

# THE FUTURE OF WORK 4.0: DISRUPTIVE TECHNOLOGIES OPPORTUNITY OR THREAT?

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# WELCOME AND HOUSEKEEPING



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**BUSINESS SCHOOL**

# PREPARING FOR INDUSTRY 4.0



**Dr Peter Bloom**

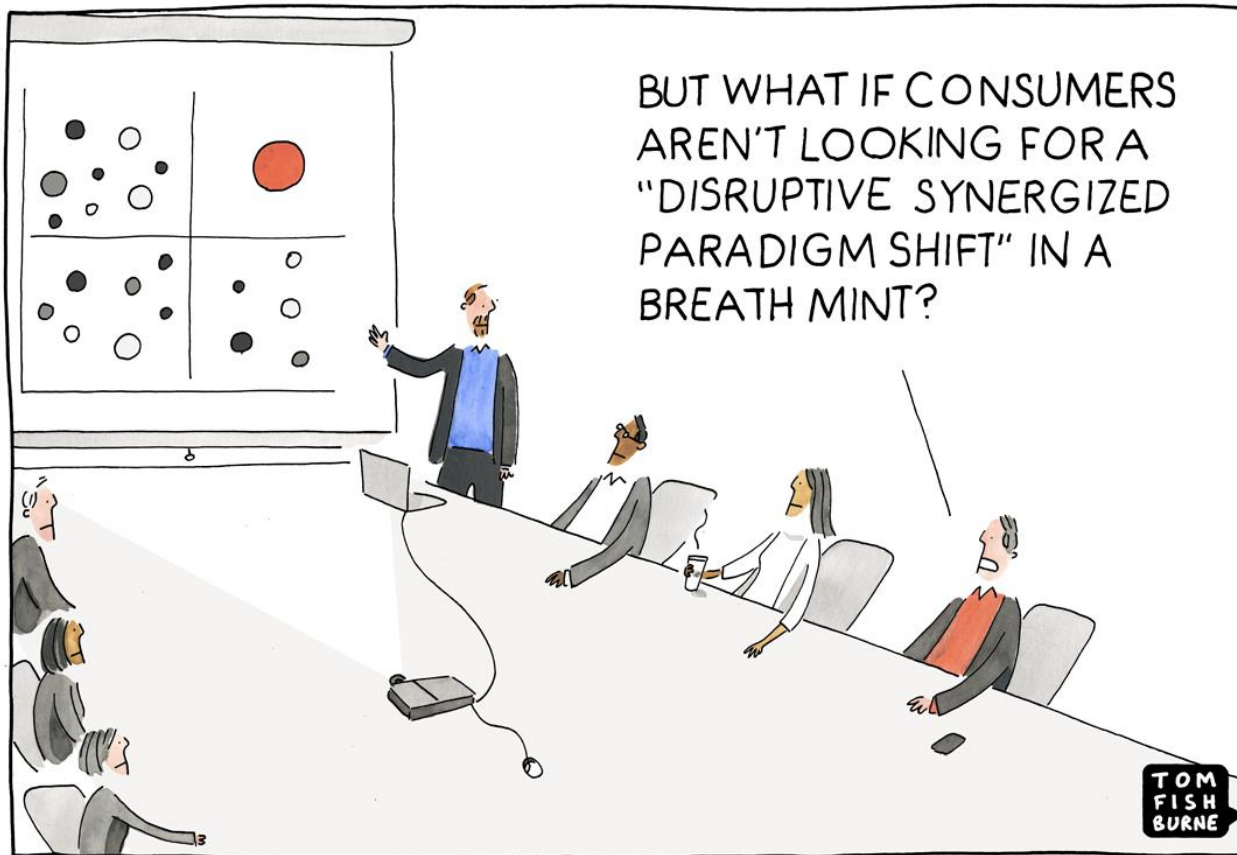
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# Fear of Missing Out?



*"Ryan's a late adopter."*

# Needless Disruption?



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# WHAT IS THE FOURTH INDUSTRIAL REVOLUTION?



# SOME DEFINITIONS

“Previous industrial revolutions liberated humankind from animal power, made mass production possible and brought digital capabilities to billions of people. This Fourth Industrial Revolution is, however, fundamentally *different*. It is characterized by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be *human*”

-Klaus Schwab



# FROM PAST TO THE FUTURE

## 1st revolution

Water/Steam



## 2nd revolution

Electricity



## 3rd revolution

Automation



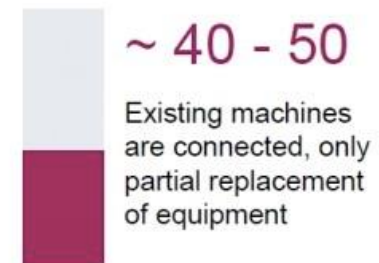
## 4th revolution

Cyberphysical systems



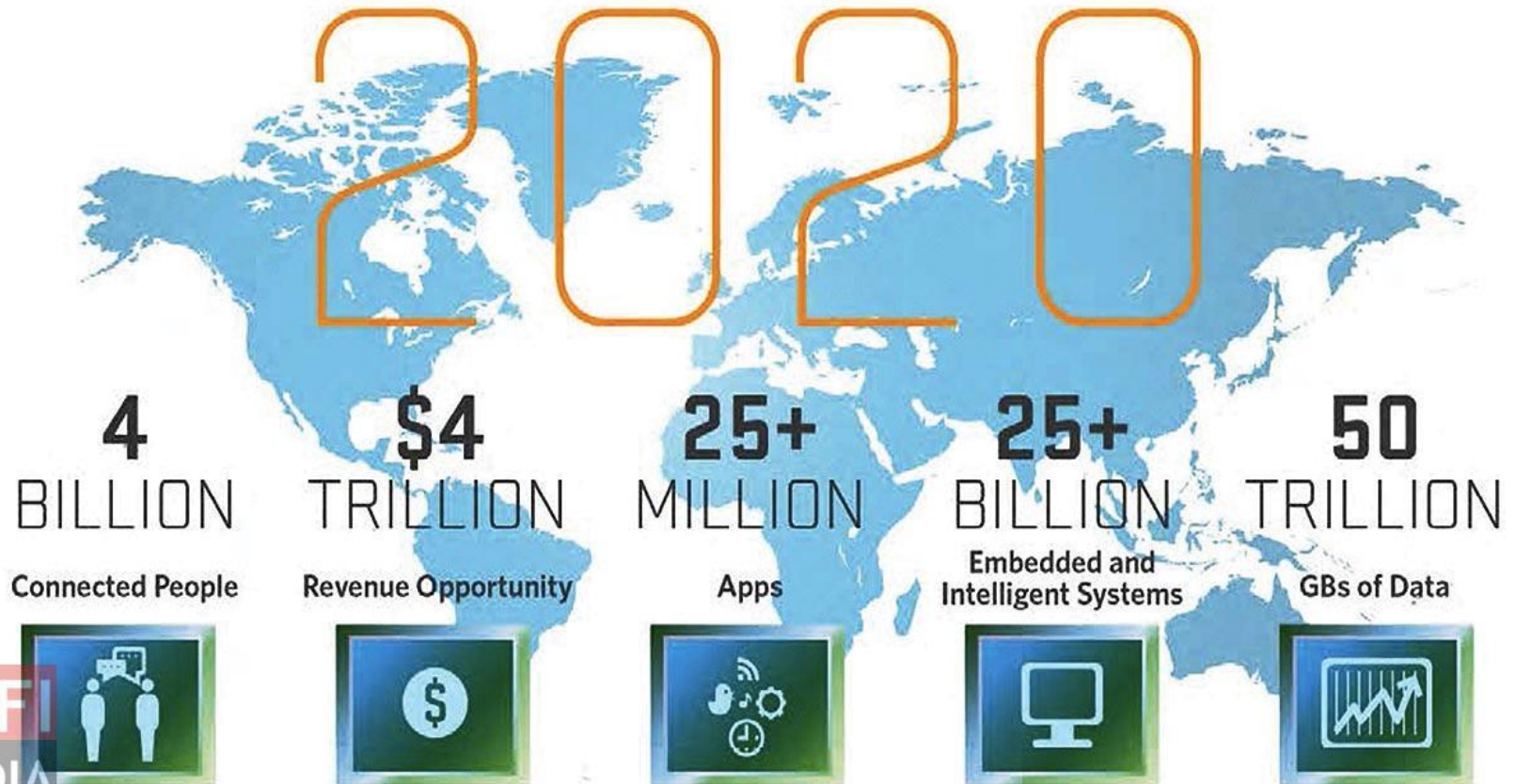
## Replacement of equipment

Percent of installed base





# A BRAVE NEW WORLD COMING SOON TO AN ORGANISATION NEAR YOUR



Source: Mario Morales, IDC

# TECHNOLOGIES NOT TECHNOLOGY

- Artificial Intelligence
- Robotics
- Big Data
- The Internet of Everything



# PREPARING FOR THE REVOLUTION

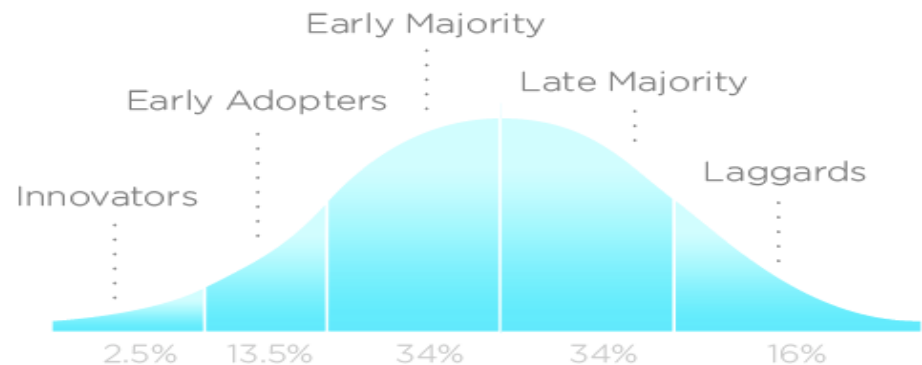


# TECHNOLOGICAL ADAPTATION

## Technology Adoption Life Cycle

- *innovators* – more prosperous and more risk-oriented
- *early adopters* – younger, more educated, tended to be community leaders, less prosperous
- *early majority* – more conservative but open to new ideas, active in community and influence to neighbours
- *late majority* – older, less educated, fairly conservative and less socially active
- *laggards* – very conservative, oldest and least educated

Roger's "Diffusion of Innovation" (2010)



**INNOVATION ADOPTION LIFECYCLE**

# TECHNOLOGICAL DISRUPTION

- **Disruptive Technology**

"The effects of high technology always breaks the direct comparability by changing the system itself, therefore requiring new measures and new assessments of its productivity...For example, you can directly compare a manual typewriter with an electric typewriter, but not a typewriter with a word processor. Therein lies the management challenge of high technology"

-Milan Zeleny



- **Disruptive Innovation**

"The technological changes that damage established companies are usually not radically new or difficult from a technological point of view. They do, however, have two important characteristics: First, they typically present a different package of performance attributes—ones that, at least at the outset, are not valued by existing customers. Second, the performance attributes that existing customers do value improve at such a rapid rate that the new technology can later invade those established markets"

-Clayton Christensen



# PREPARING FOR INDUSTRY 4.0

1. Scaling Up Human-Centred Technology
  2. Leading Continuous Reinvention
  3. Creating Sustainable Systems
  4. Responding to Geo-Economic Shifts
- World Economic Forum



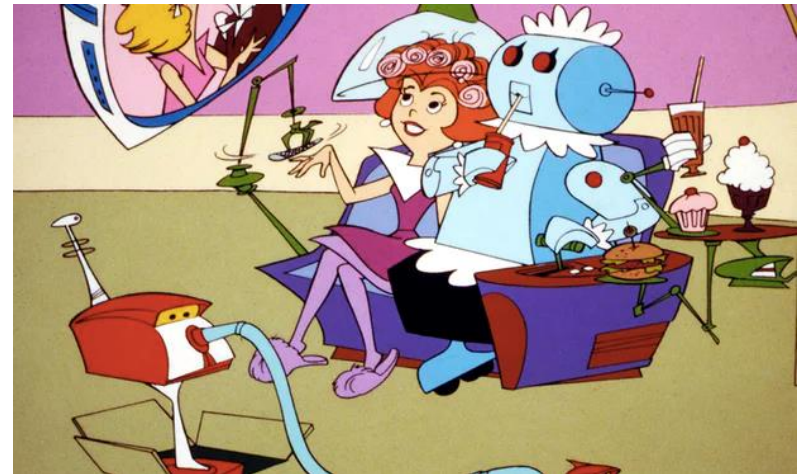


# WHAT TYPE OF REVOLUTION WILL THIS BE?



# UTOPIA

- The creation of a technology driven “leisure society”
- “Fully Automated Luxury Communism: where machines do the heavy lifting and employment as we know it is a thing of the past ”





# DYSTOPIA

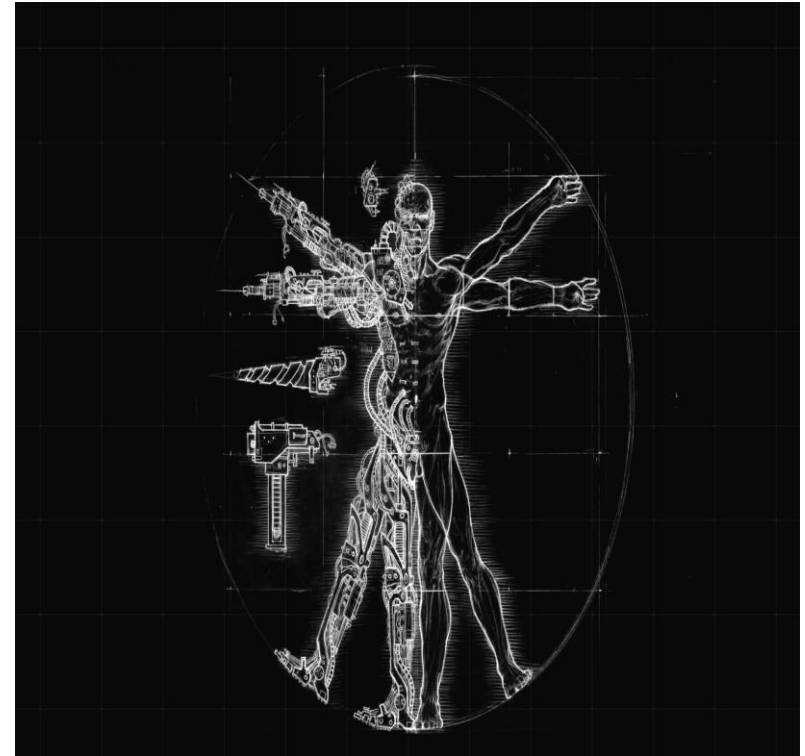
- Mass unemployment
- Technological  
Totalitarianism
- Robots and  
Corporations Rule



# TRANS-HUMANISM

- The personal, social, political and economic enhancement of humanity through technology
- “Technology isn’t what makes us “post-human” or “transhuman,” as some writers and scholars have recently suggested. It’s what makes us human. Technology is in our nature. Through our tools we give our dreams form. We bring them into the world. The practicality of technology may distinguish it from art, but both spring from a similar, distinctly human yearning.”

-Nicholas Carr



# A SMARTER BETTER FUTURE?

- Universal Basic Income
- “Virtual Progress”
- Community Led Data Empowerment
- “Smart” Organisations



# WHAT DOES THIS MEAN FOR YOU?



# BUSINESS INTELLIGENCE

- “a technology-driven process for analyzing data and presenting actionable information to help executives, managers and other corporate end users make informed business decisions”
- Being intelligent about technology and the need for innovation
- Being intelligent about how to transform your business



# NEW WAYS OF WORKING

- **Alternative Forms of ownership**
  - Co-operatives
  - Community ownership
  - Public ownership
- **Flexible Working**
- **Boundaryless Careers and Organisations**
- **Open Source Problem Solving**

“Automation has an emancipatory potential for the country’s population, but the liberating possibilities of automation can only be realised – and the threats of increased unemployment and domination of capital over labour only countered – through new models of collective ownership that ensure that the prospective benefits of automation are widely shared and democratically governed.”

- “Alternative Models of Ownership” Report to the Labour Party (2017)



# PLANNING FOR THE FUTURE TODAY

- The future is not inevitable
- How to make disruptions an opportunity not a threat?
- Creating a “sustainable” future in the present
- Re-thinking value for a new economy



# Questions



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# THANK YOU



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