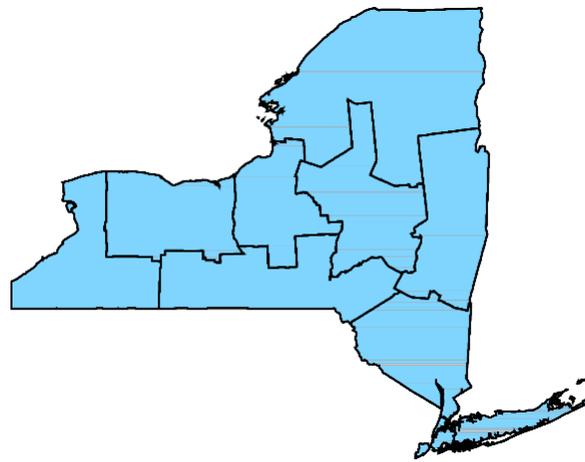# Industry Clusters in New York's Economy: A Statewide and Regional Analysis

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

Peter M. Rivera, Commissioner   **Andrew M. Cuomo, Governor**

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

Introduction

Industry clusters help us to better understand New York's statewide and regional economies. The clusters framework is particularly useful for studying important inter-industry linkages in our state and regional economies.

So what exactly is an industry cluster? One definition from the University of Minnesota: they 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.*"

Another definition from Harvard University: *"Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field that are present in a nation or region. Clusters arise because they increase the productivity with which companies can compete… Cluster development initiatives are an important new direction in economic policy…"*

A key aspect of clusters is they are export-oriented, meaning firms in the cluster tend to sell their goods and services to domestic or foreign customers outside of their home market. These exports generate additional income and employment that drive wealth creation in the home region.

It is important to recognize that many exports today are services, which do not have a physical presence and are thus "invisible." Tourism is one example of an invisible export. Suppose a family from Buffalo visits New York City for a long weekend. The importer is the person that purchases or receives the service; in this case, the family from Buffalo. The exporter is the supplier of the service; in this example, the tourism businesses (e.g., hotel, restaurants) in New York City that sell goods and services to the family from Buffalo.

Empire State Development (ESD) has defined 16 industry clusters in New York State (see the appendix), with many further divided into sub-clusters. Some clusters contain more than 100 industries (6-digit NAICS level). In some clusters, job and wage data for certain industries are further pro-rated because not all jobs in the industry are supported by exports. For example, we count only 20% of restaurant jobs as part of the travel and tourism cluster. We estimate the other 80% are supported by sales to local residents, and thus not counted as part of cluster employment.

Background on Clusters

This report looks at 2013 statewide and regional data highlights for the 16 ESD-defined clusters. For the state as a whole and its 10 labor market regions, clusters are ranked using five metrics commonly used in regional economics. These include:

- **Total employment**
- **Total wages**
- **Annual average wage**
- **Location quotient** (measure of employment concentration)
- **Regional exports** (domestic or foreign)

It is sometimes difficult to clearly identify an industry cluster in a regional economy, except when it is obvious. Some "obvious" examples from around the U.S. include: automobiles in Detroit; information technology in Silicon Valley; travel and tourism in Orlando; energy production in Texas; commercial aircraft production in Seattle; and film and television production in Los Angeles.

Some regional clusters in the Empire State are well known and long established. Examples of such regional clusters include: financial services in New York City; electronics manufacturing in the Southern Tier; wineries in the Finger Lakes; transportation equipment in Western New York; and forest products in the North Country.

The idea behind clusters traces back to Professor Michael Porter of the Harvard Business School, who discussed the concept in his 1990 book, *The Competitive Advantage of Nations*. According to Porter, the four 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.*

A Word on Location Quotients

While employment, wages and regional exports are generally well understood, location quotients (LQs) are more technical. Nonetheless, they are still useful for identifying export industries. LQs measure employment concentration in a regional or local area economy, relative to some base area – usually the U.S. as a whole.

The formula for calculating a location quotient for local industry X is as follows:

LQ = Industry X's % Share of Jobs in the *Local Area* Economy
Industry X's % Share of Jobs in the *U.S.* Economy

The table that follows provides interpretations for different LQ values. Industries with an LQ greater than 1.0 produce more than the local market needs and are thus export oriented. If an industry has an LQ less than 1.0, it is classified as import oriented.

Value of Location Quotient (LQ)	Interpretation
LQ > 1.00	Industry is producing more than is consumed locally (i.e., exporting).
LQ = 1.00	Local production meets local demand.
LQ < 1.00	Industry is producing less than is consumed locally (i.e., importing).

The following examples from counties around New York State help to illustrate the use of LQs in identifying export- and import-oriented industries. All data presented here are from 2013, and were generated by the LQ calculator on the U.S. Bureau of Labor Statistics web site (see: **data.bls.gov/location_quotient**).

- Over the past few years, the dairy processing industry in Chenango County (Southern Tier) has experienced rapid employment expansion due to strong growth in demand for Greek-style yogurt. Dairy processing is part of the broader Food Manufacturing industry (NAICS 311). Between 2003 and 2013, the job count in Food Manufacturing in Chenango County rose from 363 to 1,365, an increase of 276%. In 2013, Food Manufacturing accounted for 10.02% of jobs in Chenango County, but only 1.30% of jobs in the U.S.
    - The LQ for Food Manufacturing in Chenango County is 10.02%/1.30%, or <u>7.72</u>.
    - Since the LQ for Food Manufacturing greatly exceeds 1.00, Food Manufacturing is an <u>export</u> industry for Chenango County.

- Pharmaceutical Manufacturing (NAICS 3254) in Suffolk County (Long Island) has also experienced rapid growth over the past decade. This is mostly due to expansion at generic drug companies and vitamin and supplement manufacturers. From 2003 to 2013, the job count in this industry rose from 5,312 to 9,849, a gain of 85%. In 2013, this industry accounted for 1.86% of jobs in Suffolk County and 0.25% of jobs in the U.S.
    - The LQ for Pharmaceutical Manufacturing in Suffolk County is 1.86%/0.25%, or <u>7.60</u>.
    - Since the LQ for this industry is much greater than 1.00, Pharmaceutical Manufacturing is an <u>export</u> industry for Suffolk County.

- The Finger Lakes has grown into one of the largest and most acclaimed winemaking regions in the Eastern U.S. The region is New York's largest wine producer, accounting for 85% of the state's output. The growing popularity of Finger Lakes wines is reflected in the growing job count at Wineries (NAICS 31213) in Seneca County, located at the eastern end of the region. Employment at Seneca County wineries expanded from 124

in 2003 to 410 in 2013, a gain of 231%. In 2013, Wineries accounted for 4.95% of jobs in Seneca County, but only 0.04% of jobs in the U.S.

- o The LQ for this industry in Seneca County is 4.95%/0.04%, or <u>115.58</u>.
- o Since the LQ for this industry is much greater than 1.00, Wineries is an <u>export</u> industry for Seneca County.

- The Bronx Zoo is one of the most famous zoos in the U.S., attracting several million visitors from around the world each year. The zoo is part of Bronx County's broader Museums, Historical Sites, Zoos, and Parks industry (NAICS 712). From 2003 to 2013, employment in this industry in Bronx County rose from 1,626 to 1,935, a gain of 19%. In 2013, the Museums, Historical Sites, Zoos, and Parks industry accounted for 0.87% of jobs in Bronx County and 0.13% of jobs in the U.S.
  - o The LQ for this industry in Bronx County is 0.87%/0.13%, or <u>6.96</u>.
  - o Since the LQ for this industry is much greater than 1.00, Museums, Historical Sites, Zoos, and Parks is an <u>export</u> industry for Bronx County.

- General Merchandise Stores (NAICS 452), like most retail industries, typically serve a local population rather than primarily selling to residents outside the region. In Albany County (Capital Region), employment in this industry climbed from 3,204 to 3,509 in 2003-2013, a gain of just under 10%. In 2013, General Merchandise Stores accounted for 2.17% of jobs in Albany County and 2.73% of jobs in the U.S.
  - o The LQ for this industry in Albany County is 2.17%/2.73%, or <u>0.79</u>.
  - o Since the LQ for this industry is less than 1.00, General Merchandise Stores is an <u>import</u> industry for Albany County.

Statewide Analysis

Overview
All employment and wage data presented in this analysis are from the Quarterly Census of Employment and Wages (QCEW). Data from this program are based on quarterly reports submitted by employers covered under New York State's Unemployment Insurance law. Location quotient and regional exports data presented in this report were generated using software from Economic Modeling Specialists Intl. (EMSI).

In 2013, statewide cluster industry employment totaled more than 2.8 million, representing about one in three jobs in New York State. Total cluster wages topped $277 billion, or just over one-half of all wages paid in the state in 2013.

Another key aspect of cluster industries is they tend to pay well above-average wages. Cluster industries in New York State paid an average salary of $97,500 in 2013. This was more than 50% higher than the state's overall annual average wage ($63,000) that year.

Clusters are also an important source of exports (domestic or foreign). In 2012, the 16 statewide industry clusters in New York generated more than $562 billion in exports.

Industry Analysis

With more than 620,000 jobs, <u>front office and producer services</u> had the most cluster employment in New York State in 2013. Employment in this cluster is concentrated in two sub-clusters: business services and headquarters. Examples of business services industries include accounting, legal services, advertising agencies and marketing research. The cluster also sports an above-average wage level ($108,000) because of the relatively high wages paid in the headquarters sub-cluster.

The cluster with the second highest job count in 2013 was <u>financial services</u> (554,100), reflecting New York City's prominence as a global financial center. The securities, commodities, and investments and the banking and credit sub-clusters account for the most jobs in the financial services cluster. This cluster is also notable because it had, by far, the highest average wage, $180,700, of any cluster in New York State. This was due largely to the relatively high wages and bonuses paid in the securities and brokerage industry.

<u>Travel and tourism</u> ranked third in overall cluster employment (391,500) in New York State. Unlike front office and producer services and financial services, however, average wage levels in this cluster are relatively low ($40,500). This reflects in part the part-time and seasonal nature of many jobs in the travel and tourism cluster.

The table below shows the five statewide clusters with the highest location quotients, based on data from EMSI.

Statewide Clusters with Highest Location Quotients, New York State, 2013

Cluster	Location Quotient
Fashion, Apparel & Textiles	1.76
Communications, Software & Media Services	1.62
Financial Services	1.49
Front Office & Producer Services	1.19
Electronics & Imaging	1.02

Source: EMSI

The table below shows the five statewide clusters that generated the most exports (domestic or foreign) in 2012 (latest year available), based on data from EMSI.

Statewide Clusters with Most Regional Exports, New York State, 2012

Cluster	Regional Exports ($ billions)
Financial Services	$213.7
Front Office & Producer Services	$67.8
Communications, Software & Media Services	$58.0
Distribution	$50.0
Travel & Tourism	$29.7

Source: EMSI

Regional Analysis

Employment

Like in the state as a whole, <u>front office and producer services</u> ranks among the top five clusters in employment in all 10 labor market regions. In fact, this cluster has the most employment in six regions, including the Capital Region, Central New York, Finger Lakes, Hudson Valley, Long Island and Western New York. Some other regional cluster employment highlights include:

- <u>Travel and tourism</u> also ranks among the five largest clusters in terms of employment in all ten regions. It has the most employment of any cluster in the Mohawk Valley and North Country regions.
- <u>Financial services</u> appears on the "top five" employment list in nine regions (the North Country is the one exception). It is the largest cluster employer in New York City.
- <u>Industrial machinery and services</u> is among the five largest clusters in terms of employment in five regions. It is the #1 cluster employer in the Southern Tier.

Total Wages

Looking at total wages, <u>front office and producer services</u> also ranks among the top five clusters in all 10 regions. In six regions -- Capital Region, Central New York, Finger Lakes, Hudson Valley, Long Island and Western New York -- this industry group pays out the most in total wages of any cluster. Other total wage highlights include:

- <u>Financial services</u> appears on the "top five" total wages clusters list in all regions except the North Country. It is #1 in total wages in the Mohawk Valley and New York City regions.
- <u>Distribution</u> is on the "top five" total wages list in all regions except New York City. However, it does not rank #1 in total wages in any single region, but is #2 in the Mohawk Valley.
- In seven regions, <u>industrial machinery and services</u> is among the five largest clusters in terms of total wages paid. This cluster is #1 in total wages in the Southern Tier region.

Average Wages

We get a somewhat different regional cluster pattern looking at average wage levels. The <u>information technology services</u> cluster ranks among the five highest-paying clusters in all 10 regions. It is #1 in the Mohawk Valley, and #2 in six other regions. Other highlights:

- <u>Biomedical</u> is among the five highest-paying clusters in seven regions. It is #1 in the Central New York, Finger Lakes and North Country regions.
- <u>Electronics and imaging</u> ranks among in the five highest-paying clusters in six regions, and is #1 in the Capital Region and Hudson Valley.
- <u>Industrial machinery and services</u> also ranks among the "top 5" best-paying clusters in six regions.
- <u>Financial services</u> appears on the "top 5" average wages list in five regions. It is #1 in New York City and Long Island.

- In four labor market regions, <u>transportation equipment</u> ranks among the "top 5" clusters in terms of average wages. It is also the highest paying cluster in Western New York.

Location Quotients

The highest regional cluster LQs, representing export-oriented industries, are Finger Lakes <u>electronics and imaging</u> (5.73), Southern Tier <u>electronics and imaging</u> (3.05), New York City <u>fashion, apparel and textiles</u> (3.00), North Country <u>forest products</u> (2.56) and New York City <u>communications, software and media services</u> (2.29). In addition:

- The <u>biomedical</u> cluster has the highest LQ in three regions: Capital Region, Central New York and Long Island.
- The <u>electronics and imaging</u> cluster ranked #1 (highest LQ) in three regions: Finger Lakes, Hudson Valley and Southern Tier.
- The <u>fashion, apparel and textiles</u> cluster has the highest LQ in two regions: Mohawk Valley and New York City.

Regional Exports

Which industry clusters accounted for the most exports (domestic or foreign) among New York State's 10 labor market regions in 2012? New York City generated $373 billion in regional exports, or 66% of the statewide total. Thus, it is no surprise that the five regional clusters that generated the most exports in 2012 are all located there. These five largest clusters are presented in the following table.

Clusters with Most Regional Exports, New York City, 2012

Cluster	Regional Exports ($ billions)
Financial Services	$190.9
Communications, Software & Media Services	$51.5
Front Office & Producer Services	$51.2
Travel & Tourism	$26.5
Distribution	$23.0

Source: EMSI

Outside of New York City, there were four regional clusters with at least $10 billion in exports. They are presented in the table below.

Regional Clusters (Outside of New York City)
with at Least $10 Billion in Regional Exports, 2012

| Region	Cluster	Regional Exports ($ billions)
Long Island	Financial Services	$20.4
Hudson Valley	Financial Services	$16.1
Long Island	Distribution	$13.7
Hudson Valley	Front Office & Producer Services	$10.0

Source: EMSI

For Further Information

More detailed statewide and regional cluster data discussed in this report are available at: http://www.labor.ny.gov/stats/nysindclusters.asp.

Questions regarding this report should be directed to Kevin Jack, Statewide Labor Market Analyst. He can be reached via email at Kevin.Jack@labor.ny.gov or by phone at (518) 457-3800.

2013 REGIONAL ECONOMIC CLUSTERS
New York State
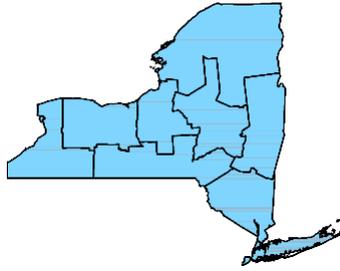
❖ **New York State's 16 clusters included 263,000 establishments with total employment of 2,848,800 and total wages of $277.7 billion in 2013. Annual cluster wages averaged $97,500.**

Top 5 Clusters Ranked by Employment, 2013
1) Front Office & Producer Services (623,100)
2) Financial Services (554,100)
3) Travel & Tourism (391,500)
4) Communications, Software & Media Services (245,500)
5) Distribution (239,400)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Financial Services ($100,130.9)
2) Front Office & Producer Services ($67,292.5)
3) Communications, Software & Media Services ($23,105.9)
4) Travel & Tourism ($15,860.7)
5) Information Technology Services ($15,205.9)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Financial Services ($180,700)
2) Information Technology Services ($112,700)
3) Front Office & Producer Services ($108,000)
4) Electronics & Imaging ($94,900)
5) Communications, Software & Media Services ($94,100)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Fashion, Apparel & Textiles (1.76)
2) Communications, Software & Media Services (1.62)
3) Financial Services (1.49)
4) Front Office & Producer Services (1.19)
5) Electronics & Imaging (1.02)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Financial Services ($213.7)
2) Front Office & Producer Services ($67.8)
3) Communications, Software & Media Services ($58.0)
4) Distribution ($50.0)
5) Travel & Tourism ($29.7)

2013 REGIONAL ECONOMIC CLUSTERS
Capital Labor Market Region
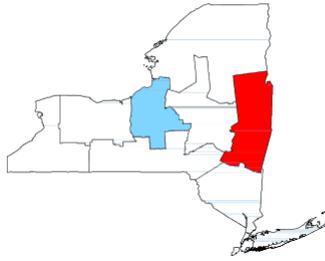
❖ **The Capital Region's 16 clusters included 12,500 establishments with total employment of 146,200 and total wages of $8.8 billion in 2013. Annual cluster wages averaged $60,500.**

Top 5 Clusters Ranked by Employment, 2013
1) Front Office & Producer Services (30,400)
2) Travel & Tourism (21,800)
3) Financial Services (21,700)
4) Distribution (14,100)
5) Communications, Software & Media Services (9,200)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Front Office & Producer Services ($2,203.7)
2) Financial Services ($1,471.2)
3) Distribution ($769.2)
4) Industrial Machinery & Services ($696.2)
5) Biomedical ($590.2)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Electronics & Imaging ($103,900)
2) Information Technology Services ($85,500)
3) Biomedical ($82,900)
4) Industrial Machinery & Services ($79,000)
5) Materials Processing ($76,000)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Biomedical (2.05)
2) Miscellaneous Manufacturing (1.24)
3) Financial Services (1.19)
4) Front Office & Producer Services/Forest Products (both 1.17)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Financial Services ($4.7)
2) Materials Processing ($4.3)
3) Industrial Machinery & Services/Front Office & Producer Services (both $3.9)
5) Distribution ($3.5)

2013 REGIONAL ECONOMIC CLUSTERS
Central New York Labor Market Region
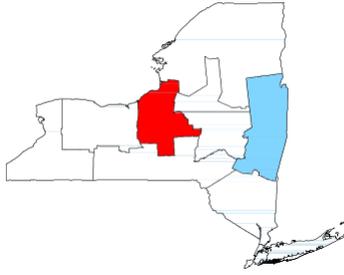
❖ **Central New York's 16 clusters included 8,300 establishments with total employment of 102,000 and total wages of $5.4 billion in 2013. Annual cluster wages averaged $53,100.**

Top 5 Clusters Ranked by Employment, 2013
1) Front Office & Producer Services (15,900)
2) Distribution (14,200)
3) Financial Services/Travel & Tourism (both 13,000)
4) Industrial Machinery & Services (11,600)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Front Office & Producer Services ($1,056.8)
2) Financial Services ($805.9)
3) Industrial Machinery & Services ($772.8)
4) Distribution ($733.7)
5) Materials Processing ($340.0)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Biomedical ($71,300)
2) Information Technology Services ($69,800)
3) Industrial Machinery & Services ($66,600)
4) Front Office & Producer Services ($66,400)
5) Electronics & Imaging ($62,100)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Biomedical (1.85)
2) Industrial Machinery & Services (1.57)
3) Forest Products (1.37)
4) Materials Processing (1.15)
5) Financial Services (1.10)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Distribution ($3.2)
2) Industrial Machinery & Services ($2.8)
3) Material Processing ($2.7)
4) Financial Services ($2.6)
5) Food Processing ($1.9)

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2013 REGIONAL ECONOMIC CLUSTERS
Finger Lakes Labor Market Region
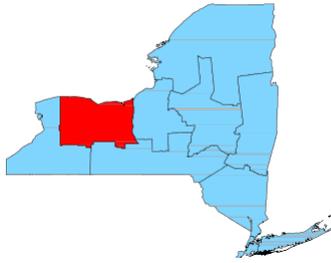
❖ **The Finger Lakes' 16 clusters included 12,500 establishments with total employment of 177,100 and total wages of $10.0 billion in 2013. Annual cluster wages averaged $56,300.**

Top 5 Clusters Ranked by Employment, 2013
1) Front Office & Producer Services (30,600)
2) Industrial Machinery & Services (18,500)
3) Travel & Tourism (17,800)
4) Electronics & Imaging (16,000)
5) Financial Services (15,900)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Front Office & Producer Services ($2,228.1)
2) Electronics & Imaging ($1,276.0)
3) Industrial Machinery & Services ($1,084.0)
4) Financial Services ($1,051.7)
5) Distribution ($738.1)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Biomedical ($102,000)
2) Electronics & Imaging ($79,700)
3) Information Technology Services ($75,500)
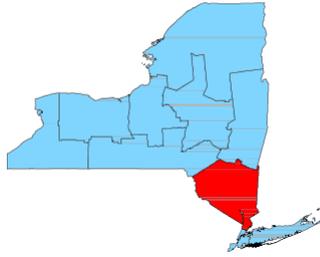4) Front Office & Producer Services ($72,800)
5) Financial Services ($66,100)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Electronics & Imaging (5.73)
2) Industrial Machinery & Services (1.47)
3) Food Processing (1.16)
4) Materials Processing (1.07)
5) Front Office & Producer Services (1.01)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Electronics & Imaging ($6.0)
2) Food Processing ($4.7)
3) Industrial Machinery & Services ($3.7)
4) Distribution/Financial Services (both $3.1)

2013 REGIONAL ECONOMIC CLUSTERS
Hudson Valley Labor Market Region

❖ **The Hudson Valley's 16 clusters included 28,900 establishments with total employment of 218,500 and total wages of $17.9 billion in 2013. Annual cluster wages averaged $82,100.**

Top 5 Clusters Ranked by Employment, 2013
1) Front Office & Producer Services (45,500)
2) Travel & Tourism (35,100)
3) Financial Services (30,500)
4) Distribution (22,600)
5) Communications, Software & Media Services (15,400)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Front Office & Producer Services ($5,174.8)
2) Financial Services ($3,363.1)
3) Electronics & Imaging ($1,595.5)
4) Distribution ($1,472.9)
5) Travel & Tourism ($1,216.3)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Electronics & Imaging ($148,800)
2) Biomedical ($139,400)
3) Front Office & Producer Services ($113,900)
4) Financial Services ($110,300)
5) Information Technology Services ($92,200)

**Top 5 Clusters Ranked by Location Quotient, 2013**
1) Electronics & Imaging (2.30)
2) Financial Services (1.47)
3) Biomedical (1.21)
4) Communications, Software & Media Services (1.07)
5) Front Office & Producer Services (1.06)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Financial Services ($16.1)
2) Front Office & Producer Services ($10.0)
3) Distribution ($8.6)
4) Electronics & Imaging ($5.6)
5) Biomedical ($5.5)

2013 REGIONAL ECONOMIC CLUSTERS
Long Island Labor Market Region
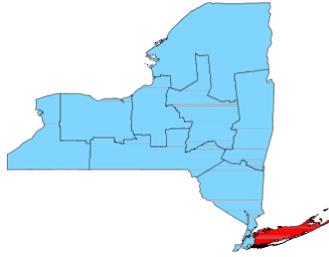
❖ **Long Island's 16 clusters included 41,600 establishments with total employment of 341,700 and total wages of $24.0 billion in 2013. Annual cluster wages averaged $70,100.**

Top 5 Clusters Ranked by Employment, 2013
1) Front Office & Producer Services (75,600)
2) Financial Services (49,500)
3) Distribution (41,700)
4) Travel & Tourism (40,200)
5) Communications, Software & Media Services (27,300)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Front Office & Producer Services ($5,415.8)
2) Financial Services ($5,274.3)
3) Distribution ($2,857.6)
4) Communications, Software & Media Services ($1,958.2)
5) Industrial Machinery & Services ($1,408.4)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Financial Services ($106,600)
2) Information Technology Services ($98,800)
3) Electronics & Imaging ($92,600)
4) Transportation Equipment ($85,500)
5) Industrial Machinery & Services ($74,700)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Biomedical (1.72)
2) Financial Services (1.63)
3) Electronics & Imaging (1.17)
4) Front Office & Producer Services (1.12)
5) Miscellaneous Manufacturing (1.03)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Financial Services ($20.4)
2) Distribution ($13.7)
3) Front Office & Producer Services ($6.3)
4) Communications, Software & Media ($5.3)
5) Biomedical ($5.2)

2013 REGIONAL ECONOMIC CLUSTERS
Mohawk Valley Labor Market Region
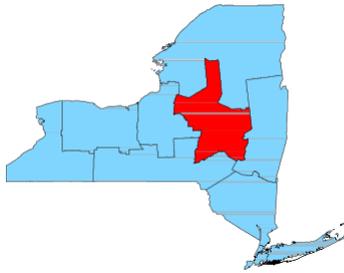
❖ **The Mohawk Valley's 16 clusters included 4,400 establishments with total employment of 54,900 and total wages of $2.3 billion in 2013. Annual cluster wages averaged $42,500.**

Top 5 Clusters Ranked by Employment, 2013
1) Travel & Tourism (11,100)
2) Financial Services (7,900)
3) Distribution (7,600)
4) Industrial Machinery & Services (4,900)
5) Front Office & Producer Services (4,700)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Financial Services ($430.1)
2) Distribution ($331.6)
3) Travel & Tourism ($256.2)
4) Industrial Machinery & Services ($240.6)
5) Front Office & Producer Services ($235.9)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Information Technology Services ($68,800)
2) Transportation Equipment ($63,000)
3) Biomedical ($57,600)
4) Financial Services ($54,300)
5) Front Office & Producer Services ($50,500)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Fashion, Apparel & Textiles (1.90)
2) Forest Products (1.30)
3) Food Processing (1.13)
4) Industrial Machinery & Services (1.08)
5) Materials Processing (1.05)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Financial Services/Food Processing (both $1.9)
3) Materials Processing ($1.5)
4) Distribution ($1.3)
5) Industrial Machinery & Services ($0.9)

2013 REGIONAL ECONOMIC CLUSTERS
New York City Labor Market Region

❖ **New York City's 16 clusters included 114,600 establishments with total employment of 1,410,700 and total wages of $185.2 billion in 2013. Annual cluster wages averaged $131,300.**

Top 5 Clusters Ranked by Employment, 2013
1) Financial Services (373,100)
2) Front Office & Producer Services (360,500)
3) Travel & Tourism (204,400)
4) Communications, Software & Media Services (145,900)
5) Distribution (83,600)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Financial Services ($84,625.6)
2) Front Office & Producer Services ($46,313.7)
3) Communications, Software & Media Services ($16,734.0)
4) Travel & Tourism ($10,622.3)
5) Information Technology Services ($10,112.9)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Financial Services ($226,800)
2) Information Technology Services ($130,300)
3) Front Office & Producer Services ($128,500)
4) Communications, Software & Media Services ($114,700)
5) Fashion, Apparel & Textiles ($85,000)

**Top 5 Clusters Ranked by Location Quotient, 2013**
1) Fashion, Apparel & Textiles (3.00)
2) Communications, Software & Media Services (2.29)
3) Financial Services (1.78)
4) Front Office & Producer Services (1.42)
5) Information Technology Services (1.11)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Financial Services ($190.9)
2) Communications, Software & Media Services ($51.5)
3) Front Office & Producer Services ($51.2)
4) Travel & Tourism ($26.5)
5) Distribution ($23.0)

2013 REGIONAL ECONOMIC CLUSTERS
North Country Labor Market Region
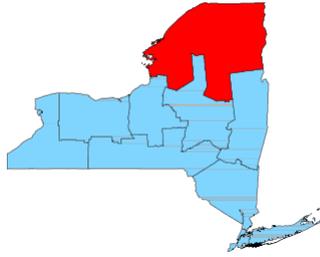
❖ **The North Country's 16 clusters included 4,100 establishments with total employment of 33,900 and total wages of $1.4 billion in 2013. Annual cluster wages averaged $38,700.**

Top 5 Clusters Ranked by Employment, 2013
1) Travel & Tourism (8,200)
2) Distribution (3,500)
3) Materials Processing (3,000)
4) Front Office & Producer Services (2,900)
5) Food Processing /Forest Products (both 2,800)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Travel & Tourism ($175.4)
2) Materials Processing ($160.0)
3) Forest Products ($146.7)
4) Front Office & Producer Services ($143.5)
5) Distribution ($138.7)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Biomedical ($83,500)
2) Information Technology Services ($58,500)
3) Transportation Equipment ($58,300)
4) Industrial Machinery & Services ($52,800)
5) Forest Products ($52,700)

**Top 5 Clusters Ranked by Location Quotient, 2013**
1) Forest Products (2.56)
2) Food Processing (1.29)
3) Materials Processing (1.26)
4) Travel & Tourism (0.96)
5) Communications, Software & Media Services (0.69)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Materials Processing ($2.0)
2) Food Processing ($1.4)
3) Forest Products ($1.0)
4) Travel & Tourism ($0.7)
5) Electronics & Imaging ($0.6)

2013 REGIONAL ECONOMIC CLUSTERS
Southern Tier Labor Market Region
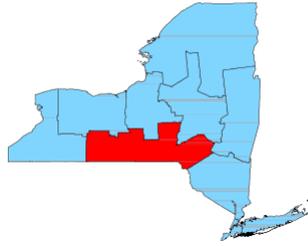
❖ **The Southern Tier's 16 clusters included 6,000 establishments with total employment of 78,000 and total wages of $4.3 billion in 2013. Annual cluster wages averaged $54,600.**

Top 5 Clusters Ranked by Employment, 2013
1) Industrial Machinery & Services (12,500)
2) Travel & Tourism (9,400)
3) Front Office & Producer Services (8,400)
4) Financial Services (7,300)
5) Distribution (5,900)

Top 5 Clusters Ranked by Total Wages (millions of dollars), 2013
1) Industrial Machinery & Services ($832.5)
2) Front Office & Producer Services ($676.6)
3) Financial Services ($433.9)
4) Electronics & Imaging ($326.0)
5) Distribution ($263.6)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Front Office & Producer Services ($80,700)
2) Biomedical ($71,400)
3) Information Technology Services ($71,000)
4) Electronics & Imaging ($70,300)
5) Industrial Machinery & Services ($66,600)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Electronics & Imaging (3.05)
2) Biomedical (2.11)
3) Industrial Machinery & Services (1.98)
4) Forest Products (1.37)
5) Transportation Equipment (1.35)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Food Processing ($2.7)
2) Industrial Machinery & Services ($2.6)
3) Transportation Equipment/Biomedical (both $1.7)
5) Financial Services ($1.5)

2013 REGIONAL ECONOMIC CLUSTERS
Western New York Labor Market Region

❖ **Western New York's 16 clusters included 14,400 establishments with total employment of 204,100 and total wages of $10.6 billion in 2013. Annual cluster wages averaged $52,200.**

Top 5 Clusters Ranked by Employment, 2013
1) Front Office & Producer Services (33,000)
2) Travel & Tourism (27,100)
3) Financial Services (25,800)
4) Industrial Machinery & Services (24,300)
5) Distribution (19,900)

Top 5 Clusters Ranked by Total Wages (millions of dollars) , 2013
1) Front Office & Producer Services ($2,212.2)
2) Financial Services ($1,513.8)
3) Industrial Machinery & Services ($1,453.3)
4) Distribution ($1,010.8)
5) Materials Processing ($827.7)

Top 5 Clusters Ranked by Annual Average Wage, 2013
1) Transportation Equipment ($74,400)
2) Information Technology Services ($73,400)
3) Front Office & Producer Services ($66,900)
4) Materials Processing ($64,700)
5) Industrial Machinery & Services ($59,700)

Top 5 Clusters Ranked by Location Quotient, 2013
1) Industrial Machinery & Services (1.81)
2) Materials Processing (1.50)
3) Biomedical (1.32)
4) Miscellaneous Manufacturing (1.19)
5) Financial Services (1.11)

Top 5 Clusters Ranked by Exports (billions of dollars), 2012
1) Materials Processing ($6.1)
2) Industrial Machinery & Services ($5.9)
3) Food Processing ($4.7)
4) Distribution ($4.0)
5) Financial Services ($3.6)

APPENDIX

New York State Clusters and Sub-Clusters

Back Office & Outsourcing	**Food Processing**
No Sub-Clusters	Beverage Manufacturing
Biomedical	Crop Production & Dairy
Drug & Chemical Manufacturing	Food Manufacturing
Laboratories & Research Medical Equipment	**Forest Products**
& Supplies **Communications, Software &**	Forest Product Manufacturing
Media Services Broadcasting &	Forestry & Logging
Telecommunications	Furniture Manufacturing
Motion Picture & Sound Recording Industries	Paper Manufacturing
Printing	**Front Office & Producer Services**
Publishing	Business Services
Distribution	Environmental Services
Air Freight	Headquarters
Logistics Management	Organizations
Multimodal Freight	**Industrial Machinery & Services**
Trucking	Electrical Equipment Manufacturing
Warehousing	Fabricated Metal
Water and Rail Freight	Instruments
Wholesale (Non-Industry Specific)	Machinery Manufacturing
Wholesale Durables	**Information Technology Services**
Wholesale Non-Durables	No Sub-Clusters
Electronics & Imaging	**Materials Processing**
Electronics	Chemicals
Imaging	Petroleum Products
Fashion, Apparel & Textiles	Plastics & Rubber
Apparel Manufacturing	Primary Metals
Apparel Wholesale	Stone, Clay, Glass and Concrete
Jewelry & Miscellaneous Manufacturing	**Miscellaneous Manufacturing**
Leather Goods & Footwear Manufacturing	No Sub-Clusters
Textile Mills	**Transportation Equipment**
Financial Services	Aerospace Motor
Bank Holding Companies	Vehicles Railroads
Banking & Credit	& Other
Funds & Trusts	**Travel & Tourism**
Insurance	Accommodations
Securities, Commodities & Investments	Culture, Recreation and Amusements
	Food Service
	Passenger Transportation
	Travel Retail

Source: Empire State Development