North America 2.0
A Workforce Development Agenda

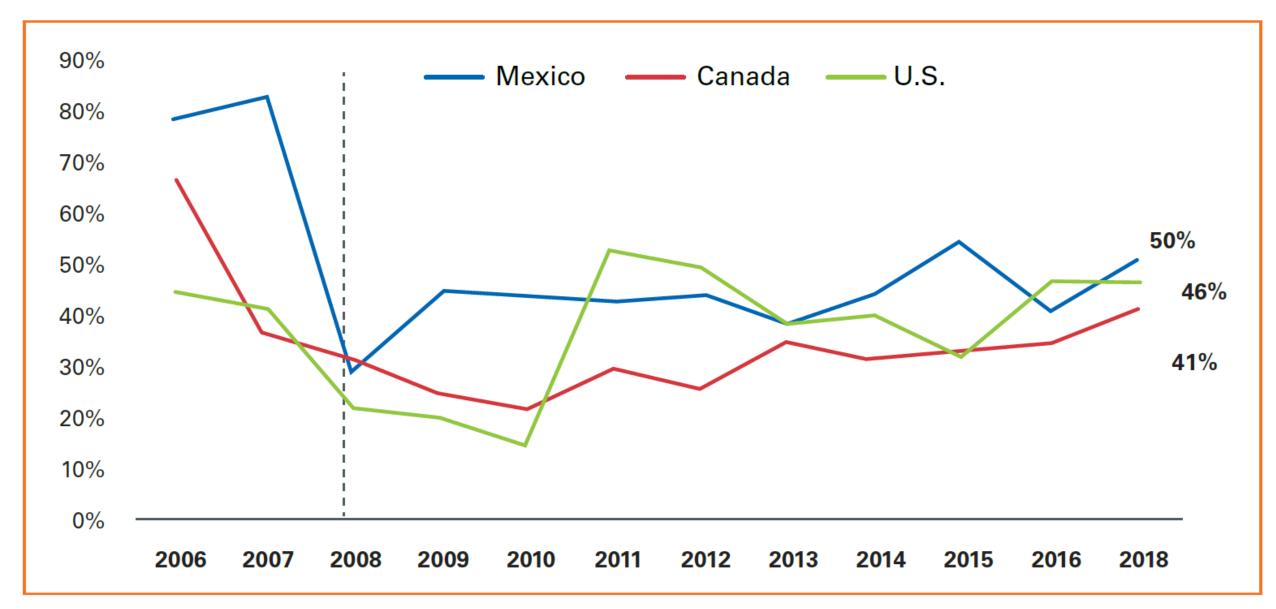**Wilson Center**

MEXICO INSTITUTE

Figure 1. Employers in North America Having Difficulty Filling Jobs

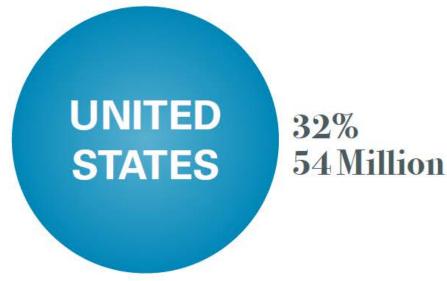Source: Manpower Group, 2018 Talent Shortage Survey.

Figure 2. Percentage of Workers that Might Need to Change Occupations by 2030

Source: McKinsey Global Institute, "Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation," 2017.

GLOBALLY
14%
375 Million

MEXICO
10%
7 Million

UNITED STATES
32%
54 Million

World Economic Forum's 2018 Future of Jobs Report

Surveyed over **300 global companies** from 20 economies - representing 70% of global GDP and 15 million employees:

1. Across all jobs expect a **42% change in workforce skills** from 2018-2022.

2. Over **54% of workers will require reskilling or upskilling.**

3. **Geographic location for production** likely determined by **availability of skilled local talent** say **74%** of companies surveyed. 64% highlight labor costs.

Source: Future of Jobs Report 2018, World Economic Forum

Factors determining job location in North America

Figure 10. Required Skills for Moving into Industry 4.0.

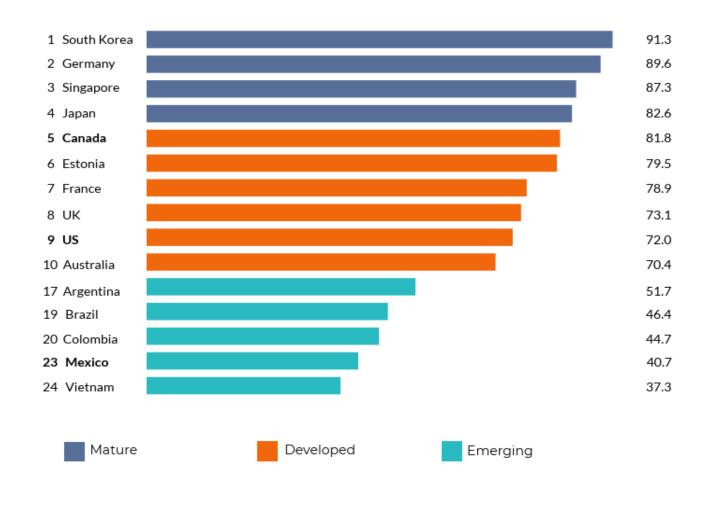| COGNITIVE SKILLS	SOCIAL SKILLS	TECHNOLOGICAL SKILLS
Advanced literacy and writing	Advanced communication and negotiation	IT literacy
Quantitative skills	Empathy	Data analyis
Critical thinking	Ability to learn continuously	Research
Complex information processing	Adaptability	Programming

Source: McKinsey Global Institute, "Skill Shift Automation and the Future of the Workforce," 2018.

Is North America ready for the coming automation?

The Automation Readiness Index

Rank	Country	Score
1	South Korea	91.3
2	Germany	89.6
3	Singapore	87.3
4	Japan	82.6
5	**Canada**	81.8
6	Estonia	79.5
7	France	78.9
8	UK	73.1
9	**US**	72.0
10	Australia	70.4
17	Argentina	51.7
19	Brazil	46.4
20	Colombia	44.7
23	**Mexico**	40.7
24	Vietnam	37.3

Legend: Mature · Developed · Emerging

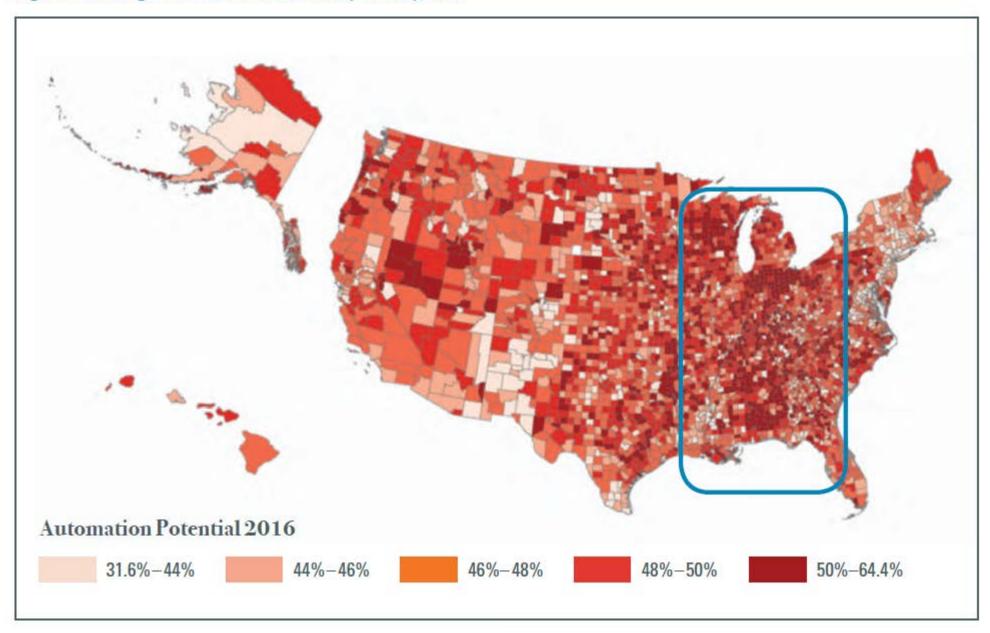**Figure 3. Occupations at High Risk of Automation that Might Need to be Targeted by Training Programs**

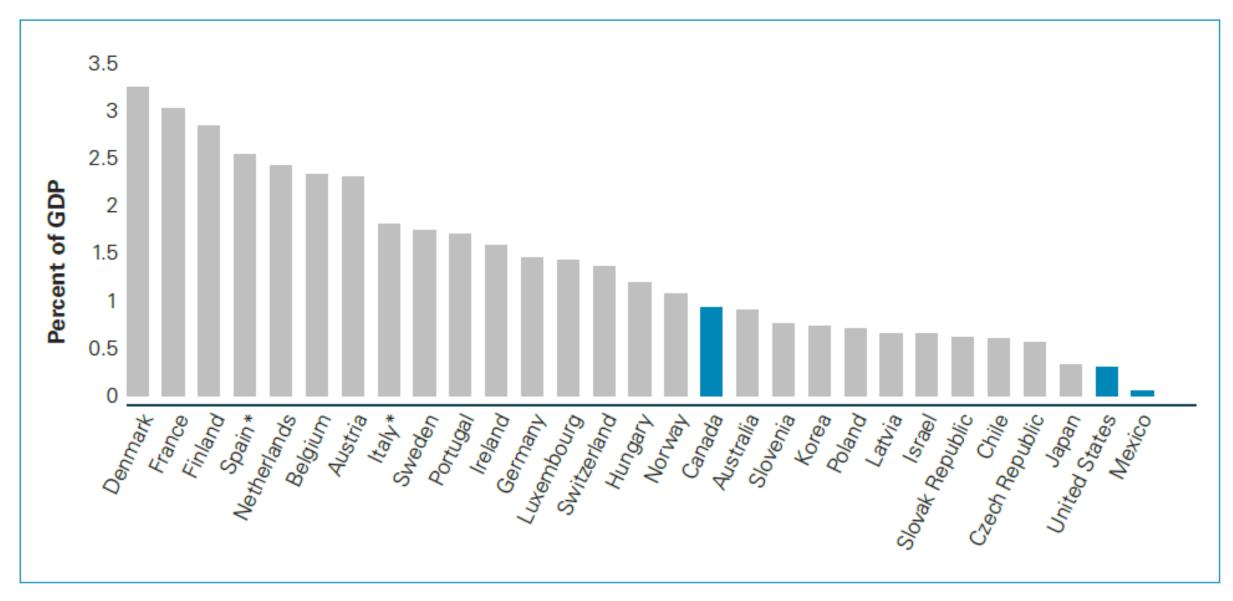Source: OECD, "OECD Skills Outlook 2019," 2019.

Occupations	Risk of automation
1. Keyboard operators	91.3
2. Street vendors (excluding food)	89.6
3. Metal processing and finishing plant operators	87.3
4. Subsistence livestock farmers	87.0
5. Rubber, plasic, and paper products machine operators	86.7
6. Chemical and photographic products plant machine operators	85.0
7. Blacksmiths, toolmakers, and related trade workers	84.8
8. Wood processing and papermaking plant operators	80.4
9. Mining and mineral processing plant operators	72.0
10. Mining and comstruction workers	80.0
11. Medical and pharmaceutical technicians	78.8

Figure 5. Average Automation Potential by County, 2016

Automation Potential 2016

31.6%–44%	44%–46%	46%–48%	48%–50%	50%–64.4%

Source: Brookings Institution, 2018.

Figure 6. Total Public Expenditure on Labor Market Programs as a Percentage of GDP, 2016[36]
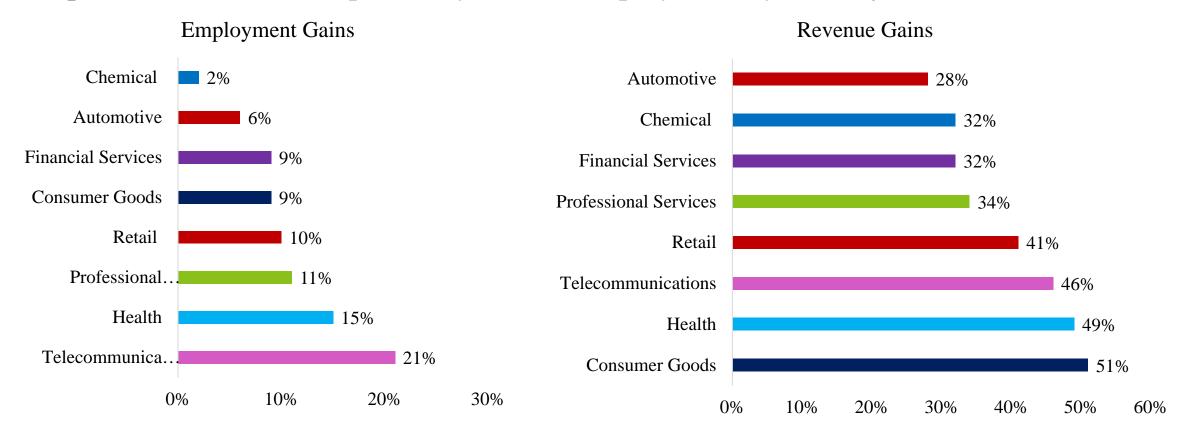

Note: *Only 2015 data available.
Source: OECD Stat, 2019

Integrating Technology & Human Capital can Boost Profits and Employment: Accenture

Companies could increase profits by 38% & employment by 10% by 2022.

Employment Gains

Industry	Value
Chemical	2%
Automotive	6%
Financial Services	9%
Consumer Goods	9%
Retail	10%
Professional…	11%
Health	15%
Telecommunica…	21%

Revenue Gains

Industry	Value
Automotive	28%
Chemical	32%
Financial Services	32%
Professional Services	34%
Retail	41%
Telecommunications	46%
Health	49%
Consumer Goods	51%

Source: Ellyn Shook & Mark Knickrehm, "Reworking the Revolution," Accenture Strategy, 2018.

Workforce Development: North American Cooperation

- **North American dialogue can help manage the transitions ahead.**

- Wilson Center proposal: a **tri-lateral task force provides an umbrella for public-private, federal-sub-federal working groups to identify best practices and develop proposals for cooperation across the three countries. Four Working groups**:

- 1) **Apprenticeships,** other **work-based learning** & technical education;

- 2) **Certifications** (e.g. wider recognition);

- 3) **Data** collection and better transparency;

- 4) **Best practices** shared to manage the **Fourth Industrial Revolution**.

Implementing the North American Agenda

- The overarching tri-national task force and the four working groups could be **incorporated into USMCA/T-MEC**.

- The successful implementation will depend on **collaboration** of **governments, private sector, educational institutions, and unions**, among other stakeholders, from all three countries.

- **Dangers of inaction include social and political disruption.**

- Good Workforce Development practices will improve competitiveness and managing tumult of technological change.

NORTH AMERICAN WORKFORCE DEVELOPMENT AGENDA

Elements that should be agreed among the three countries in a public-private multi-stakeholder process

ISSUE #1

Investing in Apprenticeships and Other Work-based Learning and Education

1 A definition of apprenticeships and other major types of work-based learning (WBL), and agree a minimum set of criteria and quality standards.

2 Agree on broad guidelines assigning roles and responsibilities to governments, industry and intermediaries regarding the development, implementation and funding of apprenticeships and other WBL.

3 Create a tri-national Career and Technical Education (CTE) and apprenticeship taskforce to identify best practices in strategies to promote apprenticeships and other types of WBL programs.

4 Agree on elements of a marketing strategy to increase public awareness of the benefits and advantages of work-based learning in order to change negative public misperceptions of such programs.

5 Build spaces to foster on-going dialogue between stakeholders across the region in order to share best practices on work-based learning and training, and to strengthen public-private partnerships.

6 Agree among the three countries on ways to incentivize and support companies, including SMEs, to develop training and learning programs for reskilling and up-skilling their workforces.

Credentials

ISSUE #2

Addressing Credentials and the Host of Issues Surrounding Them

① Develop a common language (at federal, sub-national, continental levels) about credentials and competencies to facilitate understanding, high quality and transferability, as well as recognition.

② Develop or strengthen national competency frameworks and align them to a shared tri-national common language of credentials and competencies.

③ Develop a set of guidelines to assess and validate informal learning and professional experience, and to identify skills associated to such experience. Share and emulate best practices across the continent.

Data Transparency

ISSUE #3

Improving Labor Market Data Collection and Transparency

1 Develop a set of norms to collect real-time labor market data and information in a consistent and homogeneous way so it is comparable across countries and across the region as well as easily accessible.

2 Develop a tri-national online platform (linked to national platforms) to serve as a hub for real-time labor market data collected by the three countries and for best practices from the public and private sectors.

3 Develop guidelines to make the tri-national platform and data tools openly available to all stakeholders, while allowing space for the development of private sector initiatives.

Best Practices for Industry 4.0

ISSUE #4

Learning Best Practices for "The Fourth Industrial Revolution" and the Future of Work

1 Identify successful examples of private and public collaboration, with emphasis on highlighting promising steps and tools to incentivize companies to invest in reskilling and up-skilling of their workers, to provide mid-career training and learning opportunities, and to develop agile training and learning programs to ease the transition and improve the quality of work transformations.

2 Agree on approaches and strategies to encourage companies to collaborate with educational institutions, unions and other interested parties to better align curricula with the evolving labor market needs, better connect graduates to the labor market, and foster the modernization of educational spaces.

3 Build tri-national spaces to share best practices on the implementation of Industry 4.0 and to strengthen partnerships to better link the priorities of the business and education sectors as well as government.

4 Identify best practices for SMEs to keep up with technological changes, innovation and talent creation.

5 Establish trilateral research and innovation projects in strategic economic areas through grants and scholarships. Invest in evaluation programs to assess future trends and prepare for future skills needs.

1	Analytical thinking and innovation		6	Complex problem-solving
2	Active learning and learning strategies		7	Leadership and social influence
3	Creativity, originality and initiative		8	Emotional intelligence
4	Technology design and programming		9	Reasoning, problem-solving and ideation
5	Critical thinking and analysis		10	Systems analysis and evaluation

Figure 4. Top 10 Trending Skills by 2022

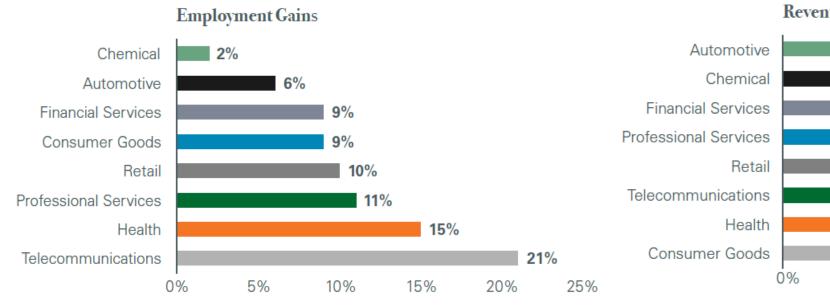Source: World Economic Forum, "The Future of Jobs Report 2018," 2018.

Figure 7. Top 10 States - Number of U.S. Jobs Supported by Trade with Mexico and Canada, 2017

Trade with Mexico: 4.9 million		
No.	State	Net Number of U.S. Jobs (Thousands)
1	California	+ 572.2
2	Texas	+ 399.5
3	New York	+ 325.5
4	Illinois	+ 198.0
5	Pennsylvania	+ 195.7
6	Ohio	+ 170.9
7	Georgia	+ 158.2
8	North Carolina	+ 150.6
9	New Jersey	+ 141.2
10	Virginia	+ 135.3

Trade with Canada: 7.2 million		
No.	State	Net Number of U.S. Jobs (Thousands)
1	California	+ 898.5
2	Texas	+ 549.4
3	New York	+ 475.9
4	Florida	+ 446.3
5	Illinois	+ 293.7
6	Pennsylvania	+ 282.3
7	Ohio	+ 257.5
8	Georgia	+ 229.2
9	North Carolina	+ 225.8
10	Michigan	+ 209.7

Source: Trade Partnership Worldwide, "New Study: International Trade Supports Nearly 39 Million American Jobs," 2019.

Gains by Investing in Technology and Training

Figures 8 and 9. Projected Employment and Revenue Gains of Adopting New Technologies

Employment Gains

Industry	Gain
Chemical	2%
Automotive	6%
Financial Services	9%
Consumer Goods	9%
Retail	10%
Professional Services	11%
Health	15%
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Data Source: Ellyn Shook & Mark Knickrehm, "Reworking the Revolution," Accenture Strategy, 2018.