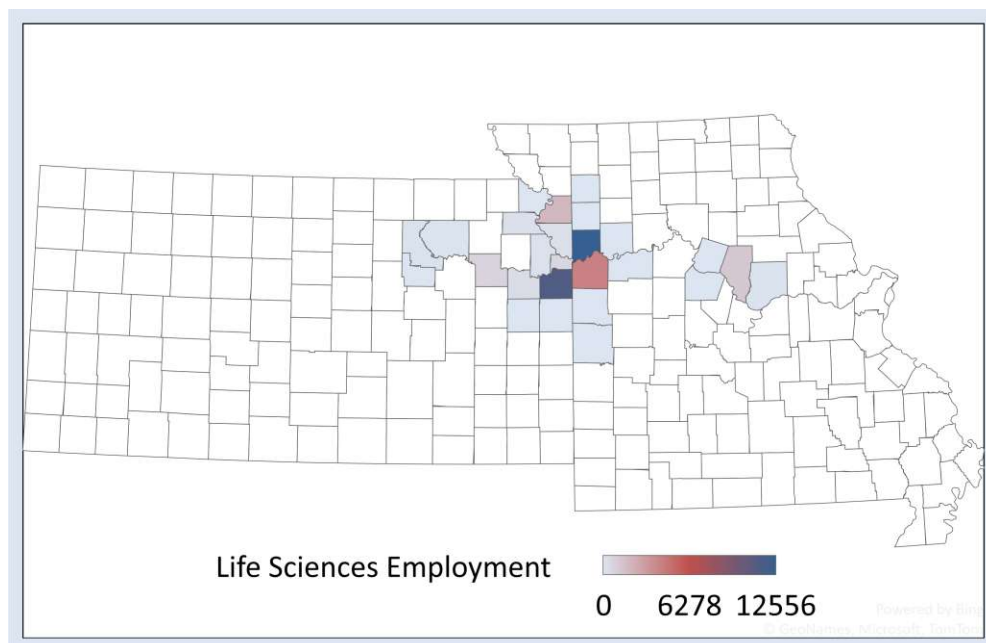
### Companies' Primary Focus by State Over Time



	2006	2009	2012	2015	2018	2021
MO Human	58	52	61	52	61	61
KS Human	87	85	106	113	135	133
MO Animal	21	29	30	33	32	31
KS Animal	21	24	27	31	42	36
MO Plant	8	8	10	10	12	12
KS Plant	4	8	6	10	10	13
<b>Total</b>	<b>199</b>	<b>206</b>	<b>240</b>	<b>249</b>	<b>292</b>	<b>286</b>

Just as the number of companies is highest in more urban regions, life sciences employment is also concentrated in the areas with the highest populations relative to the more rural counties.

### Life Sciences Employment by County



## Employment Change by Region

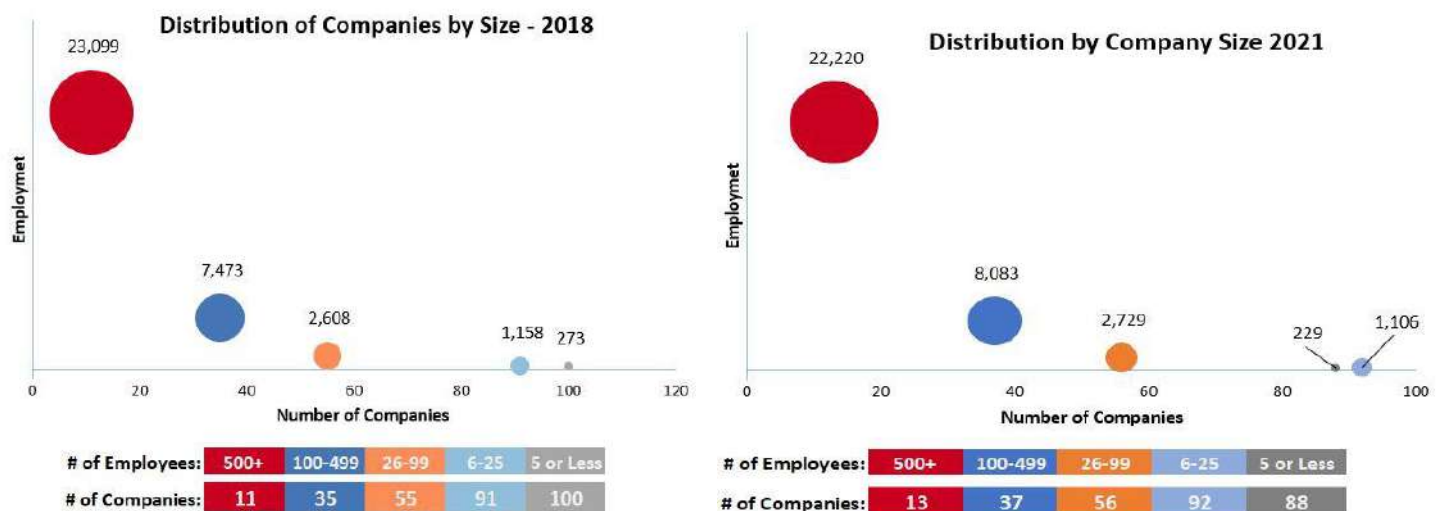
Region	Change from 2018-2021	
	Change in Companies	Employment Change
Kansas City Region – KS	(2)	(2540)
Atchison/Leavenworth Area – KS	(2)	16
St. Joseph Area – MO	(2)	(441)
Topeka/Manhattan Area – KS	3	109
Lawrence, KS	(1)	83
Columbia Region – MO	0	5
Kansas City Region – MO	3	1371
Johnson County Region – KS	(5)	1153
<b>Total Companies</b>	<b>(6)</b>	<b>(244)</b>

Comparing changes in the Census sub-regions to the 2018 Census shows little change in the number of companies in the past three years. Employment changes are again somewhat skewed due to the relocation of Cerner, who is the region's largest employer. Excluding the Cerner relocation, the employment totals would show a net increase in life sciences employment in Kansas City, KS, and a net decrease in Kansas City, MO. Johnson County, KS has shown outsized employment gains relative to the rest of the region, despite a small decline in the total number of companies located there.

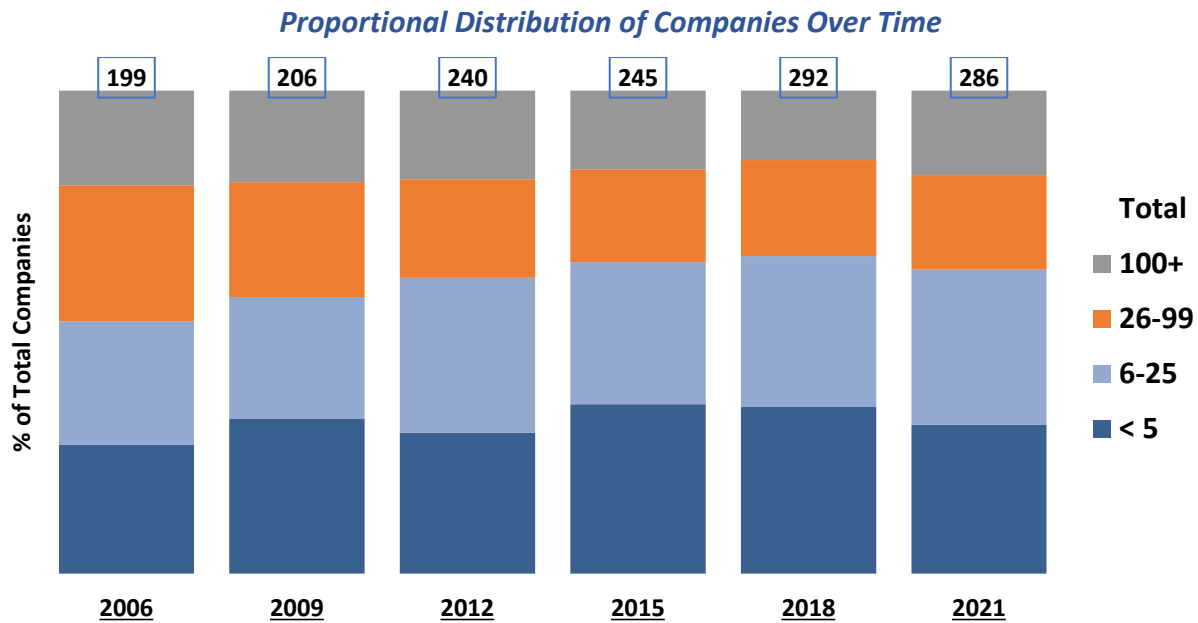
## Companies by Employment

While the numbers have changed slightly since 2018, the overall picture of the concentration of total employment remains the same. The largest proportion of life sciences employees work at large companies with two-thirds of employment from roughly 4% of the total companies.

## Distribution of Companies by Total Employment



Examining the proportion of companies by size in greater detail, with emphasis on the smaller companies, the proportion of companies employing between 26 and 99 employees has declined over the six Census periods. The number of companies with between six and 25 employees has become a larger part of the region's total over time, while the number of companies with five or fewer employees has fluctuated the most. Roughly 31% of the 2021 companies have five or fewer employees, down from the high-water mark of 38% in 2018.

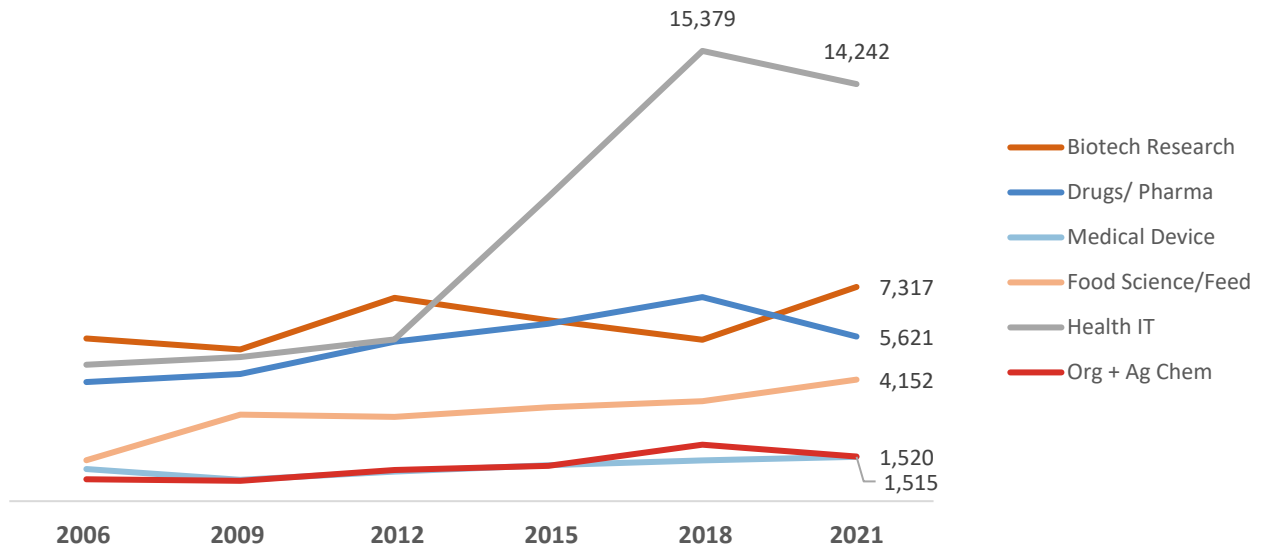


**Proportional Distribution of Companies Over Time**

Employees:	<u>0</u>	<u>1</u>	<u>2-5</u>	<u>6-25</u>	<u>26-99</u>	<u>100+</u>	<u>Total</u>
2006	0	9	44	51	56	39	199
2009	4	16	46	52	49	39	206
2012	2	21	47	77	49	44	240
2015	1	16	69	72	47	40	245
2018	0	25	76	91	58	42	292
2021	3	25	60	92	56	50	286

In reviewing the employment by industry segment over time, the most dramatic growth over time has been in the Health Information Technology segment, especially between 2012 and 2018. Biotechnology Research and Testing has seen a rebound after declines in two consecutive Census periods, while the Drugs and Pharmaceutical segment has seen employment declines in the 2019-2021 period, likely due, in part, to eight fewer companies in the region compared to 2018.

### Life Sciences Employment Change by Industry Segment

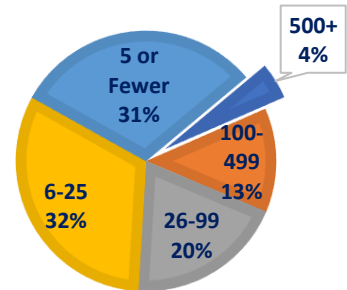


	<u>2006</u>	<u>2009</u>	<u>2012</u>	<u>2015</u>	<u>2018</u>	<u>2021</u>
Drugs/ Pharma	4,069	4,347	5,443	6,060	6,970	5,621
Biotech Research	5,553	5,182	6,940	6,175	5,518	7,317
Health IT	4,660	4,925	5,528	10,397	15,379	14,242
Medical Device	1,099	730	1,006	1,224	1,398	1,515
Org + Ag Chem	749	695	1,067	1,205	1,929	1,520
Food Science/Feed	1,398	2,957	2,881	3,208	3,417	4,152
<b>All Industry Segments</b>	<b>17,528</b>	<b>18,836</b>	<b>22,865</b>	<b>28,269</b>	<b>34,611</b>	<b>34,367</b>
<b>Excluding Health IT</b>	<b>12,868</b>	<b>13,911</b>	<b>17,337</b>	<b>17,872</b>	<b>19,232</b>	<b>20,125</b>

## **Life Science Companies Listing – By Employment Size**

### **Life Sciences Companies with 500+ Employees**

The following 13 companies are the largest life sciences employers in the Kansas City region — each with 500 or more employees. These companies represent only 4% of the total number of life sciences companies, but approximately 65% of the total employment base. In aggregate, this category has declined in total employment by an estimated 879 employees, from 23,099 in 2018, to 22,220 in 2021. Five of the 13 companies listed have increased headcount since 2018, including three companies, Clinical Reference Laboratory, Inc., the Stowers Institute for Medical Research and Thermo Fisher Scientific, Inc., who moved into the over 500 employee category between 2019 and 2021. One company, TriRx, formerly Bayer Animal Health, employs fewer than 500 employees, which is a decline from 2018.

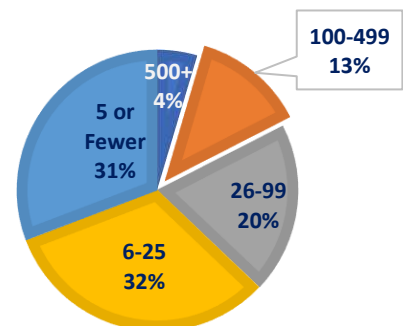


### ***Companies with 500+ Employees***

<b><i>Companies with 500+ Employees</i></b>					
<i>Company</i>	<i>City</i>	<i>ST</i>	<i>Company</i>	<i>City</i>	<i>ST</i>
Bayer Cropscience LP	Kansas City	MO	IQVIA	Overland Park	KS
Boehringer Ingelheim Vetmedica	St. Joseph	MO	MFA Inc	Columbia	MO
Catalent Pharma Solutions	Kansas City	MO	Netsmart	Overland Park	KS
Cerner Corporation	Kansas City	MO	Quest Diagnostics Inc	Lenexa	KS
Clinical Reference Laboratory, Inc.	Lenexa	KS	Stowers Institute for Medical Research	Kansas City	MO
Hill's Pet Nutrition, Inc	Topeka	KS	Thermo Fisher Scientific Inc.	Lenexa	KS
ICON PLC	Lenexa	KS			

### **Life Sciences Companies with 100-499 Employees**

The following 37 companies employ between 100 and 499 employees in the region. These companies employ just over 8,000, representing 13% of the companies, and 22% of total employment. This segment has seen the largest employment increase, with a net increase of 610 employees over 2018 headcount estimate. Six companies moved up into this segment, employing less than 100 employees in 2018. Of the 37 companies listed, 25, or about two-thirds reported an increase in employment since 2018. Two companies in this segment closed or relocated, and two saw employment drop below 100 workers since 2018.

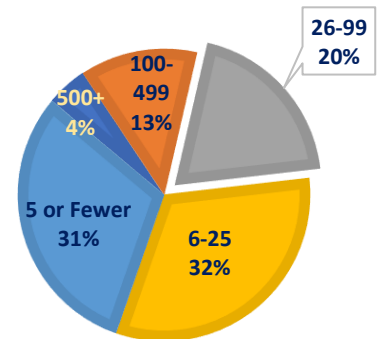


### Companies with 100-499 Employees

Companies with 100-499 Employees					
Company	City	ST		City	ST
Altasciences Clinical Research	Overland Park	KS	MAWD Pathology Group, Inc.	Lenexa	KS
Bardavon Health Innovations	Overland Park	KS	Merck Animal Health	De Soto	KS
Big Heart Pet Brands	Lawrence	KS	MGP Ingredients, Inc.	Atchison	KS
Cargill Inc	Olathe	KS	Millipore Sigma	Lenexa	KS
Cereal Ingredients, Inc.	Leavenworth	KS	Missouri Cancer Associates LLC	Columbia	MO
Ceva Animal Health	Lenexa	KS	MRIGlobal	Kansas City	MO
Compass Minerals	Overland Park	KS	Nestle Purina PTC	St. Joseph	MO
Corbion	Lenexa	KS	Nostrum Laboratories Inc.	Kansas City	MO
Dechra Veterinary Products	Leawood	KS	PBI/Gordon	Shawnee	KS
DeLaval Manufacturing	Kansas City	MO	Pivot International	Lenexa	KS
Eurofins BioPharma Product Testing	Columbia	MO	ProPharma Group Inc	Overland Park	KS
Eurofins Viracor-IBT	Lee's Summit	MO	Schroer Manufacturing Company	Kansas City	KS
IFF	New Century	KS	Sekisui XenoTech, LLC	Kansas City	KS
Integris BioServices dba KCAS	Shawnee	KS	Sinclair Research Center	Auxvasse	MO
Johnson County Clin-Trials, LLC	Lenexa	KS	Sparhawk Laboratories, Inc.	Lenexa	KS
Lab Corp	Overland Park	KS	TriRX	Shawnee	KS
Labconco Corporation	Kansas City	MO	UBC – An Express Scripts Company	Kansas City	MO
Lifeline Foods LLC	St. Joseph	MO	WellSky	Overland Park	KS
Mars Petcare	Kansas City	MO			

### Life Sciences Companies with 26-99 Employees

Fifty-six companies employ between 26 and 99 employees, which represents about 20% of the companies in the region, and about 8% of the total employment. This segment employs about 120 more workers compared to 2018. Sixteen of the 56 companies listed had fewer than 25 employees in 2018, and 32, or 57% of the companies listed has an increase in employment since 2018, including 15 companies who employed five or fewer employees in 2018. Four of the companies listed in this category have closed or relocated since 2018, and four have decreased employment to less than 26 employees.



### Companies with 26-99 Employees

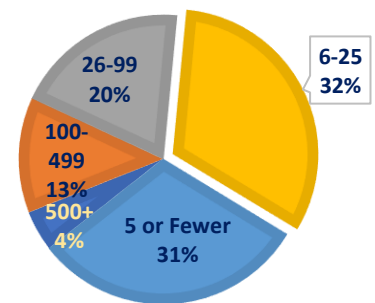
Companies with 26-99 Employees					
Company	City	ST	Company	City	ST
Addison Biological Laboratory, Inc.	Fayette	MO	HEMCO Corp	Independence	MO
AgriThORITY	Kansas City	MO	HPI Products, Inc.	St. Joseph	MO
AIB International	Manhattan	KS	IDEXX BioAnalytics	Columbia	MO
Albaugh, LLC	St. Joseph	MO	InnovaPrep LLC	Drexel	MO
Alliance for Multispecialty Research	Kansas City	MO	Ioditech, Inc.	Kansas City	MO
Artisan Technology Group	Kansas City	MO	KALO Inc	Overland Park	KS
B.F. Ascher & Company, Inc.	Lenexa	KS	Kindred Biosciences	Elwood	KS

### Companies with 26-99 Employees

Company	City	ST	Company	City	ST
Biozyme Incorporated	St. Joseph	MO	Knit-Rite, Inc.- Thuasne	Kansas City	KS
Captify Health	Lenexa	KS	Land O'Lakes Purina Feed	St. Joseph	MO
Cardinal Health Regulatory Services	Overland Park	KS	LifeScience Technologies, LLC	Leawood	KS
Cargill Animal Nutrition	Kansas City	KS	Manna Pro Products, LLC	Kansas City	KS
Central Solutions Inc	Kansas City	KS	MS Biotec	Wamego	KS
Certtech, LLC	Lenexa	KS	Omnium LLC	St. Joseph	MO
Clipper Distributing Co	St. Joseph	MO	Pace Analytical Services, Inc.	Lenexa	KS
Conklin Company, Inc.	Kansas City	MO	Parnell Inc	Overland Park	KS
Cramer Products, Inc.	Gardner	KS	Plastikon Healthcare, LLC	Lawrence	KS
Deciphera Pharmaceuticals	Lawrence	KS	Quest Analytics, LLC	Overland Park	KS
Elanco Animal Health	Lenexa	KS	RBC Medical Innovations	Lenexa	KS
EMB Statistical Solutions	Overland Park	KS	Rockwell Labs LTD	Kansas City	MO
Endevica Bio	Columbia	MO	Rowe Neurology Institute	Lenexa	KS
ENDOVAC Animal Health	Columbia	MO	Southwest Technologies Inc	N Kansas City	MO
Engenious Design	Prairie Village	KS	Stone Manufacturing & Supply Co	Kansas City	MO
Eurofins Agrosience Columbia	Columbia	MO	SynTech Research	Stilwell	KS
Excite Pharma Services	Lee's Summit	MO	The Great Plains Laboratory	Lenexa	KS
Garmin International Inc.	Olathe	KS	Trinity Biotech	Kansas City	MO
Great Plains Analytical Laboratory	Kansas City	MO	Ventria Bioscience	Junction City	KS
Hans Rudolph, Inc.	Shawnee	KS	Vitalograph Inc	Lenexa	KS
Heart of America Eyecare, PA	Overland Park	KS	Wilbur-Ellis Feed	St. Joseph	MO

### Life Sciences Companies with 6-25 Employees

The largest segment by employment in the 2021 Census are those companies employing between 6-25 employees. Ninety-two companies, 32% of the total companies in the region, employ roughly 1,100 workers, about 3% of the total employment in the region. This is one more company than in 2018, and total employment is less by about 50 employees. Twelve new companies in this segment added about 130 employees in the region since the last Census report. Of the companies on the 6-25 employees list in 2018, about a third (still with fewer than 25 employees) have increased employment by one or more since the last Census report. Fourteen of the companies who were listed in this category in 2018 are now employing between 26-99 employees, with a net gain of about 350 employees, and total employment of nearly 500 employees. Four have closed or relocated, and four now employ five or fewer employees.



### Companies with 6-25 Employees

#### Companies with 6-25 Employees

Company	City	ST	Company	City	ST
4m Healthcare LLC	Overland Park	KS	ContourMD	Lenexa	KS
Acceleration Laboratory Services	Lee's Summit	MO	Corteva	Wamego	KS
Adare Pharmaceuticals	Lenexa	KS	Creche Innovations	Overland Park	KS
Advanced Clustering Technologies	Kansas City	KS	Crititech, Inc.	Lawrence	KS
AKCIA Inc	Independence	MO	CSS Analytical Co Inc	Shawnee	KS

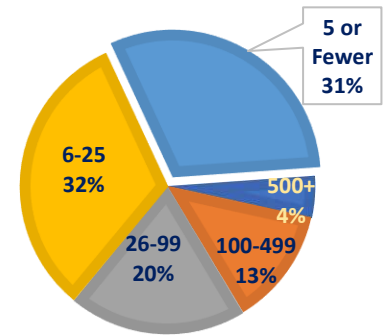
### Companies with 6-25 Employees

Company	City	ST	Company	City	ST
Alburtylab, Inc.	Drexel	MO	Design-Zyme, LLC	Lawrence	KS
Alden	Columbia	MO	Disposable Instrument Company	Lenexa	KS
AnalyzeDirect	Overland Park	KS	Durrie Vision	Overland Park	KS
Artio Medical	Prairie Village	KS	ELIAS Animal Health, LLC	Olathe	KS
Asuun	Kansas City	MO	Enso Discoveries	Manhattan	KS
Attentive Science	Stilwell	KS	Equinosis LLC	Columbia	MO
Azurity Pharmaceuticals	Overland Park	KS	Evogen Inc.	Overland Park	KS
BASF Corporation	St. Joseph	MO	Foothold Labs	Olathe	KS
Bio Med Valley Discoveries, Inc.	Kansas City	MO	Frosty Tech/Hecto Group	Olathe	KS
Biodesix	De Soto	KS	GTC Research	Shawnee	KS
Biomin	Overland Park	KS	Heart to Heart Network LLC	Fairway	KS
Blue Endo	Overland Park	KS	Hennessy Research Associates	Shawnee	KS
Brownmed	Kansas City	MO	Hunkeler Eye Institute	Overland Park	KS
Cancer Research Center	Columbia	MO	Huvepharma	St. Joseph	MO
Cardiovascular Imaging Technologies	Kansas City	MO	Hyalogic LLC	Riverside	MO
Centaur Animal Health	Olathe	KS	HylaPharm	Lawrence	KS
Central Biomedica Inc.	Lenexa	KS	Identigen North America, Inc.	Lawrence	KS
CentralReach	Kansas City	MO	Illuminate	Overland Park	KS
CIA Labs	St. Joseph	MO	Innara Health	Olathe	KS
Ciclomed, LLC	Kansas City	MO	Inovatia Laboratories, LLC	Fayette	MO
Cingulate Therapeutics	Mission	KS	iVet Professional Formulas	Parkville	MO
J2 Scientific	Columbia	MO	PrairieFood	Lawrence	KS
Kansas City Allergy & Asthma	Lee's Summit	MO	PTC Laboratories, Inc.	Columbia	MO
Kansas Regenerative Medicine Ctr.	Manhattan	KS	Pulse Needle Free Systems Inc	Overland Park	KS
Latham Biopharm Group	Manhattan	KS	QVM Services, LLC	Trimble	MO
Liberty Pharma Inc	Liberty	MO	Redivus Health	Overland Park	KS
Likarda, LLC	Kansas City	MO	SCD Probiotics	Kansas City	MO
Medical Positioning	Kansas City	MO	Shift Pharmaceuticals Holdings, Inc.	Columbia	MO
Microprotein Technologies Inc	Lenexa	KS	Sinochips Diagnostics	Kansas City	KS
Mid-South Milling Company, Inc.	Kansas City	KS	SMRxT	Overland Park	KS
Mobility Designed	Kansas City	MO	Spinal Simplicity	Overland Park	KS
Nanova Inc	Columbia	MO	Star Labs/Forage Research, Inc.	Clarksdale	MO
NBO3 Technologies	Manhattan	KS	Steinlite Corp	Atchison	KS
Nexus Medical, LLC	Lenexa	KS	TeraCrunch	Leawood	KS
Norbrook Inc	Lenexa	KS	TripleBlind	Kansas City	MO
Oberd	Columbia	MO	Veterinary and Biomedical Research Ctr.	Manhattan	KS
Ortho-Care, Inc.	Overland Park	KS	Vita A Zine Inc	Butler	MO
PatientsVoices™	Parkville	MO	Worldwide Innovations & Tech	Lenexa	KS
Phoenix Medical Research	Prairie Village	KS	Zoetis Inc.	Kansas City	MO
Phytotechnology Laboratories, L.L.C.	Lenexa	KS	ZuPreem	Shawnee	KS
Pinnacle Technology Inc.	Lawrence	KS	Zutron Medical	Lenexa	KS



## Life Sciences Companies with 5 or Fewer Employees

Of the 286 life sciences companies in the region, the 88 companies in the region with five or fewer employees show the region's potential for growth. Representing 31% of the companies, this segment employs an estimated 229 people, roughly 1% of total employment. This segment shows the most change in companies from Census period to Census period. Twenty-seven of the 41 companies new to the list have fewer than five employees, with total employment of about 70 people. Thirty-six of these companies from 2018 are no longer operating in the region, due to closing or being acquired and relocated. Of the companies listed in this segment, only 15 of those listed in 2018 increased employment by one or more since last report. Conversely, 15 companies with five or fewer employees who employed a total of 50 people in 2018 are now listed in the 6-25 employee category and employ nearly 200 people.



### Companies with 5 or Fewer Employees

Company	City	ST	Company	City	ST
Abada Health	Kansas City	MO	Kremenak NanoTech	Columbia	MO
Acenxion Biosystems	Kansas City	KS	KrolPharma Resources	Overland Park	KS
Adaptivepharma, LLC	Leawood	KS	LPOXY Therapeutics, Inc.	Platte City	MO
Advanta Seeds	Manhattan	KS	Mazen Animal Health	St. Joseph	MO
AEGLE Palette LLC	Shawnee	KS	Medical Device Solutions	Lenexa	KS
Allied Monitor Inc/Addison Labs	Fayette	MO	Motega Health	Lawrence	KS
Antech Diagnostics, Inc.	Overland Park	KS	Nectagen, Inc.	Kansas City	KS
ARE Labs Inc.	Olathe	KS	Nemechek Technologies, LLC	Overland Park	KS
Argenta Research LLC	Lawrence	KS	New Frontier Mobile Diagnostics	Kansas City	MO
Attentive Science	Stilwell	KS	Nika Biochemicals Inc	Overland Park	KS
BioFluidica	Lawrence	KS	Novadiol, Inc.	Shawnee	KS
BioGen Ag Systems	Paola	KS	Now System, Inc.	Kansas City	KS
Biomedical Devices of Kansas LLC	Tonganoxie	KS	Oak Therapeutics	Lawrence	KS
BioPharmaPotentials	Parkville	MO	One Medicine Consulting	Olathe	KS
Calving Technologies	Columbia	MO	Onebiol, LLC	Manhattan	KS
Catain Laboratories LLC	Kansas City	MO	Orion Integrated Biosciences	Manhattan	KS
Cell Origins LLC	Columbia	MO	OsteoGeneX/OssiFi	Overland Park	KS
Clara Biotech	Lawrence	KS	Patheous Health	Leawood	KS
Clinical Research Consultants	Kansas City	MO	PepGel LLC	Manhattan	KS
Clinical Research of The Ozarks, Inc.	Columbia	MO	PETNET Solutions, Inc.	Overland Park	KS
CryoCrate	Columbia	MO	pHLOGISTIX LLC	Kansas City	MO
DeNovo Genomics	Kansas City	KS	Phoreus Biotechnology, Inc.	Olathe	KS
Ecto Development Corporation	Blue Springs	MO	Play-it Health Adherence Management	Overland Park	KS
Eir Pharmaceuticals	Olathe	KS	Precision Microwave Inc.	Manhattan	KS
Elixell Therapeutics Inc.	Kansas City	KS	Prommune	Overland Park	KS
EMCI	Olathe	KS	ProTox Services	Lenexa	KS
Ensite Vascular	Olathe	KS	PTS Pharmaceutical Consulting Global	Lenexa	KS
Evoke Medical, LLC	Lawrence	KS	QA Compliant	Stilwell	KS
Exocytronics, LLC	Columbia	MO	Ronawk	Olathe	KS

### Companies with 5 or Fewer Employees

<i>Company</i>	<i>City</i>	<i>ST</i>	<i>Company</i>	<i>City</i>	<i>ST</i>
Fennik Life Sciences, LLC	Kansas City	KS	SaRA Health	Kansas City	MO
FitBark Inc.	Kansas City	MO	Scollar	Kansas City	MO
Full Effect Biotech, Inc.	Kansas City	KS	Sickweather	Kansas City	MO
Hafion LLC	Lawrence	KS	SJK Global, LLC	Olathe	KS
Heartland Plant Innovations	Manhattan	KS	Sunflower Genomics	Lawrence	KS
Herschel J Gaddy & Assoc	St. Joseph	MO	SureShow	Kansas City	KS
Insignia Strategies	Overland Park	KS	Telecare Global, LLC	Sedalia	MO
IntelligeneCG – Cancer Genomics	Stilwell	KS	Tiger Energy Solutions	Columbia	MO
Invisian Medical, LLC	Prairie Village	KS	Tonistry Inc.	St. Joseph	MO
iShare Medical	Kansas City	MO	TVAX Biomedical, LLC	Olathe	KS
iSocial	Lawrence	KS	Vesarex LLC	Lawrence	KS
Kangen Pharmaceutical	Kansas City	KS	Veterinary Specialty Products Inc	Shawnee	KS
KanPRO Research, Inc.	Lawrence	KS	ViroVax	Lawrence	KS
Kansas City Safety Alliance & Research	Lenexa	KS	Wyatt Cytoconsulting	Lenexa	KS
Keystone Laboratories, Inc.	Kansas City	KS	Your Life Lived Well, LLC	Kansas City	MO

## Full Listing of Companies

Following is a listing of the 286 life sciences companies identified in the Kansas City region, along with notation of the those who responded to the 2021 Census, and the presence of the company in the region in the 2018 Census report.

2018	'21 Survey	Company	City	State	Focus	Segment
Y		4m Healthcare LLC	Overland Park	KS	Human	BIO R&T
New		Abada Health	Kansas City	MO	Human	HC IT
Y	Y	Acceleration Laboratory Services, Inc.	Lee's Summit	MO	Human	Pharm
New		Acenxion Biosystems	Kansas City	KS	Human	MED D
Y		Adaptivepharma, LLC	Leawood	KS	Human	HC IT
Y	Y	Adare Pharmaceuticals	Lenexa	KS	Human	Pharm
Y	Y	Addison Biological Laboratory, Inc.	Fayette	MO	Animal	Pharm
Y		Advanced Clustering Technologies	Kansas City	KS	Human	HC IT
Y		Advanta Seeds	Manhattan	KS	Plant	Feed
Y		AEGLE Palette LLC	Shawnee	KS	Human	HC IT
New		AgriThority	Kansas City	MO	Plant	Feed
Y	Y	AIB International	Manhattan	KS	Human	Feed
Y		AKCIA Inc	Independence	MO	Human	HC IT
Y		Albaugh, LLC	St. Joseph	MO	Plant	Ag Chem
Y		Alburtylab, Inc.	Drexel	MO	Human	BIO R&T
New	Y	Alden	Columbia	MO	Human	HC IT
Y	Y	Alliance for Multispecialty Research	Kansas City	MO	Human	BIO R&T
Y		Allied Monitor Inc/Addison Labs	Fayette	MO	Animal	BIO R&T
Y		Altasciences Clinical Research	Overland Park	KS	Human	Pharm
Y		AnalyzeDirect	Overland Park	KS	Human	HC IT
Y		Antech Diagnostics, Inc.	Overland Park	KS	Animal	BIO R&T
Y		ARE Labs Inc.	Olathe	KS	Human	MED D
Y	Y	Argenta Research LLC	Lawrence	KS	Animal	Pharm
New	Y	Artio Medical	Prairie Village	KS	Human	MED D
Y		Artisan Technology Group	Kansas City	MO	Human	HC IT
Y		Asuun	Kansas City	MO	Human	HC IT
New	Y	Attentive Science	Stilwell	KS	Human	BIO R&T
New		Attentive Science	Stilwell	KS	Human	BIO R&T
Y		Azurity Pharmaceuticals	Overland Park	KS	Human	Pharm
Y		B.F. Ascher & Company, Inc.	Lenexa	KS	Human	Pharm
Y		Bardavon Health Innovations	Overland Park	KS	Human	HC IT
Y		BASF Corporation	St. Joseph	MO	Plant	Ag Chem
Y		Bayer Cropscience LP	Kansas City	MO	Plant	Ag Chem
Y		Big Heart Pet Brands	Lawrence	KS	Animal	Feed
Y		Bio Med Valley Discoveries, Inc.	Kansas City	MO	Human	Pharm
Y		Biodesix	De Soto	KS	Human	Pharm

2018	'21 Survey	Company	City	State	Focus	Segment
Y		BioFluidica	Lawrence	KS	Human	BIO R&T
Y	Y	BioGen Ag Systems	Paola	KS	Animal	Feed
Y	Y	Biomedical Devices of Kansas LLC	Tonganoxie	KS	Human	MED D
Y		Biomin	Overland Park	KS	Animal	Feed
Y	Y	BioPharmaPotentials	Parkville	MO	Animal	Pharm
Y		Biozyme Incorporated	St. Joseph	MO	Animal	Feed
Y		Blue Endo	Overland Park	KS	Human	MED D
Y	Y	Boehringer Ingelheim Vetmedica, Inc.	St. Joseph	MO	Animal	Pharm
Y	Y	Brownmed	Kansas City	MO	Human	MED D
New		Calving Technologies	Columbia	MO	Animal	MED D
Y		Cancer Research Center	Columbia	MO	Human	BIO R&T
Y		Captify Health	Lenexa	KS	Human	HC IT
Y		Cardinal Health Regulatory Services	Overland Park	KS	Human	Pharm
Y		Cardiovascular Imaging Technologies	Kansas City	MO	Human	BIO R&T
Y		Cargill Animal Nutrition	Kansas City	KS	Animal	Feed
Y		Cargill Inc	Olathe	KS	Animal	Feed
Y		Catain Laboratories LLC	Kansas City	MO	Human	Pharm
Y	Y	Catalent Pharma Solutions	Kansas City	MO	Human	Pharm
New		Cell Origins LLC	Columbia	MO	Human	BIO R&T
Y		Centaur Animal Health	Olathe	KS	Animal	BIO R&T
Y	Y	Central Biomedia Inc.	Lenexa	KS	Animal	BIO R&T
Y		Central Solutions Inc	Kansas City	KS	Human	Pharm
Y		CentralReach	Kansas City	MO	Human	HC IT
Y		Cereal Ingredients, Inc.	Leavenworth	KS	Human	Feed
Y		Cerner Corporation	Kansas City	MO	Human	HC IT
Y		Certtech, LLC	Lenexa	KS	Human	MED D
Y	Y	Ceva Animal Health	Lenexa	KS	Animal	Pharm
Y	Y	CIA Labs	St. Joseph	MO	Animal	BIO R&T
Y		Ciclomed, LLC	Kansas City	MO	Human	Pharm
Y	Y	Cingulate Therapeutics	Mission	KS	Human	Pharm
Y	Y	Clara Biotech	Lawrence	KS	Human	MED D
Y	Y	Clinical Reference Laboratory, Inc.	Lenexa	KS	Human	BIO R&T
Y		Clinical Research Consultants	Kansas City	MO	Human	BIO R&T
Y		Clinical Research of The Ozarks, Inc.	Columbia	MO	Human	Pharm
Y		Clipper Distributing Co	St. Joseph	MO	Animal	Pharm
Y		Compass Minerals	Overland Park	KS	Plant	Feed
Y		Conklin Company, Inc.	Kansas City	MO	Animal	Pharm
Y		ContourMD	Lenexa	KS	Human	MED D
Y		Corbion	Lenexa	KS	Plant	Feed
New		Corteva	Wamego	KS	Plant	Feed
Y		Cramer Products, Inc.	Gardner	KS	Human	MED D
Y		Creche Innovations	Overland Park	KS	Human	MED D
Y		Crititech, Inc.	Lawrence	KS	Human	Pharm

2018	'21 Survey	Company	City	State	Focus	Segment
Y	Y	CryoCrate	Columbia	MO	Human	MED D
Y		CSS Analytical Co Inc	Shawnee	KS	Human	MED D
Y		Dechra Veterinary Products	Leawood	KS	Animal	Pharm
Y		Deciphera Pharmaceuticals	Lawrence	KS	Human	Pharm
Y		DeLaval manufacturing	Kansas City	MO	Animal	Feed
Y		DeNovo Genomics	Kansas City	KS	Human	BIO R&T
New		Design-Zyme, LLC	Lawrence	KS	Human	BIO R&T
Y	Y	Disposable Instrument Company	Lenexa	KS	Human	MED D
Y		Durrie Vision	Overland Park	KS	Human	BIO R&T
Y		Ecto Development Corporation	Blue Springs	MO	Animal	BIO R&T
Y	Y	Eir Pharmaceuticals	Olathe	KS	Human	Pharm
Y		Elanco Animal Health	Lenexa	KS	Animal	Pharm
Y	Y	ELIAS Animal Health, LLC	Olathe	KS	Animal	Pharm
New		Elixell Therapeutics Inc.	Kansas City	KS	Human	BIO R&T
Y	Y	EMB Statistical Solutions	Overland Park	KS	Human	HC IT
Y	Y	EMCI	Olathe	KS	Human	MED D
Y		Endevica Bio	Columbia	MO	Human	Pharm
Y		ENDOVAC Animal Health	Columbia	MO	Animal	Pharm
Y	Y	Engenious Design	Prairie Village	KS	Human	MED D
Y	Y	Ensite Vascular	Olathe	KS	Human	MED D
Y		Enso Discoveries	Manhattan	KS	Animal	BIO R&T
Y		Equinosis LLC	Columbia	MO	Animal	MED D
Y		Eurofins Agrosience Columbia	Columbia	MO	Plant	BIO R&T
New*		Eurofins BioPharma Product Testing	Columbia	MO	Human	BIO R&T
Y		Eurofins Viracor-IBT	Lee's Summit	MO	Human	BIO R&T
Y		Evogen Inc.	Overland Park	KS	Human	BIO R&T
Y	Y	Evoke Medical, LLC	Lawrence	KS	Human	MED D
Y	Y	Excite Pharma Services	Lee's Summit	MO	Human	BIO R&T
Y		Exocytronics, LLC	Columbia	MO	Human	MED D
Y		Fennik Life Sciences, LLC	Kansas City	KS	Human	Pharm
Y		FitBark Inc.	Kansas City	MO	Animal	HC IT
New		Foothold Labs	Olathe	KS	Human	MED D
New		Frosty Tech/Hecto Group	Olathe	KS	Human	MED D
New	Y	Full Effect Biotech, Inc.	Kansas City	KS	Human	Pharm
Y		Garmin International Inc.	Olathe	KS	Human	HC IT
Y		Great Plains Analytical Laboratory	Kansas City	MO	Human	Feed
Y		GTC Research	Shawnee	KS	Human	BIO R&T
Y	Y	Hafion LLC	Lawrence	KS	Human	Pharm
Y	Y	Hans Rudolph, Inc.	Shawnee	KS	Human	MED D
Y	Y	Heart of America Eyecare, PA	Overland Park	KS	Human	BIO R&T
Y		Heart to Heart Network LLC	Fairway	KS	Human	HC IT
Y		Heartland Plant Innovations	Manhattan	KS	Plant	Feed

2018	'21 Survey	Company	City	State	Focus	Segment
Y		HEMCO Corp	Independence	MO	Human	MED D
Y		Hennessy Research Associates	Shawnee	KS	Animal	BIO R&T
Y		Herschel J Gaddy & Assoc	St. Joseph	MO	Animal	BIO R&T
Y	Y	Hill's Pet Nutrition, Inc	Topeka	KS	Animal	Feed
Y	Y	HPI Products, Inc.	St. Joseph	MO	Plant	Ag Chem
Y		Hunkeler Eye Institute	Overland Park	KS	Human	Pharm
Y		Huvepharma	St. Joseph	MO	Animal	Pharm
Y	Y	Hyalogic LLC	Riverside	MO	Human	Pharm
Y		HylaPharm	Lawrence	KS	Human	Pharm
Y	Y	ICON PLC	Lenexa	KS	Human	Pharm
Y	Y	Identigen North America, Inc.	Lawrence	KS	Animal	BIO R&T
Y		IDEXX BioAnalytics	Columbia	MO	Animal	BIO R&T
Y		IFF	New Century	KS	Human	Feed
Y		Illuminate	Overland Park	KS	Human	HC IT
Y		Innara Health	Olathe	KS	Human	MED D
Y	Y	InnovaPrep LLC	Drexel	MO	Human	MED D
Y	Y	Inovatia Laboratories, LLC	Fayette	MO	Animal	Feed
New	Y	Insignia Strategies	Overland Park	KS	Human	Pharm
Y	Y	Integris BioServices dba KCAS	Shawnee	KS	Human	BIO R&T
Y	Y	IntelligeneCG – Cancer Genomics	Stilwell	KS	Human	BIO R&T
New	Y	Invisian Medical, LLC	Prairie Village	KS	Human	MED D
Y		Ioditech, Inc.	Kansas City	MO	Animal	Feed
Y		IQVIA	Overland Park	KS	Human	BIO R&T
Y		iShare Medical	Kansas City	MO	Human	HC IT
New	Y	iSocial	Lawrence	KS	Human	HC IT
Y		iVet Professional Formulas	Parkville	MO	Animal	Feed
Y		J2 Scientific	Columbia	MO	Human	MED D
Y		Johnson County Clin-Trials, LLC	Lenexa	KS	Human	Pharm
Y		KALO Inc	Overland Park	KS	Plant	Ag Chem
Y		Kangen Pharmaceutical	Kansas City	KS	Human	Pharm
Y	Y	KanPRO Research, Inc.	Lawrence	KS	Human	BIO R&T
Y		Kansas City Allergy & Asthma	Lee's Summit	MO	Human	BIO R&T
Y		Kansas City Safety Alliance & Research	Lenexa	KS	Human	Pharm
Y		Kansas Regenerative Medicine Center	Manhattan	KS	Human	BIO R&T
Y		Keystone Laboratories, Inc.	Kansas City	KS	Human	BIO R&T
Y	Y	Kindred Biosciences	Elwood	KS	Animal	Pharm
Y	Y	Knit-Rite, Inc.- Thuasne	Kansas City	KS	Human	MED D
New	Y	Kremenak NanoTech	Columbia	MO	Human	MED D
Y	Y	KrolPharma Resources	Overland Park	KS	Human	Pharm
Y		Lab Corp (was PRL)	Overland Park	KS	Human	BIO R&T
Y	Y	Labconco Corporation	Kansas City	MO	Human	MED D
Y		Land O'Lakes Purina Feed	St. Joseph	MO	Animal	Feed

2018	'21 Survey	Company	City	State	Focus	Segment
New	Y	Latham Biopharm Group	Manhattan	KS	Human	Pharm
Y		Liberty Pharma Inc	Liberty	MO	Human	BIO R&T
Y		Lifeline Foods LLC	St. Joseph	MO	Plant	Feed
Y		LifeScience Technologies, LLC	Leawood	KS	Human	HC IT
Y	Y	Likarda, LLC	Kansas City	MO	Human	Pharm
New	Y	LPOXY Therapeutics, Inc.	Platte City	MO	Human	Pharm
Y		Manna Pro Products, LLC	Kansas City	KS	Animal	Feed
Y		Mars Petcare	Kansas City	MO	Animal	Feed
Y		MAWD Pathology Group, Inc.	Lenexa	KS	Human	BIO R&T
Y		Mazen Animal Health	St. Joseph	MO	Animal	Pharm
Y	Y	Medical Device Solutions	Lenexa	KS	Human	MED D
Y		Medical Positioning	Kansas City	Mo	Human	MED D
Y	Y	Merck Animal Health	De Soto	KS	Animal	Pharm
Y		MFA Inc	Columbia	MO	Plant	Ag Chem
Y		MGP Ingredients, Inc.	Atchison	KS	Plant	Feed
Y		Microprotein Technologies Inc	Lenexa	KS	Human	Pharm
Y		Mid-South Milling Company, Inc.	Kansas City	KS	Plant	Feed
Y	Y	Millipore Sigma	Lenexa	KS	Human	Pharm
Y		Missouri Cancer Associates LLC	Columbia	MO	Human	BIO R&T
Y	Y	Mobility Designed	Kansas City	MO	Human	MED D
Y	Y	Motega Health	Lawrence	KS	Human	Pharm
Y	Y	MRIGlobal	Kansas City	MO	Human	BIO R&T
Y		MS Biotec	Wamego	KS	Animal	Feed
Y		Nanova Inc	Columbia	MO	Human	MED D
Y		NBO3 Technologies	Manhattan	KS	Animal	Feed
Y		Nectagen, Inc.	Kansas City	KS	Human	BIO R&T
New	Y	Nemechek Technologies, LLC	Overland Park	KS	Human	MED D
Y		Nestle Purina PTC	St. Joseph	MO	Animal	Feed
Y		Netsmart	Overland Park	KS	Human	HC IT
New	Y	New Frontier Mobile Diagnostics	Kansas City	MO	Human	MED D
Y		Nexus Medical, LLC	Lenexa	KS	Human	MED D
Y		Nika Biochemicals Inc	Overland Park	KS	Animal	Pharm
Y		Norbrook Inc	Lenexa	KS	Animal	Pharm
Y		Nostrum Laboratories Inc.	Kansas City	MO	Human	Pharm
Y		Novadiol, Inc.	Shawnee	KS	Human	Pharm
Y		Now System, Inc.	Kansas City	KS	Human	Pharm
New		Oak Therapeutics	Lawrence	KS	Human	Pharm
Y		Oberd	Columbia	MO	Human	HC IT
Y		Omnium LLC	St. Joseph	MO	Plant	Ag Chem
Y	Y	One Medicine Consulting	Olathe	KS	Animal	Pharm
Y	Y	Onebiol, LLC	Manhattan	KS	Animal	Pharm
Y	Y	Orion Integrated Biosciences	Manhattan	KS	Animal	HC IT
Y		Ortho-Care, Inc.	Overland Park	KS	Human	MED D



2018	'21 Survey	Company	City	State	Focus	Segment
Y		OsteoGeneX/OssiFi	Overland Park	KS	Human	Pharm
Y		Pace Analytical Services, Inc.	Lenexa	KS	Human	BIO R&T
Y		Parnell Inc	Overland Park	KS	Animal	Pharm
New	Y	Patheous Health	Leawood	KS	Human	MED D
Y	Y	PatientsVoices™	Parkville	MO	Human	HC IT
Y	Y	PBI/Gordon	Shawnee	KS	Plant	Ag Chem
New		PepGel LLC	Manhattan	KS	Human	BIO R&T
Y		PETNET Solutions, Inc.	Overland Park	KS	Human	Pharm
Y	Y	pHLOGISTIX LLC	Kansas City	MO	Human	BIO R&T
Y		Phoenix Medical Research	Prairie Village	KS	Human	BIO R&T
Y	Y	Phoreus Biotechnology, Inc.	Olathe	KS	Human	MED D
Y		Phytotechnology Laboratories, L.L.C.	Lenexa	KS	Plant	Ag Chem
Y		Pinnacle Technology Inc.	Lawrence	KS	Human	MED D
Y		Pivot International	Lenexa	KS	Human	MED D
Y	Y	Plastikon Healthcare, LLC	Lawrence	KS	Human	MED D
Y	Y	Play-it Health Adherence Management	Overland Park	KS	Human	HC IT
Y	Y	PrairieFood	Lawrence	KS	Plant	Feed
New	Y	Precision Microwave Inc.	Manhattan	KS	Human	MED D
Y		Prommune Innovation in Immunotherapy	Overland Park	KS	Animal	Pharm
Y	Y	ProPharma Group Inc	Overland Park	KS	Human	Pharm
Y		ProTox Services	Lenexa	KS	Human	BIO R&T
Y	Y	PTC Laboratories, Inc.	Columbia	MO	Human	BIO R&T
New		PTS Pharmaceutical Consulting Global Svcs	Lenexa	KS	Human	BIO R&T
Y		Pulse Needle Free Systems Inc	Overland Park	KS	Animal	MED D
New	Y	QA Compliant	Stilwell	KS	Human	HC IT
Y		Quest Analytics, LLC	Overland Park	KS	Human	HC IT
Y		Quest Diagnostics Inc	Lenexa	KS	Human	BIO R&T
Y		QVM Services, LLC	Trimble	MO	Human	MED D
Y		RBC Medical Innovations	Lenexa	KS	Human	MED D
Y	Y	Redivus Health	Overland Park	KS	Human	HC IT
Y		Rockwell Labs LTD	Kansas City	MO	Plant	Ag Chem
New	Y	Ronawk	Olathe	KS	Human	MED D
Y		Rowe Neurology Institute	Lenexa	KS	Human	Pharm
New	Y	SaRA Health	Kansas City	MO	Human	HC IT
Y		SCD Probiotics	Kansas City	MO	Plant	BIO R&T
Y	Y	Schroer Manufacturing Company	Kansas City	KS	Animal	MED D
New	Y	Scollar	Kansas City	MO	Animal	HC IT
Y	Y	Sekisui XenoTech, LLC	Kansas City	KS	Human	BIO R&T
New		Shift Pharmaceuticals Holdings, Inc.	Columbia	MO	Human	Pharm
Y		Sickweather	Kansas City	MO	Human	HC IT
Y	Y	Sinclair Research Center	Auxvasse	MO	Human	BIO R&T
New		Sinochips Diagnostics	Kansas City	KS	Human	BIO R&T
Y	Y	SJK Global, LLC	Olathe	KS	Human	BIO R&T



2018	'21 Survey	Company	City	State	Focus	Segment
New		SMRxT	Overland Park	KS	Human	HC IT
Y		Southwest Technologies Inc	N Kansas City	MO	Human	MED D
Y	Y	Sparhawk Laboratories, Inc.	Lenexa	KS	Animal	Pharm
Y		Spinal Simplicity	Overland Park	KS	Human	MED D
Y	Y	Star Labs/Forage Research, Inc.	Clarksdale	MO	Animal	Feed
Y		Steinlite Corp	Atchison	KS	Plant	MED D
Y		Stone Manufacturing & Supply Co., Inc.	Kansas City	MO	Animal	MED D
Y	Y	Stowers Institute for Medical Research	Kansas City	MO	Human	BIO R&T
New		Sunflower Genomics	Lawrence	KS	Human	BIO R&T
New	Y	SureShow	Kansas City	KS	Human	HC IT
Y		SynTech Research	Stilwell	KS	Plant	Ag Chem
Y	Y	Telecare Global, LLC	Sedalia	MO	Human	HC IT
Y		TeraCrunch	Leawood	KS	Human	HC IT
Y		The Great Plains Laboratory	Lenexa	KS	Human	BIO R&T
Y		Thermo Fisher Scientific Inc.	Lenexa	KS	Human	BIO R&T
Y		Tiger Energy Solutions	Columbia	MO	Plant	Feed
Y	Y	Tonistry Inc.	St. Joseph	MO	Animal	Feed
Y		Trinity Biotech	Kansas City	MO	Human	Pharm
New	Y	TripleBlind	Kansas City	MO	Human	HC IT
Y		TriRX	Shawnee	KS	Animal	Pharm
Y	Y	TVAX Biomedical, LLC	Olathe	KS	Human	Pharm
Y		UBC – An Express Scripts Company	Kansas City	MO	Human	Pharm
Y	Y	Ventria Bioscience	Junction City	KS	Human	Pharm
New		Vesarex LLC	Lawrence	KS	Human	MED D
Y		Veterinary and Biomedical Research Ctr.	Manhattan	KS	Animal	BIO R&T
Y		Veterinary Specialty Products Inc	Shawnee	KS	Animal	BIO R&T
New		ViroVax	Lawrence	KS	Human	Pharm
Y		Vita A Zine Inc	Butler	MO	Animal	Feed
Y		Vitalograph Inc	Lenexa	KS	Human	MED D
Y	Y	WellSky (formerly Mediware)	Overland Park	KS	Human	HC IT
Y		Wilbur-Ellis Feed	St. Joseph	MO	Animal	Feed
Y		Worldwide Innovations & Tech	Lenexa	KS	Human	MED D
Y		Wyatt Cytoconsulting	Lenexa	KS	Human	BIO R&T
Y		Your Life Lived Well, LLC	Kansas City	MO	Human	HC IT
Y		Zoetis Inc.	Kansas City	MO	Animal	BIO R&T
Y		ZuPreem	Shawnee	KS	Animal	Feed
Y	Y	Zutron Medical	Lenexa	KS	Human	MED D

# Census Survey Results

Of the 350 companies targeted for the initial data inquiry, the 286 companies listed above were verified as operating in the region and fit the definition of a life sciences company. Of the 286 companies, about one-third, or 98 company representatives responded to the Census request.

Census questions regarding employment totals, area of focus, and expertise were required to complete the Census request online, and were noted as required on the paper or emailed form. The Census report questions regarding employment needs, future expansion, and research expenditures were not required and some companies chose not to disclose that information.

While the total number of respondents in 2018 and 2021 was slightly lower than in previous Census efforts, the number who completed all of the optional questions has proportionately increased over time. With the exception of the Diversity, Equity, and Inclusion questions, where 69 of the 98 answered, the remaining workforce questions were answered by between 87 and 90 of the respondents. Questions regarding sales and research expenditures were answered by almost 90% of respondents in 2021, compared to only two-thirds of respondents in 2006.

Survey completion challenges nationally have been documented in both the academic and business press. The initial goal at the outset of this data gathering process was a minimum of 100 responses. The Census process is completed every three years, thus eliciting trust and familiarity to some of the company respondents, as 48 of the 98 respondents also responded in 2018. Six companies have responded to every Census since 2006, and 26 of the current respondents have responded to four or more Census requests. Regardless, the response gathering process has taken longer with each successive Census effort. The data gathering process that began in mid-March was concluded in late August, following a severe drop off in the number of responses despite repeated outreach efforts.

The response method preferred by respondents has changed over time:

- Only one person reached via phone opted to complete the Census request on the phone. Forty percent of responses were gathered on the phone in 2006.
- Most company representatives who answered the phone requested the survey be sent to them via email, mail or a link.
- Of the 65 company representatives who were reached via phone who requested an email with a copy of the form, only 14 completed the Census request via either email or online. This is a significant decline from the 2018 Census, when 21 of the 47 companies reached via phone responded.
- One quarter of responses came via US Mail, which has been consistent over the last three Census periods.
- Nearly two-thirds of the responses in 2021 were completed online.

## Survey Respondents

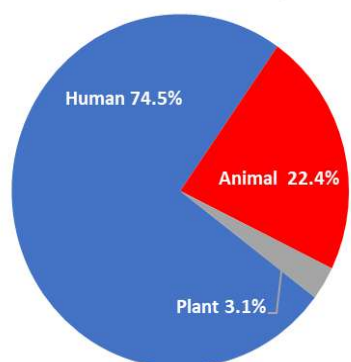
2021 Survey Respondents	
	# of Companies
Mail	24
Online	64
Email	9
Phone	1
Total Respondents	98

While the following analysis compares responses over time with some of the questions, only a portion of the responding companies are the same from Census to Census. However, the respondents in each Census report do represent a cross section of focus (animal, plant or human focused companies), of industry segments, and of company sizes.

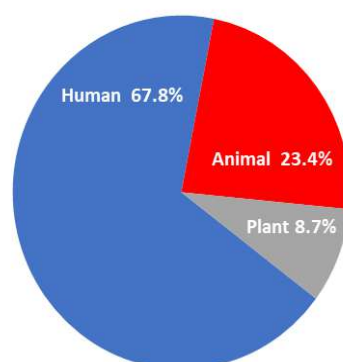
Companies with a primary focus on Plant Science were slightly under-represented in the 2021 Census with regard to the total universe of companies in the region. Plant Science is the smallest segment of the three areas of focus with only 22 companies, so there are fewer companies to reach out to for a response.

### Survey Respondents by Focus

Life Sciences Census Respondents

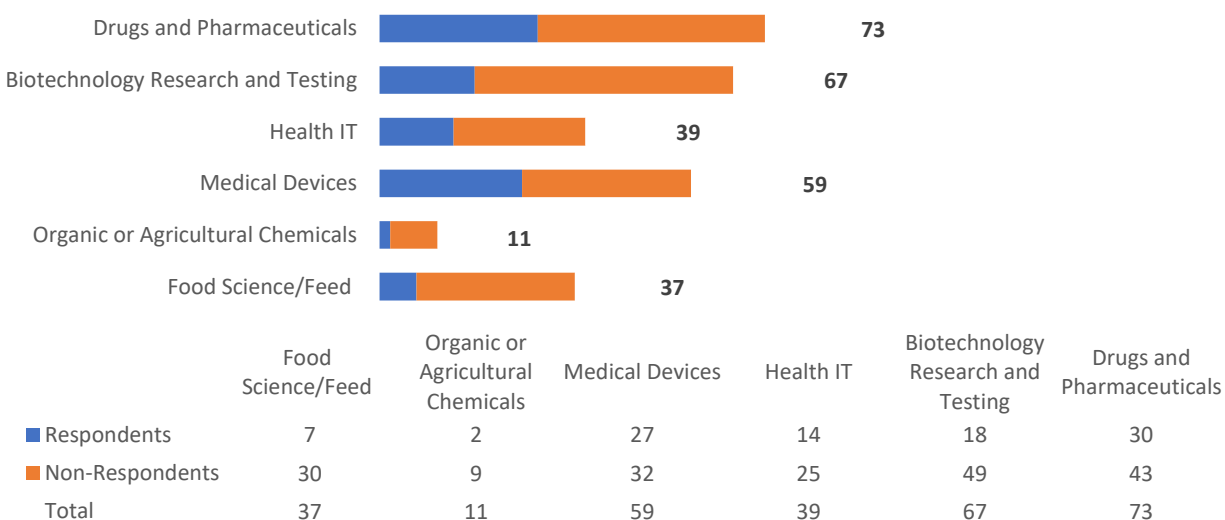


All Life Sciences Companies



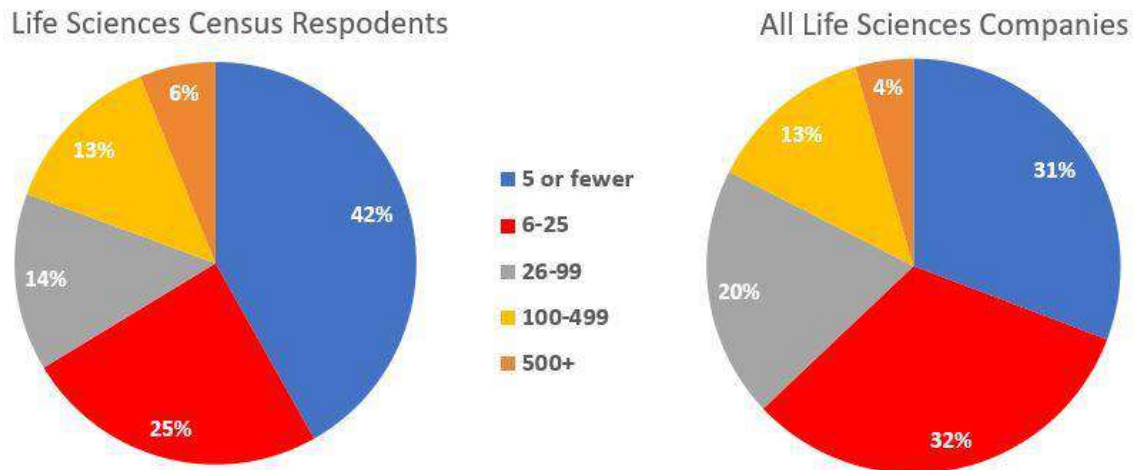
Overall, 98 of the 286 companies responded to the Census request, or 34% of the companies. Three industry segments exceeded this average: Medical Device (46%), Drugs and Pharmaceuticals (41%) and Health IT (36%). Organic and Agricultural Chemicals companies had the lowest response rate with only two of the 11 companies responding.

### Survey Respondents by Industry Segment



An estimate of total employment in the region is developed for all companies listed in the report, so it is possible to compare the respondents to the broader universe of life sciences companies. The respondent base is over-represented by companies with fewer than five employees, and slightly under-represented by companies slightly larger, with between 6 and 99 employees.

### *Respondents by Company Size*



Company revenue is not estimated for non-responding companies, so it is not possible to benchmark responses to the broader company universe. While employment estimates are made for each company on the overall list, the estimates measure employment in the region only, so a large company by revenue could have a small number of employees. Total employment of the respondents, about 5,700 employees represents less than 20% of the total of nearly 35,000 employees. This low total is a function of the high representation, nearly 50%, of companies with less than \$1 million in revenue.

### *Respondents by Company Size*

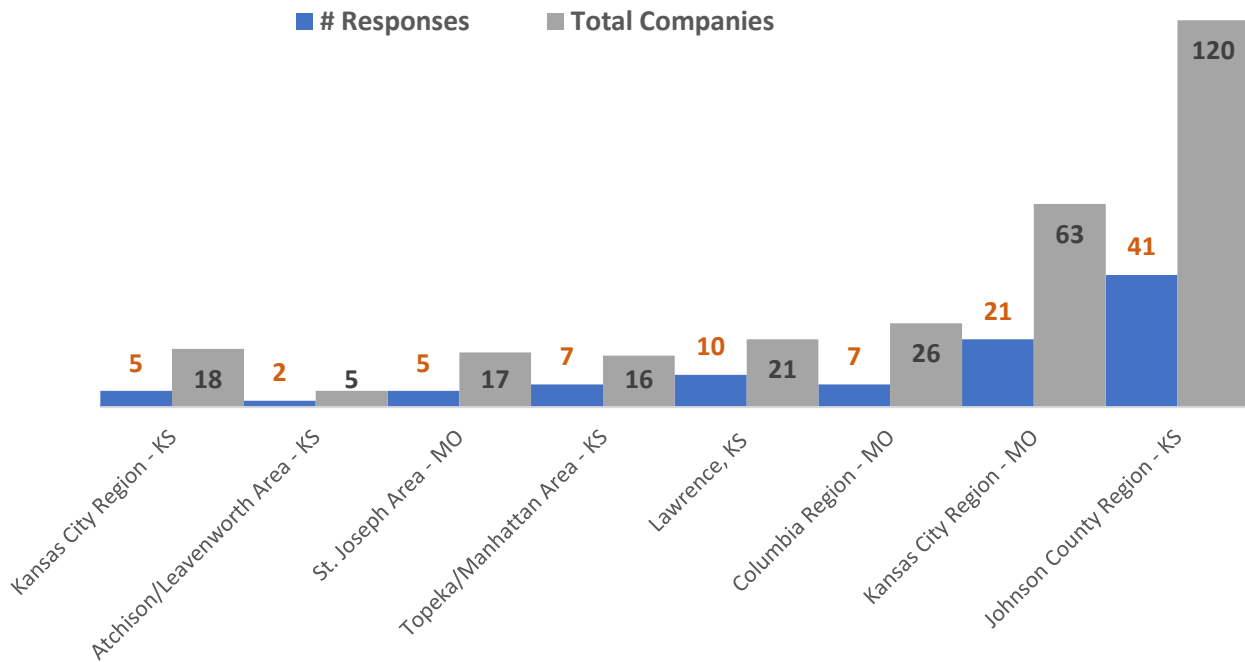
<i>Sales Range</i>	<i>2021 Responses</i>		<i>Total Employment</i>
<b>Pre-Revenue</b>	<b>10</b>	<b>11%</b>	<b>67</b>
<b>Less than \$100,000</b>	<b>6</b>	<b>7%</b>	<b>17</b>
<b>\$100,000 - \$500,000</b>	<b>19</b>	<b>22%</b>	<b>374</b>
<b>\$500,000 - \$1 million</b>	<b>8</b>	<b>9%</b>	<b>49</b>
<b>\$1 - \$5 million</b>	<b>12</b>	<b>14%</b>	<b>140</b>
<b>\$5 - \$20 million</b>	<b>15</b>	<b>17%</b>	<b>531</b>
<b>\$20 - \$100 million</b>	<b>7</b>	<b>8%</b>	<b>808</b>
<b>+ \$100 million</b>	<b>10</b>	<b>11%</b>	<b>3,693</b>

One-third of the companies in Kansas City, MO, and the Johnson County, KS regions responded to the Census request. The highest response rate came from Lawrence, KS, with nearly half of the 21 companies responding in 2021. Overall, responses did reflect the rural, suburban and urban geographic segments. The geographic diversity is a slight improvement over the 2018 Census response when only three of 20 companies responded from Kansas City, KS, and only four of 19 St. Joseph, MO companies responded.

### Life Sciences Company Respondents by Region

Region	# Responses	% of Total	Total Companies	%
Kansas City Region - KS	5	28%	18	6%
Atchison/Leavenworth Area - KS	2	40%	5	2%
St. Joseph Area - MO	5	29%	17	6%
Topeka/Manhattan Area - KS	7	44%	16	6%
Lawrence, KS	10	48%	21	7%
Columbia Region - MO	7	27%	26	9%
Kansas City Region - MO	21	33%	63	22%
Johnson County Region - KS	41	34%	120	42%
<b>Total</b>	<b>98</b>	<b>34%</b>	<b>286</b>	<b>100%</b>

### Respondents and Presence by Region



## **Workforce**

Questions regarding workforce and employment projections provide insight into the health of the region's life sciences economy. Parameters surveyed included hiring projections, educational attainment needs, and public workforce system usage. A question was added in 2015 to gauge whether companies are increasing their usage of part-time and temporary workers.

Several factors impact the quality of information provided by respondents and include perceived confidentiality concerns, respondent's limited knowledge of company workforce data, and/or incomplete corporate planning processes that make for unreliable workforce estimates/projections. Small companies often use outsourced administrative functions, such as accounting, legal, and marketing services, so despite a low formal headcount, there is broader employment impact than is captured in this data gathering effort and report.

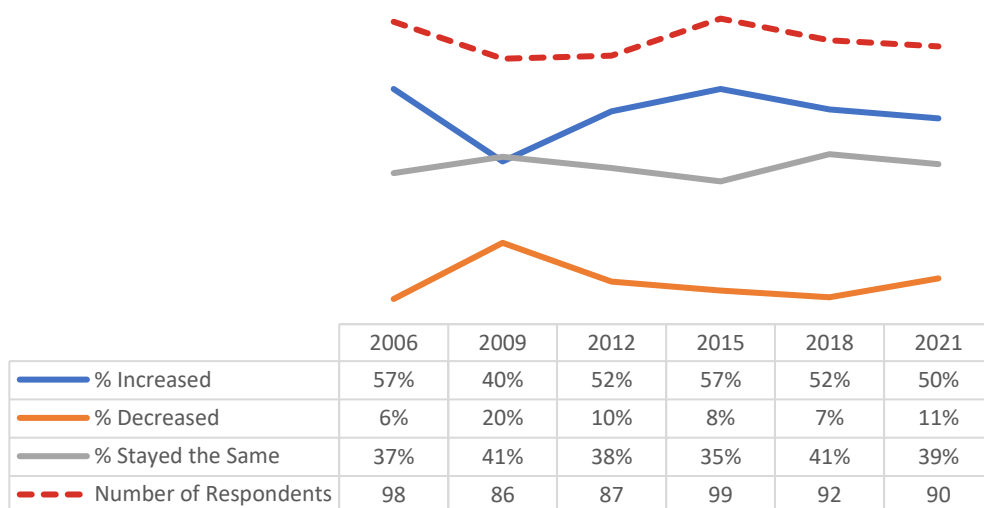
Survey respondents were not required to provide job titles, but of the 93 who did, 63 of the respondents listed their title as President and/or CEO, and most of the remainder of the respondents were a member of senior management and/or responsible for human resources. Respondents were asked to provide employment totals for this region only, but in the case of companies with a national or global footprint, some responses may reflect a wider geographic area than the area represented in this report. Conversely, companies with multiple locations may or may not have tallied all employment in the Census region and may have reported for their location only.

Despite these caveats, companies hiring new employees can be viewed reasonably as optimistic about the company's future prospects. The current results indicate that many of the region's life sciences companies are growing and adding employment.

## Employment Trends

Half of the survey respondents who answered the question about employment changes in the past year reported an increase in employment over the previous year. The number of employers reporting employment as either stable or increasing in the last year declined slightly since the 2018 report, to 89%, but is an improvement over the 2009 Census response during the 2008-09 recession, where only 81% reported employment as stable or increasing.

### Change in Employment



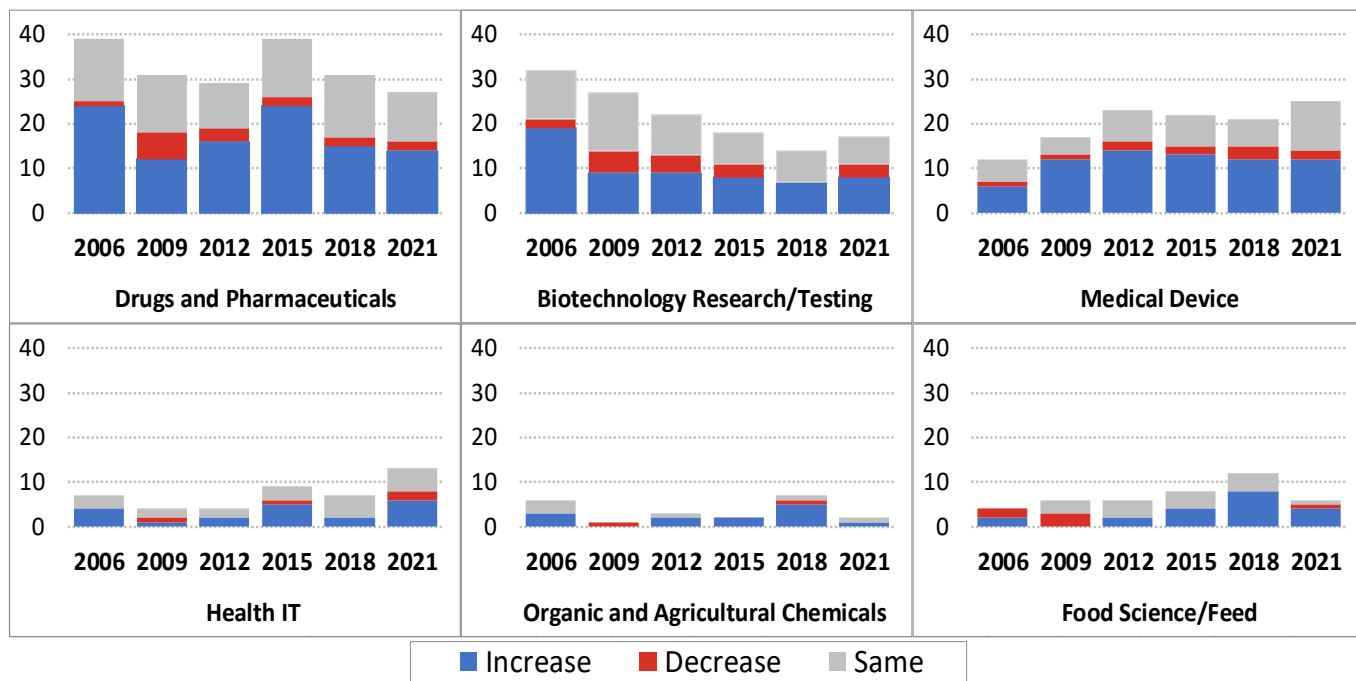
Change in employment was examined by industry segment, to determine if employment changes were more prevalent by segment. In 2021, the Biotechnology Research and Testing segment led in decreases in staff, with three of the respondents indicating decreases, and less than half of the respondent companies indicating employment increases over the past two Census periods. Food Science and Organic and Agricultural Chemical companies have higher rates of increases, relative to unchanged or decreasing employment.

### Employment Trend by Industry Segment

Industry Segment	# Responses	Increased	Decreased	Steady
Drugs and Pharmaceuticals	27	14 / 52%	2 / 7%	11 / 41%
Biotechnology Research and Testing	17	8 / 47%	3 / 18%	6 / 35%
Health IT	13	6 / 46%	2 / 15%	5 / 38%
Medical Device	25	12 / 48%	2 / 8%	11 / 44%
Organic and Agricultural Chemicals	2	1 / 50%	0 / 0%	1 / 50%
Food Science/Feed or Plant-Based Products	6	4 / 67%	1 / 17%	1 / 17%

Due to the small number of respondents in three of the six industry segments, caution should be used before reading too much into employment projections. The Trend chart below does show a decline in both survey participation, and in employment gains in the Biotechnology Research and Testing segment. In the Drugs and Pharmaceuticals segment, 24 of the 39 respondents reported an increase in employment in 2015, followed by declining participation, as well as fewer companies noting an increase in employment. After a down year in 2018, when only two of the seven Health IT respondents reported an increase, six of 13 respondents noted an increase in staff in 2021, although two did report a decrease in the previous year.

*Employment Trend by Segment, 2006-2021*



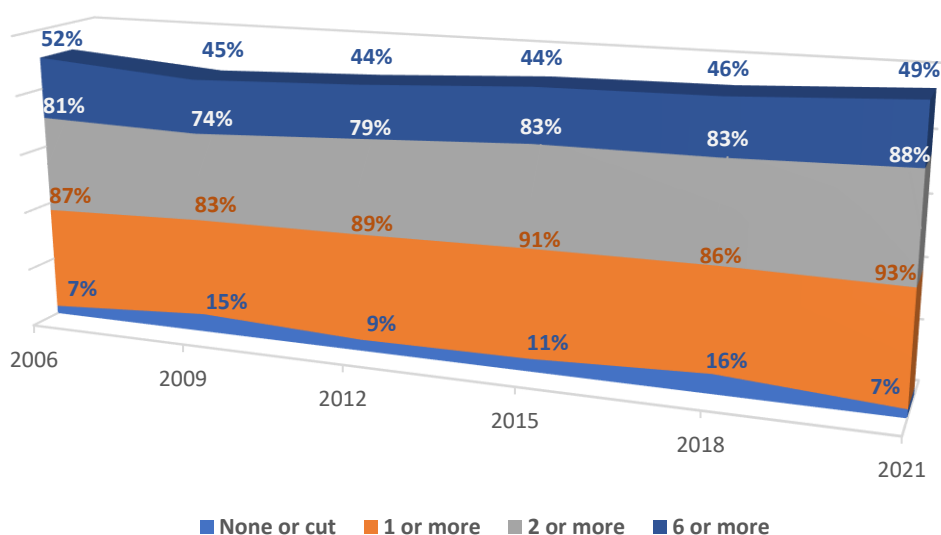


## Employment Projections

Hiring plans are a gauge of optimism regarding company growth prospects. Companies were asked to consider their hiring plans over the next 36 months, and 90 companies responded.

While the employment picture compared to the previous year was positive, the projected employment represents an even more positive outlook over the next three years. A record high 88% of respondents indicate plans to hire two or more employees in the next three years, compared to 83% in the two previous Census periods. Only 7% of respondents indicate plans to either cut staff, or not add any additional headcount in the next three years, less than half compared to 2018. A record nine respondents indicated plans of adding more than 100 employees in the next three years.

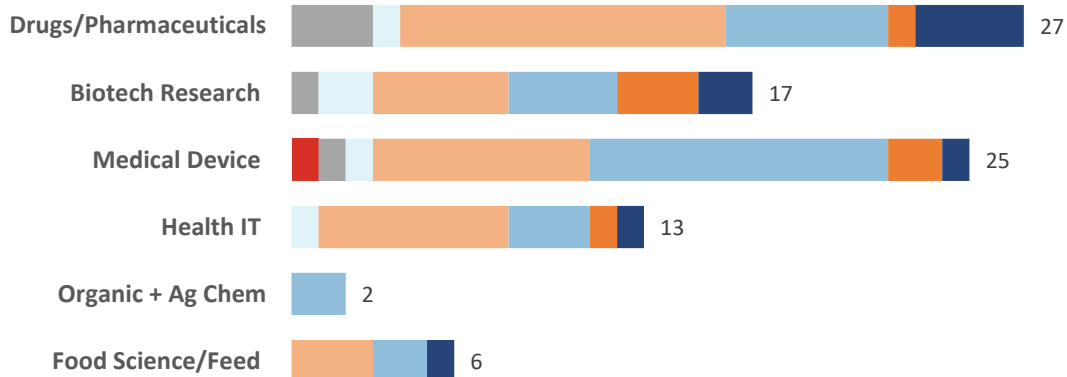
*Hiring Plans Over Next 36 Months*



	<b>CUT STAFF</b>	<b>0</b>	<b>1</b>	<b>2-5</b>	<b>6-25</b>	<b>26-100</b>	<b>100+</b>
2006	1	10	5	25	25	15	4
2009	4	10	7	23	24	8	4
2012	1	8	9	30	25	8	4
2015	0	9	7	37	30	8	4
2018	1	12	3	34	24	14	4
2021	1	5	5	35	28	7	9

The low number of responses in the smaller industry segments prevent reading too much into the results of the analysis, although every segment except Organic and Agricultural Chemicals had at least one employer indicating growth of over 100 employees. Respondents in the Drugs and Pharmaceutical segment had the most responses for hiring less than five employees over the next three years, but also the most respondents indicating growth of over 100 employees. Given the small average size of Medical Device firms, this segment showed the most optimism, with over half of respondents looking to add more than six employees.

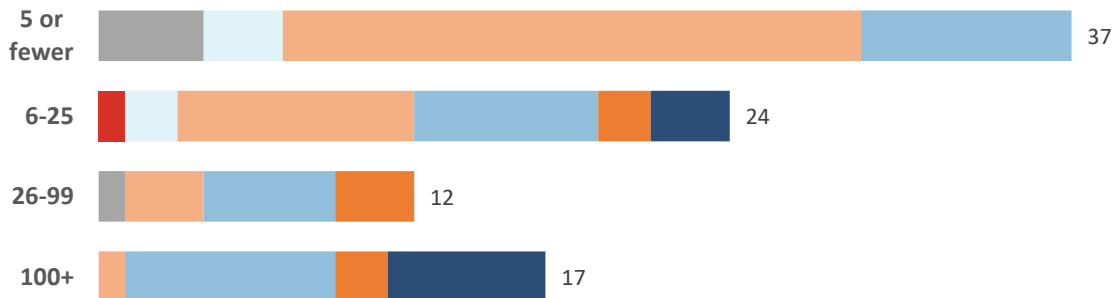
### Employment Growth Projections by Industry Segment



	Cut Staff	0	1	2-5	6-25	26-100	>100	Response
Drugs/Pharmaceuticals	0	3	1	12	6	1	4	27
Biotech Research	0	1	2	5	4	3	2	17
Medical Device	1	1	1	8	11	2	1	25
Health IT	0	0	1	7	3	1	1	13
Organic + Ag Chem	0	0	0	0	2	0	0	2
Food Science/Feed	0	0	0	3	2	0	1	6

Not surprisingly, the larger companies had the largest proportion of projections for hiring more than 25 workers over the next three years, but five companies with 25 or fewer employees expect to more than double their headcount. Similar optimism was noted for a majority of the smallest firms, with over 80% of them planning to add two or more employees.

### Employment Growth Projections by Employment Size



	Cut Staff	0	1	2-5	6-25	26-100	>100	Response
5 or fewer	0	4	3	22	8	0	0	37
6-25	1	0	2	9	7	2	3	24
26-99	0	1	0	3	5	3	0	12
100-499	0	0	0	1	6	2	4	13
500+	0	0	0	0	2	0	2	4

## Use of Part Time or Temporary Workers

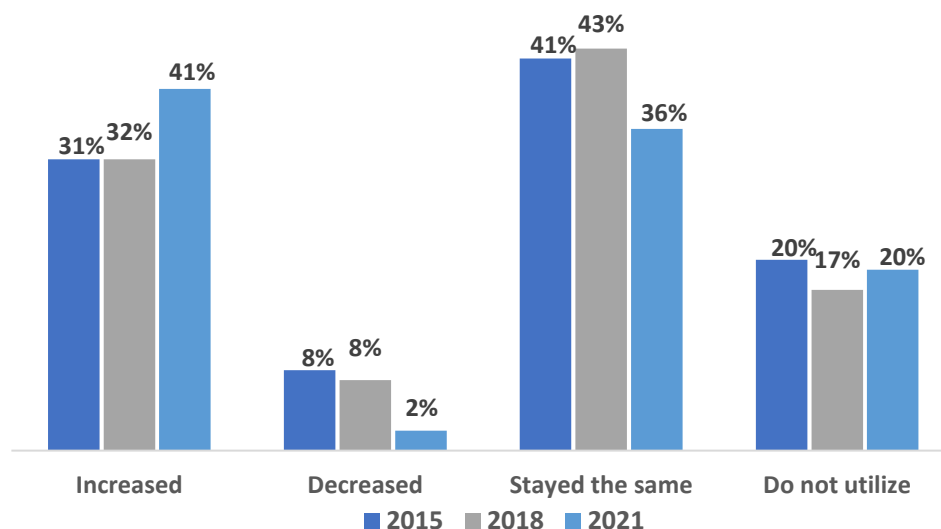
Evidence of increasing reliance on temporary or part-time workers across many US industries led to the addition of this question to the survey beginning in 2015.

A notable increase in the number of respondents reporting an increase in part-time and temporary workers was noted in 2021. Roughly 80% of respondent companies utilize part time or temporary workers to some degree, and this has been consistent since the addition of this question in 2015.

### Use of Part Time or Temporary Workers

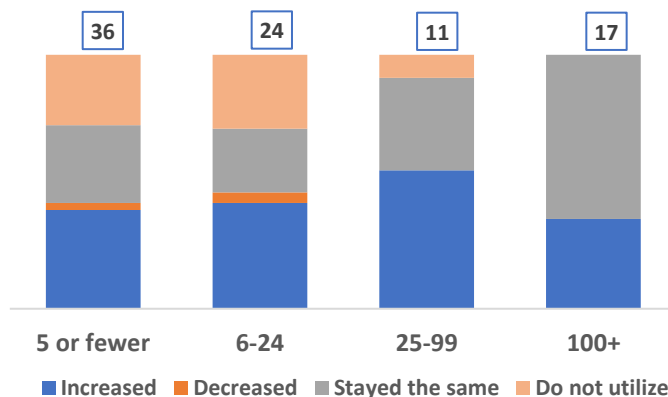
	2021	%
Increased	36	41%
Decreased	2	2%
Stayed the same	32	36%
Do not utilize	18	20%
<b>Total Responses</b>	<b>88</b>	

### Part-Time or Temporary Workers Trend



None of the respondents with more than 100 employees responded that they did not utilize part-time or temporary workers. Proportionally, the largest percentage of employers who reported increasing use of part-time or temporary workers were those with 25-99 employees, although increases were reported across all company sizes.

### Use of Part-Time or Temporary Workers by Company Size



	Increase	Decrease	Same	Don't Use
5 or less	14	1	11	10
6-25	10	1	6	7
26-99	6	0	4	1
100+	6	0	11	0

## **Workforce Educational Needs**

Mid-America Regional Council's Monthly Workforce Report indicates that for at least the 10-county Kansas City region, unemployment is continuing to decline from the April 2020 peak, and job postings continue trending upward. While good news for job seekers, employers with open positions are reporting worker shortages across numerous industry sectors.

To quantify workforce needs, respondents were asked about their greatest workforce needs in the next 36 months by level of educational attainment. Quantifying educational attainment needs does not provide the full picture of employment needs, as specific examination of position requirements and degrees would entail a much more detailed survey. However, the educational attainment data does provide a high-level overview of the prevalence and kinds of needs of the respondent companies.

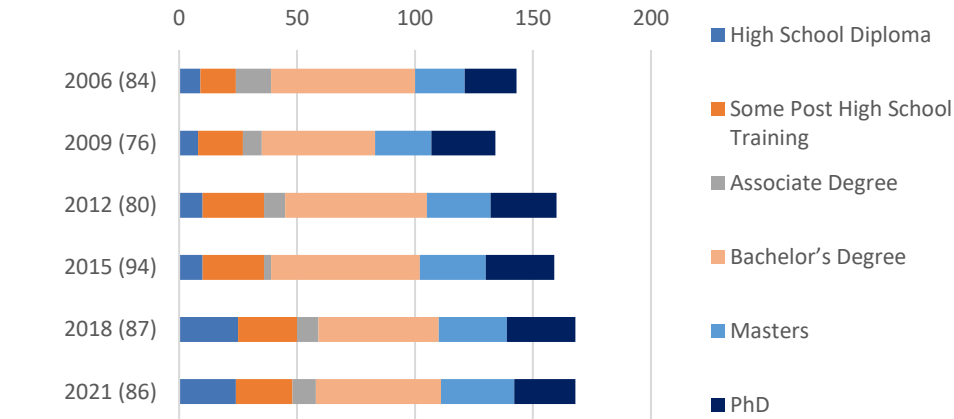
Companies reporting position needs were not limited to a single answer, so total responses exceed the number of companies responding. In 2021, 86, or 88% of respondents listed 168 position needs, which is nearly identical to the 2018 response where 87 companies listed 167 position needs.

### ***Educational Attainment Needs***

<b><i>Education Level</i></b>	<b><i>#</i></b>	<b><i>%</i></b>
High School Diploma	<b>24</b>	<b>28%</b>
Some Post High School Training	<b>24</b>	<b>28%</b>
Associate Degree	<b>10</b>	<b>12%</b>
Bachelor's Degree	<b>53</b>	<b>62%</b>
Masters	<b>31</b>	<b>36%</b>
PhD	<b>26</b>	<b>30%</b>
<b>Total Responses</b>	<b>168</b>	
<b>Companies Responding</b>	<b>86</b>	

Proportionally, 2021 responses were also nearly identical to 2018 position needs responses. The number of companies noting demand for positions requiring a high school diploma, or some level of post high school training rose significantly over the last two Census periods. Demand for employees with a masters or PhD degree has been stable over time, following a slight uptick noted in the 2009 Census report. Associate degree positions have been the least required need in every Census period since 2009.

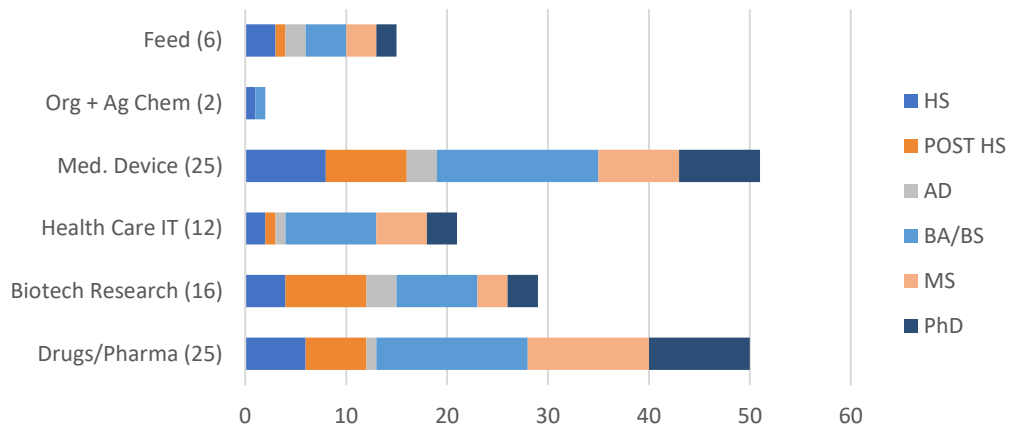
### Workforce Educational Needs Over Time



(# Companies)	2006 (84)	2009 (76)	2012 (80)	2015 (94)	2018 (87)	2021 (86)
High School	9	8	10	10	25	24
Some Post HS	15	19	26	26	25	24
Associate Degree	15	8	9	3	9	10
Bachelor's Degree	61	48	60	63	51	53
Masters	21	24	27	28	29	31
PhD	22	27	28	29	29	26

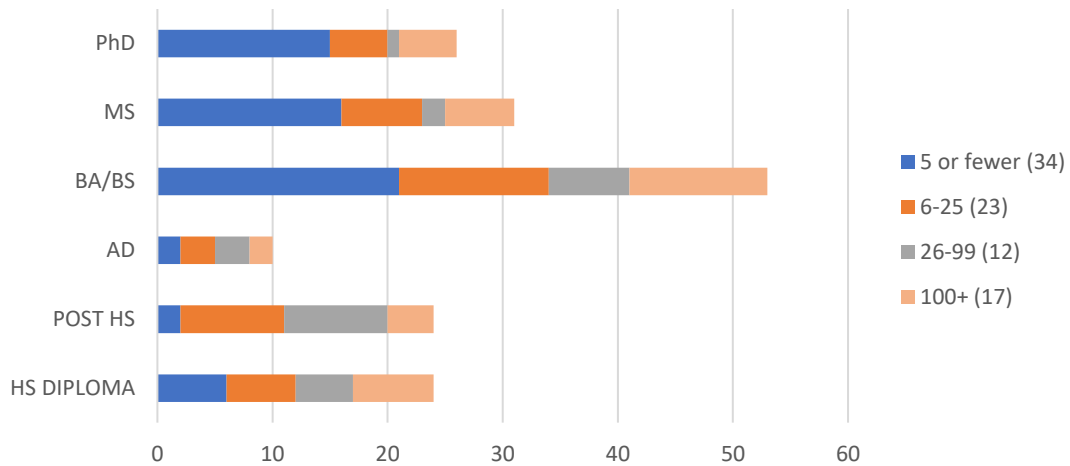
Excluding the Organic and Agricultural Chemicals segment due to the low response rate, position needs are reasonably consistent across the remaining industry segments, with needs across all educational levels.

### Workforce Educational Needs by Area of Expertise



Smaller companies responded with a larger proportional demand for advanced degrees relative to companies with more than 26 employees. Conversely, position demand for less than associate degree educational attainment candidates is highest among the companies with more than 26 employees.

### Workforce Educational Needs by Employment Size

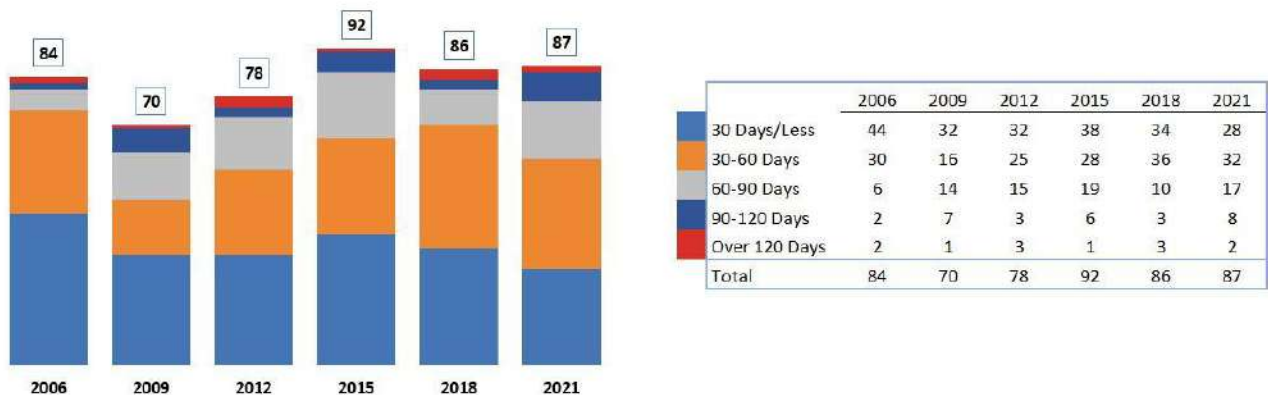


### Workforce Vacancies

The definition of 'entry-level' positions can vary from segment to segment, and even from company to company. Typically, the entry level position supports operations, brings new ideas or input, and can be developed into the next generation of the company's workforce and culture. Challenges with recruiting and filling entry-level positions can signal opportunities to develop new workforce initiatives to respond to these challenges.

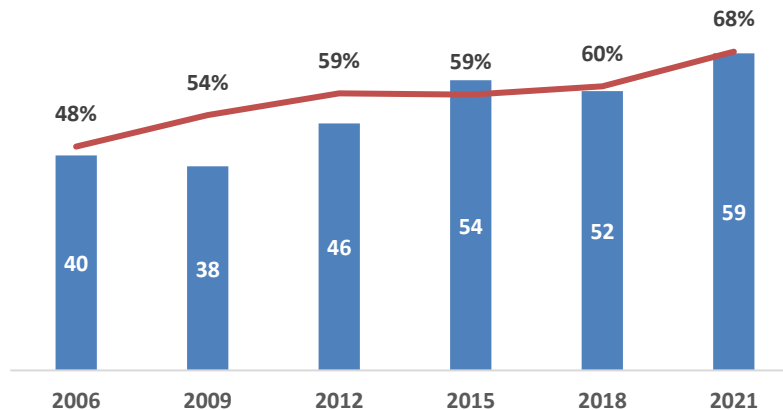
The survey asked respondents to provide an average length of vacancy for entry level positions at their company based on a range of time periods. The workforce vacancy average captures responses for entry level positions only. Companies seeking specialized advanced degrees or experience are likely to have different lengths of vacancies than for entry-level positions.

### Average Length of Entry-Level Vacancies Over Time



Companies taking longer to fill entry-level positions has been a trend since the 2006 Census. Over two-thirds of respondents noted a time period of longer than 'less than 30 days' to fill open positions, although most note that positions are filled within 90 days.

### Workforce Vacancies Longer than 30 Days



Limited responses from some geographic regions prevent drawing any firm conclusions, but Kansas regions report a higher average length of time to fill positions than those located in Missouri. The highest number was in Johnson County, although Johnson County is also home to the highest number of total companies.

### Workforce Vacancies > 30 days by Region

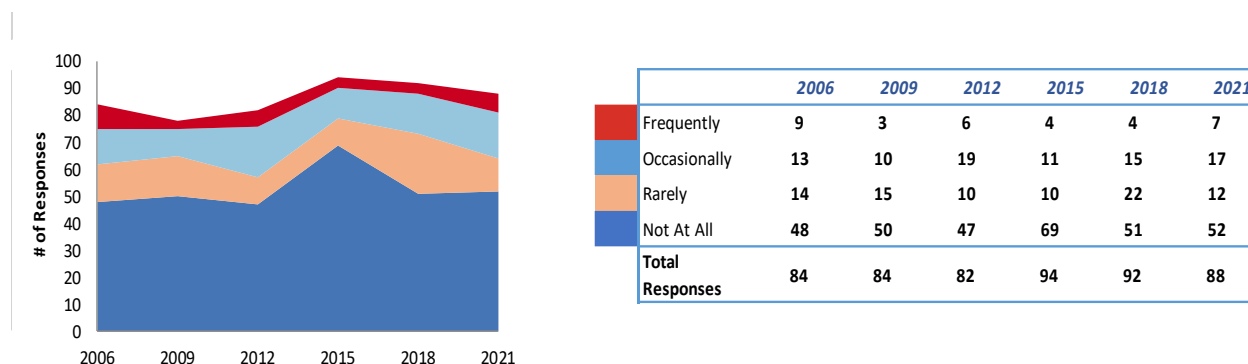
Region	Answered Question	>30 days responses	%
St. Joseph Area - MO	3	1	33%
Columbia Region - MO	6	3	50%
Kansas City Region - MO	22	14	64%
Johnson County Region - KS	35	24	69%
Lawrence, KS	10	7	70%
Topeka/Manhattan Area - KS	5	4	80%
Atchison/Leavenworth Area - KS	2	2	100%
Kansas City Region - KS	4	4	100%
<b>Overall</b>	<b>87</b>	<b>59</b>	<b>68%</b>

Employers seeking to fill entry-level positions in a difficult job market may choose to recruit and hire employees from outside the region. Additionally, a lack of local candidates can also signal workforce development opportunities to focus on educational opportunities and programs of study to meet employer needs.

Respondents were asked about the need to recruit workers for entry level positions from outside the region due to the quality and/or quantity of the available workforce in the last 24 months. While this question is answered once per company, it does not capture the entire magnitude of hiring challenges. For example, a company looking to recruit for dozens of positions will have the same answer as the five-person company looking to hire one person.

More respondents reported the need to recruit outside the region either occasionally, or frequently, relative to the 2018 respondents. In 2018, nearly 80% of respondents said positions were filled locally, while in 2021 that number slipped to about 72% of respondents.

### *Companies Recruiting Outside the Region*



Despite their location in the region's largest population center, companies in Johnson County, KS, and Kansas City, MO, were the most frequent respondents noting the need to recruit from outside the region, either occasionally or frequently.

### *Location of Companies Recruiting Outside the Region*

<b>Recruiting outside the region:</b>				
<b>Region</b>	<b>Not at All</b>	<b>Rarely</b>	<b>Occasionally</b>	<b>Frequently</b>
Atchison/Leavenworth Area - KS	2	0	0	0
Topeka/Manhattan Area - KS	2	0	1	2
Kansas City Region - KS	4	1	0	0
Lawrence, KS	5	2	1	1
Johnson County Region - KS	26	3	6	2
Columbia Region - MO	1	2	2	0
St. Joseph Area - MO	2	0	1	0
Kansas City Region - MO	10	4	6	2
<b>Total Respondents</b>	<b>52</b>	<b>12</b>	<b>17</b>	<b>7</b>
<b>% of Total Respondents</b>	<b>59%</b>	<b>14%</b>	<b>19%</b>	<b>8%</b>

Company respondents were asked, "Would you be willing to have a representative of your company serve in an advisory capacity to inform and influence regional life sciences workforce development efforts?" Thirty-two of the 98 respondents indicated an increase in interest in participating on an advisory committee to address life sciences workforce issues.



The highest response rate, 13, or 41% of affirmative responses came from those in companies with five or fewer employees. Affirmative responses came from respondents in all industry segments except the Organic and Agricultural Chemicals segment, but proportionally, the most interest came from respondents in the Drugs and Pharmaceutical and Medical Device segments. Overall, 32 companies wishing to be engaged indicates that companies are interested in actively participating in efforts to prepare future employees with appropriate skills necessary for a growing life sciences industry.

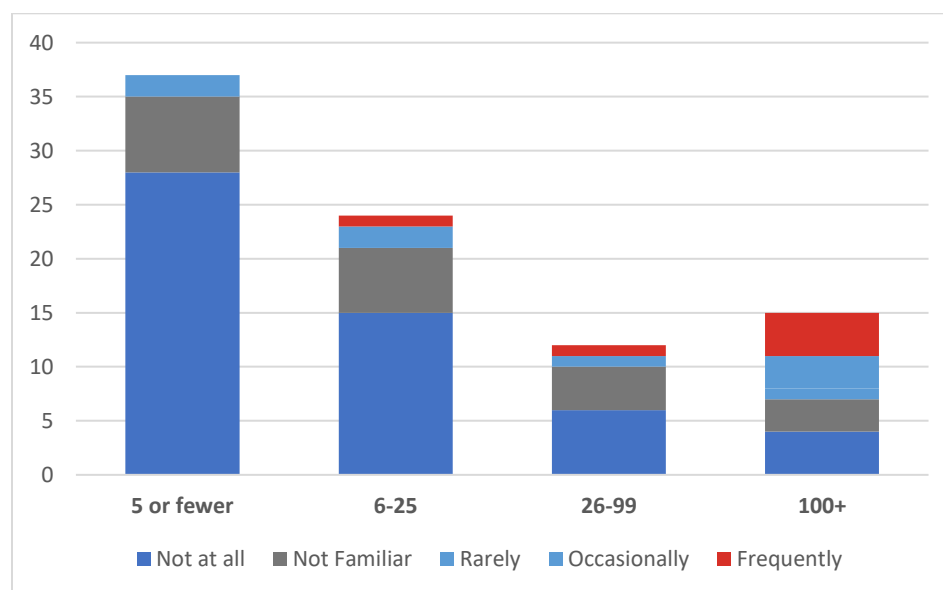
When asked about their usage of the public workforce system, 83% of the respondents indicated that they were either not using the system, or not familiar with it, a percentage that has been rising since 2012. The 'Not Familiar' response was higher in the past two Census reports and only six respondents indicated frequent use of the public workforce system. The results indicate an opportunity for improving access to and awareness of these programs.

### *Use of the Public Workforce System*

<i>Use of the Public Workforce System</i>												
	<i>2006</i>		<i>2009</i>		<i>2012</i>		<i>2015</i>		<i>2018</i>		<i>2021</i>	
<b>Not at All</b>	<b>54</b>	<b>64%</b>	<b>39</b>	<b>52%</b>	<b>43</b>	<b>52%</b>	<b>63</b>	<b>66%</b>	<b>50</b>	<b>55%</b>	<b>53</b>	<b>60%</b>
<b>Rarely</b>	<b>7</b>	<b>8%</b>	<b>13</b>	<b>17%</b>	<b>9</b>	<b>11%</b>	<b>10</b>	<b>11%</b>	<b>9</b>	<b>10%</b>	<b>4</b>	<b>5%</b>
<b>Occasionally</b>	<b>8</b>	<b>10%</b>	<b>9</b>	<b>12%</b>	<b>18</b>	<b>22%</b>	<b>12</b>	<b>13%</b>	<b>12</b>	<b>13%</b>	<b>5</b>	<b>6%</b>
<b>Frequently</b>	<b>7</b>	<b>8%</b>	<b>6</b>	<b>8%</b>	<b>6</b>	<b>7%</b>	<b>4</b>	<b>4%</b>	<b>1</b>	<b>1%</b>	<b>6</b>	<b>7%</b>
<b>Not Familiar</b>	<b>8</b>	<b>10%</b>	<b>8</b>	<b>11%</b>	<b>7</b>	<b>8%</b>	<b>6</b>	<b>6%</b>	<b>19</b>	<b>21%</b>	<b>20</b>	<b>23%</b>
<b>Total Responses</b>	<b>84</b>		<b>75</b>		<b>83</b>		<b>95</b>		<b>91</b>		<b>88</b>	

Companies with 25 or fewer employees are the most likely to respond that they are not users of the public workforce system, or are not familiar with it, while companies with more than 100 employees are the most frequent users.

### *Use of the Public Workforce System by Company Size*

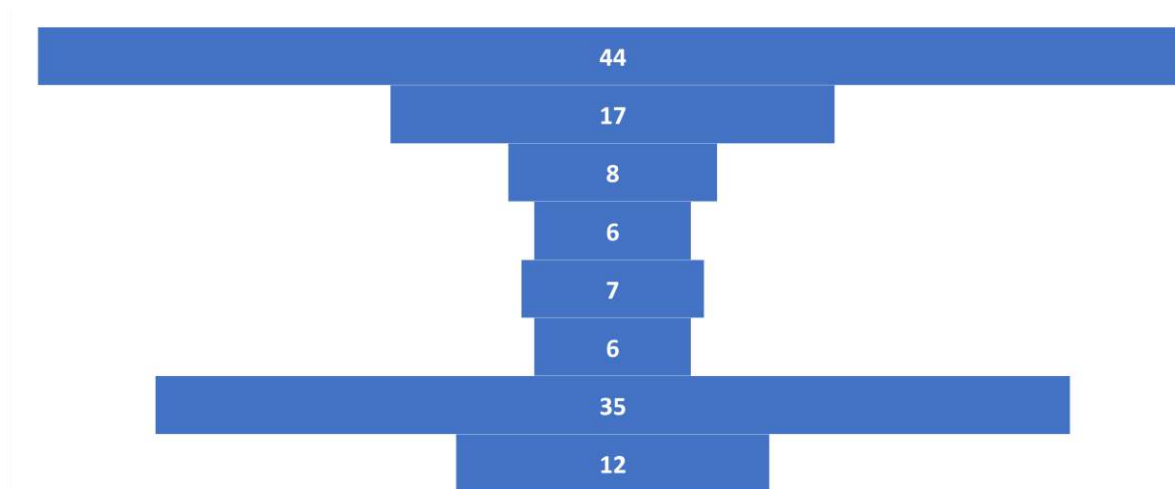


## **Diversity, Equity and Inclusion**

Questions gauging the region's life sciences companies and their views and practices in regard to Diversity, Equity, and Inclusion (DEI) were added to the survey for the first time for the 2021 Census effort. The response rate for this question was lower relative to the other questions, with 69, or about 70% of the companies providing a response. The question response options posted online on the first day the Census request was sent out via email were subsequently revised following the first day. Fourteen companies responded to the question on the first day, but their responses were not included since the response choices had been changed. Had those responses been usable, there would have been 83 responses, for about an 85% response rate.

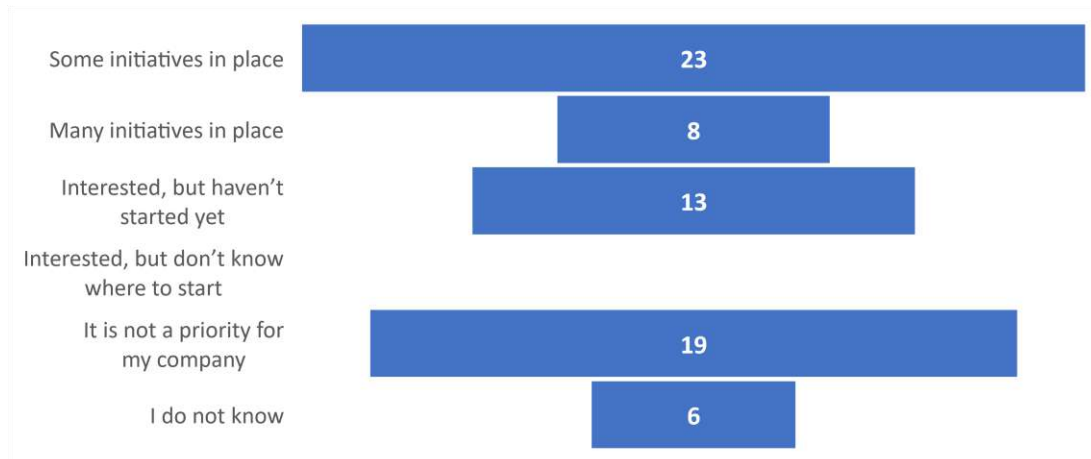
Almost two-thirds of the respondents responded that their company's mission, vision, or values demonstrate commitment to diversity and half responded that a policy was in place that specifically prohibits discrimination. Respondents could choose all answers that applied, so the total number of responses was greater than 69.

### ***Current State of Diversity, Equity and Inclusion (DEI) in Your Company***



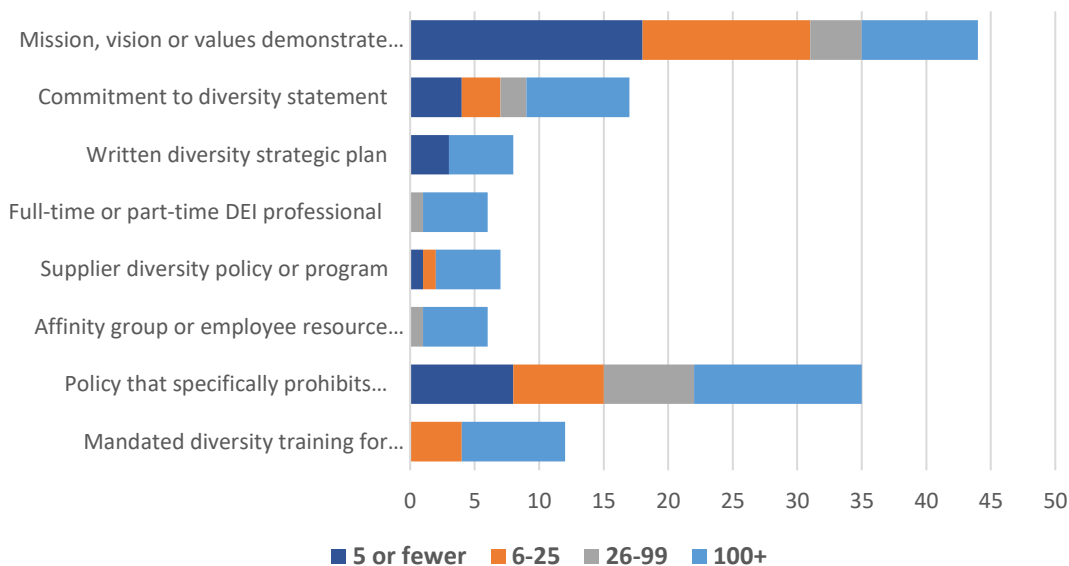
When asked about current interest and/or efforts to implement DEI practices in their companies, 23 or one-third of respondents said the company had some initiatives in place. No companies responded that they were interested, but did not know how to begin, and six responded that they did not know if their company had initiatives or was planning for initiatives. Nineteen, or 28% of respondents said DEI initiatives were not a priority at this time.

### Current Level of Interest with Regard to DEI Initiatives in Your Company



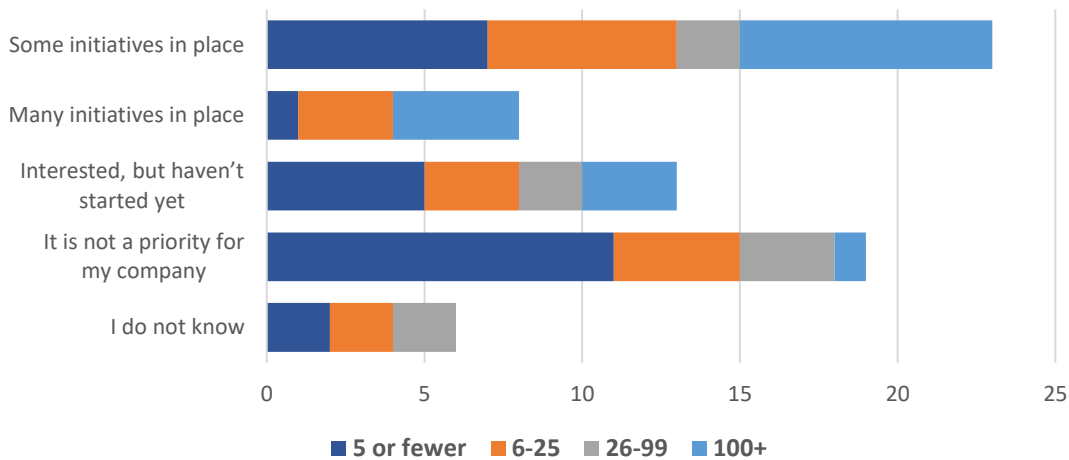
Company representatives responding that their company's mission, vision or values demonstrate commitment to diversity were from all company sizes, as were those who responded that a policy was in place that specifically prohibits discrimination. More specific measures, such as full- or part-time DEI professionals, or supplier diversity program were much more frequently cited by companies with a larger employment base, although some respondents with fewer than 25 employees may be part of a larger company that is headquartered outside of the Census report region.

### DEI Initiatives by Company Size



Respondents from companies of all sizes indicated that their companies had some initiatives in place, although the largest segment of respondents that indicated many initiatives in place were those from companies with more than 100 employees. Company respondents with five or fewer employees were the most likely to indicate that DEI initiatives were not a priority, likely a function of the size of the company, which would have limited resources and options for pursuing such initiatives.

### Current Level of DEI Interest by Company Size

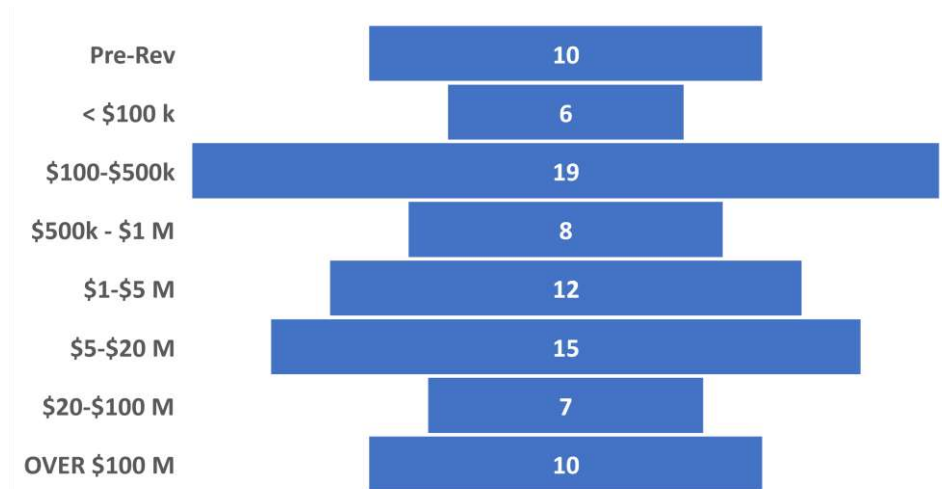


It should be noted that the option was not presented for the company to identify as a minority or woman-owned, or small disadvantaged business as part of the survey. One company who responded to the Census request via mail noted minority-owned certification in writing. Inclusion of an option to state such certifications could be included in subsequent Census efforts.

### Sales and Research Expenditures

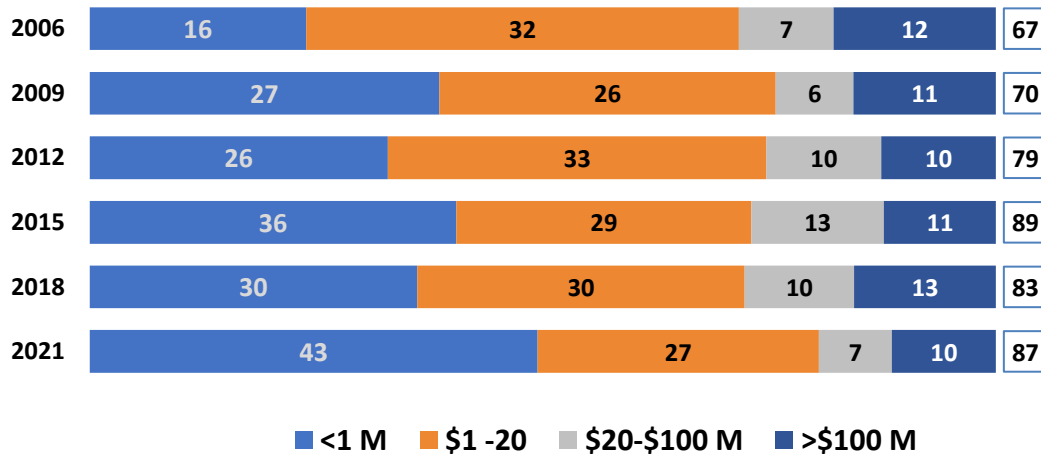
Revenue/Sales data provides one indicator of industry size and scope. Respondents were asked to provide revenue estimates for their companies in each Census report year. Of the 87 company respondents who provided an answer to the revenue by range question, 43, or nearly half reported revenues of less than \$1 million.

### Respondent Company Revenues by Range



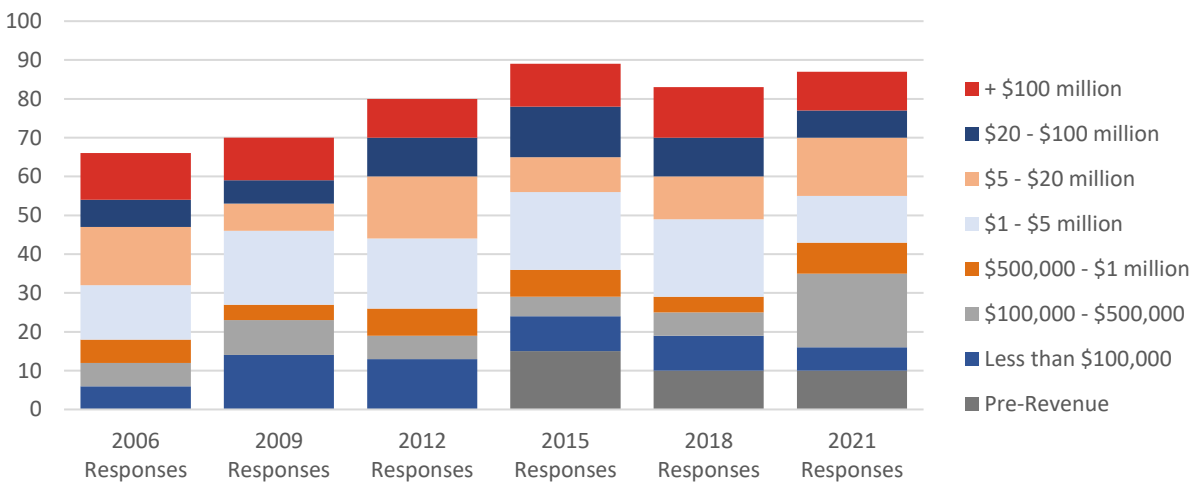
While the respondent base may not be representative of the entire region, the respondent revenue base had been proportionally similar over the past five Census periods, with between 72-76% of respondents reporting revenues of less than \$20 million. In the 2021 Census, 80% of the respondents reported revenues of less than \$20 million, and half reported less than \$1 million.

### Respondent Company Revenues Ranges Over Time



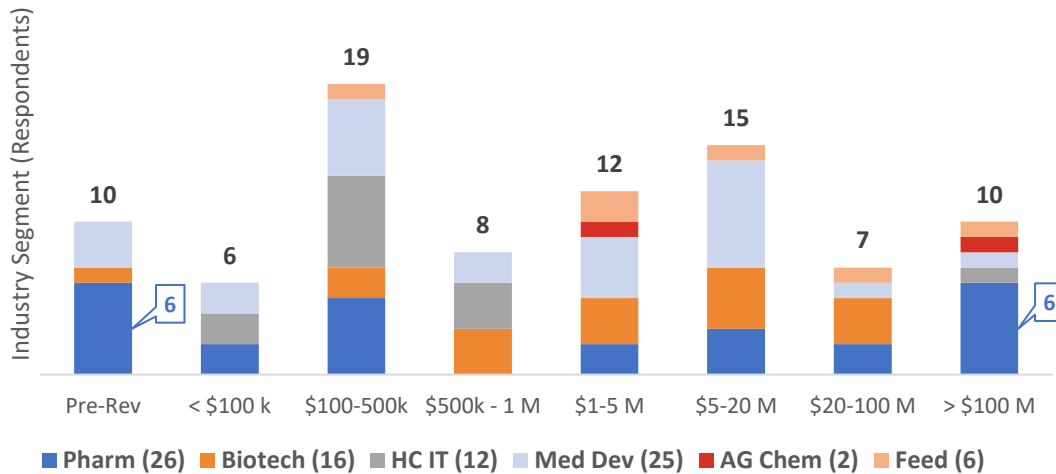
Prior to the 2015 Census, the lowest revenue category choice was ‘less than \$100,000’. Since many early-stage life sciences companies sometimes spend years in research and development before reaching revenue stage, the ‘pre-revenue’ category was added for the 2015 and subsequent Census report forms. Comparing revenue responses over time reveals some fluctuation in respondent size by revenue, with an increasing number of respondents on the lower end of the revenue range.

### Respondents by Company Size Over Time



The largest number of respondents reporting being in the pre-revenue stage were in the Drugs and Pharmaceutical industry segment; and the largest number of respondents reporting more than \$100 million in sales were from this segment as well. Companies in the Medical Device and Healthcare IT segments had few respondents in the ‘over \$20 million’ revenue range, although the largest number of Medical Device responses fell in the ‘\$5 - \$20 million’ range. While not noted on the chart below, only four of the companies reporting over \$100 million in revenue are headquartered in the region, so it’s likely that these revenue figures are company-wide vs just the Census region.

### 2021 Revenues by Industry Segment



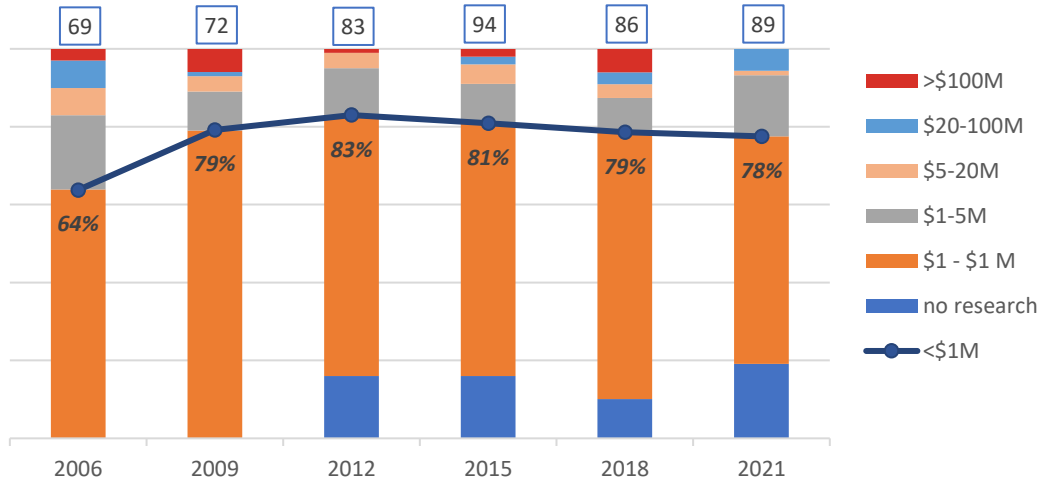
Respondents were asked to report a category of research expenditures in order to gauge the level of investment in this vital activity. Eighty-nine companies reported estimated research expenditures in 2021, and an estimate of research expenditures for 2022. Research expenditures are not provided for the region only, so company responses are not a gauge of local activity but provide insight into the level of research activity by the respondent companies. Consistent with the high level of company respondents with less than \$1 million in revenue, about three quarters of the respondents reported less than \$1 million in research expenditures in 2021.

### 2021 Research Expenditures

2021 Research Expenditures							
no research	< \$100 k	\$100-\$500k	\$0.5 - 1 M	\$1-5M	\$5-20M	\$20-100M	>\$100M
17	20	23	9	14	1	5	0
19%	22%	26%	10%	16%	1%	6%	0%

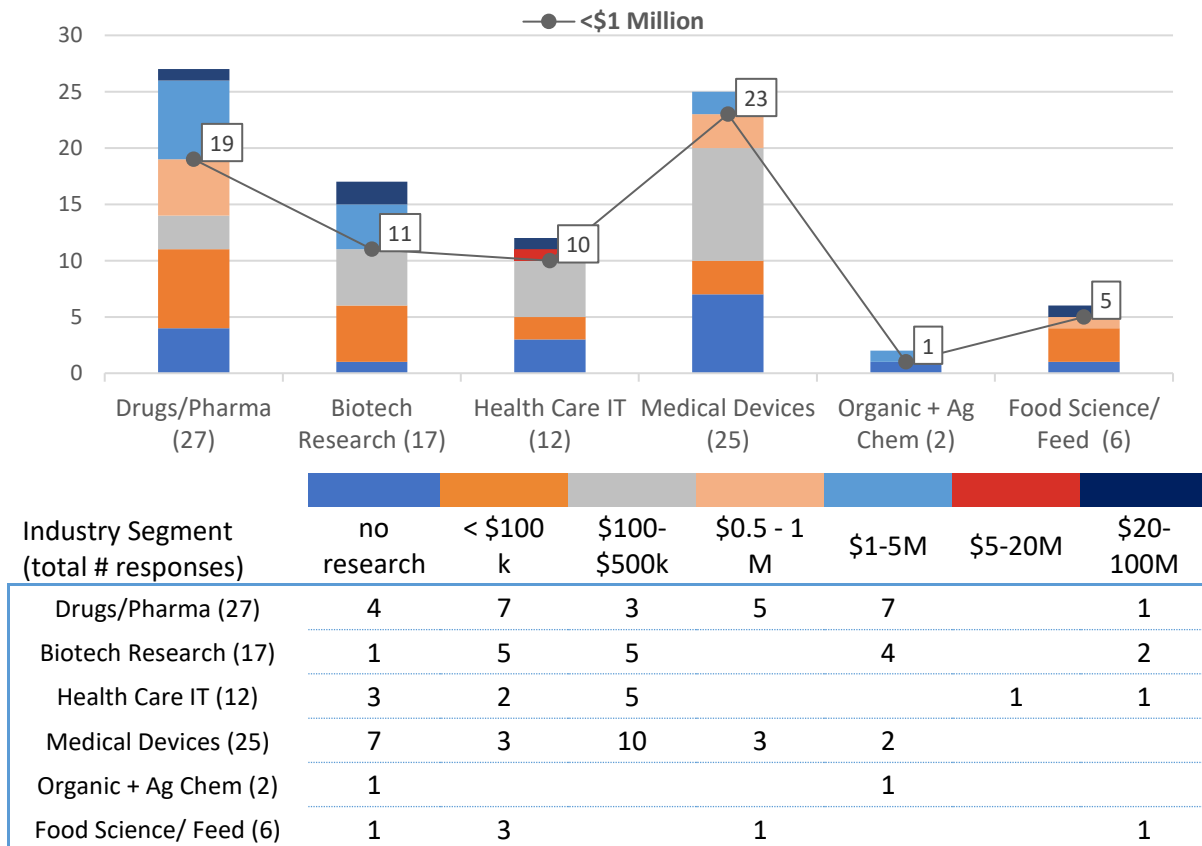
In the 2012 Census, a category for research expenditures, 'No Research', was added to distinguish between those who were not performing any research and development from those who were doing so at a low level. In comparing results over the past Census periods, the percentage of respondents spending over \$1 million in research during the Census year was highest in 2006, although the number of respondents who provide an answer to this question has increased over time, despite the total number of respondents being around 100 in each Census effort. A 'No Research' response does not necessarily mean that the company has not, or will not, expend dollars on research and development activities, only that no dollars were expended in the current year. The slight increase in companies reporting more than \$1 million in research and development is a positive development since the respondent base skews towards the lower end of the revenue and employment scale compared to previous Census report results.

### Research Expenditures Over Time



The small respondent base across most of the industry segments prevents drawing many firm conclusions from the responses, although most of the respondents reporting more than \$1 million in research and development were in the Drugs and Pharmaceutical, and Biotechnology Research and Testing industry segments.

### Research Expenditures by Industry Segment



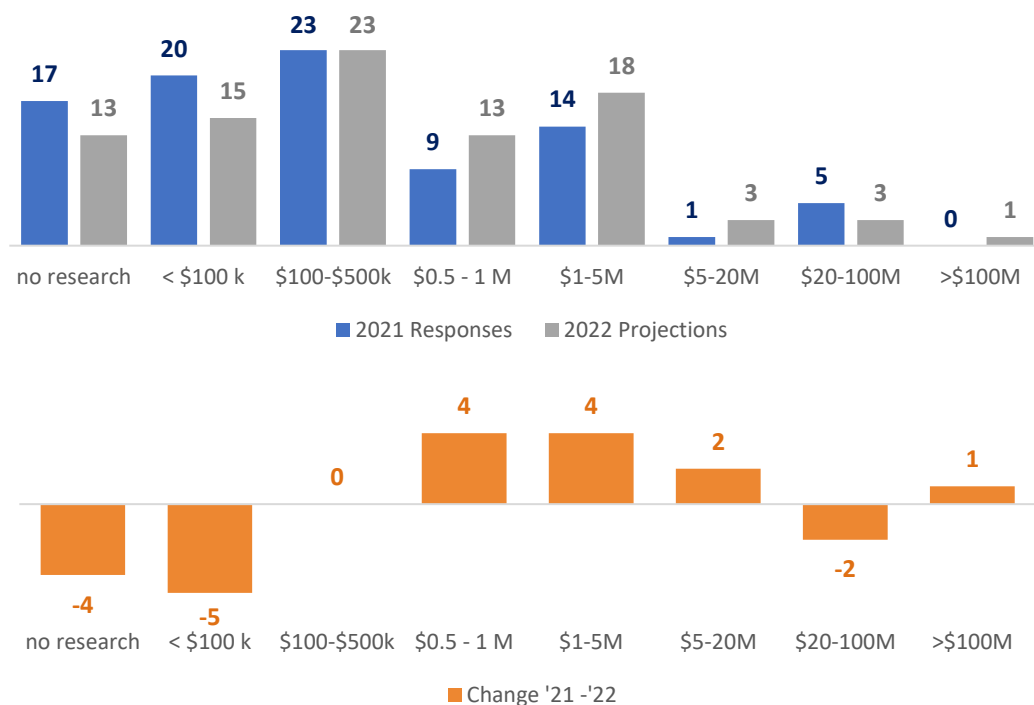
Respondents were asked to provide an estimate, by range, for research expenditures in 2022 to assess their company's outlook for research. This measure is also a gauge for optimism, as expectations of increased research expenditures indicate optimism for the company's prospects. Eighty-nine companies responded to both the current research expenditure question and the expected research expenditure question for 2022. Four of the companies reporting no research in 2021 expect to expend research dollars in 2022.

### Research Projections for 2022

2021 Research Expenditures and 2022 Projections								
	no research	< \$100 k	\$100- \$500k	\$0.5 - 1 M	\$1-5M	\$5-20M	\$20- 100M	>\$100M
<b>2021 Responses</b>	<b>17</b>	<b>20</b>	<b>23</b>	<b>9</b>	<b>14</b>	<b>1</b>	<b>5</b>	<b>0</b>
	19%	22%	26%	10%	16%	1%	6%	0%
<b>2022 Expectations</b>	<b>13</b>	<b>15</b>	<b>23</b>	<b>13</b>	<b>18</b>	<b>3</b>	<b>3</b>	<b>1</b>
	15%	17%	26%	15%	20%	3%	3%	1%
<b>Change '21 -'22</b>	<b>-4</b>	<b>-5</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>-2</b>	<b>1</b>

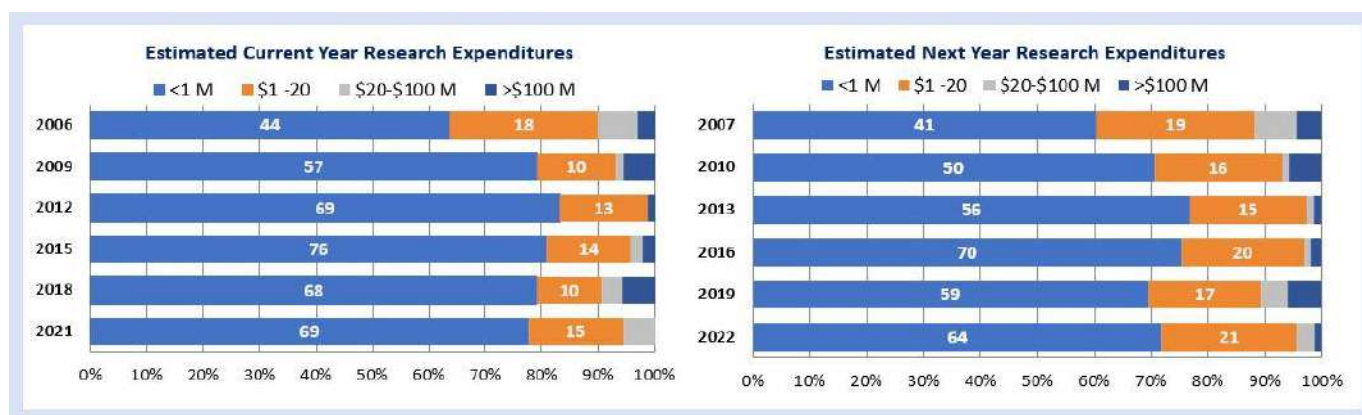
The chart below shows a decline in the number of companies expecting to expend no research dollars or less \$100,000 in research in 2022. Projections show a marked increase in the number of company respondents reporting projected expenditures of \$500,000-5 million relative to current year expenditures.

### Research Projections for 2022





Respondents usually project higher research expenditures for the following year in each of the Census periods. Respondents in 2021 were no exception, with five more companies projecting research expenditures over \$1 million in 2022 compared to 2021. In 2018, eight additional companies projected expenditures over \$1 million in the next year, which was the highest number of the six Census periods.

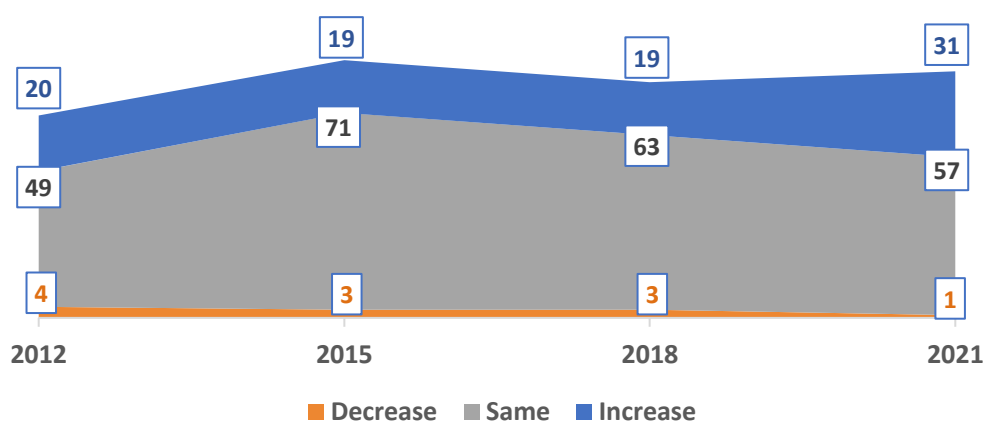


### Research Projections Over Time

	<1 M	\$1 -20M	\$20-\$100 M	>\$100 M	Respond		<1 M	\$1 -20M	\$20-\$100 M	>\$100 M	Respond
2006	44	18	5	2	69	2007	41	19	5	3	68
2009	57	10	1	4	72	2010	50	16	1	4	71
2012	69	13	0	1	83	2013	56	15	1	1	73
2015	76	14	2	2	94	2016	70	20	1	2	93
2018	68	10	3	5	86	2019	59	17	4	5	85
2021	69	15	5	0	89	2022	64	21	3	1	89

The above analysis does not capture individual company changes, only aggregate movement in the overall spending ranges. In comparing individual responses between reported research expenditure ranges in 2021 to expected expenditure ranges in 2022, only one company expected research spending levels to decline. Thirty-one companies are expecting to increase research and development spending to a higher range in 2022, a significant increase over 2018 company respondent projections.

### Individual Company Responses – 2022 Research Spending



## Quantitative Summary

This is the first reported decline in the number of life sciences companies in the region since the first Census report in 2003. While an in-depth review of specific factors impacting the industry was beyond the scope of this project, data gathered for this report points to several observations:

- The fewest number of companies were added to the region since this metric was initially tracked in 2009. The 2021 Census shows 41 companies were added, compared to 71 in 2018 and 65 in both the 2012 and 2015 Census periods. Companies added are usually the result of new company formation, or companies relocating to the region.
- The number of dropped companies from the list, while not a record high, increased by 17 companies compared to the 2018 Census report. Companies are generally dropped due their closure, relocation, or by merger or acquisition.
- A record number of notable merger or acquisition transactions was noted compared to previous reports, with 27 deals completed since 2019, compared to 15 in the 2018 Census period. While many of these companies remained in the region, some did so with reduced headcount, while others relocated out of the Census region.

Human health-focused companies account for two-thirds (68%) of the companies in the region, a similar percentage reported in the last three Censuses. Animal health-focused companies represent roughly one quarter (23%) of the region's companies, but only 16% of employment. Plant and crop science-focused companies, comprise a relatively small portion (9%) of the total regional life sciences company portfolio.

Kansas is home to about 64% of the life sciences companies, and about 41% of employment, while Missouri houses about 36% of the companies, and about 59% of the total employment. Kansas life sciences employment lags Missouri's primarily due to the higher presence of early-stage companies in Kansas. Kansas employment decreased by about 800 employees since 2018. However, the closure of the Cerner campus in Kansas resulted in all of Cerner's headcount being allocated to Missouri, which impacted Kansas employment by about 2,500 employees. Removing the Cerner relocation results in a net increase of about 1,700 employees in Kansas since 2018.

Companies in the Biotechnology Research and Testing, and Drugs and Pharmaceuticals segments account for just under half of the companies in the region. Both industry segments have declined in the number of companies since 2018, with Drugs and Pharmaceutical companies declining from 82 in 2018, to 73 in 2021, and Biotechnology Research and Testing declining from 69 companies to 68 in 2021. Health IT and Medical Device companies increased slightly over 2018, and Food Science/Feed companies remained unchanged with 37 companies. Organic/Agricultural Chemicals, the smallest industry segment, saw a net decline from 12 companies in 2018 to 11 companies in 2021.

In 2018, 11 companies with more than 500 employees provided two-thirds of the total employment, with about 23,000 employees. In 2021, 13 companies have more than 500 employees, although total employment in these large companies has declined to around 22,000 employees, about 64% of total employment. Proportionally, the composition of companies by employment size has not seen any significant shifts over the last six Census periods, although the number of companies with five or fewer employees has seen the most fluctuation, with a decline from 100 companies with five or fewer employee in 2018, to 88 in 2021.

Long term, the region has seen a net increase of 87 companies since 2006, a 44% increase. The significant growth in the number of companies is driven by the number of new companies formed or located in the region, and the strongest growth has been in the Medical Device and Health IT segments.

Significant academic research assets are represented by BioNexus KC stakeholder institutions and serve as innovation hubs for the region. A steady increase in the number of university research centers focused on the life sciences contribute to the growing regional asset base. In the 2021 Census period, from 2019-2021, the number of university research centers increased 14%, from 131 in 2018, to 149 in 2021. Robust clinical trial activity is performed in 32 regional hospitals and medical centers to advance research, an increase since 2018, when 25 activity sites were identified.

The 2021 Census surveyed companies regarding workforce, sales, and research expenditures, with about one-third of companies providing the requested data. Of the 98 survey respondents, half reported an increase in employment in the last year; only 10 company respondents noted a decrease in staff.

While the survey-reported employment picture compared to the previous year was positive, the projected employment represents an even more positive outlook over the next three years. A record high 88% of respondents indicate plans to hire six or more employees in the next three years, compared to 83% in the two previous Census periods. Only 7% of respondents indicate plans to either cut staff, or not add any additional headcount in the next three years, less than half compared to 2018. A record nine respondents indicated plans of adding more than 100 employees in the next three years. While about 80% of companies have reported use of part time or temporary workers each Census period since the question was added in 2015, 41% noted an increase in their use of part-time or temporary workers in the past year, up from about a third from the previous two Census periods.

Demand for master's and PhD-level positions has remained stable in all Census report surveys since 2006, with the highest demand for advanced degree level positions cited by companies with 25 or fewer employees. Demand for workers with either a high school diploma, or some level of post high school certification has increased the most of all educational levels since 2006, especially in the last two Census periods. Overall, the bachelor's degree level position is still the largest need, with 53 of the 86 respondent companies projecting a need for bachelor's degree level positions in the next three years.

Companies taking longer to fill entry level positions has been a trend since the 2015 Census. Over two-thirds of survey respondents noted a time period of longer than 'less than 30 days' to fill open positions, although most note that positions are filled within 90 days. Those respondents, however, also reported an increase in recruitment outside of the region for these positions in both the 2018 and 2021 Census periods. The need to recruit outside of the region either occasionally or frequently was reported by 28% of respondents in 2021.

The 2021 Census report survey included questions about the status of Diversity, Equity and Inclusion (DEI) initiatives for the first time. Almost two-thirds of the respondents responded that their company's mission, vision, or values demonstrate commitment to diversity and half responded that a policy was in place that specifically prohibits discrimination. When asked about current interest and/or efforts to implement DEI practices in their companies, 23 or one-third of respondents said the company had some initiatives in place while 19 respondents said DEI initiatives were not a priority at this time.

The respondents of the 2021 Census report survey were comprised of proportionally smaller companies, in terms of sales, relative to previous Census report respondents. Of the 87 respondents reporting 2021 sales data, 80% report less than \$20 million in sales, and half report sales of less than \$1 million. Drugs and Pharmaceutical companies were six of the 10 pre-revenue companies, as well as six of the 10 companies reporting revenues of over \$100 million.

Of the respondents, 78% reported estimated research expenditures of less than \$1 million in 2021, which is not surprising given the small company size of the respondent base although about 80% of respondents in past Census years going back to 2009 have reported less than \$1 million in research. Research projections for 2022 show a marked increase, 31%, over the number of respondents projecting research expenditures of over \$1 million in 2019. 31 companies are expecting to increase research and development spending to a higher range in 2022, a significant increase over 2018 company respondent projections, when 19 companies projected an increase. These results indicate expectations of expanding research budgets in 2022.

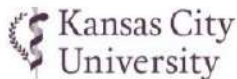
## Acknowledgements

The publication of this report would not be possible without the support and contributions by many organizations and individuals throughout the Census region. BioNexus KC would like to thank the following contributors to this report:

Donna Gordon of Investment Resources

BioNexus KC Institutional Stakeholders:

- Children's Mercy Kansas City
- Kansas City University
- Kansas State University
- MRIGlobal
- Saint Luke's Health System
- University Health
- University of Kansas
- University of Kansas Medical Center
- University of Missouri
- University of Missouri-Kansas City



Thank you to all 98 companies for providing the essential data underpinning the Census report.

Economic development and entrepreneurial support organizations throughout the region that contributed data, supported Census participation and helped to ensure the accuracy of the report.

BioKansas	Sonia M. Hall, PhD
Biomedical Devices of Kansas	Keith Baird
Bioscience & Technology Business Center (BTBC)	Mike Smithyman
Columbia Regional Economic Development Inc	Bernie Andrews
Doniphan County Kansas EDC	Leah B. Johnson
Ennovation Center	Xander Winckel, PhD
Enterprise Center of Johnson County	Jeff Shackleford
GO Topeka Economic Partnership	Katrin Bridges
Innovation Stockyards	Sara Hagen
Kansas Department of Commerce	Trent Armbrust
Kansas State University/Manhattan Innovation Center	Kate Ryan
KC Animal Health Corridor	Kim Young
KC Economic Development Corporation	Dan Moye
KC Sourcelink	Maria Meyers
KC Sourcelink	Kate Hodel
KCADC	Cindy Brittain
K-State Innovation Partners	Rebecca Robinson
Launch KC	Tommy Wilson
Lawrence & Douglas County EDC	Steve Kelly
Lee's Summit Economic Development Council	Tina Chase
Lee's Summit Economic Development Council	Rick McDowell
Lenexa Economic Development Council	Ashley Sherard
Manhattan Area Chamber of Commerce	Jason Smith
Miami County Economic Development Department	Janet McRae
Midwest Trust - Midwest Bioscience Research Park, LLC	John Iennaccaro
Missouri Biotechnology Association	Kelly Gillespie
Missouri Innovation Center	Bill Turpin
Missouri Innovation Center	Quinten Messbarger
Olathe Chamber of Commerce	Tim McKee
Olathe Chamber of Commerce	Casey Wilhm
Overland Park Economic Development Council	Beth Johnson
Pottawatomie County ED	Jack Allston
Shawnee Economic Development Council	Ann Smith-Tate
St. Joseph Area Chamber of Commerce	Brad Lau
T-Mobile Accelerator	Tina Peterson
Venture Accelerator at Kansas Bioscience Park	Julie Sailors

## APPENDIX

### Region Definition by County

<b>Atchison/Leavenworth Area - KS</b>
Atchison
Doniphan
Leavenworth

<b>Johnson County Region - KS</b>
Johnson
Miami

<b>Topeka/Manhattan Area - KS</b>
Geary
Pottawatomie
Riley
Shawnee

<b>Kansas City Region - KS</b>
Wyandotte

<b>Lawrence, KS</b>
Douglas
Franklin

<b>Columbia Region - MO</b>
Boone
Callaway
Cooper
Howard

<b>St. Joseph Area - MO</b>
Buchanan
Dekalb
Livingston

<b>Kansas City Region - MO</b>
Bates
Cass
Clay
Clinton
Jackson
Lafayette
Platte
Ray

Companies Listed in 2006, Currently in the Region										
2006		Human health	Animal health	Plant Science	PHARM	BIOTECH	HC IT	MED DEV	AG CHEM	FEED /PLANT
<b>2021 Employed</b>	<b>27,849</b>									
<b>2006 Report Total</b>	<b>13,719</b>	<b>145</b>	<b>42</b>	<b>12</b>	<b>60</b>	<b>76</b>	<b>8</b>	<b>29</b>	<b>7</b>	<b>19</b>
<b>2006 Companies in 2021</b>		62	31	8	30	37	3	14	6	11
		43%	74%	67%	50%	49%	38%	48%	86%	58%
<b>Emp Growth</b>	<b>14,130</b>									
	<b>103%</b>									

### Companies Listed in 2006, Still in the Region

Acceleration Laboratory Services, Inc.  
Addison Biological Laboratory, Inc.  
Advanced Clustering Technologies, Inc.  
Albaugh, LLC  
Alburtylab, Inc.  
Alliance for Multispecialty Research - KC  
Allied Monitor Inc/Addison Labs  
Altasciences Clinical Research  
Antech Diagnostics, Inc.  
B.F. Ascher & Company, Inc.  
BASF Corporation  
Bayer Cropscience LP  
Biosesix  
Biozyme Incorporated  
Blue Endo  
Boehringer Ingelheim Vetmedica, Inc.  
Brownmed  
Cancer Research Center  
Cardinal Health Regulatory Services  
Cargill Inc  
Central Biomed Inc.  
Cereal Ingredients, Inc.  
Cerner Corporation  
Ceva Animal Health  
CIA Labs  
Clinical Reference Laboratory, Inc.  
Clipper Distributing Co  
Corbion  
Cramer Products, Inc.  
Crititech, Inc.  
CSS Analytical Co Inc  
Deciphera Pharmaceuticals  
DeLaval Manufacturing  
Disposable Instrument Company

Durrie Vision  
Ecto Development Corporation  
Elanco Animal Health  
ENDOVAC Animal Health  
Eurofins Agrosience Columbia  
Eurofins Viracor-IBT  
Evogen Inc.  
Hans Rudolph, Inc.  
Heart of America Eyecare, PA  
HEMCO Corp  
Hennessy Research Associates  
Herschel J Gaddy & Assoc  
Hill's Pet Nutrition, Inc  
Hunkeler Eye Institute  
Huvepharma  
ICON PLC  
Identigen North America, Inc.  
IFF  
Innara Health  
Integris BioServices dba KCAS  
Ioditech, Inc.  
IQVIA  
KALO Inc  
Kansas City Allergy & Asthma  
Keystone Laboratories, Inc.  
Lab Corp (was PRL)  
Land O'Lakes Purina Feed  
Lifeline Foods LLC  
Manna Pro Products, LLC  
MAWD Pathology Group, Inc.  
Merck Animal Health  
MFA Inc  
MGP Ingredients, Inc.  
Mid-South Milling Company, Inc.

Millipore Sigma  
Missouri Cancer Associates LLC  
MRIGlobal  
Nestle Purina PTC  
PBI/Gordon  
PETNET Solutions, Inc.  
Phoenix Medical Research  
ProPharma Group Inc  
ProTox Services  
PTC Laboratories, Inc.  
Pulse Needle Free Systems Inc  
Quest Diagnostics Inc  
QVM Services, LLC  
Rowe Neurology Institute  
SCD Probiotics  
Sinclair Research Center  
Sparhawk Laboratories, Inc.  
Star Labs/Forage Research, Inc.  
Steinlite Corp  
Stone Manufacturing & Supply Co  
Stowers Institute for Medical Research  
The Great Plains Laboratory  
Thermo Fisher Scientific Inc.  
TriRX  
TVAX Biomedical, LLC  
UBC - An Express Scripts Company  
Ventria Bioscience  
Veterinary Specialty Products Inc  
Vita A Zine Inc  
WellSky  
Wilbur-Ellis Feed  
Zoetis Inc.  
ZuPreem



Companies Listed in 2009, Still in the Region										
2009		Human health	Animal health	Plant Science	PHARM	BIOTECH	HC IT	MED DEV	AG CHEM	FEED /PLANT
<b>2021 Employed</b>	<b>29,318</b>									
<b>2009 Report Total</b>	<b>15,179</b>	<b>137</b>	<b>53</b>	<b>16</b>	<b>61</b>	<b>70</b>	<b>6</b>	<b>38</b>	<b>6</b>	<b>25</b>
<b>2009 Companies in 2021</b>	15179	73	40	10	36	41	3	22	5	16
		53%	75%	63%	59%	59%	50%	58%	83%	64%
<b>Emp Growth</b>	<b>14,139</b>									
	<b>93%</b>									

### Companies Listed in 2009, Still in the Region

Acceleration Laboratory Services, Inc.	CSS Analytical Co Inc	Knit-Rite, Inc.- Thuasne
Adare Pharmaceuticals	Dechra Veterinary Products	KrolPharma Resources
Addison Biological Laboratory, Inc.	Deciphera Pharmaceuticals	Lab Corp
Advanced Clustering Technologies, Inc.	DeLaval Manufacturing	Land O'Lakes Purina Feed
Albaugh, LLC	Disposable Instrument Company	Lifeline Foods LLC
Alburtylab, Inc.	Durrie Vision	Manna Pro Products, LLC
Alliance for Multispecialty Research - KC	Ecto Development Corporation	Mars Petcare
Allied Monitor Inc/Addison Labs	Elanco Animal Health	MAWD Pathology Group, Inc.
Altasciences Clinical Research	ENDOVAC Animal Health	Merck Animal Health
Antech Diagnostics, Inc.	Equinosis LLC	MFA Inc
B.F. Ascher & Company, Inc.	Eurofins Agrosience Columbia	MGP Ingredients, Inc.
BASF Corporation	Eurofins Viracor-IBT	Mid-South Milling Company, Inc.
Bayer Cropscience LP	Evogen Inc.	Millipore Sigma
Big Heart Pet Brands	Great Plains Analytical Laboratory	Missouri Cancer Associates LLC
Bio Med Valley Discoveries, Inc.	Hans Rudolph, Inc.	MRIGlobal
Biodesix	Heart of America Eyecare, PA	Nestle Purina PTC
Biozyme Incorporated	HEMCO Corp	Nexus Medical, LLC
Blue Endo	Hennessy Research Associates	Nostrum Laboratories Inc.
Boehringer Ingelheim Vetmedica, Inc.	Herschel J Gaddy & Assoc	Ortho-Care, Inc.
Brownmed	Hill's Pet Nutrition, Inc	OsteoGeneX/OssiFi
Cancer Research Center	Hunkeler Eye Institute	Pace Analytical Services, Inc.
Cardinal Health Regulatory Services	Huvepharma	PBI/Gordon
Cargill Animal Nutrition	ICON PLC	PETNET Solutions, Inc.
Cargill Inc	Identigen North America, Inc.	Phoenix Medical Research
Centaur Animal Health	IFF	Phytotechnology Laboratories, LLC
Central Biomed Inc.	Innara Health	Pinnacle Technology Inc.
Cereal Ingredients, Inc.	InnovaPrep LLC	ProPharma Group Inc
Cerner Corporation	Integrus BioServices dba KCAS	ProTox Services
Ceva Animal Health	Ioditech, Inc.	PTC Laboratories, Inc.
CIA Labs	IQVIA	Pulse Needle Free Systems Inc
Clinical Reference Laboratory, Inc.	J2 Scientific	Quest Diagnostics Inc
Clipper Distributing Co	Johnson County Clin-Trials, LLC	QVM Services, LLC
Corbion	KALO Inc	Rowe Neurology Institute
Cramer Products, Inc.	Kansas City Allergy & Asthma	SCD Probiotics
Crititech, Inc.	Keystone Laboratories, Inc.	Schroer Manufacturing Company

### Companies Listed in 2009, Still in the Region

Sinclair Research Center	The Great Plains Laboratory	Veterinary Specialty Products Inc
Southwest Technologies Inc	Thermo Fisher Scientific Inc.	Vita A Zine Inc
Sparhawk Laboratories, Inc.	TriRX	WellSky
Star Labs/Forage Research, Inc.	TVAX Biomedical, LLC	Wilbur-Ellis Feed
Steinlite Corp	UBC - An Express Scripts Company	Zoetis Inc.
Stone Manufacturing & Supply Co., Inc.	Ventria Bioscience	ZuPreem
Stowers Institute for Medical Research		

### Companies Listed in 2012, Still in the Region

2012		Human health	Animal health	Plant Science	PHARM	BIOTECH	HC IT	MED DEV	AG CHEM	FEED /PLANT
2021 Employment	31,055									
2012 Report Total	20,467	165	58	17	70	75	16	51	8	29
2012 Companies in 2021		94	47	10	43	40	6	34	6	22
		57%	81%	59%	61%	53%	38%	67%	75%	76%
Emp Growth	10,589									
	52%									

### Companies Listed in 2012, Still in the Region

Acceleration Laboratory Services, Inc.	Cerner Corporation	Hill's Pet Nutrition, Inc
Adare Pharmaceuticals	Ceva Animal Health	Hunkeler Eye Institute
Addison Biological Laboratory, Inc.	CIA Labs	Huvepharma
Advanced Clustering Technologies, Inc.	Clinical Reference Laboratory, Inc.	HylaPharm
AIB International	Clinical Research Consultants	ICON PLC
AKCIA Inc	Clipper Distributing Co	Identigen North America, Inc.
Albaugh, LLC	Corbion	IFF
Alburtylab, Inc.	Cramer Products, Inc.	Innara Health
Alliance for Multispecialty Research - KC	Creche Innovations	InnovaPrep LLC
Allied Monitor Inc/Addison Labs	Crititech, Inc.	Integrus BioServices dba KCAS
Altasciences Clinical Research	CSS Analytical Co Inc	Ioditech, Inc.
AnalyzeDirect	Dechra Veterinary Products	IQVIA
Antech Diagnostics, Inc.	Deciphera Pharmaceuticals	J2 Scientific
Argenta Research LLC	DeLaval Manufacturing	Johnson County Clin-Trials, LLC
B.F. Ascher & Company, Inc.	Disposable Instrument Company	KALO Inc
BASF Corporation	Durrie Vision	Kansas City Allergy & Asthma
Bayer Cropscience LP	Ecto Development Corporation	Kansas City Safety Alliance & Rsch.
Big Heart Pet Brands	Elanco Animal Health	Keystone Laboratories, Inc.
Bio Med Valley Discoveries, Inc.	EMB Statistical Solutions	Knit-Rite, Inc.- Thuasne
Biodesix	EMCI	Lab Corp
Biomedical Devices of Kansas LLC	Endevica Bio	Land O'Lakes Purina Feed
Biozyme Incorporated	ENDOVAC Animal Health	Lifeline Foods LLC
Blue Endo	Ensate Vascular	Likarda, LLC
Boehringer Ingelheim Vetmedica, Inc.	Equinosis LLC	Manna Pro Products, LLC
Brownmed	Eurofins Agrosience Columbia	Mars Petcare

### ***Companies Listed in 2012, Still in the Region***

Cancer Research Center	Eurofins Viracor-IBT	MAWD Pathology Group, Inc.
Cardinal Health Regulatory Services	Evogen Inc.	Merck Animal Health
Cardiovascular Imaging Technologies	Excite Pharma Services	MFA Inc
Cargill Animal Nutrition	Exocytronics, LLC	MGP Ingredients, Inc.
Cargill Inc	Great Plains Analytical Laboratory	Mid-South Milling Company, Inc.
Catalent Pharma Solutions	Hans Rudolph, Inc.	Millipore Sigma
Centaur Animal Health	Heart of America Eyecare, PA	Missouri Cancer Associates LLC
Central Biomedica Inc.	HEMCO Corp	MRI Global
Central Solutions Inc	Hennessy Research Associates	MS Biotec
Cereal Ingredients, Inc.	Herschel J Gaddy & Assoc	Nanova Inc

### ***Companies Listed in 2012, Still in the Region***

Nestle Purina PTC	ProTox Services	Steinlite Corp
Nexus Medical, LLC	PTC Laboratories, Inc.	Stone Manufacturing & Supply Co.
Nika Biochemicals Inc	Pulse Needle Free Systems Inc	Stowers Institute for Medical Research
Nostrum Laboratories Inc.	Quest Diagnostics Inc	The Great Plains Laboratory
Ortho-Care, Inc.	QVM Services, LLC	Thermo Fisher Scientific Inc.
OsteoGeneX/OssiFi	RBC Medical Innovations	TriRX
Pace Analytical Services, Inc.	Rowe Neurology Institute	TVAX Biomedical, LLC
PBI/Gordon	SCD Probiotics	UBC - An Express Scripts Company
PETNET Solutions, Inc.	Schroer Manufacturing Company	Ventria Bioscience
pHLOGISTIX LLC	Sekisui XenoTech, LLC	Veterinary Specialty Products Inc
Phoenix Medical Research	Sinclair Research Center	Vita A Zine Inc
Phytotechnology Laboratories, LLC.	Southwest Technologies Inc	WellSky
Pinnacle Technology Inc.	Sparhawk Laboratories, Inc.	Wilbur-Ellis Feed
Pivot International	Spinal Simplicity	Zoetis Inc.
Plastikon Healthcare, LLC	Star Labs/Forage Research, Inc.	ZuPreem
ProPharma Group Inc		

Companies Listed in 2015, Still in the Region										
2015		Human health	Animal health	Plant Science	PHARM	BIOTECH	HC IT	MED DEV	AG CHEM	FEED /PLANT
<b>2021 Employment</b>	<b>32,888</b>									
<b>2015 Report Total</b>	<b>26,880</b>	<b>166</b>	<b>64</b>	<b>20</b>	<b>70</b>	<b>75</b>	<b>17</b>	<b>51</b>	<b>8</b>	<b>29</b>
<b>2015 Companies in 2021</b>		117	54	17	53	56	12	35	7	25
		70%	84%	85%	76%	75%	71%	69%	88%	86%
<b>Emp Growth</b>	<b>6,008</b>									
	<b>22%</b>									

### Companies Listed in 2015, Still in the Region

Acceleration Laboratory Services, Inc.	Catalent Pharma Solutions	Equinosis LLC
Adaptivepharma, LLC	Centaur Animal Health	Eurofins Agrosience Columbia
Adare Pharmaceuticals	Central Biomedica Inc.	Eurofins Viracor-IBT
Addison Biological Laboratory, Inc.	Central Solutions Inc	Evogen Inc.
Advanced Clustering Technologies, Inc.	CentralReach	Evoke Medical, LLC
AIB International	Cereal Ingredients, Inc.	Excite Pharma Services
AKCIA Inc	Cerner Corporation	Exocyttronics, LLC
Albaugh, LLC	Certtech, LLC	FitBark Inc.
Alburtylab, Inc.	Ceva Animal Health	Great Plains Analytical Laboratory
Alliance for Multispecialty Research - KC	CIA Labs	GTC Research
Allied Monitor Inc/Addison Labs	Ciclomed, LLC	Hans Rudolph, Inc.
Altasciences Clinical Research	Clinical Reference Laboratory, Inc.	Heart of America Eyecare, PA
AnalyzeDirect	Clinical Research Consultants	Heartland Plant Innovations
Antech Diagnostics, Inc.	Clinical Research of The Ozarks, Inc.	HEMCO Corp
ARE Labs Inc.	Clipper Distributing Co	Hennessy Research Associates
Argenta Research LLC	Conklin Company, Inc.	Herschel J Gaddy & Assoc
Azurity Pharmaceuticals	Corbion	Hill's Pet Nutrition, Inc
B.F. Ascher & Company, Inc.	Cramer Products, Inc.	Hunkeler Eye Institute
Bardavon Health Innovations	Creche Innovations	Huvepharma
BASF Corporation	Crititech, Inc.	Hyalogic LLC
Bayer Cropscience LP	CryoCrate	HylaPharm
Big Heart Pet Brands	CSS Analytical Co Inc	ICON PLC
Bio Med Valley Discoveries, Inc.	Dechra Veterinary Products	Identigen North America, Inc.
Biodesix	Deciphera Pharmaceuticals	IDEXX BioAnalytics
Biomedical Devices of Kansas LLC	DeLaval Manufacturing	IFF
BioPharma Potentials	Disposable Instrument Company	Innara Health
Biozyme Incorporated	Durrie Vision	InnovaPrep LLC
Blue Endo	Ecto Development Corporation	Integris BioServices dba KCAS
Boehringer Ingelheim Vetmedica, Inc.	Elanco Animal Health	IntelligeneCG - Cancer Genomics
Brownmed	ELIAS Animal Health, LLC	Ioditech, Inc.
Cancer Research Center	EMB Statistical Solutions	IQVIA
Cardinal Health Regulatory Services	EMCI	J2 Scientific
Cardiovascular Imaging Technologies, LLC	Endevica Bio	Johnson County Clin-Trials, LLC
Cargill Animal Nutrition	ENDOVAC Animal Health	KALO Inc
Cargill Inc	Ensite Vascular	KanPRO Research, Inc.

### Companies Listed in 2015, Still in the Region

Kansas City Allergy & Asthma	Nika Biochemicals Inc	Sekisui XenoTech, LLC
Kansas City Safety Alliance & Research	Norbrook Inc	Sinclair Research Center
Keystone Laboratories, Inc.	Nostrum Laboratories Inc.	SJK Global, LLC
Knit-Rite, Inc.- Thuasne	Novadiol, Inc.	Southwest Technologies Inc
KrolPharma Resources	Ortho-Care, Inc.	Sparhawk Laboratories, Inc.
Lab Corp	OsteoGeneX/OssiFi	Spinal Simplicity
Labconco Corporation	Pace Analytical Services, Inc.	Star Labs/Forage Research, Inc.
Land O'Lakes Purina Feed	PatientsVoices™	Steinlite Corp
Lifeline Foods LLC	PBI/Gordon	Stone Manufacturing & Supply Co., Inc.
LifeScience Technologies, LLC	PETNET Solutions, Inc.	Stowers Institute for Medical Research
Likarda, LLC	pHLOGISTIX LLC	SynTech Research
Manna Pro Products, LLC	Phoenix Medical Research	The Great Plains Laboratory
Mars Petcare	Phytotechnology Laboratories, LLC	Thermo Fisher Scientific Inc.
MAWD Pathology Group, Inc.	Pinnacle Technology Inc.	Tiger Energy Solutions
Merck Animal Health	Pivot International	Trinity Biotech
MFA Inc	Plastikon Healthcare, LLC	TriRX
MGP Ingredients, Inc.	ProPharma Group Inc	TVAX Biomedical, LLC
Microprotein Technologies Inc	ProTox Services	UBC - An Express Scripts Company
Mid-South Milling Company, Inc.	PTC Laboratories, Inc.	Ventria Bioscience
Millipore Sigma	Pulse Needle Free Systems Inc	Veterinary and Biomedical Research Ctr.
Missouri Cancer Associates LLC	Quest Analytics, LLC	Veterinary Specialty Products Inc
MRIGlobal	Quest Diagnostics Inc	Vita A Zine Inc
MS Biotec	QVM Services, LLC	WellSky
Nanova Inc	RBC Medical Innovations	Wilbur-Ellis Feed
NBO3 Technologies	Rockwell Labs LTD	Wyatt Cytoconsulting
Nestle Purina PTC	Rowe Neurology Institute	Zoetis Inc.
Netsmart	SCD Probiotics	ZuPreem
Nexus Medical, LLC	Schroer Manufacturing Company	

Companies Listed in 2018, Still in the Region										
2018		Human health	Animal health	Plant Science	PHARM	BIOTECH	HC IT	MED DEV	AG CHEM	FEED /PLANT
<b>2021 Employment</b>	<b>33,852</b>									
<b>2018 Report Total</b>	<b>33,930</b>	<b>196</b>	<b>74</b>	<b>22</b>	<b>82</b>	<b>68</b>	<b>36</b>	<b>57</b>	<b>12</b>	<b>37</b>
<b>2018 Companies in 2021</b>		157	67	21	69	55	30	45	12	34
<b>Still in biz %</b>		80%	91%	95%	84%	81%	83%	79%	100%	92%
<b>Emp Growth</b>	<b>(78)</b>									
	<b>-0.2%</b>									

### Companies Listed in 2018, Still in the Region

4m Healthcare LLC	Blue Endo	CSS Analytical Co Inc
Acceleration Laboratory Services, Inc.	Boehringer Ingelheim Vetmedica, Inc.	Dechra Veterinary Products
Adaptivepharma, LLC	Brownmed	Deciphera Pharmaceuticals
Adare Pharmaceuticals	Cancer Research Center	DeLaval Manufacturing
Addison Biological Laboratory, Inc.	Captify Health	DeNovo Genomics
Advanced Clustering Technologies, Inc.	Cardinal Health Regulatory Svc.	Disposable Instrument Company
Advanta Seeds	Cardiovascular Imaging Technologies	Durrie Vision
AEGLE Palette LLC	Cargill Animal Nutrition	Ecto Development Corporation
AIB International	Cargill Inc	Eir Pharmaceuticals
AKCIA Inc	Catain Laboratories LLC	Elanco Animal Health
Albaugh, LLC	Catalent Pharma Solutions	ELIAS Animal Health, LLC
Alburtylab, Inc.	Centaur Animal Health	EMB Statistical Solutions
Alliance for Multispecialty Research-KC	Central Biomedica Inc.	EMCI
Allied Monitor Inc/Addison Labs	Central Solutions Inc	Endevica Bio
Altasciences Clinical Research	CentralReach	ENDOVAC Animal Health
AnalyzeDirect	Cereal Ingredients, Inc.	Engenious Design
Antech Diagnostics, Inc.	Cerner Corporation	Ensite Vascular
ARE Labs Inc.	Certtech, LLC	Enso Discoveries
Argenta Research LLC	Ceva Animal Health	Equinosis LLC
Artisan Technology Group	CIA Labs	Eurofins Agrosience Columbia
Asuun	Ciclomed, LLC	Eurofins Viracor-IBT
Azurity Pharmaceuticals	Cingulate Therapeutics	Evogen Inc.
B.F. Ascher & Company, Inc.	Clara Biotech	Evoke Medical, LLC
Bardavon Health Innovations	Clinical Reference Laboratory, Inc.	Excite Pharma Services
BASF Corporation	Clinical Research Consultants	Exocyttronics, LLC
Bayer Cropscience LP	Clinical Research of The Ozarks, Inc.	Fennik Life Sciences, LLC
Big Heart Pet Brands	Clipper Distributing Co	FitBark Inc.
Bio Med Valley Discoveries, Inc.	Compass Minerals	Garmin International Inc.
Biodesix	Conklin Company, Inc.	Great Plains Analytical Laboratory
BioFluidica	ContourMD	GTC Research
BioGen Ag Systems	Corbion	Hafion LLC
Biomedical Devices of Kansas LLC	Cramer Products, Inc.	Hans Rudolph, Inc.
Biomim	Creche Innovations	Heart of America Eyecare, PA
BioPharmaPotentials	Crititech, Inc.	Heart to Heart Network LLC
Biozyme Incorporated	CryoCrate	Heartland Plant Innovations

### Companies Listed in 2018, Still in the Region

HEMCO Corp	Likarda, LLC	pHLOGISTIX LLC
Hennessy Research Associates	Manna Pro Products, LLC	Phoenix Medical Research
Herschel J Gaddy & Assoc	Mars Petcare	Phoreus Biotechnology, Inc.
Hill's Pet Nutrition, Inc	MAWD Pathology Group, Inc.	Phytotechnology Laboratories, L.L.C.
HPI Products, Inc.	Mazen Animal Health	Pinnacle Technology Inc.
Hunkeler Eye Institute	Medical Device Solutions	Pivot International
Huvepharma	Medical Positioning	Plastikon Healthcare, LLC
Hyalogic LLC	Merck Animal Health	Play-it Health Adherence Management
HylaPharm	MFA Inc	PrairieFood
ICON PLC	MGP Ingredients, Inc.	Prommune
Identigen North America, Inc.	Microprotein Technologies Inc	ProPharma Group Inc
IDEXX BioAnalytics	Mid-South Milling Company, Inc.	ProTox Services
IFF	Millipore Sigma	PTC Laboratories, Inc.
Illuminate	Missouri Cancer Associates LLC	Pulse Needle Free Systems Inc
Innara Health	Mobility Designed	Quest Analytics, LLC
InnovaPrep LLC	Motega Health	Quest Diagnostics Inc
Inovatia Laboratories, LLC	MRIGlobal	QVM Services, LLC
Integris BioServices dba KCAS	MS Biotech	RBC Medical Innovations
IntelligeneCG - Cancer Genomics	Nanova Inc	Redivus Health
Ioditech, Inc.	NBO3 Technologies	Rockwell Labs LTD
IQVIA	Nectagen, Inc.	Rowe Neurology Institute
iShare Medical	Nestle Purina PTC	SCD Probiotics
iVet Professional Formulas	Netsmart	Schroer Manufacturing Company
J2 Scientific	Nexus Medical, LLC	Sekisui XenoTech, LLC
Johnson County Clin-Trials, LLC	Nika Biochemicals Inc	Sickweather
KALO Inc	Norbrook Inc	Sinclair Research Center
Kangen Pharmaceutical	Nostrum Laboratories Inc.	SJK Global, LLC
KanPRO Research, Inc.	Novadiol, Inc.	Southwest Technologies Inc
Kansas City Allergy & Asthma	Now System, Inc.	Sparhawk Laboratories, Inc.
Kansas City Safety Alliance & Research	Oberd	Spinal Simplicity
Kansas Regenerative Medicine Center	Omnium LLC	Star Labs/Forage Research, Inc.
Keystone Laboratories, Inc.	One Medicine Consulting	Steinlite Corp
Kindred Biosciences	Onebiol, LLC	Stone Manufacturing & Supply Co., Inc.
Knit-Rite, Inc.- Thuasne	Orion Integrated Biosciences	Stowers Institute for Medical Research
KrolPharma Resources	Ortho-Care, Inc.	SynTech Research
Lab Corp	OsteoGeneX/OssiFi	Telecare Global, LLC
Labconco Corporation	Pace Analytical Services, Inc.	TeraCrunch
Land O'Lakes Purina Feed	Parnell Inc	The Great Plains Laboratory
Liberty Pharma Inc	PatientsVoices™	Thermo Fisher Scientific Inc.
Lifeline Foods LLC	PBI/Gordon	Tiger Energy Solutions
LifeScience Technologies, LLC	PETNET Solutions, Inc.	Tonistry Inc.

### ***Companies Listed in 2018, Still in the Region***

Trinity Biotech

TriRX

TVAX Biomedical, LLC

UBC - An Express Scripts Company

Ventria Bioscience

Veterinary and Biomedical Research Ctr.

Veterinary Specialty Products Inc

Vita A Zine Inc

Vitalograph Inc

WellSky (formerly Mediware)

Wilbur-Ellis Feed

Worldwide Innovations & Tech

Wyatt Cytoconsulting

Your Life Lived Well, LLC

Zoetis Inc.

ZuPreem

Zutron Medical





Dear Stakeholder:

BioNexus KC catalyzes our regional life sciences efforts by fostering research, collaboration, commercialization, and workforce development. An inventory of life sciences companies between Manhattan, KS and Columbia, MO has been completed every three years since 2003, allowing us to track the growth of the regional life sciences industry. The BioNexus KC life sciences Census strongly influences regional policy, and economic and workforce development in our region. The 2021 Census will provide a snapshot of our regional strengths and is the only repeated systematic assessment of industry assets in the region.

We need your help to collect the data! The Census will only take 5-10 minutes to complete.

Section one will be reported on an individual basis and will include:

- Company name
- Location
- Branch or headquarters
- Areas of specialization/niche
- Number of employees

Section two will include details that will only be used to report on aggregate trends and totals, and will include:

- Research funding
- Sales
- Growth expectations

The enclosed Census form can be completed and returned, or you can complete the Census online at <https://bionexuskc.org/>.

If you have any questions, please contact:

Donna Gordon | [Census@bionexuskc.org](mailto:Census@bionexuskc.org) | 816-304-7958

Census respondents will be supplied with a digital and/or physical copy of the Census upon its completion later this year. The 2018 Census is available at [www.bionexuskc.org/reports/](http://www.bionexuskc.org/reports/). We value your participation and partnership. Together, we achieve more.

Thank you,

A handwritten signature in black ink, appearing to read "Dennis Ridenour".

Dennis Ridenour  
President and Chief Executive Officer



## BioNexus KC 2021 Life Sciences Census

### SECTION ONE

Section one results will be published in a final report and released to area stakeholders, policy makers, and economic development professionals. The report will publish:

- Company name
- Branch or Headquarters
- Areas of specialization/niche
- Location
- Primary Focus and Expertise

- Your name (required) \_\_\_\_\_
  - Your Title \_\_\_\_\_
  - Company name (required) \_\_\_\_\_
  - Company Address (optional) \_\_\_\_\_  
\_\_\_\_\_
  - County (required) \_\_\_\_\_
  - Phone number \_\_\_\_\_
  - Email Address \_\_\_\_\_
1. Is this location: (required)
    - a. ☐ Headquarters of your company
    - b. ☐ A branch location
    - c. ☐ A US headquarters of a multinational company
  2. How many full time equivalent (FTE) employees do you currently have in the region (from Manhattan, KS to Columbia, MO)?
  3. Your company's **primary** focus is: (required, choose one)
    - a. ☐ Human health
    - b. ☐ Animal health or nutrition
    - c. ☐ Plant Science
  4. What is your company's primary area of expertise? (required)
    - a. ☐ Drugs & Pharmaceuticals - Developing and or manufacturing medicinal, botanical, and biological products for therapeutic or diagnostic applications.
    - b. ☐ Biotechnology Research and Testing - Laboratories providing critical analysis and services, excluding exclusive consumer health labs, and/or firms performing research and development to advance new discoveries, treatments or services.



- c. ☐ Healthcare & Life Sciences IT - Developing software and technology to expand the capabilities of the bioscience industry
  - d. ☐ Medical Devices and Instruments – Researching and developing products with applications for animal or human health.
  - e. ☐ Organic or Agricultural Chemicals - companies whose research and/or development support plant science and agricultural sectors within the life sciences
  - f. ☐ Food Science/Feed or Plant-Based Products - Food science companies research, develop and produce products integrating biological, chemical, and physical sciences. Plant-based product companies engage in research and development activities producing biofuels, composite materials, enhanced nutritional feeds/food, or synthetic meats.
  - g. ☐ Other: \_\_\_\_\_
5. What is your secondary area(s) of expertise (select up to 2)?
- a. ☐ Drugs & Pharmaceuticals - Developing and or manufacturing medicinal, botanical, and biological products for therapeutic or diagnostic applications.
  - b. ☐ Biotechnology Research and Testing - Laboratories providing critical analysis and services, excluding exclusive consumer health labs, and/or firms performing research and development to advance new discoveries, treatments, or services.
  - c. ☐ Healthcare & Life Sciences IT - Developing software and technology to expand the capabilities of the bioscience industry
  - d. ☐ Medical Devices and Instruments – Researching and developing products with applications for animal or human health.
  - e. ☐ Organic or Agricultural Chemicals - Companies whose research and/or development support plant science and agricultural sectors within the life sciences
  - f. ☐ Food Science/Feed or Plant-Based Products - Food science companies research, develop and produce products integrating biological, chemical, and physical sciences. Plant-based product companies engage in research and development activities producing biofuels, composite materials, enhanced nutritional feeds/food, or synthetic meats.
  - g. ☐ Neuroscience – The research, development, and application of innovative technologies to revolutionize our understanding of the human brain and nervous system to treat neurological, psychiatric and neurodevelopmental disorders.
  - h. ☐ Cancer Research & Care – The research, development and application of innovative diagnostics and treatments for all types of cancer, including medical oncology, radiation oncology, and surgical oncology.
  - i. ☐ Cardiometabolic – *The research, development and application of innovative diagnostics, treatments and therapies for cardiovascular disease and metabolic diseases. Cardiovascular diseases are disorders affecting the heart and blood vessels, whereas metabolic diseases are disorders that impact metabolism (chemical processes within the body).*
  - j. ☐ Biologics – The research, development and manufacturing of novel products, including vaccines, gene therapies, recombinant proteins, and many more, derived from natural sources (such as blood, skin, plants, etc.) that are used in healthcare, veterinary, and agricultural settings.
  - k. ☐ Other: \_\_\_\_\_



## SECTION TWO

All data compiled in Section two regarding sales, research spending and growth will be compiled only for analysis by BioNexus KC. Published information will discuss this information in aggregate terms, such as “12 companies in the medical device market indicated that employee headcount was expected to rise in 2021” To see how this data was reported in 2018, you can download the report at <https://bionexuskc.org/reports/>. Any questions or concerns regarding this survey may be directed to Donna Gordon at [Census@bionexuskc.org](mailto:Census@bionexuskc.org) or 816-304-7958.

The workforce questions will be used to influence programs in the region designed to improve workforce readiness and training in the region. Information will be presented in aggregate only.

1. Comparing the number of employees in 2021 to the number of employees in 2020, would you say the number has:
  - a. ☐ Increased
  - b. ☐ Decreased
  - c. ☐ Stayed about the same
  
2. How many employees would you anticipate adding to your company in the next 36 months?
  - a. ☐ Plan to cut staff
  - b. ☐ Zero
  - c. ☐ One
  - d. ☐ 2-5
  - e. ☐ 6-25
  - f. ☐ 25-100
  - g. ☐ Over 100
  
3. What are your greatest workforce needs in the next 36 months? (check all that apply)
  - a. ☐ Technician level staffing – high school diploma
  - b. ☐ Technician level staffing – some post high school training
  - c. ☐ Associate’s degree
  - d. ☐ Bachelor’s degree
  - e. ☐ Master’s degree
  - f. ☐ PhD degree
  
4. What is the average length of vacancy for positions at your company?
  - a. ☐ 30 days or less
  - b. ☐ 30-60 days
  - c. ☐ 60-90 days
  - d. ☐ 90-120 days
  - e. ☐ Over 120 days
  
5. In the past 36 months has your use of part-time or temporary workers:
  - a. ☐ Increased
  - b. ☐ Decreased
  - c. ☐ Stayed the same
  - d. ☐ Not Applicable/do not utilize



6. Have you utilized services from the public workforce system in identifying candidates to fill workforce needs in the last 24 months?
- a. ☐ Not at all
  - b. ☐ Rarely
  - c. ☐ Occasionally
  - d. ☐ Frequently
  - e. ☐ I am not familiar with their services
7. What is the current state of Diversity, Equity, and Inclusion (DEI) in your company? Check all that apply.
- a. ☐ My company's mission, vision or values demonstrate a commitment to diversity.
  - b. ☐ My company has a commitment to diversity statement.
  - c. ☐ My company has a written diversity strategic plan.
  - d. ☐ My company has a full-time or part-time DEI professional who performs DEI work.
  - e. ☐ My company has a supplier diversity policy or program.
  - f. ☐ My company has an affinity group or employee resource group for diverse/minority employees.
  - g. ☐ My company has a policy that specifically prohibits discrimination based on ability, veteran status, sexual orientation, gender identity or gender expression.
  - h. ☐ My company mandates diversity training for all employees.
8. What is the current level of interest with regard to DEI initiatives in your company?
- a. ☐ We have some initiatives in place.
  - b. ☐ We have many initiatives in place.
  - c. ☐ We are interested but haven't started yet.
  - d. ☐ We are interested, but we don't know where to start.
  - e. ☐ It is not a priority for my company.
  - f. ☐ I do not know.
9. Have you needed to recruit workers for entry level positions from outside the region due to the quality and/or quantity of the available workforce in the last 24 months?
- a. ☐ Not at all
  - b. ☐ Rarely
  - c. ☐ Occasionally
  - d. ☐ Frequently
10. Would you be willing to have a representative of your company serve in an advisory capacity to inform and influence regional life sciences workforce development efforts?
- a. ☐ Yes
  - b. ☐ No
- If 'Yes', please provide the name of the representative, and their email address:
-



11. Your current research expenditures for this year are expected to be in the range of:

- a. ☐ No Research at this location
- b. ☐ Less than \$100,000
- c. ☐ From \$100,000 to \$500,000
- d. ☐ From \$500,000 to \$1 million
- e. ☐ From \$1 to \$5 million
- f. ☐ From \$5 to \$20 million
- g. ☐ From \$20 to \$100 million
- h. ☐ Over \$100 million

12. Your research expenditures for 2022 are expected to be in the range of:

- a. ☐ None
- b. ☐ Less than \$100,000
- c. ☐ From \$100,000 to \$500,000
- d. ☐ From \$500,000 to \$1 million
- e. ☐ From \$1 to \$5 million
- f. ☐ From \$5 to \$20 million
- g. ☐ From \$20 to \$100 million
- h. ☐ Over \$100 million

13. Company sales for 2021 are expected to be in the range of:

- a. ☐ Pre-revenue
- b. ☐ Less than \$100,000
- c. ☐ From \$100,000 to \$500,000
- d. ☐ From \$500,000 to \$1 million
- e. ☐ From \$1 to \$5 million
- f. ☐ From \$5 to \$20 million
- g. ☐ From \$20 to \$100 million
- h. ☐ Over \$100 million

Thank you for your response to BioNexus KC's Census of life sciences companies. You can submit your completed Census online, via email, or through the mail using the information below.

**Email:**

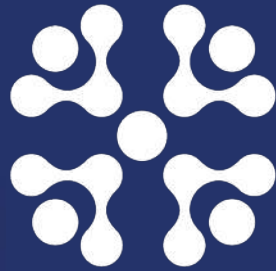
Census@bionexuskc.org

**Mail to:**

BioNexus KC  
30 W. Pershing Road, Suite 210  
Kansas City, MO 64108

**Respond on the web at:**

<https://bionexuskc.org/>



BioNexus | KC

30 W. Pershing Rd.  
Ste. 210  
Kansas City, MO 64108

816.753.7700  
[BioNexusKC.org](http://BioNexusKC.org)