



# Newsletter

## CVA-ACFP Newsletter June-July 2018

**IN FOCUS The Future of work:  
Automation, robots and industry 4.0**

### **NEXT DACUM | PUBLIC WORKSHOPS in 2018**

- September 10th to 13th, St-John's
- October 15th to 18th, Winnipeg
- November 5th to 8th, Halifax

For more information on DACUM : [here](#)

## **CVA's PICKS OF THE MONTH**

### **The Future of Work We Want: A Global Dialogue**

This report presents a short summary of the International Labour Organization's (ILO's) Global Dialogue on "[The Future of Work We Want](#)", which brought together leading economists, academics and representatives from governments and social partners (employers' and workers' organizations) to discuss the profound changes sweeping through the world of work. [http://www.ilo.org/global/topics/future-of-work/dialogue/WCMS\\_570282/lang--en/index.htm](http://www.ilo.org/global/topics/future-of-work/dialogue/WCMS_570282/lang--en/index.htm)

En français. [L'avenir du travail que nous voulons: un dialogue global](#)

*Tags : Colloquium 2017; Employment trend; Report 2017; Source: ILO - International Labour Organization; Trend - employment;*

The CVA/ACFP team is proud to have Madeleine Decker,  
our Information and knowledge management specialist,

## ARTICLES and PAPERS

### **Australia. [Why we don't need to prepare young people for the 'future of work'](#)**

While there is little consensus about the “[future of work](#)”, one thing is certain – [young people are at the coalface](#). Young workers experience insufficient opportunities for work experience, a mismatch between work and education, a lack of career management skills and scant entry-level jobs.

*Tags : Article 2018; Australia; Employment trend; Source: The Conversation; Trend - employment; Youth;*

### **[England/London hospitals to replace doctors and nurses with AI for some tasks](#)**

One of the country's biggest hospitals has unveiled sweeping plans to use artificial intelligence to carry out tasks traditionally performed by doctors and nurses, from diagnosing cancer on CT scans to deciding which A&E patients are seen first.

*Tags : AI - Artificial intelligence; Article 2018; Artificial intelligence - AI; England; Medical field; Source: The Guardian;*

### **Japan. [Land of the Rising Robots](#)**

Japan's combination of artificial intelligence and robotics may be the answer to its rapidly shrinking labor force.

*Tags : Article 2018; Japan; Robotics; Source: IMF - International Monetary Fund;*

### **[Japan is replacing its ageing construction workers with robots](#)**

Japanese companies are facing a workforce automation problem. It's not the kind you normally hear about, though — workers aren't afraid they'll lose their jobs to machines. Instead, the companies need to engineer robots to replace the droves of Japanese workers approaching retirement age.

*Tags : Article 2018; Automation; Construction industry; Japan; Robotics; Source: World Economic Forum;*

### **Japan. [Industry 4.0 and Human Resources Development: A View from Japan](#)**

The paper aims at analyzing the approach of the Japanese Government towards the impacts of the fourth industrial revolution.

*Tags : Human resources; Industry 4.0; Japan; Paper 2018; Source: E-Journal of International and Comparative Labour Studies;*

### **Europe. [Technological revolutions and societal transitions](#)**

Are we currently living through a new industrial and technological revolution? Does it differ qualitatively from similar revolutions in the past? How can we gauge its political implications? Researchers working within the school of evolutionary economics, in

particular those who embrace the concept of techno-economic paradigms, regard the ongoing digitalisation of the economy not as a new revolution, but as the turning point between the installation period and the deployment period of a paradigm based on information and communication technologies.

En français. [Europe. Révolutions technologiques et transitions dans la société](#)

*Tags : Europe; Industry 4.0; Paper 2018; Source: ETUI - European Trade Union Institute;*

### [European Union. A law on robotics and artificial intelligence in the EU?](#)

This paper discusses the European Parliament's Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (European Parliament 2017). It provides a brief summary of the content of the Resolution and looks at its basic principles and *raison d'être*.

En français. [Union européenne. Une législation européenne sur la robotique et l'intelligence artificielle ?](#)

*Tags : AI - Artificial intelligence; Article 2017; Artificial intelligence - AI; European Union; Législation; Robotics; Source: ETUI - European Trade Union Institute;*

### [Southeast Asia robotics: Automation will trigger rise in slavery and abuse](#)

Slavery and labour abuses will escalate in Southeast Asia as automation takes hold and the adoption of robot workers creates a race to the bottom.

*Tags : Article 2018; Asia/Southeast Asia; Robotics; Source: Internet of Business;*

### [Africa. Capitalizing on Industry 4.0 in Africa](#)

The impact of Industry 4.0—the next phase in the digitization of the manufacturing sector driven by computing power, connectivity, and new forms of human-machine interaction—will be wide and profound. It offers exciting opportunities for African manufacturers and small and medium enterprises to create new business models and integrate into global value chains. However, benefiting from Industry 4.0 requires overcoming a myriad of obstacles.

*Tags : Africa; Article 2018; Industry 4.0; Source: Brookings Institution;*

### [Every study we could find on what automation will do to jobs, in one chart](#)

There are about as many opinions as there are experts.

*Tags : Article 2018; Automation; Source: MIT Technology Review;*

### [An Overview of National AI Strategies](#)

This article summarizes the key policies and goals of each strategy, as well as related policies and initiatives that have announced since the release of the initial strategies. It also includes countries that have announced their intention to develop a strategy or have related AI policies in place.

*Tags : AI - Artificial intelligence; Article 2018; Artificial intelligence - AI; Source: Medium; Strategy;*

### [How can we ensure that AI is a force for good? \(Q&A\)](#)

How will Artificial Intelligence (AI) impact industries and economies? How can governments and companies prepare for the 4th Industrial Revolution?

*Tags : AI - Artificial intelligence; Article 2018; Artificial intelligence - AI; Industry 4.0; Source: ITU -*

### **Workers at risk as robots set to replace 66m jobs, warns OECD**

Automation was most likely to affect jobs in the manufacturing industry and agriculture, although a number of service sectors, such as postal and courier services, land transport and food services are also highly vulnerable. Low-skilled people and youth were among those most at risk, with the jobs at highest risk tending to be in low-skill sectors such as food preparation, cleaning and labouring.

Related OECD report. **Automation, skills use and training**

*Tags : Analysis - trends; Article 2018; Automation; OECD countries; Report 2018; Robotics; Skills - needs analysis; Source: OECD - Organisation for Economic Co-operation and Development; Source: The Guardian; Training - needs; Trends;*

### **Work in the Age of Intelligent Machines**

How do you organise a society in which few people do anything economically productive?

*Tags : AI - Artificial intelligence; Article 2018; Artificial intelligence - AI; Source: Financial Times;*

### **How machine learning creates new professions — and problems**

Leaders face an explosion in demand for knowledge and skills.

*Tags : Article 2017; Automation; Source: Financial Times;*

### **Collaborative Intelligence: Humans and AI Are Joining Forces**

Artificial intelligence is becoming good at many “human” jobs—diagnosing disease, translating languages, providing customer service—and it’s improving fast. This is raising reasonable fears that AI will ultimately replace human workers throughout the economy. But that’s not the inevitable, or even most likely, outcome. Never before have digital tools been so responsive to us, nor we to our tools. While AI will radically alter how work gets done and who does it, the technology’s larger impact will be in complementing and augmenting human capabilities, not replacing them.

*Tags : AI - Artificial intelligence; Article 2018; Artificial intelligence - AI; Source: Harvard Business Review;*

### **The Rise of the Robot Reserve Army: Automation and the Future of Economic Development, Work, and Wages in Developing Countries**

Emerging economies face a contemporary challenge to traditional pathways to employment generation: automation, digitalization, and labor-saving technologies. 1.8 billion jobs—or two-thirds of the current labor force of developing countries—are estimated to be susceptible to automation from today’s technological standpoint.

*Tags : Automation; Lower/medium income countries; Robotics; Source: Center for Global Development; Working paper 2018;*

### **4 predictions for the future of work**

1. AI and robotics will create more jobs, not mass unemployment — as long as we responsibly guide innovation
2. Cities will compete against other cities in the war for top talent
3. The majority of the US workforce will freelance by 2027
4. Education breaks out of the silo

*Tags : Article 2017; Employment trend; Source: World Economic Forum; Trend - employment;*

### **What Skills are the Trends in the Future?**

Educational institutions should offer students and workers soft skills, entrepreneurial and managerial skills that are harder to automate and offer workers the flexibility to move between jobs. This also means providing students and workers with digital and IT skills, computer science and computer programming skills.

*Tags : Article 2018; Industry 4.0; Source: Lucubrate Magazine;*

### **Automation Revolution Will Spur Retraining to Fill New Jobs**

Artificial intelligence (AI) and automation will displace millions of workers in coming years but simultaneously create many new jobs that displaced workers will need to be trained to fill. By 2030, 400 million to 800 million workers worldwide, including 73 million in the United States, will be forced out of their current jobs by AI and robotics. The biggest challenge for HR in the next decade will be to provide training for existing workers so they can remain employable and to help businesses as they undergo transition.

*Tags : AI - Artificial intelligence; Article 2018; Artificial intelligence - AI; Automation; Employment trend 2030; Source: SHRM - Society for Human Resource Management; Trend - employment 2030;*

### **Notes from the AI frontier: Applications and value of deep learning**

An analysis of more than 400 use cases across 19 industries and nine business functions highlights the broad use and significant economic potential of advanced AI techniques.

*Tags : AI - Artificial intelligence; Artificial intelligence - AI; Case study; Paper 2018; Source: McKinsey;*

### **Automation and an Uncertain Future**

As automation becomes ever more common, even those professions once thought to be insulated from technological disruption face an uncertain future.

*Tags : Article 2018; Automation; Source: Educause Review;*

### **AI, automation, and the future of work: Ten things to solve for**

As machines increasingly complement human labor in the workplace, we will all need to adjust to reap the benefits.

*Tags : AI - Artificial intelligence; Artificial intelligence - AI; Briefing note 2018; Source: McKinsey;*

### **From trade unions to NGOs: we all need a say in how tech is governed**

As the Fourth Industrial Revolution matures, it will have an unparalleled, disruptive impact on society, depending how people communicate, organizations create value and humanity understands itself. Building on the foundations of the digital revolution, emerging technologies in the Fourth Industrial Revolution scale up exponentially through digital interoperability, emerge physically in smart products and services, and embed themselves prolifically in society.

*Tags : Article 2018; Industry 4.0; Source: World Economic Forum;*

### **The world is changing. Here's how companies must adapt**

The Fourth Industrial Revolution is transforming practically every human activity: the way we make things; the way we use the resources of our planet; the way we communicate

and interact with each other as humans; the way we learn; the way we work; the way we govern; and the way we do business. Its scope, speed and reach are unprecedented.

*Tags : Article 2018; Industry 4.0; Source: World Economic Forum;*

### **Robots have been taking our jobs for 50 years, so why are we worried?**

Ideally, Industry 4.0 will enable human workers to achieve more in their jobs by removing repetitive tasks and giving them better robotic tools. In theory, this would allow us humans to focus more on business development, creativity and science, which it would be much harder for any robot to do. Technology that has made humans redundant in the past has forced us to adapt, generally with more education.

*Tags : Article 2017; Industry 4.0; Robotics; Source: World Economic Forum;*

### **The Fourth Industrial Revolution is about empowering people, not the rise of the machines**

The Fourth Industrial Revolution is now. And, whether you know it or not, it will affect you. Billions of people and countless machines are connected to each other. Through groundbreaking technology, unprecedented processing power and speed, and massive storage capacity, data is being collected and harnessed like never before. Automation, machine learning, mobile computing and artificial intelligence — these are no longer futuristic concepts, they are our reality.

*Tags : AI - Artificial intelligence; Article 2017; Artificial intelligence - AI; Automation; ndustry 4.0; Source: World Economic Forum;*

### **Five lessons from history on AI, automation, and employment**

History tells us that in the long run, technology is a net creator of jobs. Is this time different?

*Tags : AI - Artificial intelligence; Article 2017; Artificial intelligence - AI; Automation; Employment trend; Lessons learned; Source: McKinsey; Trend - employment;*

### **Will robots and AI take your job? The economic and political consequences of automation**

Robotics and machine learning have improved productivity and enhanced the economies of many nations. Artificial intelligence (AI) has advanced into finance, transportation, defense, and energy management. The internet of things (IoT) is facilitated by high-speed networks and remote sensors to connect people and businesses. In all of this, there is a possibility of a new era that could improve the lives of many people. Yet amid these possible benefits, there is widespread fear that robots and AI will take jobs and throw millions of people into poverty.

*Tags : AI - Artificial intelligence; Article 2018; Artificial intelligence - AI; Robotics; Source: Brookings Institution;*

### **Skills policies and systems for a future workforce**

This Issue Brief provides an overview of skills requirements for the future of work and considers how skills development systems might be transformed to meet these needs. It also raises questions about the financing of lifelong learning, as well as about the respective responsibilities of governments, enterprises and workers.

En français. [Systemes et politiques de developpement des competences pour la main-d'oeuvre de demain](#)

*Tags* : Briefing note 2018; Employment trend; Source: ILO - International Labour Organization; Strategy - workforce development; Trend - employment; Workforce - development strategy;

[Skill shift: Automation and the future of the workforce](#)

Demand for technological, social and emotional, and higher cognitive skills will rise by 2030. How will workers and organizations adapt?

*Tags* : Automation; Employment trend 2030; Paper 2018; Source: McKinsey; Trend - employment 2030;

## DOCUMENTS

[Australia. Thriving in the new work order](#)

By 2030, automation, globalisation and flexibility will change what we do in every job. To prepare young people for this future we must urgently shift our understanding of what it will mean to be smart in the New Work Order.

*Tags* : Annual report; Australia; Automation; Employment trend 2030; Skills - needs analysis; Source: Foundation for Young Australians; Trend - employment 2030; Youth;

[Canada. Humans Wanted: How Canadian Youth Can Thrive in the Age of Disruption](#)

In the coming decade, half of all jobs will be disrupted by technology and automation. Some will change dramatically. Others will disappear completely, replaced by jobs that are yet to be invented. How will we prepare Canadian youth for the workplace of the future?

En français. [Canada. Humains recherchés – Facteurs de réussite pour les jeunes Canadiens à l'ère des grandes perturbations](#)

*Tags* : Annual report 2018; Canada; Employment trend; Source: Royal Bank of Canada; Trend - employment;

[Canada. The Intelligence Revolution. Future-proofing Canada's workforce](#)

Over the next decade, the future of work will be shaped by a completely new force: the "Intelligence Revolution". It will be driven not by incremental automation in manufacturing processes but by exponential change based on machine learning, virtually free data storage and communication, and ever-increasing computational power that rivals some human capabilities.

En français. [Canada. La révolution de l'intelligence. L'avenir de la main-d'œuvre canadienne](#)

*Tags* : Canada; Employment trend 2027; Report 2017; Source: Deloitte Canada; Trend - employment 2027;

[Canada. Disruption or Opportunity? Automated Future Poised to Change Future of Work](#)

According to the report [Skills for an Automated Future](#), automation, artificial intelligence and advanced robotics have the potential to either take over jobs or be the key to increased productivity and competitiveness.

En français. [Canada. Compétences pour un avenir automatisé](#)

**Tags :** *AI - Artificial intelligence; Artificial intelligence - AI; Automation; Canada; Report 2018; Robotics;*  
*Source: Canadian Chamber of Commerce;*

### **Canada. AI looks North: Bridging Canada's corporate artificial intelligence gap**

In Canada, which pioneered many foundational advances in deep learning research and possesses a rich AI talent base, the question confronting businesses is whether they can reap AI benefits commensurate with the nation's historic academic leadership. Right now, big players such as Google, Facebook, and Microsoft are coming to Canada to leverage its deep talent pool. But will Canada's pioneering AI history translate into accelerated technology advances in its own businesses?

**Tags :** *AI - Artificial intelligence; Canada; Report 2018; Source: McKinsey;*

### **Canada/Ontario. Better, Faster, Stronger: Maximizing the benefits of automation for Ontario's firms and people**

The report explores the risks and rewards automation poses for industries and workers in Ontario by examining trends in the economy as a whole, gathering local insights from across the province, and conducting an in-depth analysis of two key sectors in Ontario that are broadly representative of these trends — manufacturing and finance and insurance.

**Tags :** *Annual report 2018; Automation; Canada/Ontario; Source: Brookfield Institute;*

### **USA. Americans are worried about the future of artificial intelligence**

A new survey finds that although some Americans believe artificial intelligence will make their lives easier, many are concerned about its potential consequences on jobs, privacy, and international competition.

**Tags :** *AI - Artificial intelligence; Artificial intelligence - AI; Employment trend; Report 2018; Source: Brookings Institution; Survey 2018; United States of America;*

### **USA. The Work Ahead Machines, Skills, and U.S. Leadership in the Twenty-First Century**

The challenge facing the United States today is to rebuild the links among work, opportunity, and economic security for all Americans in the face of accelerating technological change.

**Tags :** *Automation; Report 2018; Skills; Source: Council on Foreign Relations; United States of America;*

### **USA. Mounting a Response to Technological Unemployment**

Of all the great economic anxieties, there's something particularly disquieting about the potential of artificial intelligence and other forms of technology replacing human labor. Some estimates indicate that as many as [47 percent of current jobs](#) could be replaced by technology. Will advances in technology lead to widespread unemployment? While there is significant disagreement about whether technology would decrease levels of employment in the United States, there is substantial consensus about the types of tasks that may be at risk of being replaced by automated technologies.

**Tags :** *AI - Artificial intelligence; Annual report 2018; Artificial intelligence - AI; Employment trend;*  
*Source: The Century Foundation; Trend - employment; United States of America;*



### **USA. Workforce of the future: The competing forces shaping 2030**

Automation and ‘thinking machines’ are changing the skills workers need, while demographic changes promise a talent shortage, longer lifespans, and other significant shifts that will affect the workplace.

*Tags : Annual report 2018; Employment trend 2030; Source: PwC - PricewaterhouseCoopers; Trend - employment 2030; United States of America;*

### **Sub-Saharan Africa. The Future of Jobs and Skills in Africa: Preparing the Region for the Fourth Industrial Revolution**

With more than 60% of its population under the age of 25, sub-Saharan Africa is already the world’s youngest region today – and, by 2030, will be home to more than one-quarter of the world’s under-25 population. This document aims to serve as a practical guide for leaders from business, government, civil society and the education sector, and finds that the region’s capacity to adapt to the requirements of future jobs leaves little space for complacency. While a number of African economies are relatively under-exposed to labour market disruptions at present, this picture is changing rapidly.

*Tags : Africa/Sub-Saharan; Industry 4.0; Report 2017; Source: World Economic Forum;*

### **Europe. Robots at work - A report on automatable and non-automatable employment shares in Europe**

This work documents the shares of non-automatable and automatable jobs in 24 European countries over the last three decades. Knowledge of this distribution is important as it reveals the countries, and the demographics within these countries whose employment is the most vulnerable to disappearing because of automation, as well countries who have tended towards substituting labour with automation at a faster rate over the last two decades. The same distribution also reveals the jobs that are likely to stay with us in the future, to the extent that they are non-automatable.

*Tags : Automation; Europe; Report 2018; Robotics; Source: European Commission;*

### **Latin America and the Caribbean. The Jobs of Tomorrow : Technology, Productivity, and Prosperity in Latin America and the Caribbean**

Concerns abound that advanced technologies developed in high-income countries would inexorably lead to job losses of lower-skilled, less well-off workers and exacerbate inequality. Conversely, there are countervailing concerns that policies intended to protect jobs from technology advancement would themselves stultify progress and depress productivity. This book squarely addresses both sets of concerns with new research showing that adoption of digital technologies offers a pathway to more inclusive growth by increasing adopting firms’ outputs, with the jobs-enhancing impact of technology adoption assisted by growth-enhancing policies that foster sizable output expansion.

*Tags : Book 2018; Employment trend; Latin America and the Caribbean; Source: World Bank; Trend - employment;*

### **Middle East. Are Middle East workers ready for the impact of automation?**

Education levels and skills will determine how disruptive automation is to the region’s labor markets.

*Tags : Automation; Middle East; Report 2018; Source: McKinsey;*

### **World Development Report 2019: The changing nature of work**

Work is constantly reshaped by technological progress. New ways of production are adopted, markets expand, and societies evolve. But some changes provoke more attention than others, in part due to the vast uncertainty involved in making predictions about the future. The [2019 World Development Report](#) (draft report) will study how the nature of work is changing as a result of advances in technology today.

*Tags : Annual report 2019; Employment trend; Source: World Bank; Trend - employment;*

### **Technology and the Future of Work**

Many feel anxious about the impact of new technology on their jobs. This is not new. In fact, it dates back at least to the Luddites movement at the outset of the Industrial Revolution. And it resurfaced during the Great Depression and again in the 1960s, following a period of high productivity growth, and in the 1980s at the outset of the IT revolution. How can governments help? By [investing in peoples' skills](#).

*Tags : Employment trend; Report 2018; Source: IMF - International Monetary Fund; Trend - employment;*

### **Preparing for disruption: Technological Readiness Ranking**

In this report, find out how prepared the world's biggest economies are for technological change in the short and medium term. It examines eight different indicators across three categories – access to the internet, digital economy infrastructure, and openness to innovation - key sources of competitive advantage for today's global economies.

*Tags : Annual report 2018; Employment trend; Source: The Economist; Trend - employment;*

### **Data Science for Undergraduates**

Data science is emerging as a field that is revolutionizing science and industries alike. Work across nearly all domains is becoming more data driven, affecting both the jobs that are available and the skills that are required. As more data and ways of analyzing them become available, more aspects of the economy, society, and daily life will become dependent on data. It is imperative that educators, administrators, and students begin today to consider how to best prepare for and keep pace with this data-driven era of tomorrow. Undergraduate teaching, in particular, offers a critical link in offering more data science exposure to students and expanding the supply of data science talent.

*Tags : Analysis - trends; Book 2018; Education - trend; Skills - needs analysis; Source: National Academies Press; Trend - analysis; Trend - education;*

### **Trouble in the Making? The Future of Manufacturing-Led Development**

In the past, manufacturing created jobs and increased productivity in developing countries. But technology is improving, trade is slowing, and industrial automation may mean fewer jobs in the future. To continue advancing, developing countries must adapt. But how?

*Tags : Automation; Lower-income countries; Report 2017; Robotics; Source: World Bank;*

### **How artificial intelligence is transforming the world**

The report discusses AI's application across a variety of sectors, address issues in its development, and offer recommendations for getting the most out of AI while still protecting important human values.

*Tags : AI - Artificial intelligence; Artificial intelligence - AI; Report 2018; Source: Brookings Institution;*

### [What the future of work will mean for jobs, skills, and wages](#)

In an era marked by rapid advances in automation and artificial intelligence, new research assesses the jobs lost and jobs gained under different scenarios through 2030.

*Tags : AI - Artificial intelligence; Artificial intelligence - AI; Automation; Employment trend 2030; Report 2017; Source: McKinsey; Trend - employment 2030;*

### [A revolutionary partnership How AI is pushing man and machine closer together](#)

The modern world has been shaped by the technological revolutions of the past, like the Industrial Revolution and the Information Revolution. Artificial intelligence (AI) is poised to have a transformative effect on consumer, enterprise, and government markets around the world. While there are certainly obstacles to overcome, consumers believe that AI has the potential to assist in medical breakthroughs, democratize costly services, elevate poor customer service, and even free up an overburdened workforce.

*Tags : AI - Artificial intelligence; Annual report 2017; Artificial intelligence - AI; Source: PwC - PricewaterhouseCoopers;*

### [How to Reform Worker-Training and Adjustment Policies for an Era of Technological Change](#)

Rather than slow down technological disruption to protect a small number of workers at the expense of the vast majority who are benefiting, policymakers should focus on doing significantly more to help those who are displaced transition successfully into new jobs and occupations.

*Tags : Report 2018; Source: ITIF - Information Technology & Innovation Foundation; Training - trend; Training - workplace; Trend - training; Workplace - training;*

### [Future Shocks and Shifts: Challenges for the Global Workforce and Skills Development](#)

This report presents evidence on the expanding scope of automation. After three decades of a secular decline in middle-income jobs, the bulk of low-skilled and low-income workers are now for the first time susceptible to computerization. Meanwhile, skilled jobs remain relatively resilient to recent trends in technology. In particular, workers with extraordinary social and creative skills will still remain in the workforce in 2030.

*Tags : Automation; Employment trend 2030; Report 2017; Source: University of Oxford;*

## **OTHER**

### [Archives from the CVA/ACFP Database. The Future of work: Automation, robots and industry 4.0](#)

**2011 REPORT** [Future world skills 2020](#) This report analyzes key drivers that will reshape the landscape of work and identifies key work skills needed in the next 10 years.

**2013 ARTICLE** [Japan. A response in Japan to low birthrates and labor shortage: humanoid robots](#) Government projections estimate that over the next two decades, Japan will lose nearly a million people per year. There are less and less potential workers,

and youths don't want to work in factories anymore.

**2014 ARTICLE** [Can universities and colleges keep up with the skills demanded by the 'new manufacturing'?](#) Game-changing advancements in robotics, 3D printing, data analysis, vision systems, sensors and the Internet of Things are creating seismic changes in manufacturing systems and processes. But where does the human resources factor fit into this transition?

**2015 PAPER** [Do We Have to Be Afraid of the Future World of Work?](#) The paper tries to highlight major trends shaping the world of work in developed economies with the aim of giving a realistic account of probable developments and the contributions of different driving forces, importantly focusing on the role of actors such as policy makers, firms and individuals.

**2016 PAPERS and ARTICLES** [Preparing for the robots: Which skills for 21st century jobs?](#) The robots are coming and are taking our jobs. Or are they?

[New technologies: A jobless future or golden age of job creation?](#) This paper explains the dynamics of job destruction and job creation in the context of technological change. It explores the role of economic, social and political forces in shaping the nexus new technologies, innovation and job.

**REPORT** [The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution](#) The Fourth Industrial Revolution is interacting with other socio-economic and demographic factors to create a perfect storm of business model change in all industries, resulting in major disruptions to labour markets.

**2017 PAPERS, ARTICLES, BRIEFING NOTES** [People, machines, robots and skills](#) Technological unemployment is a recurring theme, but joblessness in the digital age will depend on human, not artificial, intelligence.

[Automation will disrupt the future of work — but also the future of global development](#) Although automation will take longer to reach developing countries, the nature of work is already changing in these markets.

[Accelerating Gender Parity in the Fourth Industrial Revolution](#) This paper explores the challenges and opportunities for enhancing gender parity in sectors likely to exhibit high growth in the context of the Fourth Industrial Revolution, and identifies key acceleration strategies by sector.

[From craftsmanship and novices to 3D printing and an ageing workforce: is vocational education and training \(VET\) research keeping pace with change as well as continuity in work?](#) Changes in work technologies, the way work is organized, and the nature, distribution and utilization of occupational skills and knowledge have always had an impact on VET practice and policy.

**REPORTS** [Australia. Preparing young people for the future of work](#)

Australia's education system is not preparing students for twenty-first century success. Young people entering technology-rich, global, competitive job markets need different skill sets to what our education system has traditionally valued.

[Canada. The Intelligence Revolution: Future-proofing Canada's workforce](#) Over the next decade, the future of work will be driven not by incremental automation in manufacturing processes but by exponential change based on machine learning, virtually free data storage and communication, and ever-increasing computational power that rivals some human capabilities.

[Harnessing automation for a future that works](#) Automation is happening, and it will

bring substantial benefits to businesses and economies worldwide, but it won't arrive overnight. The report finds realizing automation's full potential requires people and technology to work hand in hand.

**[The future of work in the automotive sector: The challenges of deglobalization](#)** This report on the future of work in the automotive sector focuses on the major changes facing the sector.

**2018 REPORT [Canada. Future-proof: Preparing young Canadians for the future of work](#)** With a large number of jobs at risk of automation in the near future, including those held by some of the most vulnerable segments of Canada's population, youth are facing higher skill and experience requirements than ever before.

*Tags : AI - Artificial intelligence; Artificial intelligence - AI; Automation; CVA/ACFP Archives; Employment trend; Future of work; Industrial revolution; Industry 4.0; Robotics; Source: CVA/ACFP - Canadian Vocational Association/Association canadienne de la formation professionnelle; Trend - employment;*

### **[Latin America. The Post Manufacturing Economy](#)**

Automation is reducing the incentive for companies to outsource production to emerging-market economies. How should Latin America prepare for a future with less labour-intensive manufacturing? Duration 1:03:32

*Tags : Automation; Latin America and the Caribbean; Source: World Economic Forum; Video 2018;*

### **[An executive's guide to AI](#)**

Staying ahead in the accelerating artificial-intelligence race requires executives to make nimble, informed decisions about where and how to employ AI in their business. One way to prepare to act quickly: know the AI essentials presented in this guide.

*Tags : AI - Artificial intelligence; Artificial intelligence - AI; Guide 2018; Source: McKinsey;*

### **[The Future of Work: A Literature Review](#)**

An enormous amount of literature has emerged over the last few years in the context of the "Future of Work". Academics, think tanks and policy makers have fuelled rich discussions about how the future of work might look like and how we can shape it. However, despite a growing body of research in this area, there exists no universally accepted definition of what exactly the "Future of Work" encompasses and what the most relevant drivers are.

*Tags : Employment trend; Literature review 2018; Source: ILO - International Labour Organization; Trend - employment;*

### **[AI, Robotics, and the Future of Work](#)**

Some commentators fear that we are in the midst of a Fourth Industrial Revolution where artificial intelligence, autonomous vehicles, and robots are replacing workers at staggering rates. This presentation explains this could not be farther from the truth. Instead of fretting about tech killing jobs, we should be worrying about how to boost record-low productivity growth—the only sustainable way to increase living standards (Duration 1:29:47).

*Tags : AI - Artificial intelligence; Artificial intelligence - AI; Industry 4.0; Robotics; Source: ITIF - Information Technology and Innovation Foundation; Video 2017;*

### **[Will automation take away all our jobs?](#)**

Here's a paradox you don't hear much about: despite a century of creating machines to do our work for us, the proportion of adults in the US with a job has consistently gone up for the past 125 years. Why hasn't human labor become redundant and our skills obsolete?

**Tags** : *Automation; Source: TED; TED Talks; Video;*

### **The Future of Work**

Globalisation, technological progress and demographic change are having a profound impact on OECD labour markets, affecting both the quantity and quality of jobs that are available, as well as how and by whom they are carried out. The future of work offers unparalleled opportunities, but there are also significant challenges associated with these mega-trends. The *OECD Future of Work initiative* looks at how demographic change, globalisation and technological progress are affecting job quantity and quality, as well as labour market inclusiveness - and what this means for labour market, skills and social policy.


**Tags** : *Employment trend; Initiative - Future of Work; OECD countries; Resources; Source: OECD - Organisation for Economic Co-operation and Development; Trend - employment;*

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