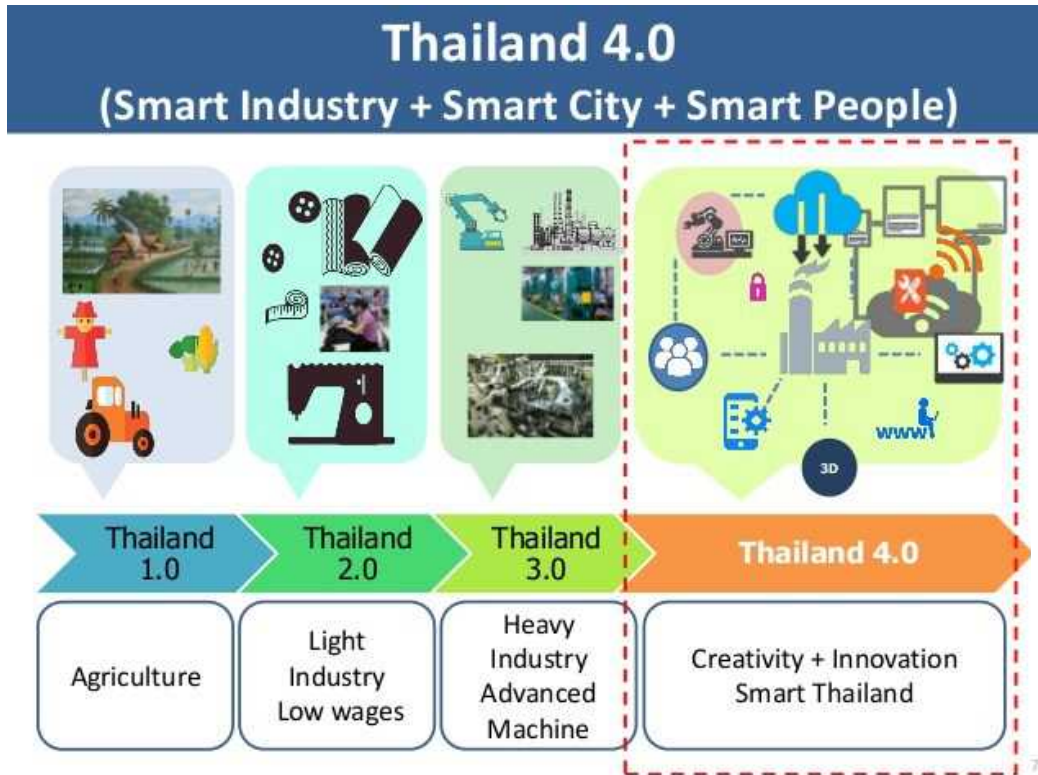


# งานประชุมวิชาการและนิทรรศการ ประจำปี 2560 (NECTEC Annual Conference & Exhibition 2017)



วันจันทร์ที่ 11 กันยายน 2560  
ณ ห้อง Meeting room 1 ศูนย์การประชุมแห่งชาติสิริกิติ์

## | From Industry 1.0 to Industry 4.0

**1.0** | 1784

based on mechanical production  
equipment driven by water and  
steam power



**2.0** | 1870

based on mass production  
enabled by the division of labor  
and the use of electrical energy



**3.0** | 1969

based on the use of  
electronics and IT to further  
automate production

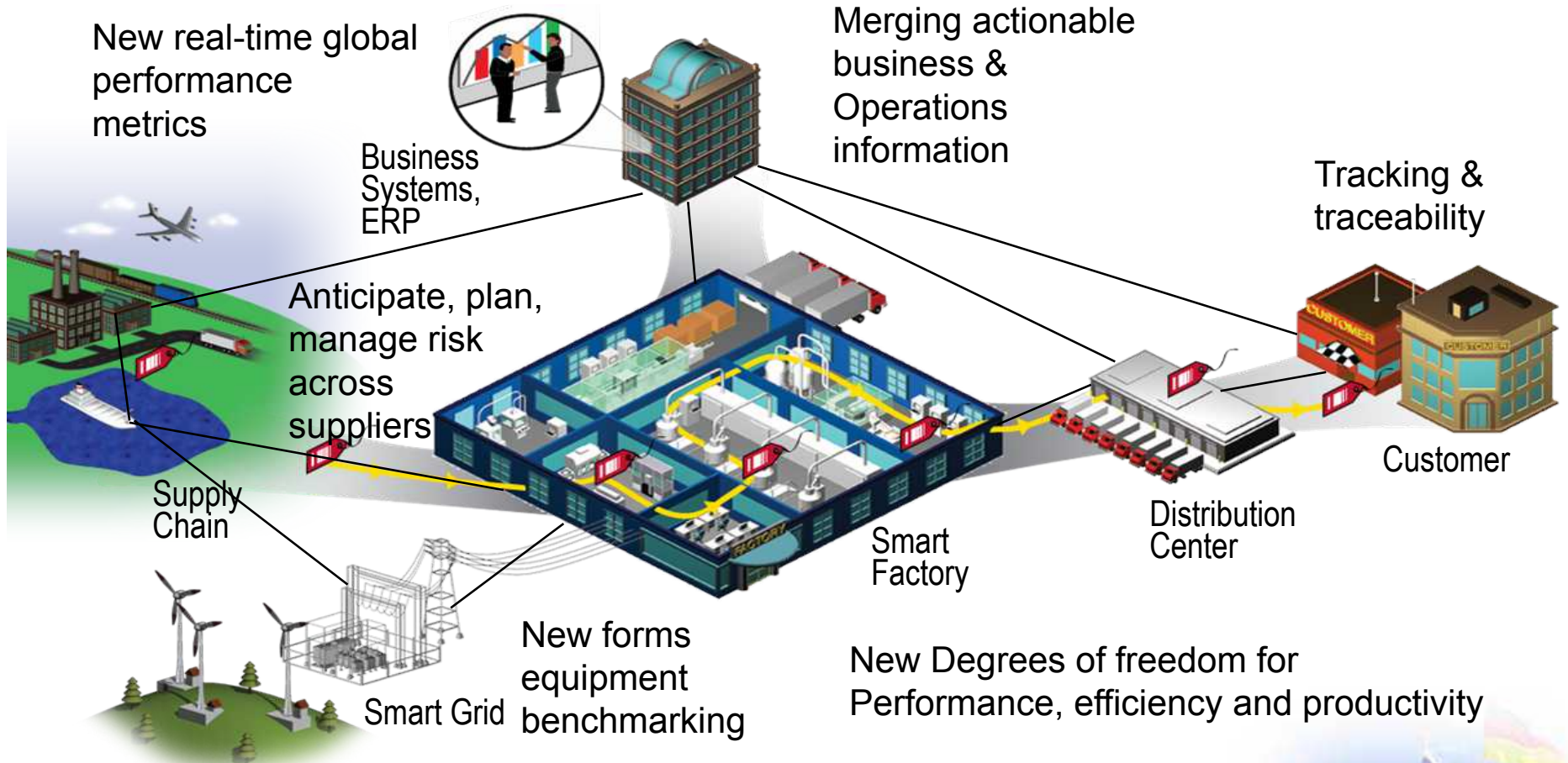


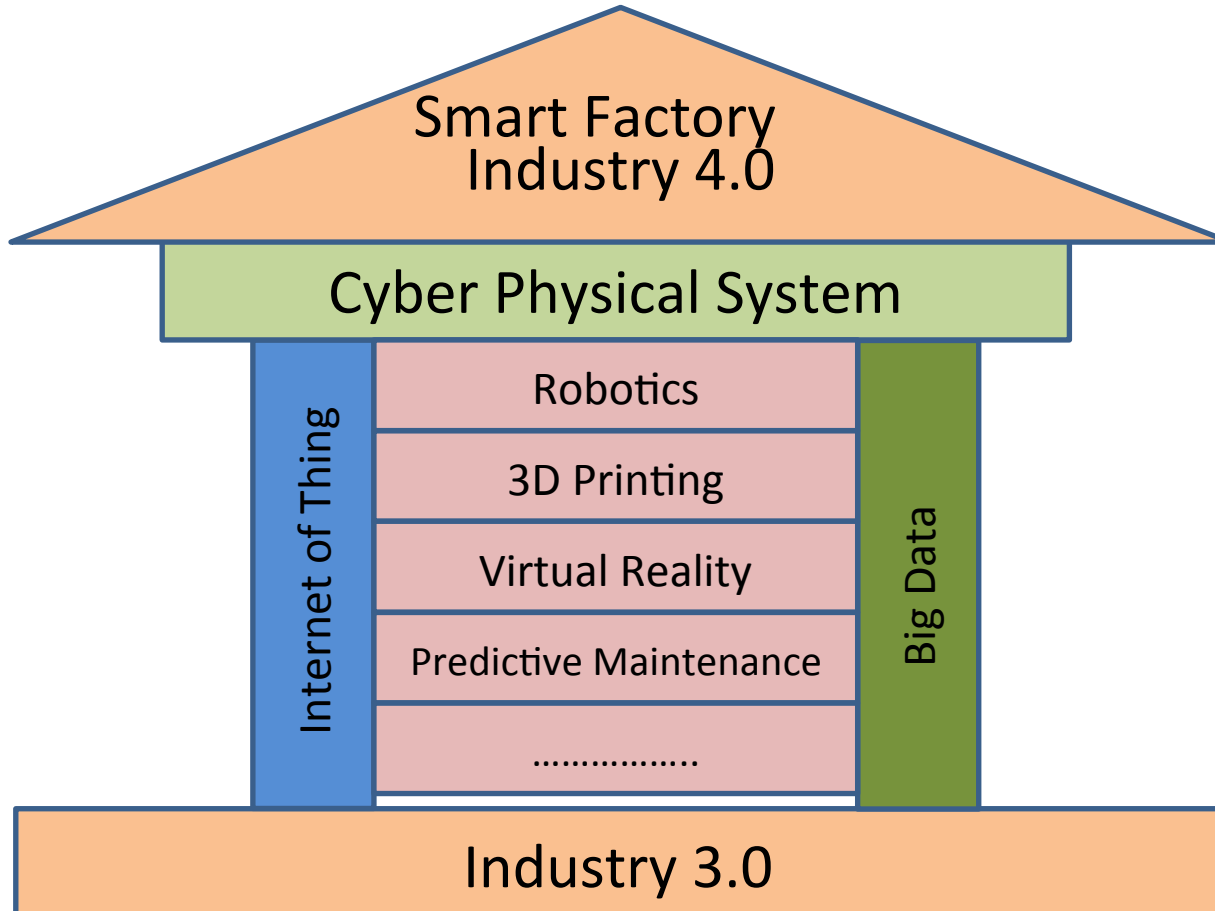
**4.0** | tomorrow

based on the use  
of cyber-physical  
systems

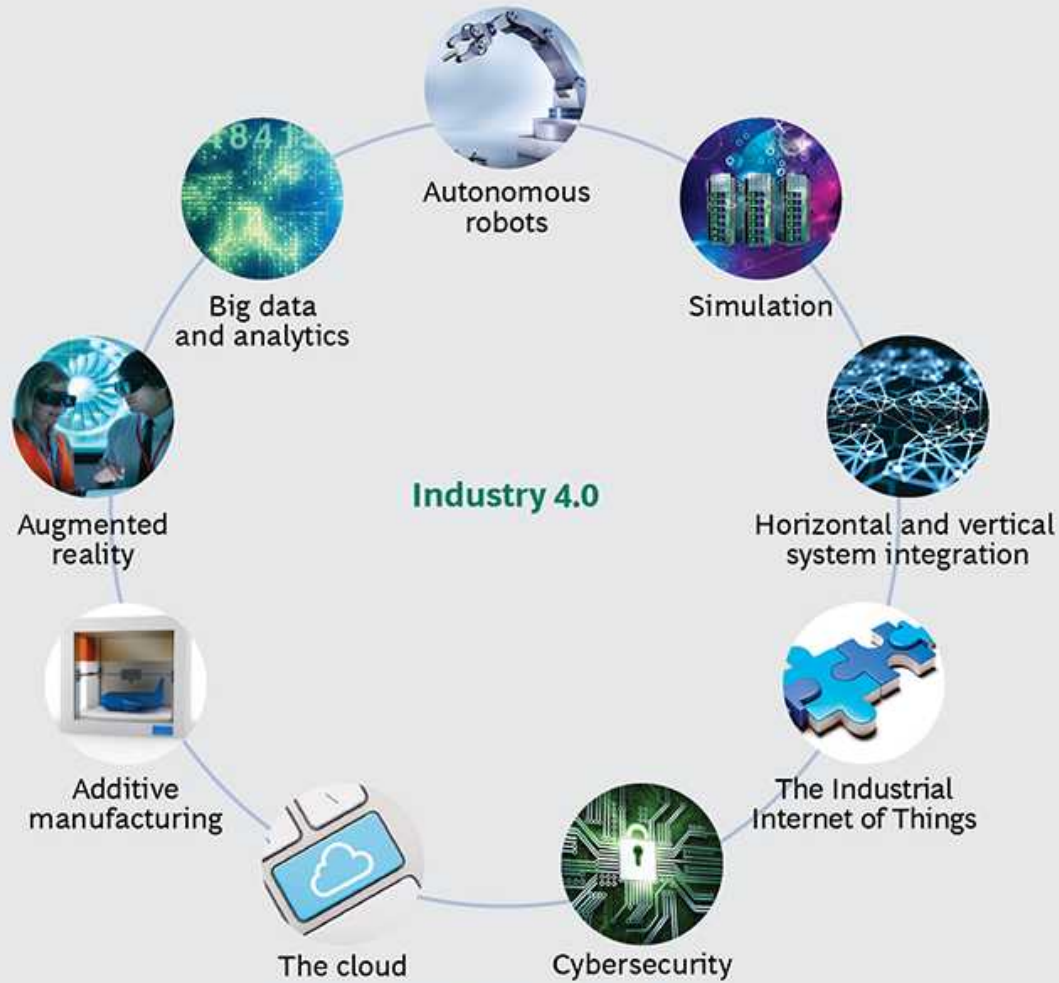


## Smart Manufacturing is the Application of a Manufacturing Industry Internet





## EXHIBIT 1 | Nine Technologies Are Transforming Industrial Production



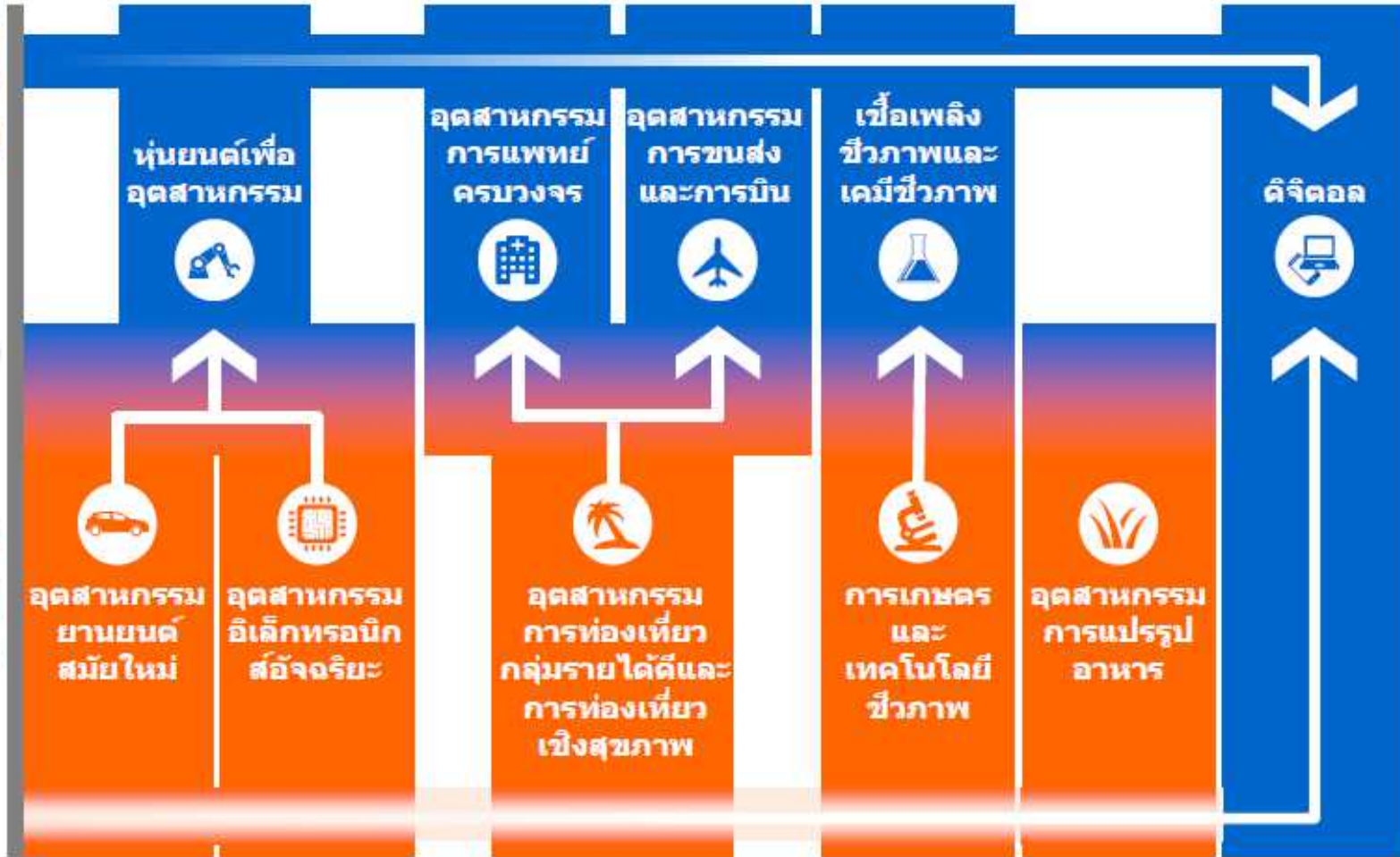
**Industry 4.0 is the vision of the industrial production of the future**

Source: BCG.

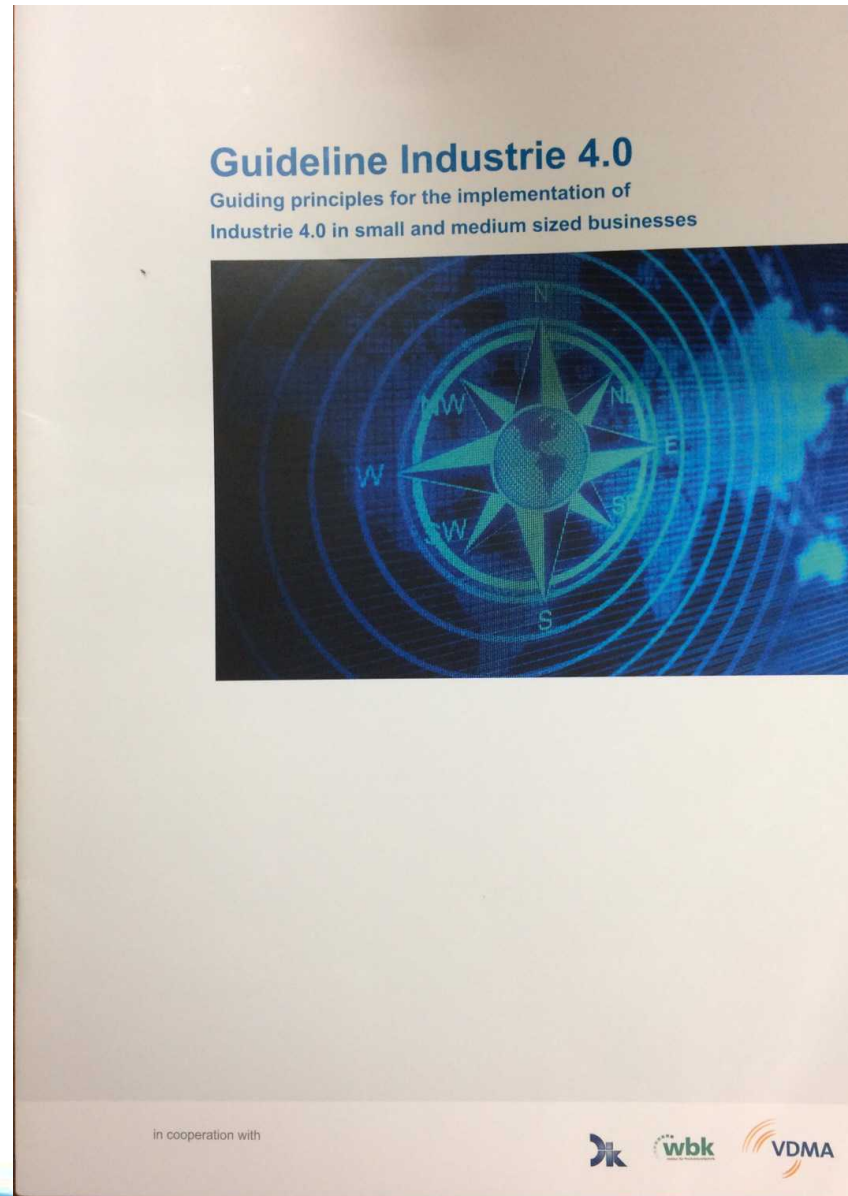
## เดิม 5 อุตสาหกรรม ใหม่

พัฒนาจาก

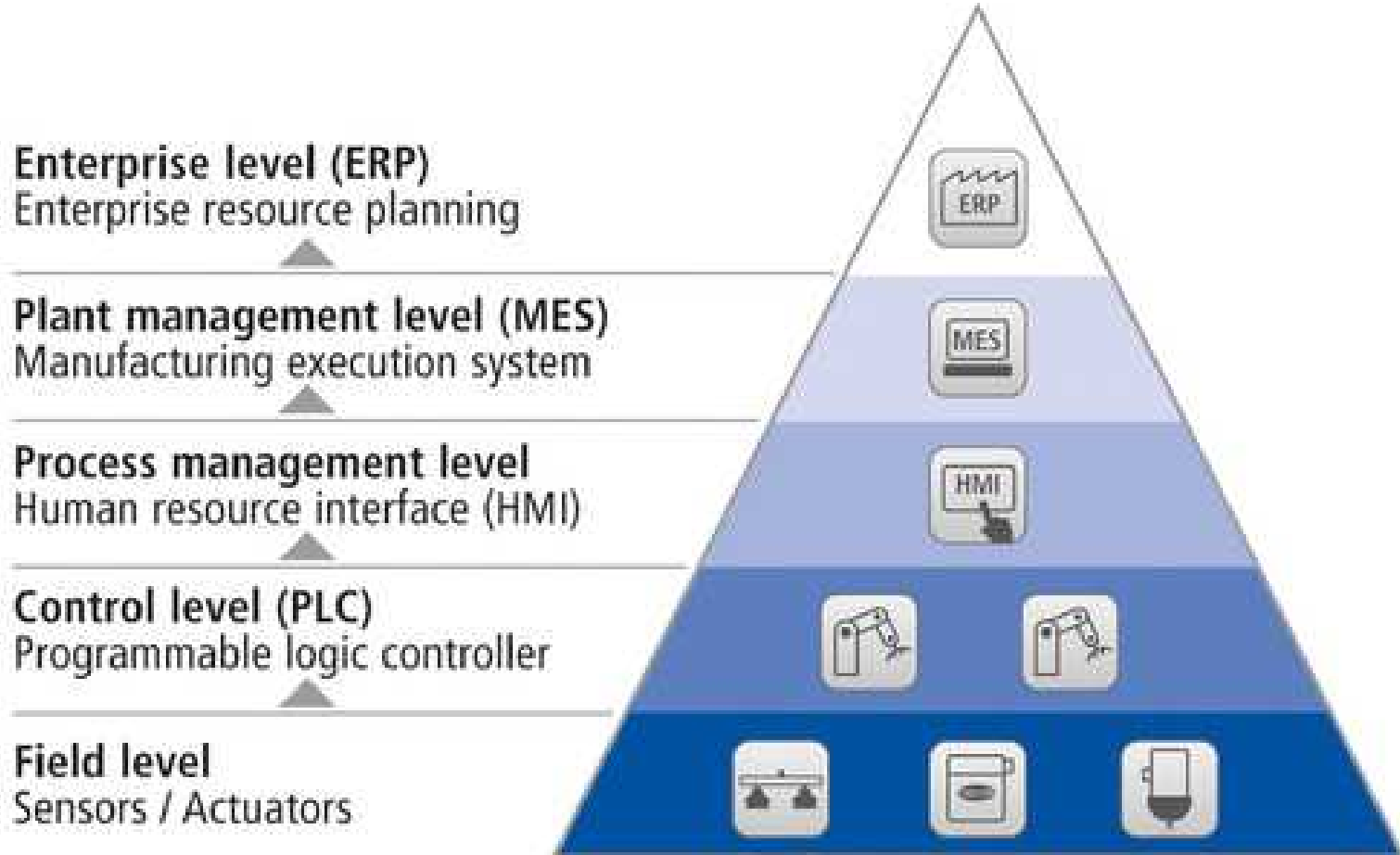
## ต่อยอด 5 อุตสาหกรรม เดิม











# What are the Challenges for the Manufacturing Industry?

- Shortening of the product life cycles
  - Reduction of lot sizes
  - Increasing diversity of versions
  - Price decline and cost pressure
  - Varying utilization
  - Shortening of the return-on-investment time
  - Saving of resources, energy efficiency
  - Lack of skilled worker
- Globalization
  - Individualization
  - Sustainability
  - Economic cycles



# Impacts of Industry 4.0

## Quality of Life

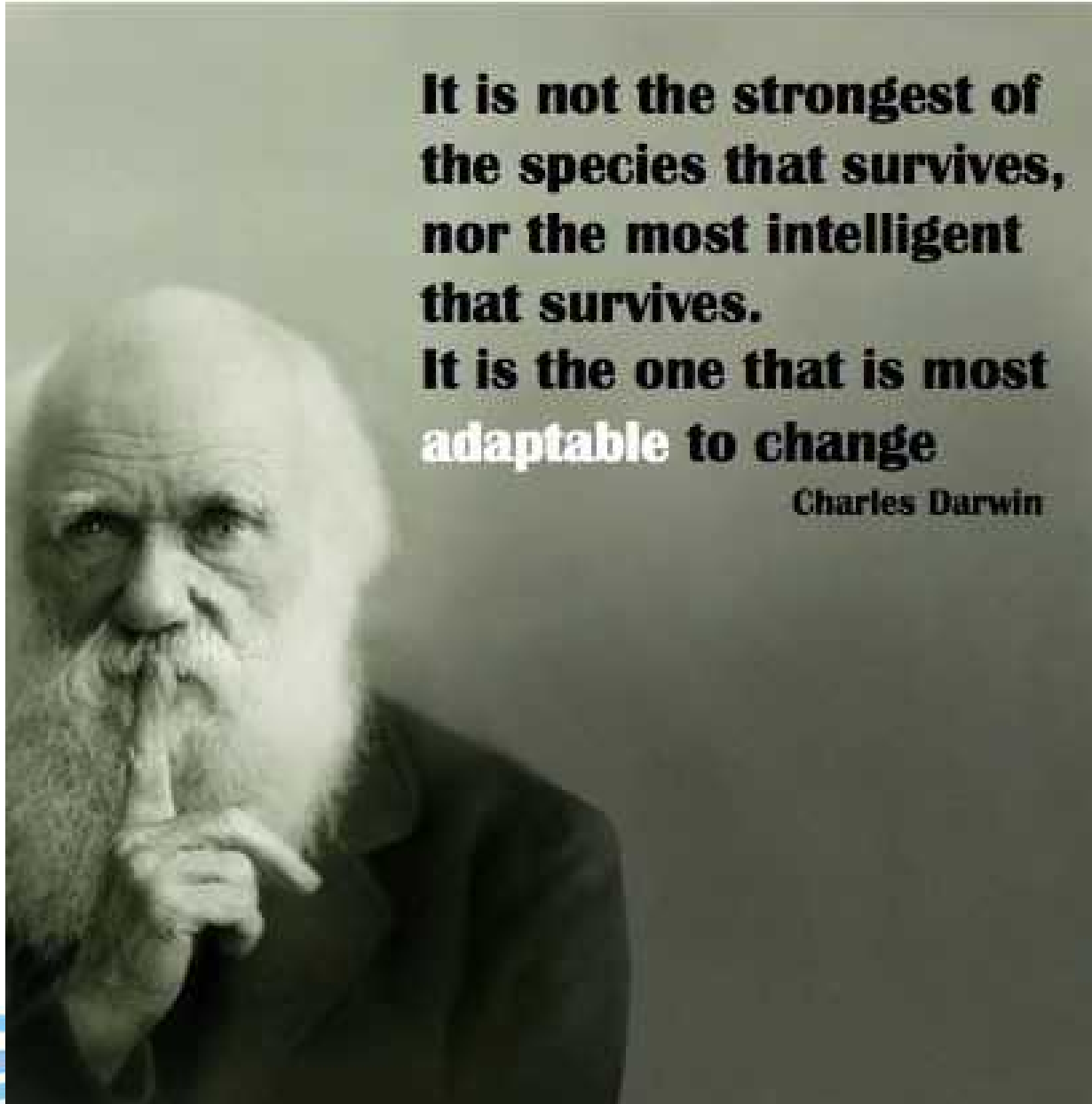


Machines stealing our jobs was more characteristic of the third industrial revolution. The fourth industrial revolution will make these machines talk to one another without human input



Change before you're  
forced to change.

Roger Goodell



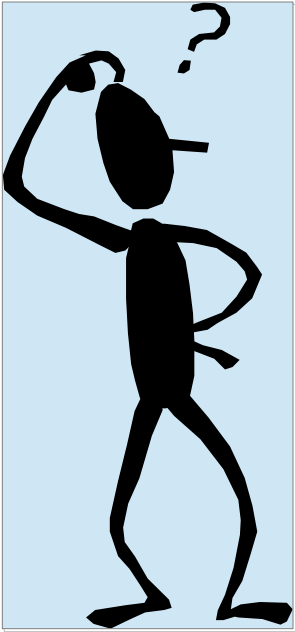
**It is not the strongest of  
the species that survives,  
nor the most intelligent  
that survives.**

**It is the one that is most  
adaptable to change**

**Charles Darwin**

**GET  
PREPARED  
NOW!**





## Q & A

