Tackling North America's Workforce Challenges

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North American Trade

- Canada, Mexico and the US trade some $1.24 trillion a year.

- $3.3 billion a day, much of that as part of shared production networks.

- More than with all the European Union and 1.9 times more than with China.

- 14 million US jobs are supported by trade with both neighbors.

- In 2015, Canada's and Mexico's FDI in the US reached $285 billion; the US had $445 billion FDI in Canada and Mexico.

Producing Things Together in North America

- Over 50% of U.S. imports from Canada and Mexico are intermediate goods used in U.S. production.

- U.S. manufacturing greatly depends on these intermediate imports.
  - Michigan's automotive industry relies on our neighbors who supply 61% of intermediate goods imports.
  - Canada and Mexico supply Ohio with 3 billion worth of auto parts, Indiana with 2 billion, and Texas with 6 billion.
  - Washington imports over 1 billion from aerospace suppliers in Canada.
  - The US imports about 30% of its medical devices and supplies. Mexico is a leading supplier and Tijuana has the highest concentration of medical device firms, 70% of which are American-owned.

Source: Brookings, 2017; NY Times, 2017

NAFTA Modernization & Workforce Development Cooperation

- Much can be win-win in the NAFTA negotiation.
  - Growing trade and creating new jobs
  - New trade topics (e.g. digital commerce and data flows)
  - Incorporate best practices developed since the 1993 negotiations (e.g. better sanitary and phytosanitary standards and intellectual property protections)

- In parallel, North America could benefit from better cooperation on work force development.

- A public-private process that brings together governments, the private sector and others to discuss and apply best practices in workforce development.

# Sources of U.S. Manufacturing Job Loss

- Job losses are attributed to trade with China and new technology: manufacturing output has grown, while manufacturing employment has shrunk.

FRED ⟋
— Manufacturing Sector: Real Output Per Hour of All Persons
— Manufacturing Sector: Real Output
— All Employees: Manufacturing, Jun 2009=100

fred.stlouisfed.org

myf.red/g/cwHP
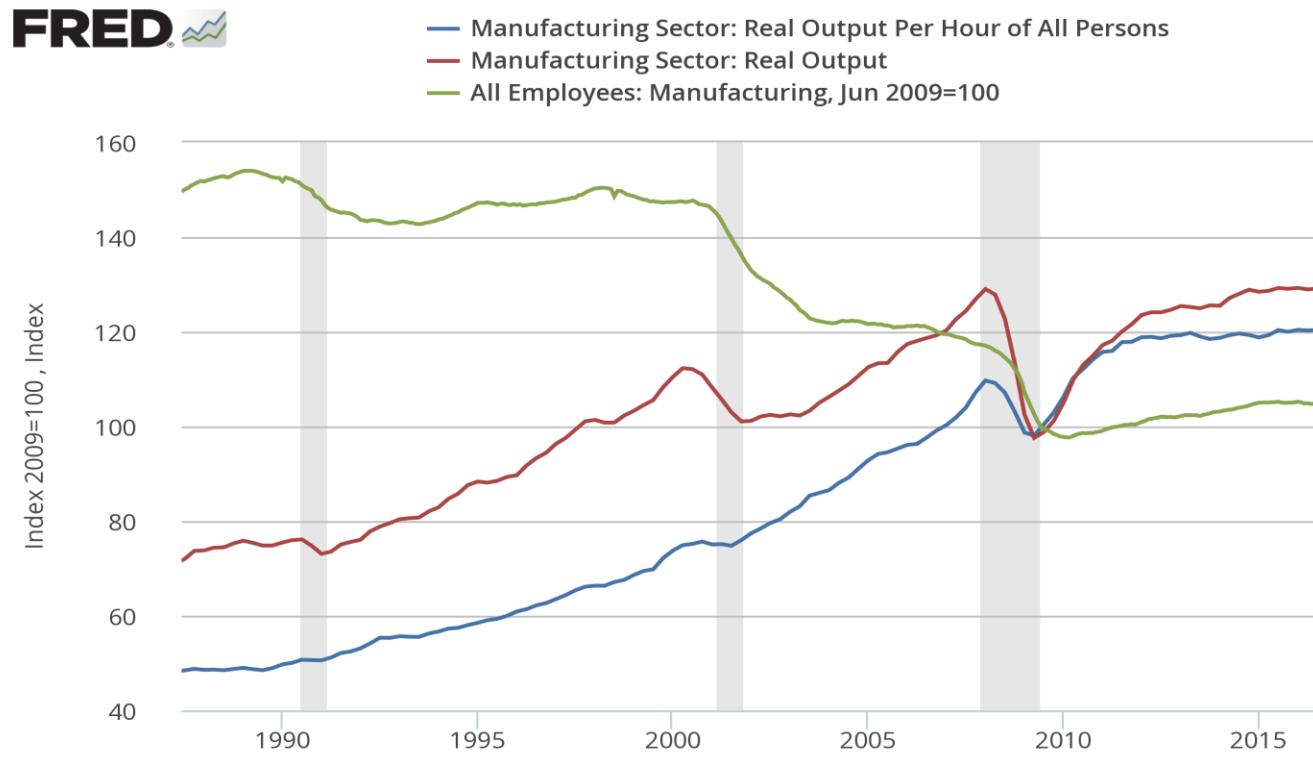
Total = 5.64 million manufacturing job losses

International trade 13%

Productivity gains 87%

Source: Ball State University, 2015
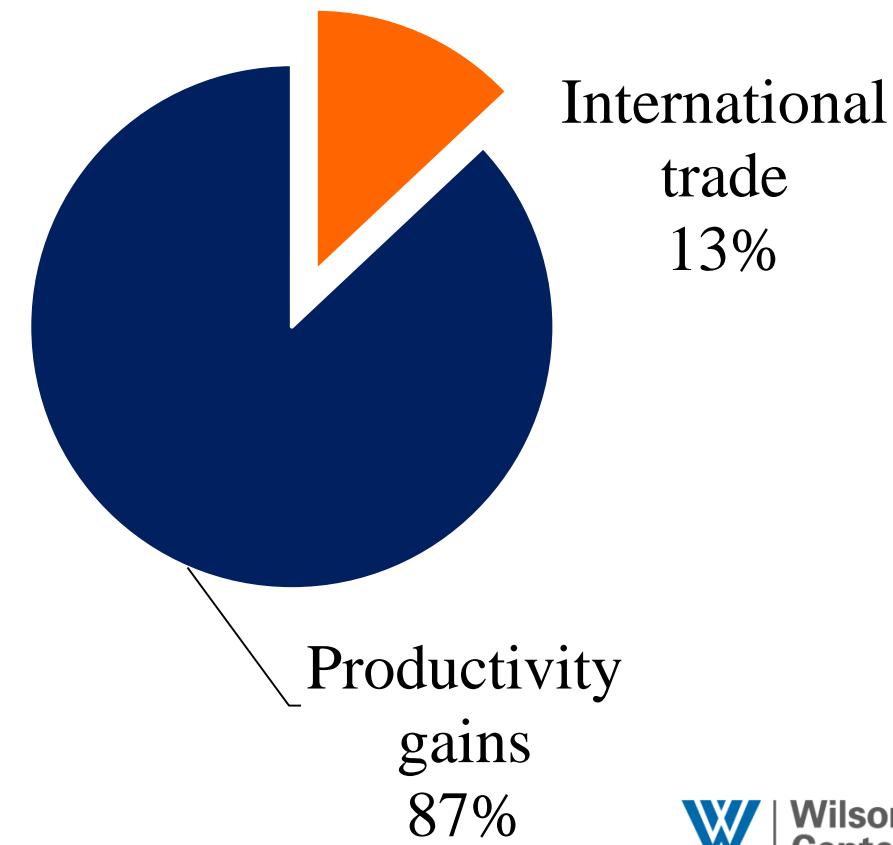
The Current and Future U.S. Skills Gap

An Estimated 3.4 Million Manufacturing
Jobs to be created/vacated from 2015 to 2025

0.7

2.7

■ Baby Boomer Retirements
■ Economic Expansion
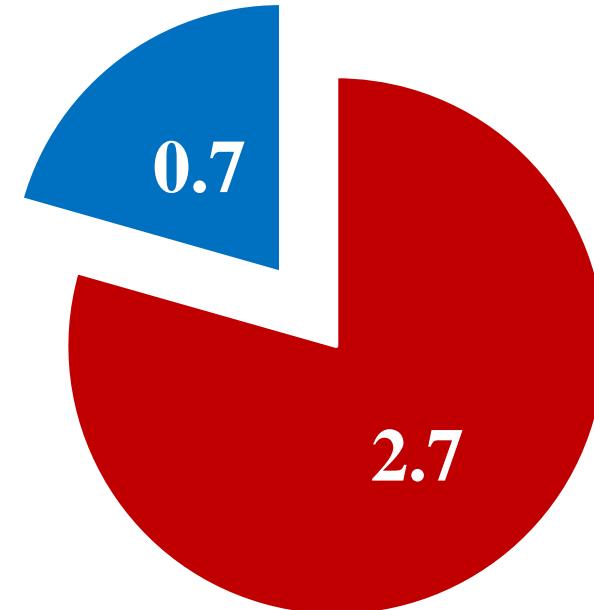
2 million manufacturing
jobs may remain unfilled
due to the skills gap.

6 out of 10 skilled
positions go unfilled due
to the skills gap.

Percentage of Employers Having Difficulty Recruiting

Canada **34%**
Mexico **40%**
United States **46%**
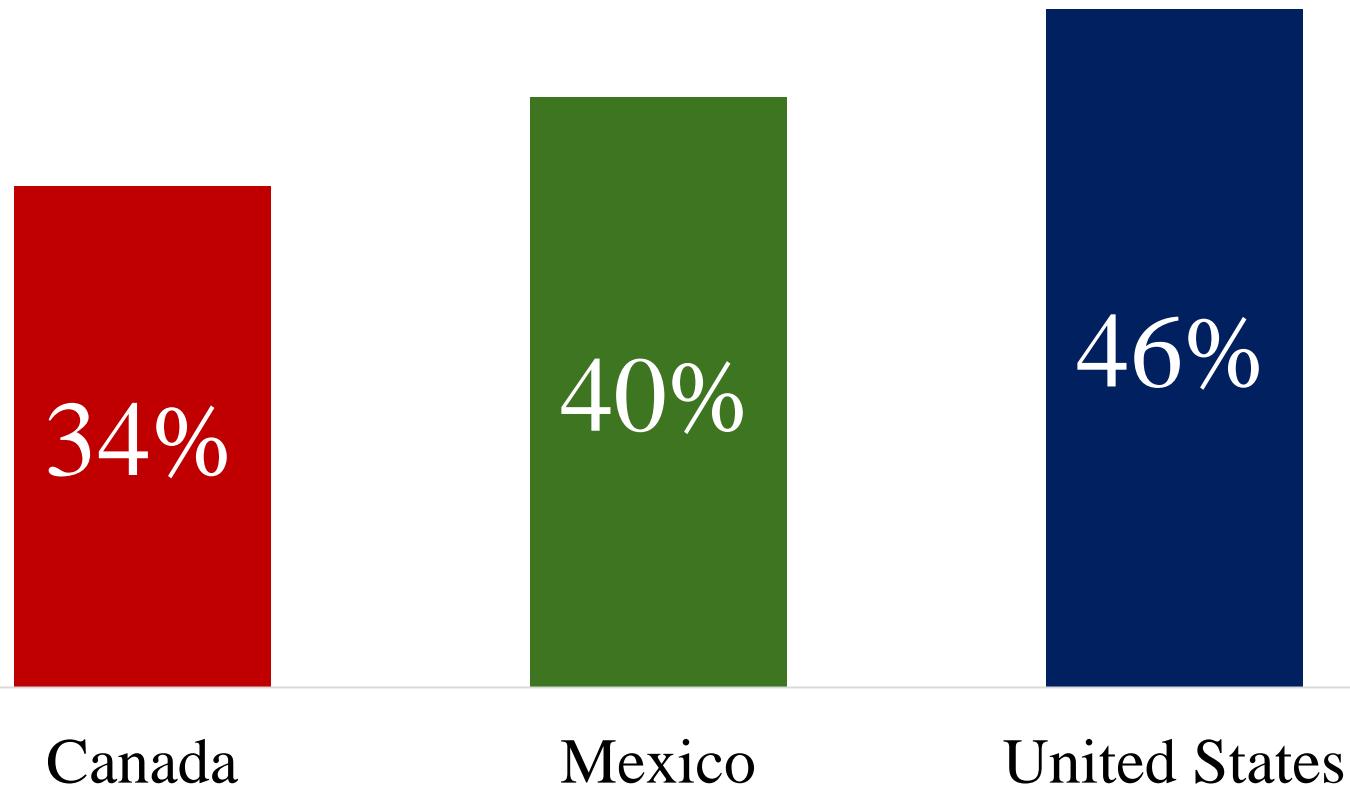
STEM and skilled trade vacancies are among the top hardest jobs to fill.

Source: Manpower, "Talent Shortage Survey", 2016

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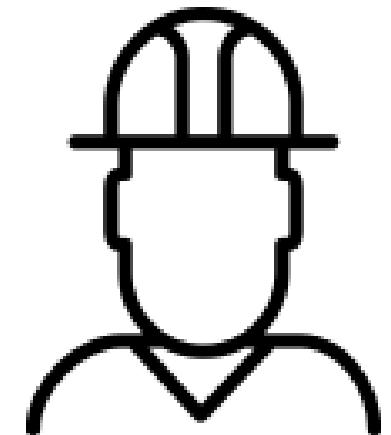
Why Employers in North America say it is Hard to Fill Positions

Canada

Lack of Hard Skills

No Applicants

Lack of experience
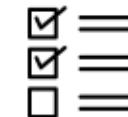
Looking for more pay than is offered

Issues specific to the organization

Mexico

Lack of experience
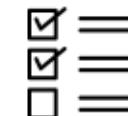
Looking for more pay than is offered

No Applicants

Lack of hard skills

Lack of soft skills

United States

No Applicants

Lack of experience

Lack of hard skills

Looking for more pay than is offered

Lack of soft skills

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Industry 4.0: The Fourth Industrial Revolution

- By implementing Industry 4.0 companies expect significant operational cost reductions.

- By 2020, manufacturers globally expect to reduce costs by $52 billion.

- Artificial intelligence applications may create savings in the US healthcare sector of $150 billion annually by 2026.

- But, 50% of executive leaders globally say they have not passed the discussion phase for implementation of Industry 4.0.

- Top challenges: lack of digital culture and training.

North America is expected to have Most to Gain from Automation; China is expected to be the biggest loser

% of respondents

22%   **17%**   **16%**   **12%**

20

15

10

5

0

North America   Europe   Japan   China

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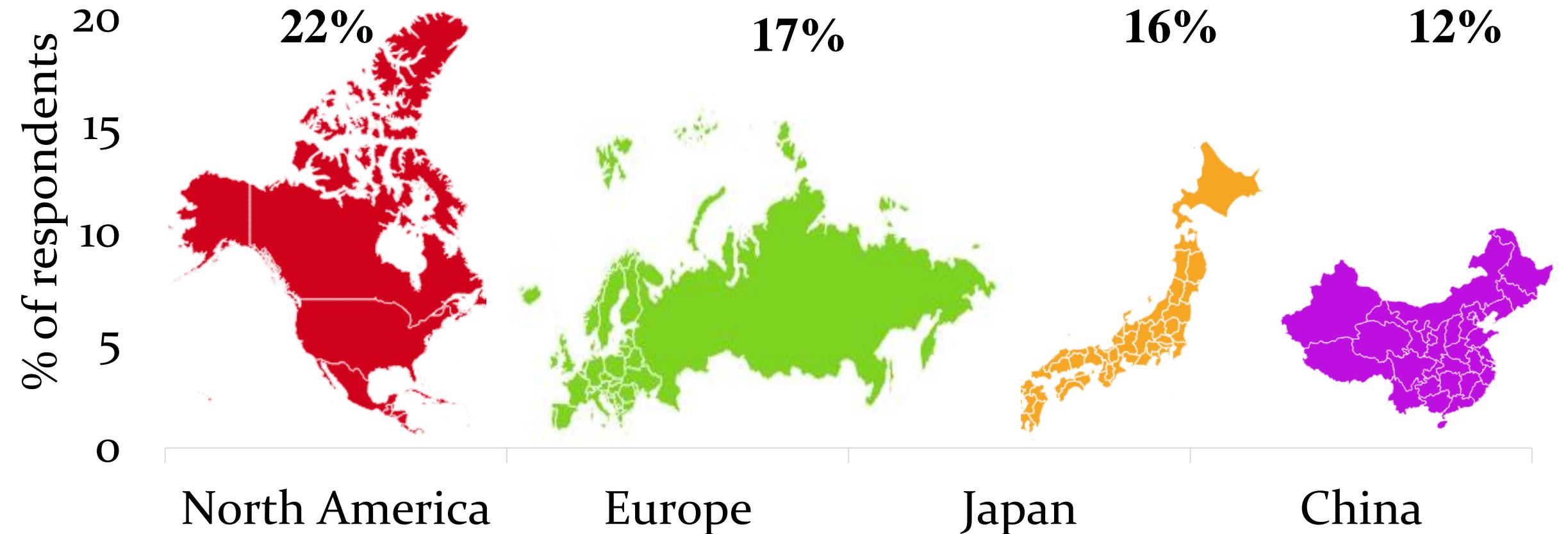
Importance of PPPs and Regional Cooperation
A few examples from Mexico, Canada and the US
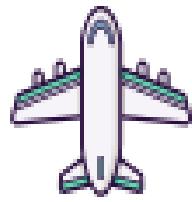
Bombardier has partnered with and invested in Universidad Aeronaútica en Querétaro (UNAQ). The University also holds partnerships with Aernnova and SAFRAN.

The University of Guadalajara (UDG) has partnered with Oracle to implement the *Oracle Academy Program* to develop a qualified IT workforce.

Siemens has invested in adapting the German model of apprenticeships in the US and Canada, in partnership with colleges and universities.

Toyota has partnered with community colleges and vocational schools in the US to implement its automotive technician training program (T-TEN).

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Developing Policy Recommendations

- That the United States, Canada and Mexico agree to develop and launch a North American Forum on Workforce Development.

- The Forum would bring together:
  - Manufacturers
  - Unions
  - Federal, state and local governments
  - Chambers of commerce and business associations
  - Academic institutions

- Goal: improve access to relevant training for workers and access to trained workers for businesses, while strengthening the ability of the economies to adapt to the challenges ahead.

Developing Policy Recommendations

- The Federal governments would play a facilitating role; outputs could include a mix of government-to-government, and public-private agreements.

- Seek an on-going, living process that would accompany the implementation of a modernized NAFTA and the unfolding of Industry 4.0.

- The Forum would seek to help make North America more competitive and its workforces employed with up-to-date skills.

- Need: identify the clusters of issues that make the most sense to explore and that attract collaboration.
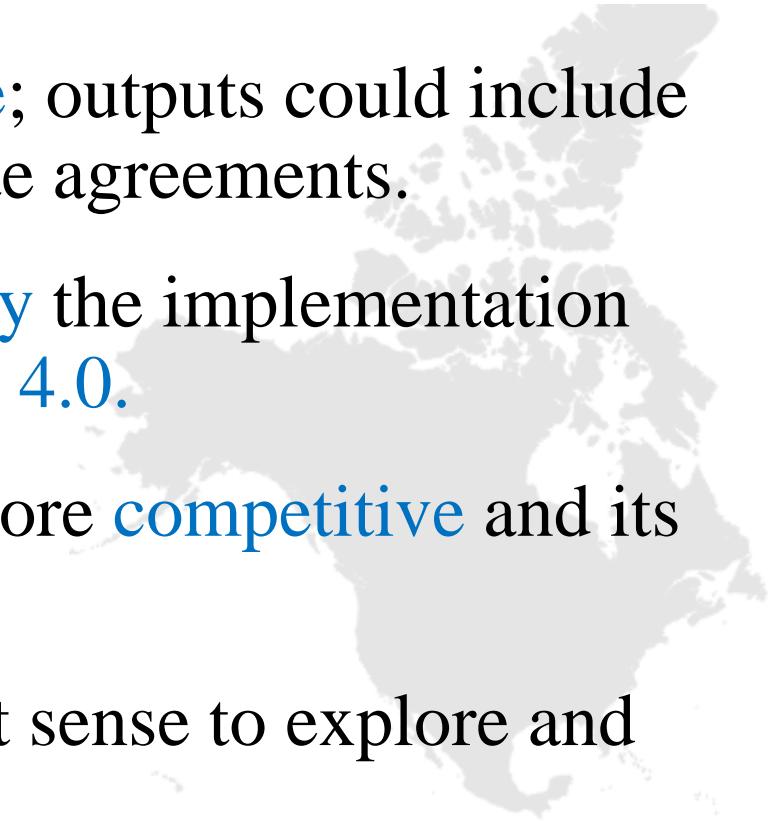
1. Apprenticeships and other work-based training/education

- Apprenticeships are a priority in President Trump's agenda.

- US DOL, Siemens & NAM have produced a playbook to help guide companies in the development of apprenticeships programs.

- The Canadian Council on Apprenticeships has developed a *Red Seal Program,* which harmonizes qualifications and skills across the country.

- Mexico's Ministry of Education (SEP) working with the German-Mexican Chamber of Commerce (CAMEXA) and a major Mexican Business Council (CCE) developed a Dual Education Program building on the German Model.

- Apprenticeships can help address the retirement of baby boomers and mid-skills gaps, but will not meet all needs.

2. Credentialing

- National system of credentials by industry. The manufacturing, IT and pharmaceutical sectors could be a priority because of weight in the economy.

- The Manufacturing Institute launched a Skills Certification System designed by and for industry, and endorsed by the National Association of Manufacturers.

- *NASCO* supports a tri-national certification system in partnership with the *Manufacturing Skills Standards Council.*

- Challenges for developing credentialing systems:
  - Lack of awareness of certifications available and how to use them
  - Lack of evidence of success of credentialing systems
  - No national roadmap of steps and guidelines to develop systems
  - Lack of funding

3. Data Collection and Sharing

- National databases and portals with information on current trends and opportunities in the labor market, as well as apprenticeships, credentialing and training opportunities.

    – Pool of best practices and information about existing programs

- Ex. Credentials Engine, a not-for-profit expected to launch a dataset this fall, sharing information on providers and certifications available across the US.

    – Supported by JP Morgan Chase & Co

- The Canadian *Red Seal Program* provides information on resources for financial support for apprentices & apprenticeships providers, the skills market and jobs available, & toolkits for job seekers, employers, apprentices and trainers to help them face skills challenges.

4. Industry 4.0 Digital Economy: Supporting the change

- What steps are needed to encourage employers to invest in training programs to provide employees with digital knowledge and skills?

  - The Ontario government provides funding to the Canada – Ontario Job Grant to incentivize employers to provide training programs for their employees

  - The Government of Colorado has partnered with Microsoft to develop a digital workforce

- Hard and Soft Skills: What are the best practices in conveying the "hard skills" needed? How best to invest in giving workers soft skills needed to adapt to the rapid economic and technological changes ahead?

- Improve public information and awareness of industry 4.0 and the changes underway in the labor market. How to provide best real time updates on skills that will be sought and how best to acquire them?

Conclusion and Key Takeaways

- Much to discuss in a North American conversation.

- Public-Private Partnerships are essential.

- Business-Academic partnerships are crucial to succeed in the implementation of workforce development mechanisms.

- States/provinces are key innovators and implementers in workforce development, so state-federal coordination is vital.

- **Bringing together practitioners from the three countries, with the federal governments as facilitators of the forum, can generate valuable initiatives to benefit all three economies.**

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