

APPENDIX C

INDUSTRY CLUSTERS

INTRODUCTION

The following industry clusters (concentrations of related industries that share markets, suppliers, and worker skills) have been identified by M7 as significant to the success of the Region. These industry clusters offer the Region competitive strengths, assets, and supply chain advantages in the global economy and can be positioned for increased investment and growth from within and outside the Region.

ENERGY, POWER, & CONTROLS

The Region's energy, power, and controls cluster is large, highly concentrated, and export intensive. It is comprised of three industry segments: electrical equipment, instruments and controls, and other electrical equipment. The regional cluster includes more than 200 establishments and nearly 19,000 employees.

The Region is well positioned to grow its energy, power, and controls cluster given its array of global leaders in critical segments of the cluster, including Rockwell Automation (industrial and automation controls), SPX Transformer Solutions (formerly Waukesha Electric) and Eaton (formerly Cooper Power) (power infrastructure), and Johnson Controls (energy storage, building energy efficiency).

A collaborative network of more than 90 companies and academic institutions has formed the Mid-West Energy Research Consortium, based in Milwaukee, which promotes research and innovation in the energy, power, and controls industry, and the development of clean energy technologies to drive an energy-independent future. Additionally, one-on-one, university-industry partnerships such as the University of Wisconsin-Milwaukee/Johnson Controls Partnership in Energy Research are similarly creating more capacity and innovation in the cluster.

Several trends are anticipated to create future growth opportunities in the energy, power, and controls cluster:

- The resurgence in U.S. manufacturing will likely lead to greater demand for industrial automation and controls equipment and systems in domestic facilities
- Total renewable generation exceeded coal-fueled generation in the U.S. for the first time in 2019, a trend that is expected to continue
- Expanding investments in electrical power infrastructure averaged \$87 billion per year between 2013 and 2019 in the U.S.
- The worldwide building energy efficiency market grew from \$118 billion in 2011 to \$298 billion in 2018; approximately \$83 billion was invested in energy efficiency in the U.S. in 2018

WATER TECHNOLOGY

Approximately 175 water technology firms with \$10.5 billion in revenues are located in the Region, including five of the 11 largest water firms in the world. In total, the sector employs more than 20,000 workers. Similar to other industries in the “green” space, the water technology industry includes a broad spectrum of products and services, with industry strengths in pumps, meters, boilers, and valves, which in aggregate employ more than 3,000 workers.

The water technology industry is a large and growing market, both domestically and internationally. The U.S. water industry market was estimated at \$172 billion in 2018, with a 4% annual growth forecast. Global market opportunities related to the water sector are expected to reach \$1 trillion by 2025.

The Region’s access to the Great Lakes – 21% of the world’s surface fresh water – provides several economic advantages. The Region has a competitive edge in attracting and growing water-related industries, which benefit from proximity to this plentiful resource, including high-volume water and effluent businesses.

The Region is also home to world-class research institutions, making it a world hub of water technology, research, and policy. The UWM School of Freshwater Sciences is the only graduate school in the nation dedicated solely to the study of freshwater. UWM’s Great Lakes WATER Institute is the largest academic freshwater research facility on the Great Lakes.

The 180-plus corporate members of The Water Council continue to build on these competitive advantages to establish the Region as a global hub for water-related research and development, company formation, and human capital development. The Council has several initiatives underway, including the Global Water Center, focused on water research and business acceleration; the Global Freshwater Seed Accelerator; the

Industry/University Cooperative Research Center, which brings together two universities in partnership with six regional firms; and creation of a water-relevant curriculum for five campuses in the University of Wisconsin system.

FOOD & BEVERAGE MANUFACTURING

The Region's food and beverage cluster is large, concentrated, and growing in export activity. The core of the cluster – food manufacturers, processors, and artisans – is comprised of more than 300 firms and employs approximately 17,000 people, creating one of the strongest concentrations among major U.S. markets. The Region is also home to more than 8,000 workers in industry segments that support the core, including food products machinery manufacturing and food and beverage distribution.

Nationally, food and beverage manufacturing growth is projected to be strong over the 2021 to 2025 period in both employment and output, based on demand for functional, organic, and locally grown foods. The Region's food and beverage manufacturing assets align well with expanding domestic and international markets.

The Region exhibits supply-chain advantages in growing a competitive food and beverage cluster, given its proximity to the vast quantities of crop-based, dairy, and animal products generated throughout Wisconsin. These agricultural outputs continue to drive a regional strength in ingredient manufacturing, ranging from seasonings to enzymes. Agricultural products are the State's second-highest export category, and Wisconsin ranks 12th among U.S. states for agricultural exports. In 2018, Wisconsin exported \$3.5 billion in agricultural products to 143 countries. Overall, Wisconsin is home to over 20,000 food and beverage industry employers with over 430,000 employees, generating \$104 billion in economic activity.

This cluster also has the advantage of a formal cluster organization, the Food and Beverage Wisconsin (FaB) network, composed of more than 270 firms working together to enhance cluster growth by focusing on the areas of industry leadership, talent, innovation, food safety, business development, and supply chain management. FaB programming includes a career awareness program at a public high school, tailored technical college curricula, a career resource center, industry directory, and a small business accelerator program.

ELECTRONICS MANUFACTURING

The electronics manufacturing cluster in the Region is experiencing continued growth, most evidenced with the ongoing construction of a Foxconn manufacturing and technology campus in Racine County – the Wisconsin Valley Science and Technology Park.

Overall, the Computer & Electronic Products Manufacturing sector employed more than 10,000 workers in the Region in 2019, with 165 business locations and a location quotient of 1.42. The sector's gross domestic product is \$3.6 billion.

Businesses that are included in the computer and electronic product manufacturing industry produce computers, computer peripherals, communications equipment, and similar electronic products. In addition, many electronics products or components are incorporated into other industries' products, such as cars, toys and appliances. The design and use of integrated circuits and the application of highly specialized miniaturization technologies are common elements in the production technologies.

The ongoing digitalization of the modern economy will continue to drive demand across consumer markets and the business-to-business sector. Several trends are anticipated to create future growth opportunities in the electronics cluster:

- The Computers and Electronic Products sector in the U.S. is the largest contributor to GDP among the durable goods industries – the sector has almost doubled in size over the last decade, from \$168 billion in 2007 to \$320.8 billion in 2018.
- The rapid pace of innovation in electronics technology creates a constant demand for newer and faster products and applications. This demand puts a greater emphasis on R&D than is typical in most manufacturing operations.
- With the potential economic impact of the Foxconn campus, the Southeastern Wisconsin Region has an opportunity to capitalize on the new industry growth and elevate Milwaukee's position as a global hub of technology and innovation. The Foxconn investment can have a multiplier effect across the Region and State, boosting electronics supply chains and workforce development and training.

TOURISM & HOSPITALITY

Southeastern Wisconsin represents the largest tourism market in the State, with a 32% market share. Tourism is one of Wisconsin's three economic pillars, alongside manufacturing and agriculture.

The Region is a popular destination for tourism and conventions, the arts, music, entertainment, and recreation. The Leisure & Hospitality sector employed nearly 104,000 in 2018, accounting for about 10% of the Region's total employment. The sector is expected to employ nearly 110,000 in 2025, a net gain of more than 5,000 jobs in this period, or a 6% gain (note: projection is pre-COVID).

Presently there are 5,139 business locations in this sector with a gross domestic product of \$4.2 billion. There are two main parts to the sector, the arts, entertainment, and recreation sector (performing arts and professional sports for example), which employed more than 18,000 workers in 2018, and the accommodation and food services sector (restaurants and hotels for example), which employed more than 85,000 workers in 2018. The Milwaukee metro area has 142 hotels with a total of more than 18,000 hotel rooms. In the last 10 years, 27 new hotel properties have been added to the market, representing an increase of more than 3,700 hotel rooms.

Several major new and upcoming entertainment, convention and tourism investments across the Region include:

- The \$525-million Fiserv Forum, the home of the Milwaukee Bucks professional basketball team, opened for the 2018-19 NBA season and is expected to spur an additional \$500 million in entertainment, residential, and office development. The 30 acres surrounding the new arena, named the Deer District, is developing into Milwaukee's downtown sports and entertainment hub.
- A \$420-million expansion of the Wisconsin Center, Milwaukee's downtown convention center, will break ground in late 2021 and is expected to be completed in spring 2024.
- The Milwaukee Symphony Orchestra is opening a new \$89-million symphony hall.
- Summerfest, the world's largest music festival, completed a \$51-million renovation of the 22,000-seat American Family Insurance Amphitheater in 2020.
- The Milwaukee Public Museum and Betty Brinn Children's Museum are planning a new \$100-million shared facility adjacent to the Deer District.
- The Brookfield Conference Center, a 54,000-square-foot multipurpose building with adjoining 168-room hotel, opened in 2020.
- The proposed 35,000-square-foot expansion of Racine's Festival Hall coupled with a new 171-room hotel is moving forward in Racine's downtown.
- The new \$255-million, 168-acre Ballpark Commons project in Franklin is a sports-anchored, mixed-use development that is home to the Milwaukee Milkmen independent baseball team.
- A \$72-million project is underway converting the former downtown Grand Avenue Mall into The Avenue, an office and retail space that includes the new 3rd Street Market Hall.

The COVID-19 pandemic has had a dramatic economic impact on the Region's tourism industry. With the Democratic National Convention, Ryder Cup, USA Triathlon, and USA Gymnastics events scheduled for the Region in 2020, Southeastern Wisconsin was looking forward to a record-breaking tourism year and capitalizing on the exposure of hosting these prestigious events. Local businesses were making significant financial investments into their business operations and increasing staffing to prepare for the year ahead.

Everything changed in March with the onset of the global pandemic. Hundreds of conventions and business events were canceled in 2020 due to COVID, with losses totaling more than \$500 million in Milwaukee alone. This does not include the economic losses from annual festivals, sporting events, concerts, and other activities that have also been canceled. Summerfest and Wisconsin State Fair, two huge annual summer events, alone amounted to \$400 million in lost revenue. In total, the Region has lost billions of tourism-related dollars, and events continue to cancel into 2021. Currently, the industry is not expected to recover until 2024-2025.

In Milwaukee County, hotels saw a decrease in demand year-over-year of 47%. The loss in demand and room availability resulted in hotel revenues decreasing from about \$353 million to about \$139 million, a 61% drop from the prior year. Seventeen hotels temporarily closed operations, removing nearly 3,600 rooms available in the market.

Additionally, as of early 2021, the Wisconsin Restaurant Association estimates one in 10 restaurants in Wisconsin have already been forced to close. Thousands of hospitality workers in the Region are still unemployed, and that number could grow as a result of additional uncertainties surrounding the pandemic.

TECHNOLOGY-DEPENDENT INDUSTRIES

Tech-dependent businesses represent more than 5,300 establishments in the Region, covering more than 140 industries that together amounted to nearly \$28 billion in gross regional product in 2017, nearly one quarter of the Region's total economic output. Technology is rapidly accelerating the pace of change and the need for talent across these industries. Today's advanced manufacturing jobs being created in Southeastern Wisconsin and nationally require strong technical skills.

A first-of-its-kind 2018 report revealed the extensive impact of tech occupations and tech-dependent industries on the Region. [Milwaukee's Tech Talent Impact](#) study identified nearly 76,000 technology workers in 89 distinct occupations, cutting horizontally across industry sectors.

The analysis also identified three types of digital job categories that account for 75% of the Region's tech talent: computer/mathematical, engineering, and business/financial. Major tech talent-dependent industries in the Region include:

- **Finance and insurance services**, focusing on insurance and money management
- **Headquarters and business services**, particularly relating to information technology, data processing systems and services, distribution and supply chain systems, and medical information
- **Medical technology, bioscience, health services, and pharmaceuticals**, focusing on diagnostic equipment and botanical and pharmaceutical research, product development, and manufacturing
- **Aerospace and Aeronautics**, focusing on cutting-edge research and development in power and control systems, engineering, nanotechnology, and composite materials

To be nationally and globally competitive, industry leaders formalized the MKE Tech Hub Coalition in 2019 to pursue critical initiatives focused on creating an environment that attracts and supports a vibrant community of tech talent, entrepreneurs, and diverse businesses. Key strategies include:

- Drive Demand for Jobs
 - Promote current tech capabilities and showcase Milwaukee as a tech hub
 - Increase tech startups
 - Expand tech companies relocating to or growing in the Region
- Meet Job Demand with Talent Supply
 - Inspire the next generation of talent and retain them in the Region through internship and entry-level opportunities
 - Accelerate reskilling and upskilling
 - Attract talent for immediate regional openings