

Data-Driven Social Innovation: A Glimpse of Where We Are Going



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The Value of Data





Source: Nest

\$3.2 Billion

Mechanism to collect “content data”

» Socialization

Mechanism to collect “personal data”

» Personalization

Mechanism to collect “real data”

» ‘Smartization’



Data is an Intangible Asset



FredCavazza.net



 Mercedes-Benz



 LIFX



JAWBONE®



 Whirlpool



CHAMBERLAIN



 Logitech®

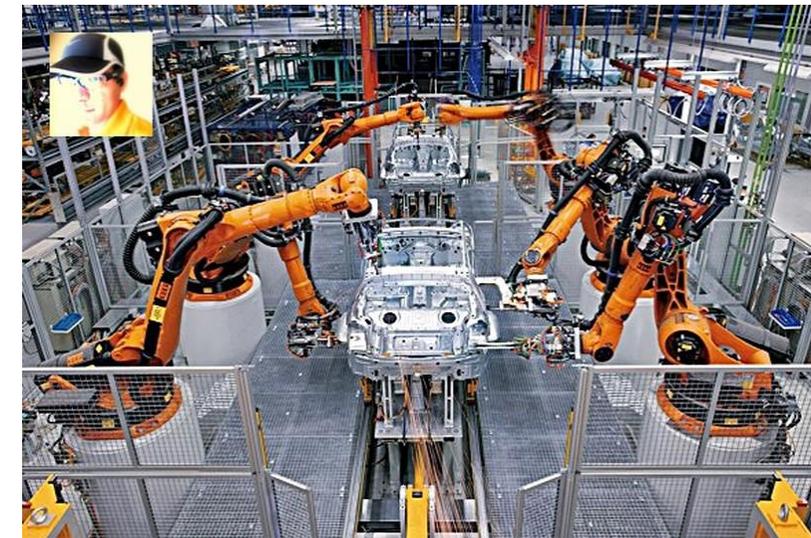
Source: Nest

Partnership via Data

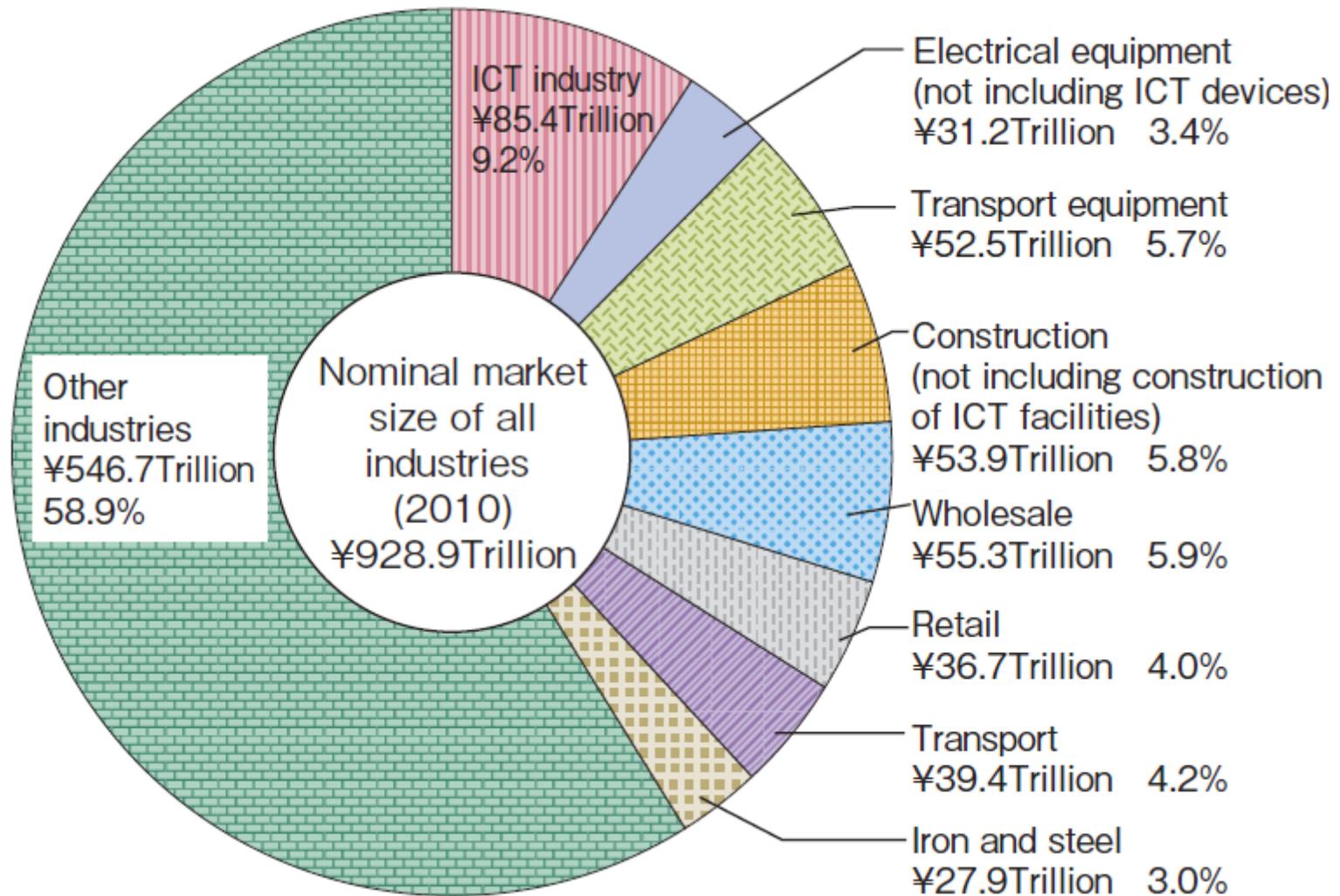
ICT as Social Infrastructure



- Process innovation
- Productivity improvement of large-scale industrial production
- Control of processes became possible via sensors and actuators
- GM introduced PLC in 1968
- Richard (Dick) Morley



Programmable Logic Controller



Source: MIC "Survey on Economic Analyses on ICT", 2013

ICT Market Size (2013)



SCANADU

¥1,270,024



Scanadu Scout: the first Medical Tricorder

indiegogo

MISFIT WEARABLES

¥846,675



Misfit Shine: an elegant, wireless activity tracker

indiegogo

amigo

¥580,809



Amigo: fitness bracelet for iPhone and Android

indiegogo

RADIATE

¥580,000



Radate Athletics: advanced workout shirt

KICKSTARTER

HAPILABS

¥135,000

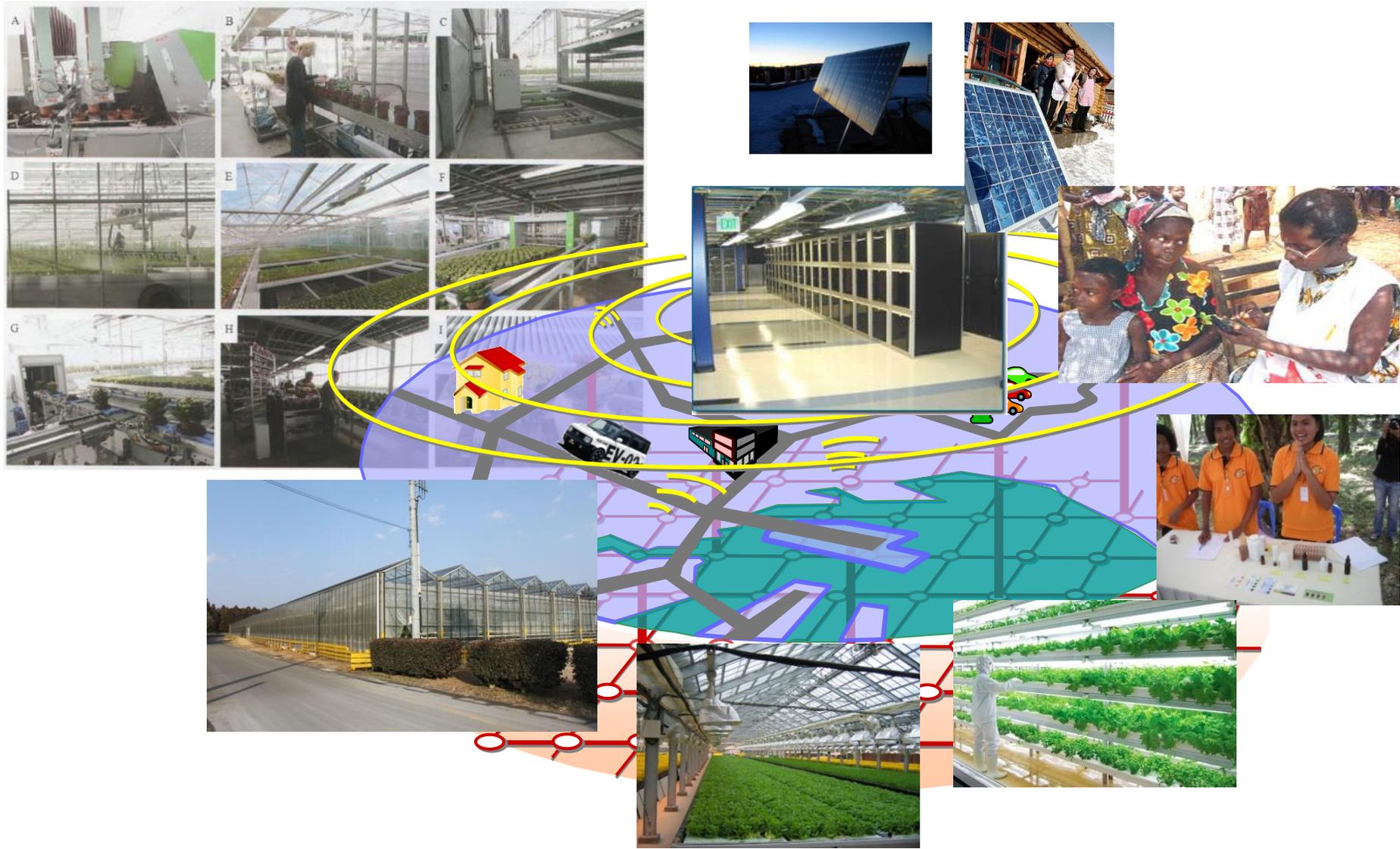


HAPIfork: eat slowly, feel better

KICKSTARTER

Source: Rock Health

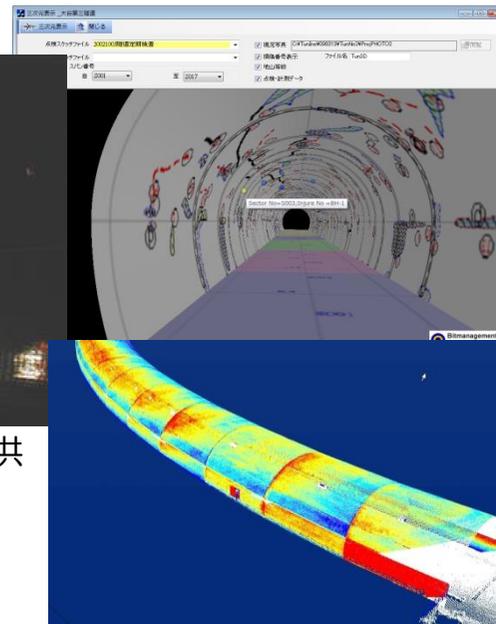
Mobile Health



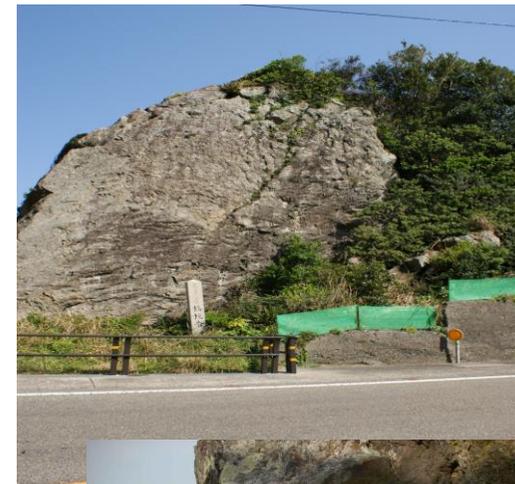
Agriculture

- Cloud-based data business
- Data-based production management, energy management, and supply chain management

Image measurement



京大大西教授提供



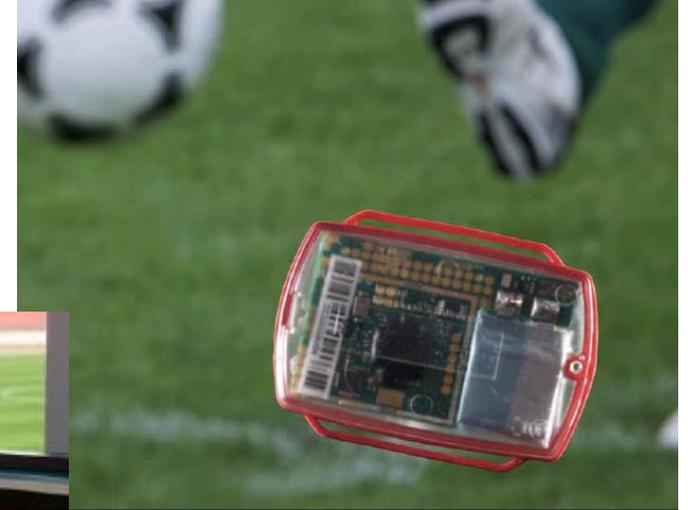
Source. Prof. Onishi



Wireless MEMS Tiltmeter

To measure a three dimensional angle of inclination of the slope with a resolution of 0.1 degree.

Smart Maintenance / Monitoring



Soccer

Source: Fraunhofer

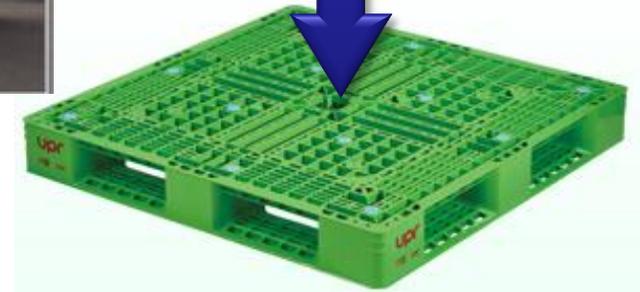


POINT 1 ゲートレスで初期投資が少ない。

ゲートレスだから
入出庫もスムーズ。



Source: UPR

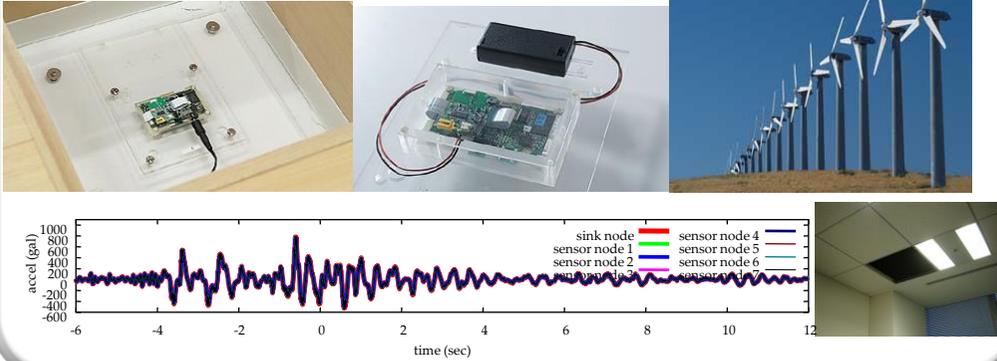


Smart Palette

ICT x Structure



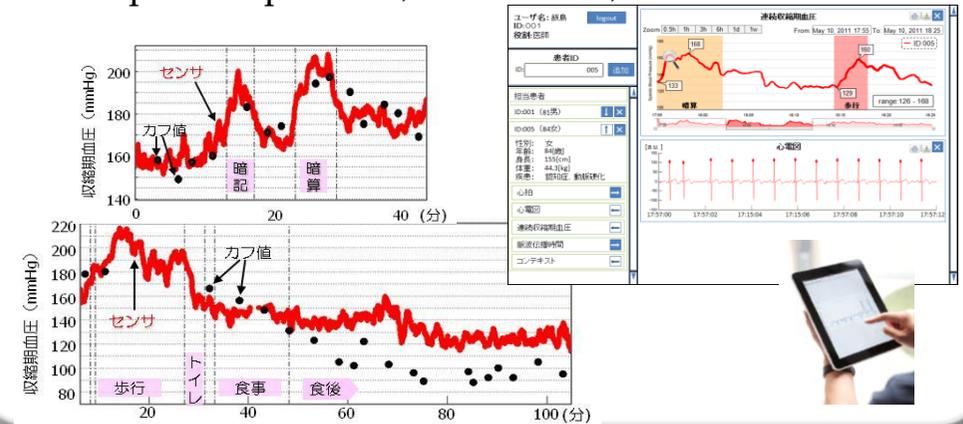
- Earthquake / Structural monitoring, wind turbine generation monitoring
- Time synchronization, collection protocol, health monitoring of buildings,,,



ICT x Healthcare



- ECG monitoring, elder people support
- Wearable ECG sensor
- Low power operation, scalable DB, Interface...



ICT x Agriculture



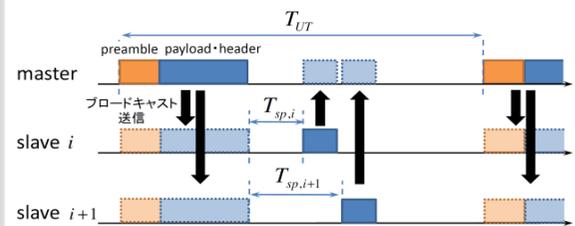
- Realizing real-time monitoring of "degree of growth"
- LAI (leaf area index) modeling
- Photosynthetically active radiation sensor
- JA data mining

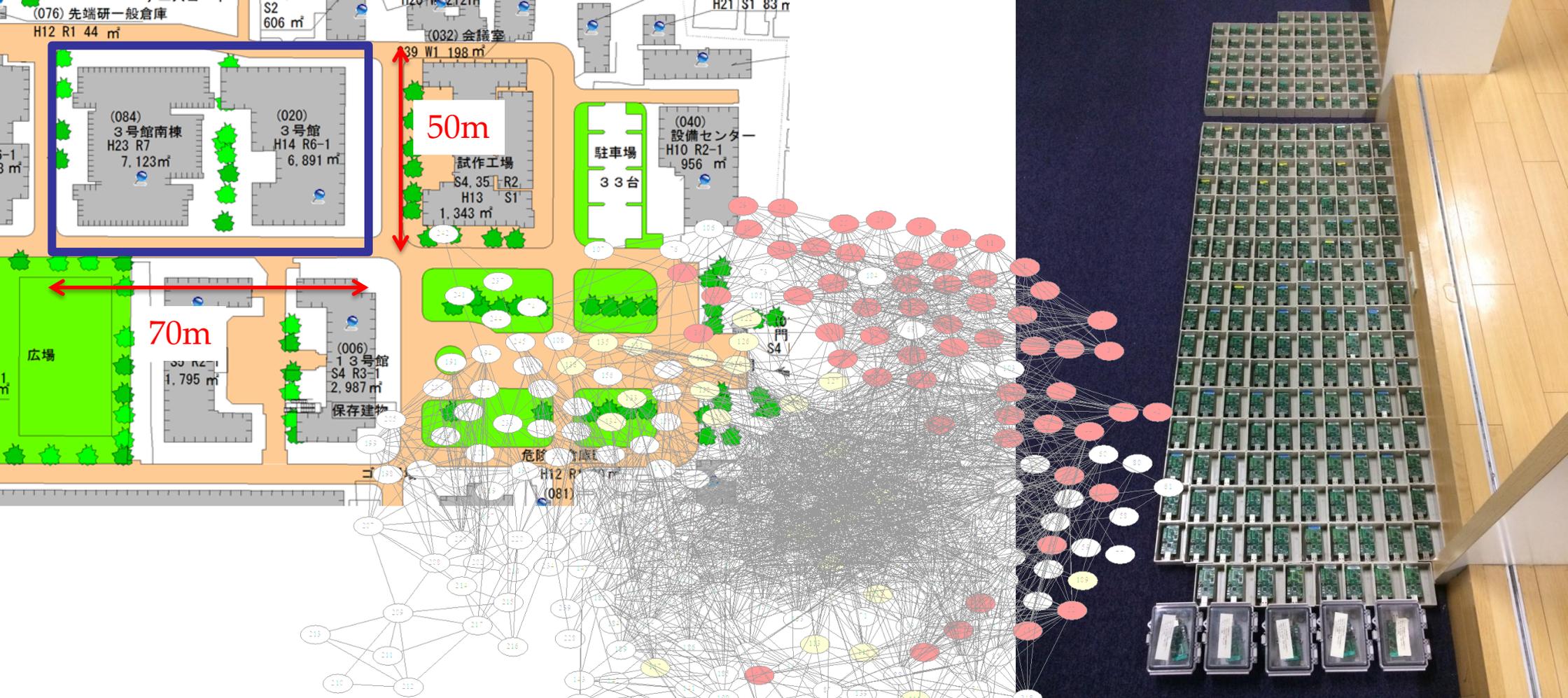


ICT x Manufacturing



- Smart wireless factory
- FA/PA communications: periodical
- Preambleless wireless communications: channel estimation, frequency synchronization, timing synchronization and phase offset compensation





250 sensor nodes

Sensor Networks (250 nodes) Concurrent Flooding



Sensors

General Purpose Technology

Data is an Intangible Asset

Marines and Field-oriented ICT

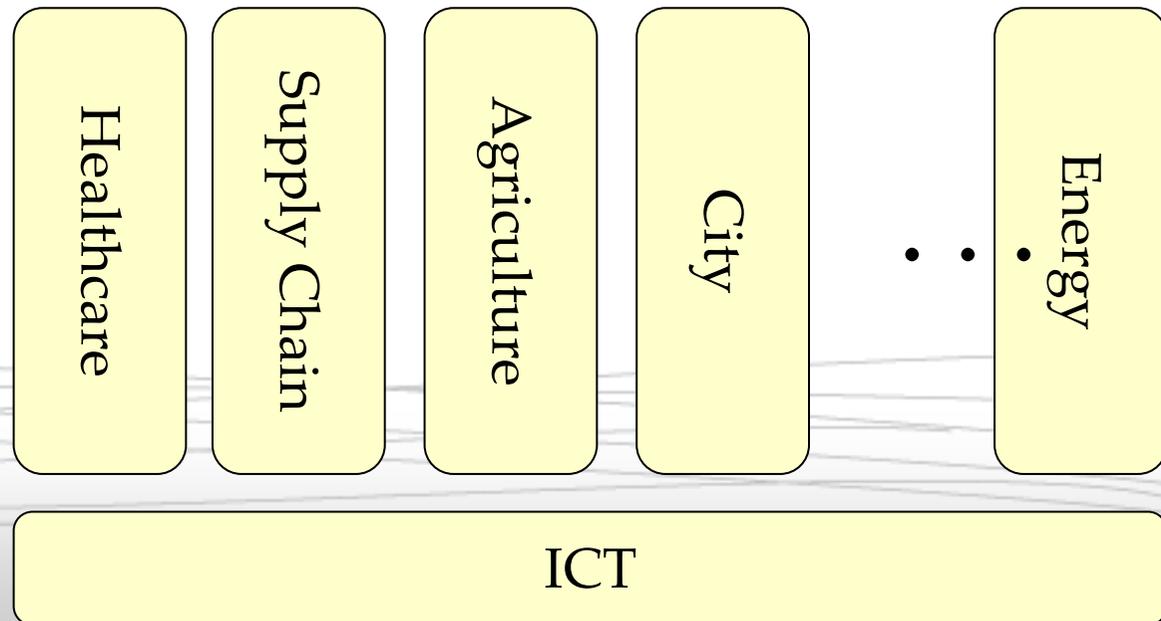
The emergence of steam engine leads to the railroad, railroad gives way to the emergence of daily paper, postal service, and banking.

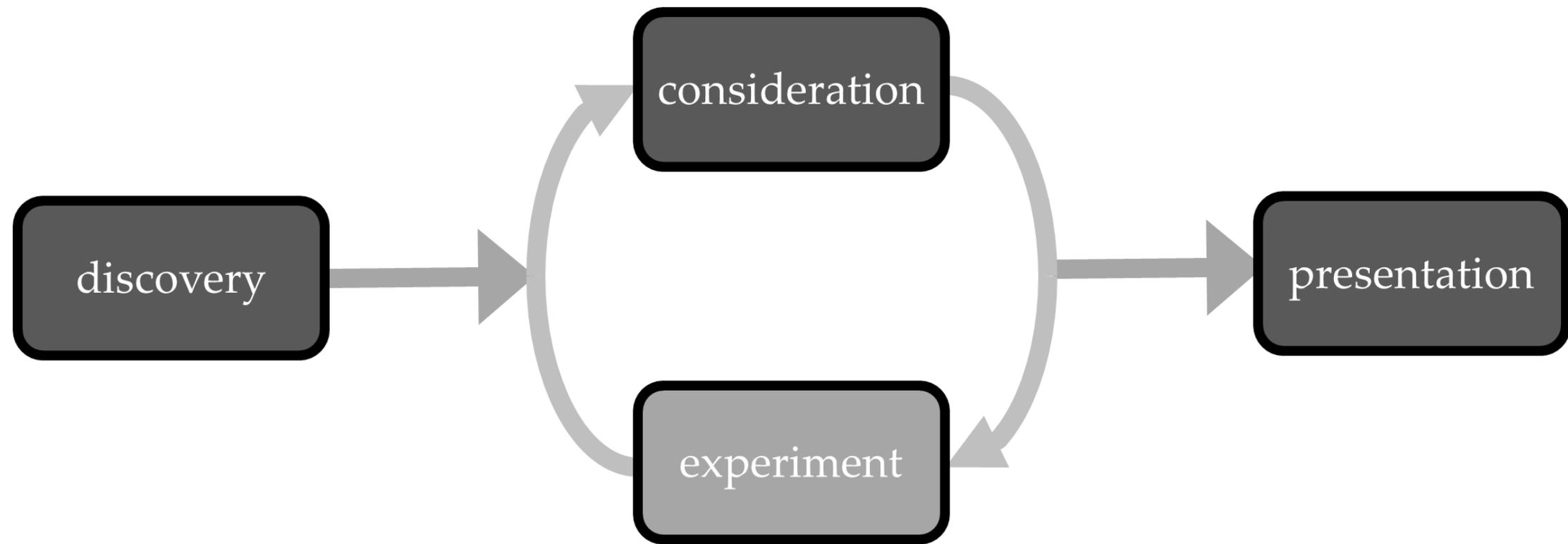
by Peter Drucker



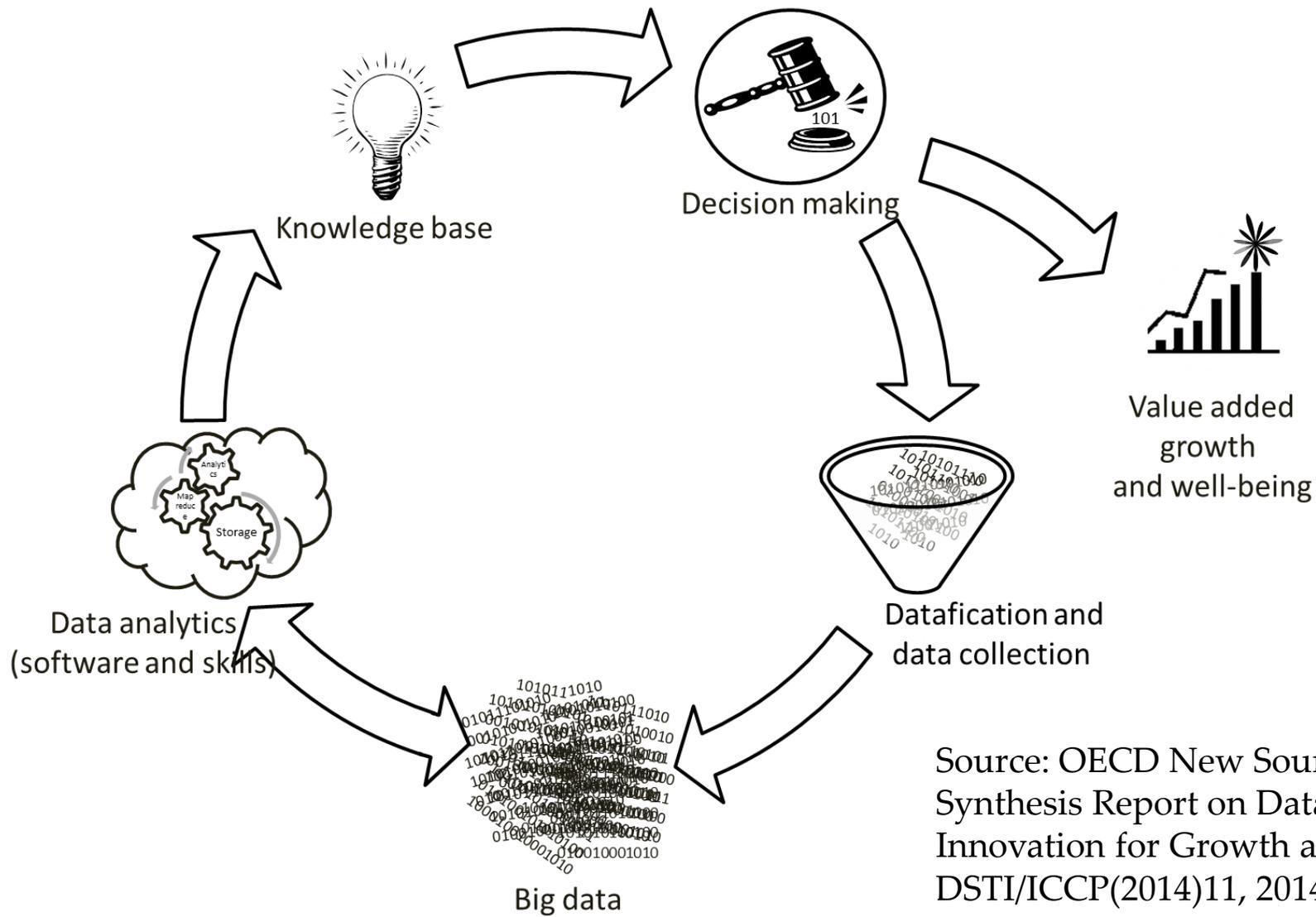
The invention of ICT leads to the broadband, broadband gives way to the emergence of OO, OO, and OO.

General Purpose
Technology (GPT)





Design Skills



Source: OECD New Sources of Growth, Synthesis Report on Data-Driven Innovation for Growth and Well-Being, DSTI/ICCP(2014)11, 2014.

Data Value Cycle

- ICT x OO
 - » 'Field' oriented ICT
 - » Access to 'data' and 'field'
- 'Marines'-type R&D
- Making stories for ICT R&D
- Passion and dream

Field-oriented ICT

