# Overcoming Digital Challenges – Making it Happen

**Table of Contents**

## 1. Introduction

This article is concerned with the global megatrends that already today have an impact on the future world of work, the jobs and skills required and the changing patterns and nature of work. It sums up some of the key characteristics of changing industries and services as we transit to the digital economy. Union responses and key areas of concern and key questions that need to be asked are raised too.

At a time where experts predict that digitalisation/automation and AI will eliminate up to 47% of current jobs in the US and 77% in China[1], or 50% of the tasks white collar workers perform today, it is vital that our trade union responses are bold, courageous and innovative. This paper aims to contribute to that.

The following draws first and foremost on the work of UNI Global Union, the ITUC, TUAC and other union federations in relation to the Future World of Work, but will also refer to external sources. The main focus of the article will be on the effects of digital innovations and what role unions must play to secure quality, empowering jobs and societies for the generations to come.

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[1] World Bank Development Report, 2016

## 1.1. Global megatrends & the impact on jobs

As UNI Global Union identified in the 2014 Cape Town Congress background paper "Including You in a New World of Work", citizens, workers and indeed businesses are currently facing a multitude of challenges. Figure 1 below recapitulates these challenges – or megatrends.

These megatrends will all have an impact on the future world of work; on jobs, skills and equality.
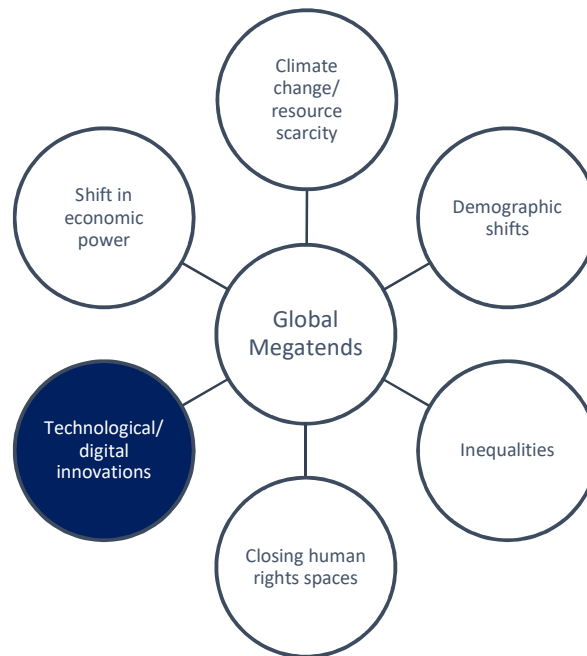
*Figure 1: From UNI Global Union report: Including You in a New*

Whatever Donald Trump's administration says, the science is clear. Human behaviour is contributing to climate degradation. Natural resources are being depleted and energy consumption is constantly rising. To curb the negative effects this has on our climate and to live up to the Paris Climate Change Agreement, and the UN Sustainable Development Goals[2], the economic system's focus on what is an unsustainable environmentally damaging economic growth must change. And with that we will see a growing displacement of workers across the world, changing consumption patterns, and new jobs forming as we transit to a greener circular economy. Both the displaced workers and the new jobs will require new skill sets that in turn demand changes to vocational training systems as well as academic degress across the world. The global unions have succeeded in winning the case for a "Just Transition" to help workers mitigate and adapt to an environmentally stable world. For UNI, it is essential that all workers in all forms of employment have both the rights and access to retraining and upskilling.

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[2] https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en, https://sustainabledevelopment.un.org/?menu=1300

As shown in the box on the right, demographic changes across the world will also have significant impact on the world of work. Most notably, the proportion of the population over 65 years of age will for the first time since the Second World War be larger than the group of under 5 years old already in 2020. And the trend will continue putting enormous pressure on the financing of healthcare systems, women's labour market participation in particular and the financing of social care.

New migration patterns will form as labour shortages (due to demographic change rather than economic growth) in the advanced economies will require the welcoming of migrant labour from population growing regions. Just as importantly, the global shift in economic power towards China and India will significantly influence labour markets in other regions and create new migrant patterns.

In 2050 it is estimated that 70% of the world's population will live in urban areas[3]. Not only will this lead to further risks of inner-city ghettoization and inequality, it will also create divided societies unless strong policies to actively include the rural population in economic, social and technological developments are guaranteed.

## DEMOGRAPHY & INEQUALITY

## DID YOU KNOW?

1. That in advanced economies the working age population is in a rapid decline?

2. That Europe will face a labour shortage of 8.3 million by 2030?

3. That 600 million new jobs will need to be created by 2020 in low and medium income countries to keep employment levels up?

4. That youth unemployment is rising across the world leaving 74.5 million people aged 15-24 unemployed?

5. That women perform 66% of the world's work but earn just 10% of the income?

6. That it will take another 75 years before the gender pay-gap is closed across the G20?

7. That 50% of the population growth from now on will come from Africa?

8. That 1.5 million people are added to cities every week?

*Box 1: Demographic & population change*

Globally, a vastly more unequal world is emerging, where the vested interests of the few are realised at the expense of the well-being and prosperity of the many. In terms of the global labour market, low wage, insecure and unsafe work is on the rise. In addition, trade unions are increasingly under attack. The ITUC sum this up in their recent paper[4] as shown in the box below.

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[3] Oxford Martin School (2013) *Now for the long term: The Report of the Oxford Martin Commission for Future Generations.* Available at*:*
http://www.oxfordmartin.ox.ac.uk/downloads/commission/Oxford_Martin_Now_for_the_Long_Term.pdf
[4] http://www.ituc-csi.org/the-future-of-work-a-global-deal

- Only 60 per cent of workers are employed in the formal economy and more than 50 per cent of these workers are in insecure work with short-term contracts and often unsafe work;

- Forty per cent struggle to survive in the informal economy - the sector of desperation with no workers' rights, no minimum wages and no social protection;

- More than 45 million people are in modern slavery/forced labour; and,

- Three quarters of the world's people have inadequate or no social protection, with insufficient healthcare and no pensions for a dignified retirement.

*Box 1: The Future of Work: A Global Deal, ITUC 2017*

In the following sections, we will turn our attention to the megatrend: **Technological Innovations**. We will describe in more detail the issues of importance to the world of work, highlighting what is at stake and what union responses will be required.

## 2. Technological/digital innovations and the world of work

Some authors and experts claim that the digital innovations we are witness to across the world today and the consequential job displacements and work changes are nothing new. They posit that the changes resemble technological adaptations throughout history, and that time has shown that workers, skills, production methods and businesses adapt to the new technologies. Whilst there is some truth in this position, UNI Global Union together with many other global unions, experts and commentators, is of the belief and understanding that what we are witnessing the beginning of today will be a radical disruption with far-reaching consequences for our labour markets, workers and societies.

Mark Zuckerberg, the founder of Facebook recently published a 5.700 word manifesto[5] titled Building Global Community. It's an ambitious text that critiques have called a neo-colonial attempt to justify why Facebook should look and will look to create the "infrastructure" that will help solve some of the world's biggest problems[6]. Critique aside, the text does acknowledge the potential devastating disruption of our societies and communities. He calls on us all to recall that "a global community that works for everyone starts with the millions of smaller communities and

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[5] https://www.facebook.com/notes/mark-zuckerberg/building-global-community/10103508221158471/?pnref=story
[6] http://mashable.com/2017/02/16/facebook-mark-zuckerberg-new-direction-save-the-world/#TRh4qWgs7mqS

intimate social structures we turn to for our personal, emotional and spiritual needs." He includes trade unions as important social infrastructures for communities that…

> *"provide all of us with a sense of purpose and hope; moral validation that we are needed and part of something bigger than ourselves; comfort that we are not alone and a community is looking out for us; mentorship, guidance and personal development; a safety net; values, cultural norms and accountability; social gatherings, rituals and a way to meet new people; and a way to pass time.*

Another prominent figure of the new digital times, Space-X and Tesla founder Elon Musk has also warned of the potential dangers of artificial intelligence if "it will follow the will of people that establish its utility function"[7].

At the 2016 UNI Global Union Leadership Summit, it became all too clear that major disruption is ahead. The World Executive Board consequentially took firm decisions to continue our work towards finding solutions to the disruptions and challenges ahead[8]. And the World Congress in Liverpool will dedicate significant time to the Future World of Work.

In the following, we will discuss some of the core issues at stake that will demand action and innovation by UNI Global Union, our regions and affiliates. We identify two *technological drivers of change*: Artificial intelligence/machine learning and big data respectively and will discuss how they are manifesting changes in labour market relations. These two developments are enabling much of the disruptions and changes we see in business models, employment relations and inequality patterns. We end the article with a list of key demands we should posing to governments and employers in order to enable both a just transition to the future world of work, as well as a world of work for generations to come that is empowering and sustainable for all.

## 2.1.    Artificial intelligence/Machine learning

The first *technological driver of change* is Artificial Intelligence (AI) and Machine Learning (ML) - two inter-related transformative technological developments. Both AI and ML promise to emancipate humans by automating mundane tasks and instead offer creative insights that will spur innovation to the joy of mankind. With a slight adaptation of Moore's Law[9] that predicted a doubling of computational power every year, AI is soon expected to be able to process 20.000 years of human-level intellectual work *per week*, week after week[10].

**AI** is the broader concept of machines being able to carry out tasks in a way that we humans consider "smart". This can be exemplified through Apple's Siri, Amazon's Alexa, IBMs Watson and the chatbots you most certainly have come across on the internet. **Machine Learning** refers to an application of AI based around the idea that we should really just give machines access to data

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[7] http://fortune.com/2016/08/17/elon-musk-ai-fear-werner-herzog/
[8] See UNI circular U051 - Making it Happen – Towards Liverpool
[9] https://en.wikipedia.org/wiki/Moore's_law
[10]
https://www.ted.com/talks/sam_harris_can_we_build_ai_without_losing_control_over_it/transcript?language=en#t-461200

and let them learn for themselves. Although used interchangeably by many, the distinction is pretty important. AI is nothing new[11]. Systems have been designed for many a year that will enable machines to make intelligent decisions. For example, the first machine to beat a human in a simplified chess game was built in 1914.

When talking about super intelligent AI, many are actually referring to the process where machines on their own accord process information to learn. This learning can potentially take us, and the machines, into very murky waters. With the amount of data produced every day by humans, and with the number of machines now capable of thinking and feeling like humans and processing that data as they see fit, the possibilities are infinite for unregulated Machine Learning.

That AI and ML have the potential to displace workers and job tasks is undisputed. Whilst UNI Global Union acknowledges that certain jobs and tasks would benefit from automation, we also recognise that AI and ML could potentially inflict harm on people and planet. As UNI presented in our recent call for a global convention on ethical AI[12], a growing number of companies, NGOs, experts and academics believe so too. That "the big 6", the 6 largest tech MNCs (Google, Amazon, Apple, Microsoft, Facebook and IBM), who together control and own the majority of data that is produced, have united in a "Partnership on AI – to benefit people and society" says in itself a lot about the (un)ethical potentials of AI. So does the fact that Elon Musk donates millions of dollars to ethical AI research. Indeed the need for research into ethical AI is acknowledged by many.

**UNIs call demands that AI and ML innovations commit to putting the good of people and planet first.** This in terms of sustainable growth in general, but also in terms of the need to ask what impact an innovation will have on labour, on the tasks workers perform, and the skills that they need to transit to a new organisation of work. For UNI, a world without decent work is an undesirable world. People work for many other reasons than to financially get by. Policy and opinionmakers should not underestimate the socialising, fulfilling and meaning-giving role work has for the individual. **Securing a just transition and developing a meaningful world is a global task that needs to be solved through a multi-stakeholder cooperation.**

### Job displacements

Using the, albeit criticised, methodology of Frey and Osbourne[13], the World Bank estimates that up to 77% of jobs in China, 72% in Thailand, 69% in India and 60% in Malaysia are susceptible to automation. This counters the 47% risk of job losses in America.



*Figure 2: Jobs at risk of automation (World Bank Development Report, 2016)*

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[11] https://www.forbes.com/sites/gilpress/2016/12/30/a-very-short-history-of-artificial-intelligence-ai/#4981da76fba2

[12] http://www.uniglobalunion.org/news/uni-global-union-calls-establishment-a-global-convention-ethical-artificial-intelligence

[13] http://www.oxfordmartin.ox.ac.uk/downloads/reports/Citi_GPS_Technology_Work.pdf

Already today we have examples of how AI is being introduced in the **banking and insurance** sectors to displace workers. Robo-trading 2.0 uses hypotheses and strategies created by AI to now trade with real money. Call centre and customer services jobs are also being substituted in financial companies across the world[14]. Indeed, jobs across several of UNIs sectors are expected to be partially, if not entirely replaced by AI and ML. For example, **customer service** jobs will be supplemented and aided by AI systems and chatbots, enabling services workers to perform more complex tasks.

In **post & logistics** AI is expected to lead to "previously unimaginable levels of optimisation in global supply chains, including in warehouses, logistics and 'last mile delivery'[15]. In **healthcare**, robots performed in the US 570.000 surgeries in 2014, up from 1.000 in year 2000. In addition, bionics, e-health and telehealth are expected to grow. In the **commerce sector**, AI is particularly used in the growing e-commerce sector to guide and show each individual customer products and services according to his or her characteristics (personalised online shopping & personalised product recommendations).

Although some jobs will be replaced by technology, it is estimated that AI and ML will more likely eliminate certain *tasks* performed today by people rather than entire jobs. Whilst this might well be so, all workers on all levels will need access to re- and upskilling to remain employable. **UNI demands that all workers in all forms of employment have the rights and access to continuous skills development, up- and reskilling.**

### 2.2. Big data & data protection (including platform economy)

The second main *technological driver of change* is the very foundation of digital solutions, namely **data and big data.** As we take a photo with our phones or tablets, shop online, pay with our credit cards, use Facebook, google, take an Uber taxi, collect airmiles, see the doctor or use an app to track our running route, we are producing data. As governments introduce e-services they too are collecting data. An increasing number of employers track their employees' work flows, store their biometric data and monitor work patterns.

**Daily data production**

**2,500,000,000,000,000,000**

**bytes of data per day**

**(source:** https://www.quora.com/How-much-data-is-created-each-day **)**

As more and more services are offered digitally and electronically, the amount of data we produce daily is overwhelming, namely the swelling sum of 2.5 Quintillion bytes of data per day, every day. 90% of the world's data today has been created in the last 2 years.

Big Data analytics is used to target the individual consumer with news, products and services. It

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[14] https://www.theguardian.com/technology/2017/jan/05/japanese-company-replaces-office-workers-artificial-intelligence-ai-fukoku-mutual-life-insurance
https://qz.com/799816/dutch-bank-ing-is-replacing-5800-people-with-machines-at-a-cost-of-2-billion/
https://www.commerzbank.de/en/hauptnavigation/presse/pressemitteilungen/archiv1/2016/quartal_16_03/presse_archiv_detail_16_03_61258.html
[15] http://fleetowner.com/fleet-management/dhl-artificial-intelligence-will-remold-logistics-world

reveals patterns, trends and statistical likelihoods that companies and governments can use. Big Data and analytics is sold, traded, and owned. Many claim it is the gold of digital world.

Importantly, data and big data are also used to feed into the creation of artificial intelligence and machine learning. Interestingly, 'the Big 6[16]' are claimed to own the vast majority of the world's data giving them unpresented economic, social and technological-innovative power.

What consumers, workers and citizens must be aware of is that any internet service, browser, app or online service provided to you for free by shops, banks, governments and companies is earning big money on your data. The illustration below shows what tech companies are profiting *every 10 seconds*! There is simply nothing called a free lunch.



Figure 3 source: http://www.visualcapitalist.com/tech-giants-visualizing-profits-for-every-10-seconds/

**Data protection & workers**

Data protection schemes exist in many countries that give consumers and citizens the opportunity to govern their own data to a certain extent or even go dark, and prevent data gathering[17]. However, the UNCTAD estimates that over 30% of the world's countries do not have data protection regulations in place[18].

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[16] Google, Amazon, Facebook, Apple, Microsoft and IBM
[17] See interactive map here: https://www.cnil.fr/en/data-protection-around-the-world
[18] http://unctad.org/en/PublicationsLibrary/dtlstict2016d1_en.pdf

Whilst the new EU General Data Protection Regulation actually also, and apparently unbeknownst to many, covers workers' rights in relation to the data collected, stored and handled by employers, data protection rules in many other countries do not. This means that in these parts of the world, workers have no right to ask for data to be deleted, or to prevent that that data is passed on to third parties. **UNI Global Union posits that workers should have influence over the data gathered at work, its interpretation and how it is stored, handled and used by employers.** Whilst the example from Orange in the text box to the right here is positive and could be

**A good practice example**

**In 2016, the telecommunications company Orange in France, signed a new agreement with the unions covering, amongst other things, workers' data rights[1]. The agreement is a good first step in allowing workers to influence and have a say over what data can be collected and when, and enforces more transparency in how employers use and store the data.**

the start of an evolution of collective agreements to include data protection measures, many other bad practice examples exist. For example, UNI P&M recently hit the Financial Times with their work on workplace wearables[19]. Here it was discussed how some employers were equipping their staff with GPS enabled fitness armbands. On paper a fun idea to help employees stay fit. In reality though, these activity monitors were sending data about the employees' exact whereabouts 24/7 to the employers.

**Data and the platform economy**

The platform economy goes by many names: gig economy, sharing economy, on-demand economy. It covers both work conducted via platforms as well as crowd sourcing. Estimating the exact number of people who work via platforms is hard as no conclusive statistics on this matter exists. Quantitative survey data conducted in the Digital Footprint project co-sponsored by UNI Europa, suggests though that between 5% and 9% of respondents have crowd worked at least once per week, and 6%-13% once a month[20].

A characteristic of platforms and crowd work is that they 1. use internet and mobile technologies to link clients with workers, and 2. Collect vast amounts of data via both workers and clients. As many observers claim, the true value of , for example, Uber is not the fact that they offer cheaper, modern ways to transport people from A to B by utilising existing car fleets, but the data that it possesses.

At the recently held TUAC Digitalisation Forum, Damon Silvers, Policy Director and Special Councel from AFL-CIO provided sound advice: When discussing whether platforms have the status of employer Silvers said 'follow the data'. In his words, if Uber takes the data produced by workers in ownership, then they are the employers. You cannot take the data – the valuable end-product of the self-employed's labour – and still call that person self-employed.

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[19] https://www.ft.com/content/089c0d00-d739-11e6-944b-e7eb37a6aa8e
[20] http://www.feps-europe.eu/en/digital-footprint-project

### 3. The Data-driven economy and labour market manifestations

This following section will discuss some of the core institutional changes UNI demands so the future world of work is inclusive and empowering. Securing the employability of workers is key to well-functioning, adaptable markets and societies why we posit that the following demands are in the interest of companies, states and workers.

### 3.1. Social and Fundamental Rights

As is well documented[21], a rising number of workers on platforms as well as in other areas of the labour market are self-employed or contractual workers. As such, they personally bear the risks of the market: no demand for their labour, no income. Indeed researcher Mark Graham has shown in his work that platform workers spend 18 hours per week simply looking for jobs to do. The supply of online labour far exceeds the demand.

As self-employed, the majority of workers are also exempt from social benefit systems such as sick pay, holiday pay, parental leave, pensions and unemployment benefits. Put crudely: **The new world of work has all the flexibility yet no security**. Although the number of workers in the platform economy is still relatively limited, [22] the ILO's recent comprehensive report on non-standard employment[23] shows that across the economy, various forms of precarious work are on the rise. This is a worrying tendency and naturally unacceptable. No national economy can possibly survive if a growing number of workers earn less than the minimum wage and are institutionally blocked from social protection systems. On a similar vein, no national economy can possibly function if a growing number of companies do not contribute via taxes and social contributions to the wider society in which they are embedded and on which they depend.

Given that the self-employed, at least in theory and by nature of the term, are in competition with one another, and are often dispersed in geographical space, traditional organising and collective bargaining structures are questionably relevant. Couple that with the, albeit contested, claim many platform owners make that they have no employer responsibilities as they purely offer the technical and digital means through which to unite clients with workers, and the traditional IR system seems to be under serious pressure. **Trade unions must innovate!**

The data-driven economy as it is manifested today with an increasing exploitation of workers that renders them without social and fundamental rights is not acceptable and something UNI and all of our affiliates must fight back against. **UNI Global Union demands that all workers in all forms of employment are guaranteed the same social and fundamental rights.**

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[21] http://www.mckinsey.com/global-themes/employment-and-growth/Independent-work-Choice-necessity-and-the-gig-economy
[22] http://www.feps-europe.eu/en/digital-footprint-project, http://www.cnbc.com/2016/10/13/gig-economy-is-growing-heres-how-much.html, http://geonet.oii.ox.ac.uk/blog/mapping-the-availability-of-online-labour/
[23] http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_534326.pdf

### 3.2.    Skills

As we noted above in the section on Artificial Intelligence and Machine Learning, the new data-driven economy will both displace entire jobs and tasks, but also demand of the workforce new sets of skills. Some experts claim that skills will become obsolete after just two years, as innovations rapidly occur.

This implies that access to re- and upskilling should be a fundamental condition in the future world of work. However, already today, data shows that employees in large companies have far more access to training then employees in small and medium size companies. As a result, the skill sets vary drastically offering a relatively small proportion of workers the best of conditions to remain employable. If we then couple that with the growing number of self-employed and employees on precarious contracts who have no or very little access to up and reskilling, it is clear that our labour markets are facing huge skills disparities and insufficiencies.

UNI demands that all workers, in all forms of employment have the right and access to re- and upskilling. Whilst the employability of the workforce should be a key interest for companies and states, very little is currently done to ensure a universal access to training.

To combat this and to ensure adequate funds for training for the entire workforce, UNI Global Union suggests that employers of all kinds, including platforms, contribute to national skills funds. This contribution can be calculated as a percentage of income earned for the platform worker, or as a percentage of the wage sum for employees. The skills fund should be governed by the social partners and states, and be open to provide economic means for training to all types of workers.

### 3.3.    (In)Equalities

Income and wealth inequality is on the rise in many countries in the world. Whilst this is not due to technological innovation alone, unregulated technological innovations will most likely widen the inequality levels. Job displacements, automisation and a growing realisation that technologies will most likely outplace more jobs than it will produce underpin this point.

Many articles and research projects are concerned with the inherent bias in algorithms and data driven AI, which are spurring further inequalities across gender and race. For example, research issued by the World Economic Forum showed that female coders are regarded as better coders than men, as long as it was not known they were women[24].

In the platform economy, although rating systems themselves can be neutral, plentiful anecdotal evidence suggests that the way people apply ratings is extremely discriminative[25]. As such, women and ethnic minorities are offered lower ratings than their white, male colleagues. Given the

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[24] https://www.weforum.org/agenda/2016/02/women-are-seen-as-better-coders-than-men-but-only-if-they-hide-their-gender?utm_content=bufferdf536&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer
[25] http://www.economist.com/blogs/gulliver/2016/06/unwelcome-homes?fsrc=scn/tw/te/bl/ed/unwelcomehomesmoreairbnbcustomersarecomplainingaboutracism , https://algorithmsatwork.files.wordpress.com/2016/02/rosenblat-uber_s-pax-bias-in-rating-systems-cscw-2016.pdf

importance of ratings for the workers in attracting work and even higher paid work, this discrimination is spurring further inequalities and unequal opportunities.

Geographically, AI and big data will displace more workers in the Global South than in the Global North, according to a recent UNCTAD brief.[26] This will inevitably lead to rising unemployment levels in the Global South unless measures are put in place to secure the employability of workers. Without proactive measures, including supply chain responsibility by multinational companies, the inequality levels within the Global South as well as between the South and North will rise. China's Robot Revolution is based on heavy investment in both AI research and in the many factories. As such, China now outperforms USA in academic papers on AI, and massive job displacements are already taking place in factories across the country[27]. As the FT reports:

> *Since 2013, China has bought more industrial robots each year than any other country, including high-tech manufacturing giants such as Germany, Japan and South Korea. By the end of this year, China will overtake Japan to be the world's biggest operator of industrial robots, according to the International Federation of Robotics (IFR), an industry lobby group. The pace of disruption in China is "unique in the history of robots," says Gudrun Litzenberger, general secretary of the IFR, which is based in Germany, home to some of the world's leading industrial-robot makers.*
>
> *(source: https://www.ft.com/content/1dbd8c60-0cc6-11e6-ad80-67655613c2d6)*

Couple the investment in AI and robotics in China with their access to enormous amounts of data through their own population, and the likelihood of an "AI race" is all too clear. The Global Convention on Ethical AI that UNI has called for is once again well needed to ensure that people and planet are put first. Even Bill Gates, Microsoft's co-founder, argues that new taxation models that will finance the costs of retraining displaced workers and will partially dis-incentivise the substitution of man by machine, are needed[28].

## 4.   UNI Global – Making It Happen!

Although this paper in no way has aimed to provide a conclusive and comprehensive overview of the challenges and potentials facing us, some major themes have been discussed. The transition to a data-driven economy requires forward thinking and very swift action from businesses, unions, governments and global regulators.

We are in front of a crossroads where it is our actions today that will decide whether Stephen Hawking's warnings that "AI could spell the end of the human race[29]" become true or not. Unregulated, unfettered markets and technologies could well do so.

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[26] http://unctad.org/en/PublicationsLibrary/presspb2016d6_en.pdf
[27] https://www.ft.com/content/1dbd8c60-0cc6-11e6-ad80-67655613c2d6
[28] https://qz.com/911968/bill-gates-the-robot-that-takes-your-job-should-pay-taxes/
[29] http://www.bbc.com/news/technology-30290540

UNI Global Union is leading a proactive, innovative strategy. We are recognised as one of the most influential global organisations, and we will continue to expand our activities and leave our mark. We are Making It Happen.

Our work on ethical artificial intelligence has opened doors to work with companies and organisations on the matter. The World Economic Forum has heard our call and tabled the issue in Davos this year. We have had substantial influence on the work inside the European Parliament on the platform economy. Our call to give all workers the same social and fundamental rights was picked up in the European Pillar of Social Rights together with the notion of portable benefits and skills access.

In UNI MEI we are working with companies and stakeholders on securing the rights of atypical workers and modernising our institutions [30]. In UNI ICTS we are successfully organising and expanding our activities in call-centres from the Dominican Republic, across Africa to the Philippines. In UNI Finance, the substitution of workers by AI is high on the agenda as banks and insurance companies invest heavily in new technologies, including the blockchain. UNI Women are directing their activities towards the Future World of Work. UNI P&M has submitted a project to the global organisation IEEE[31] to create Standards for Employer Governance of Employee Data. UNI Graphical is working on how 3D printing will radically influence the sector, leading to new skills needs, new business forms and dramatically changed supply chains. UNI Post & Logistics together with UNI Commerce recently held a joint E-commerce Forum on how e-commerce is disrupting employment in both sectors. UNI Care is focussing on robot care – and the potentials it has to aid our members and the risks it poses to displace them. UNI Sport is zooming in on the constant monitoring of athletes.

Our Breaking Through strategy is working. As we organise across the world, raise awareness to the challenges around us and flush out politicians for their actions and non-actions, UNI Global Union is stronger today than ever before. We have successfully nudged and urged the ILO to focus on the future world of work in their 2019 centenary initiatives. The OECD has just launched its biggest ever horizontal project on Digitalisation and the future of work that will involve 10 of its directorates and 14 committees.

We must all be open to change, we must innovate. Not only in terms of how we operate, and who we organise, but also in terms of adjusting to the new world of work in our strategies and policies, our geographical embeddedness and our own ability to use the technologies available. We need to innovate the societies and the institutions we have built too. We cannot accept the growing polarity between us, nor can we accept that a growing number of workers are left behind in precarious work with no real opportunities to excel.

We must unite around common policies to combat the rising inequalities, the precarious work and the fact that more and more workers are forced into individualised self-employment with little or any possibility to prosper.

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[30] http://www.uniglobalunion.org/news/meeting-challenge-atypical-working-new-handbook-launched
[31] www.ieee.org

We must ask the difficult questions to governments and companies, but also to ourselves.

*What is my union doing about all of this?*

How are industrial relations changing? What can we do to reach out and organise members in the new world of work? Where must we adjust and what new services should we offer to remain a viable strong player? We must seek probable solutions, and we must fight to lift the bar and together make the future world of work a decent, empowering one.

In one voice, across the world, in every region, we must demand of governments and employers that:

1. Active labour market policies must be revamped and broadened to include all workers in all forms of employment
   a. This includes demanding of companies to take responsibility in training, re-training and upskilling current and future staff through extended apprenticeship schemes that are tailored all types of workers.

2. Social security systems must be modernised so all workers (including the self-employed) in all forms of employment earn the right to social security. This requires that:
   a. All companies contribute financially through taxes and social contributions to the societies in which they are embedded, and on which they belong.
   b. That the right to social security is measured by the aggregated hours worked and that points earned working for one employer are added to the pot. This system, the portable benefit system is currently gaining traction in several countries.

3. All workers in all forms of employment must have the rights and access to training *on a regular basis*. As the digital economy requires new skill sets continuously, all workers, also those in self-employment, must have access to training. Compensation schemes should be in place. This requires that:
   a. All companies contribute to a national educational fund, governed by the social partners and the state, from which workers can seek funds to conduct training. This fund should also cover income losses during training.

4. Competition law must be changed so the single-unit self-employed have a right to collective bargaining. Forcing workers into self-employment and removing their collective rights is unacceptable.

5. Workers' rights and human rights must be respected throughout corporate supply chains and that companies are held responsible for their actions and non-actions.

6. Workers and their union representatives must have the right to access, influence, edit and delete data that is collected on them and via their work processes. Workplace monitoring must be consensual.

7. Artificial intelligence must put people and planet first. This is why ethical AI discussions on national and global scale are essential. A global convention that encompasses all is the most viable guarantee for human survival.

8. AI and the data that it builds on, must combat not accelerate inequality. This requires new public policies and monitoring mechanisms, including the establishment of a new ombudsman function.

At the 2017 World Executive Board in UNI Global Union we will discuss the Future World of Work under the heading of Solutions. At our world congress in Liverpool in 2018, we will put those solutions into action. Until then, follow UNI's work on the Future World of Work on our upcoming website: www.thefutureworldofwork.org and join the UNIs digital expert working group by registering here[32].

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[32] http://www.uniregister.org/?page_id=1244