

Niagara Region



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# Introduction

The marine sector is an important industry that influences people's daily lives. Over 80% of the volume of international trade in goods is carried by sea, and fluctuations in the sector influence the cost of goods that are purchased every day<sup>1</sup>. In addition, the global ship repairing market is expected to grow at a compound annual growth rate (CAGR) of 6% from 2021 to 2025 and by 2025, reaching a market value of \$US8.75 billion<sup>2</sup>. Considering the importance of this sector, and the natural advantages the Niagara region possesses, interest in continuing to develop the sector has increased. In fact, Niagara's 10 Year Economic Development Strategy 2022-2032 identifies the marine sector as an emerging sector for the region.

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<sup>1</sup> United Nations Conference on Trade and Development. Review of Maritime Transport 2021.

<sup>2</sup> Research and Markets, Boat Repairing Global Market Report 2023, 2023.

## The Emerging Sector Profiles

Niagara Region Economic Development retained Deloitte LLP to produce sector profiles for five emerging sectors, including the marine sector, the health sector, film sector, and active economy/sport tourism, and electric vehicle battery industry. In the design of the project, the aerospace sector was added to the analysis. These sectors were initially identified in 'Niagara's 10 Year Economic Development Strategy 2022-2032'. This profile features the investment and growth potential of the marine sector. This Marine Sector Profile was developed by defining the industries that make up and broadly support the marine sector. These industries were characterized using business and employment data and include support and supply businesses. From this broad overview, international, national, and local trends were considered to identify high potential areas relevant to Niagara's economy. The research also included a focus group to ground the findings in the perspectives of local stakeholders, as well as a review of existing literature. The data were pulled together to show a picture of the sector's future potential. This profile does not include a benchmarking of the marine sector, and further research is needed to accurately identify employment directly linked to the marine sector.

The following data sources were used in the development of this sector profile: Lightcast (formerly EMSI Economic Modeling) 2022, Vicinity Jobs 2022, FDI Markets, Statistics Canada, and Canadian Business Counts<sup>3</sup> June 2022.

## Investment Attraction Highlights for the Marine Sector

Investment attraction efforts targeting the marine sector are expected to positively impact the Niagara Region's economy. The Welland Canal and its connection to the Great Lakes shipping network provides unique advantages for the Niagara Region. The sector shows significant growth potential in related segments of the economy such as

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<sup>3</sup> The June 2022 Canadian Business Counts were used to determine the total number of registered businesses in the Niagara Region. Statistics Canada's Canadian Business Counts Data provides a record of business establishments by industry and size. This data is collected from the Canada Revenue Agency (CRA). The business data collected for Niagara Region included all local businesses that met at least one of the three following criteria: Have an employee workforce for which they submit payroll remittances to CRA, or have a minimum of \$30,000 in annual sales revenue, or are incorporated under a federal or provincial act and have filed a federal corporate income tax form within the past three years.

manufacturing and maintenance, as well as support demand for developing technologies.

With global opportunities in manufacturing and technology, marine-related regional assets, and recent investment ranging from \$180 million the marine sector in Niagara Region is an emerging sector ready for further economic development.

## **Key Highlights**

**Identified high potential sub-sectors:** Considering its strategic location on the St. Lawrence Seaway, the region has the potential to play an important role in areas such as ship manufacturing, vessel parts and component manufacturing, equipment maintenance. Increasing investments for this sector in the region can also leverage other areas of growth such as digitization tools for ships, vessels with emphasis on implementing robotics, automated tools, sensors, and the internet of things into operations. In terms of technology opportunities, adoption and local business development would be more feasible, but this does not limit Niagara from attracting propeller technology companies. The digitization segment requires a mix or retention of expansion opportunities as well as new foreign direct investment. Niagara has plenty of vacant sites along the St. Lawrence Seaway and Welland Canal and while traditional ship maintenance and construction is the stronger segment, the future of the marine industry veers towards digitization and should be considered.

**Foreign Direct Investment (FDI) markets in the United States:** Overall, the United States ranks highly as a recruitment zone for the marine industry with key metro areas being Miami (FL), New York City (NY), Houston (TX), and Chicago (IL). Other important recruitment zones include Shanghai, China; Athens, Greece; and London and Aberdeen in the UK.

**Market value:** Globally, the marine industry will represent a market value of \$188.5 billion in 2028. Within this segment, commercial and passenger ship segments will be the largest product type and the demand for transportation of both people and goods is expected to continue to be steady.

**Recent investments:** St. Catharines-headquartered Heddle Shipyards has been awarded a \$135.5 million contract for the Vessel Life Extension (VLE) of the Canadian Coast heavy icebreaker CCGS Terry Fox. The nearly three-year project will involve an extensive engineering, planning and procurement phase, with shipyard work scheduled to begin in December 2023. This multi-year project is expected to create and sustain over 200 hundred jobs at the Port Weller Dry Docks facility through the summer of 2025



when the heavy icebreaker is scheduled for redelivery<sup>4</sup> <sup>5</sup>. In addition, on January 2023, A \$45.3-million project to reconstruct wharfs along the Welland Canal was announced by the Federal Government, this investment will rebuild wharfs 18-1, 18-2 and 18-3, on the west side of the canal running from the end of West Street south to ADM milling<sup>6</sup>. This is inclusive of a 1,000-foot dock that will support an additional 1-million gross tonnes of product being shipped along the canal, as well will support Viking Cruise lines doubling of their cruise itineraries to Port Colborne, supporting their Polaris class of ships.

## The Marine Sector in Niagara Region

- **Sector-related employment:** Niagara's core marine sector businesses and broader support industries employ more than 12,900 people in the region. Although not all this employment can be linked directly to the marine sector, related employment numbers show a strong environment that could enable opportunities in the sector.
- **Concentration of business activity:** The Niagara region has a slightly above average concentration of businesses in the marine sector and related sectors, relative to Ontario (LQ 1.01), with higher concentrations in most of the core marine industries including deep sea, coastal and great lakes water transportation; inland water transportation; scenic and sightseeing transportation, water; support activities for water transportation; and ship and boat building manufacturing. In addition, the region also has a high concentration of sectors linked to the marine sector supply chain, particularly in those related to manufacturing.
- **Proximity to markets and customers:** Proximity is a key determinant for foreign direct investment in marine sector projects in North America and Niagara region has access to a third of North America's population within a 24-hour drive, as well as access to the Welland Canal and ports on Lake Erie and Lake Ontario.
- **Existing business community:** As of June 2022, a significant number of businesses in the marine industry operate in the region (859 businesses). Core

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<sup>4</sup> MarineLog, retrieved from

<<https://www.marinelog.com/shipbuilding/shipyards/shipyard-news/port-weller-dry-docks-wins-heavy-icebreaker-life-extension-contract/>>

<sup>5</sup> These estimates has not been developed by Deloitte and have not been independently verified for this analysis.

<sup>6</sup> Ontario Construction News, retrieved from

<<https://www.ontarioconstructionnews.com/45-3-million-investment-in-welland-canal-to-revitalize-port-colborne-wharfs/>>



marine industry sectors with the largest number of businesses include freight transportation arrangement (8% of total businesses), followed by support activities for water transportation (1%), marinas (1%), and ship and boat building (1%).

- **Regional support for the marine sector:** Regional leaders and marine industry representatives are confident in the sector's future. They are encouraging the provincial government to develop a strategic and well-funded vision for the marine sector in Ontario<sup>7</sup>. Lobbying efforts with other strategic partners for a Provincial Marine Strategy to make Niagara and Ontario competitive with other jurisdictions both nationally and internationally.
- **Increased interest from cruise companies in the region:** Communities in Niagara region (e.g., Port Colborne) have been added to the scheduled list of ports for luxury cruise companies including Viking Cruises, Victory Cruises, and Pearl Seas Cruises.
- **According to Statistics Canada International Accounts and Trade Division,** the Niagara region recorded less than 5 exporting establishments in 2020 in the ship, boats and floating structures. These businesses did not record a significant number of exports (a total of \$30,000) in ship, boats and floating structures products. On the other hand, a total of 17 establishment recorded the import of ship, boats and floating structures; these establishments imported more than \$49.7 million in these products.

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<sup>7</sup> Great Lakes and St. Lawrence Cities Initiative – Press Release June 23, 2023



# Marine Sector Overview

According to Statistics Canada, the marine sector includes industries involved in fishing and seafood production; offshore oil and gas; transportation; coastal tourism and recreation; manufacturing and construction of ships, vessels, ports and harbours; and the public sector (universities and environmental Non-Government Organizations (NGOs)).<sup>8</sup>

## Defining the Marine Sector

The marine sector's core and related industries were defined using North American Industry Classification System (NAICS) codes. The industries comprising the marine sector ranged from goods-producing industries such as fishing, oil and gas extraction, construction, and manufacturing, to service-oriented industries such as trade, transportation, professional services, recreation, and public administration. Figure 1 shows the NAICS codes that make up the sector, these categories were used to identify

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<sup>8</sup> Fisheries and Oceans Canada, Marine sectors in Canada methodology, retrieved from < <https://www.dfo-mpo.gc.ca/stats/mar-method-eng.htm> >.

employment and business insights. In addition, and with the support of Niagara Region's project team, the marine industry subsectors were further classified into core, and support/supply chain subcategories. Core industry subsectors are identified in the figure with a blue highlight.

Figure 1 – Marine Sector NAICS Codes

Industry	NAICS	Description
Agriculture, Forestry, Fishing and Hunting	1141	Fishing
Mining, Quarrying, and Oil and Gas Extraction	2111	Oil and gas extraction
Construction	2379	Other heavy and civil engineering construction
Manufacturing sector	3117	Seafood product preparation and packaging
	3252	Resin, synthetic rubber, and artificial and synthetic fibres and filaments
	3255	Paint, coating, and adhesive manufacturing
	3261	Plastic product manufacturing
	3311	Iron and steel mills and ferro-alloy manufacturing
	3313	Alumina and aluminum production and processing
	3323	Architectural and structural metals manufacturing
	3325	Hardware manufacturing
	3328	Coating, engraving, cold and heat treating and allied activities
	3363	Motor vehicle parts manufacturing
	3366	Ship and boat building
	3399	Other miscellaneous manufacturing
Wholesale trade	4161	Electrical, plumbing, heating and air-conditioning equipment and supplies
	4163	Lumber, millwork, hardware, and other building supplies merchant wholesalers
Transportation and Warehousing	4831	Deep sea, coastal and Great Lakes water transportation
	4832	Inland water transportation
	4872	Scenic and sightseeing transportation, water
	4883	Support activities for water transportation
	4885	Freight Transportation arrangement

Industry	NAICS	Description
Professional, Scientific, and Technical Services	5413	Architectural, engineering, and related services
	5417	Scientific research and development services
Arts, entertainment, and recreation	713930	Marinas
Public administration	9111	Defense services
	9112-9119	Other federal services

# Sector Trends

The marine sector in Canada is on a growth trajectory, with GDP increasing by 15% between 2016 and 2020 (up from \$29.7 billion). The sector was estimated to contribute 1.5% of overall Canadian GDP by 2019 (approximately \$34.2 billion).<sup>9</sup> Due to its strategic position on the Great Lakes and St. Lawrence Seaway, and with a large cargo market, Niagara region has the potential to capitalize on global trends gaining traction in the sector, including ship and boat building, port sensors and robotics. Regional stakeholders also expressed interest in becoming the first in-land port of entry.

Regionally, the Great Lakes – St. Lawrence Seaway is an important trade route, supporting economic activity throughout the United States and Canada. Marine cargo and vessel activity in the waterway generated a total of \$59.2 billion in economic activity across the United States and Canada in 2017.<sup>10</sup> This activity encompasses the impact of all domestic and international cargo moving on the Great Lakes, its connecting rivers, St. Lawrence Seaway, and Lower St. Lawrence River.<sup>11</sup>

Between 2018 and 2020, Canada's marine industry saw a 19% increase in sales.<sup>12</sup> In addition, Canada's marine sector saw an increase by 14% in total employment, and an increase of 7% in total exports during the same time-period.<sup>13</sup> Recognizing these trends, Niagara region has included this emerging sector as a key target for further research.

## The Niagara Region Advantage

The region has easy access to large markets that include both the Greater Toronto Area and the United States, due to its position adjacent to the U.S. border. The region's road and rail transit routes are well developed for shipping goods, and the region is connected with global markets through the St. Lawrence Seaway. The Seaway is an important corridor for North American cargo shipments and has recently seen a boom in general cargo shipments in 2021 due to the increased demand for manufacturing and

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<sup>9</sup> Fisheries and Oceans Canada, Gross Domestic Product by sector and year, retrieved from < <https://www.dfo-mpo.gc.ca/stats/maritime/tab/mar-tab1-eng.htm>>.

<sup>10</sup> Martin Associates, Economic Impacts of Maritime Shipping in the Great Lakes – St. Lawrence Region, July 2018.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

building materials (i.e., iron ore, steel, cement, stone, and other raw materials). According to the Chamber of Marine Commerce, general cargo shipments were up 60%.<sup>14</sup>

Niagara region has important assets in the marine sector and many of Niagara's manufacturing companies and services industries are suppliers to the marine industry. The region's major assets in the marine sector include access to the Great Lakes and Welland Canal (including potential for associated employment lands) and the recent investment in a multimodal hub by the Hamilton Oshawa Port Authority (HOPA).<sup>15</sup> The development of a hub in the City of Thorold was the initial phase of the Niagara Ports plan to create a corridor of multimodal industrial hubs along the Welland Canal.<sup>16</sup>

## Thorold Multimodal Hub

The Thorold Multimodal Hub is a 400-acre multimodal industrial complex in Niagara region, adjacent to the Welland Canal. The hub features marine, rail and highway access, as well as close to 1,000,000 square feet of indoor warehouse and outdoor storage space, which can be configured to a wide variety of industrial, cargo handling and ancillary operations. The Hub has been developed in two phases<sup>17</sup>.

- **Bioveld 1 - Phase I - 3363 Davis Road, Thorold:** A 200-acre multimodal industrial complex in the heart of the Niagara region, immediately adjacent to the Welland Canal. The site is unique to Niagara region, and features marine, rail and highway access, as well as over 500,000 square feet of indoor warehouse and outdoor storage space, which can be configured to suit a wide variety of industrial cargo handling and ancillary operations.
- **Bioveld 2 - Phase II - 100 Hayes Road, Thorold:** This phase added 170 acres of land and 450,000 square feet of warehouse space, creating room for industrial, manufacturing and logistics businesses to locate or grow in the region. The new facility offers up to 55-foot ceiling heights, overhead doors, loading docks, multiple spray booths, rail transload capability and multiple heavy cranes. The space can be configured to the needs of large or small-footprint businesses. The Hub is located immediately adjacent to the Welland Canal, with access to the CN rail line via GIO Rail spur activations on site.

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<sup>14</sup> The Standard, General cargo shipments up 60.51% on St. Lawrence Seaway, 2021.

<sup>15</sup> Niagara's 10 Year Economic Development Strategy 2022-2032

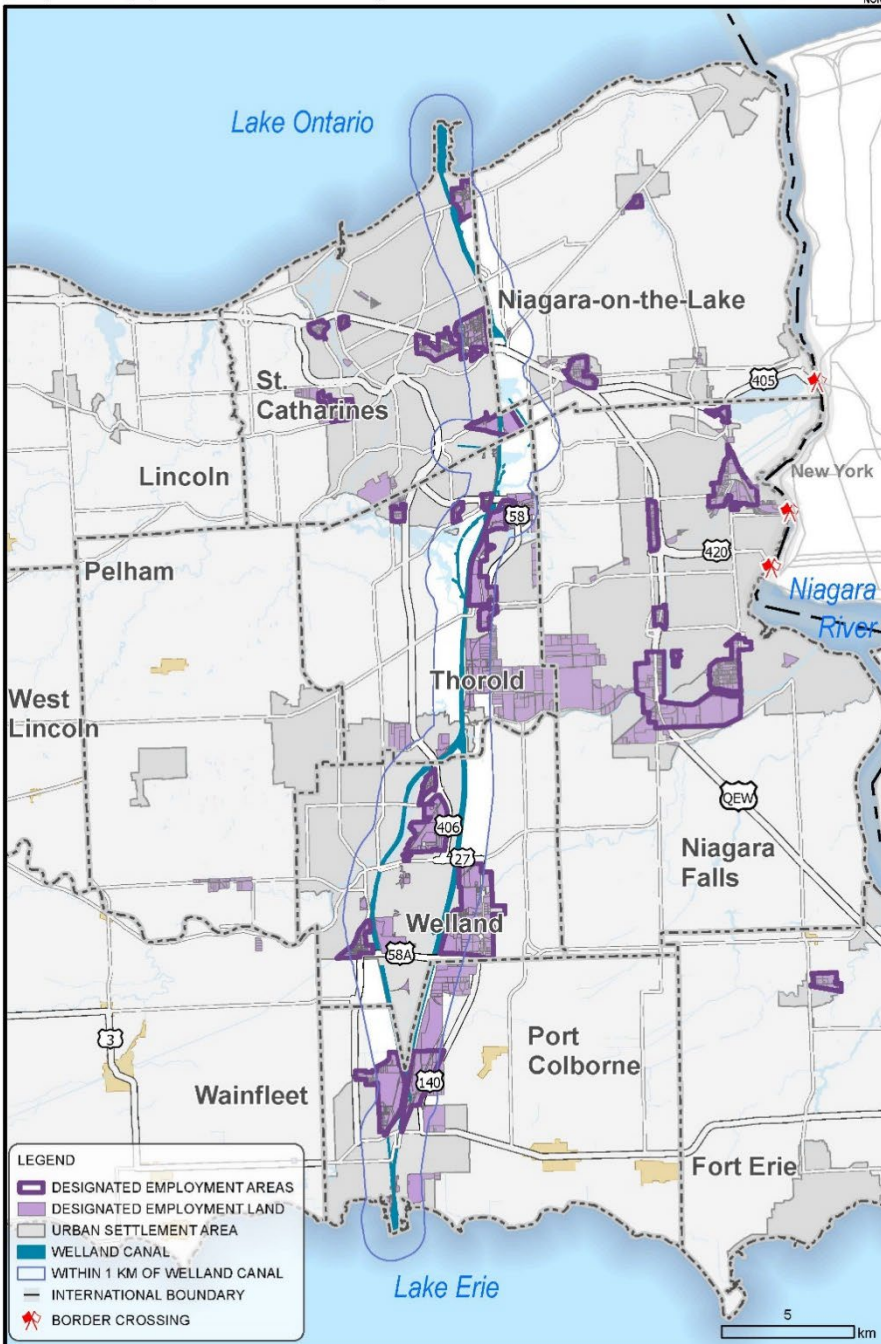
<sup>16</sup> Ibid.

<sup>17</sup> HOPA Ports, Niagara Ports, 2023.

### **Available Employment Land**

The image below highlights the designated employment lands in Niagara Region land and identifies which land parcels are within one kilometre of the Welland Canal. These lands present future opportunities to work with the Hamilton Oshawa Port Authority and the St. Lawrence Seaway Management Corporation to identify lands that may be able to accommodate future industrial related uses that could support marine related activities.





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## Employment and Business Structure in Niagara Region

Marine sector employment in the Niagara Region is estimated at 12,959 jobs, as illustrated in Figure 2.<sup>18</sup> Most of the employment is related to core industries (directly associated with marine industries) and come from the following sectors:

- Freight transportation arrangement (703 jobs or 5% of the estimated jobs).
- Deep sea, coastal and great lakes water transportation (614 jobs or 5% of the estimated jobs).

Some of the industry sectors presented below have a larger number of jobs, and only a portion of these will classify as marine jobs (e.g., other amusement and recreation industries – NAICS 7139, includes marinas, but also include many other facilities).<sup>19</sup>

Figure 2 – Employment Marine Industries and Supply Chain Industries, Niagara Region, 2022

Industry	Description	Employment 2022	%
<b>Total Marine Industry</b>		12,959	100%
<b>Agriculture, Forestry, Fishing and Hunting</b>	Fishing	0	0%
<b>Mining, Quarrying, and Oil and Gas Extraction</b>	Oil and gas extraction	<10	Insf. Data
<b>Construction</b>	Other heavy and civil engineering construction	382	3%
<b>Manufacturing sector</b>	Seafood product preparation and packaging	<10	Insf. Data
	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	240	2%
	Paint, coating, and adhesive manufacturing	138	1%
	Plastic product manufacturing	649	5%
	Iron and steel mills and ferro-alloy manufacturing	368	3%

<sup>18</sup> The total number of jobs include employment for the core marine sectors as well as the total employment for supply chain sectors.

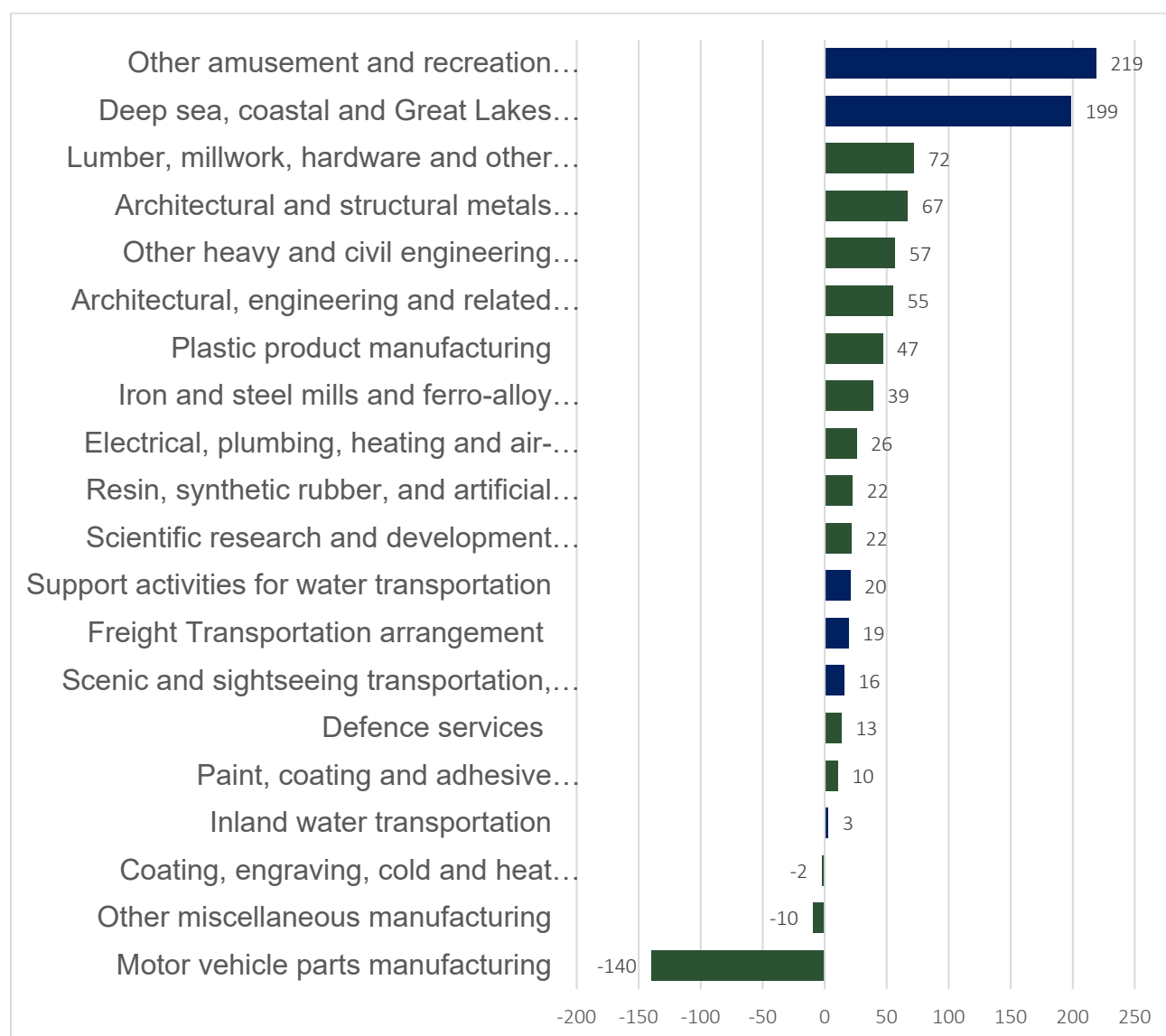
<sup>19</sup> Employment data at the 6-digit NAICS level is not publicly available.

Industry	Description	Employment 2022	%
	Alumina and aluminum production and processing	0	0%
	Architectural and structural metals manufacturing	820	6%
	Hardware manufacturing	<10	Insf. Data
	Coating, engraving, cold and heat treating and allied activities	163	1%
	Motor vehicle parts manufacturing	158	1%
	Ship and boat building	<10	Insf. Data
	Other miscellaneous manufacturing	488	4%
<b>Wholesale trade</b>	Electrical, plumbing, heating and air-conditioning equipment and supplies merchant wholesalers	565	4%
	Lumber, millwork, hardware, and other building supplies merchant wholesalers	725	6%
<b>Transportation and Warehousing</b>	Deep sea, coastal and Great Lakes water transportation	614	5%
	Inland water transportation	12	0%
	Scenic and sightseeing transportation, water	160	1%
	Support activities for water transportation	179	1%
	Freight Transportation arrangement	703	5%
<b>Professional, Scientific, and Technical Services</b>	Architectural, engineering, and related services	1,760	14%
	Scientific research and development services	296	2%
<b>Arts, entertainment, and recreation</b>	Other amusement and recreation industries	2,688	21%
<b>Public administration</b>	Defense services	158	1%
	Other federal services	1,692	13%

Source: Lightcast, 2022 - Datarun 2022.1 | Core subsectors highlighted in blue

The industry sectors (core marine industries) projected to see the largest growth in employment include deep sea, coastal and great lakes water transportation (+199 jobs or 32% growth), followed by support activities for water transportation (+20/+1%). Motor vehicle parts manufacturing is expected to see a decline of 140 jobs by 2028. This could be in part to shifting global supply chains or that vehicles will require less parts as the industry begins its shift to electric vehicles

Figure 3 – Forecasted Employment Change, Marine Sector, Niagara Region, 2022-2028



Source: Lightcast, 2022 - Datarun 2022.1 | This chart does not include industry subsectors with zero growth, or insufficient data | Core subsectors highlighted in blue

A total of 859 businesses related to the marine sector were recorded in Niagara region in June 2022. Most of these businesses were businesses with employees (431 businesses), which indicates the significant employment impact of the sector in the region.

Industry sectors (core marine industries) with the largest number of businesses include freight transportation arrangement (65 businesses or 8% of total businesses), followed by support activities for water transportation (11/1%), marinas (11/1%), and ship and boat building (5/1%).

Figure 4 – Business Counts, Marine Sector, Niagara Region, June 2022

Industry	Description	With Employees	Without Employees	Total
<b>Total Marine Sector</b>		431	428	859
<b>Agriculture, Forestry, Fishing and Hunting</b>	Fishing	2	2	4
<b>Mining, Quarrying, and Oil and Gas Extraction</b>	Oil and gas extraction	1	0	1
<b>Construction</b>	Other heavy and civil engineering construction	13	13	26
<b>Manufacturing</b>	Seafood product preparation and packaging	0	0	0
	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3	0	3
	Paint, coating, and adhesive manufacturing	7	2	9
	Plastic product manufacturing	13	7	20

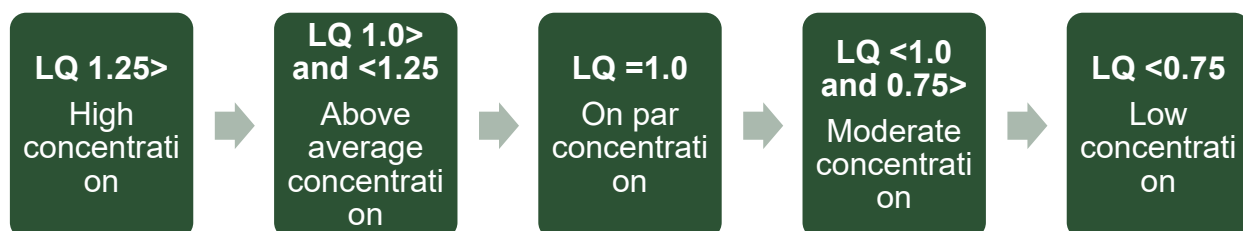
Industry	Description	With Employees	Without Employees	Total
	Iron and steel mills and ferro-alloy manufacturing	2	4	6
	Alumina and aluminum production and processing	0	0	0
	Architectural and structural metals manufacturing	32	9	41
	Hardware manufacturing	1	1	2
	Coating, engraving, cold and heat treating and allied activities	11	2	13
	Motor vehicle parts manufacturing	10	4	14
	Ship and boat building	5	0	5
	Other miscellaneous manufacturing	34	61	95
<b>Wholesale trade</b>	Electrical, plumbing, heating and air-conditioning equipment and supplies merchant wholesalers	33	13	46
	Lumber, millwork, hardware, and other building supplies merchant wholesalers	42	21	63
<b>Transportation and Warehousing</b>	Deep sea, coastal and Great Lakes water transportation	3	1	4
	Inland water transportation	0	3	3

Industry	Description	With Employees	Without Employees	Total
	Scenic and sightseeing transportation, water	2	2	4
	Support activities for water transportation	7	4	11
	Freight Transportation arrangement	41	24	65
<b>Professional, Scientific, and Technical Services</b>	Architectural, engineering, and related services	144	237	381
	Scientific research and development services	17	14	31
<b>Arts, entertainment, and recreation</b>	Marinas	8	3	11
<b>Public administration</b>	Defense services	0	0	0
	Other federal services	0	1	1

Source: Canadian Business Counts, June 2022 | Provided by Niagara Region | Core subsectors highlighted in blue

### Location Quotient

As part of the economic baseline analysis, a Location Quotient (LQ) Analysis was completed to determine the concentration of employment in the marine sector, in Niagara region and relative to the province. The location quotient reveals what makes a region unique, in this case in comparison with other communities in Ontario. The following chart shows common LQ Classifications to interpret the figures in Figure 5.



The Niagara region has a high concentration of businesses in most of the core marine industries including deep sea, coastal and great lakes water transportation; inland water



transportation; scenic and sightseeing transportation, water; support activities for water transportation; and ship and boat building manufacturing.

The region also has a high concentration of businesses traditionally linked to the marine sector supply chain, particularly in those related to the marine's sector supply chain. An important number of these are within the manufacturing subsector and are in areas such as resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing; paint, coating, and adhesive manufacturing; iron and steel mills and ferro-alloy manufacturing; and coating, engraving, cold and heat treating and allied activities.

Figure 5 – Business Concentrations (Location Quotients), Marine Sector, Niagara Region, June 2022

Description	LQs Total
<b>Total Marine Sector</b>	<b>0.91</b>
Iron and steel mills and ferro-alloy manufacturing	3.78
Inland water transportation	2.40
Deep sea, coastal and Great Lakes water transportation	2.10
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	1.80
Paint, coating and adhesive manufacturing	1.70
Support activities for water transportation	1.67
Ship and boat building	1.59
Other heavy and civil engineering construction (NAICS 2379)	1.50
Scenic and sightseeing transportation, water	1.41
Coating, engraving, cold and heat treating and allied activities	1.38
Architectural and structural metals manufacturing	1.30
Fishing (NAICS 1141)	1.23
Freight Transportation arrangement (NAICS 4885)	1.05
Other miscellaneous manufacturing	1.02
Marinas	0.95
Lumber, millwork, hardware and other building supplies merchant wholesalers	0.92
Motor vehicle parts manufacturing	0.88
Architectural, engineering and related services	0.87
Electrical, plumbing, heating and air-conditioning equipment and supplies merchant wholesalers	0.81

Description	LQs Total
Hardware manufacturing	0.68
Plastic product manufacturing	0.66
Scientific research and development services	0.47
Oil and gas extraction (NAICS 2111)	0.30
Other federal services (9112-9119)	0.22
Seafood product preparation and packaging (NAICS 3117)	0.00
Alumina and aluminum production and processing	0.00
Defense services (NAICS 9111)	0.00

Source: Canadian Business Counts, June 2022 | Provided by Niagara Region

### Job Demand

Between January 1, 2020, and November 30, 2022, a total of 378 job postings in industries related to the marine sector were recorded in Niagara region; this represents 0.7% of the total number of job postings in the Niagara region during the same period. Over 50% of these job postings were in the freight transportation arrangement (192 job postings), while 10% were in paint, coating, and adhesive manufacturing (39 job postings). Most of these job postings were advertised in 2022, indicating an increase in employment demand over the period.

Figure 6 – Job Demand (Job Postings) by Industry Sector, Niagara Region (Marine Sector), January 1, 2020, to November 30, 2022

NAICS	2020	2021	2022	Total Postings	%
<b>Total</b>	<b>70</b>	<b>122</b>	<b>186</b>	<b>378</b>	<b>100%</b>
Freight Transportation Arrangement	33	48	111	192	50.8%
Paint, Coating and Adhesive Manufacturing	11	9	19	39	10.3%
Electrical, Plumbing, Heating and Air-Conditioning Equipment and Supplies Wholesaler-Distributors	5	5	14	24	6.3%
Other Heavy and Civil Engineering Construction	1	18	0	19	5.0%
Plastic Product Manufacturing	4	11	3	18	4.8%
Other Miscellaneous Manufacturing	1	7	9	17	4.5%
Lumber, Millwork, Hardware, and Other Building Supplies Wholesaler-Distributors	4	10	3	17	4.5%

NAICS	2020	2021	2022	Total Postings	%
Architectural and Structural Metals Manufacturing	2	4	10	<b>16</b>	4.2%
Coating, Engraving, Heat Treating and Allied Activities	3	4	1	<b>8</b>	2.1%
Deep Sea, Coastal and Great Lakes Water Transportation	3	1	3	<b>7</b>	1.9%
Motor Vehicle Parts Manufacturing	1	1	4	<b>6</b>	1.6%
Ship and Boat Building	2	2	2	<b>6</b>	1.6%
Seafood Product Preparation and Packaging	0	2	2	<b>4</b>	1.1%
Resin, Synthetic Rubber, and Artificial and Synthetic Fibres and Filaments Manufacturing	0	0	3	<b>3</b>	0.8%
Oil and Gas Extraction	0	0	2	<b>2</b>	0.5%

Source: Vicinity Jobs | Core subsectors highlighted in blue

## Sector Development

A few highlights of sector activity include the proposed Ontario Marine Strategy, to develop investment in the sector in the province, the Green Shipping Corridors Network, which builds green industry, and the workforce development activities of the Canadian Marine Careers Foundation. These initiatives serve to advance the profile and performance of the sector in the province.

Stakeholders in the marine sector in Niagara region have been advocating for an Ontario Marine Strategy. This strategy is proposed with the goal of increasing economic activity related to the sector, increasing employment, attracting new businesses, reducing the environmental footprint of the industry and ultimately making Ontario competitive. Many regions, in Canada, Ontario, and worldwide, offer financial or other incentives that entice private sector investment. A provincial strategy for marine transportation, with participation from the Region, could support the development of the sector.

In 2022, Canada and the United States announced their joint work to establish the Green Shipping Corridors Network in the Great Lakes – St. Lawrence Seaway System. This initiative is intended to help spur early adoption of zero-emission fuels and technologies to align the shipping sector with the environmental goals of both nations. The Canadian government offers funding through the National Trade Corridors Fund, to upgrade critical infrastructure and reduce greenhouse gas emissions.

In terms of workforce development, the Canadian Marine Careers Foundation is bringing diverse stakeholders together through its Imagine Marine campaign, including the private sector, unions, post-secondary institutions, and the public sector to jointly promote careers in the marine sector. Ensuring regional alignment with these national efforts can leverage their impact to benefit regional business.

## **Global Market Drivers**

### **Key subsectors: maintenance and construction and port machinery digitization**

Located in a strategic position on the Great Lakes, Niagara region's marine sector has the potential to expand commensurate with global trends. With over 100 individual ports, ships in the Great Lakes deliver 230 million metric tons of cargo worth US\$77.4 billion.<sup>20</sup> To highlight the size of this market, the Panama Canal delivers 150 million metric tons of cargo a year.<sup>21</sup> Niagara region has assets and strengths in water transportation, ship and boat building and the potential for a strong manufacturing supply chain. In addition, the region strategic transportation linkages to both rail and road that service markets in Canada and the U.S.

Trends gaining traction in the global marine sector are the relevant sub-sectors of port machinery, maintenance, and the digitalization of the marine industry, including automated port sensors and robotics, which are likely to propel more efficient operations in this segment.<sup>22</sup> The construction of ships spurs demand in other key sub-sectors such as electronic navigational devices, communication equipment, radar and sonar, marine robotics, sub-sea vehicles, imaging equipment, and marine applications programming. These areas have seen advancements in the development of tools and processes in recent years. For example, Asian manufacturers have embraced tools such as automated cutting and welding machines and robots that can remove rust and contaminants.<sup>23</sup>

Key opportunities for growth in the industry are related to increased automation such as unmanned cranes, automated gates for entry and exit, and optical character recognition technology to track cargo movement, radiation scanning technology for cargo container movements as well as continuous applications of data and logistics analysis tools and services.<sup>24</sup> This trend has been prominent in Europe with 23% of roles in Internet of

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<sup>20</sup> Chamber of Marine Commerce, Great Lakes-St. Lawrence River Shipping, 2022.

<sup>21</sup> Statista, Cargo volume in the Panama Canal in FY 2021, by Country of origin, 2022.

<sup>22</sup> Markets and Markets, Smart Port Market by Technology – Global Forecast to 2027, 2022.

<sup>23</sup> The Maritime Executive, NYK Readies New Rust Management Technology, 2018.

<sup>24</sup> Industry Canada, First Research.

Things (IoT) being in the ship industry.<sup>25</sup> The connected ship market that tracks fleet operations management, in particular technology that has the capacity to respond to real-time data exchange among different ships and ports is an important trend in the ship IoT segment.

### Investment Trends & Location Factors

While the marine industry did not register a high level of venture capital investment rounds in 2022,<sup>26</sup> developments in major companies go some way in highlighting key trends. For example, in 2022 Hyundai Heavy Industries invested US\$897 million into green construction technology for the development of eco-friendly ships. In the same year, Mitsubishi Shipbuilding received recognition for the world's first marine-based CO<sub>2</sub> capture system on voyage to successfully separate and capture CO<sub>2</sub> from flue gas. These trends indicate a move towards technological efficiency, but also a move towards a cleaner, greener marine industry.

Examining motives and determinants for projects in the marine sector shows that the most important unique location requirement for foreign direct investment into North America is proximity to markets and customers, which accounts for 48% of projects, meaning a central logistics location<sup>27</sup> is key in their decision process.

Figure 7– Investment motives into the North American marine market

Motive	% of FDI Projects	% of Companies
Proximity to markets or customers	48.6	50.0
Skilled workforce availability	24.3	22.2
Domestic market growth	21.6	22.2
Industry cluster	16.2	16.6
Government support	16.2	16.6
Regulatory environment	10.8	11.1
Transport infrastructure	5.4	5.5

<sup>25</sup> Skip Technology, Europe is seeing a hiring boom in ship industry IoT roles, 2022.

<sup>26</sup> Crunchbase, 2022.

<sup>27</sup> Logistic location refers to physical infrastructure, especially for international investments. The type of infrastructure needed of course depends on the volume and type/weight of the product but the overall ease to reach international destinations and ship goods to the global market is crucial for manufacturers. With a sector that deals with a high volume or heavy products, access to the sea is also preferred as it lowers the cost of moving goods. Airport access is important for worker retention especially in businesses that are more tech oriented

Motive	% of FDI Projects	% of Companies
Universities and research hubs	5.4	5.5
Quality of life	2.7	2.7
Technology and innovation	2.7	2.7
Sites & property	2.7	2.7
Lower costs	2.7	2.7
Suppliers and joint venture partners	2.7	2.7

Source: fDimarkets

## Outlook

Globally, the marine industry will represent a market value of \$188.5 billion in 2028.<sup>28</sup> Within this segment, commercial and passenger ship segments will be the largest product type as the demand for transportation of both people and goods continues to be steady. Recent announcements from the Federal Government to upgrade wharfs 18.1/18.2/18.3 in Port Colborne will create an additional 1,000 foot dock that will support another 1 Million gross tonnes of movement along the canal system as well will support the announcement from Viking Cruises in doubling their itineraries to Port Colborne and through the canal system. The new dock will support their Polaris Class ships.

In terms of areas of growth worldwide, the global ship repairing market is expected to grow at a CAGR of 6% from 2021 to 2025 and by 2025, the market will reach US\$8.75 billion.<sup>29</sup> The United States marine market is projected to be worth \$6.2 billion in 2023.<sup>30</sup> The Asia Pacific region accounts for 50% of the global market share with China, Republic of Korea, and Japan are home to half the world's fleet. The European marine market is registering a lower CAGR growth, 3% from 2021 and 2027.<sup>31</sup> Another key segment, the port machinery digitization market will be worth US\$6.4 billion by 2026<sup>32</sup> and expected to grow at a CAGR of 32% from 2020 to 2027 with North America making up the largest market followed by Europe and Asia Pacific.<sup>33</sup>

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<sup>28</sup> Fortune Business Insights, Marine Vessel Market Size, Share and COVID-19 Impact Analysis, 2021.

<sup>29</sup> Research and Markets, Boat Repairing Global Market Report 2023, 2023.

<sup>30</sup> Ibis World, Marinas in the US – Market Size 2004 – 2029, 2023.

<sup>31</sup> kbv Research, Europe Shipbuilding Market Size, Share & Industry Trends Analysis Report, 2022.

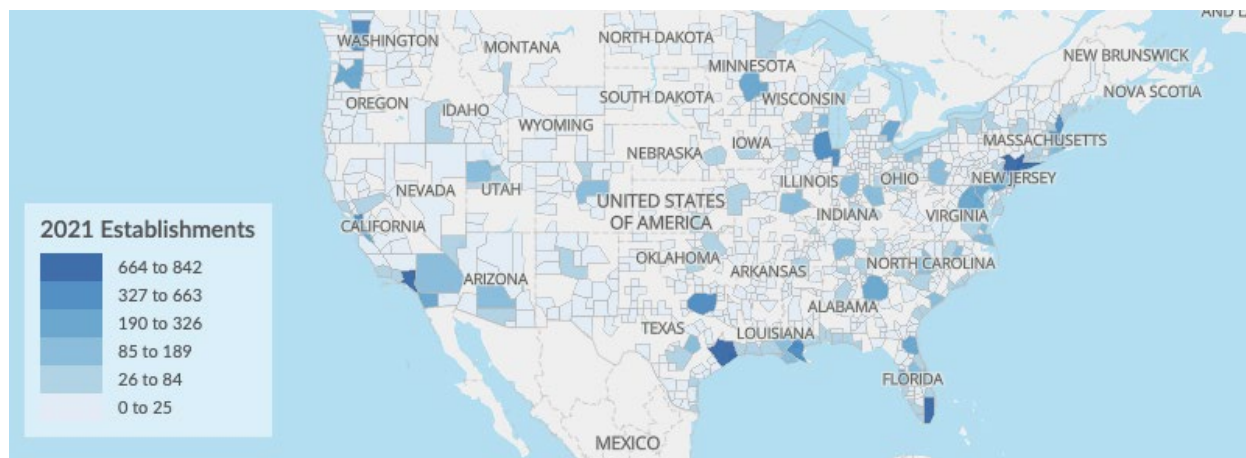
<sup>32</sup> Export Market Research, 2022.

<sup>33</sup> Grand View Research, Smart Port Market Size, Share & Trends Analysis Report by Technology, 2019.

## Recruitment Zones<sup>34</sup>

Examining prospective growth companies in this target sector (Marine) shows that of the companies projected to grow over the next year, 50% are based in the United States, 7% in the United Kingdom and 4% in Spain (Gazelle.ai). Overall, the United States ranks as highly as a recruitment zone for the ship building and maintenance industry with key metro areas being Miami (FL), New York City (NY), Houston (TX) and Chicago (IL). Tech oriented hubs such as New York City stand out as a hub for digitization. China is home to one of the world's biggest ship owning countries with Shanghai being the biggest metro area as well as Beijing. In Europe, Greece is one of the largest shipping commerce nations with Athens ranking as the key center. In Europe, technology trends highlight London (UK) and Aberdeen (UK) in marine-related industries.

Figure 8 – Marine Hubs in the United States



Source: Lightcast

<sup>34</sup> Recruitment zones refer to areas where Niagara Region can focus marketing and promotion efforts to attract potential investors.



# SWOT Analysis

The strengths and weaknesses identified in this study reflect the primary research and literature review, as well as the engagement activities conducted in the form of an industry sector workshop and one-on-one interviews. The SWOT reflects the economic assets and location advantages of Niagara region; the region continues to benefit from its strategic location and the availability of industrial land, while being hampered by labour market constraints and the Federal regulation of ports.

The following is an overview of the strengths, weaknesses, opportunities, and threats that face the marine sector in Niagara region. This SWOT analysis utilizes the background research that was completed for the sector, as well as engagement from key stakeholders from the marine manufacturing sector in Niagara region.

Marketing messaging is recommended to align with the opportunities and strengths statements detailed below, which were drawn from stakeholder focus group sessions and uncovered through the research.

**Key subsectors:** maintenance and construction and port machinery digitization

Marine Sector SWOT	
Strengths	Weaknesses
<ul style="list-style-type: none"><li>• Location requirement for foreign direct investment into North America for the marine sector is proximity to markets and customers; Niagara region's geography is well suited to address this requirement.</li><li>• Niagara region's existing business assets in water transportation, ship, and boat building and a manufacturing supply chain familiar with the marine industry (over 12,00 people employed in marine-related sectors, 859</li></ul>	<ul style="list-style-type: none"><li>• Employers are concerned about the availability of a skilled workforce for the marine sector and a growing demand for skills such as shipbuilding at the Port Welland dry dock. Workforce is a key investment driver, and labour shortages across Canada can impact potential investments.</li><li>• The marine sector did not register a prominent level of venture capital</li></ul>

<p>businesses, and important assets such as the Welland Canal and ports in both Lake Erie and Lake Ontario)</p> <ul style="list-style-type: none"> <li>• The region has a high concentration of businesses in subsectors such as deep sea, coastal and Great Lakes water transportation; inland water transportation; scenic and sightseeing transportation (water); and support activities for water transportation compared to the Province of Ontario.</li> <li>• Niagara region has comparatively more available serviced industrial land than that of other nearby Golden Horseshoe Regions, as evidenced by the Hamilton-Oshawa Port Authority looking to Niagara Region for additional marine industrial land.<sup>35</sup></li> <li>• The Welland Canal has enabled the region to become an industrial powerhouse with niche industries growing from demand created by the canal (e.g., large round turning and upholstery for ships).</li> <li>• Niagara region has port operators and multiple facilities throughout the Region. The Hamilton-Oshawa Port Authority owns and operates multimodal industrial properties in Thorold and Port Colborne.</li> <li>• Niagara's industrial and engineering workforce will be key for its marine industry in particular, welders, cutters solderers and brazers as well as assemblers and fabricators have been the top in demand occupations in ship maintenance and construction. In terms of port digitization, workers in software occupations and electrification such as electricians stand out. There is an emerging talent pool for light</li> </ul>	<p>investment rounds in 2022; this may suggest a lack of innovation in the sector.</p> <ul style="list-style-type: none"> <li>• Despite its location and strength in marine transportation, Niagara region still only has an above average concentration of overall marine sector and support businesses (relative to Ontario).</li> <li>• The high cost of marine freight; rail and truck shipping options operate efficiently in the region, while the marine industry is not as established and has higher costs.</li> <li>• Information available on serviced land in areas within proximity to the canal and of the appropriate sizes and service availability to attract investment, and the availability of such properties, from stakeholders.</li> <li>• There is a lack of succession planning for businesses, which will become increasingly important to the marine sector due to the aging demographic shift and trade shortages across all sectors.</li> </ul>
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<sup>35</sup> Hamilton Port Authority Eyes Niagara for Growth

technology and professional services which will be key for business attraction.	
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>• Niagara can prioritize investment and regional support for key marine areas related to a greener/cleaner marine sector, commercial and passenger ship building, component manufacturing, technology and automation (for example, unmanned cranes, gates and tools, and optical character recognition technology to track cargo).</li> <li>• Niagara Region could develop commercialization strategies and facilitate partnerships related to technology research with post-secondary institutions with marine sector and relevant technology-related research programs.</li> <li>• The Region can reinforce how well the region's overall brand is connected to the marine sector and connect local brand strengths to regional opportunities.</li> <li>• Niagara could prioritize the development of high-quality serviced land in proximity to Welland Canal.</li> <li>• Niagara should increase the profile of its marine shipping, as it can become an important part of the other established and emerging sector supply chains.</li> <li>• Cruise ships and passenger craft are not captured in the sector statistics strongly, but Niagara region's location and the presence of cruise ship traffic is important to monitor for opportunities.</li> <li>• Since Hamilton's port is operating at capacity, there is an opportunity to open more docks/ports in Niagara region.</li> <li>• Build workforce development programming and awareness in partnership with post-secondary institutions and leveraging</li> </ul>	<ul style="list-style-type: none"> <li>• The Port of Hamilton is well-established and has strong branding, which presents competition for significant investments and may be competitive for high value opportunities.</li> <li>• There is a perceived complexity of moving goods by marine compared to other established and more familiar shipping modes.</li> <li>• There are administrative hurdles getting CBSA (Canada Border Services Agency) approval and support for becoming the first inland port of arrival, which creates difficulties to move more goods into Niagara region's port system.</li> <li>• A sufferance warehouse has been agreed to in principle between the Hamilton-Oshawa Port Authority and Canada Border Services Agency (CBSA) in Niagara region, but CBSA has not been able to put together staffing complements since their priority for staffing has been given to air passenger travel.</li> <li>• Connectivity with provincial transportation networks to provide flexibility for road and air travel to major centres for business and personal travel.</li> <li>• The seasonality of marine shipping impairs the sectors' ability to provide continuous service.</li> </ul>

<p>initiatives like the Canadian Marine Careers Foundation.</p> <ul style="list-style-type: none"> <li>• Work provincially to influence the Ontario Marine Strategy to increase the attractiveness of the region as a location for investment and securing key contracts in ship building, manufacturing, and technology adoption and development.</li> </ul>	
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# Conclusion

The Marine Sector is strongly positioned within the Niagara Region and there are relevant and immediate opportunities available within the sector for further economic development.

Access to the St. Lawrence Seaway and the Welland Canal are advantages for the Region in attracting investment into the Marine Sector. Recent interest in Niagara region as a location for canal-facing investment, as other areas along the seaway reach high levels of investment absorption, present opportunities.

To take advantage of these opportunities, the research points to a full assessment of available lands to facilitate development of marine businesses and associated supply and service businesses in the region, significant effort to build a regional workforce for the future including fostering partnerships with post-secondary institutions, as well as involvement in the Ontario Marine Strategy.

Despite its position with respect to the border with the U.S., Niagara is still relatively distant as compared to competitive jurisdictions in southern Ontario and improving transportation linkages with major centres is important to improve the region's competitive position in the marine sector and other emerging sectors. Niagara Region's role with respect to area municipalities, needs to be defined.

To move into a leadership position in the marine sector, global trends indicate opportunities to augment regional businesses' technology adoption and the move to green transportation through partnerships, foreign direct investment strategies, and succession support that align the region with global trends in the sector.



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