

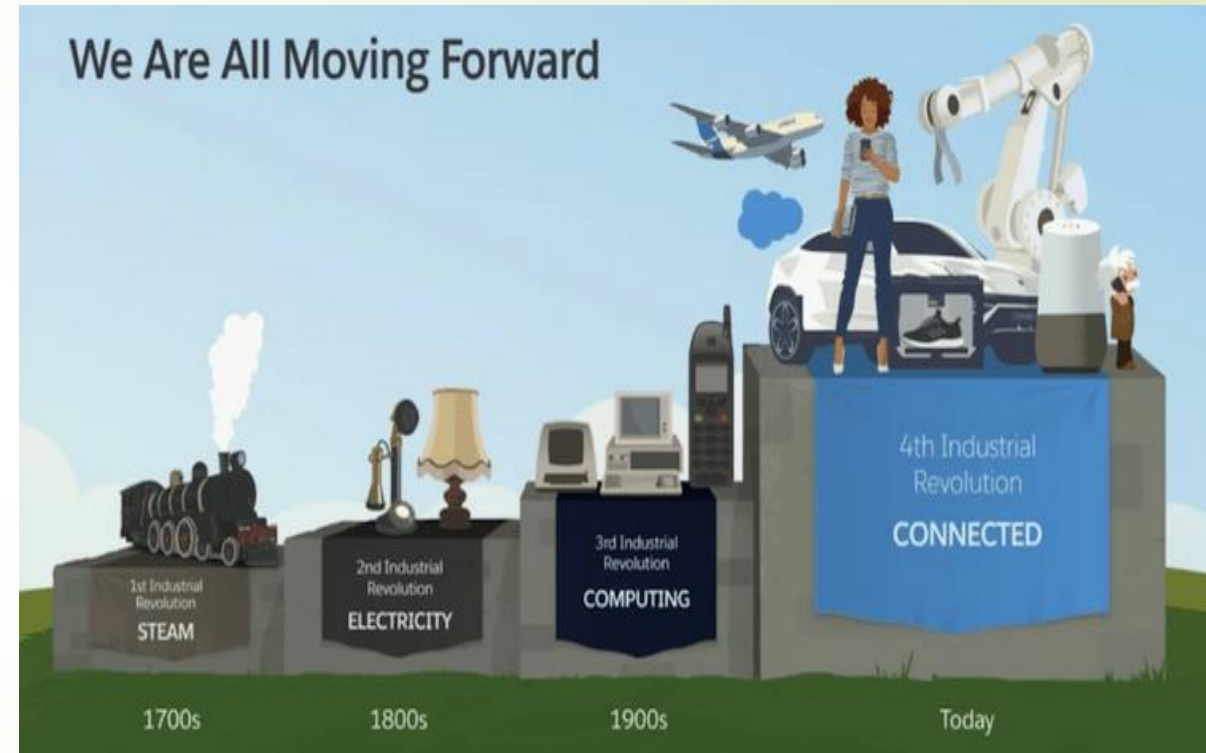
Demystifying 4IR for workers and how to approach the phenomenon

By Martin Kaggwa



In this presentation

- What is 4IR?
- Elements of 4IR and implications to the world of work
- Employment and worker-employer dynamics under previous IRs
- Opportunities and risks to workers of 4IR technologies
- How should organised labour respond to 4IR

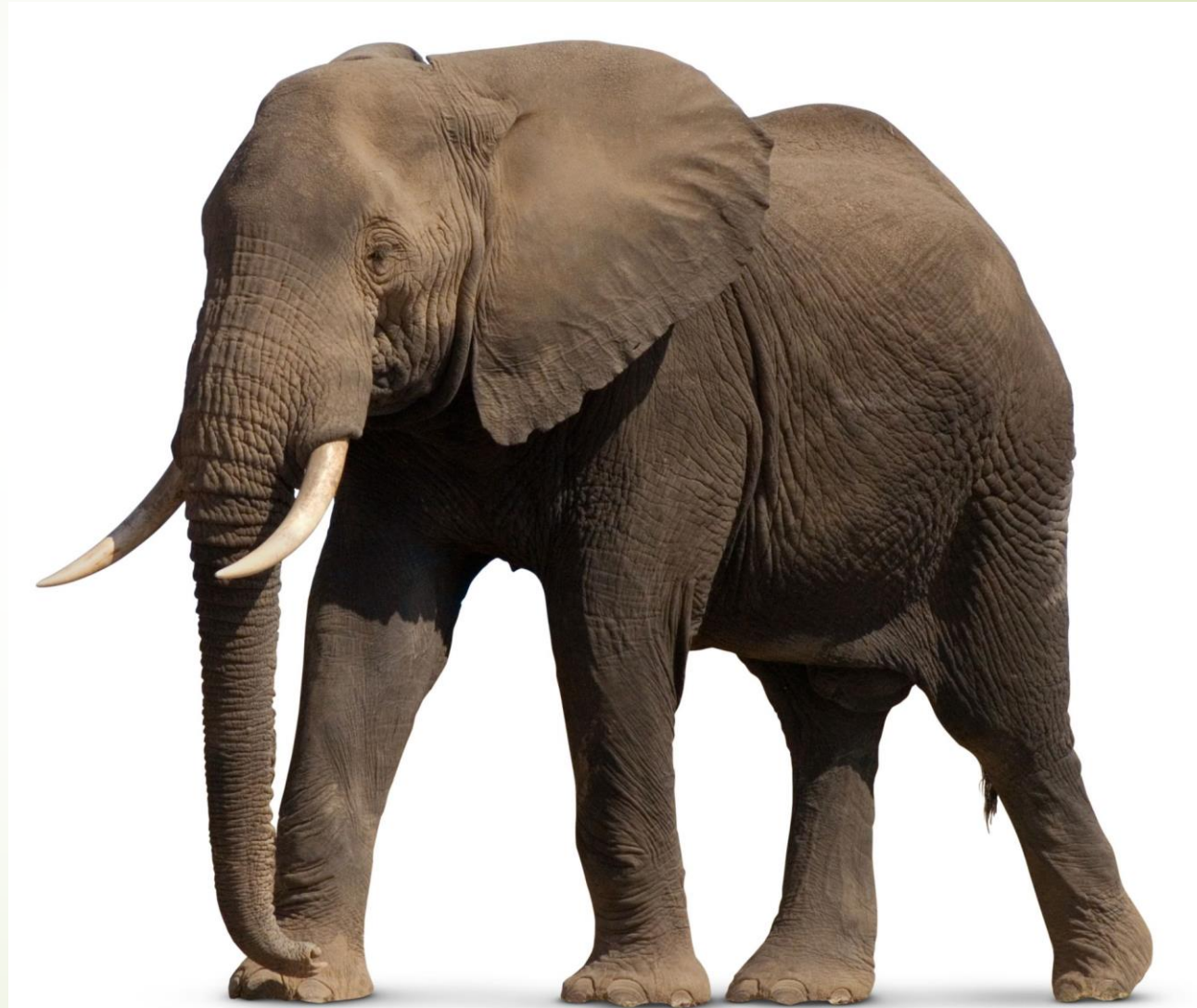


Are we?

What is 4IR?

- Workers cannot engage with a phenomenon that they have not clearly defined
- An informed understanding and consensus by workers on what 4IR is before constructive strategies of dealing with it, can mapped out is required?

The key question to reflect on: Is 4IR an ELEPHANT or parts of an ELEPHANT?



What is 4IR?

- ▶ Industrial Revolution (**IR**): A fundamental change (based on technologies) in the way production of goods and services is conducted; and a way through which the produced goods and services are exchanged – **This is the elephant- the totality of 4IR!!**
- ▶ **4IR and accompanying technologies** make it easier to substitute humans with machines in the process of production and distribution of goods and services. The decision to substitute lies in the hands of private capital (Mainly) – **This is where mitigation strategies for protection of workers are required**
- ▶ Strategies to take advantage of 4IR while mitigating its adverse effects on workers need to approach 4IR not as an elephant but a collection **of parts of an elephant – the key elements of 4IR.**

Elements of 4IR and their implications to the world of work

- ▶ *The integration of cyber-physical and biological systems combined with Internet Of Things (IOT):* means that more than ever before, it is and will be possible to manage, control and manipulate what humans see and touch remotely through the internet.

Implication to world of work: Enables flexible, decentralised, but interconnected production systems. But can reduce head count, creates complex wages, benefits and remuneration systems. It further complicates workers' mobilization and subsequently to trade unionism

- ▶ *Big data:* The ability to collect massive amounts of information in real time, coupled with the ability to analyze and make use of it.

Implication to world of work: Raise questions who is collecting the data, for what purpose is this data collected and ultimately how ownership to this information changes the power dynamics between the workers and employers.

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Elements of 4IR and their implications to the world of work

- ▶ *Cloud computing*: Using computer facilities, both hardware and software, owned by an external party.

Implication to world of work: It reduces the cost of Information and Communication Technology (ICT) for any business. Despite its cost saving attributes, adoption of cloud computing outsources in-house ICT job opportunities.

- ▶ *Robotics*: Focuses on the development and use of robots. Robots are computer-based devices programmed to perform functions ordinarily ascribed to humans (Kumar, 2018)

Implication to world of work: With improvement in Artificial Intelligence, robotics will put more workers, even those involved in carrying out complex and non-routine functions, at risk of job losses.

Elements of 4IR and their implications to the world of work

- ▶ Artificial Intelligence (AI): The creation of intelligent machines that are able to function and reason, to some extent, like human beings in solving real life problems.

Implication to world of work: AI can increase efficiency, safety and extension of business life. However, its application can lead workplaces with no workers. The adverse socio-economic ramifications of workerless workplaces can be severe.

- ▶ Additive Manufacturing: Is about 'printing' rather than assemble products during the manufacturing process – technically called 3D modelling and printing

Implication to world of work: Additive manufacturing narrows the value chain of creating products and in the process, it cuts out suppliers of auxiliary resources, leading significant job losses in the manufacturing sector.

Employment and worker-employer dynamics under previous IR

The First Industrial Revolution

- ▶ Started in Britain during the 18th to the 19th centuries – People started to move away from farming to organised manufacturing
- ▶ Production was then based on the use of steam energy and driven by simple machinery. Labour productivity increased. Coal was the power source for invigorating the steam engines.
- ▶ **Production was labour intensive. There was a strong element of self-employment and workers were getting the benefit of their labour.**

Industrial Revolutions, their Characteristics and Workers Interests Cont.

The Second Industrial Revolution

- ▶ Commenced towards the end of the 19th century with a shift from coal powered steam energy to electricity
- ▶ Development of mass production machinery and as compared to the 1st Industrial Revolution, the 2nd Revolution had moved away from intense labour to wealth- concentrated production.
- ▶ **Emergence of labour exploitation**

Industrial Revolutions and their Characteristics Cont.

The Third Industrial Revolution

- Introduction of information and communication technologies in the production processes
- Digitalised economics – goods and services being produced and traded globally through digital means.
- Increase in international trade, but with increase in labour exploitation. Some manufacturing was shifted to areas where labour regulations were weak and where workers were abused.
- **Negotiating power of organised labour declined**

Industrial Revolutions and their Characteristics Cont.

The Fourth Industrial Revolution

- ▶ Currently unravelling.
- ▶ Production is more focused on the utilisation of more advanced technologies and Artificial Intelligence (**AI**)
- ▶ There is an incorporation of technology in every aspect of life in an integrated way. The line between work, and private life aspects are becoming very thin
- ▶ It is being pushed by countries that have made significant progress in **AI** and have declining populations
- ▶ It almost excludes the human element in the production processes

Likelihood of Benefitting from 4IR

Will depend on the relationship between workers and the 4IR accompanying technologies - Workers Technology Category (WTC).

WTC Category	Economy (Money in pocket)	Everyday life	Overall well-being
1. Technology owners (Have IP)	Positive	Positive	Positive
2. Active technology users	Mainly positive but can be negative – spend more than they earn	Mainly positive but can be negative	Mainly positive but can be negative – Being controlled, tech addiction
3. Involuntary technology users	Mainly negative but can be positive – facilitates spending	Negative but can be positive	Mainly negative
4. Spectators of technology	Negative	Negative but can be positive in a few cases	Negative but can be positive in a few cases

How Organised Labour Should Respond

Labour should advocate for interventions to workers and citizens against some of the technologies of the 4IR: How?

- Identify value chain areas within each sector that need to be protected from automation and technology, and those that can be 'let go'.
- Advocate that government comes up with an entity that oversees introduction of technologies in the country. As a rule of thumb, the impact of new technology on jobs and employment will have to be considered
 - Labour should lobby to be part of the pre-introduction evaluation of technologies.
- Advocate for local policies that encourage labour intensive production for labour intensity production being considered in government procurement.
- **Ultimately organized labour should do all it can (legally) to make laying of workers through 4IR technologies expensive – At least in the short run.**

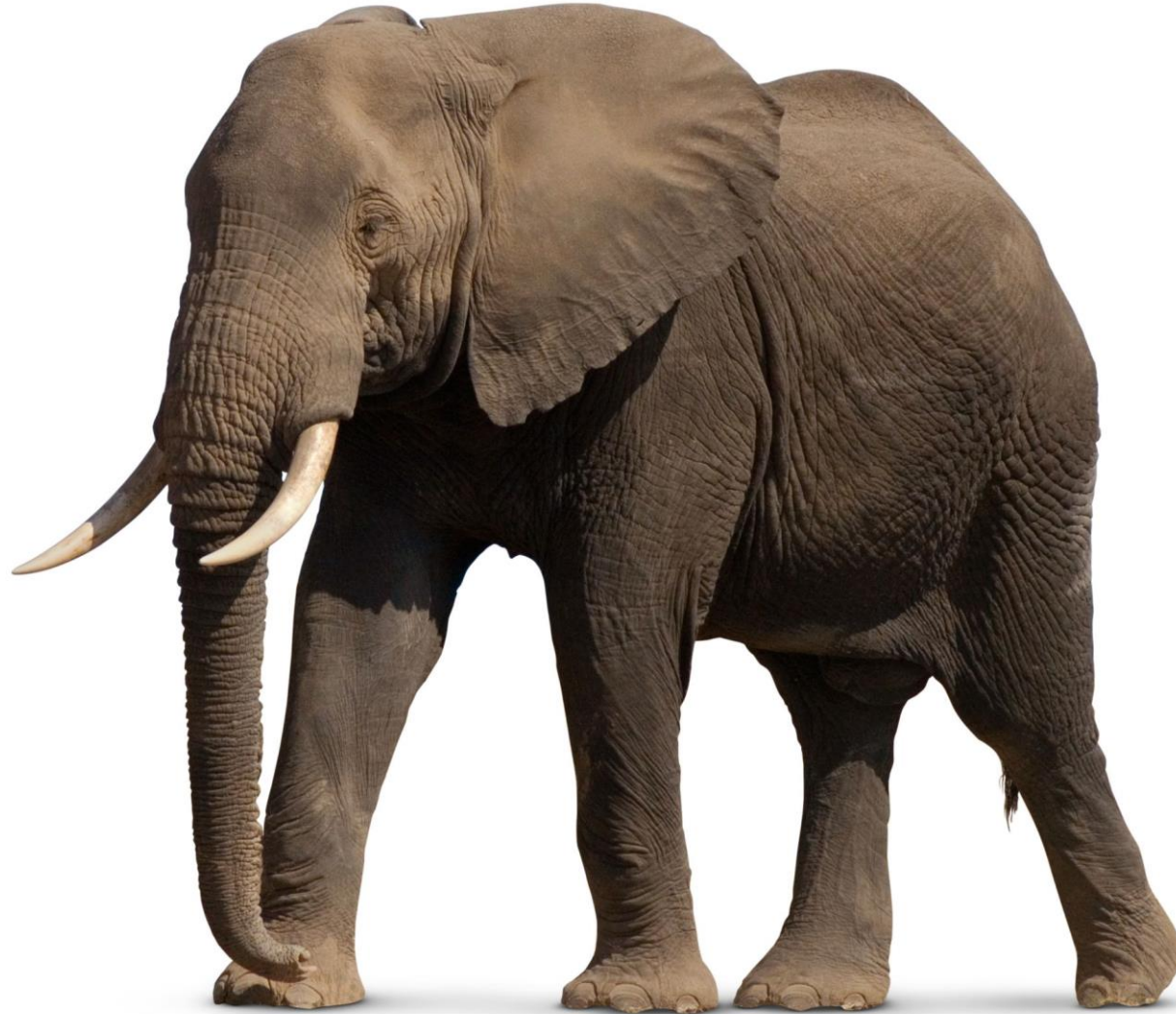
Concluding remarks

- ▶ Not everybody will be part of the 4IR – Many will be observers. Hence the need to create safety for the casualties of the 4IR. This could be one of new the roles of Trade Unions
- ▶ The decision on how to undertake production is a subjective one based on interest- If profits remain the key determinant of how to produce, under the 4IR, there will be a job loss blood bath!!
- ▶ Once captured by a certain technology, you are almost captured for ever!! Hence the need to be cautious before you embrace. Because the technology is available it does not mean that you need it.
- ▶ The country should approach embrace of 4IR technology with a clear understanding that although some aspects of these technologies can assist in achieving its development goals, to the owners of the technologies, the country is just a market that has to be tapped into.

Concluding remarks

**So is the elephant here?
OR Some parts of the
elephant (eyes and ears
are here?)**

**Should we allow in the
whole elephant or parts
of the elephant?**



Thank You

