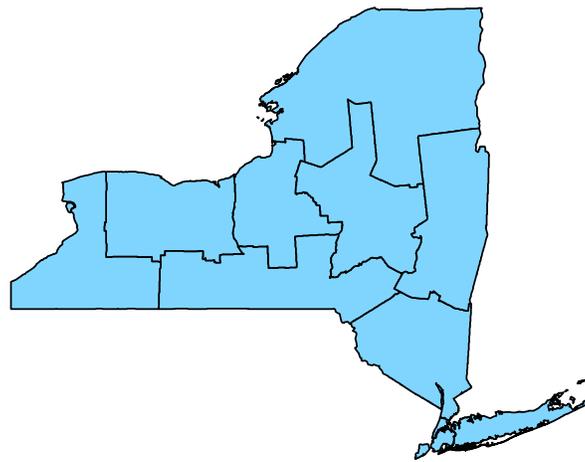


# **Industry Clusters in New York's Economy: A Statewide and Regional Analysis**



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**New York State Department of Labor  
Division of Research and Statistics  
Bureau of Labor Market Information**

## **Industry Clusters in New York's Economy: A Statewide and Regional Analysis**

Industry clusters are an important analytical tool for understanding the characteristics of the statewide and regional economies in New York. They are particularly useful in a variety of workforce and economic development applications. According to one definition from the University of Minnesota, industry clusters are “geographic concentrations of competing, complementary, or interdependent firms and industries that do business with each other and/or have common needs for talent, technology, and infrastructure.” The key aspect of cluster industries is that they are export oriented. Thus, industry clusters sell their services and products to customers outside their home market. These exports, in turn, generate income and employment in the local economy.

The Empire State Development Corporation (ESDC) has identified and defined 16 industry clusters in the state. The clusters framework is increasingly used by the State of New York to study important industry linkages in the state and regional economies. Some of ESDC's industry clusters contain more than 100 industries (at the 6-digit NAICS level). Most clusters are further divided into sub-clusters. In some clusters, data for certain industries are pro-rated because not all jobs in that industry are associated with that cluster. For example, only 10 percent of employment in motion picture theaters is counted as part of the travel and tourism cluster.

This report looks at statewide and regional data highlights from the 16 ESDC clusters, using 2008 data from the Quarterly Census of Employment and Wages program. For the state as a whole and its 10 labor market regions, clusters are ranked using four different criteria: 1) total employment; 2) total wages; 3) average wage; and 4) location quotient. The first three criteria are self-explanatory, while the last is more technical in nature.

Location quotients (LQs) are measures of employment concentration in a regional economy. More specifically, they compare the concentration of industry employment locally to that of the U. S. If an industry's LQ is greater than 1.0, then the region's labor market contains a higher concentration of jobs in that industry relative to the U. S. It is assumed that industries with an LQ greater than 1.0 produce more than the local market needs and exports surplus production (and employs additional workers as a result). These industries have a regional advantage in that more resources and infrastructure are available to local employers than in many other parts of the country. The three statewide industry clusters in New York with the highest LQs in 2008 included: fashion, apparel & textiles (1.79); communications, software & media services (1.43); and, financial services (1.35).

It is often difficult to clearly identify an industry cluster in a regional economy, except when it is obvious. Some “obvious” examples from around the nation include automobiles in Detroit, information technology in Silicon Valley, commercial aircraft production in Seattle, and the wine industry in California. Some regional clusters in the Empire State are well known and

long established, such as financial services in New York City, electronics manufacturing in the Southern Tier, and transportation equipment in Western New York.

The idea behind clusters traces back to Michael Porter's 1990 book, *The Competitive Advantage of Nations*. According to Porter, the following factors are critical in conferring a competitive advantage to a regional cluster:

- **Factor conditions.** *Factors of production, such as skilled labor or infrastructure, necessary for a region to compete in a given industry.*
- **Demand conditions.** *The nature of local market demand for the industry's product or service.*
- **Related and supporting industries.** *The presence or absence in the region of supplier industries and other related industries.*
- **Firm strategy, structure, and rivalry.** *The conditions in the region governing how companies are created, organized, and managed, as well as the nature of domestic rivalry.*

### **Analysis**

In 2008, statewide cluster industry employment (based on ESDC criteria) totaled more than 2.8 million, representing about one in three jobs in New York State. (Note: All employment and wage data in this report come from the Quarterly Census of Employment and Wages program.) Total cluster wages topped \$268 billion, or just over 50 percent of all wages paid in the state.

Another key aspect of cluster industries is that they tend to pay well above-average wages. Cluster industries in New York State paid an average salary of \$95,500 in 2008, which was almost 60 percent higher than the state's overall average wage of \$60,400.

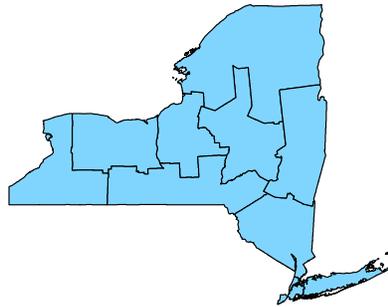
With more than 608,000 jobs, front office and producer services had the most employment of any cluster in New York in 2008. Employment in this cluster is concentrated in two sub-clusters: business services and headquarters. The cluster also sports an above-average wage level (\$97,800) because of the relatively high wages paid in the headquarters sub-cluster.

The cluster with the second highest job count in 2008 was financial services (491,900), reflecting New York City's prominence in finance. The securities, commodities, and investments and the banking and credit sub-clusters account for most jobs in the financial services cluster. This cluster is also notable because it had, by far, the highest average wage, \$218,200, of any cluster in New York, due largely to the high wages and bonuses paid in the securities, commodities and investments industry.

Travel and tourism ranked third in total employment (363,200) among New York State's 16 clusters. Unlike front office and producer services and financial services, average wages in this cluster are relatively low (\$37,100), ranking it in last place among the state's clusters.

More detailed statewide and regional employment and wage data regarding these clusters may be found at: <http://www.labor.state.ny.us/stats/nysindclusters.asp>.

## 2008 REGIONAL ECONOMIC CLUSTERS New York State



❖ **New York State's 16 clusters included 236,700 establishments with total employment of 2,812,000 and total wages of \$268.6 billion in 2008. Annual wages averaged \$95,500.**

### **Top 5 Clusters Ranked by Employment**

- 1) Front Office & Producer Services (608,200)
- 2) Financial Services (491,900)
- 3) Travel & Tourism (363,200)
- 4) Communications, Software & Media Services (268,700)
- 5) Distribution (254,600)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Financial Services (\$107,340.8)
- 2) Front Office & Producer Services (\$59,505.2)
- 3) Communications, Software & Media Services (\$22,112.7)
- 4) Distribution (\$14,862.2)
- 5) Travel & Tourism (\$13,459.8)

### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

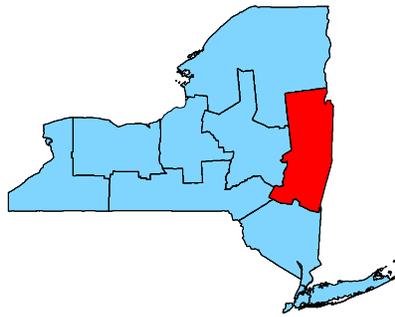
- 1) Financial Services (\$218,200)
- 2) Information Technology Services (\$99,500)
- 3) Front Office & Producer Services (\$97,800)
- 4) Electronics & Imaging (\$84,500)
- 5) Communications, Software & Media Services (\$82,300)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Fashion, Apparel & Textiles (1.79)
- 2) Communications, Software & Media Services (1.43)
- 3) Financial Services (1.35)
- 4) Front Office & Producer Services (1.28)
- 5) Electronics & Imaging (1.19)

## 2008 REGIONAL ECONOMIC CLUSTERS

### Capital District Labor Market Region



❖ **The Capital District's 16 clusters included 12,000 establishments with total employment of 148,000 and total wages of \$7.9 billion in 2008. Annual wages averaged \$52,900.**

#### **Top 5 Clusters Ranked by Employment**

- 1) Front Office & Producer Services (31,610)
- 2) Travel & Tourism (21,890)
- 3) Financial Services (19,770)
- 4) Distribution (14,330)
- 5) Communications, Software & Media Services (10,940)

#### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Front Office & Producer Services (\$2,070.7)
- 2) Financial Services (\$1,194.9)
- 3) Distribution (\$720.3)
- 4) Industrial Machinery & Services (\$599.8)
- 5) Communications, Software & Media Services (\$572.7)

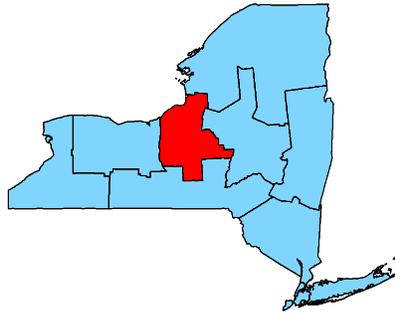
#### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Information Technology Services (\$77,000)
- 2) Industrial Machinery & Services (\$69,300)
- 3) Biomedical (\$67,400)
- 4) Materials Processing (\$66,700)
- 5) Front Office & Producer Services (\$65,500)

#### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Biomedical (2.07)
- 2) Miscellaneous Manufacturing (1.23)
- 3) Front Office & Producer Services (1.22)
- 4) Communications, Software & Media Services (1.05)
- 5) Forest Products (1.01)

## 2008 REGIONAL ECONOMIC CLUSTERS Central New York Labor Market Region



❖ **Central New York's 16 clusters included 8,000 establishments with total employment of 113,000 and total wages of \$5.5 billion in 2008. Annual wages averaged \$48,900.**

### **Top 5 Clusters Ranked by Employment**

- 1) Front Office & Producer Services (16,500)
- 2) Distribution (15,090)
- 3) Industrial Machinery & Services (13,460)
- 4) Financial Services (13,080)
- 5) Travel & Tourism (12,980)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Front Office & Producer Services (\$962.8)
- 2) Industrial Machinery & Services (\$817.2)
- 3) Financial Services (\$767.2)
- 4) Distribution (\$701.4)
- 5) Materials Processing (\$348.7)

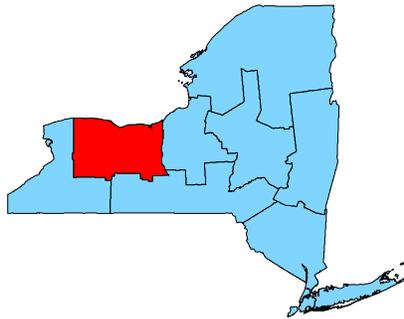
### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Transportation Equipment (\$64,800)
- 2) Biomedical (\$64,700)
- 3) Information Technology Services (\$62,900)
- 4) Industrial Machinery & Services (\$60,700)
- 5) Financial Services (\$58,700)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Industrial Machinery & Services (1.53)
- 2) Biomedical (1.52)
- 3) Forest Products (1.21)
- 4) Materials Processing (1.14)
- 5) Distribution (1.07)

## 2008 REGIONAL ECONOMIC CLUSTERS Finger Lakes Labor Market Region



❖ **The Finger Lakes' 16 clusters included 12,000 establishments with total employment of 186,000 and total wages of \$9.8 billion in 2008. Annual wages averaged \$52,600.**

### **Top 5 Clusters Ranked by Employment**

- 1) Front Office & Producer Services (29,300)
- 2) Electronics & Imaging (22,210)
- 3) Industrial Machinery & Services (21,040)
- 4) Travel & Tourism (17,820)
- 5) Distribution (14,570)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Front Office & Producer Services (\$1,941.8)
- 2) Electronics & Imaging (\$1,720.1)
- 3) Industrial Machinery & Services (\$1,108.4)
- 4) Financial Services (\$833.1)
- 5) Distribution (\$721.8)

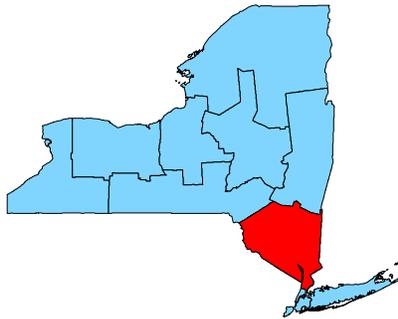
### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Biomedical (\$83,900)
- 2) Electronics & Imaging (\$77,400)
- 3) Information Technology Services (\$73,500)
- 4) Front Office & Producer Services (\$66,300)
- 5) Financial Services (\$61,900)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Electronics & Imaging (6.65)
- 2) Industrial Machinery & Services (1.49)
- 3) Food Processing (1.47)
- 4) Biomedical (1.13)
- 5) Communications, Software & Media Services (1.04)

## 2008 REGIONAL ECONOMIC CLUSTERS Hudson Valley Labor Market Region



❖ **The Hudson Valley's 16 clusters included 27,500 establishments with total employment of 229,000 and total wages of \$17.6 billion in 2008. Annual wages averaged \$76,600.**

### **Top 5 Clusters Ranked by Employment**

- 1) Front Office & Producer Services (45,620)
- 2) Travel & Tourism (34,100)
- 3) Financial Services (27,340)
- 4) Distribution (23,840)
- 5) Communications, Software & Media Services (19,310)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Front Office & Producer Services (\$4,620.1)
- 2) Financial Services (\$3,131.7)
- 3) Electronics & Imaging (\$1,933.0)
- 4) Distribution (\$1,529.4)
- 5) Communications, Software & Media Services (\$1,271.3)

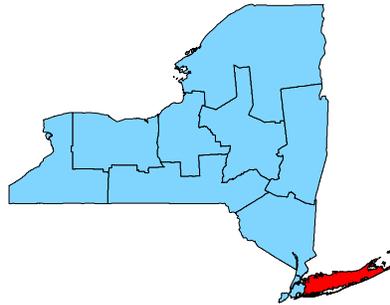
### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Electronics & Imaging (\$132,700)
- 2) Financial Services (\$114,600)
- 3) Front Office & Producer Services (\$101,300)
- 4) Biomedical (\$99,100)
- 5) Information Technology Services (\$90,700)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Electronics & Imaging (2.74)
- 2) Biomedical (1.53)
- 3) Communications, Software & Media Services (0.98)
- 4) Front Office & Producer Services (0.94)
- 5) Travel & Tourism (0.81)

## 2008 REGIONAL ECONOMIC CLUSTERS Long Island Labor Market Region



❖ Long Island's 16 clusters included 40,400 establishments with total employment of 346,000 and total wages of \$22.5 billion in 2008. Annual wages averaged \$65,000.

### Top 5 Clusters Ranked by Employment

- 1) Front Office & Producer Services (73,220)
- 2) Financial Services (47,030)
- 3) Distribution (44,580)
- 4) Travel & Tourism (38,060)
- 5) Communications, Software & Media Services (32,270)

### Top 5 Clusters Ranked by Total Wages (millions of dollars)

- 1) Financial Services (\$5,005.8)
- 2) Front Office & Producer Services (\$5,002.6)
- 3) Distribution (\$2,808.2)
- 4) Communications, Software & Media Services (\$1,957.3)
- 5) Industrial Machinery & Services (\$1,366.4)

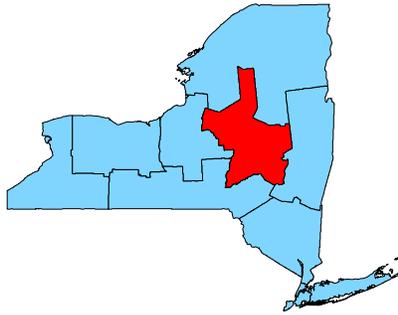
### Top 5 Clusters Ranked by Average Wage (dollars/year)

- 1) Financial Services (\$106,400)
- 2) Information Technology Services (\$85,600)
- 3) Electronics & Imaging (\$75,400)
- 4) Transportation Equipment (\$75,300)
- 5) Front Office & Producer Services (\$68,300)

### Top 5 Clusters Ranked by Location Quotient (private sector jobs only)

- 1) Biomedical (1.68)
- 2) Electronics & Imaging (1.33)
- 3) Miscellaneous Manufacturing (1.21)
- 4) Front Office & Producer Services (1.06)
- 5) Communications, Software & Media Services (1.04)

## 2008 REGIONAL ECONOMIC CLUSTERS Mohawk Valley Labor Market Region



❖ **The Mohawk Valley's 16 clusters included 4,400 establishments with total employment of 59,000 and total wages of \$2.3 billion in 2008. Annual wages averaged \$38,000.**

### **Top 5 Clusters Ranked by Employment**

- 1) Travel & Tourism (11,010)
- 2) Distribution (8,410)
- 3) Financial Services (7,960)
- 4) Front Office & Producer Services (4,900)
- 5) Industrial Machinery & Services (4,780)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Financial Services (\$384.0)
- 2) Distribution (\$321.6)
- 3) Travel & Tourism (\$238.5)
- 4) Front Office & Producer Services (\$223.8)
- 5) Industrial Machinery & Services (\$200.0)

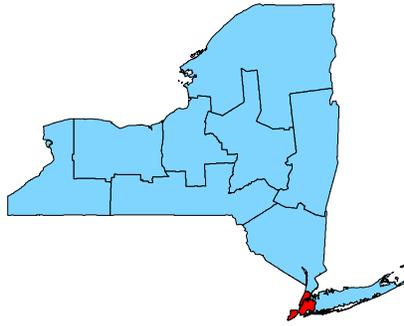
### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Information Technology Services (\$54,500)
- 2) Financial Services (\$48,300)
- 3) Materials Processing (\$47,700)
- 4) Front Office & Producer Services (\$45,700)
- 5) Industrial Machinery & Services (\$41,900)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Fashion, Apparel & Textiles (2.24)
- 2) Biomedical (1.38)
- 3) Materials Processing (1.32)
- 4) Forest Products (1.15)
- 5) Distribution (1.14)

## 2008 REGIONAL ECONOMIC CLUSTERS New York City Labor Market Region



❖ **New York City's 16 clusters included 95,600 establishments with total employment of 1,324,000 and total wages of \$181.1 billion in 2008. Annual wages averaged \$136,800.**

### **Top 5 Clusters Ranked by Employment**

- 1) Front Office & Producer Services (347,440)
- 2) Financial Services (321,790)
- 3) Travel & Tourism (181,610)
- 4) Communications, Software & Media Services (152,700)
- 5) Distribution (89,660)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Financial Services (\$92,991.0)
- 2) Front Office & Producer Services (\$40,979.5)
- 3) Communications, Software & Media Services (\$15,625.4)
- 4) Travel & Tourism (\$8,748.3)
- 5) Information Technology Services (\$6,428.6)

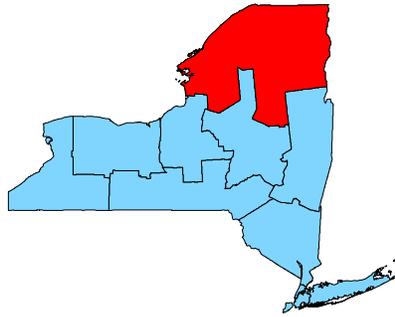
### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Financial Services (\$289,000)
- 2) Front Office & Producer Services (\$117,900)
- 3) Information Technology Services (\$116,700)
- 4) Communications, Software & Media Services (\$102,300)
- 5) Biomedical (\$90,500)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Fashion, Apparel & Textiles (3.18)
- 2) Financial Services (2.02)
- 3) Communications, Software & Media Services (1.92)
- 4) Front Office & Producer Services (1.67)
- 5) Travel & Tourism (1.01)

## 2008 REGIONAL ECONOMIC CLUSTERS North Country Labor Market Region



❖ **The North Country's 16 clusters included 4,000 establishments with total employment of 36,000 and total wages of \$1.4 billion in 2008. Annual wages averaged \$37,500.**

### **Top 5 Clusters Ranked by Employment**

- 1) Travel & Tourism (7,570)
- 2) Distribution (3,700)
- 3) Materials Processing (3,590)
- 4) Front Office & Producer Services (3,570)
- 5) Forest Products (3,270)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Materials Processing (\$196.8)
- 2) Front Office & Producer Services (\$161.3)
- 3) Forest Products (\$154.8)
- 4) Travel & Tourism (\$149.6)
- 5) Distribution (\$141.1)

### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

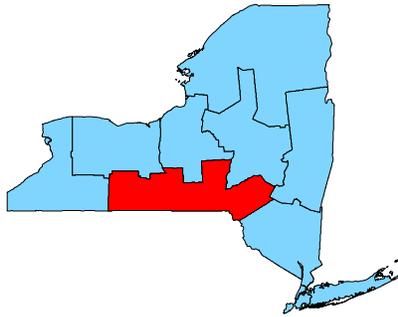
- 1) Biomedical (\$60,300)
- 2) Materials Processing (\$54,900)
- 3) Transportation Equipment (\$50,400)
- 4) Information Technology Services (\$50,100)
- 5) Forest Products (\$47,400)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Forest Products (2.66)
- 2) Biomedical (1.84)
- 3) Materials Processing (1.62)
- 4) Food Processing (1.41)
- 5) Travel & Tourism (1.10)

## 2008 REGIONAL ECONOMIC CLUSTERS

### Southern Tier Labor Market Region



❖ **The Southern Tier's 16 clusters included 5,800 establishments with total employment of 86,000 and total wages of \$4.4 billion in 2008. Annual wages averaged \$50,800.**

#### **Top 5 Clusters Ranked by Employment**

- 1) Industrial Machinery & Services (15,180)
- 2) Travel & Tourism (9,030)
- 3) Front Office & Producer Services (8,830)
- 4) Electronics & Imaging (7,710)
- 5) Financial Services (7,120)

#### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Industrial Machinery & Services (\$947.0)
- 2) Front Office & Producer Services (\$677.7)
- 3) Electronics & Imaging (\$455.9)
- 4) Financial Services (\$384.3)
- 5) Biomedical (\$291.2)

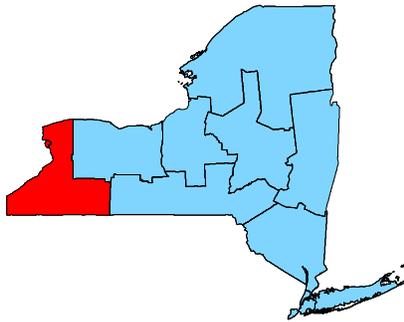
#### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Front Office & Producer Services (\$76,700)
- 2) Information Technology Services (\$69,700)
- 3) Biomedical (\$67,300)
- 4) Industrial Machinery & Services (\$62,400)
- 5) Electronics & Imaging (\$59,200)

#### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Electronics & Imaging (4.82)
- 2) Industrial Machinery & Services (2.25)
- 3) Biomedical (2.25)
- 4) Transportation Equipment (1.76)
- 5) Forest Products (1.07)

## 2008 REGIONAL ECONOMIC CLUSTERS Western New York Labor Market Region



❖ **Western New York's 16 clusters included 13,900 establishments with total employment of 213,000 and total wages of \$10.1 billion in 2008. Annual wages averaged \$47,600.**

### **Top 5 Clusters Ranked by Employment**

- 1) Front Office & Producer Services (31,200)
- 2) Industrial Machinery & Services (25,840)
- 3) Travel & Tourism (25,760)
- 4) Financial Services (24,440)
- 5) Distribution (22,300)

### **Top 5 Clusters Ranked by Total Wages (millions of dollars)**

- 1) Front Office & Producer Services (\$1,746.3)
- 2) Industrial Machinery & Services (\$1,416.8)
- 3) Financial Services (\$1,382.1)
- 4) Distribution (\$1,017.6)
- 5) Materials Processing (\$877.8)

### **Top 5 Clusters Ranked by Average Wage (dollars/year)**

- 1) Transportation Equipment (\$80,200)
- 2) Information Technology Services (\$64,800)
- 3) Materials Processing (\$58,600)
- 4) Financial Services (\$56,600)
- 5) Front Office & Producer Services (\$56,000)

### **Top 5 Clusters Ranked by Location Quotient (private sector jobs only)**

- 1) Industrial Machinery & Services (1.62)
- 2) Materials Processing (1.44)
- 3) Biomedical (1.34)
- 4) Food Processing (1.21)
- 5) Miscellaneous Manufacturing (1.19)