--System design using IoT—
13/03/2017

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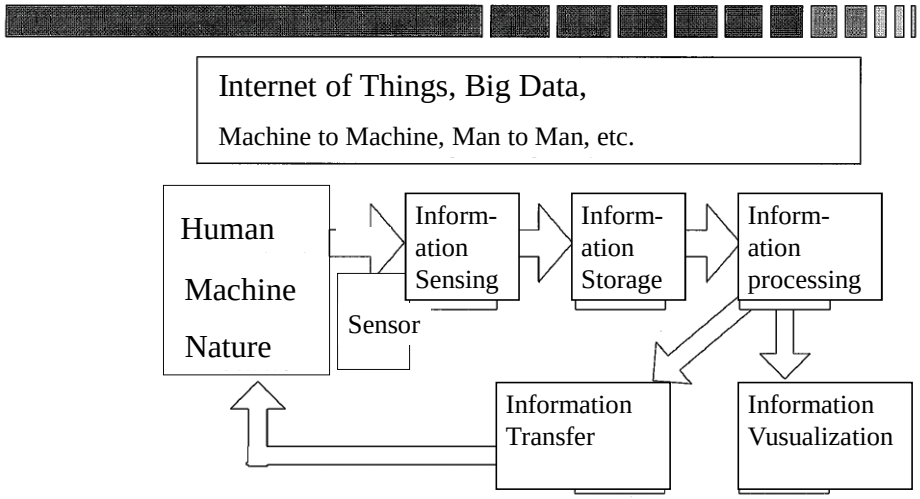
ICT: Infrastructure that connects human society, things and nature

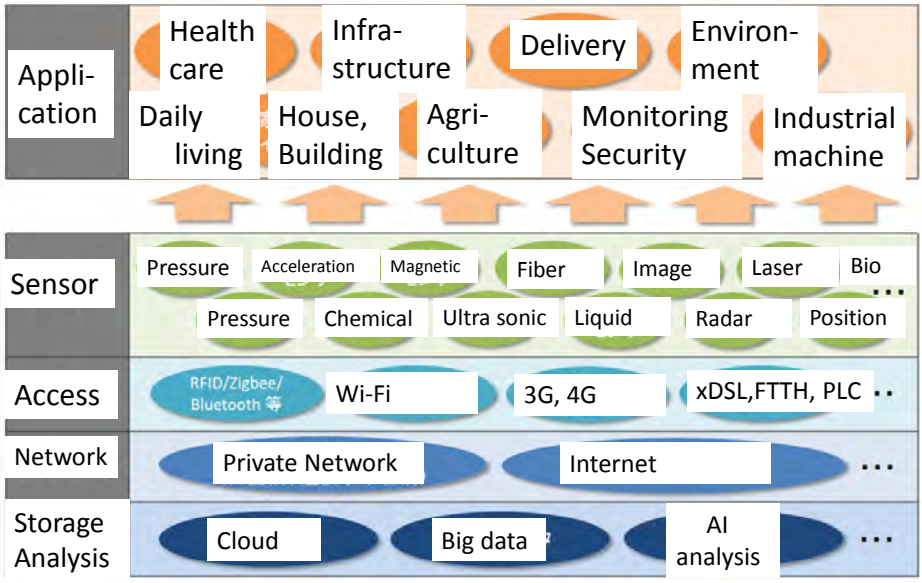
ICT System Structure



Data Sensing, Storage, Big Data Analysis and Feedback

Monitoring Data collection by sensors	Storing Data	Big Data Analysis	Measure to the monitored Things

IoT components and application targets



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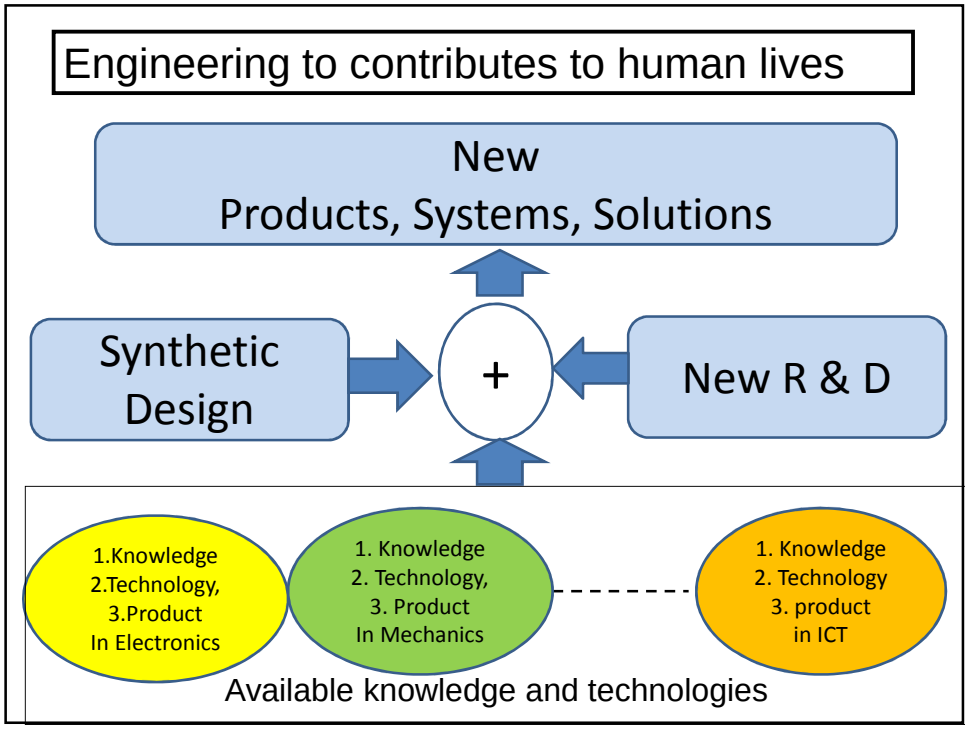
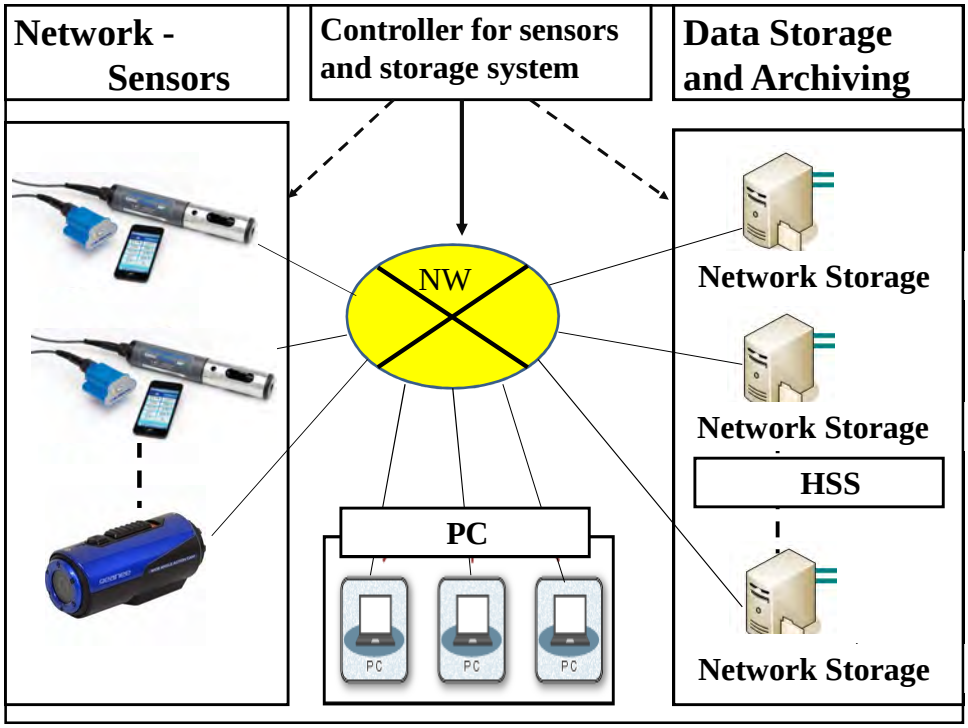
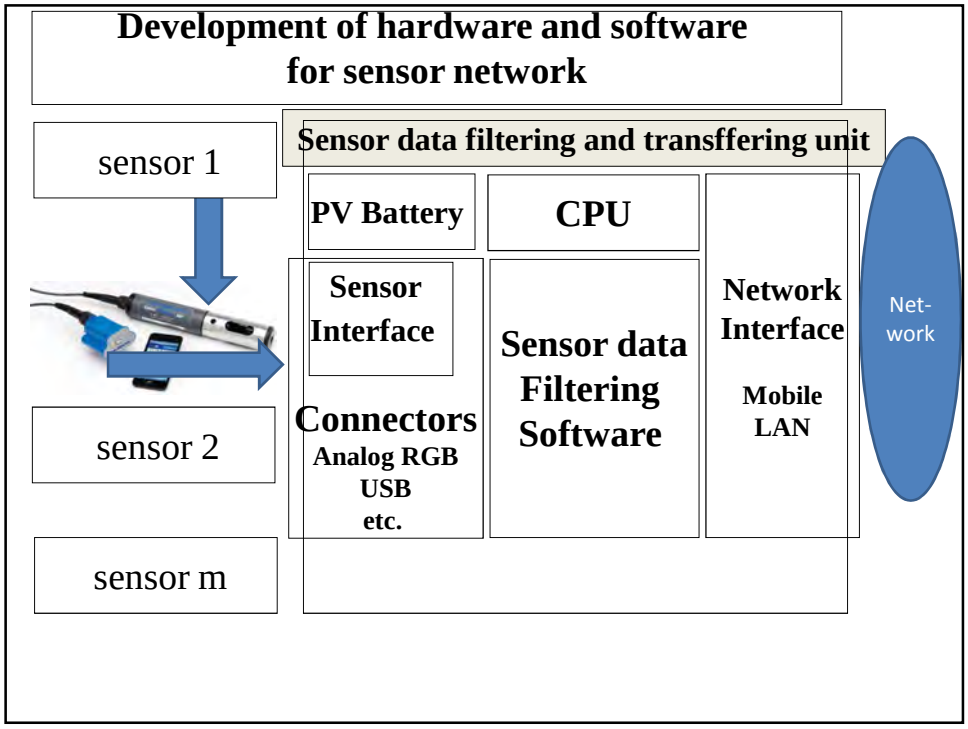
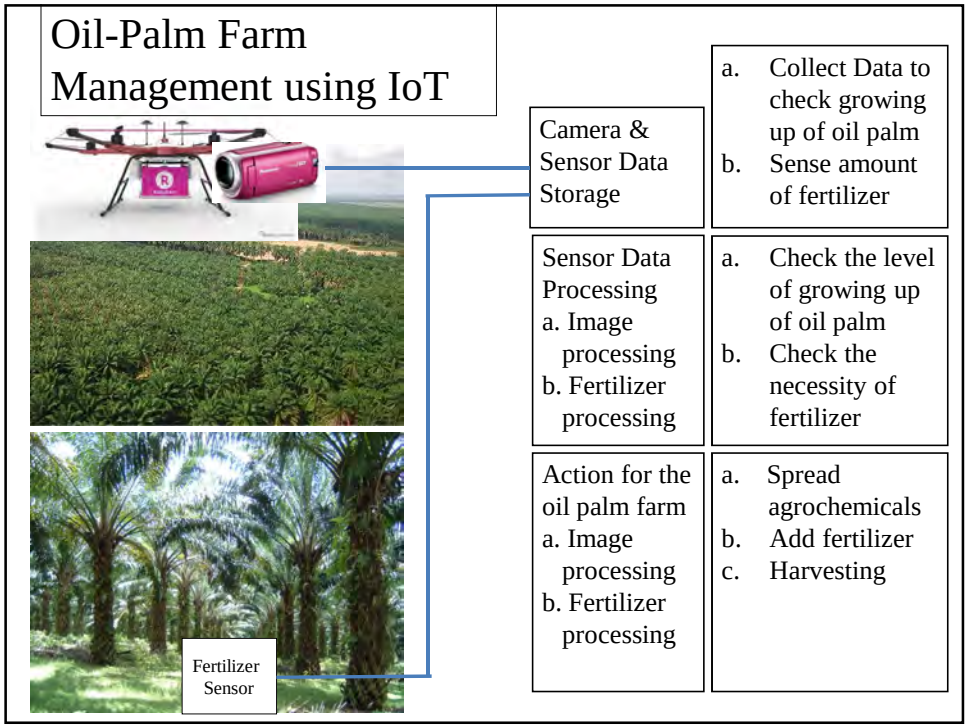
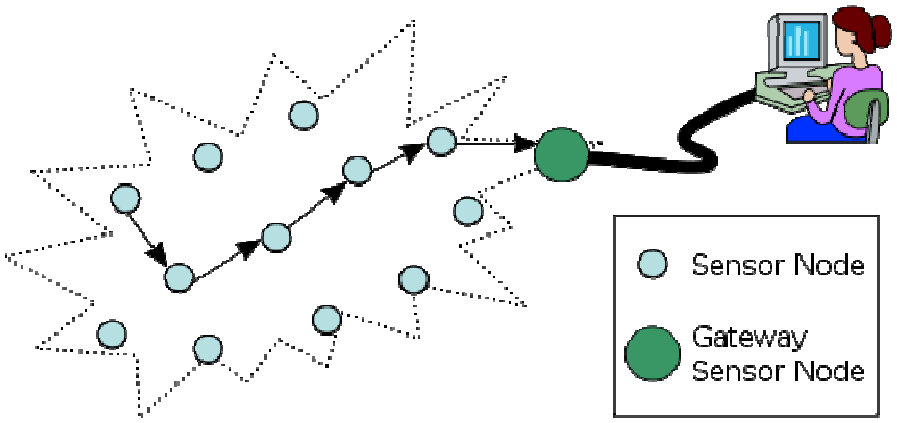

Engineering to contributes to human lives
New
Products, Systems, Solutions
Synthetic
Design
+
New R & D
1.Knowledge
2.Technology,
3.Product
In Electronics
1. Knowledge
2. Technology,
3. Product
In Mechanics
1. Knowledge
2. Technology
3. product
in ICT
Available knowledge and technologies


Network -
Sensors
Controller for sensors
and storage system
Data Storage
and Archiving
NW
PC
PC
PC
PC
Network Storage
Network Storage
HSS
Network Storage


Development of hardware and software for sensor network
sensor 1
sensor 2
sensor m
Sensor data filtering and transffering unit
PV Battery
CPU
Sensor Interface
Connectors
Analog RGB
USB
etc.
Sensor data Filtering Software
Network Interface
Mobile LAN
Net-work

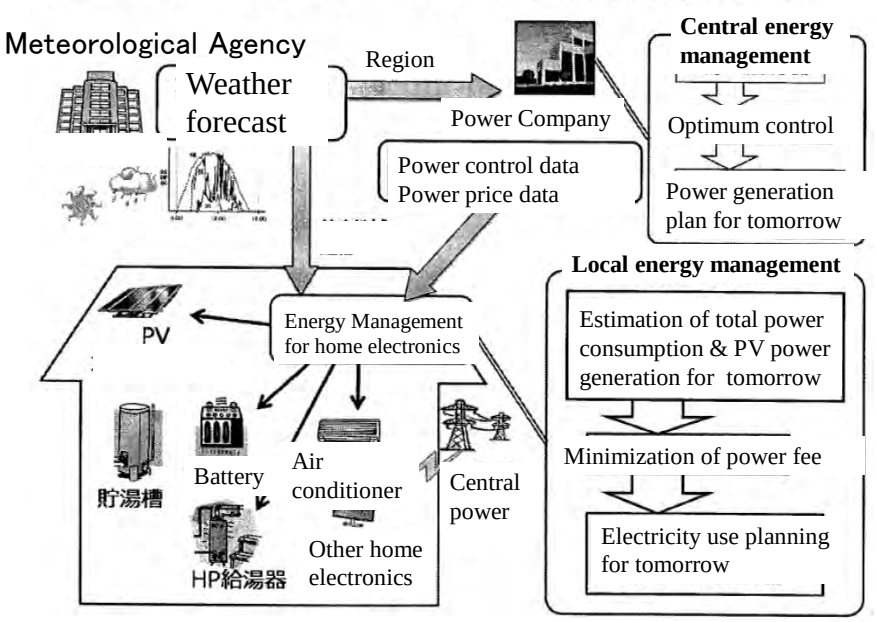

Oil-Palm Farm Management using IoT
Fertilizer Sensor
Camera & Sensor Data Storage
a. Collect Data to check growing up of oil palm
b. Sense amount of fertilizer
Sensor Data Processing
a. Image processing
b. Fertilizer processing
a. Check the level of growing up of oil palm
b. Check the necessity of fertilizer
Action for the oil palm farm
a. Image processing
b. Fertilizer processing
a. Spread agrochemicals
b. Add fertilizer
c. Harvesting

Sensor Networking and Storage



https://ja.wikipedia.org/wiki/%E3%82%BB%E3%83%B3%E3%82%B5%E3%83%8D%E3%83%83%E3%83%88%E3%83%AF%E3%83%BC%E3%82%AF#/media/File:WSN.svg

Energy management for introducing renewable energies



Energy Management using ICT

Energy management

Power Plant

Wind Power

Solar power

Smart Grid for electricity
a. Estimation of total power consumption & PV power generation for tomorrow
b. Minimization of power fee
c. Electricity generation planning for tomorrow

Solar power From Home

Solar power From Home

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Conclusion

1. Some considerations were done toward enabling real use of IoT.
2. IoT is one of the concept of ICT.
3. Systems and services can be developed by combining sensors, storage devices and softwares available for real use.
4. More developmental activities are necessary to realize useful systems and services.