



Case study การประยุกต์ใช้ IoT และ NETPIE ในภาคอุตสาหกรรมการผลิต

By Mr.Ekasit Inthong

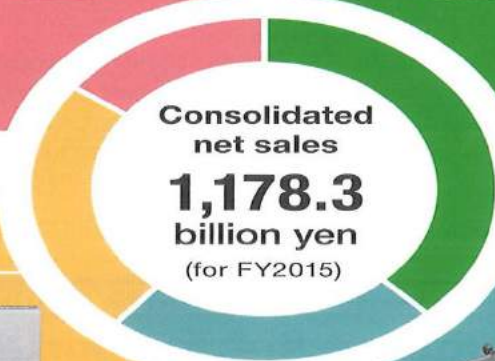
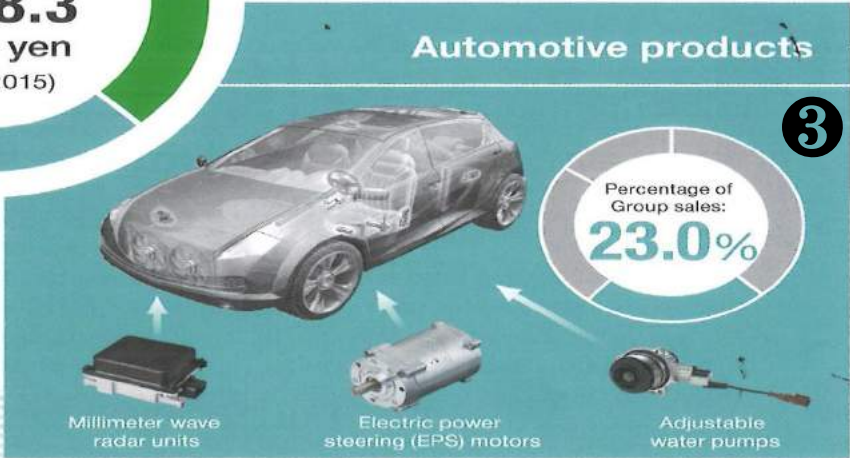
Asst.General Manager

Nidec Shibaura Electronics (Thailand) Co.,Ltd.

บริษัท นิเด็ค ชิबाอุระ อิเล็กทรอนิกส์ (ประเทศไทย) จำกัด

日本電産テクノモータ株式会社
NIDEC TECHNO MOTOR CORPORATION





Nidec Shibaura Electronics (Thailand)

Established : 1996
Capacity : 1.2M.Pcs./Mth.

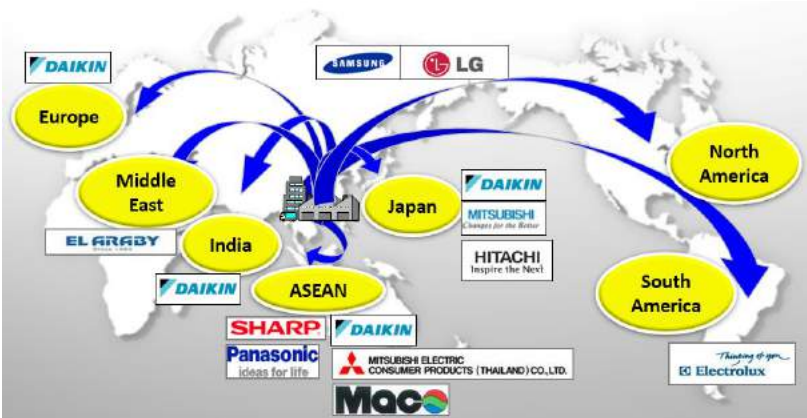
Management:
Japan : 9 Persons
Thai : 16 Persons



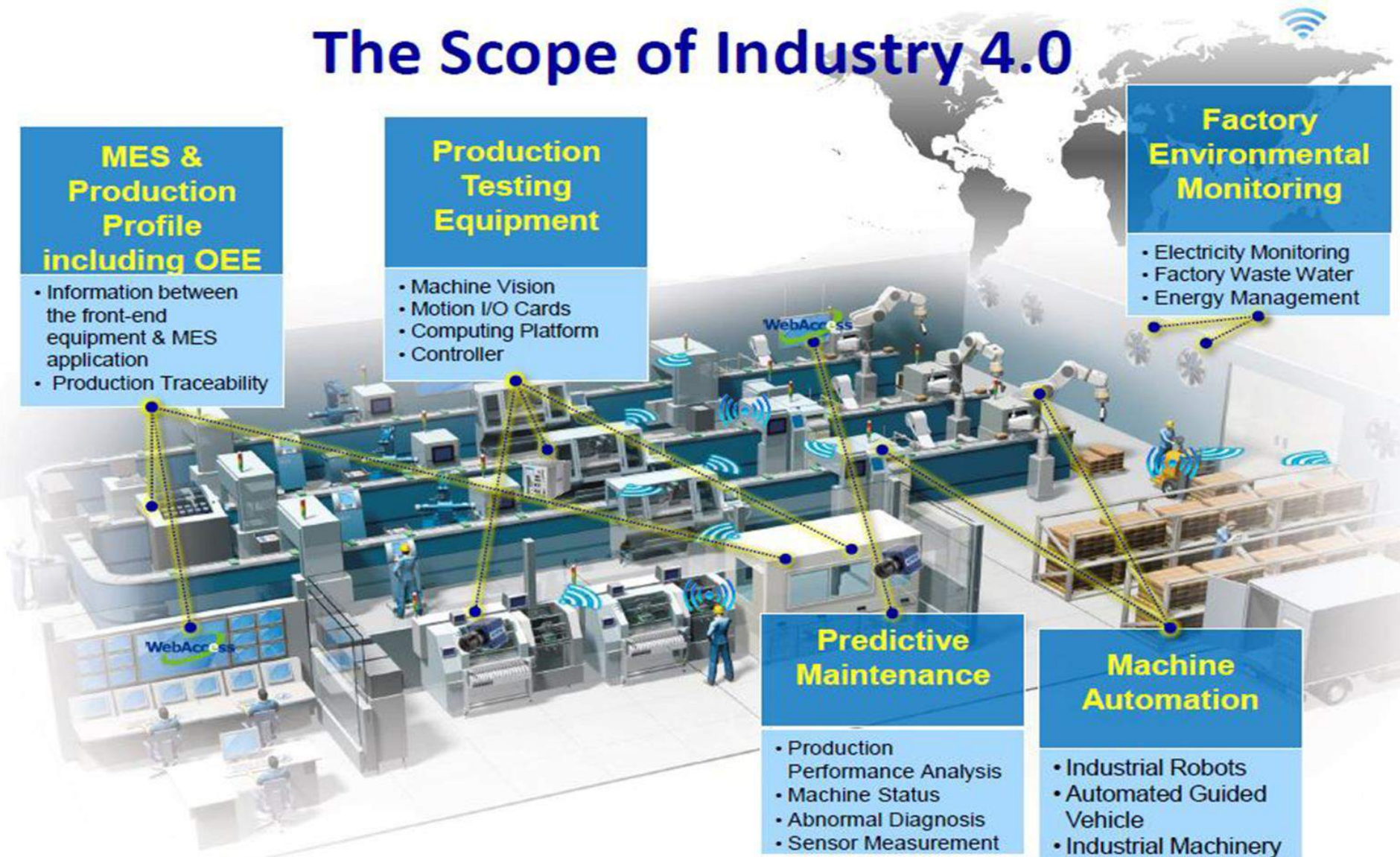
Resin-Packed Motors



Motors for Air Conditioners



The Scope of Industry 4.0



MES : Manufacturing Execution System
OEE : Overall Equipment Effectiveness

Change to be Smart Factory in 2018

Step 1

IoT to make “Speaking Machine”

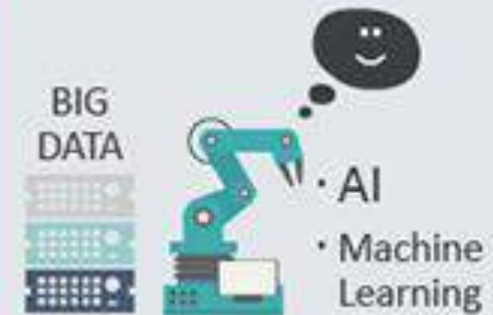
ใช้ IoT เพื่อให้เครื่องจักรและอุปกรณ์ “พูดได้”



Step 2

MeS & Adv. Traceability System

สั่งสมประสบการณ์ รับรู้ความสัมพันธ์
และยืนยันในการวิเคราะห์ข้อมูล

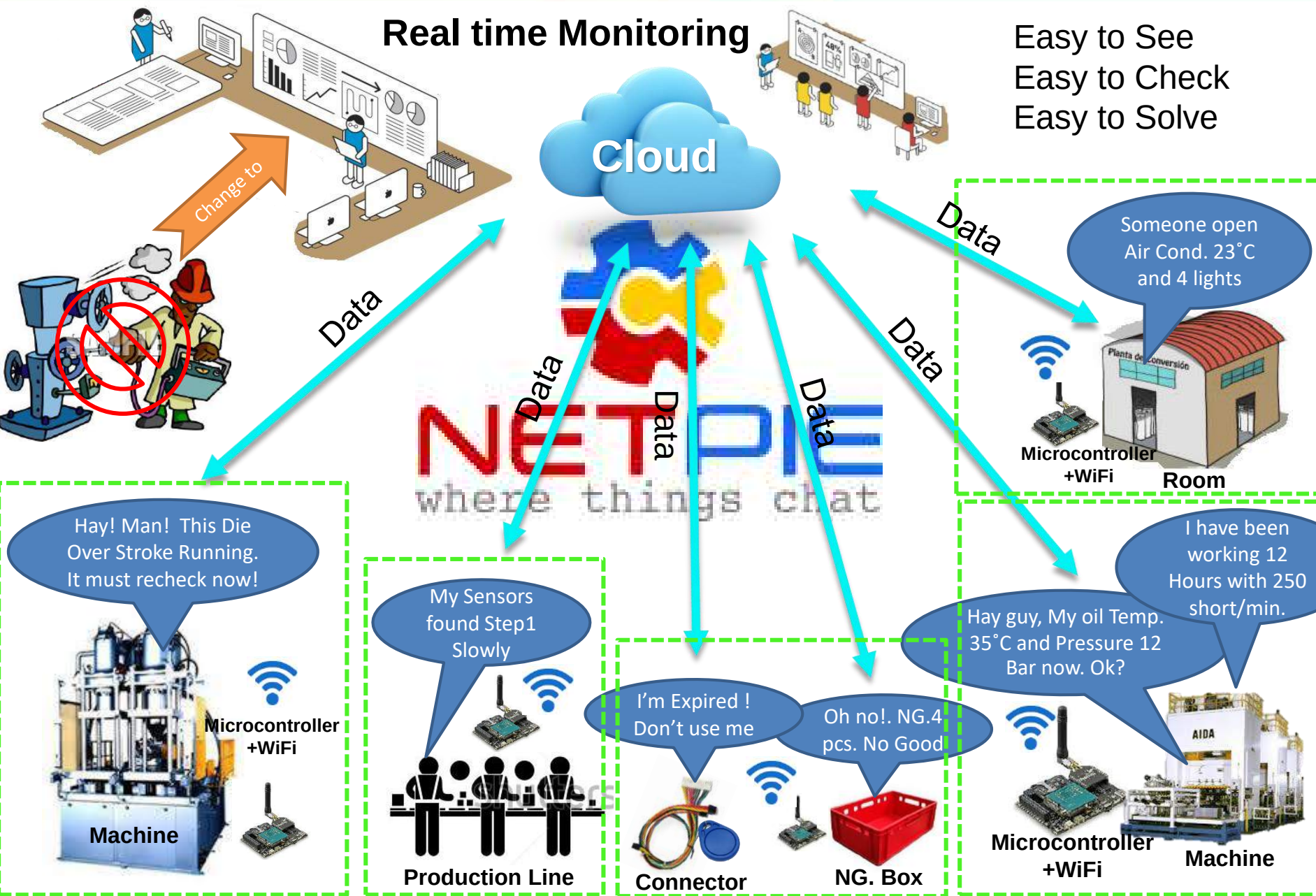


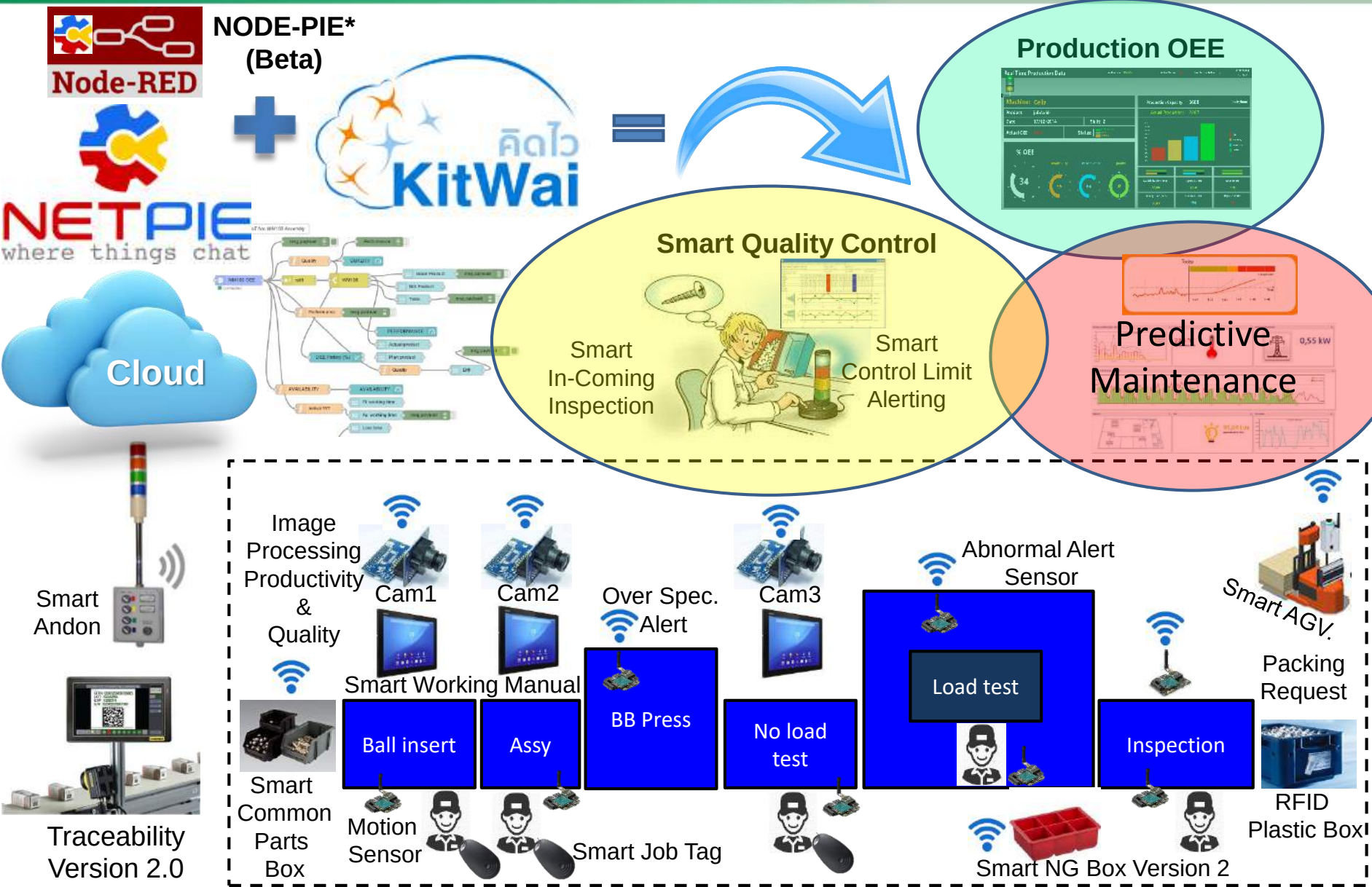
Step 3

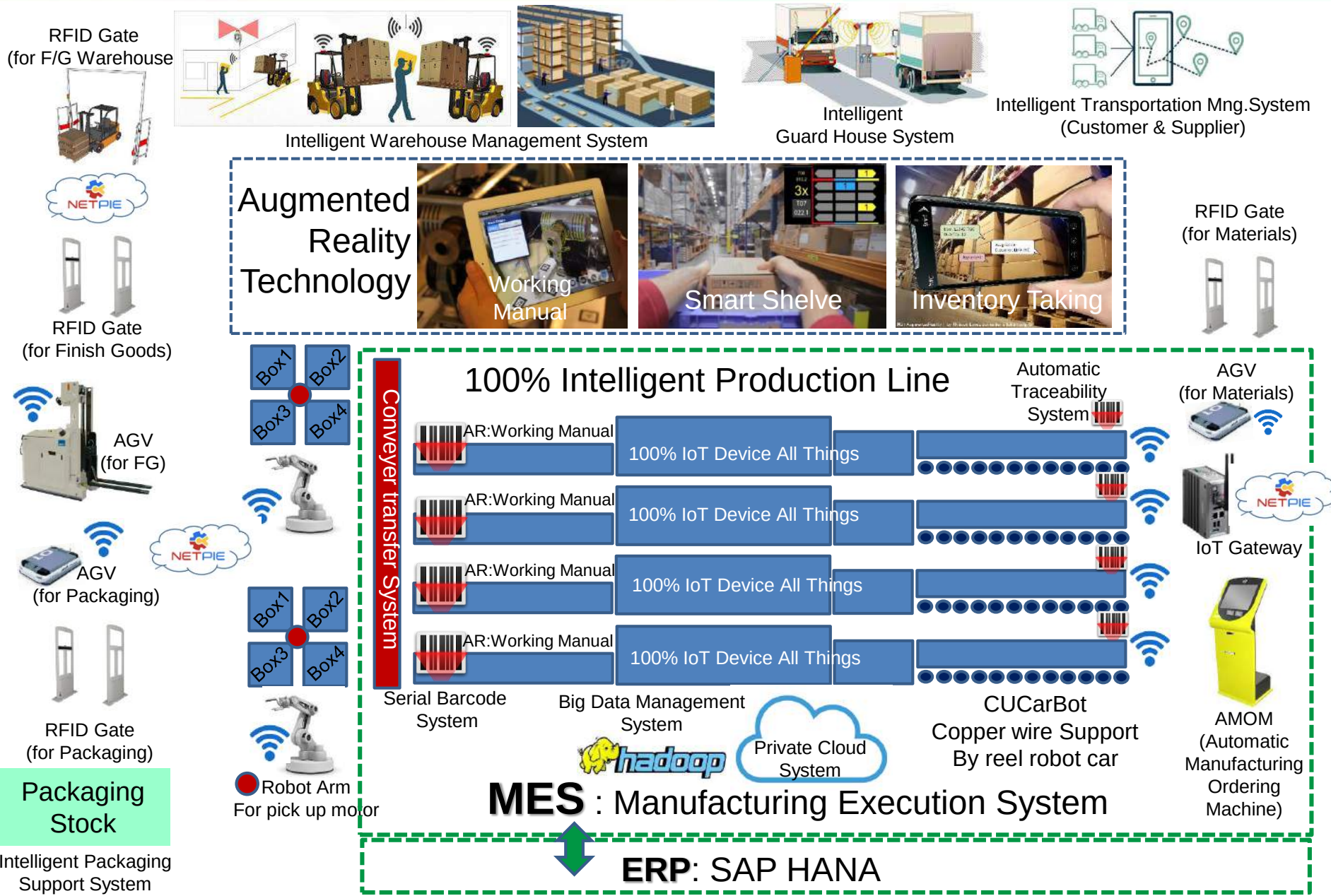
Machine to Machine (M2M)

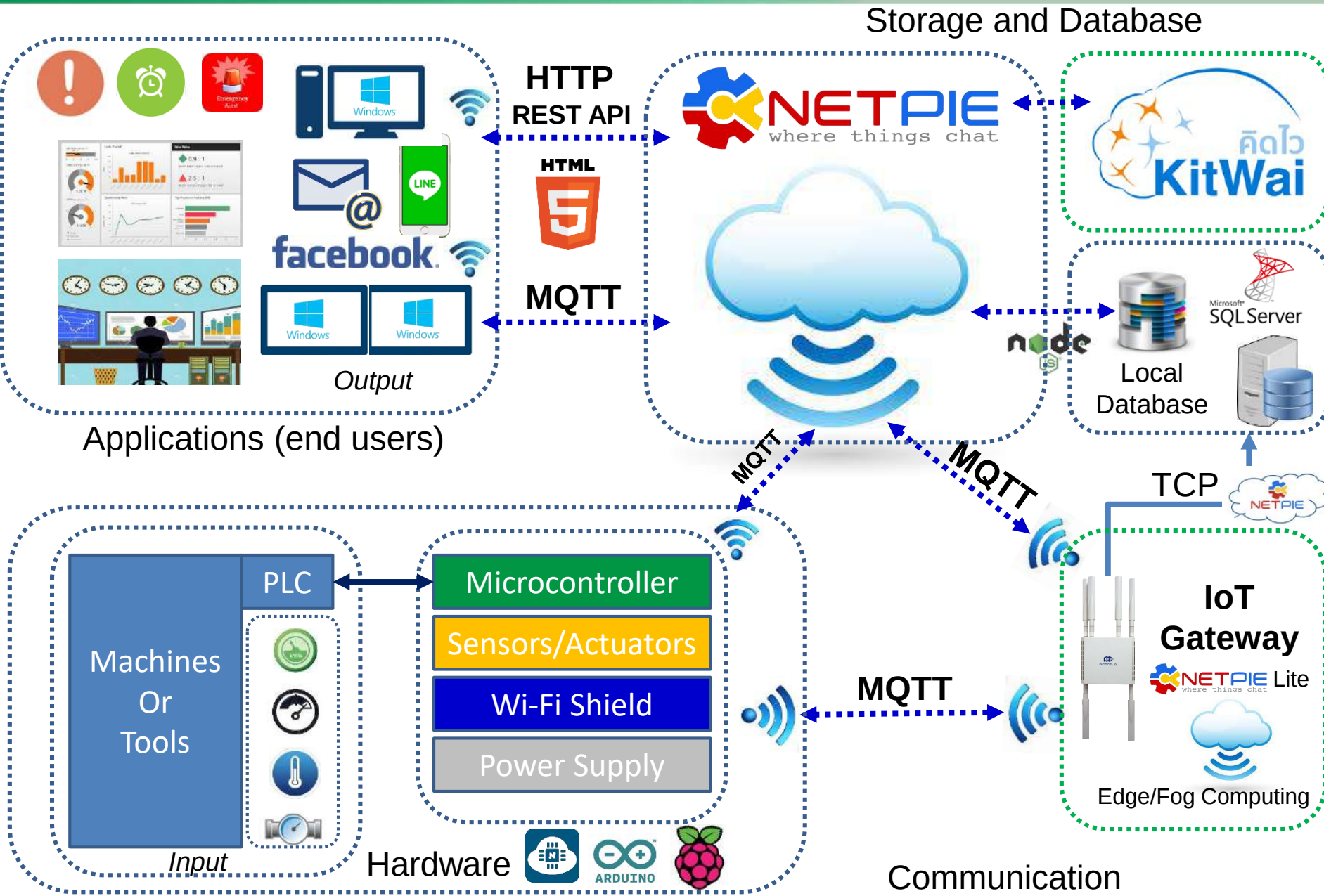
ทำให้เครื่องจักรเชื่อมโยงสั่งการได้ด้วยตัวเอง









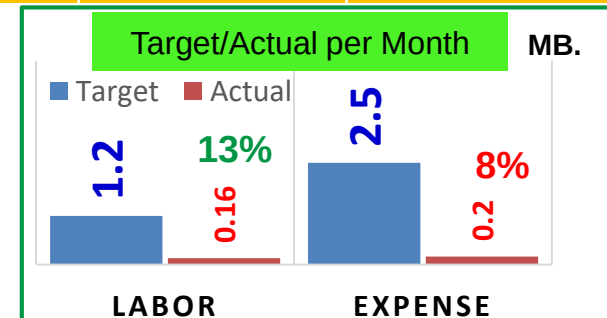


Our Status of NSET@IoT® Activities:

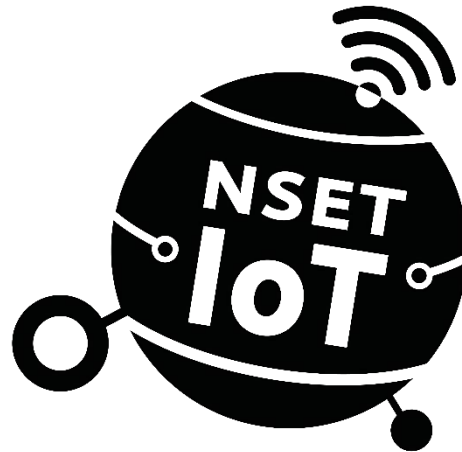
Solution	Target (Thing)	Actual (Thing)	Status	Benefit by Month (Baht)		
				Labor	Expense	Totally
Smart Machine	800	220	27%	50,000	10,000	60,000
Smart Line	200	100	50%	35,000	2,000	37,000
Smart Energy	300	80	27%	20,000	20,000	40,000
Smart Operation	200	120	60%	55,000	2,000	57,000
<u>Totally</u>	<u>1,500</u>	<u>520</u>	<u>35%</u>	<u>160,000</u>	<u>34,000</u>	<u>194,000</u>

Investment cost from Aug.16 – Aug.17 → 1.33 MB.

→ Reduced In-Direct Labor : 0.85 MB. → 9.7%
→ Reduced Expense : 0.20 MB. → 7.4%

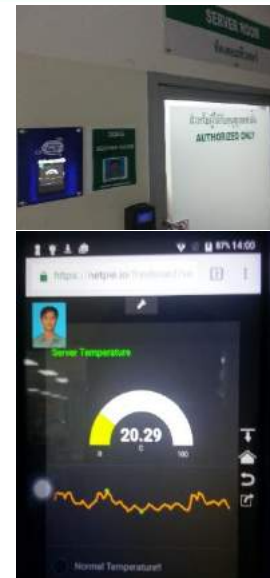
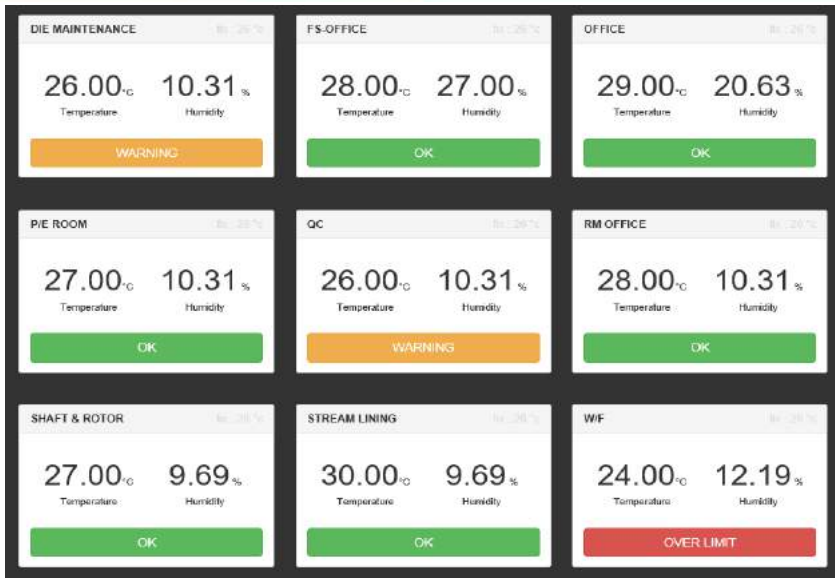
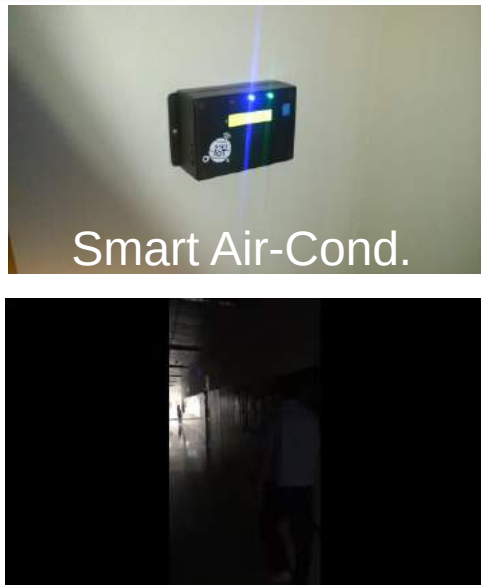


ตัวอย่างกิจกรรม



Smart Energy Management:

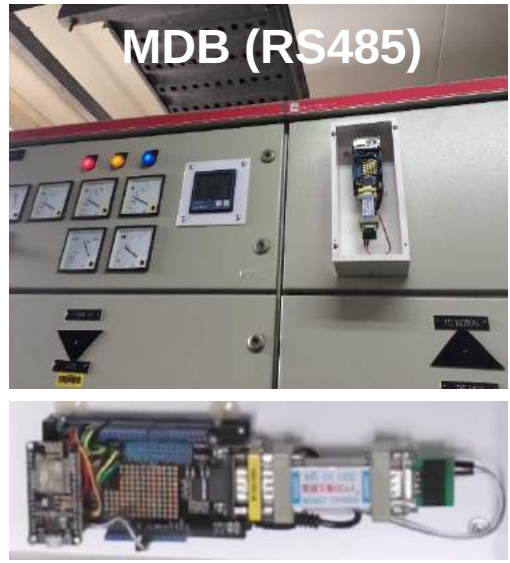
- Temperature Humidity Sensor
- Relay Switch
- Light Sensor
- Motion Sensor



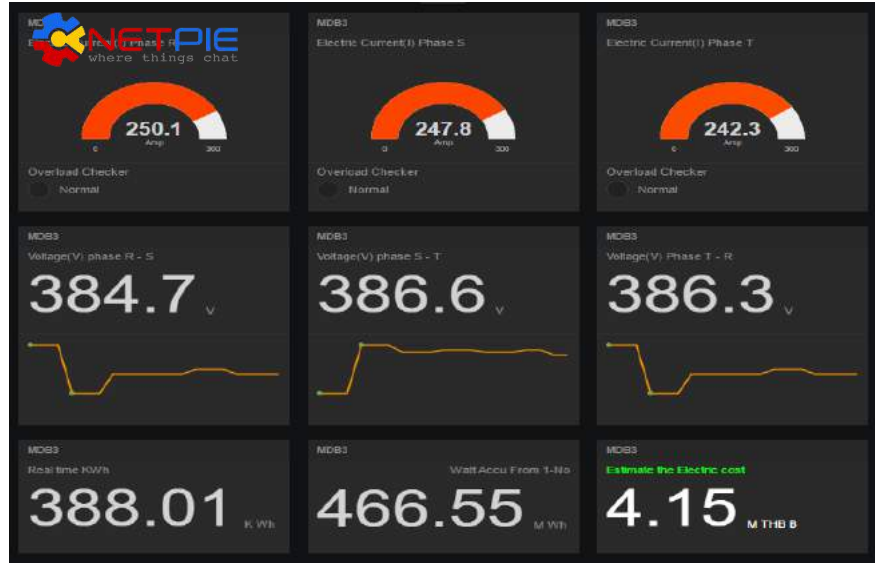
Smart Light

Temperature Control Monitor

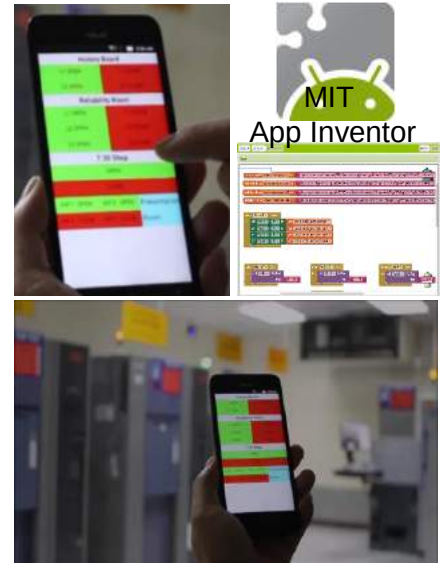
Check Sheet



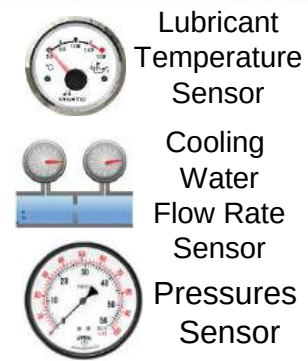
Smart MDB



Overview Energy Consumption Monitor



Mobile App.



Smart TPSPM of Machine



SMART MACHINE MACHINE MONITORING : NSET IOT					
LOCATION	MACHINE	TEMPERATURE	FLOW RATE	TOTAL POWER TIME	STATUS
Streamlining A	STM01	25	14 L/min.	120 min.	RUN
Streamlining A	STM02	26	16 L/min.	200 min.	RUN
Streamlining A	STM03	26	14 L/min.	184 min.	RUN
Streamlining B	STM01	27	15 L/min.	223 min.	RUN

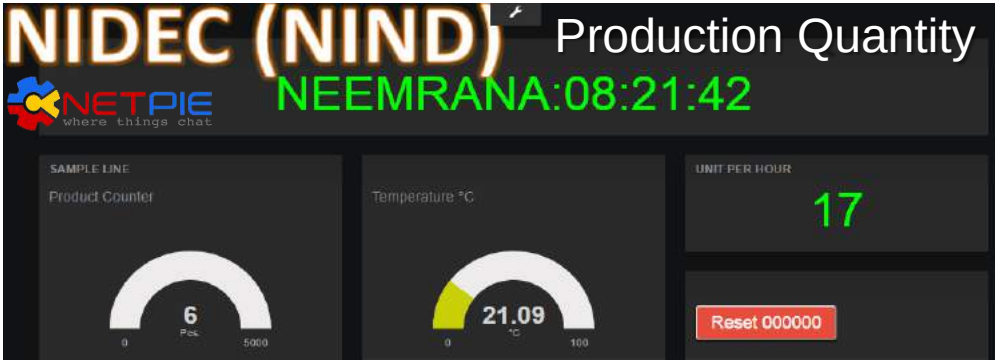
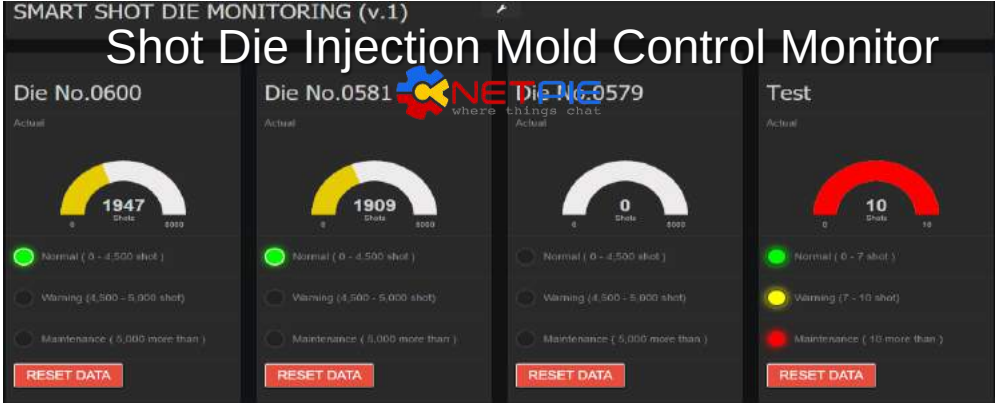
Maintenance Real Time Monitor



Smart Machine Condition



Injection Machine Condition Control Monitor





Smart Shelf



Stock Searching



RFID

Inv. Real-time Monitor

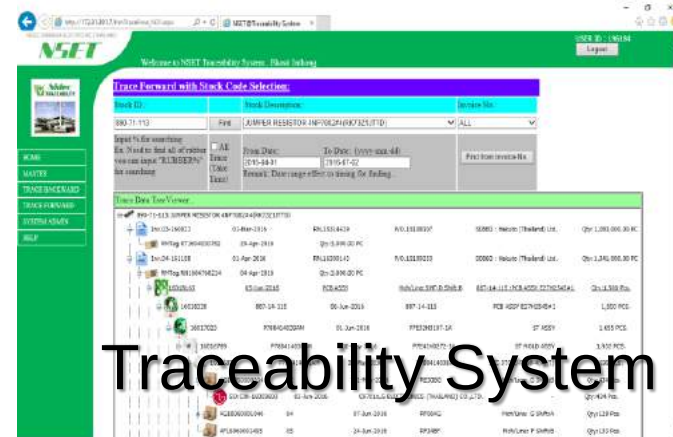


Smart Forklift

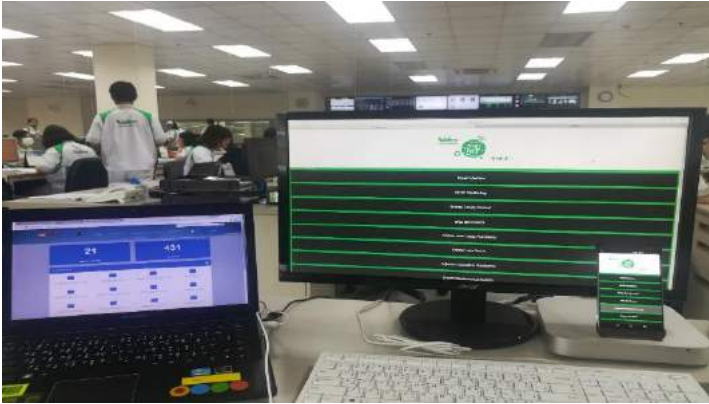


Smart Weight

日本電産グループ **Nidec** P.15/18
All for dreams



Traceability System





- Always start from “**Can do It**” mindset, Just **start** taking action!
- Many **small Success** can lead to a **big Achievement**!