

GOODBYE DIGITAL AGE, HELLO FUSION ERA

**THE FUTURE OF CONSUMPTION &
COMMERCE (4.0)**



GLOBAL FUTURIST

INNOVATION STRATEGIST

FUTURE OF WORK EXPERT

CHARLIE TANG
(C4.0)

everything
4.0

BENIGN

MEGATRENDS

MALIGN

MEGATRENDS

- Future of consumption and commerce

- Guilt-free consumption
- Sustainable supply chains

4TH INDUSTRIAL REVOLUTION
& ECONOMIC CUM TECHNOLOGICAL DISRUPTION

CLIMATE EMERGENCY
& WORSENING ENVIRONMENT CRISES

URBANIZATION
GLOBALISATION
TECHNOLOGY
DEVELOPMENT
PEACE & SECURITY

PERFECT
STORM
IN 2020S



GREATEST WEALTH
CREATION IN
HISTORY

CORPORATE MASS
EXTINCTION EVENT

GEOPOLITICAL DISORDER
& UNRULY SUPERPOWER CONTEST

AGEING DEMOGRAPHICS
IN MATURE ECONOMIES

- Nationalistic boycotts
- Economic sanctions
- Digital bifurcation
- Regionalized production

- Shift in spending to wellness, healthcare & tech
- Physical goods/experiences to virtual
- Digital Native “Zers” entering workforce

VUCA

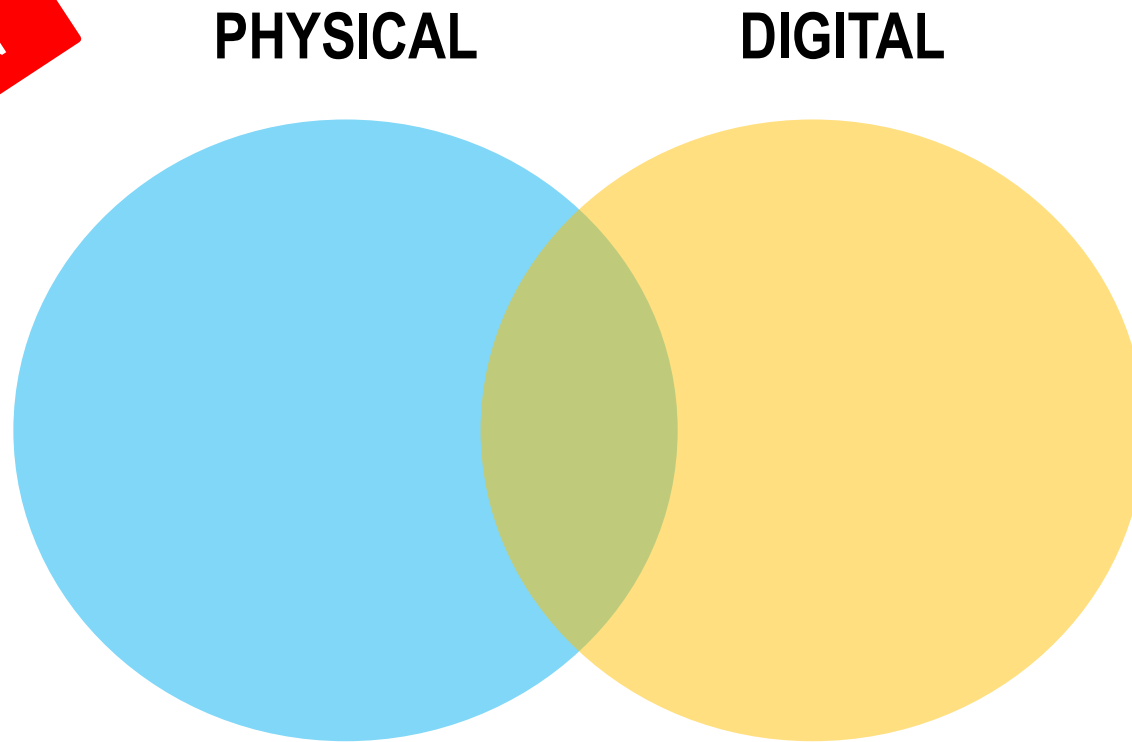
UP TO 2019

HYPER-VUCA

2020 AND BEYOND

A NEW CHAPTER FOR THE WORLD

DUSK OF
3rd INDUSTRIAL REVOLUTION



CLOUD



SOCIAL



MOBILE



INTERNET



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[Fourth Industrial Revolution](#)

The Fourth Industrial Revolution: what it means, how to respond

4TH Industrial Revolution is characterized by a **fusion** of technologies that is blurring the lines between the physical, digital, and biological spheres.

When compared with previous industrial revolutions, the Fourth is evolving at an **exponential** rather than a linear pace. Moreover, it is **disrupting almost every industry** in every country. And the breadth and depth of these changes herald the **transformation of entire systems of production, management, and governance.**

17 MAY 2013



COMMENTARY

ECONOMY | CONTRIBUTED CONTENT, SINGAPORE
© PUBLISHED: 17 MAY 13 • 1386 VIEWS

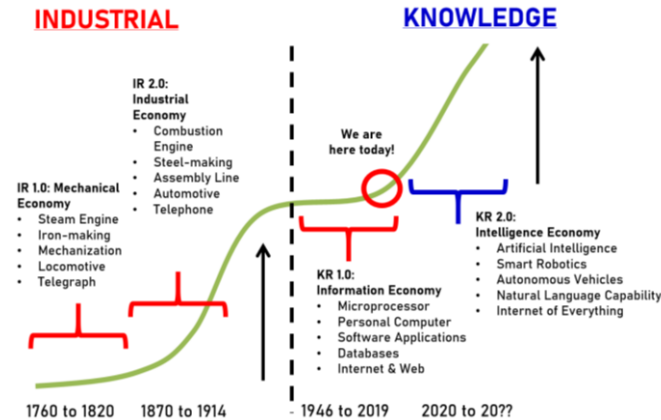


What Singaporeans must know about 'innovation economy'

BY CHARLIE ANG

In his groundbreaking book, *The Third Wave* (1984), Alvin Toffler proposed that the human civilization has invented and experienced three types of wealth systems. Each wealth system is fundamentally different and has a distinct set of principles for wealth creation and distribution. The adoption of a new wealth system is followed by a major wealth shift from the old guards to the new innovators.

The first system was the agrarian (i.e., agricultural) economy which surfaced more than 10,000 years ago. Empires and landlords came to dominate the riches, by exerting militaristic forces. The second system, the industrial economy, sank its roots in the mid 18th century. Multinational corporations and industrialists seized economic power through market forces. The third system, the knowledge economy, probably dawned in the 1950s with the invention of electronic computers. Today, we are witnessing the rise of megacities and entrepreneurs who are exploiting creative forces. The primary factor of production has shifted from land (agrarian) to labor (industrial) to *knowledge* (knowledge economy).



Industrial Revolution in 2 Stages

According to some historians, the first industrial revolution ("IR 1.0") was from 1760 to 1820 and the second ("IR 2.0") was from 1870 to 1914. In IR 1.0, the foundational technologies of the new era were invented: steam engine, iron making, mechanization, locomotive, steamboat, and telegraph.

Knowledge Revolution in 2 Stages

I anticipate that historians in the future would divide the Knowledge Revolution (KR) into two stages. As a marker, the Year 2010 is a good choice as the first generation technologies were widely diffused by then. KR 1.0 (up to 2010) saw the proliferation of dumb machines that put information into the hands of the office workers to achieve dramatic productivity gains. Hence, the Information Economy was born.

14 JAN 2016



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Global Agenda | Fourth Industrial Revolution

The Fourth Industrial Revolution: what it means, how to respond

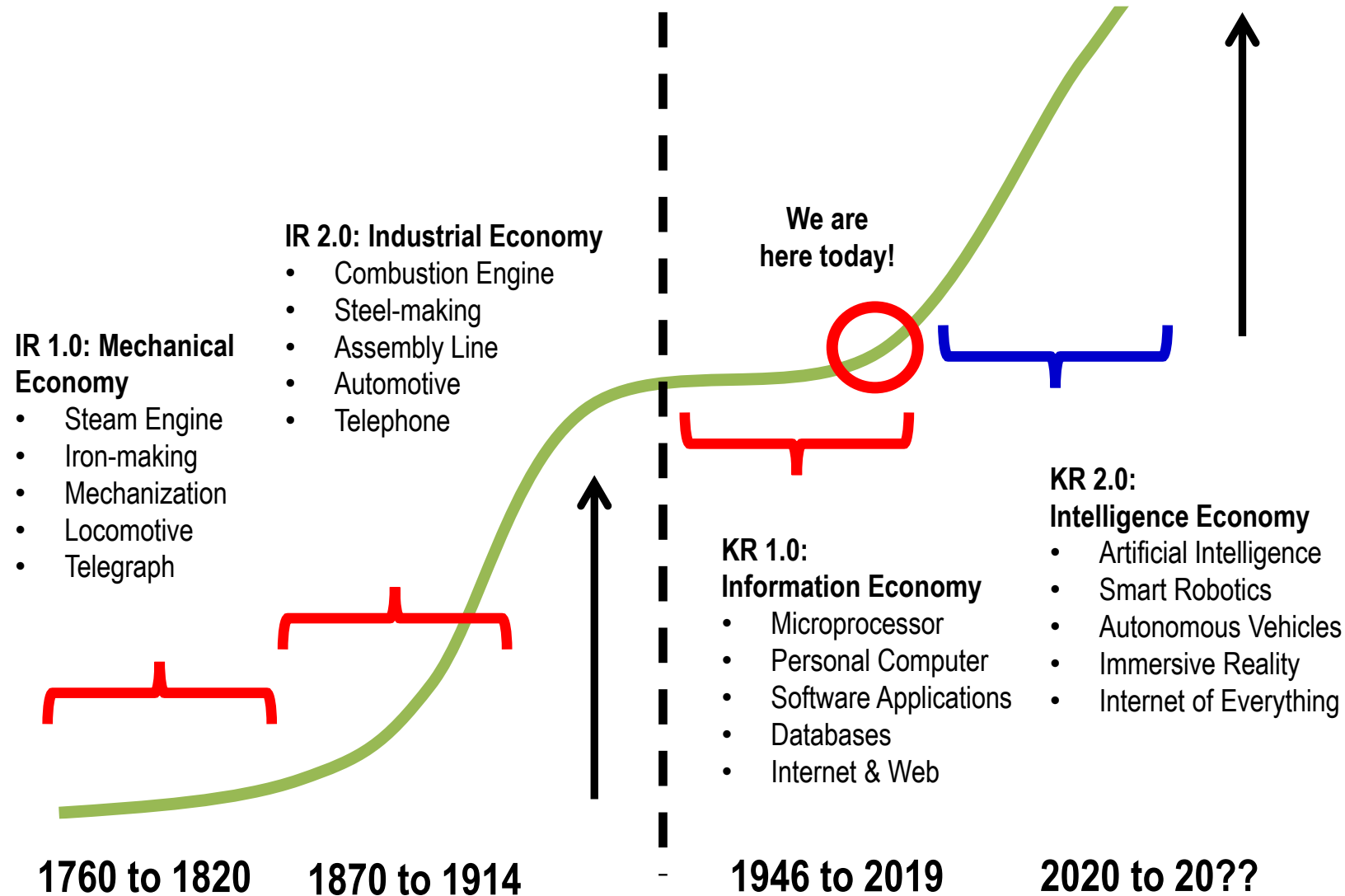


From Industry 1.0 to Industry 4.0



INDUSTRIAL

KNOWLEDGE



business 4.0

work 4.0

technology 4.0

society 4.0

government 4.0

food 4.0

family 4.0

industry 4.0

talent 4.0

healthcare 4.0

life 4.0

politics 4.0

economy 4.0

trade 4.0

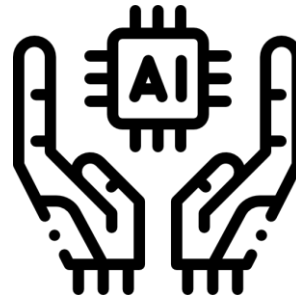
education 4.0

country 4.0

4.0 of every industry

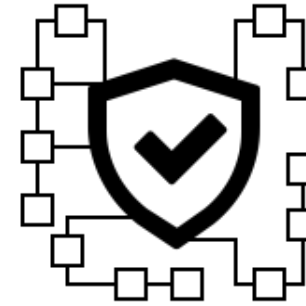
commerce 4.0

everything 4.0



COGNITIVE

AI Personal Assistant
Machine Intelligence
Intelligent Robotics
Social Humanoid
Internet of Things
Autonomous Vehicle
Generative AI



TRUST

Digital Ledger
Blockchain
Cryptocurrency
Smart Contract
Self-Sovereign Identify
Non-Fungible Token
DAO



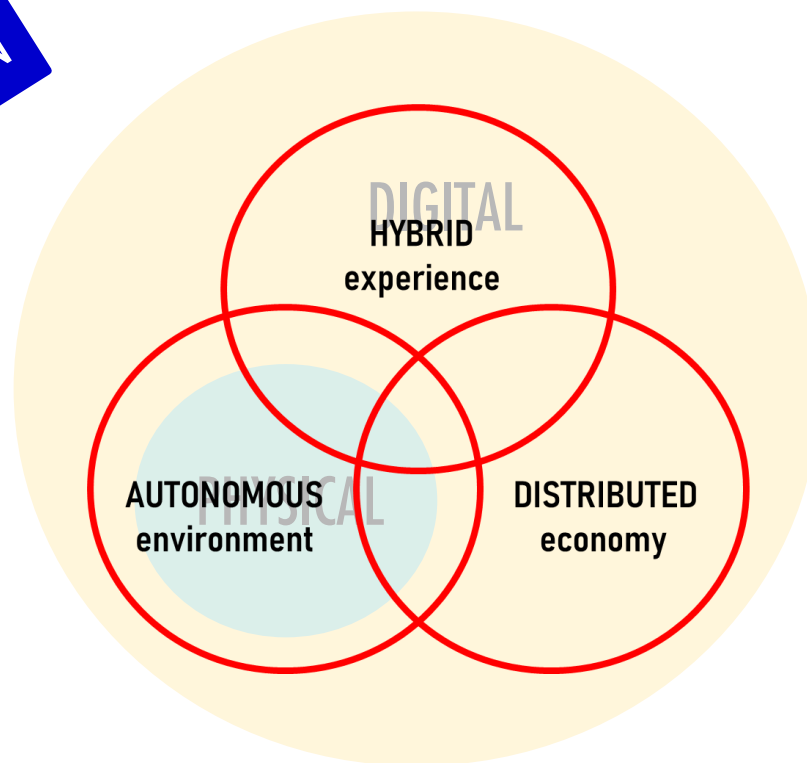
IMMERSIVE

AR/VR/MR
Telepresence
Virtual Avatar
Holography
Smart Glasses
Digital Twin
Brain-Computer Interface

4.0 TECHNOLOGY STACKS

Metaverse, Web3.0, 5G & Beyond

DAWN OF
4th INDUSTRIAL REVOLUTION



COGNITIVE



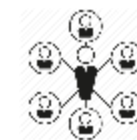
TRUST



IMMERSIVE



CLOUD



SOCIAL



MOBILE



INTERNET

