

# What does eXperience mean in a tech-transitional world?



Future of Work Canada

CompTIA®

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# Your presenter

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## James Stanger, PhD

*Chief Technology Evangelist - CompTIA*

*A+, Network+, Security+, MCSE, LPI LPIC 1, Symantec STA*

*Technologist, author and educator. Responsible for working with students, IT pros, hiring managers, and helping shape CompTIA educational standards. I have experience in:*

- Leading organizations (company president)*
- Security analytics and monitoring*
- Exponential technology (e.g., blockchain, AI & ML)*
- Data analytics*
- Linux and open source*
- Cloud security*
- Pen testing, red teaming*
- Threat hunting*
- Network administration*
- Web technologies*
- Education program development*

*CompTIA blog page:*  
**<https://tinyurl.com/y6pdw72g>**



# Agenda

- Tech challenges facing leaders in Canada and the world
- Unique skillsets needed today
- Potential shortages we're seeing in Canada and worldwide
- How to create “skillable” tech workers
- Successful talent upskilling and retention strategies



# Workforce and Learning Trends

Unlocking the Potential of Talent Mobility

CompTIA.org

1

Talent mobility approaches grow in scope and importance

2

T-shaped skills models remain integral for future-proofing careers

3

Algorithms and platforms exert greater influence over talent development

<https://www.comptia.org/content/research/workforce-and-learning-trends-2023>

# Canada

Tech growth rate  
in Canada: 1.1%

IT profession  
contributes 5.5%  
to Canada's  
economy

## STATE OF TECHNOLOGY SUMMARY

1,352,210	NET TECH EMPLOYMENT <sup>1</sup>
6.6%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
54,746	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
\$113,406B	ECONOMIC IMPACT CAD
162,497	EMPLOYER JOB POSTINGS [2022 total for tech occupations]
23.6%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of Lightcast data, Canadian Government Statistics, and others | Data estimates cover 2022-2023 time period or most recently available | See report Methodology for details

<sup>3</sup>2023 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

<https://www.comptia.org/content/research/comptia-state-of-tech-workforce-canada>

## eXperience-focused thinking

- Customer eXperience (CX)
- Partner eXperience (PX)
- Employee eXperience (EX)



*Are you eXperienced?*

# framing our experience





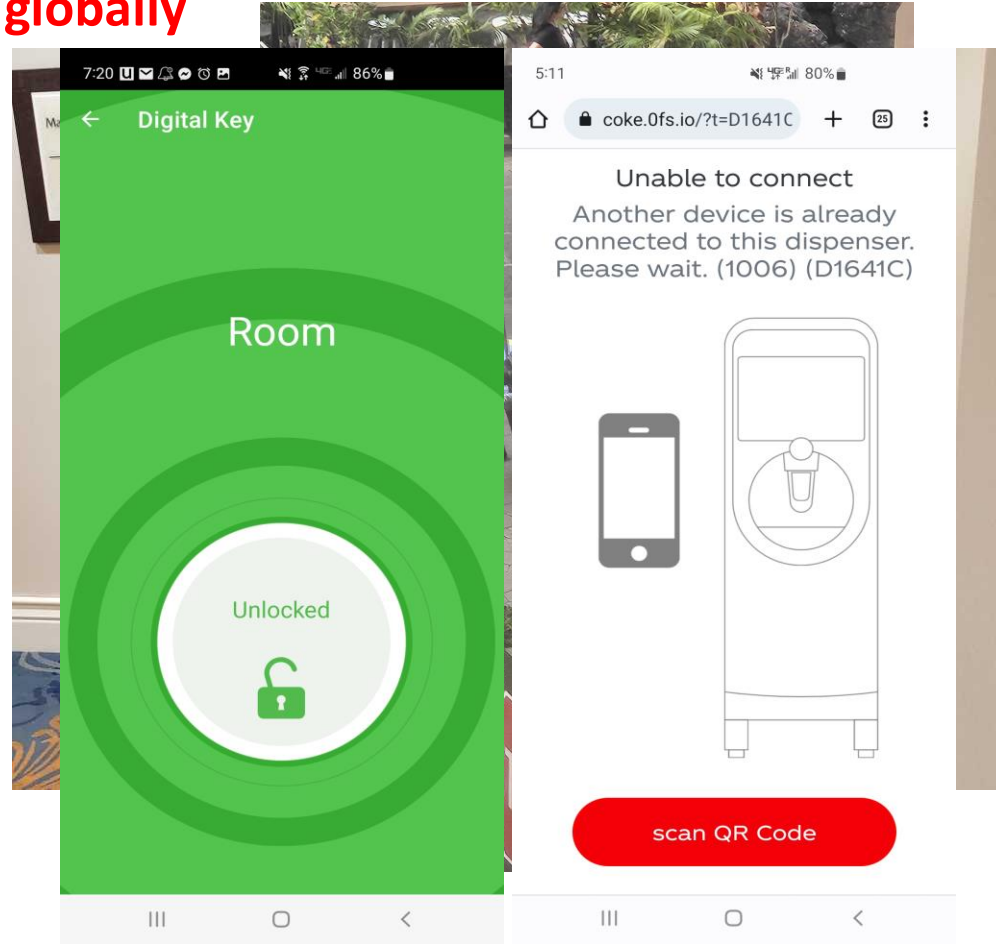
# “X factor” considerations for every IT “pillar”





# What we are facing in Canada – and globally

- A tech-transitional world
- High expectations
- Asymmetric situations
- Ever-multiplying, exponential tech
- Morphing attack surfaces / problem surfaces
- Regulations and directives



# The healthcare industry “x factors”

- A couple of stories
- Some thoughts:
  - What did AI tell us?
    - Was it valid?
    - Who is to say?
- Skillsets / systems used

**Medical  
training**

**Imaging  
tech**

**Critical  
thinking**

**Cloud tech**

**Data  
systems**

**Digital  
fluency**

**Security and  
Privacy**



# The healthcare industry and upskilling the workforce

- **Francois Mestre, CIO**  
at the European Center  
for Disease Prevention  
and Control
- **Simon Cowley,**  
**Cybersecurity Officer,**  
Department of Health,  
Melbourne, Australia
- **Andy Flatt, CIO**  
United Healthcare





# The need for “skillable” workers

- Our data fabric, web 3.0 world (?)
- Essential services
- Customer Experience (CX)
  - Identity management
  - AI-enabled decision-making
  - Cognitive automation

Data  
aggregation

Data  
Stores

Data  
Lakes

Distribution  
Methods

Access  
Methods

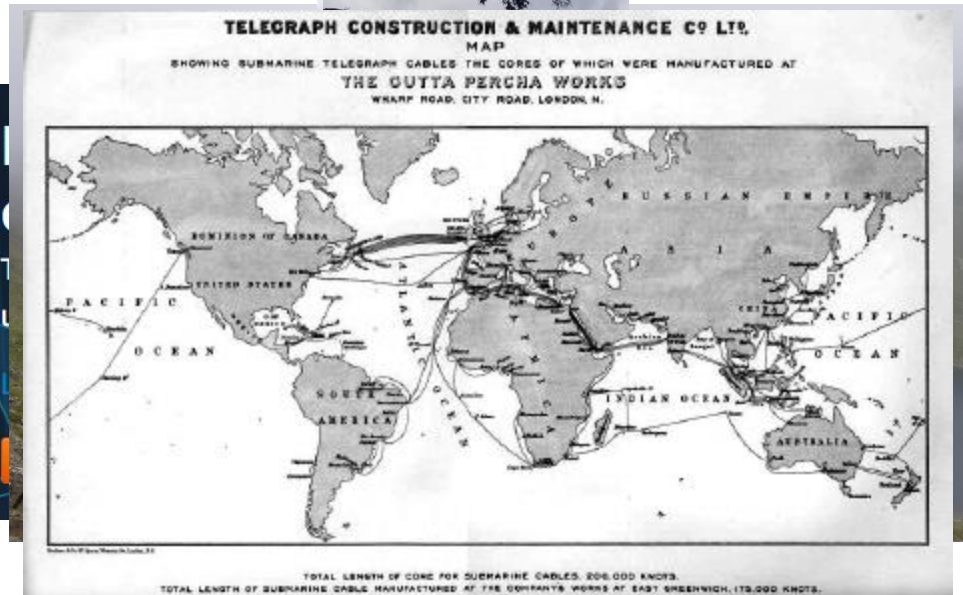
Cloud

Data  
centers

On prem

Analytics

Zero trust



# We need connectors and problem solvers!

- People who know
  - IT / IoT / OT
  - How to connect *everything*
  - Development lifecycles
  - How organizations work
- People who can
  - Work with data
  - Work with AI
  - Create sophisticated solutions
  - See around the corner of tomorrow's problems
  - Map tech to business



# X factor and “skillable” tech support / help desk



*“My goal is to provide cutting-edge, AI-driven info to the help desk”*

*-- Abhishek Parab, Cybersecurity Response Analyst, Dublin*

*“I manage a department that supports a hybrid-remote workforce. I need workers who can sift through real-time data input, and knowledge databases at lightning speed.”*

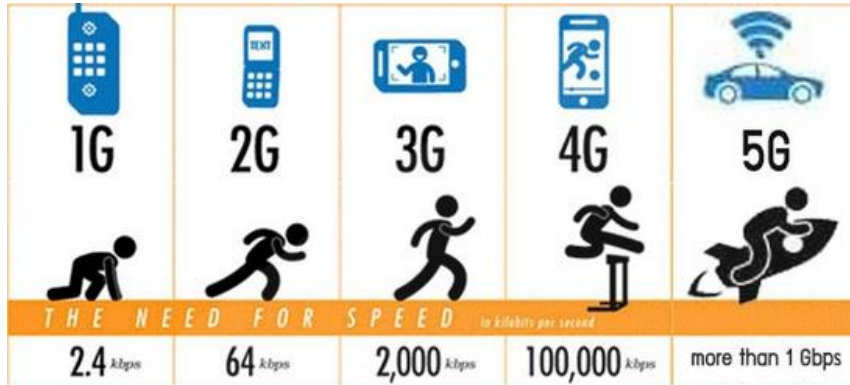
*Agatha Osakwe, Nigerian Communications Division*





# The cloud skillability “net nexus”

- What is the “cloud-smart” “X factor?”
- We need connectors
  - Data
  - AI



## X factor – cybersecurity (cont'd)



Elizabeth Bryer,  
Security and Compliance  
Analyst, Assessivate

Vint Cerf  
Chief Internet Evangelist  
Google, US



Andres Silva, Penetration Tester, AXA  
Investment Managers

# what leaders are saying about the x factor, by industry





# Leaders from around the world

- Upskilling and cross-skilling
- Retention



# Business leaders from Coca-Cola, Veritas, State Farm, HCA Health, and Dell – what they need



## *Confidence*

# eXperience paradigms to consider





# Generations of industrial revolution

- Each adopted a disruptive, exponential technology
- The tech we use
- We are in the 3<sup>rd</sup> to 4<sup>th</sup> industrial revolution

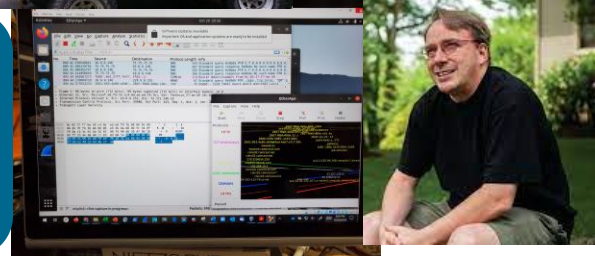
**1<sup>st</sup> Revolution**  
Steam  
Water power  
Mechanization



**2<sup>nd</sup> Revolution**  
Mass production  
Assembly line  
Electricity



**3<sup>rd</sup> Revolution**  
Information age, Space  
age IT systems,  
automation



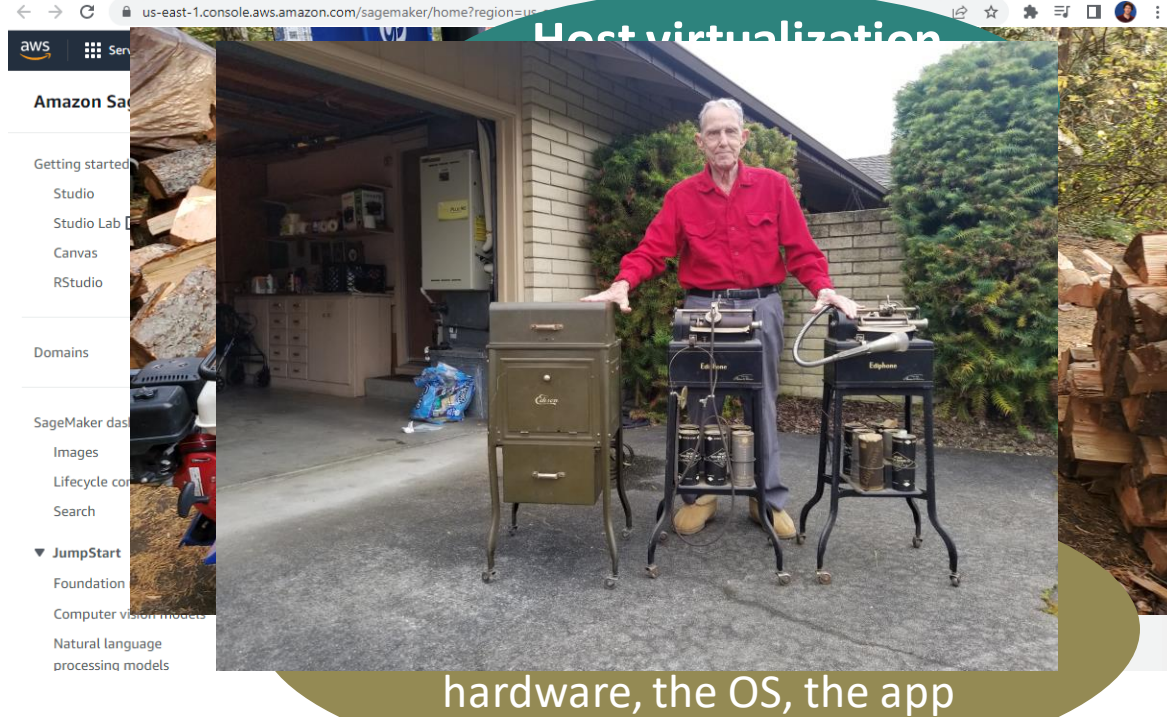
**4<sup>th</sup> Revolution**  
Cloud, Cyber physical  
systems  
intelligence, and context



# The “big 5” foundations of emerging tech: Democratization, miniaturization, virtualization, and automation

1. Democratization
2. Miniaturization
3. Virtualization
4. Automation
5. Disintermediation

Growing trends for *over 300 years!*



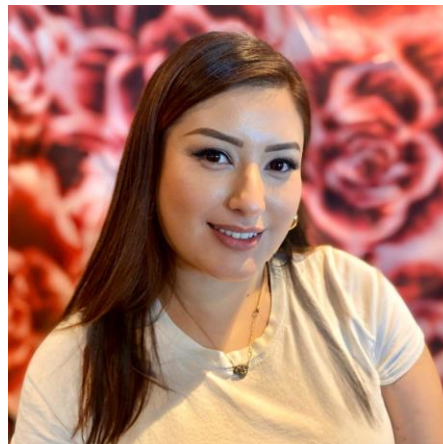
paradigms for success –  
going back to the  
future for the “x factor”





# Data labeling and AI ethics

- Marisol Ramos – works on CX
- Contractor for Meta (Facebook)
  - “I’m working with various AI agents in different domains”
  - These agents talk with Facebook users
  - “Data labeling is refining the accuracy and performance of these agents”
  - This “helps us meet industry and federal standards”
- Her skillset



**Ethics**

**Legal  
compliance**

**Explainability**

**Risk  
management**

**Iteration**

**Transparency**

## X factor – cybersecurity



Christina Cobb  
Security Analyst  
Aviva Health



Chris Cochran  
Threat hunter  
NSA, Netflix,  
Huntress Labs

# X factor paradigms, perspectives, and practices



Continuation

# Iteration – a foundational concept for success

- But we're not great at it
- Why?
  - The need for speed
  - Lack of buy-in
  - Lack of governance
  - Lack of *ability to curate*
- Successful organizations have the ability to try, try, try again
- ...



<https://www.linkedin.com/in/rachel-singleton-0b1277148?originalSubdomain=uk>



# Government and the “x factor”



## **“X factor” skills that help us use exponential technologies**

**Cooperating with  
the inevitable**

**Iteration**

**Process  
improvement**

**Dialogue  
(with AI and  
everyone else!)**

**Lateral thinking**

**Process  
automation**

**Tech skills**

**Transforming data into  
actionable information**

**Data skills**

# CompTIA research and the “X factor”



# CompTIA IT Industry Outlook 2024



**URL:** <https://connect.comptia.org/content/research/it-industry-trends-analysis>



# Workforce and Learning Trends 2024

- Impact of AI
- The “T-Shaped worker”
- Data-driven talent development
- Take active role in development
- DEIB / ESG momentum
- Workforce flexibility?
- Staff retention / talent mobility
- Need for valid training frameworks



**URL:** <https://www.comptia.org/content/research/workforce-and-learning-trends-2024>

# State of cybersecurity 2024

- Morphing attack surface
- Addressing security issue root causes
- People, policy, process – and product
- Morphing solutions
- Data and cybersecurity
- AI and cybersecurity

**URL:** <https://www.comptia.org/content/research/cybersecurity-trends-research>

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## STATE OF CYBERSECURITY 2024

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in Search Home My Network Jobs Messaging

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**James Stanger**  
Subject Matter Expert in Security, Open Source, and Emerging Technology  
Olympia, Washington · 500+ connections · [Contact info](#)

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 CompTIA  
 University of California, Riverside

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**About**

I've worked with Information Technology (IT) subject matter experts, hiring managers, CIOs, and CISOs worldwide. I've worked as a security consultant, presenter, certification program designer, and curriculum designer for over 20 years.  
... see more

<https://www.linkedin.com/in/jamesstanger>

# Thank You!

James Stanger, PhD

Twitter: @jamesstanger

Skype: stangernet

[The Internet of Things \(IoT\) and Technical Debt: Why It Matters](#)  
(CompTIA)

[How Technical Debt Can Damage Business Agility and Competitiveness](#)  
(ITPro, UK)

[Where the Wild Things Are: Investigating Browser-based Brute Force Attacks](#)  
October, 2020, *Admin Magazine*

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[10 critical security skills every IT team needs](#)  
(interview, *CIO Magazine*)

[A blockchain manifesto? A report from the RSA 2018 Blockchain Focus Group Cloud Orchestration with Chef](#)  
*Admin Magazine*

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[How to prevent insiders from breaching your data](#) (*Forbes*)

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[Do Fuzzing Applications Really Work?](#) (CompTIA)

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<https://www.comptia.org/blog/listing/author/james%20stanger>



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