



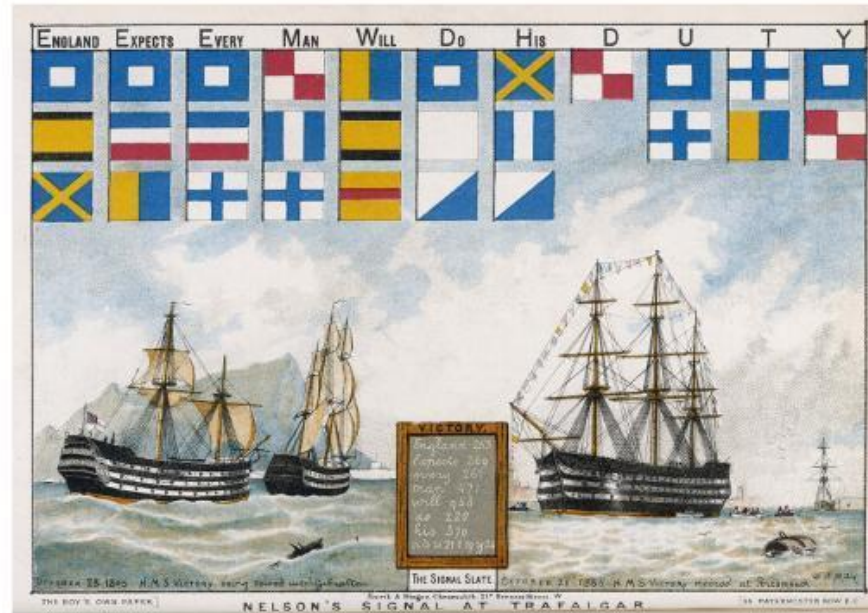
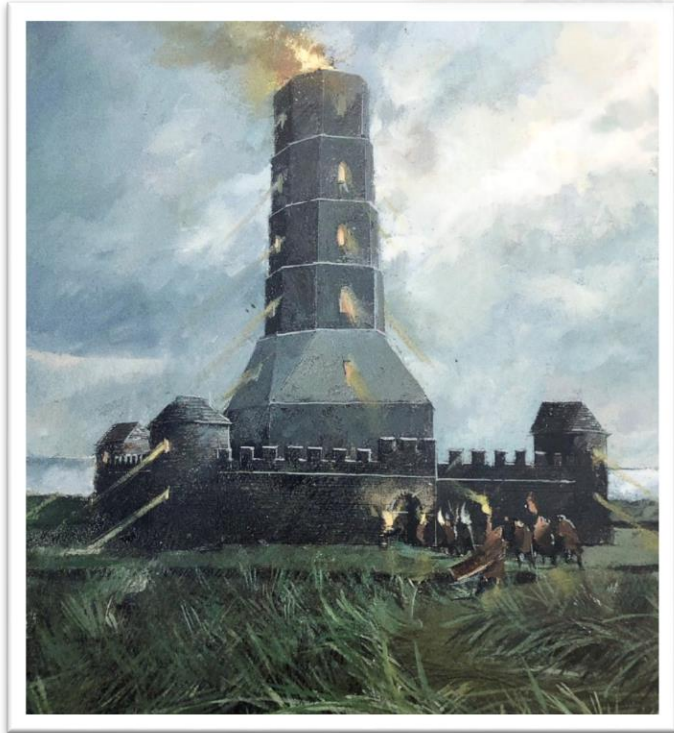
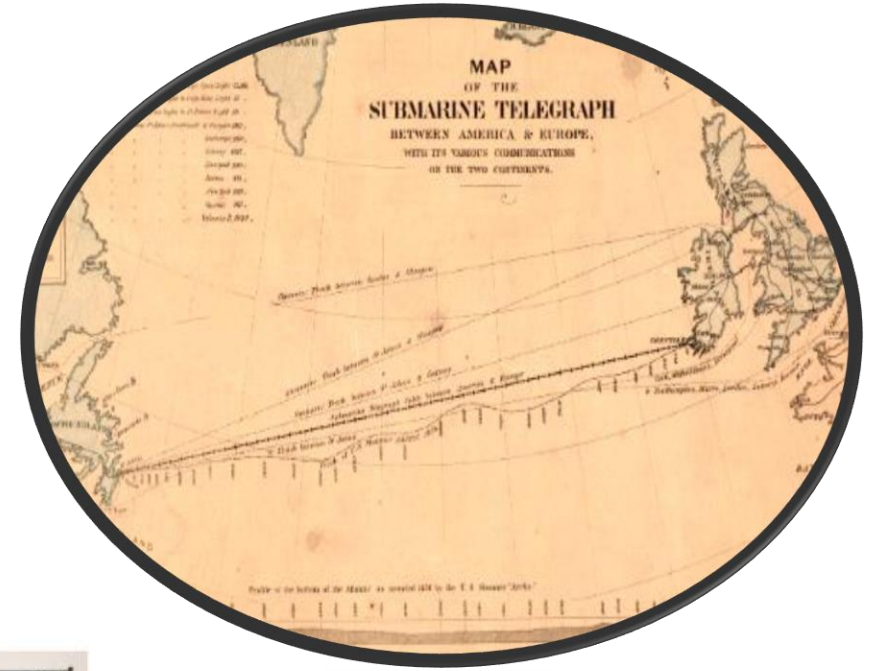
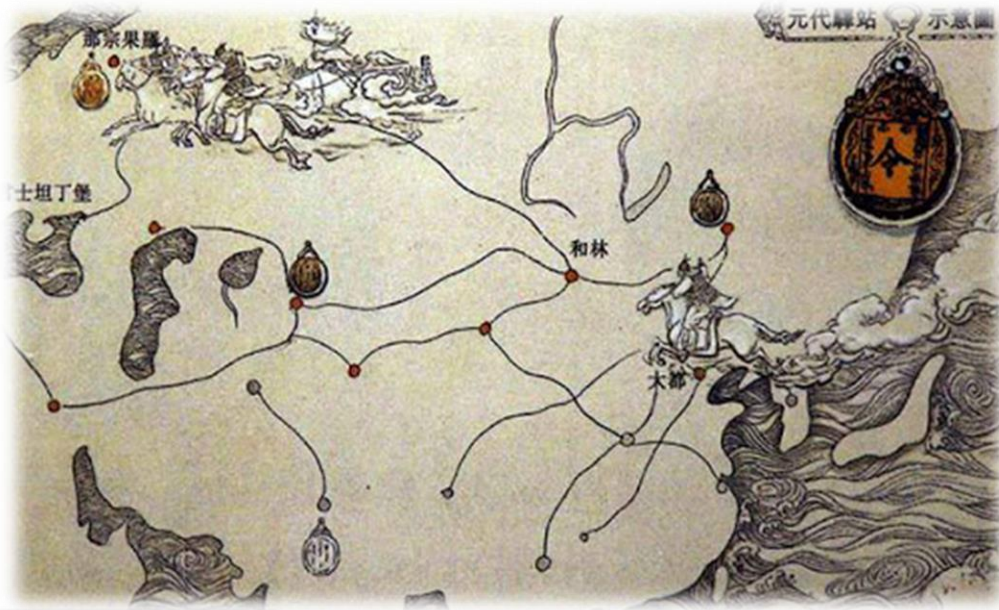
DANIEL K. INOUE ASIA-PACIFIC CENTER FOR SECURITY STUDIES

Technology and Strategic Competition

April 2021

Dr John Hemmings

Educate Connect Empower



Leaders

May 6th 2017 edition >

Regulating the internet giants

The world's most valuable resource is no longer oil, but data

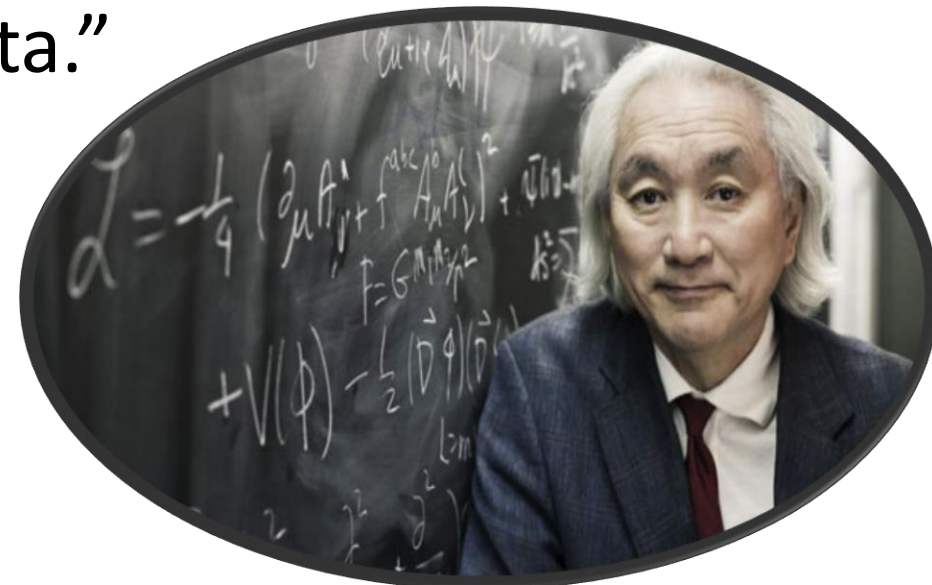
The data economy demands a new approach to antitrust rules



“All human activity will eventually be digitized, our love life, our personal finances, our education, our dreams...we’re going to be overwhelmed with data, so what is the key? The key is the network. The network has to be able to understand and digest vast oceans of information...

5G technology is up to a 100 times faster than 4G technology. It can handle this ocean of data.”

~ *Michio Kaku*
Theoretical Physicist and Futurist



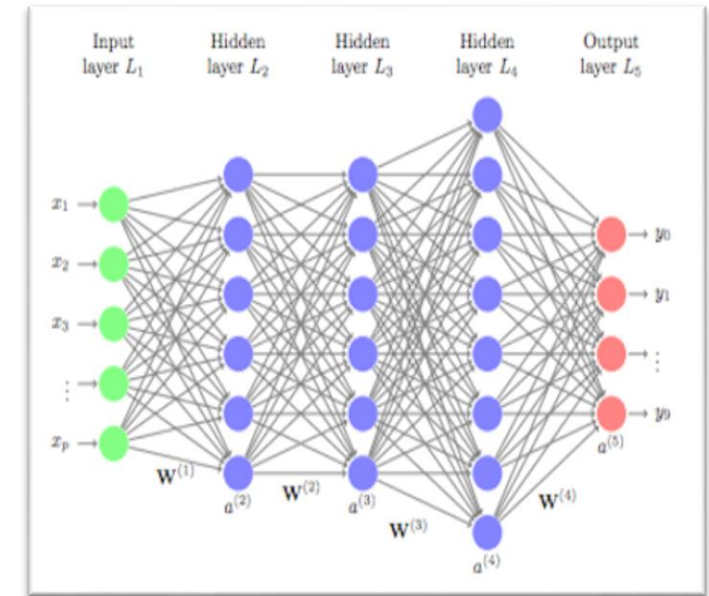


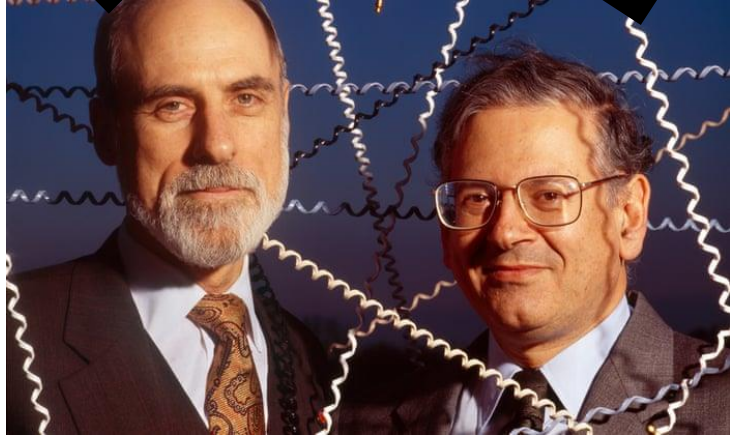
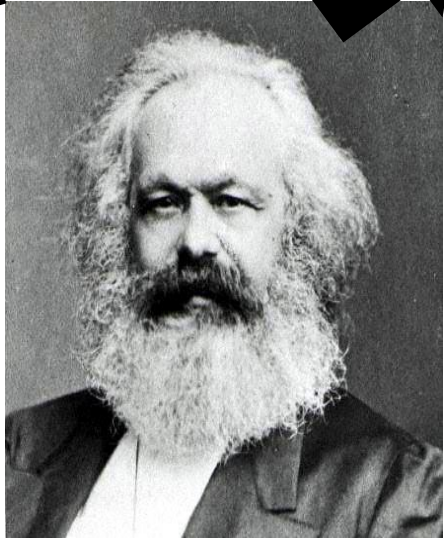
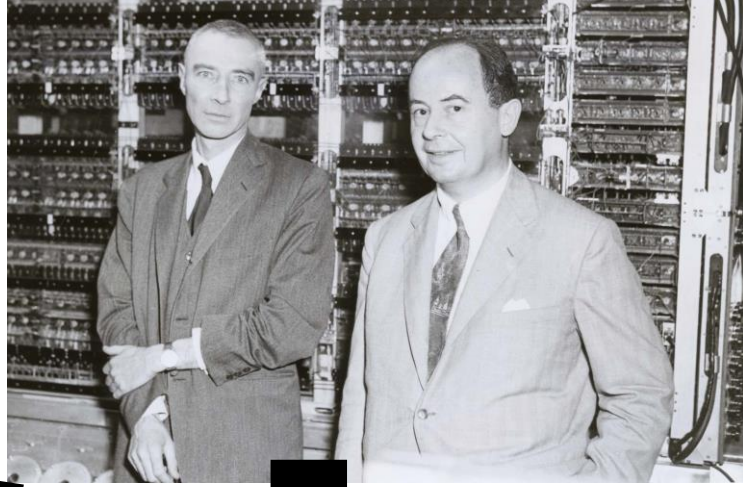
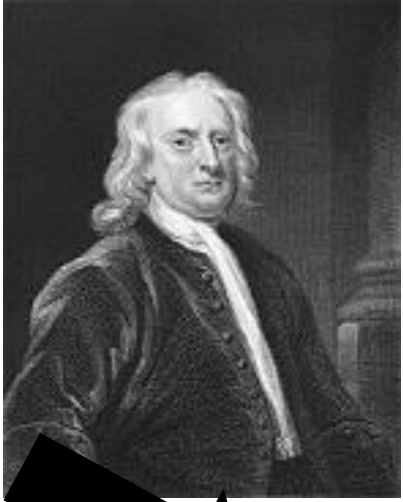
Why is data becoming central now?

Computers (inputs)

Internet / Network
(inputs and transfer)

Algorithms, Big Data
Analytics (outputs)





“data as a factor of production”

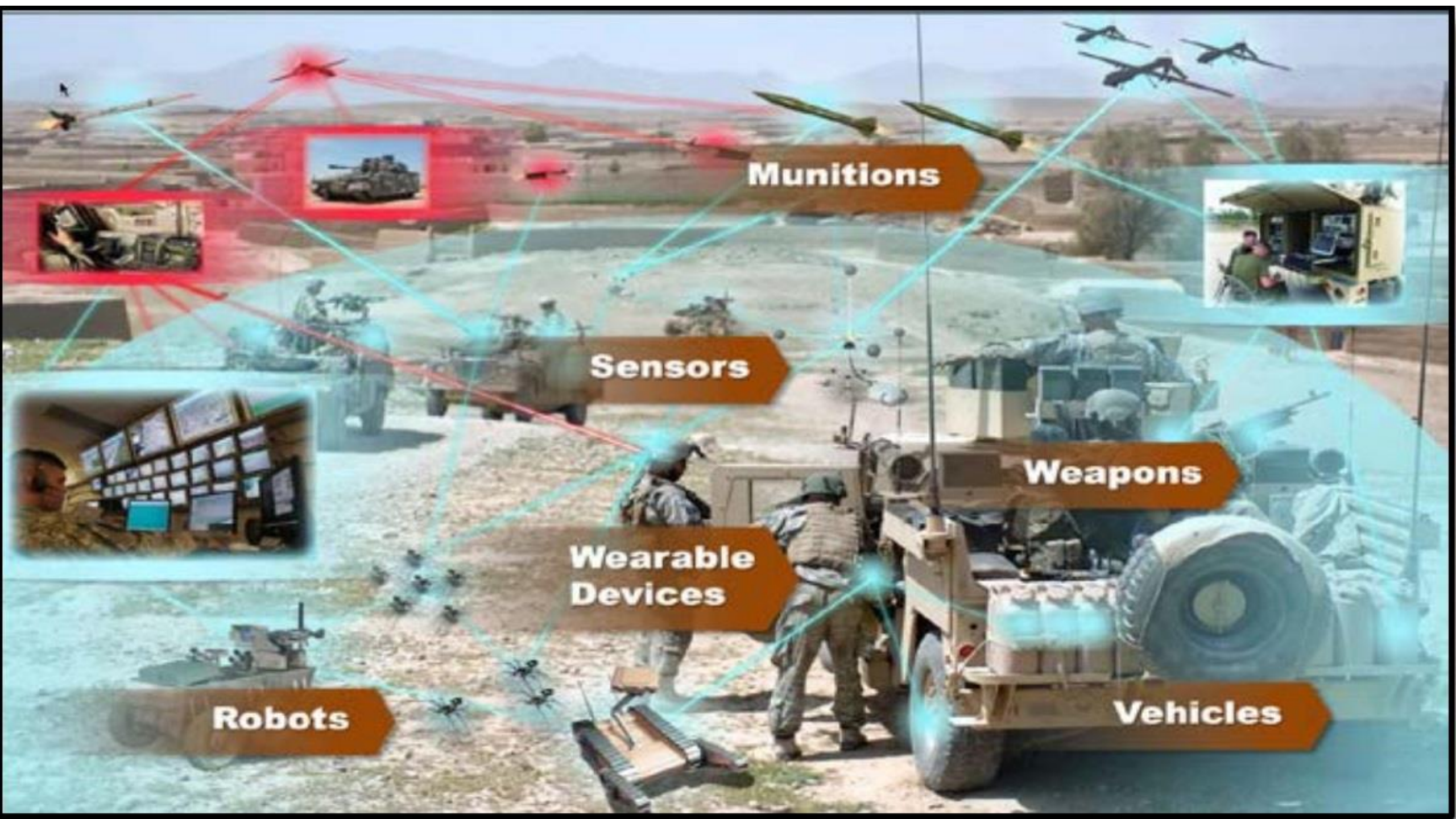


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- **2000:** As Governor of Fujian Province, Xi Jinping creates “Digital Fujian” concept, implementing the strategy of rejuvenating the province through science and education must seize the commanding heights of science and technology.
- **2015:** As General Secretary, Xi Jinping emphasizes construction of “Digital China” at 19th CPC National Congress, promotes ‘Digital Silk Road’ in Belt and Road.
- **2015:** Made in China 2025: creates a strategy for China to leap ahead of other nations in digital technologies using state support and subsidies
- **2016:** Xi proposes National Big Data Center. Outline Natl Strategy Innovation.
- **2017:** State Council releases New Generation AI Development Plan, China plans to become world leader in AI by 2030. Xi pushes China to become “Cyber Superpower”.
- **2020:** China Standards 2035 sets a plan for China’s government and its leading tech companies to set global standards for 5G, IOT, AI, and IPv6 at ITU and along Digital Silk Road.
- **2020:** China promotes massive New Type Infrastructure plan to “turn danger into opportunity” and surpass other countries during Covid, unleashes massive tax incentives to encourage domestic semi-conductor industry.



“Disruptive technologies are constantly emerging, continually reshaping the world’s competitive landscape, changing the balance of power among states.”



Munitions

Sensors

Weapons

**Wearable
Devices**

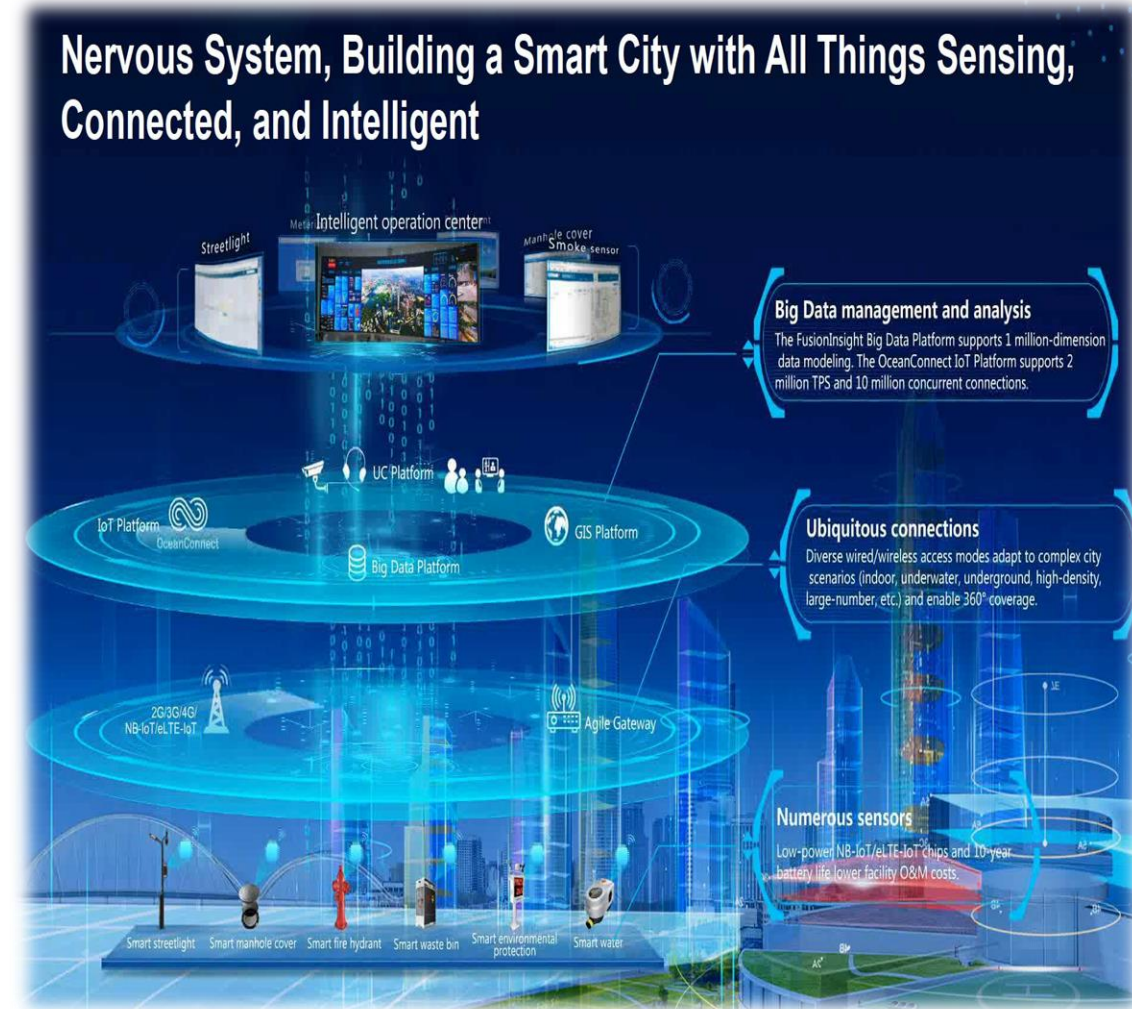
Robots

Vehicles



SMART CITIES & SAFE CITIES

- Smart Cities and Safe Cities have been built in 200 cities across 60 countries
- Array of sensors across various parts of the cityscape.
- The collection of this data and its harvesting at centralized location.
- The real-time provision of actions for centralized locations by AI.



Huawei Actively Contributes to Global Smart City Construction and Sets Footprint in 120+ Cities in 40+ Countries.





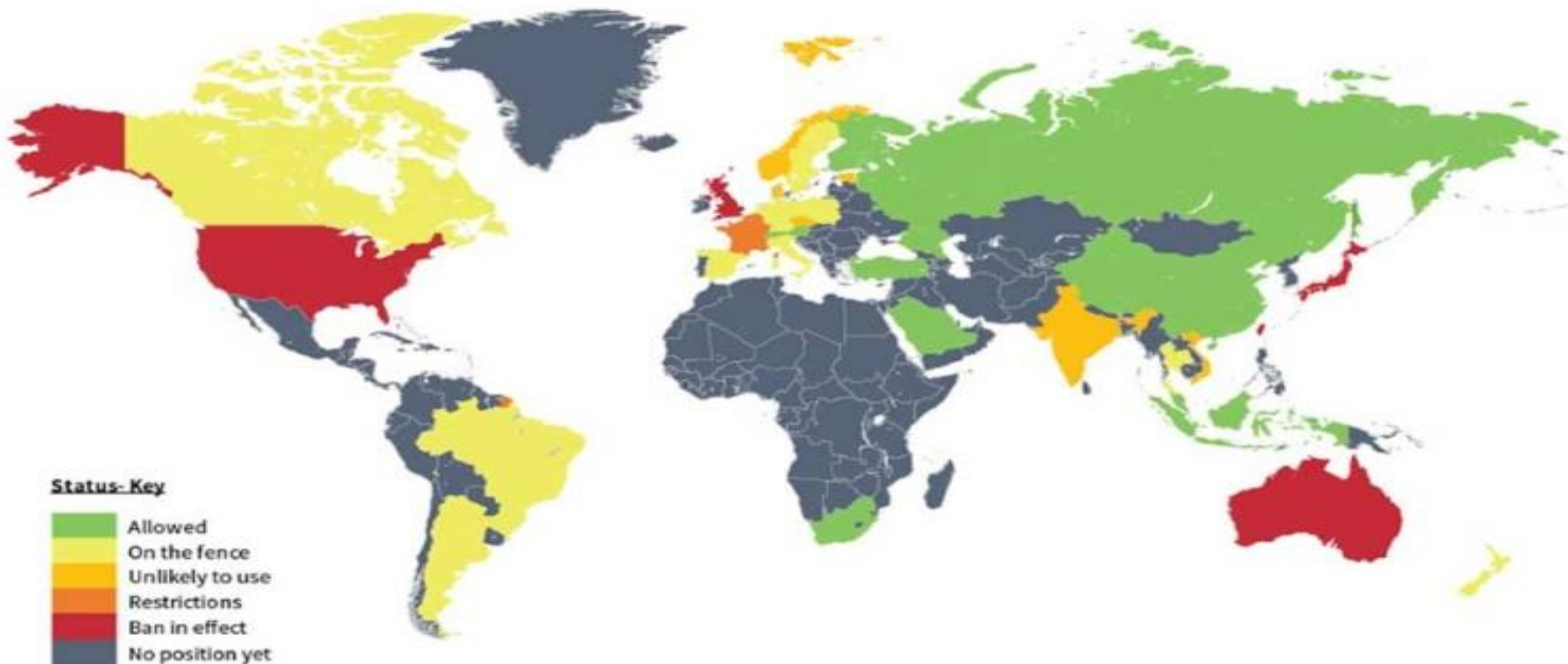
SMART PORTS & SHIPPING

Smart Ports offer

- Centralized data programs
- Smart-lifts and cranes, increasing productivity and lessening loading and unloading times
- Big data monitors to adhere to regulatory requirements
- Smart energy usage for power



Government Policies on Huawei 5G Equipment



Source: "How Huawei Landed at the Center of Global Tech Tussle: QuickTake," Bloomberg News, July 15, 2020. <https://www.bloomberg.com/news/articles/2019-12-17/how-huawei-landed-at-the-center-of-global-tech-tussle-quicktake>.

Note: Government policies as of July 15, 2020.

CSIS

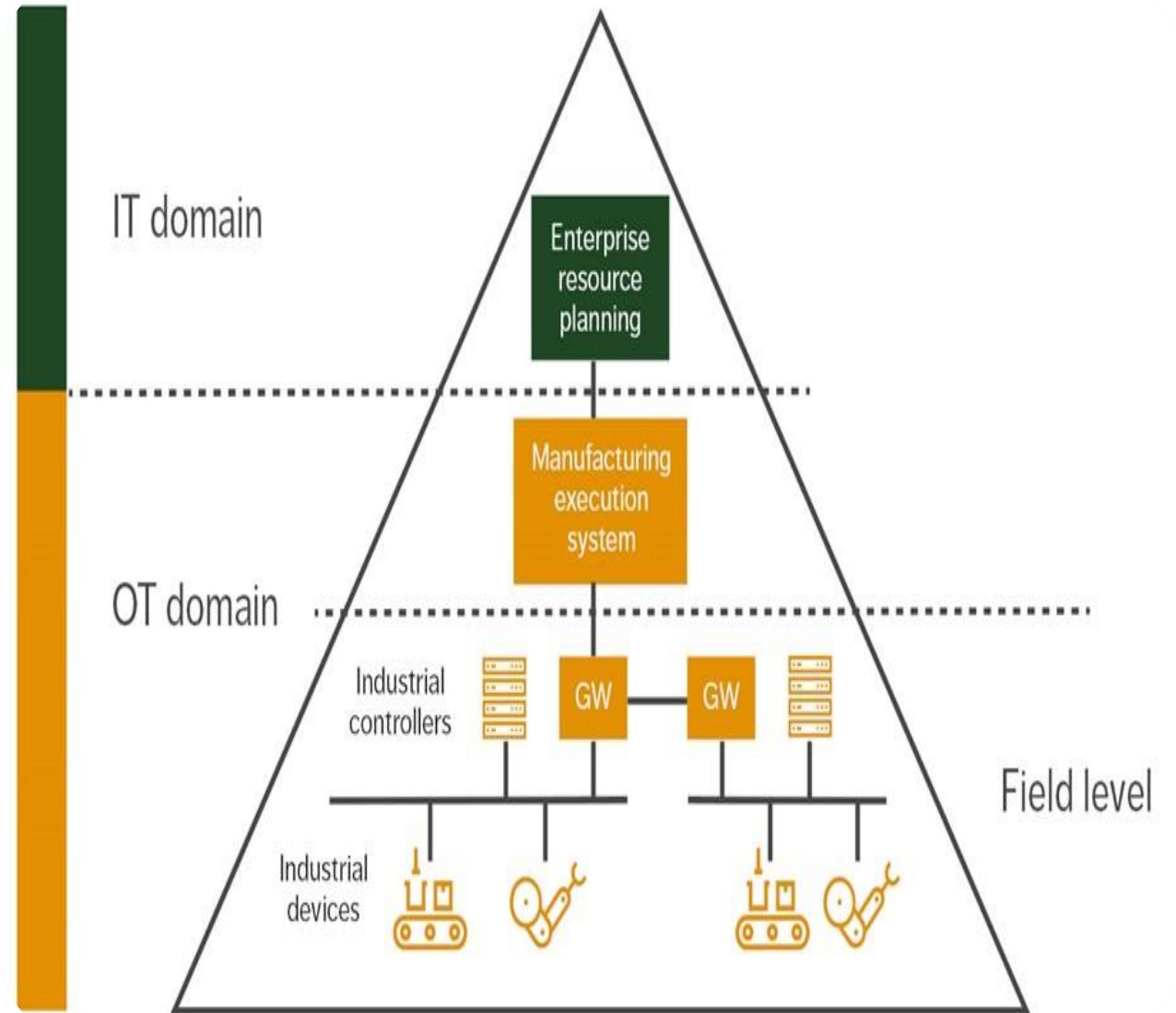
TRUSTEE CHAIR IN
CHINESE BUSINESS & ECONOMICS

SMART FACTORIES – 4th Industrial Revolution

Smart factories involve breaking down barriers between the current model of information technology and operations technologies.

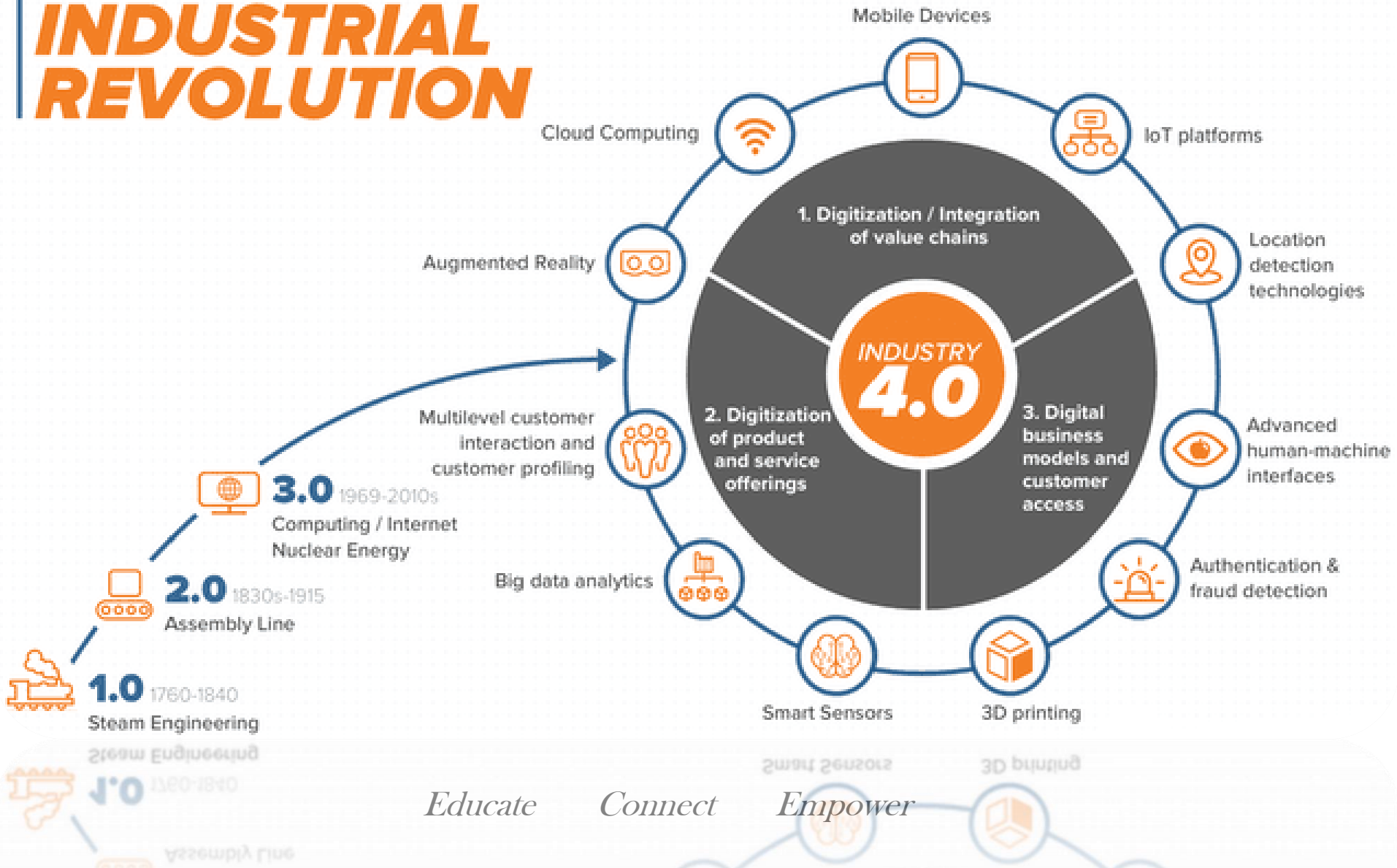
Data and systems at both the enterprise level and the operational level are connected, giving planners a perfect real-time of manufacturing and requirements.

5G reliability means greater reliability and precision by automated systems, both in terms of physical operations and time-related operations.





FOURTH INDUSTRIAL REVOLUTION





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- **2011:** US Congressional study on ZTE and Huawei and their place in the US market.
- **2018:** DOD bans sale of Huawei and ZTE phones / Australia bans Huawei from 5G roll out over security concerns.
- **2016:** Meng Wanzhou arrested in Canada over allegations of fraud in US.
- **2017:** US Dept of Justice indicts Huawei with 23 allegations of trade secret theft and fraud
- **2019:** UK allows for “limited access” to Huawei for its 5G roll-out (outside core) President Trump bans Huawei with a National Security Order and Senators introduce 5G legislation keeping Huawei blacklisted.
- **2020:** US passes law banning US rural telecom carriers from using Huawei network. UK Report recommends ban, which occurs, while NATO carries out review of its 5G. India, UK and Sweden lock Huawei and ZTE out of 5G. US tightens chips exports and passes incentives for semi-conductor manufacturing.
- **2021:** Biden administration keeps laws banning Certain Chinese tech companies and promises \$50bn to strengthen domestic manufacturing

- What is the connection between geopolitics and technology?
- How do new technological breakthroughs impact national power among states in the international system?
- What is the primary driver for the new information age?
- Why has technology re-emerged as a point of great power competition?



Maikalo



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