

The 2nd Annual Career Development Stakeholders Conference

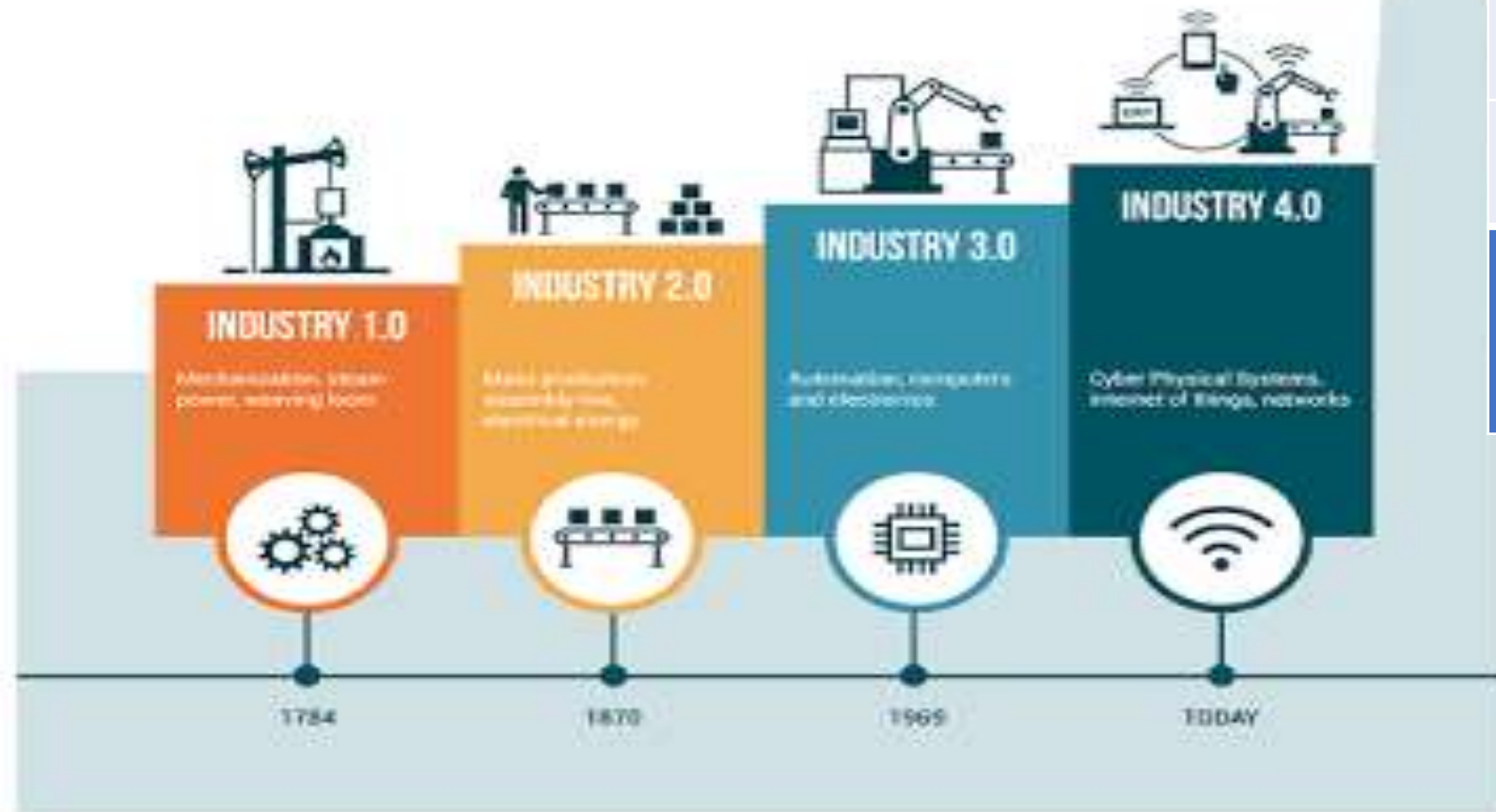
The Fourth Industrial

The future of work

28 June 2018

INDUSTRIAL REVOLUTION

TRANSFORMING INDUSTRIES AND INNOVATION



Mechanization, Steam power, weaving loom

Mass production, assembly line, electrical energy

Automation, computers, electronics

Cyber Physical Systems, internet of things, networks

The context – the future of work

- In an era where machines can do some work better than humans
 - it is undeniable that the continuing automation and digitization of our world and our workplace is a seismic shift
 - machines can now see better than humans can, read street signs, and even diagnose cancer. Real potential in the continuing development of cognitive computing technologies, such as deep learning and deep neural networks. The era of artificial intelligence
- Predictions that in the future up to 47% of jobs may be automated away, while other predictions are more cautious, suggesting a figure of only 9%.
 - no economic law that states that everyone will benefit from an industrial revolution. It is possible for a majority to be left behind.
- In developing nations, work has been characterized by low wages, industries with labour intensity (mining, agriculture, construction, etc)
 - humans will not be able to compete with robots in certain jobs (car assembly, call centre)

Future of work – retail industry – case study

- Security – installation of security systems not reliant on humans watching live footage – passively. Today cameras have digital brains using cloud based analytics to combine artificial intelligence (AI) with surveillance.
 - Live video mugshots uploaded into a database linked with the police database – identifying possible problematic elements
- Customer tracking – tracking buying habits & movement of people – sending suggestions on offers. Use GPS, Radio Frequency Identification (RFID), Wifi, Cellular data to push notifications and analyse habits
- Property Management – key systems (air conditioning, fire, lifts, escalators, functioning of doors, foot counters, parking machines) all web-based and independently manned using AI

Future of work – work categories

- Demand for skills by private & public sector that are relevant:
 - To seize opportunities presented by 4th industrial revolution (robotics, advanced computer programming, etc) to advance innovation and create new products and services – designing & building systems
 - To use capabilities presented by 4th industrial revolution to solve development challenges (healthcare, education) & improve services – working with systems
 - Some things will always be better done by humans (e.g. early childhood development) – doing things that systems cannot do (especially those that require interpersonal skills)

Future of work – implications for policy/ practices

- Need for collaboration between government, civil society, labour and business to shape an agenda that ensures we advance in an inclusive manner
 - Government and business must jointly support development of relevant skills
 - Future conference should feature a prominent presence by business
 - Labour, business and government must support the re-skilling of current work force
 - Platform for training & skills development – caught between catering for the cohort of unemployed youth and catering for the future needs.
 - Need for expansion of the education system through existing platforms but perhaps a consideration for new institutions funded by private & public sector
 - Codify & certify skills; infuse skills into the content of basic education, higher education and lower the cost of acquiring relevant skills

Conclusion

- South Africa as a developing nation has an opportunity to (re)define the structure of its economy around the 4th Industrial Revolution. There are opportunities for growth.
- Possibilities of widening inequality and leaving masses behind unless we proactively collaborate for an inclusive approach
- BBBEE Act should award points for companies centering their investment around investment in technology in poor communities

THANK YOU