

January 31, 2020

PAIS Friends! It was terrific to be with you all on Wednesday and Thursday in Charleston. A great conference with lots of key learnings!

I've flagged a few great reads in the next slide...do check them out when you have a moment. Always delighted to hear from you (email: burnett@nais.org) and thank you for the extraordinary work you do for our students and on behalf of our schools.

All the best! Jefferson

Great (and new) Reads!

- Healthcare

- [Shaping the Future of Health, Council Report](#) (April 2019)
- [Health and Healthcare in the Fourth Industrial Revolution : Global Future Council on the Future of Health and Healthcare 2016-18](#)

- Leadership

- [The New Leadership for Playbook for the Digital Age](#) (January 2020)

- Higher Education

- [How Can Higher Education](#) (January 2020)
- [Is College Still Worth It? The New Calculus of Falling Returns](#) (October 2019)

- K12

- [Schools of the Future](#) (January 2020)



The 4IR: 2030 and Beyond!

(continuing the convo)

Jefferson Burnett | burnett@nais.org

PAIS-SC | January 30, 2020



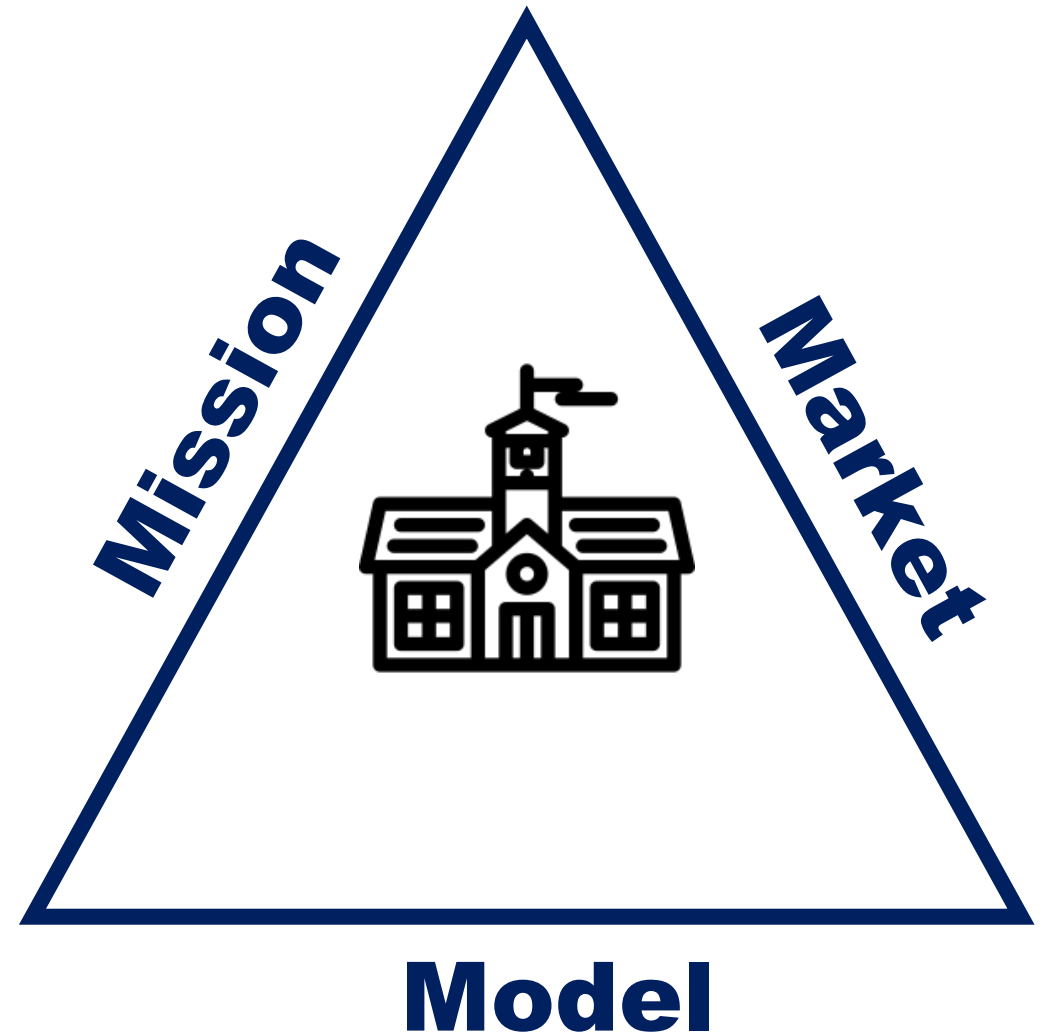
Happy New Year!

**All I want is 20-20 vision
A total portrait with no
omissions**

What's Ahead!

- 4IR Recap!
- 4IR and Healthcare
- 4IR and Leadership
- 4IR and Higher Education
- 4IR and K12 Education

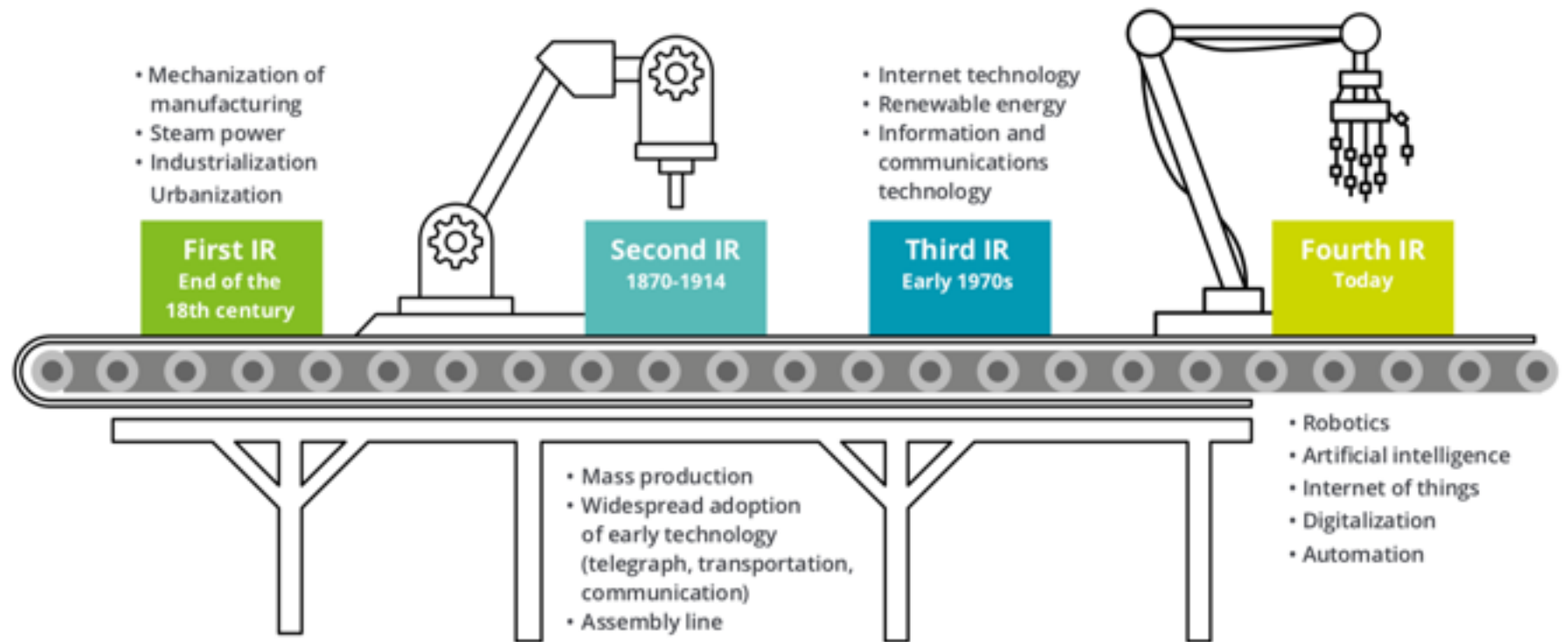
4IR Recap





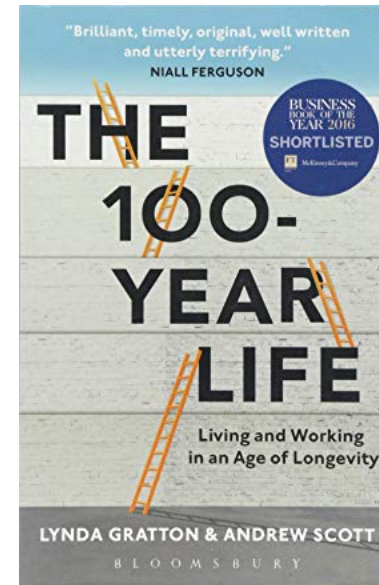
The Fourth Industrial Revolution

Preparing tomorrow's workforce
for the Fourth Industrial Revolution
For business: A framework for action



End 3 Stage Career

AI & Automation



Global Talent Hunt

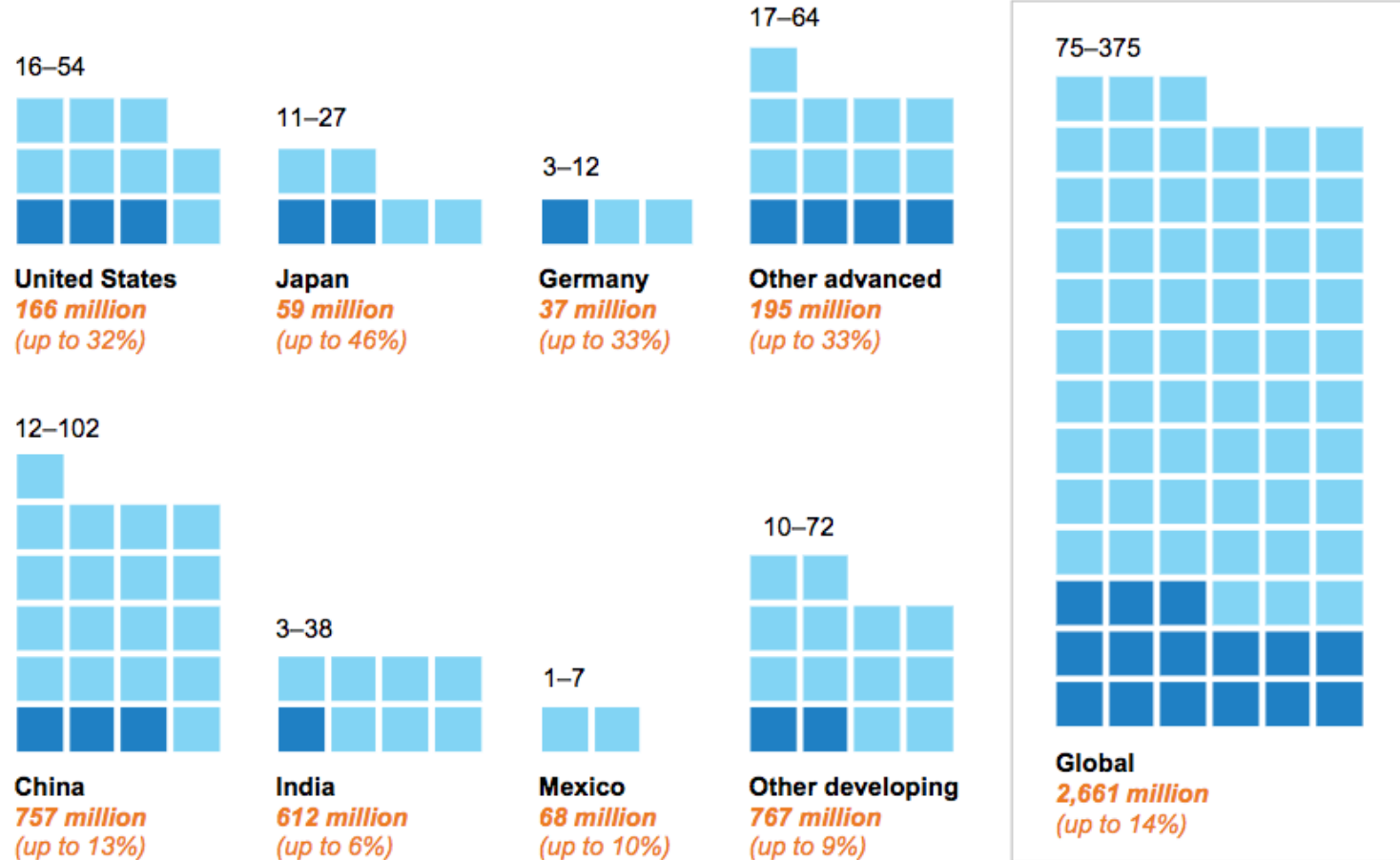
Globally, up to 375 million workers may need to switch occupational categories

Number of workers needing to move out of current occupational categories to find work, 2016–30 (trendline scenario)¹

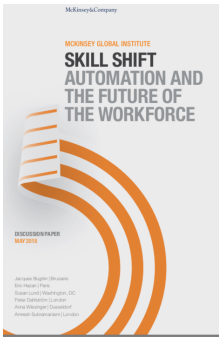
Million (1 block = ~5 million)

- Additional from earliest adoption scenario
- Midpoint automation scenario

2030 workforce
(% transitioning)

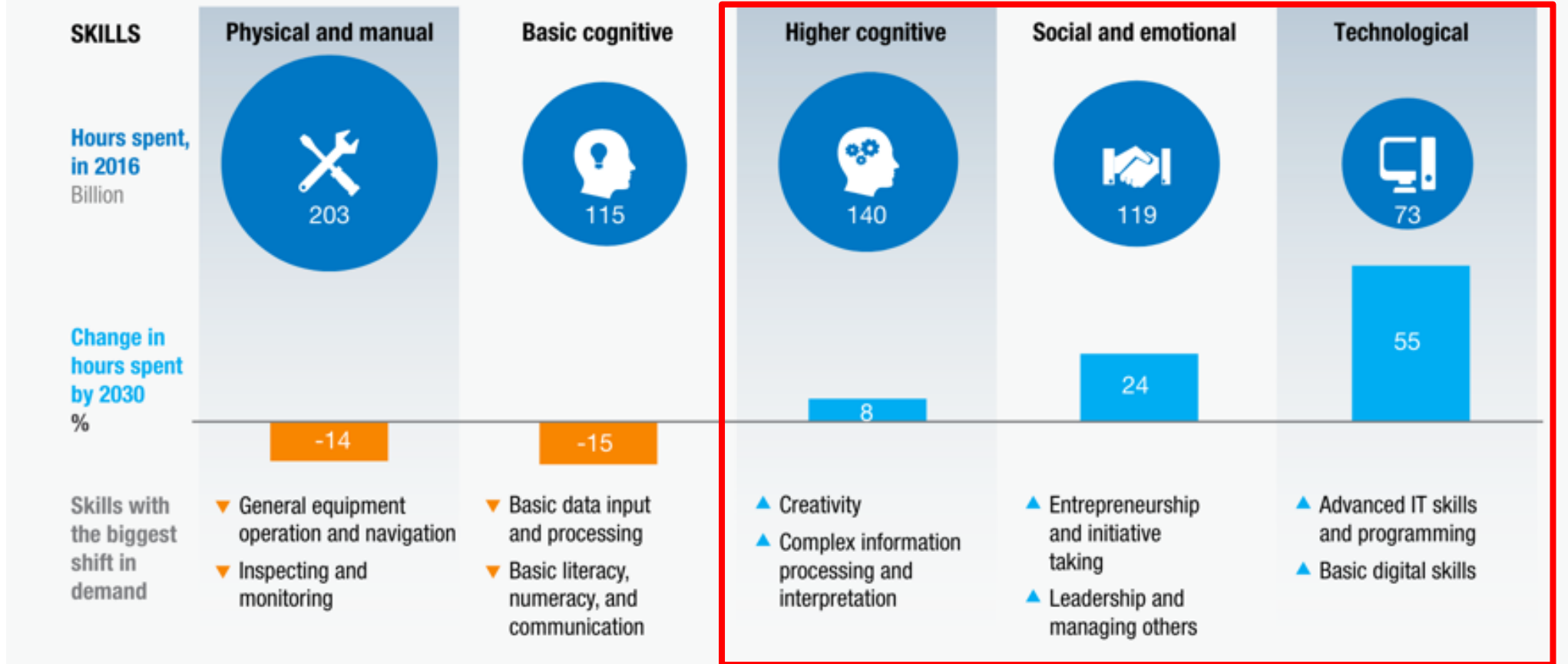


¹ Some occupational data projected into 2016 baseline from latest available 2014 data.



Automation and AI will change the skills needed in the workforce

Total is for United States and 14 Western European countries



Two-thirds of employees would trust a robot boss more than a real one



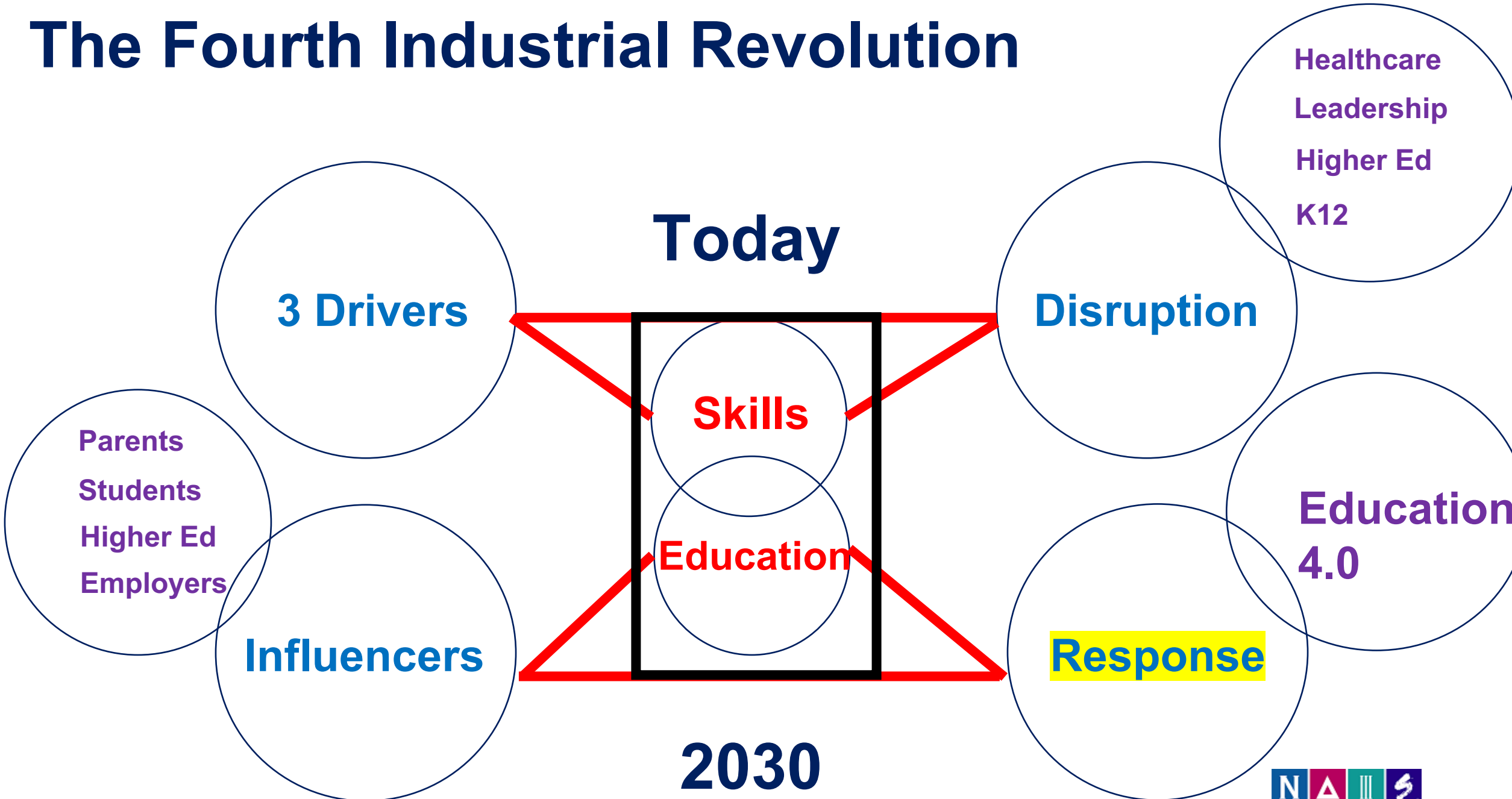
A new survey finds 82% of workers think robot managers are better than human managers at certain tasks.

Image: REUTERS/Rodrigo Garrido

Mind the Gap

What it means

The Fourth Industrial Revolution



4IR Driven Disruption

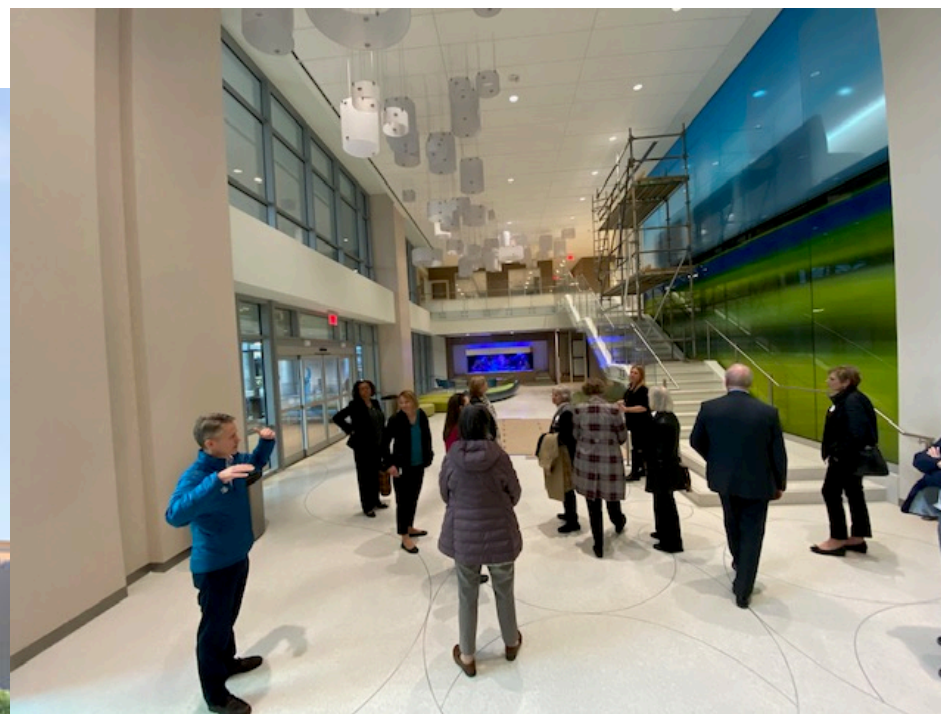
- Healthcare
- Leadership
- Higher Ed
- K12

Healthcare

(tech+sci to rescue)

What makes it possible to make the PPOV a reality vs DPOV?

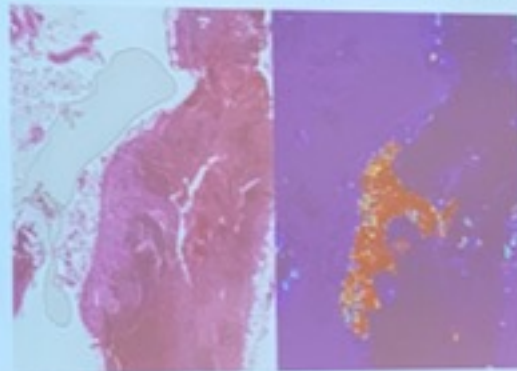
MUSC Shawn Jenkins Children's Hospital & Pearl Tourville Women's Pavilion



AI Visual Systems

Identify patterns that escape the human eye.

- Google AI developed a cancer-detecting algorithms that autonomously evaluates lymph node biopsies with 99% accuracy.



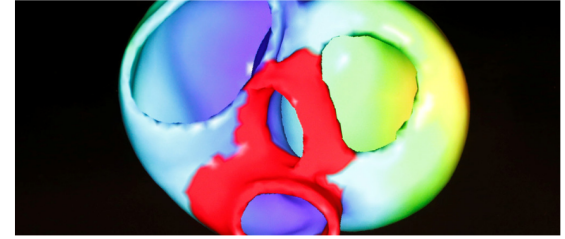
Humans missed diagnosis up to 62% of time.

5 key trends for the future of healthcare



Drones have been used to transport blood to and from rural locations. Image: REUTERS/James Akana

How technology can help us achieve universal healthcare



Digital technology has a crucial role to play in achieving access to healthcare for all. Image: REUTERS/Ralph Ortwies



Insight Report

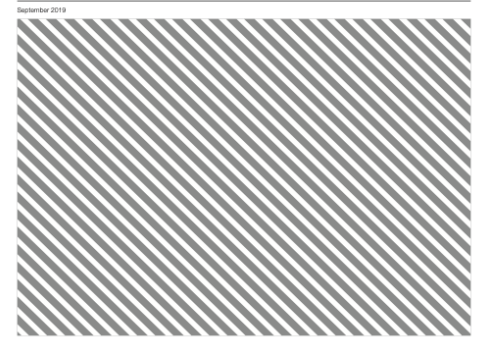
Health and Healthcare in the Fourth Industrial Revolution Global Future Council on the Future of Health and Healthcare 2016-2018



April 2019

Reflection Paper

Global Future Council on Health and Healthcare 2018-2019 A Vision for the Future: Transforming Health Systems



December 2019

Deloitte. Services ▾ Industries ▾ Insights ▾ Careers ▾

Blog: Health Forward Blog

Posted: Oct 29, 2019 ⌚ 7 min. read

As health enters the fourth industrial revolution, many countries share a common vision



Healthcare Reality...

Older Population Higher Costs Inequality of Access

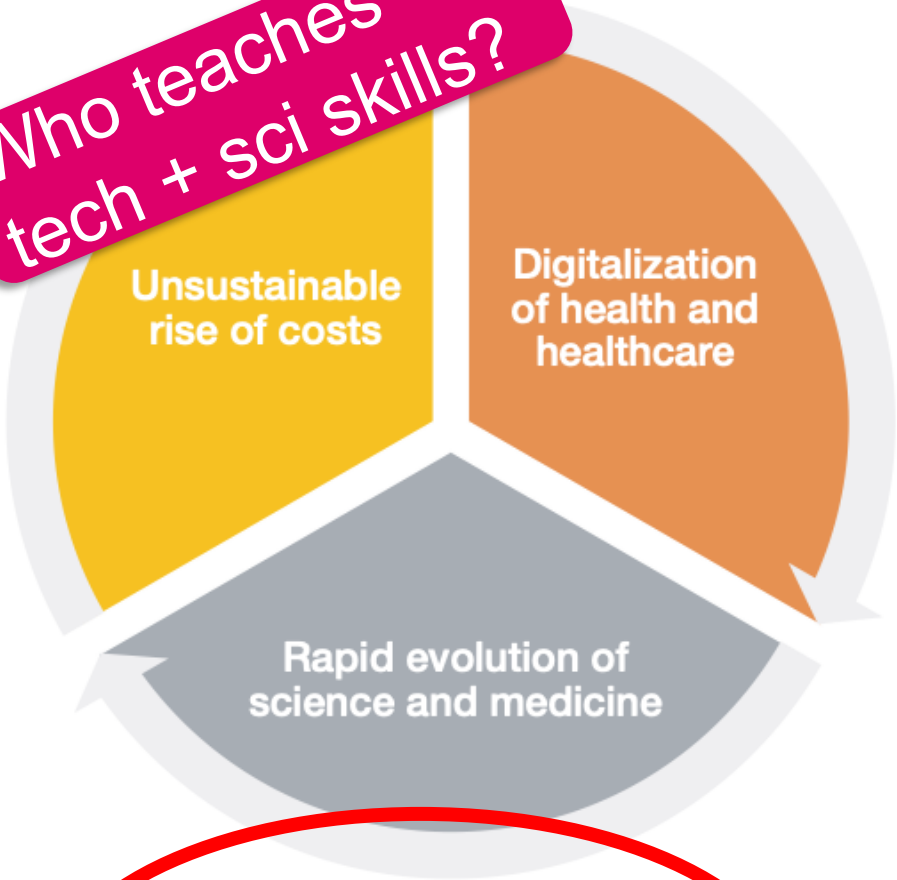
By 2050, 20% of the global population will be aged over 60

By 2040, the world will spend around USD 25 trillion every year on healthcare
Spending more does not necessarily achieve better health results, or higher life expectancies
For example, the US spends more than five times as much per person as Estonia, yet both countries have similar life expectancies.

Yet, at least half of the world's population cannot obtain essential health services. 800 million people spend at least 10% of their household budgets on health expenses; For almost 100 million people these expenses are high enough to push them into extreme poverty.

Exciting developments in:
Precision medicine
Immunotherapy
Microbiology
Genetic engineering
Regenerative medicine

Who teaches tech + sci skills?



Technological advances being leveraged in health and healthcare

- Artificial Intelligence
- Big Data and Analytics
- Virtual and augmented reality
- Nanotechnologies
- Modern machines (robotics, drones, 3D-printing)

Apps Wearables
Social Media Big data and analytics

By 2020, it is estimated that the volume of medical knowledge will be doubling every 73 days.

Over 318,000 health apps are now available (double from just two years ago) on top app stores worldwide with more than 200 health apps being added each day.

The integration of data will enable a system biology approach to prevention, disease surveillance, early detection, and intervention

Genome mapping now costs less than USD 1000
More than 15'000 drugs are in the pipeline in 2018, with over a third targeting cancer
New processes for drug development

Figure 0: What is driving innovations in health and healthcare?



In the future, two fundamental shifts will reshape the healthcare industry. First, **healthcare will be delivered as a seamless continuum of care**, away from the *clinic-centred point of care model* and with a greater focus on prevention and early intervention. **Second**, health and healthcare delivery will **focus on each person within their own ecosystem**, with a greater impact from people or patients themselves, often referred to as *the consumerization of healthcare*.

The combined advances in **discovery and clinical sciences, data science and technology and their convergence through the Fourth Industrial Revolution** are paving the way for unprecedented changes that will profoundly transform health and healthcare to become much more connected, efficient, preemptive, precise, personalized and affordable.

School/Learner?

Leadership

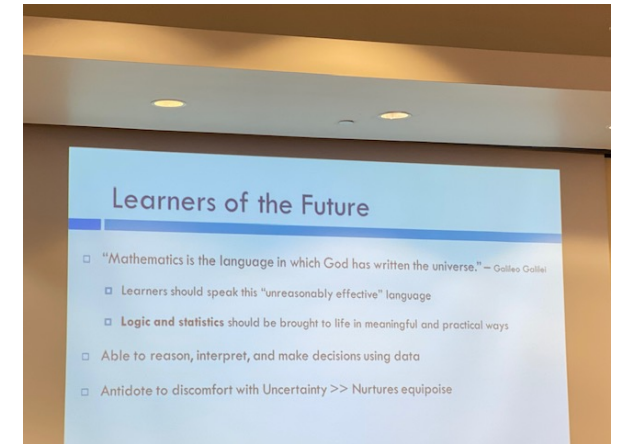
(what will it take)



Two Key Take-aways:

#1: Leaders need to be digitally savvy

#2: Some leadership norms (attributes and behaviours) that worked in the past won't work in the future. There are some norms that endure and then there are new norms to learn and model.





The essential behaviours that are hallmarks of leadership in the digital economy

Eroding	Enduring	Emerging
<ul style="list-style-type: none">Asks for permissionHas no-exception protocolsReinforces command and controlManages top-downAvoids transparencyMicromanagesCreates rigid long-term plansTakes a one-size-fits-all approach	<ul style="list-style-type: none">Creates a clear visionFocuses on performanceMaintains a profit orientationIs customer-centricLeads by exampleDemonstrates ethics and integrityTakes risksLeads change	<ul style="list-style-type: none">Is purpose-drivenNurtures passionMakes data-driven decisionsDemonstrates authenticityDemonstrates empathyEmploys an inclusive approachShows humilityWorks across boundaries

Teaching 4IR
Leadership

Redefining the role of the leader in the reskilling era

To enable continuous learning, leaders will need to think and act differently.

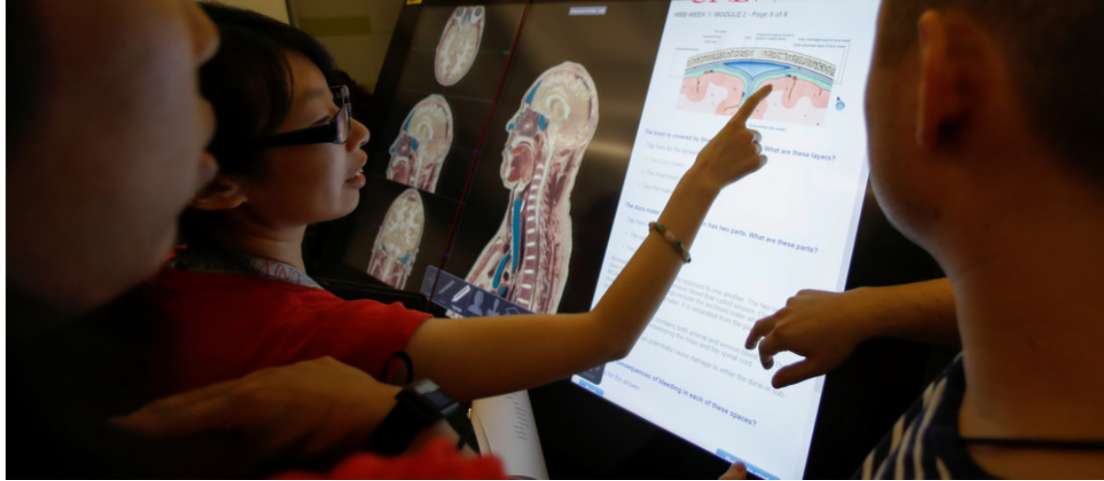
Continuous learning in the workplace must become the new norm if individuals and organizations want to stay ahead. This places more demand than ever on leaders to take on a new role they might initially find unfamiliar—that of **learning facilitator-in-chief**.

Higher Ed

(staying relevant + needed)

How higher education can adapt to the future of work

[Farnam Jahanian](#) President, Carnegie Mellon University



A virtual anatomy class at the UNLV School of Medicine in Las Vegas, Nevada, U.S.

Image: REUTERS/Mike Blake

What's the Uni 4.0?

Focus on “human” skills, not just digital competencies

Embrace the T-shaped approach to knowledge

Invest in personalised, technology-enhanced learning

Consider new models of engagement for the private sector and government

Forbes

Americans Rank A Google Internship Over A Harvard Degree



Brandon Busted Contributor @
Education

When asked what they believe would be most helpful for a high school graduate to launch a career, Americans overwhelmingly recommend an internship at Google (60%) over a degree from Harvard (40%).

 **Strada** | EDUCATION NETWORK

01

Work outcomes are the main reason most people choose higher education, more than double the percentage representing the next most prevalent motivation.

Why College?



National Association
of Independent Schools

05 Jul 2019

Jian Lu

President, LinkedIn China

Skills, not job titles, are the new metric for the labour market



Credential or ...

Skills are the new currency on the labour market. Skills indicate demand and supply at a more nuanced level than occupations, whose required expertise and skills are changing increasingly quickly, and degrees, which are often already outdated by the time they are obtained. **The current pace of change requires following the direction of a skills-based, rather than degree-based labor market,**



MOOCs Make Way For SPOCs In The Global Education Of Tomorrow



FOUNDING
ACADEMIC
INSTITUTIONS



Columbia Business School
AT THE VERY CENTER OF BUSINESS™
EXECUTIVE EDUCATION

Tuck
EXECUTIVE EDUCATION
at Dartmouth



National Association
of Independent Schools

Is college a
terminus in the 3
stage career?

Truth or Dare?

Higher education as destination or waypoint on the 4IR journey?



FEDERAL RESERVE BANK *of* ST. LOUIS
CENTRAL TO AMERICA'S ECONOMY*

Survey of Consumer
Finances

Is College Still Worth It? The New Calculus of Falling Returns

William R. Emmons, Ana H. Kent, and Lowell R. Ricketts



Ouch!

In sum, Whites are the only racial or ethnic group born in the 1980s for whom a bachelor's degree provides a family with a reliable wealth advantage over comparable nongraduate families—albeit one that is much smaller than those enjoyed by earlier cohorts of college graduates. Even more surprisingly, the expected wealth premium among postgraduate families with a head born in the 1980s is indistinguishable from zero at standard confidence levels for all races and ethnicities.²⁴

K12
(this is us)

Skills & Mindsets Matter!

Workforce Reality

Convergence

Need Skills & Mindsets

Education: K12 - Life



National Association
of Independent Schools

Schools of the Future
Defining New Models of Education
for the Fourth Industrial Revolution

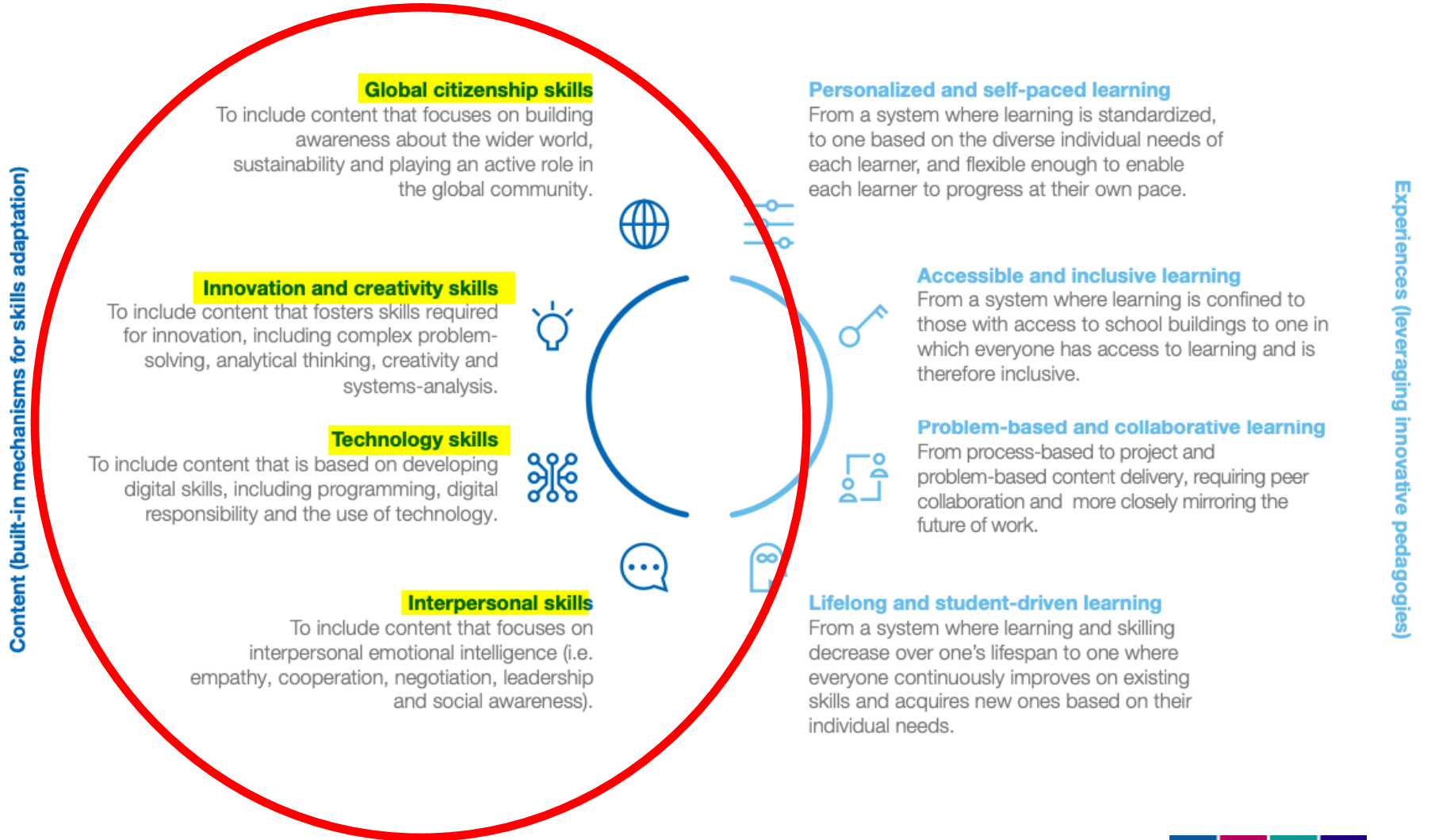
January 2020



In the context of job disruption and increased polarization, primary and secondary school systems have a critical role to play in preparing the global citizens and workforces of the future. Education models must adapt to equip children with the skills to create a more inclusive, cohesive and productive world.



Figure 2: The World Economic Forum Education 4.0 Framework



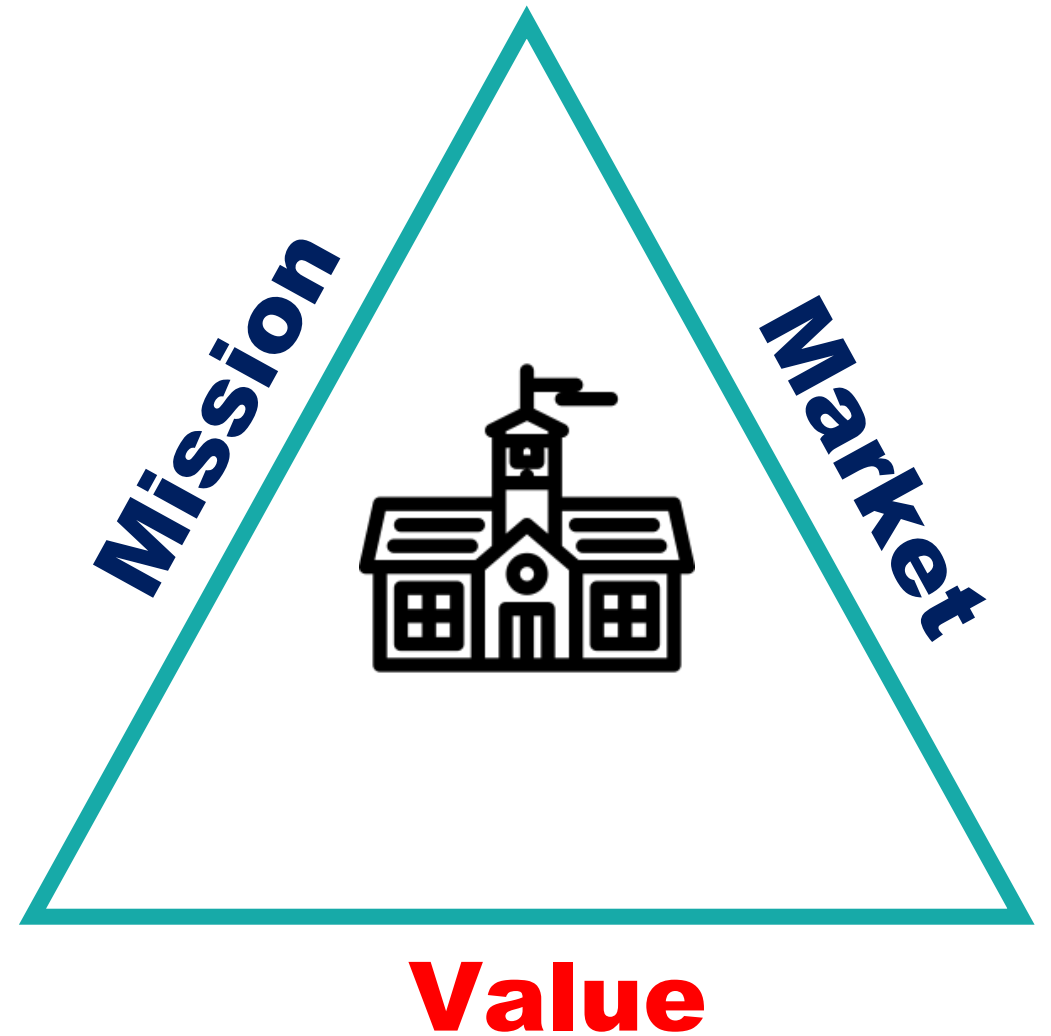
Where are the sweet spots for us?

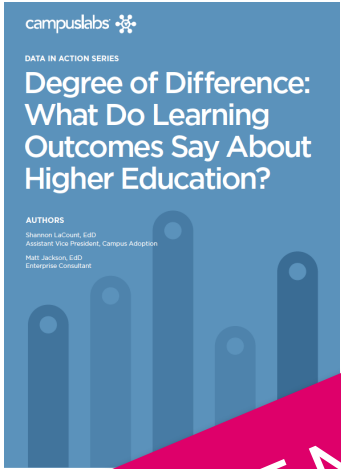
Learners of the Future

- Discern what information...
 - they need to “know”
 - they can “access” as needed
 - how to find information and critically appraise information.
- STEM with emphasis on problem solving

4IR Influencers

(why we must pay attention)



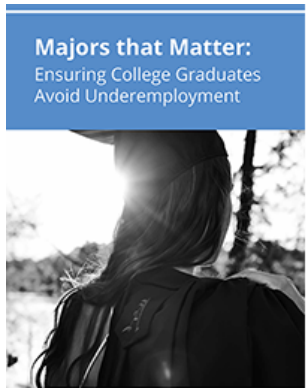


PARENTS!

The United States Census Bureau states the country's population is 328.6 million people. An interesting bit of trivia, perhaps, but all the more intriguing when one realizes that 44 million of those people (~13.4 percent) collectively owe \$1.5 trillion in student loan debt.



An investment as large as a bachelor's degree should not have such a high level of buyer's remorse.





Learners say universities need to do more to serve the job market

63% globally believe that colleges and universities aren't teaching the right skills.

GO.PEARSON.COM/GLOBAL-LEARNER-SURVEY 10

The career divide: almost half of those in the US, UK, Australia, Canada, and Europe don't think that higher education prepared them for their career

Half of Gen Z in the US, UK and Australia say you can do OK in life without a degree.



Which of the following best reflects your opinion about your higher education experience? (%)
 Asked among those with post-secondary educational attainment (which includes higher ed. coursework, degrees, certifications, vocational, etc.)

	US	UK	Australia	Canada	Europe (excl. UK)	South Africa	Brazil	China	India	Hispano-America	Middle East
Did prepare me for my career	56	49	58	58	55	60	67	67	63	71	64
Did NOT prepare me for my career	44	51	42	42	45	40	33	33	37	29	36

High % believing you can do OK without a college degree

Students!



National Association of Independent Schools



College Ready, 4IR Ready: What's the message for us from an elite institution?

President Reif calls for federal funding, focused education to address “opportunity and threat” of AI

In *Financial Times* op-ed, MIT president says higher education must teach students to be “AI bilingual.”

In an op-ed piece published today in *Financial Times*, MIT President L. Rafael Reif argues for sustained federal investment in artificial intelligence, and encourages the nation's colleges and universities to prepare students for new societal challenges posed by AI.

February 11, 2019

MIT reshapes itself to shape the future

Gift of \$350 million establishes the MIT Stephen A. Schwarzman College of Computing, an unprecedented, \$1 billion commitment to world-changing breakthroughs and their ethical application.

Colleges!

**Really?
That's it?**



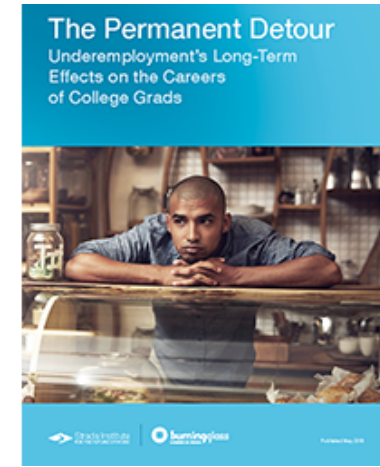
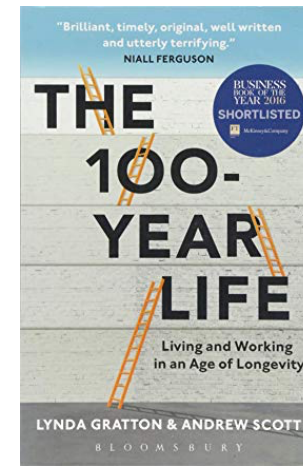
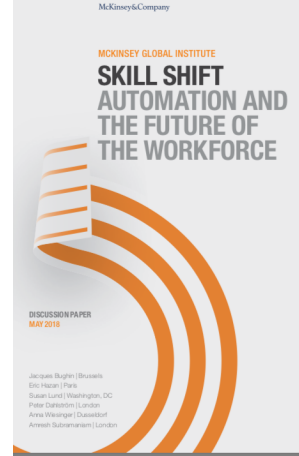
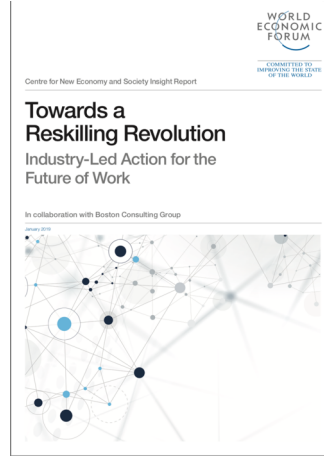
reboot, rethink, rekindle



Getting 4IR Fit:

- 1. Is your “why” 4IR relevant?**
- 2. Is your market 4IR aware?**
- 3. Is your business model 4IR friendly?**
- 4. Is your learning programme 4IR proof?**
- 5. Is your faculty 4IR tuned?**
- 6. Is your student community 4IR ready?**
- 7. Is your value proposition 4IR infused?**





Resources | burnett@nais.org



NAIS Toolkit: International Student Programs

TIPS

Recruiting International Students from New Markets

Get perspectives on important current and emerging markets for international student recruitment.

