Information Technology: Industry Profile

JUNE 2023

State of Maine - DECD



Department of Economic & Community Development

PROJECT OVERVIEW

Report Purpose

This document provides an in-depth analysis of the Information Technology Sector in Maine, including its domestic trade activity.

Industry classification ranges from 2-digit industries (most broad) to 6-digit industries (most specific) under the North American Industry Classification System (NAICS). This report focuses on the 3- to 6-digit industry level to give more detailed analysis of Maine's domestic trade activity in the Information Sector. For details about all industries that are included in this analysis, please see the Appendix.

Project Funding

This project is commissioned by the Office of Business Development through the Domestic Trade Pilot Program and is funded in part by the Maine Jobs and Recovery Plan.

Data

The most recent year of data in this report is 2022. Five-year growth rates refer to changes from 2017-2022, and five-year projections refer to 2022-2027, unless otherwise specified. For more information about the data used in this report, see the Appendix – Data Sources.



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KEY FINDINGS

Information Technology

Sector Activity

- The **Information sector in Maine is small but growing quickly.** The industry concentration for Information (0.58) is below the US average (1.00), but recent growth in jobs is starting to close the gap.
- Not only was Information job growth rapid (twice the rate of increase of the US, +33% vs +16% since 2017), but it was also widely distributed among its subsectors. Each subsector in Information experienced growth:
 - Information Services (+2,332 jobs, +35%)
 - Telecommunications (+487 jobs, +24%)
 - Software and Internet Publishers (+331 jobs, +63%)
 - Information Wholesalers (+167 jobs, +19%).
- **Information Services** (a diverse mix of programming, systems and design services) is the largest subsector with 9,032 jobs and has the second highest location quotient (0.67).
- Key **industries driving sales** for the Information sector are **Governmental** subsectors like Federal, State, Military and Local government. The other group of subsectors contributing to sales are a mix of **Office** users.
- Maine ranks 43rd in the US in demand (purchases) for Information sector services. It also imports more than it supplies locally (61% vs 39%).

Subsectors included in this report

- **Telecommunications** establishments providing telephony, including Voice over Internet Protocol (VoIP); cable and satellite television distribution services; Internet access; and telecommunications reselling services. The subsector is primarily engaged in operating and/or providing access to facilities for the transmission of voice, data, text, sound, and video.
- **Software and Internet Publishing** establishments primarily engaged in producing and distributing computer software, such as designing, providing documentation, assisting in installation, and providing support services to software purchasers. This also includes online publishers that broadcast content on the Internet exclusively or that operate web sites that use a search engine to generate and maintain extensive databases (internet search portals). These often include coupled services, such as email, connections to other web sites, auctions, news, and others.
- Information Services activity related to writing, modifying, testing, and supporting software to meet the needs of a particular customer; planning and designing computer systems; on-site management and operation of clients' computer systems and/or data processing facilities; and other professional and technical computer related advice and services including graphic design.
- **Information Wholesalers** establishments primarily engaged in the merchant wholesale distribution of electrical devices, apparatus, wiring supplies, and related equipment.

NATIONAL TRENDS

KEY TRENDS

- Strong demand across markets—consumer, business, government—means continued growth, even in the face of high labor and legal costs and software piracy. Predictive analytics and machine learning have become common parts of business intelligence processes as well as players in software development itself, spurring growth in nonconsumer applications.
- The popularity of cellular internet will swell at the expense of wired alternatives. Investment trends will continue to move towards support systems for these services including mobile software development, network support, and infrastructure.
- Security software sustains growth as hacking, spyware and fraud protections become a standard expectation for consumers. A realignment in product structures towards cloud enabled software and software-as-a-service (SaaS) means that much of this responsibility is taken up by businesses which has increased the scale and predictability of the market.

RECENT DEVELOPMENTS

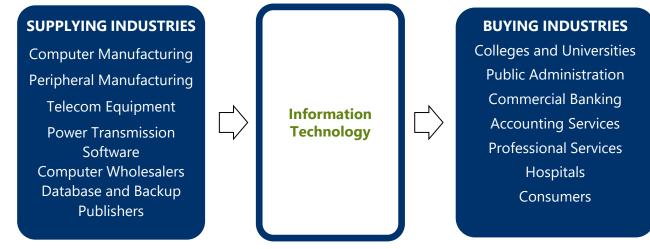
- Much of the revenue volatility experienced in the last five years has been smoothed by the industry switching to SaaS.
- An already fast-growing market for video gaming software has benefitted from increased adoption across new platforms, innovations in distribution and networked playing environments, and an infusion of new customers that came online during the pandemic.
- Increasing computer use among households and diversification and innovation in types of devices has created an explosion in the market for mobile software applications.

Source: IBISWorld

INDUSTRY DRIVERS

- Private investment in computers and software
- Evolving federal regulatory environment
- Consolidation within telecommunications and internet service providers
- Households earning more than \$100,000
- Number of mobile internet connections
- Total advertising expenditures
- Consumer demand for digital media

SUPPLY CHAIN



DATA NOTE: This page provides a brief qualitative overview of macro trends facing this sector and structural causes of growth for the sector. A supply chain summary shows key industries upstream and downstream of the sector. Trends and projections noted by IBISWorld typically reflect a period of +/- 5 years

NATIONAL TRENDS







 Job Growth
 Establishments

 2017-2022: 16%
 (2022)

 2022-2027 Projected: 20.3%
 552,720

Avg. earnings (2022) \$171,118

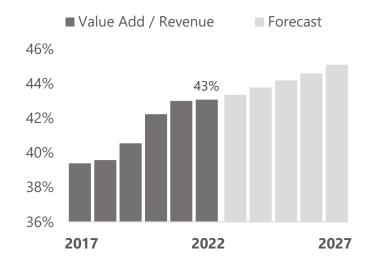


Domestic Demand (2022) \$2.5 Trillion



Top Partners (2022) No International Trade Partners

The value-add-to-revenue ratio is 26% in 2022. This indicator shows how much value the production process adds to products relative to the overall size of the sector.



Information Considered Domestic Trade

- For this sector, the types of information services are only provided through domestic divisions of international companies. This makes it so none of the activity is counted as foreign trade.
- Therefore, the imports share of domestic demand is 0% in 2022. This demonstrates how much of demand for the sector's products in the US are met by foreign imports.
- Additionally, the exports share of revenue was 0% in 2022. This indicator shows the relative importance of exports to the sector's overall revenue strength.

SECTOR SUMMARY: MAINE PERFORMANCE

Information Summary

Jobs: 13,435

- Data for 2022
- 1.9% of the state's total employment

Concentration: 0.58

- Data for 2022
- Maine had about half the job concentration of the national average

Job Growth: +3,317

- Data for 2017-2022
- Growth driven by Computer Systems Design Services, Data Processing & Hosting, and Software Publishers

Establishments: 2,987

- Data for 2022
- The average firm size of 4.5 jobs was lower than the US average for the sector (9.0)

Job Growth Rate: +33%

- Data compares 2017-2022
- Growth outperformed the United States, which grew by 16% during this period

Average Earnings: \$120,904

- Data for 2022
- Higher than the State's average earnings across all industries (\$66,730)
- Lower than the national average for the sector (\$171,118)

Productivity: \$229,185

- Data for 2022
- GRP per worker
- Lower than the United States (\$323,275)

Leakage: \$5.6 Billion

- Data for 2022
- \$5.6 Billion of demand was met by out-of-state sources

Competitive Effect: +2,140

- Data compares 2017-2022
- Local competitive factors accounted for 2,140 more jobs than would be expected if Maine were trending with national and industry growth

Total Sales: \$4.9 Billion

- Data for 2022
- 26% of sales exported out of state

Gross Regional Product: \$3.1 Billion

- Data for 2022
- 3.7% of Maine's total GRP
- Lower share than the U.S. (7.0% of total GRP)

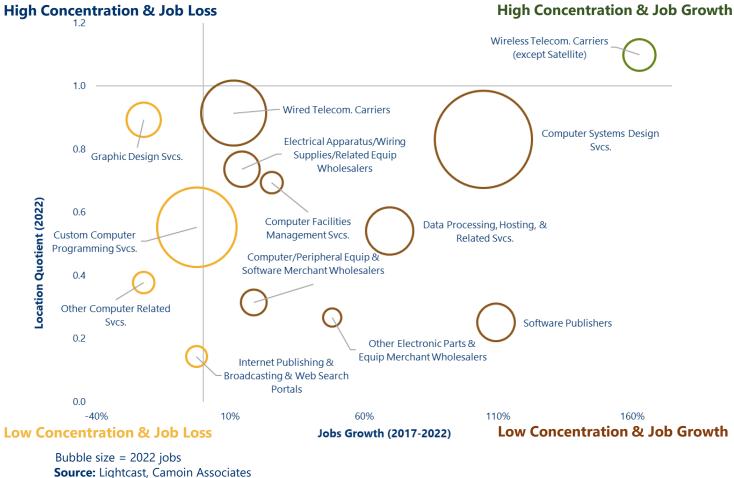
Demand: \$9.2 Billion

- Data for 2022
- 39% of Maine's demand was met by in-state sources, while the remaining 61% is imported from out of state

National figures on this page were calculated using a different source than on page 5, which may lead to some differences.

KEY INDUSTRIES

Note: Figure includes 6-digit NAICS industries with at least 100 jobs in 2022.



Findings:

- The Information sector added 3,317 jobs between 2017 and 2022 and grew by +33%. Maine's sector has a lower industry concentration than the national average, as nearly all industries in the sector have location quotients less than 1.0.
- Most industries in the sector have low concentration but have experienced job growth in the last five years and could be considered emerging. Some of the largest industries in this category are Computer Systems Design Services and Wired Telecommunications Carriers.
- Only four industries experienced job declines from 2017-2022: Graphic Design Services, Custom Computer Programming Services, Internet Publishing & Broadcasting & Web Search Portals, and Other Computer Related Services.
- One industry has both a relatively high LQ and has experienced job growth: Wireless Telecommunication Carriers. This industry's LQ is 1.1, and it added 291 jobs from 2017-2022.
- In contrast to the consistent growth in jobs, industry concentration is relatively low for the sector. Adding jobs combined with low industry concentration could indicate an opportunity for significant future growth in Maine, especially given the National forecast from IBIS showing over 20% growth through 2027.

DATA NOTE:

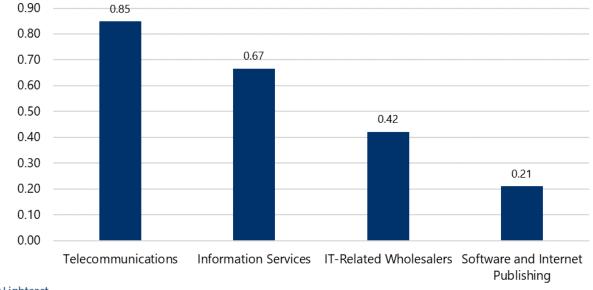
There are three performance measures in the chart above that combine to relate the competitiveness of this activity, (1) bubble size is size of industry by jobs, (2) vertical axis measures industry concentration in Maine, (3) horizontal axis measures recent jobs growth.

KEY INDUSTRY PERFORMANCE

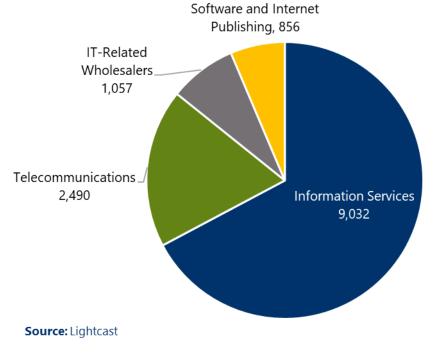
In 2022, Maine has 13,435 jobs in the Information Sector

- Information Services makes up the largest key subsector, with over 9,000 jobs in 2022. It had a Location Quotient of 0.67, meaning it has 33% less of this activity than the US average.
- Telecommunications is the next largest industry group by employment, with 2,490 jobs. It also has the highest location quotient, 0.85.
- Information Wholesalers has 1,057 jobs in Maine in 2022 and less than half the industry concentration of the national average (0.42 vs 1.00).
- Software and Internet Publishing is the smallest and least concentrated subsector for Information with under a thousand jobs and industry concentration barely one fifth of that of the US.

Location Quotients - Information Industry Groups (2022)



Jobs Distribution (2022)



Source: Lightcast

DATA NOTE:

Location quotient (LQ) is a measure of industry concentration within a region. An LQ of 1.0 means that an industry is as concentrated within the region as it is on a national level. An LQ greater than 1.0 indicates that an industry is more concentrated in a region than at the national level.

KEY INDUSTRY PERFORMANCE

Summary Metrics for the Information Sector

Description	2017 Jobs	2022 Jobs	2017 - 2022 Change	2017 - 2022 % Change	Avg. Earnings Per Job	2022 Location Quotient	Competitive Effect	2022 Payrolled Business Locations
Telecommunications	2,003	2,490	487	24%	\$97,581	0.85	796	174
Software and Internet Publishing	525	856	331	63%	\$156,865	0.21	55	330
Information Services	6,700	9,032	2,332	35%	\$122,894	0.67	1,174	2,237
IT-Related Wholesalers	889	1,057	167	19%	\$129,727	0.42	114	246
Total for Maine	10,118	13,435	3,317	33%	\$120,904	0.58	2,140	2,987
Total for United States4,633,0345,359,210		726, 175	16%	\$171,118	N/A	N/A	594,982	
Source: Lightcast								

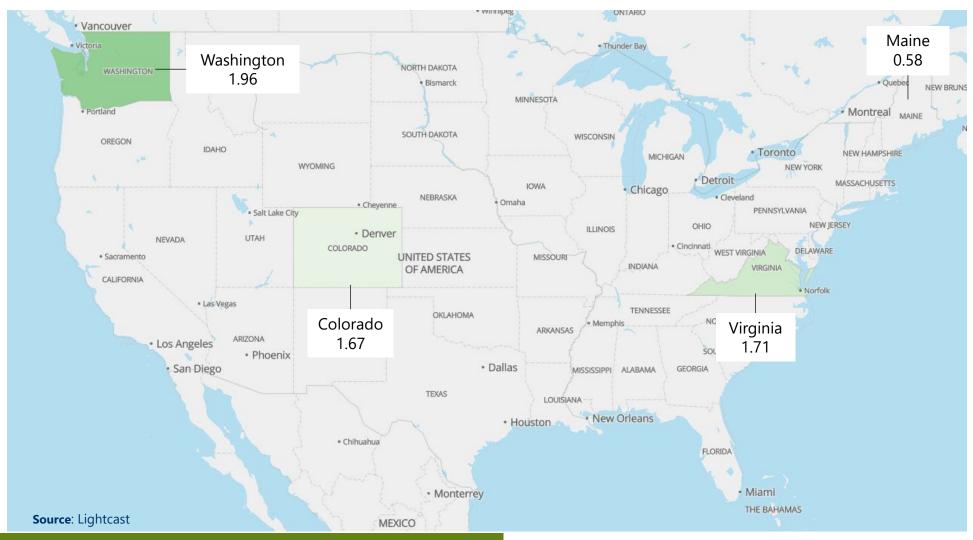
Continued: Summary Metrics for the Information Sector

Description	2022 Total Demand	2022 Demand met by Imports	2022 Total Sales	2022 GRP	2022 GRP Per Job
Telecommunications	\$2,440,286,545	\$824,735,913	\$2,034,087,194	\$1,071,899,410	\$430,456
Software and Internet Publishing	\$2,510,151,560	\$2,153,414,280	\$407,782,476	\$310,065,402	\$362,235
Information Services	\$3,182,300,533	\$1,673,519,877	\$1,847,688,438	\$1,374,644,083	\$152,195
IT-Related Wholesalers	\$1,041,784,005	\$922,229,729	\$562,770,237	\$322,456,974	\$305,193
Total for Maine	\$9,174,522,643	\$5,573,899,799	\$4,852,328,345	\$3,079,065,869	\$229,185
Total for United States	\$2,539,426,284,350	N/A	\$2,713,274,749,430	\$1,732,496,383,305	\$323,275
Source: Lightcast					

- Information sales in 2022 were nearly \$4.9 billion and the sector's GRP in Maine reached nearly \$3.1 billion. This sector contributes significantly to the state economy.
- The employment footprint for the sector increased to 13,435 jobs in 2022 and included a competitive effect of +2,140. This means that Maine's **Information sector added jobs at a rate beyond expectations** factored by industry growth trends in the US and growth of the overall economy.
- Maine's Information sector is less concentrated than the US average (0.58 vs 1.00), but has it made up ground since 2017 by adding jobs at nearly twice the rate as the US (+33% vs +16%).
- The overall productivity (GRP per job) for the Information sector in Maine was below the national average by a large margin. At \$229,185 per job, productivity in the sector in Maine was just 70% of the productivity at the national level. However, subsectors such as Telecommunications (\$430,456 per job) and Software and Internet Publishing (\$362,235 per job) had high productivity as measured by GRP per job.

KEY NATIONAL PLAYERS

States with >1.5 Location Quotient for the Information Sector



DATA NOTE: Location quotient (LQ) is a measure of industry concentration within a region. An LQ greater than 1.0 indicates that an industry is more concentrated in a region than at the national level.

Industry Demand and Purchases

Where is Maine's Information Technology sector buying from?

PURCHASING SECTORS Industries Maine Information Technology Purchases From

Top 25 Sectors the Information Industry Purchases From, 2022

NAICS			% In-region Purchases	Imported Purchases	% Imported Purchases	Total Purchases	
	ecommunications Carriers	Purchases \$104,781,025		\$20,449,995		\$125,231,020	
561320 Tempora	ry Help Services	\$104,788,468		\$6,547,775	-	\$111,336,243	
	icture and Video Production	\$21,667,415		\$83,566,613		\$105,234,029	
551114 Corporat	e, Subsidiary, and Regional Managing Offices	\$52,902,259	-	\$14,791,378		\$67,693,637	
519130 Portals	ublishing and Broadcasting and Web Search	\$2,911,805	7%	\$40,920,548	93%	\$43,832,353	
517312 Wireless Satellite)	Telecommunications Carriers (except	\$33,392,612	82%	\$7,464,806	18%	\$40,857,418	
541611	ative Management and General Management g Services	\$24,581,141	62%	\$14,990,510	38%	\$39,571,651	
561110 Office Ad	ministrative Services	\$13,928,151	37%	\$23,708,062	63%	\$37,636,213	
541330 Engineeri	ng Services	\$28,529,930	89%	\$3,575,379	11%	\$32,105,309	
541110 Offices of	f Lawyers	\$22,300,215	70%	\$9,486,386	30%	\$31,786,602	
531110 Lessors c	f Residential Buildings and Dwellings	\$23,066,533	87%	\$3,301,851	13%	\$26,368,384	
334413 Semicond	luctor and Related Device Manufacturing	\$11,780,364	49%	\$12,260,749	51%	\$24,041,114	
22210	of Nonfinancial Intangible Assets (except ted Works)	\$3,885,656	16%	\$20,154,693	84%	\$24,040,348	
17.5	er Systems Design Services	\$18,446,776		\$4,721,852		\$23,168,628	
	f Real Estate Agents and Brokers	\$15,755,774		\$6,094,221		\$21,849,995	
541810 Advertisir	5	\$7,766,557	36%	\$13,992,473	64%	\$21,759,031	
541990 All Other	Professional, Scientific, and Technical Services	\$18,310,733	86%	\$3,029,498		\$21,340,231	
561330 Professio	nal Employer Organizations	\$1,147,233	6%	\$19,524,645		\$20,671,878	
515210 Cable and	d Other Subscription Programming	\$2,103,914	11%	\$17,536,262	89%	\$19,640,176	
522110 Commerc		\$6,966,017	35%	\$12,673,404	65%	\$19,639,420	
541211 Offices of	f Certified Public Accountants	\$13,997,797	73%	\$5,275,055	27%	\$19,272,852	
531120 Lessors o Miniware	f Nonresidential Buildings (except	\$17,386,360	95%	\$964,579	5%	\$18,350,939	
511210 Software		\$5,127,809		\$964,579	70%	\$17,230,830	
	cessing, Hosting, and Related Services	\$8,091,315		\$8,698,048		\$16,789,363	
	ivities Related to Real Estate	\$9,644,900		\$6,410,885		\$16,055,785	

- **Wired Telecommunications Carriers** is the largest industry that the Information industry purchases from, with \$125 million of purchases in 2022.
- The **Temporary Help Services** is the largest industry for in-region purchases by the Information sector in Maine, with \$104.8 million of purchases within the state. This activity is comprised of establishments that provide supplemental workers for firms. The demand for temporary work may be a strategic choice by businesses in the Information sector, but it may also imply a labor market mismatch.
- Information sector activity itself makes up a large part of purchases by the Information sector. In particular, both industries related to Telecommunications Carriers are key inputs for the Information sector. Computer Systems Design Services and Data Processing, Hosting, and Related Services was also in the top 25 for purchases.
- **Engineering Services** is in the top five subsectors among purchases by the Information sector. It is almost entirely supplied locally with 88.9% of these purchases occurring in-region.

DATA NOTE:

This table gives greater insight into supply chain gaps within the Information Sector. Industries that have low shares of in-region purchases indicate opportunities where Maine relies heavily on imported supply, but where Maine businesses could potentially expand to recapture transactions. Industries that are within the Information sector are highlighted in green.

DEMAND COMPARISON

Top 10 States by Total Demand for the Information Sector (2022)

	Payrolled Business	Demand met in-	% Demand met in-	Demand met	% Demand met by	
	Locations	region	region	by imports	imports	Total Demand
California	56,911	\$321,696,749,872	91.0%	\$31,968,817,421	9.0%	\$353,665,567,293
Texas	45,161	\$163,667,664,624	73.8%	\$58,110,444,928	26.2%	\$221,778,109,552
New York	26,231	\$136,408,132,815	75.5%	\$44,277,727,810	24.5%	\$180,685,860,625
Florida	39,838	\$100,564,367,693	65.7%	\$52,613,588,738	34.3%	\$153,177,956,431
Illinois	23,354	\$66,965,167,728	68.7%	\$30,527,479,367	31.3%	\$97,492,647,095
Pennsylvania	18,535	\$51,696,392,858	56.5%	\$39,791,752,683	43.5%	\$91,488,145,541
Georgia	17,997	\$59,126,492,108	73.0%	\$21,910,321,055	27.0%	\$81,036,813,163
Ohio	19,231	\$39,467,445,127	50.0%	\$39,534,216,133	50.0%	\$79,001,661,260
New Jersey	16,241	\$47,308,792,631	61.4%	\$29,784,092,878	38.6%	\$77,092,885,509
Washington	19,031	\$63,930,857,741	84.2%	\$11,978,481,131	15.8%	\$75,909,338,872

Source: Lightcast

- Maine ranks 43rd among all states for total demand, at nearly \$9.2 Billion in 2022. The states with the highest overall demand for the sector's products tend to be those with the largest economies in the nation. The exception is Washington, which had large demand due to the headquarters and large operations of Microsoft.
- The largest importer of Information sector services is Texas, which received \$58 billion in imports in 2022. Along with a large economy, Texas has a thoroughly developed tech and startup industry as well as an expansive university system (higher education is a key buying industry for Information sector services).
- The largest importer of Information sector services by share is Alaska, which imports almost three out of every four dollars of demand (74%).

Top 25 States by Share of Sector Demand Met by Imports (2022)

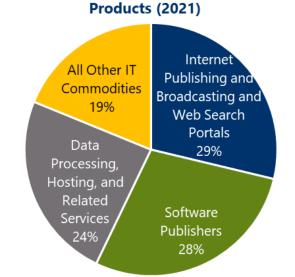
(2022)								
Alaska	26%		74%					
Mississippi	27%		73%					
Wyoming	28%		72%					
West Virginia	28%		72%					
Louisiana	29%		71%					
North Dakota	29%		71%					
South Dakota	30%		70%					
New Mexico	30%		70%					
Arkansas	31%		69%					
Oklahoma	32%		68%					
Montana	33%		67%	, 				
Kentucky	34%		66%	6				
Idaho	37%		63%					
Indiana	37%		63	%				
Alabama	37%		63'	%				
Hawaii	39%		61	%				
Maine	39%		61	%				
lowa	40%		60)%				
Delaware	40%		60)%				
Vermont	42%		5	8%				
South Carolina	43%		57%					
Kansas	46%			54%				
Rhode Island	46%		54%					
Tennessee	46%		54%					
Michigan	48%			52%				
Source: Lightcast	% 20% emand met in-reg	40% jion	60% • % Demar	80% nd met by	100% imports			

DATA NOTE:

Metrics for sector demand by state indicate the states that have the largest local markets for this type of activity. States whose local demand is met by imports at a high rate are using imports instead of local firms and could be a good target for Maine exports.

DOMESTIC IMPORTS INFORMATION TECHNOLOGY





Import Summary for Information Technology

Source: IMPLAN Data Library

Maine imported Information Technology products from several states in 2021.

- Massachusetts was the largest overall supplier of the Sector's commodities to Maine in 2021, with over \$702 million in trade value. Other important state suppliers were California, New York, New Hampshire, and Washington.
- Internet Publishing and Broadcasting and Web Search Portals made up the largest import category, accounting for 29% of all Information Technology Products. New York was the largest supplier of Internet Publishing and Broadcasting and Web Search Portals to Maine in 2021.

Source: IMPLAN Data Library

- Software Publishers account for about 28% of total Sector imports. Massachusetts was the largest supplier of Software Publishers in 2021.
- Data Processing, Housing, and Related Services accounted for about a guarter of the Sector's imports to Maine. California was the largest supplier of Data Processing, Housing, and Related Services in 2021.
- All other IT Commodities accounted for 19% of total sector imports.
- Imports of Information Technology products increased at an annual rate of 2.4% from 2011-2021.

DATA NOTE: Figures on this page are from IMPLAN's Data Library and may not match other data in this report. IMPLAN domestic trade flows data covers commodities, or the products and services that are produced by a sector. This differs from other data in this report, which covers NAICS industries. Industries often produce more than one commodity.

DEMAND & IMPORTS



Source: Lightcast, US Census Bureau

TOTAL DEMAND (2022) Maine: \$9.2 Billion

United States: \$2.54 Trillion



MET BY IMPORTS (2022) Maine: \$5.6 Billion United States: NA

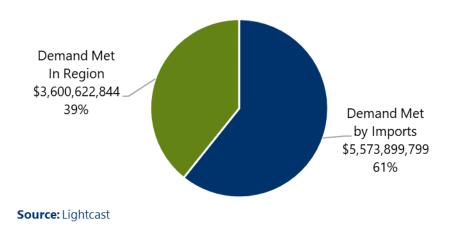


FOREIGN IMPORTS (2022)

Maine: NA United States: NA

The demand for Information sector activity in Maine was \$9.2 billion in 2022, of which 61% (\$5.6 billion) was met by imports from out of state. The subsectors that comprise the Information sector do not have trade relationships with countries outside the US.

Total Demand for the Information Sector in Maine (2022)



FOREIGN IMPORTS

The Information sector in Maine does not conduct significant trade with partners outside the US.

DATA NOTE:

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Maine's demand for this sector's products shows the size of the local market. The share of that market supplied in-region versus imports (either from other states in the U.S. or other countries) relates the success of local firms or the competitiveness of domestic and international import goods.

Industry Sales and Exports

Where is Maine's Information Technology sector selling to?

SALES SECTORS Industries Maine Information Technology Sells To

Top 25 Sectors the Information Industry Sells To, 2022

NAICS	Sales to	Total In-	Total In-Region
		Region Sales	Sales, %
901199	Federal Government, Civilian, Excluding Postal Service	\$141,458,769	9.7%
551114	Corporate, Subsidiary, and Regional Managing Offices	\$83,694,273	6.3%
517311	Wired Telecommunications Carriers	\$76,320,336	6.2%
902999	State Government, Excluding Education and Hospitals	\$76,275,848	6.6%
522110	General Medical and Surgical Hospitals	\$64,759,511	6.0%
517312	Wireless Telecommunications Carriers (except Satellite)	\$62,737,728	6.1%
901200	Federal Government, Military	\$41,437,274	4.3%
903999	Local Government, Excluding Education and Hospitals	\$36,105,806	3.9%
561320	Temporary Help Services	\$30,370,376	3.4%
541330	Engineering Services	\$22,601,778	2.7%
424210	Drugs and Druggists' Sundries Merchant Wholesalers	\$22,317,016	2.7%
621111	Offices of Physicians (except Mental Health Specialists)	\$17,815,588	2.2%
541110	Offices of Lawyers	\$16,144,679	2.0%
523930	Investment Advice	\$15,978,780	2.1%
561422	Telemarketing Bureaus and Other Contact Centers	\$13,158,165	1.7%
541512	Computer Systems Design Services	\$12,708,475	1.7%
531110	Lessors of Residential Buildings and Dwellings	\$12,356,241	1.7%
561730	Landscaping Services	\$11,152,679	1.6%
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	\$11,088,156	1.6%
541611	Administrative Management and General Management Consulting Services	\$11,033,968	1.6%
518210	Data Processing, Hosting, and Related Services	\$10,316,303	1.5%
722513	Limited-Service Restaurants	\$9,829,302	1.5%
722511	Full-Service Restaurants	\$9,381,692	1.4%
484121	General Freight Trucking, Long-Distance, Truckload	\$9,174,472	1.4%
238220	Plumbing, Heating, and Air-Conditioning Contractors	\$9,025,397	1.4%

- The largest source of sales for the Information sector is the Federal Government, Civilian, Excluding Postal Service with over \$141 million of in-region sales. This accounts for nearly 10% of all in-region sales.
- Office subsectors of various kinds are a large market for Information sector sales in Maine. Corporate, Subsidiary, and Regional Managing Offices, Offices of Physicians (except Mental Health Specialists), and Offices of Lawyers are all key factors for Information sales among the top 25 industries.
- The **Information sector itself** was a significant source of sales with Wired Telecommunications Carriers, Wireless Telecommunications Carriers (except Satellite), Computer System Design Services, and Data Processing, Hosting and Related Services included.
- Other governmental subsectors besides Federal were also in the top 25 for sales. State Government, Excluding Education and Hospitals, Federal Government, Military, and Local Government, Excluding Education and Hospitals combined to 14.8% of in-region sales and this number increases to over 20% once hospitals are included.

DATA NOTE:

The sales in this table do not add up to total in-region sales because it only captures sales to other industries, and not other entities like consumers. The Percent of Total In-Region Sector Sales shows the portion of sales to a given industry as it relates to total sales to *all industries*, not total in-region sales including sales to consumers. Industries within the Information sector are highlighted in green.

DOMESTIC EXPORTS INFORMATION TECHNOLOGY

Top States Receiving \$100,000 or More of Information Exports (2021)



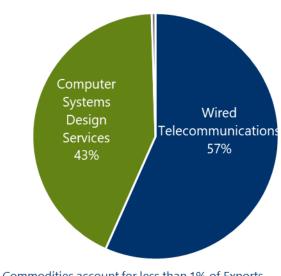
Source: IMPLAN Data Library

Maine exported Information Technology products to primarily Eastern states in 2021.

- New Hampshire was the largest overall buyer of Information Technology commodities in 2021, which received nearly \$15.5 million in exports. This was followed by Massachusetts and Florida.
- Wired Telecommunications made up the largest export category, accounting for 57% of exports.
- Computer Systems Design Services accounted for about 43% of total Sector exports.
- All other Information Technology Products accounted for less than 1% of total exports.
- Exports of Information Technology Products increased by almost 60.4% form 2011-2021. Growth was fastest for Wired Telecommunications.

DATA NOTE: Figures on this page are from IMPLAN's Data Library and may not match other data in this report. IMPLAN domestic trade flows data covers commodities, or the products and services that are produced by a sector. This differs from other data in this report, which covers NAICS industries. Industries often produce more than one commodity.





Note: All other IT Commodities account for less than 1% of Exports **Source:** Implan Data Library

SALES & EXPORTS



Maine: \$4.9 Billion United States: \$2,713 Billion

Source: Lightcast, US Census Bureau

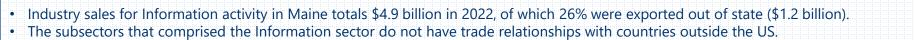


EXPORTED SALES (2022) Maine: \$1.2 Billion United States: N/A

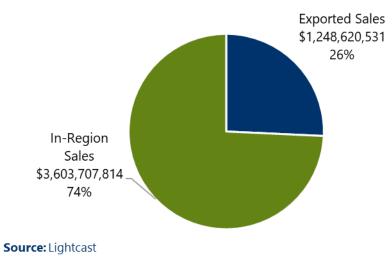


FOREIGN EXPORTS (2022)

Maine: NA United States: NA



Total Information Sales (2022)



FOREIGN EXPORTS

The Information sector in Maine does not conduct significant trade with partners outside the US.

DATA NOTE:

Maine sales and exports for this sector indicate the scale of the industry activity and the share of that activity that is sold locally either as an intermediate good or to end consumers. Exports include sales to domestic (U.S.) markets as well as international exports.

EMERGING TRENDS

Artificial Intelligence (AI) and Machine Learning (ML)

Al and ML continue to be at the forefront of technological advancements. These technologies are being integrated into various applications and systems, ranging from virtual assistants and chatbots to data analysis and automation.

Cybersecurity

With the increase in cyber threats, cybersecurity has become a critical concern. The IT industry is focusing on developing advanced security measures, including multi-factor authentication, encryption, biometrics, and AI-based threat detection systems.

Sustainable Technology

There is a growing focus on integrating sustainable practices in technology, including energy-efficient hardware, responsible e-waste management, and environmentally friendly data centers.

RECENT INVESTMENTS

Governor Mills announced a \$39.6 million Pandemic Recovery for an Innovative Maine Economy (PRIME) Fund.

This grant program will invest in Maine technology companies with an aim to help companies recover from the pandemic and invest in new products, attract new customers, and create long-term growth. By targeting these sectors, the PRIME Fund aims to accelerate job creation and reach businesses that did not, or were unable to, access other federal pandemic-response economic support programs. Spurring investment in innovative companies is also recommended by the state's 10-year Economic Strategy and the Governor's Economic Recovery Committee to make Maine more competitive against other states.

The Maine Connectivity Authority announced over \$34 million in grant funding to expand access to high-speed internet in 31 communities in Maine.

The money will provide broadband service to more than 16,000 homes and businesses. In all, the 12 funded projects cover 31 communities across nine counties. Of the total, \$8.1 million will go to Consolidated Communications to provide services to communities scattered across southern Aroostook, northern Washington and remote eastern Penobscot counties.

Spectrum has invested \$82 million to expand broadband internet across Maine.

The investment, fully funded by Charter, is expected to be complete across the company's Maine service area, comprised of more than 700,000 homes and businesses by the end of 2025. In addition to the \$70 million investment, Charter also announced an additional \$12 million commitment that aims to further rural broadband expansion in the state.

RECENT INVESTMENTS

State Incentives and Technology Tax Credits

Maine Technology Institute (MTI)

MTI exists to encourage, promote, stimulate and support research and development activity leading to commercialization of new products and services in the State's technology-intensive sectors, as well as Maine private companies and nonprofit organizations whose efforts are in the targeted technology area of Information Technology, Aquaculture & Marine, advanced technologies for Forestry & Agriculture, Biotechnology, Composite Materials, Environmental and Precision Manufacturing.

Research and Development Tax Credit

Maine's R&D tax credit provides an income tax credit for qualifying research and development activities. In general, qualified research expenses include in-house and contract research related to discovering information that is technological in nature and intended for use in developing a new or improved business.

R & D "Super Credit"

A "super credit" for substantially increased research and development investments has been established in addition to the previously listed R&D tax credit. A business qualifying for the existing research expense credit is allowed an additional credit against the tax due equal to the excess, if any, of qualified research expenses for the taxable year over the "super credit base amount."

High Technology Investment Tax Credit

The high technology investment tax credit rewards eligible high-tech firms for investments in a range of computers and related equipment. The credit applies to purchases or leases of computer equipment, electronics components, communications equipment, and computer software placed in service in the state. Only firms engaged in a "high technology activity" may claim the credit.

Development Fund

The Development Fund provides funding to communities that in turn loan to businesses for the purpose of acquisition, relocation, demolition, clearance, construction, reconstruction, installation, rehabilitation and working capital. Funded by federal money through the Community Development Block Grant Program, this fund assists projects that represent new economic initiatives and development opportunities that will create or retain jobs.

TRADE SHOWS

Trade shows and resources included in this report have been vetted by industry professionals and trade show specialists.

PTC LiveWorx- Boston, MA

PTC LiveWorx, held May 15-18, 2023 in Boston, is a 4-day annual technology event focused on digital transformation. It's designed to educate those in the industrial enterprise on how to achieve business efficiencies and bring together the digital tools, strategic solutions, and emerging technologies that are transforming companies worldwide. PTC LiveWorx is an experience like no other. You'll find content on the most essential technologies and topics for industrial innovation (including SaaS, IIoT, Agile Product Development, AR, PLM, ALM, Environmental Sustainability, and more) all conveniently located at one event. See how pairing these technologies can elevate product design, enhance employee training, and streamline service to transform your organization.

Datacenter Dynamic Connect- New York, NY

Join 1200+ Top Professionals Looking for New Technologies and Services, with 70+ Industry Experts Debating the Future on our Conference Program. It's the Ultimate Discovery Experience for the Data Center Industry Supply Chain.

International Telecoms Week (ITW)- National Harbor, MD

International Telecoms Week is the world's largest gathering of global executives from across the telecoms and Digital Infrastructure ecosystem.

Enterprise Connect- Orlando, FL

This expert-led conference program will focus on the latest systems, software, services, and applications for enterprise communications and collaboration. The nine conference tracks cover the full scope of issues impacting Enterprise IT professionals today and into the future. Whether your focus is on the Contact Center, Unified Communications, A/V or Security & Compliance, there is something that will help your organization.

ITEXPO/IoT Evolution Expo – Fort Lauderdale, FL

ITEXPO attracts companies of all sizes and representing all sectors of Communications and Technology Industries, including Enterprises and SMBs, Government Agencies, MSP/Resellers, Service Providers/Carriers, Manufacturers, Developers, and more. Includes 8 co-located events.

International Wireless Communications Expo (IWCE) – Las Vegas, NV

IWCE connects the people and technologies charged with ensuring that the most critical communications – supporting Governments, Utilities, Transportation, Enterprise, Public safety, Healthcare and Critical-Infrastructure sectors – always work, even under the most difficult circumstances. Convergence for critical-communications community involves the blending of three distinct technologies – voice, data and video. As emerging technologies continue to evolve, convergence is almost certain to increase. How will this impact you? Come to IWCE to find out! IWCE's four-day technical conference and two-day business expo showcase the latest and greatest in critical-comms technology to ensure the security, dependability, reliability and redundancy of networks across many vertical solutions and markets.

TRADE SHOWS

Trade shows and resources included in this report have been vetted by industry professionals and trade show specialists.

RA Conference- San Francisco, CA

The RSA Conference is a series of IT security conferences. Approximately 45,000 people attend one of the conferences each year. It was founded in 1991 as a small cryptography conference. RSA conferences take place in the United States, Europe, Asia, and the United Arab Emirates each year.

Optic Fiber Communication (OFC) Conference – San Diego, CA

OFC is the world's largest events for optical networking and communications. Representing a range of products, from optical components and devices to systems, test equipment, software and specialty fiber, OFC represents the entire supply chain and provides the premier marketplace where the industry learns, connects, networks, and closes deals.

<u>SIGGRAPH</u>– Los Angeles, CA

THE PREMIER CONFERENCE & EXHIBITION ON COMPUTER GRAPHICS & INTERACTIVE TECHNIQUES. Explore five Interest Areas to see all that SIGGRAPH has to offer: Production & Animation, Research & Education, Arts & Design, Gaming & Interactive, New Technologies.

DeveloperWeek- San Francisco, CA

What the organizers have to say: "Each year, more than 8,000 developers, engineers, software architects, dev teams, managers, and executives from more than 70 countries gather for DeveloperWeek to discover the latest in developer technologies, languages, platforms, and tools. This year, DeveloperWeek will have an expanded DevExec World, which is two days of roundtable talks, educational talks, and networking events for engineering managers, tech executives, and lead developers. Additionally, DeveloperWeek will be co-located with ProductWorld and CloudConnect."

IoT Tech Expo North America – Santa Clara, CA

The world-leading leading IoT Tech Expo will bring together key industries from across the globe for two days of top-level content and discussion. Introducing and exploring the latest innovations within the Internet of Things and covering Manufacturing, Transport, Health, Logistics, Government, Energy, and Automotive, this conference is not to be missed. Co-located events covering IoT, 5G, AI, Big Data, Cyber Security, Cloud, and Blockchain.

Data Center World- Austin, TX

ITEXPO attracts companies of all sizes and representing all sectors of Communications and Technology Industries, including Enterprises and SMBs, Government Agencies, MSP/Resellers, Service Providers/Carriers, Manufacturers, Developers, and more. Includes eight co-located events.

<u>SpiceWorld</u>– Austin, TX

SpiceWorld is jam packed with 40+ practical sessions covering everything from IT infrastructure and career development to automation & scripting tools.

TRADE SHOWS

Trade shows and resources included in this report have been vetted by industry professionals and trade show specialists.

London Tech Week – Westminster, UK

London Tech Week is a global celebration of tech, uniting the most innovative thinkers and talent of tomorrow in a week-long festival. As Europe's largest tech festival, London Tech Week not only brings the best minds in tech to London, but it also connects international tech communities and leaders to address how access to tech can have a profoundly positive impact in society and business. Topics run from adtech and the internet of things to edtech, fintech, medtech and smart cities.

KickStart Europe – Amsterdam, Netherlands

KickStart Europe is the Annual Strategy & Networking conference on trends and investments in tech and digital infrastructure. By bringing together an array of industry professionals at the start of the year, Kickstart Europe helps to explore the emerging trends and technology shaping the digital industry and digital infrastructure of cloud, connectivity and data centers.

TECHSPO Technology Expo– Various

In 2023-2024, the TECHSPO series continues to expand to multiple locations globally, to 30 cities worldwide across 12 countries, plus an international cruise. TECHSPO brings together developers, brands, marketers, technology providers, designers, innovators and evangelists looking to set the pace in our advanced world of technology. Showcasing the next generation of technology & innovation; Internet, Mobile, Adtech, MarTech and SaaS Technologies, exhibitors have the opportunity to show off their companies to thousands of consumers, the highest caliber investors, hordes of press, the most sought after talent, and the greatest pool of tech enthusiasts looking to celebrate emerging venture. Be prepared to be inspired, amazed and educated on how these evolving technologies will impact your business for the better.

OTHER RESOURCES

MAINE TECHNOLOGY INSTITUTE (MTI)

MTI offers grants, loans, equity investments, and services to support Maine's innovation economy. They support new ideas, products, and methods with the potential to grow and diversify Maine's economy and increase the number of quality jobs throughout the state through direct support of innovators, programs, and infrastructure that encourage innovation.

MAINE TECHNOLOGY USER GROUP (MTUG)

An independent, non-profit organization dedicated to bringing IT professionals and business leaders together to network, educate, and share technology experiences. It has an educational mission open to the entire Maine community of technology professionals and enthusiasts.

STARTUP MAINE

Startup Maine is an organization that has evolved out of a group of doers, founders, and community members focused on supporting world class organizations, talent, and leaders emerging throughout the state, as professionals and companies no longer need be tethered to large cities and central offices. Technology is democratizing access to resources, and a culture of entrepreneurship and innovation is taking hold.

TECH MAINE

TechMaine offers an open platform to promote activities, events, news, and resources that support Maine's technology community.

THE ROUX INSTITUTE TECHSTARS ACCELERATOR

One of the largest pre-seed investors in the world, their portfolio is as diversified as their 7,300 founders are unique - from HealthTech and FinTech. They support many of the world's best entrepreneurs with access to capital, mentoring, finding customers, hiring talent, choosing the right infrastructure, and much more.

INDUSTRY SECTORS

NAICS	Description
Telecom	nunications
517311	Wired Telecommunications Carriers
517312	Wireless Telecommunications Carriers (except Satellite)
517410	Satellite Telecommunications
517911	Telecommunications Resellers
517919	All Other Telecommunications
Software	and Internet Publishing
511210	Software Publishers
519130	Internet Publishing and Broadcasting and Web Search Portals
Informati	ion Services
541430	Graphic Design Services
541511	Custom Computer Programming Services
541512	Computer Systems Design Services
541513	Computer Facilities Management Services
541519	Other Computer Related Services
518210	Data Processing, Hosting, and Related Services
IT-Relate	d Wholesalers
423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers
100610	Electrical Apparatus and Equipment, Wiring
423610	Supplies, and Related Equipment Merchant Wholesalers
423690	Other Electronic Parts and Equipment Merchant Wholesalers
425110	Business to Business Electronic Markets

APPENDIX

Summary Metrics for the Information Sector

NAICS	Description	2017 Jobs	2022 Jobs		2017 - 2022 Change	2017 - 2022 % Change	2022 - 2027 Change			2022 Location Quotient		2022 Payrolled Business Locations	2022 Total Demand	2022 Demand met by Imports	2022 Total Sales	2022 GRP	2022 GRP Per Job
Telecom	munications	2,003	2,490	2,855	487	24%	365	15%	\$97,581	0.85	796	174	\$2,440,286,545	\$824,735,913	\$2,034,087,194	\$1,071,899,410	\$430,456
517311	Wired Telecommunications Carriers	1,712	1,905	2,034	193	11%	128	7%	\$101,621	0.91	470	136	\$1,390,802,838	\$320,828,365	\$1,261,929,140	\$723,847,020	\$379,885
517312	Wireless Telecommunications Carriers (except	179	469	709	291	163%	240	51%	\$81,579	1.10	326	15	\$838,525,580	\$334,865,561	\$724,977,197	\$328,002,082	\$699,250
517410	Satellite Telecommunications	0	0	0	0	0%	0	0%	\$0	0.00	0	0	\$17,530,991	\$17,503,818	\$28,008	\$11,784	\$0
517911	Telecommunications Resellers	78	80	77	2	2%	(3)	-4%	\$92,844	0.40	12	17	\$74,320,040	\$47,986,945	\$30,815,971	\$13,092,569	\$164,206
517919	All Other Telecommunications	34	36	35	1	4%	(1)	-2%	\$102,746	0.20	(12)	6	\$119,107,097	\$103,551,223	\$16,336,877	\$6,945,955	\$193,469
Software	and Internet Publishing	525	856	1,056	331	63 %	200	23%	\$156,865	0.21	55	330	\$2,510,151,560	\$2,153,414,280	\$407,782,476	\$310,065,402	\$362,235
511210	Software Publishers	308	645	809	336	109%	165	26%	\$175,590	0.25	159	290	\$1,293,221,395	\$1,010,380,841	\$327,451,271	\$262,476,563	\$407,203
519130	Internet Publishing and Broadcasting and Web Search Portals	217	211	247	(5)	-3%	36	17%	\$99,772	0.14	(104)	40	\$1,216,930,165	\$1,143,033,439	\$80,331,205	\$47,588,840	\$225,117
Informat	ion Services	6,700	9,032	10,455	2,332	35%	1,422	16%	\$122,894	0.67	1,174	2,237	\$3,182,300,533	\$1,673,519,877	\$1,847,688,438	\$1,374,644,083	\$152,195
541430	Graphic Design Services	703	546	567	(157)	-22%	20	4%	\$49,745	0.89	(146)	117	\$62,015,039	\$12,307,828	\$56,652,391	\$41,905,809	\$76,684
541511	Custom Computer Programming Services	2,865	2,796	3,058	(69)	-2%	262	9%	\$120,281	0.55	(657)	1,111	\$971,643,423	\$534,288,673	\$471,810,835	\$382,534,800	\$136,816
541512	Computer Systems Design Services	2,064	4,220	5,221	2,157	104%	1,001	24%	\$139,503	0.83	1,865	773	\$794,641,695	\$239,863,591	\$797,259,803	\$660,934,066	\$156,609
541513	Computer Facilities Management Services	183	230	262	47	26%	32	14%	\$119,303	0.69	31	14	\$81,627,693	\$39,353,882	\$67,487,041	\$35,922,259	\$156,184
541519	Other Computer Related Services	285	222	208	(63)	-22%	(14)	-6%	\$103,424	0.38	(116)	65	\$161,887,063	\$106,926,597	\$64,523,083	\$34,629,548	\$156,341
518210	Data Processing, Hosting, and Related	600	1,018	1,140	418	70%	122	12%	\$105,528	0.54	197	158	\$1,110,485,619	\$740,779,305	\$389,955,285	\$218,717,600	\$214,872
IT-Relate	ed Wholesalers	889	1,057	1,064	167	19%	7	1%	\$129,727	0.42	114	246	\$1,041,784,005	\$922,229,729	\$562,770,237	\$322,456,974	\$305, 193
423430	Computer and Computer Peripheral Equipment and Software Merchant	260	309	304	49	19%	(5)	-2%	\$180,010	0.31	37	90	\$416,777,623	\$377,668,171	\$163,892,140	\$98,243,190	\$317,663
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant	503	575	586	72	14%	11	2%	\$99,254	0.74	32	86	\$297,461,924	\$246,416,883	\$276,284,613	\$154,778,524	\$269,238
423690	Other Electronic Parts and Equipment Merchant Wholesalers	110	162	163	53	48%	1	1%	\$143,326	0.27	51	65	\$307,498,588	\$280,089,999	\$120,285,988	\$67,366,456	\$415,089
425110	Business to Business Electronic Markets	17	10	11	(7)	-41%	0	5%	\$106,002	0.08	(6)	6	\$20,045,869	\$18,054,676	\$2,307,496	\$2,068,804	\$204,234
	Total for Maine	10, 118	13,435	15,429	3,317	33%	1,995	15%	\$120,904	0.58	2,140	2,987	\$9,174,522,643	\$5,573,899,799	\$4,852,328,345	\$3,079,065,869	\$229, 185
	Total for United States	4,633,034	5,359,210	22,573,376	726,175	16%	17,214,166	321%	\$171,118	N/A	N/A	594,982 \$	2,539,426,284,350	N/A	\$2,713,274,749,430	1,732,496,383,305	\$323,275
Source: Li	ightcast																

GLOSSARY

Competitive Effect: Competitive effect indicates how much of the job change within a given region is the result of some unique competitive advantage of the region. This is because the competitive effect, by definition, measures the job change that occurs within a regional industry that cannot be explained by broader trends (i.e., the National Growth Effect and the Industrial Mix Effect). It's important to note that this effect can be positive even if regional employment is declining. This would indicate that regional employment is declining *less* than national employment.

Demand: Regional sales demand for sales of Industry.

Earnings: Industry earnings are the total industry wages, salaries, supplements, and proprietor income in the region, divided by the number of jobs in the region.

Gross Regional Product (GRP): Gross Regional Product (GRP) is simply GDP for the region of study. More commonly, GRP is GDP for any region smaller than the United States, such as a state or metro. GRP measures the final market value of all goods and services produced in the region of study. GRP is the sum of total industry earnings, taxes on production & imports, and profits, less subsidies.

Jobs: A job is any position in which a worker provides labor in exchange for monetary compensation. This includes those who work as employees for businesses (a.k.a. "wage and salary" employees) and proprietors who work for themselves. Lightcast reports employment as annual averages. Employment averages represent jobs, not workers, since one individual may hold multiple jobs. Due to limitations of source data, both full- and part-time jobs are included and counted equally, i.e., job counts are not adjusted to full-time equivalents. Geographically, payroll jobs are always reported by the place of work rather than the worker's place of residence.

Location quotient: Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region "unique." For example, if the leather products industry accounts for 10% of jobs in your area but 1% of jobs nationally, then the area's leather-producing industry has an LQ of 10. So, in your area, leather accounts for a larger than average "share" of total jobs—the share is ten times larger than normal.

Payrolled Business Locations: Also referred to as a "Establishment", is a single physical location of some type of economic activity (a business), used for reporting purposes in government data sources. A single company may have multiple establishments.

Source: Lightcast Knowledge Base

DATA SOURCES

Lightcast (formerly Emsi Burning Glass) is a global leader in labor market analytics, offering a data platform that gives a comprehensive, nuanced, and up-to-date picture of labor markets at all scales from national to local. Key components of the platform include traditional labor market information, job postings analytics, talent profile data, compensation data, and skills analytics. Lightcast integrates government data with information from online job postings, talent profiles, and resumes to produce timely intelligence on the state of the labor market. Job and compensation data is available by industry, occupation, educational program, and skill type. Click to learn more.



TradeStats Express (TSE) National and State Dashboards present data on US exports and imports by trade partner and product for 2009 forward. Data are presented using two classification systems: the Harmonized System (HS) and the North American Industrial Classification System (NAICS). National trade statistics in TSE cover the physical movement of merchandise between the United States and foreign regions. State trade statistics cover the physical movement of merchandise between a given state and foreign regions. Click to learn more.



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IMPLAN is a prominent supplier of economic impact data and analytical applications, for decades serving the economic data needs of researchers, policy makers, decision makers, advocates, business leaders, governments, and more. IMPLAN has been redefining the field of economics for over 40 years. Created by academics to serve the needs of the United States Forest Service, it has been transformed today to serve as a solution-provider for anyone interested in understanding their economy. Click to learn more.