



# LinkedIn Economic Graph Project

Understanding Trade Through International Connections



In Partnership with the Ontario Ministry of International Trade

**FEBRUARY 2018**



# The Economic Graph as a Tool to Advance Ontario's Global Trade Strategy



Trade is measured in many ways, from import and export volumes, to goods and services but rarely has workforce connectivity been factored into the equation.

Today's global market place is a highly complex and connected ecosystem. Rapid change is a hallmark of globalization, however, one constant remains – strong professional relationships, networks and partnerships are vital for businesses to compete and succeed in an increasingly interconnected global economy.

Modern economies are highly innovative and adaptable, leveraging all available assets to grow trade and create economic opportunity for future generations. One of Ontario's greatest advantages that separate the province from the competition is our people – our diverse and innovative talent.

To support the Ministry of International Trade's Global Trade Strategy, the province has partnered with LinkedIn to leverage Ontario's global talent connections, capitalize on global trade networks and harness micro and macro level data to analyze labour force trends in specific sectors.

For the first time ever, the LinkedIn Economic Graph has been adapted with a trade focus to determine how globally connected Ontario's workforce is and what markets and sectors demonstrate the highest potential for export growth through these connections. Home to a globally connected workforce and businesses with an international reach, Ontario is in a position to intensify and increase its export capacity through targeted and tailored programs and services.

## Key Findings



### SCOPE:

- Ontario is the 2<sup>nd</sup> most internationally connected jurisdiction in North America.

### SPAN:

- Ontario's professional network is highly diverse with the province's workforce connected to countries all around the world representing considerable market opportunities.

### SECTOR:

- Ontario's connectivity is as diverse as its sectors with global connections accounting for a substantial portion of all connections across various different industries.

### SCALE:

- Small- and medium-sized businesses demonstrate a high level of connectivity similar to larger firms.

### STRATEGY:

- The Ministry of International Trade will seek ways to utilize the results of the Economic Graph to drive export development and trade diversification into un-tapped markets.



ONTARIO

# OVERVIEW OF ONTARIO LINKEDIN MEMBERSHIP

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GLOBAL: 500M+

CANADA: 14M+

ONTARIO: 4.8M

# Ontario Is One of the Most Internationally Connected Jurisdictions in North America

## PERCENTAGE OF CONNECTIONS THAT ARE INTERNATIONAL

Province / State	Percent International
British Columbia, Canada	28%
<b>Ontario, Canada</b>	<b>25%</b>
Quebec, Canada	21%
Alberta, Canada	20%
New York, United States	15%
California, United States	13%
Florida, United States	13%
Washington, United States	12%
Massachusetts, United States	11%
Texas, United States	11%
Michigan, United States	9%

Benchmarks for International Connectivity
<b>Average LinkedIn Member: 17%</b>
Average LinkedIn Member for US or Canada: 10%
Average across Canadian Provinces: 21%
Average across US States: 8%

City / Region	Percent International
London, United Kingdom	39%
Greater Vancouver Area	30%
Sydney, Australia	30%
<b>Greater Toronto Area</b>	<b>26%</b>
Melbourne, Australia	26%
Paris Area, France	25%
<b>Greater Ottawa Area</b>	<b>23%</b>
Greater Montreal Area	23%
<b>Greater London Area</b>	<b>21%</b>
<b>Greater Kitchener-Waterloo Area</b>	<b>21%</b>
Mexico City Area, Mexico	21%
San Francisco Bay Area, United States	16%
Greater New York City Area, United States	15%
Quebec, Canada	13%
Greater Seattle Area, United States	13%
Greater Detroit Area, United States	10%
Greater Chicago Area, United States	9%
São Paulo Area, Brazil	8%

- Compared to provinces and states across Canada and the U.S., Ontario ranks the second highest in international connectivity.
- Home to some of the most diverse cities in the world, Ontario's metropolitan areas are above the international average in global connectivity.

# Ontario's Workforce is Connected to Countries All Around the World Representing a Multitude of Global Markets

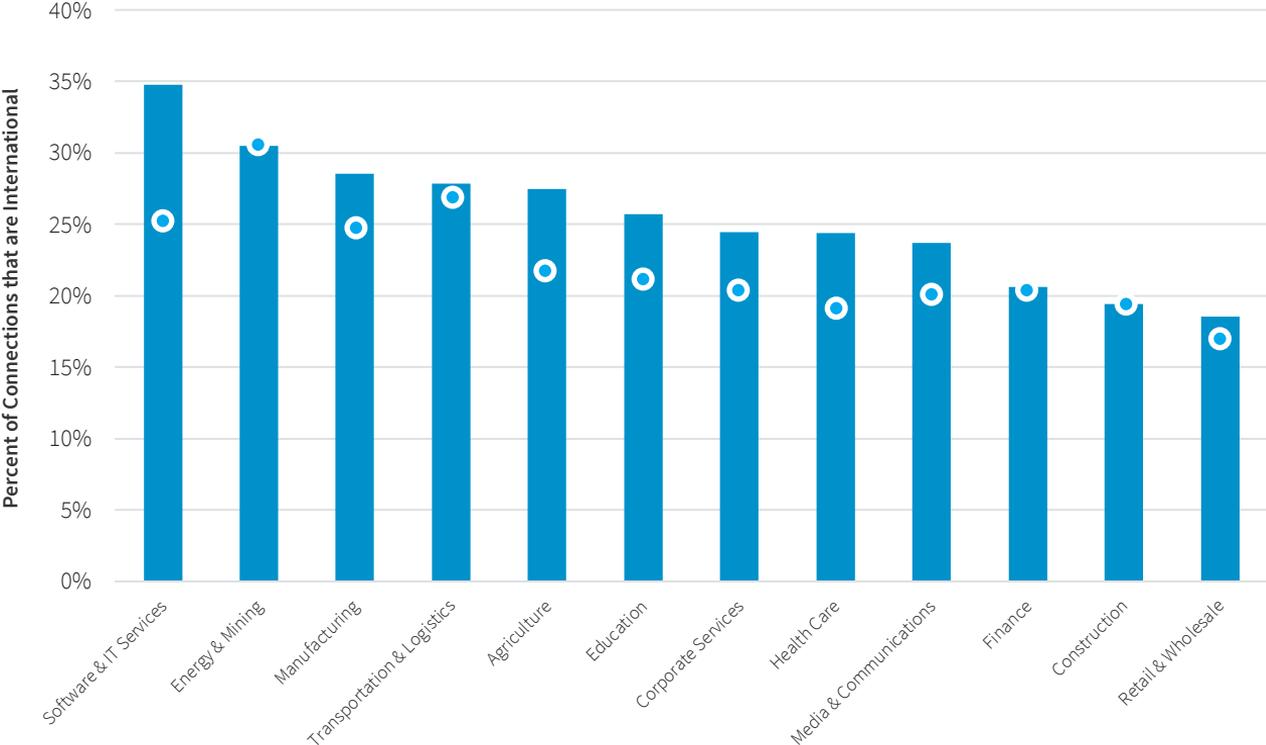
## TOP 30 MOST CONNECTED COUNTRIES TO ONTARIO

- Ontario shows strong connectivity across the globe and beyond traditional trading partners like the United States and the United Kingdom.
- Enhanced information and aggregated data about Ontario's professional network connections help identify valuable business opportunities in foreign markets.



# Ontario's Economy is Home to a Number of Diverse Sectors, with Many Exhibiting Strong Levels of International Connectivity

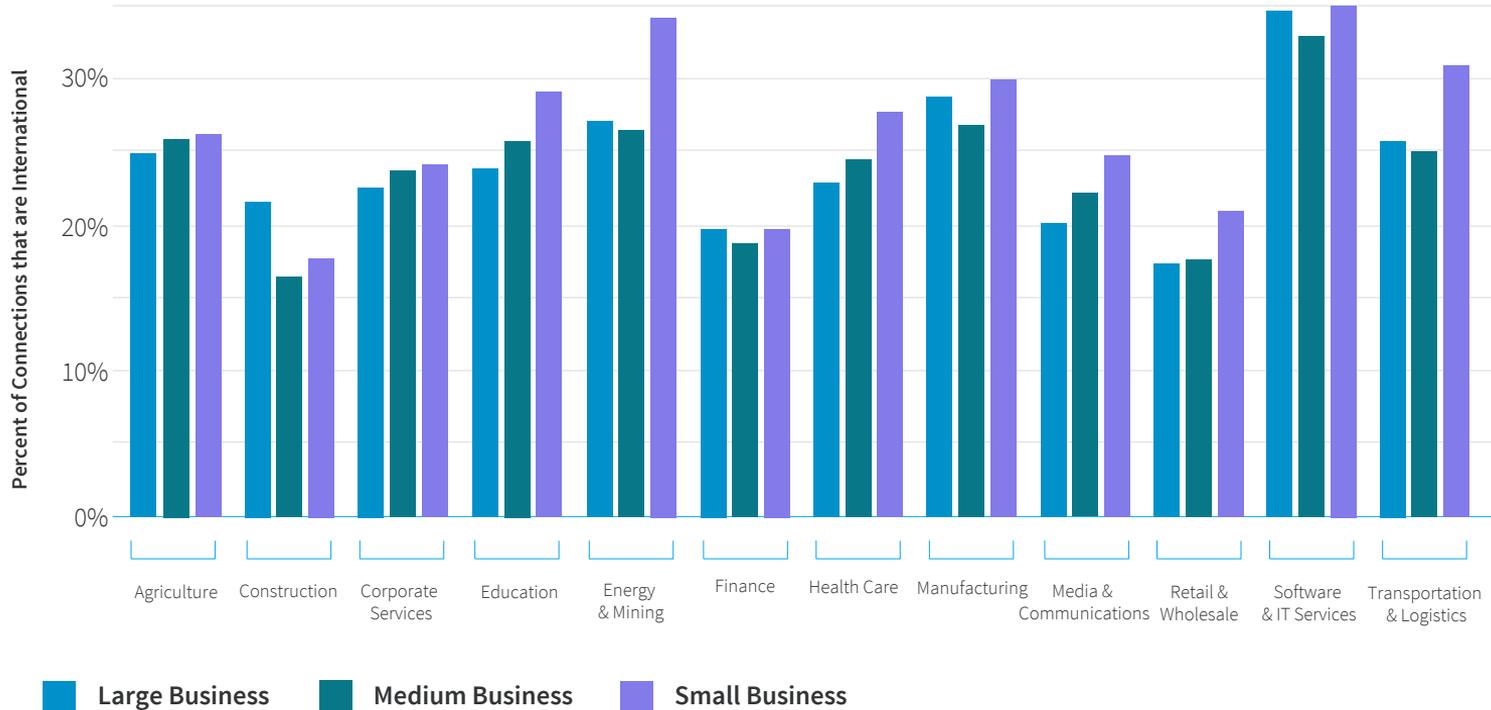
INTERNATIONAL CONNECTIVITY OF ONTARIO'S INDUSTRIES



- **Dots** represent the industry's global average of international connectivity.
- Businesses can utilize the connectivity of their employees to explore and expand their export potential.

# Employees in Small and Medium-Sized Businesses Demonstrate a High Level of Connectivity Similar to Larger Firms

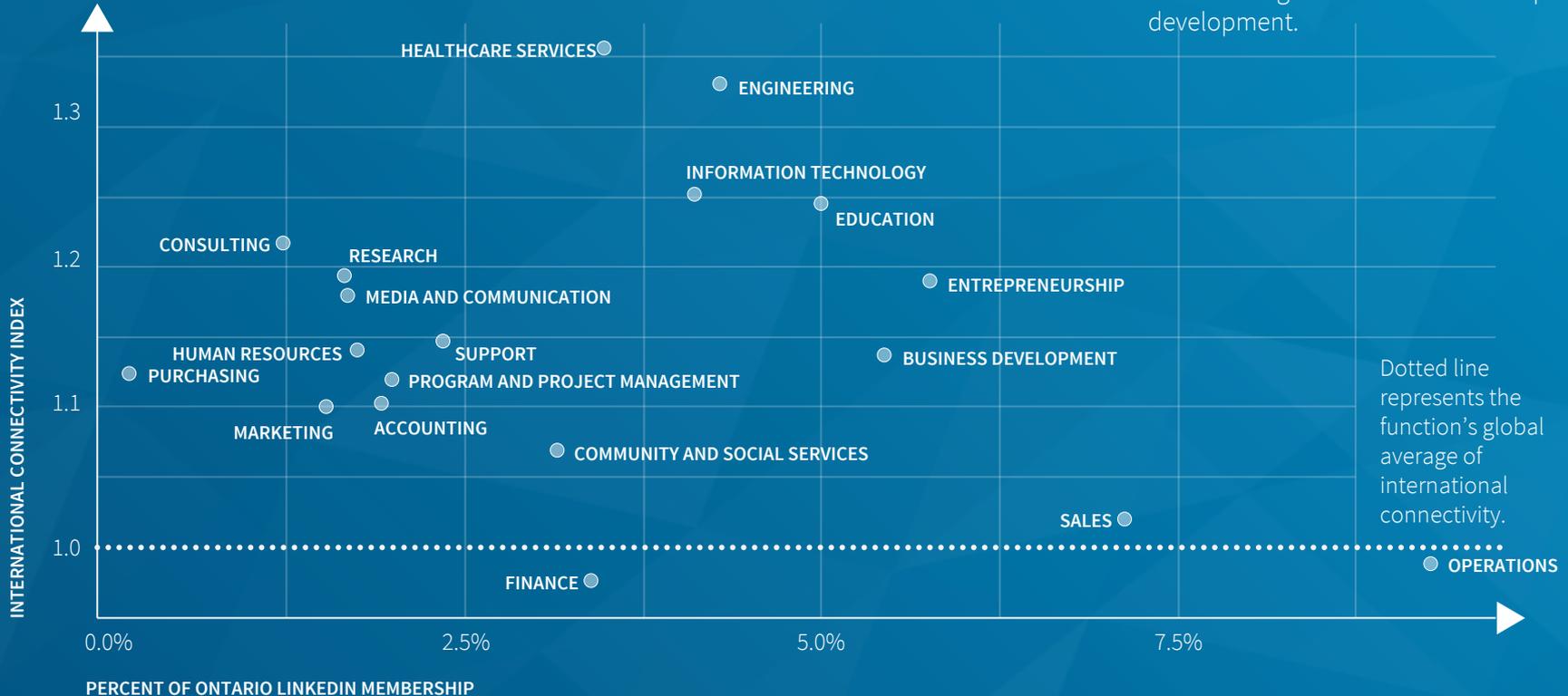
INTERNATIONAL CONNECTIVITY BY INDUSTRY FOR ONTARIO SMALL, MEDIUM, AND LARGE BUSINESSES



Businesses can utilize the connectivity of their employees to explore and expand their export potential.

# Professions in Ontario Boast Above-Average Levels of International Connections that can be Leveraged to Build New Trade Relationships

## INTERNATIONAL CONNECTIVITY OF ONTARIO JOB FUNCTIONS, INDEXED AGAINST ALL LINKEDIN



- International connectivity goes beyond roles that have a business development function.
- Professions ranking above average in international connectivity are diverse demonstrating that people in various roles within an organization can foster export development.

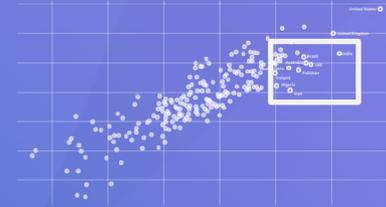
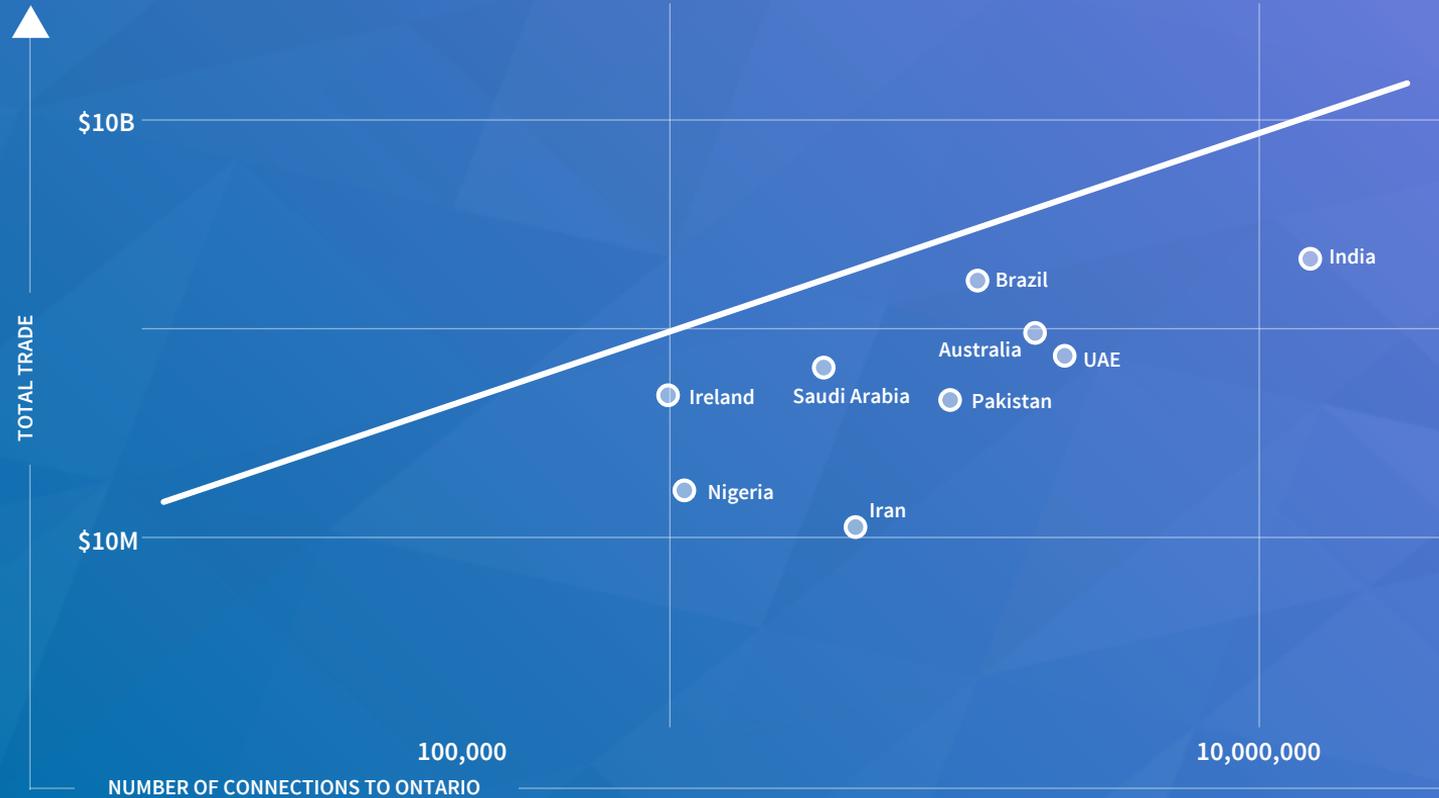
# Companies can Explore Previously Untapped Markets and Identify Export Opportunities Through Existing International Connectivity Within Their Workforce

## CONNECTIONS TO ONTARIO VS. TOTAL TRADE AMOUNTS



# Companies can Explore Previously Untapped Markets and Identify Export Opportunities Through Existing International Connectivity Within Their Workforce

## CONNECTIONS TO ONTARIO VS. TOTAL TRADE AMOUNTS



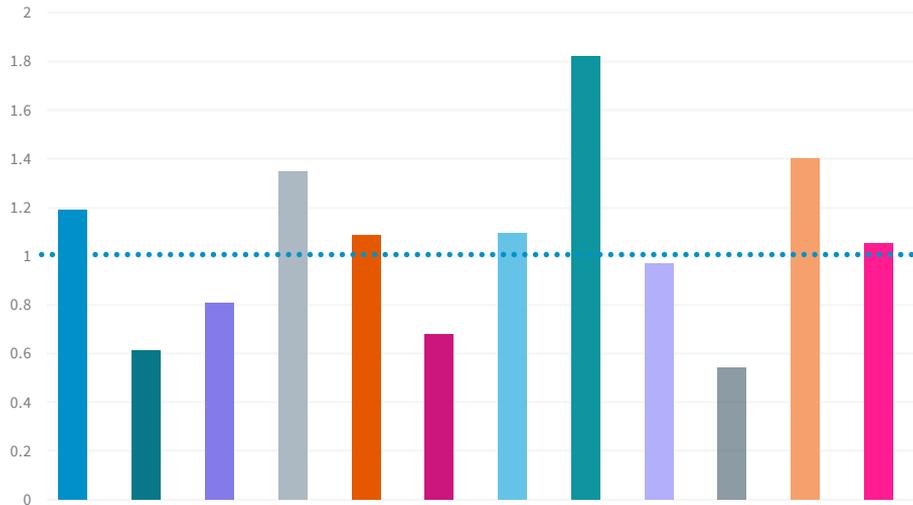
India, Middle Eastern countries, Brazil, Australia, Ireland and Nigeria show high connectivity with Ontario to facilitate trade, demonstrating diversified trade potential in these markets for Ontario's businesses.

Both axes shown on a log scale

# Ontario's Highly Connected Workforce Demonstrates Where Opportunities for Trade Exist in Specific Foreign Markets Down to the Sector

Understanding which industries in a given market Ontario has relatively strong connections to can enable businesses to identify trade opportunities in those markets.

## EXAMPLE: GERMANY

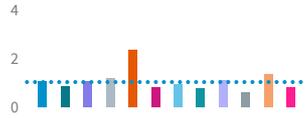


The **dotted line** represents the base level of connectivity for each industry. Bars above the line show above-average connectivity for the industry in that country, representing possible areas of opportunity for that market.

# Ontario's Highly Connected Workforce Demonstrates Where Opportunities for Trade Exist in Specific Foreign Markets Down to the Sector



AUSTRALIA



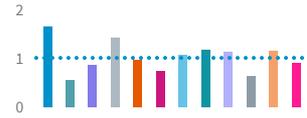
BRAZIL



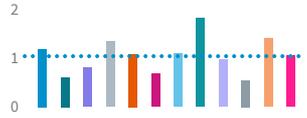
CHINA



FRANCE



GERMANY



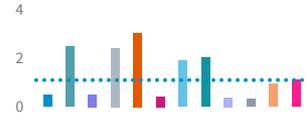
HONG KONG



INDIA



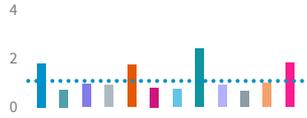
IRAN



ITALY



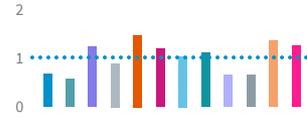
MEXICO



NETHERLANDS



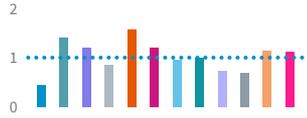
PAKISTAN



SAUDI ARABIA



UNITED ARAB EMIRATES



UNITED KINGDOM



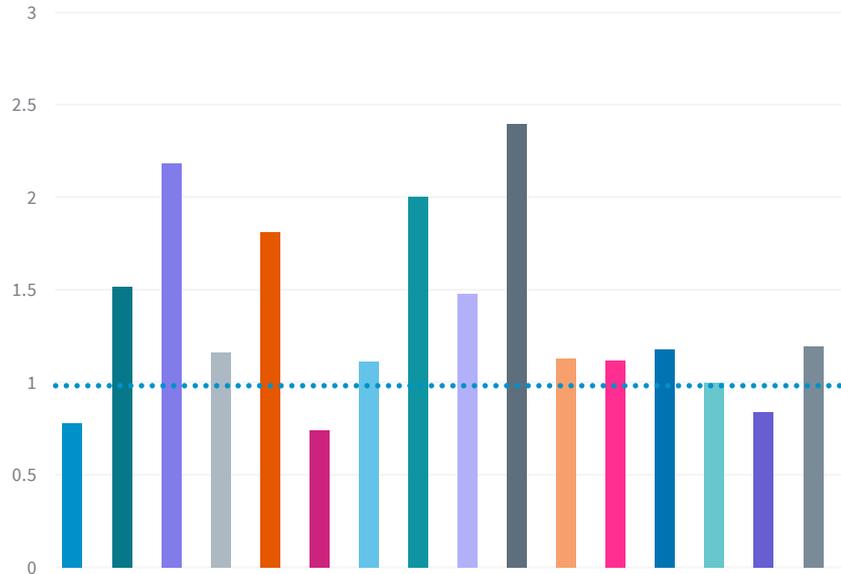
UNITED STATES



- Agriculture
- Construction
- Corporate Services
- Education
- Energy & Mining
- Finance
- Health Care
- Manufacturing
- Media & Communications
- Retail & Wholesale
- Software & IT Services
- Transportation & Logistics

# Ontario's Highly Connected Workforce Demonstrates Where Opportunities for Trade Exist in Specific Foreign Markets Down to the Sector

## EXAMPLE: MANUFACTURING



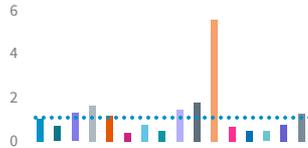
Understanding which industries in a given market Ontario has relatively strong connections to can enable businesses to identify trade opportunities in those markets.

The **dotted line** represents the base level of connectivity for each country. Bars above the line show above-average connectivity for the country in that industry, representing possible areas of opportunity for that market.

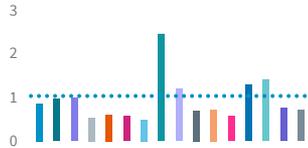
- Australia
- Brazil
- China
- France
- Germany
- Hong Kong
- India
- Iran
- Italy
- Mexico
- Netherlands
- Pakistan
- Saudi Arabia
- United Arab Emirates
- United Kingdom
- United States

# Ontario's Highly Connected Workforce Demonstrates Where Opportunities for Trade Exist in Specific Foreign Markets Down to the Sector

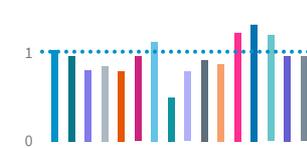
AGRICULTURE



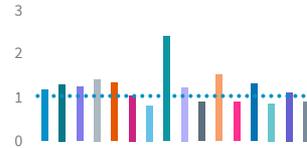
CONSTRUCTION



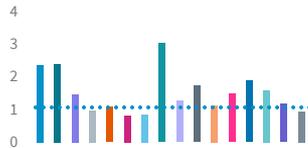
CORPORATE SERVICES



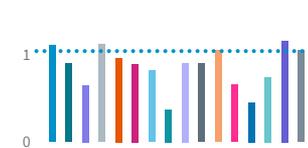
EDUCATION



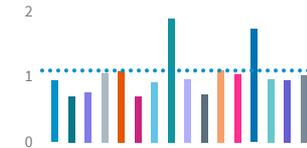
ENERGY & MINING



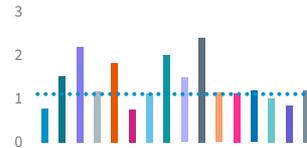
FINANCE



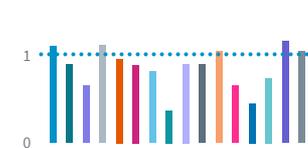
HEALTH CARE



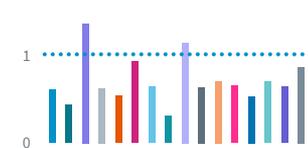
MANUFACTURING



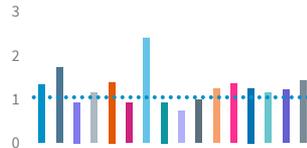
MEDIA & COMMUNICATIONS



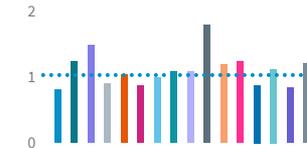
RETAIL AND WHOLESALE



SOFTWARE & IT SERVICES



TRANSPORTATION & LOGISTICS



- Australia
- Brazil
- China
- France
- Germany
- Hong Kong
- India
- Iran
- Italy
- Mexico
- Netherlands
- Pakistan
- Saudi Arabia
- United Arab Emirates
- United Kingdom
- United States

## What We've Learned



The LinkedIn Economic Graph has been adapted with a specific focus on trade to support one of the key priorities of Ontario's Global Trade Strategy – driving better intelligence for stronger trade outcomes.

When it comes to trade, one of Ontario's greatest advantages is its talent. The province's diverse, talented and innovative workforce is a valuable asset that can be leveraged to enhance and expand Ontario's export potential.

Home to a diverse array of sectors with international reach, Ontario's small- and medium-sized businesses can utilize a globally connected workforce to develop and deepen business-to-business relationships abroad to increase trade.

The findings presented in the LinkedIn Economic Graph will help identify previously under-leveraged international trade opportunities for exporters through innovative information gathering. Access to these insights, big data analytics and information will help strengthen supports to increase and intensify Ontario's export capacity through tailored and targeted programs services.

# Appendix

# Data Overview

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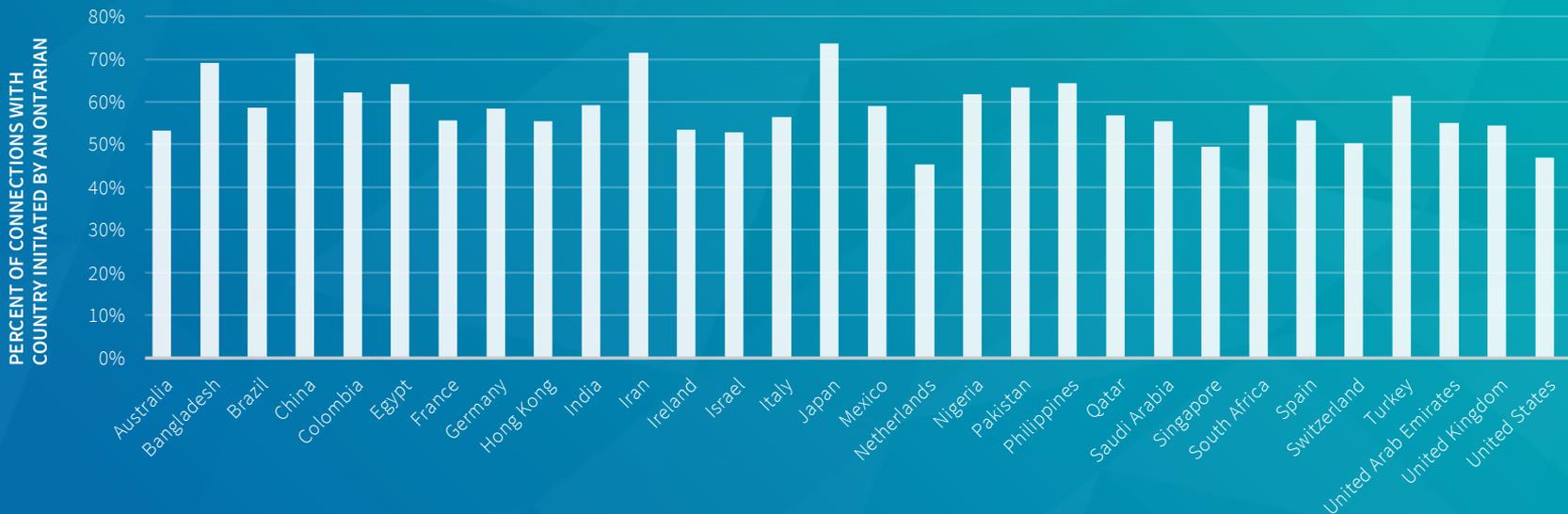
## THIS ANALYSIS INCLUDES DATA FROM:

- LinkedIn members currently in the Ontario area, including the metro regions of:
  - a. Greater Kitchener-Waterloo Area
  - b. Greater London Area
  - c. Greater Ottawa Area
  - d. Greater Toronto Area
- As the Ottawa metro area encompasses Quebec, individuals that may live in Quebec are included in this analysis
- Selected industries as referenced to the right
- Small business are those with 1-50 employees, medium with 51-500 employees, and large enterprises 501+ employees
- Industry analyses reference the industry of the Ontario member (vs. the connected member)

Selected Industries
Agriculture
Construction
Corporate Services
Education
Energy & Mining
Finance
Health Care
Manufacturing
Media & Communications
Retail & Wholesale
Software & IT Services
Transportation & Logistics

# Connection Quality to Top 30 Most Connected Countries

PERCENTAGE OF CONNECTIONS INITIATED BY ONTARIANS, BY COUNTRY



- For most of the top 30 countries that Ontarians are connected to, many of the connections were initiated by Ontarians, rather than vice versa.
- By initiating connections, Ontarians are proactively seeking to build relationships abroad.