Exploring Florida’s Targeted Industries
Florida’s geographic location ideally positions the state as a hub of commerce to all parts of the world. Florida’s competitive costs, comprehensive infrastructure and a large, diverse talent pool amongst other things have supported the expansion of a dynamic economy including the following key areas: aviation & aerospace, life sciences, manufacturing, information technology, financial & professional services and logistics & distribution.

The industry profiles detail the benefits on Florida’s employment, wage-earning levels and how each industry is forecast to perform moving forward. In an ever increasingly competitive global market, Florida continues to position itself for future growth in key areas as evidenced in the following industry profiles.

Overview
Florida’s life sciences industry cluster is comprised of the biosciences industry and the health care industry. Some of the largest industry subsectors within the life sciences industry cluster include: pharmaceutical preparation manufacturing; electromedical and electrotherapeutic apparatus manufacturing; surgical and medical instrument manufacturing; surgical appliance and supplies manufacturing; ophthalmic goods manufacturing; ambulatory health care services (physicians, dentists, outpatient care centers and home health care centers); and hospitals.

Employment Trends in the Life Sciences Industry
The life sciences industry cluster had 49,299 establishments in 2017, with employment of 888,759 jobs. Employment was up 21,912 jobs (+2.5 percent) from 2016. Employment has been on an upward trend since 2007, gaining 193,285 jobs (+27.8 percent) over this period.
Figure #1
Florida Life Sciences Employment
2007 - 2017
(Not Seasonally Adjusted)

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics and Economic Research, Quarterly Census of Employment and Wages program (QCEW).
Florida Biosciences Industry

Florida continues to build a world-class biosciences industry since the job losses incurred during 2008 to 2012. This biosciences industry is built on a foundation of strong research universities and leading institutes.

- The biosciences industry includes the following subsectors: medicinal and botanical manufacturing; pharmaceutical preparation manufacturing; in-vitro diagnostic substance manufacturing; other biological product manufacturing; electromedical apparatus manufacturing; analytical laboratory instruments manufacturing; irradiation apparatus manufacturing; surgical and medical instrument manufacturing; surgical appliance and supplies manufacturing; ophthalmic goods manufacturing; and research and development in biotechnology (except nanotechnology).

- The biosciences industry had 1,391 establishments in 2017, with employment of 28,932 jobs. Employment was up 232 jobs (0.8 percent) from 2016. Total jobs for all industries increased by 2.2 percent over the same period.

Figure #2
Florida Bioscience Industry Employment
2007 - 2017
(Not Seasonally Adjusted)

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics and Economic Research, Quarterly Census of Employment and Wages program (QCEW).
• Florida biosciences employment was on a downward trend from 2008 to 2012, losing 2,576 jobs (-9.4 percent) from its peak (27,336 jobs) in 2008. From this low, biosciences employment has been on an upward trend from 2012 to 2017, rising to 28,932 jobs.

• The largest subsectors within biosciences in 2017 were surgical and medical instrument manufacturing (7,768 jobs); pharmaceutical preparation manufacturing (4,924 jobs); and surgical appliance and supplies manufacturing (4,881 jobs). These three industries made up 60.7 percent of biosciences industry employment.

**Figure #3**
Share of Florida Biosciences Industry Employment by Subsector
2017 Annual Averages
(Not Seasonally Adjusted)

- Surgical and Medical Instrument Mfg: 26.8%
- Pharmaceutical Preparation Manufacturing: 17.0%
- Surgical Appliance and Supplies Mfg: 16.9%
- Ophthalmic Goods Manufacturing: 12.6%
- Electromedical Apparatus Manufacturing: 10.5%
- R&D in Biotechnology (except Nanotechnology): 9.9%
- Medicinal and Botanical Manufacturing: 3.7%
- Analytical Laboratory Instruments: 1.5%
- Irradiation Apparatus Manufacturing: 0.5%
- In-Vitro Diagnostic Substance Mfg: 0.3%
- Other Biological Product Manufacturing: 0.2%

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics and Economic Research, Quarterly Census of Employment and Wages program (QCEW).

• Within the biosciences industry, the pharmaceutical preparation manufacturing subsector gained the most jobs over the year (+351 jobs, +7.7 percent) and surgical appliance and supplies manufacturing lost the most jobs over the year (-268 jobs, -5.2 percent).
The 2017 average annual wage for biosciences increased more than the average wage for all industries over the year and grew at a faster rate. The 2017 average annual wage for biosciences was $76,809, an increase of $1,943 (+2.6 percent) from 2016. The average annual wage for all industries grew by $1,405 (+3.0 percent) over the year.

The 2017 average annual wage for biosciences exceeded the average annual wage for all industries ($48,460) by $28,349 (+58.5 percent). This gap has lessened from 2016 when the biosciences average annual wage exceeded the wage for all industries by $27,811 (+59.1 percent).

Irradiation apparatus manufacturing had an average annual wage of $127,498 in 2017, the highest in biosciences and 163.1 percent higher than the average annual wage for all industries. Medicinal and botanical manufacturing had the lowest average annual wage in 2017 ($57,335). All 11 biosciences subsectors had 2017 average annual wages that exceed the average annual wage for all industries. All subsectors had average annual wages greater than $50,000 and nine subsectors had wages higher than $60,000.
Compared to the average annual wage for all industries in 2017 ($48,460), most biosciences subsectors had relatively high wages.

**Figure #5**

**Top Occupations in the Bioscience Industry Cluster for All Training Levels**

<table>
<thead>
<tr>
<th>Occupation Title</th>
<th>Employment</th>
<th>Percent of Industry</th>
<th>2017 Median Hourly Wage</th>
<th>% of Median Total Wages</th>
<th>Training Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total, Bioscience Industry Cluster</td>
<td>60,641</td>
<td>65,458</td>
<td>4,817</td>
<td>7.94</td>
<td></td>
</tr>
<tr>
<td>Electrical and Electronic Equipment Assemblers</td>
<td>3,394</td>
<td>3,396</td>
<td>0.06</td>
<td>5.60</td>
<td>Postsecondary Vocational</td>
</tr>
<tr>
<td>Team Assemblers</td>
<td>2,959</td>
<td>3,054</td>
<td>95</td>
<td>3.21</td>
<td>High School Diploma</td>
</tr>
<tr>
<td>Dental Laboratory Technicians</td>
<td>2,570</td>
<td>2,887</td>
<td>317</td>
<td>12.33</td>
<td>Postsecondary Vocational</td>
</tr>
<tr>
<td>Industrial Engineers</td>
<td>2,002</td>
<td>2,177</td>
<td>175</td>
<td>8.74</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>Packaging and Filling Machine Operators and Tenders</td>
<td>1,591</td>
<td>1,736</td>
<td>145</td>
<td>9.11</td>
<td>Less than High School</td>
</tr>
<tr>
<td>First-Line Supervisors of Production and Operating Workers</td>
<td>1,451</td>
<td>1,517</td>
<td>66</td>
<td>4.55</td>
<td>Postsecondary Vocational</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>1,435</td>
<td>1,500</td>
<td>65</td>
<td>4.53</td>
<td>High School Diploma</td>
</tr>
<tr>
<td>General and Operations Managers</td>
<td>1,346</td>
<td>1,489</td>
<td>143</td>
<td>10.62</td>
<td>Associate Degree</td>
</tr>
<tr>
<td>Customer Service Representatives</td>
<td>1,290</td>
<td>1,359</td>
<td>69</td>
<td>5.35</td>
<td>Postsecondary Vocational</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Technical</td>
<td>1,188</td>
<td>1,235</td>
<td>47</td>
<td>3.96</td>
<td>Postsecondary Vocational</td>
</tr>
<tr>
<td>Medical Scientists, Except Epidemiologists</td>
<td>1,113</td>
<td>1,311</td>
<td>198</td>
<td>17.79</td>
<td>Master's or Higher Degree</td>
</tr>
<tr>
<td>Software Developers, Systems Software</td>
<td>1,080</td>
<td>1,123</td>
<td>43</td>
<td>3.98</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>Accountants and Auditors</td>
<td>996</td>
<td>1,095</td>
<td>99</td>
<td>9.94</td>
<td>Bachelor's Degree</td>
</tr>
<tr>
<td>Electrical and Electronics Engineering Technicians</td>
<td>848</td>
<td>866</td>
<td>18</td>
<td>2.12</td>
<td>Associate Degree</td>
</tr>
<tr>
<td>Biological Technicians</td>
<td>842</td>
<td>990</td>
<td>148</td>
<td>17.58</td>
<td>Associate Degree</td>
</tr>
</tbody>
</table>

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics and Economic Research, Long Term Projections program, forecast to 2025.

- The 15 largest biosciences-specific occupations comprise 39.8 percent of the total employment in this industry.
- The largest biosciences-specific occupation in 2017 is electrical and electronic equipment assemblers, which has a median hourly wage of $14.40.
- Among the fifteen largest biosciences-specific occupations, median hourly wages range from a high of $47.14 for general and operations managers to a low of $11.97 for packaging and filling machine operators and tenders.
- Nine of the fifteen largest occupations have a median wage greater than $20.00 per hour.
- All fifteen largest occupations are projected to gain employment through 2025.
- Dental laboratory technicians are projected to gain the most jobs (+317 jobs) and medical scientists, except epidemiologists are projected to grow the fastest (+17.79 percent) of the top 15 biosciences-specific occupations from 2017 to 2025.
- Twelve of the top 15 biosciences-specific occupations require training beyond high school, with four requiring a bachelor's degree or higher. Higher wages are found in occupations with greater training requirements.
Approximately 19.4 percent of the jobs in biosciences are concentrated in the 15 largest high skill occupations in this industry.

Median hourly wages for the top 15 high skill biosciences occupations range from a high of $59.09 for architectural and engineering managers to a low of $27.81 for market research analysts and marketing specialists.

All top 15 largest high skill biosciences occupations have a median wage greater than $25.00 per hour.

All top 15 high skill biosciences occupations are projected to gain employment through 2025.

Medical scientists, except epidemiologists are projected to gain the most jobs (+198 jobs) of the top 15 high skill biosciences occupations from 2017 to 2025, while biomedical engineers are projected to grow the fastest (+31.35 percent).

Thirteen of the top 15 high skill biosciences occupations require a bachelor’s degree and two require a master’s degree or higher.

Employment in the biosciences industry is concentrated in the southeast, central and northeast parts of the state. These counties include: Miami-Dade, Pinellas, Broward, Duval, Hillsborough, Palm Beach, Orange, Alachua, Collier and Volusia.
Florida Health Care Industry

The health care industry has two major subsectors: ambulatory health care services and hospitals. Industries in the ambulatory health care services subsector provide health care services directly or indirectly to ambulatory patients and do not usually provide inpatient services. Industries in the hospitals subsector provide medical, diagnostic and treatment services that include physician, nursing and other health services to inpatients and the specialized accommodation services required by inpatients.

Industry groups within the ambulatory health care services subsector include offices of physicians; offices of dentists; offices of other health practitioners; outpatient care centers; medical and diagnostic laboratories; home health care services; and other ambulatory health care services. Industry groups within the hospitals subsector include general medical and surgical hospitals; psychiatric and substance abuse hospitals; and specialty hospitals.

- The health care industry sector had 47,908 establishments in 2017 with employment of 859,826. Employment was up 21,680 jobs (+2.6 percent) from 2016. Total jobs for all industries increased by 2.2 percent over the same period.

Figure #7
Florida Health Care Industry Employment
2007 - 2017
(Not Seasonally Adjusted)

Source: Florida Department of Economic Opportunity, Bureau of Workforce Statistics and Economic Research, Quarterly Census of Employment and Wages Program (QCEW).
Florida health care employment growth continued through 2017, rising to a record 859,826 jobs. From 2007 to 2017, health care employment has increased by 190,673 jobs (+28.5 percent).

The largest subsectors within health care in 2017 were general medical and surgical hospitals (340,042 jobs) and offices of physicians (214,241 jobs). These two industries made up 64.5 percent of health care employment.

Within the health care industry, general medical and surgical hospitals subsector gained the most jobs over the year in 2017 (+6,950, +2.1 percent).

Psychiatric & substance abuse hospitals gained the fewest number of jobs over the year in 2017 (+165, +1.2 percent).
The 2017 average annual wage for all industries increased more than the average wage for health care over the year. The 2017 average annual wage for health care was $60,425, an increase of $1,046 (+1.8 percent) from 2016. The average annual wage for all industries grew by $1,405 (+3.0 percent) over the year.

The 2017 average annual wage for health care exceeded the average annual wage for all industries ($48,460) by $11,965 (+24.7 percent).

Offices of physicians had an average annual wage of $81,727 in 2017, the highest of all health care subsectors and 68.6 percent higher than the average annual wage for all industries. Home health care services had the lowest average annual wage in 2017 ($38,088), 21.4 percent lower than the average annual wage for all industries. Six of the ten health care subsectors had 2017 average annual wages in excess of the average annual wage for all industries. Six subsectors had average annual wages greater than $50,000 and one subsector had a wage higher than $80,000.
Employment in the 15 largest health care-specific occupations makes up 47.2 percent of the total employment in this industry.

The largest health care-specific occupation in 2017 is registered nurses, which has a median hourly wage of $30.31.

Median hourly wages among the fifteen largest health care-specific occupations range from a high of $98.77 for family and general practitioners to a low of $10.97 for home health aides.

Ten of the 15 largest occupations have a median wage greater than $20.00 per hour.

All fifteen largest occupations are projected to gain employment through 2025.

Registered nurses are projected to gain the most jobs (+26,039 jobs) of the top 15 health care-specific occupations, while nurse practitioners are projected to grow the fastest (+37.56 percent) from 2017 to 2025.

All top 15 health care-specific occupations require training beyond high school, with three requiring a master’s degree or higher. Higher wages are found in occupations with greater training requirements.
Approximately 9.4 percent of the jobs in health care are concentrated in the 15 largest high skill occupations in this industry.

Of the top 15 high skill health care occupations, internists, general ($99.24) had the highest wage and mental health counselors ($21.08) had the lowest wage.

Thirteen of the 15 largest high skill health care occupations have a median wage greater than $25.00 per hour.

All top 15 high skill health care occupations are projected to gain employment through 2025.

Nurse practitioners are projected to gain the most jobs (+3,100 jobs) among the top 15 high skill health care occupations from 2017 to 2025 and is expected to grow the fastest (+37.56 percent).

Four of the 15 high skill occupations require a bachelor’s degree and 11 require a master’s degree or higher.

Health care employment is concentrated in the southeast, central and northeast parts of the state. These counties include: Miami-Dade, Broward, Hillsborough, Palm Beach, Orange, Duval and Pinellas counties.
Summary
Florida’s life sciences industry gained 21,912 jobs in 2017, creating over the year growth for a 10th straight year. Under the life sciences umbrella, surgical and medical instrument manufacturing (7,768 jobs) led the biosciences industry and general medical and surgical hospitals (340,042 jobs) paced the growth in the healthcare industry.

The 2017 average annual wage for all industries increased more than the average wage for health care over the year. The 2017 average annual wage for health care was $60,425, an increase of $1,046 (+1.8 percent) from 2016. Offices of physicians had an average annual wage of $81,727 in 2017, the highest of all health care subsectors and 68.6 percent higher than the average annual wage for all industries. Home health care services had the lowest average annual wage in 2017 ($38,088), 21.4 percent lower than the average annual wage for all industries.

In the bioscience industry, dental laboratory technicians are forecast to gain the most amount of jobs among all training levels (+317 jobs) and medical scientists, except epidemiologists are forecast to gain the most amount of jobs requiring a bachelor’s degree or higher (+198 jobs). In the healthcare industry, registered nurses are forecast to gain the most amount of jobs among all training levels (+26,039 jobs) and nurse practitioners are forecast to gain the most amount of jobs requiring a bachelor’s degree or higher (+3,100 jobs).