

Conscious Factory

Case: Nokia
Erja Sankari
14.3.2017



Industrial IoT Will Revolutionize Industry and Business Models



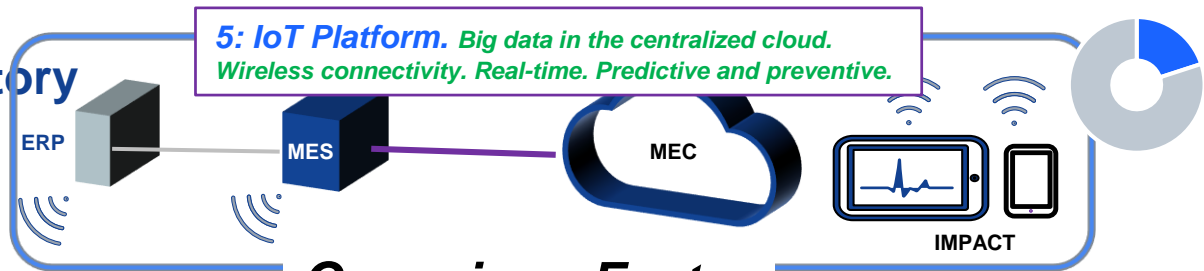
Ongoing industrial revolution enables disruptive and game-changing innovations to factories. Key words are automation, digitalization, big data analytics, VR and artificial intelligence.

Factory environment will change - new Industrial IoT partners are needed e. g. in the areas of device and application development.

Factory as a live lab for industrial IoT system and applications.

In transformation, open ecosystems deliver best global solutions: external network to complement own capabilities.

Our path to Conscious Factory



Conscious Factory

0: DFx/ Industrialization of the Product. E. g. design solutions that enable automation, smart products.

2: Intelligent SMT Manufacturing

Increased automation and intelligence in material flow

1: Automated Assembly

New automation technology

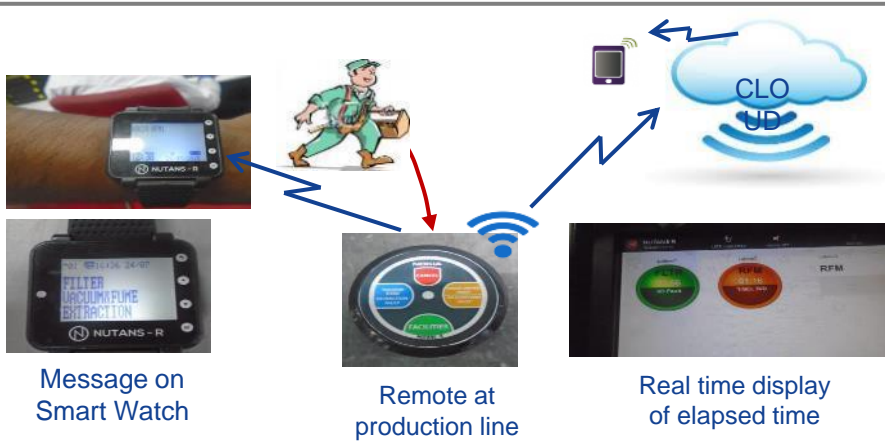
3: Centralised, automated material logistics

Customer pull, new logistics and warehousing solutions

4: Single IoT Use Cases. E. g. Material Train follow-up by sensors, temperature and humidity control etc.

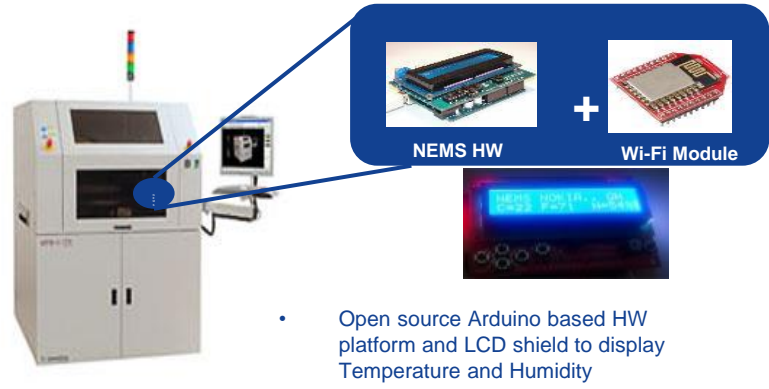
Some examples of implemented IoT Use Cases/Applications

Smart Watch @ Assembly Line



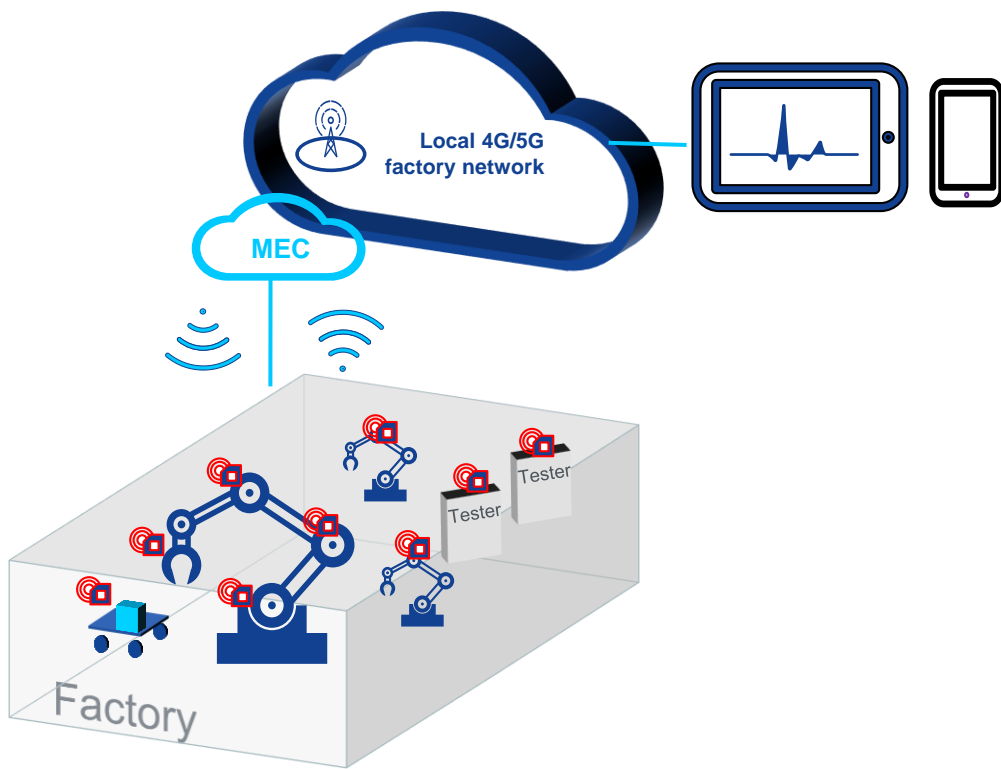
- Engineering support in final assembly lines using Smart wearables
- On line recording of all incidents & corrective actions
- Data analytics to reduce MTTR for assembly related issues

NOKIA Environment Management System (NEMS)



- Centralized monitoring and recording of environmental parameter - Temperature and Humidity.
- Auto email alerts for deviations from set limits.

Elements of Factory IoT solution



Data Analytics,
Remote Management

Applications

Impact / Innovation
platform

SW Platform

MEC – Mobile Edge
Computing

HW Platform

NB-IoT, LTE-M, Wifi, LTE,
5G, MuLTEfire, LoRa

Connectivity Options

Testers, Instruments,
Sensors, Robots,
Actuators

Devices and Sensors

We want to work with ecosystem partners to create winning IoT Factory Platforms

- We need partners to complement our technological capabilities e. g. in device and application development
- We can offer a real factory environment as live lab
- Who are the winners of the future?
 - Understand the possibilities of I4.0 for factories
 - Capability to innovate and create best solutions – fail fast
 - Capability to transform from today's world to the future
 - Open global ecosystems
 - Capability to invest

NOKIA