

## 28<sup>th</sup> Members' Meeting of the Club of Bologna

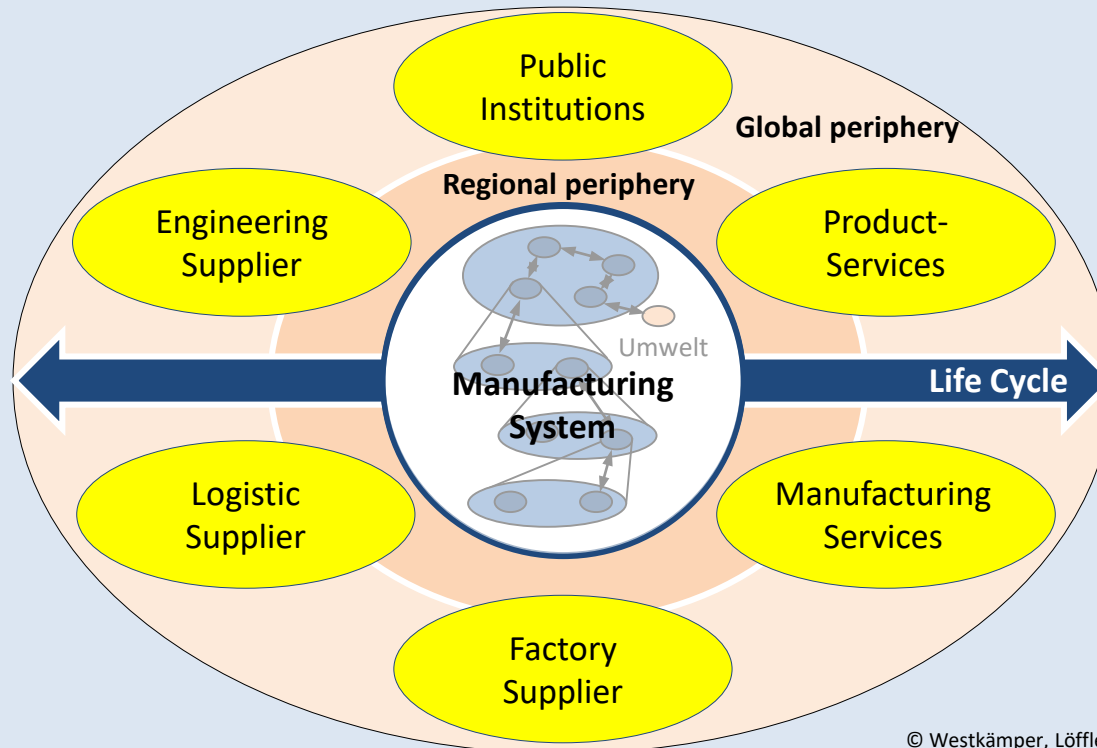
### ***New technologies and services for agricultural machinery: challenges and limits***

10-11 November 2018  
Bologna, Italy

# Product Services in the Digital Age (Industrie 4.0)

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# Enlarging the System of Manufacturing in the digital Age

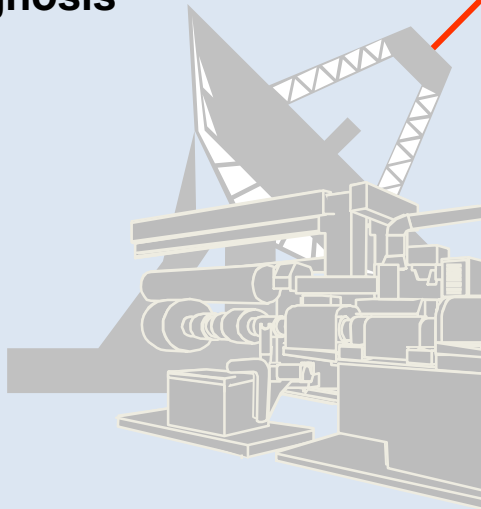


# Remote Services

- Product- and Process-know-how
- Techn. Documentation
- Diagnosis



- Real-Time Communication of
- Video
  - Virtual Reality
  - Multimedia-Documents
  - Sensor-/Control Data

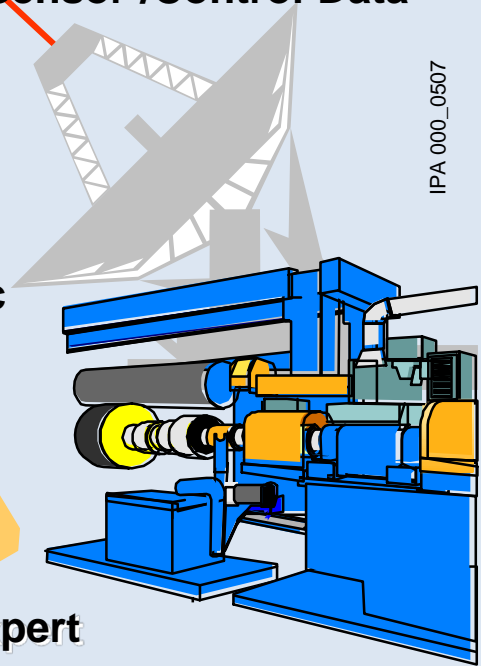


Virtual Product at Manufacturer



Expert

- Operation support
- Process diagnostic
- Monitoring
- remoteoperations

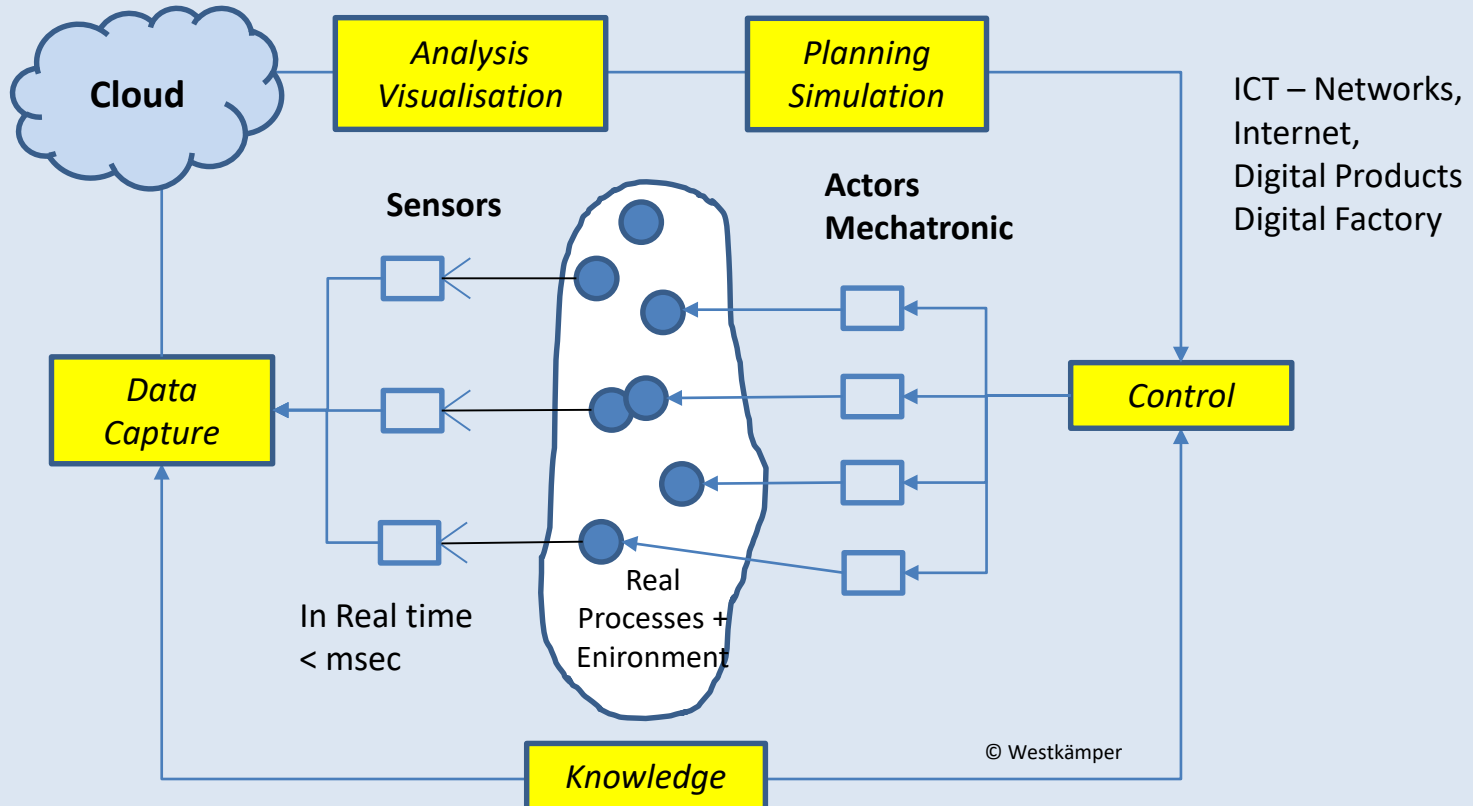


Virtual Expert at Site

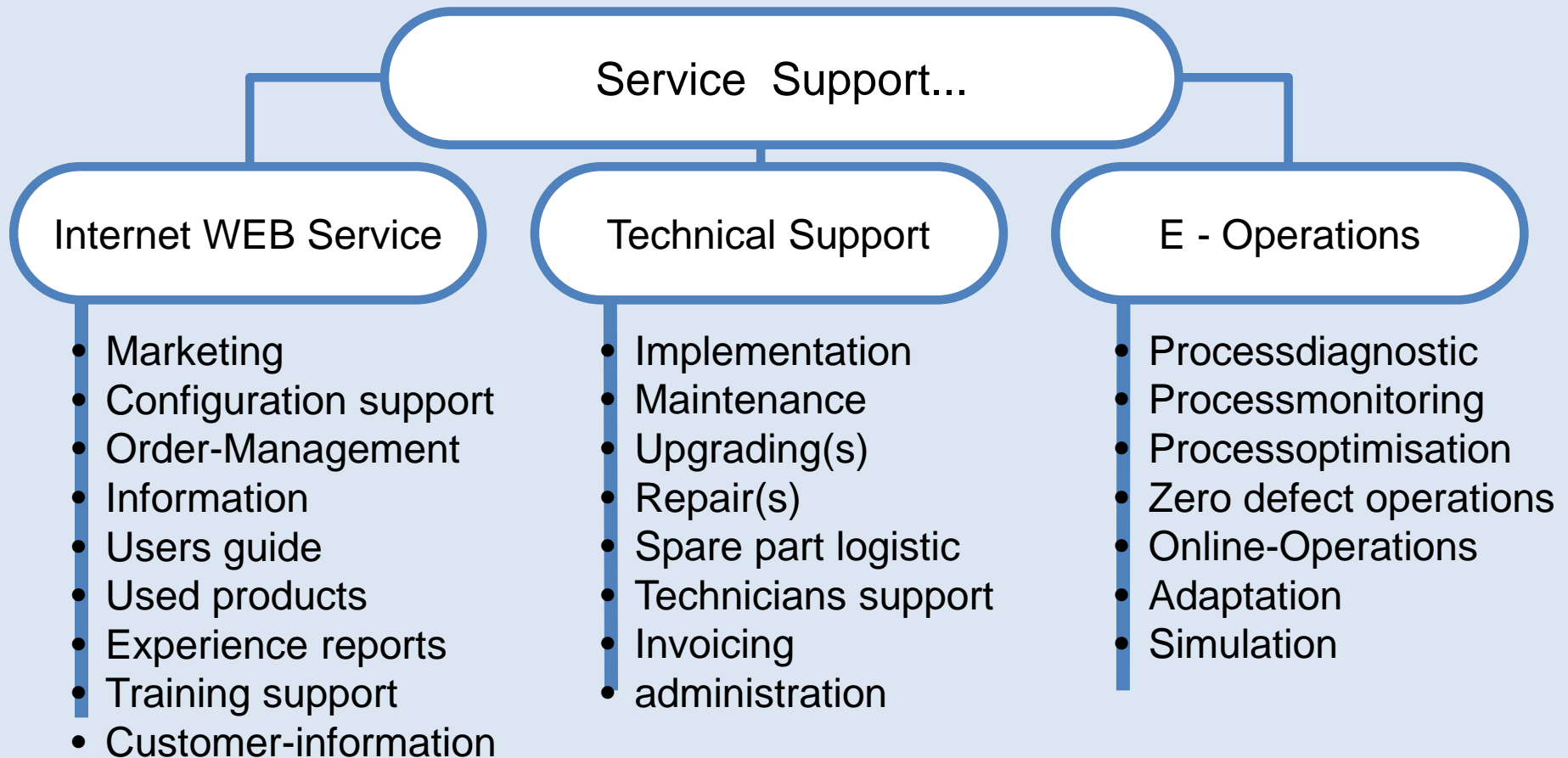
Product

# Cyber-Physical-Systems „Industrie 4.0“

single-sign on  
look + feel  
everywhere - anytime



# Action fields from Service-Support to remote operations



# Product oriented Services

Services along the life of products

## WEB- Services

Implementation  
Set up  
Maintenance  
Repair  
Spare parts

Training  
Consultance  
Optimization  
Recycling

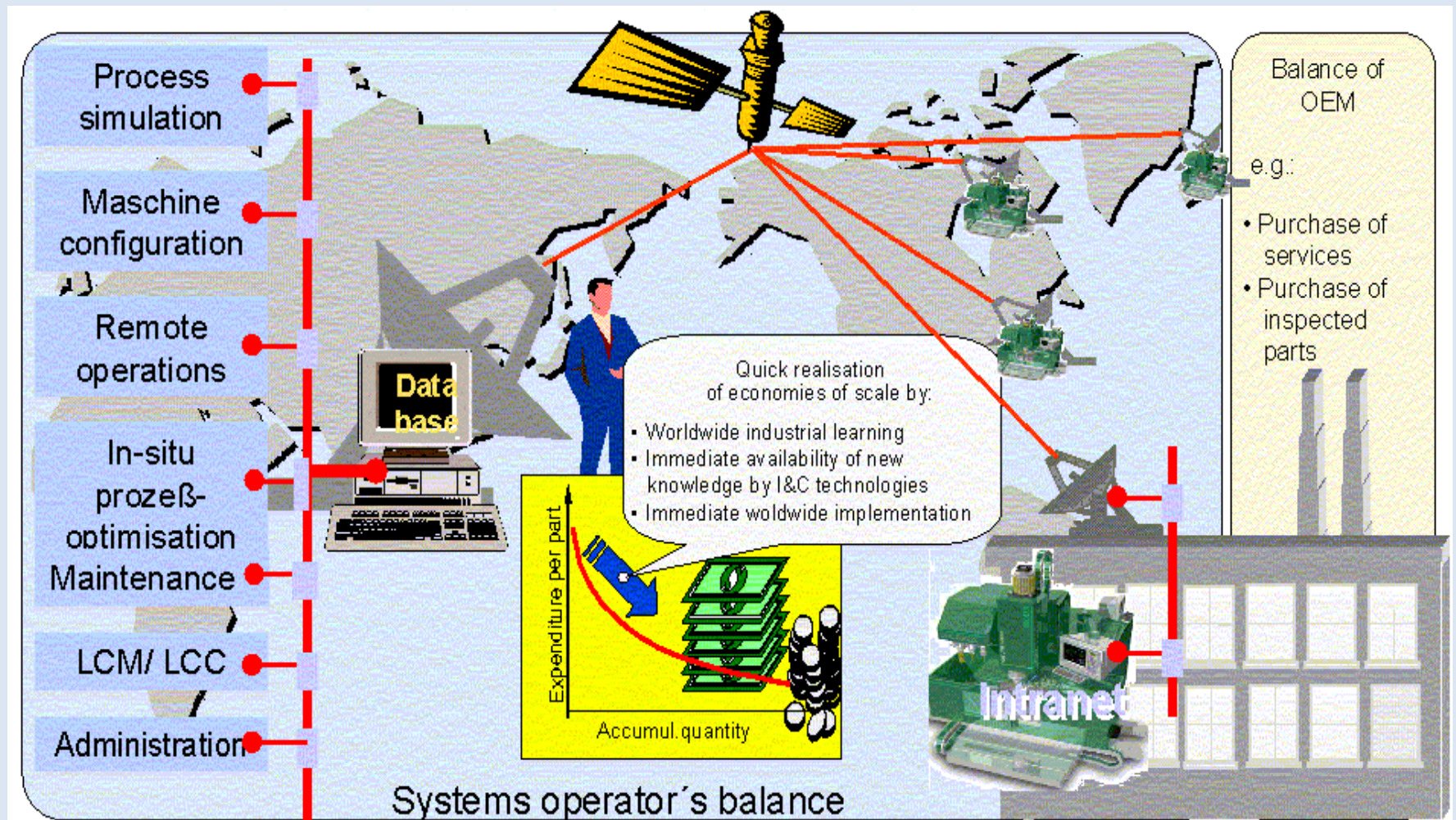
Online-  
Service  
on demand

Remote  
Operations

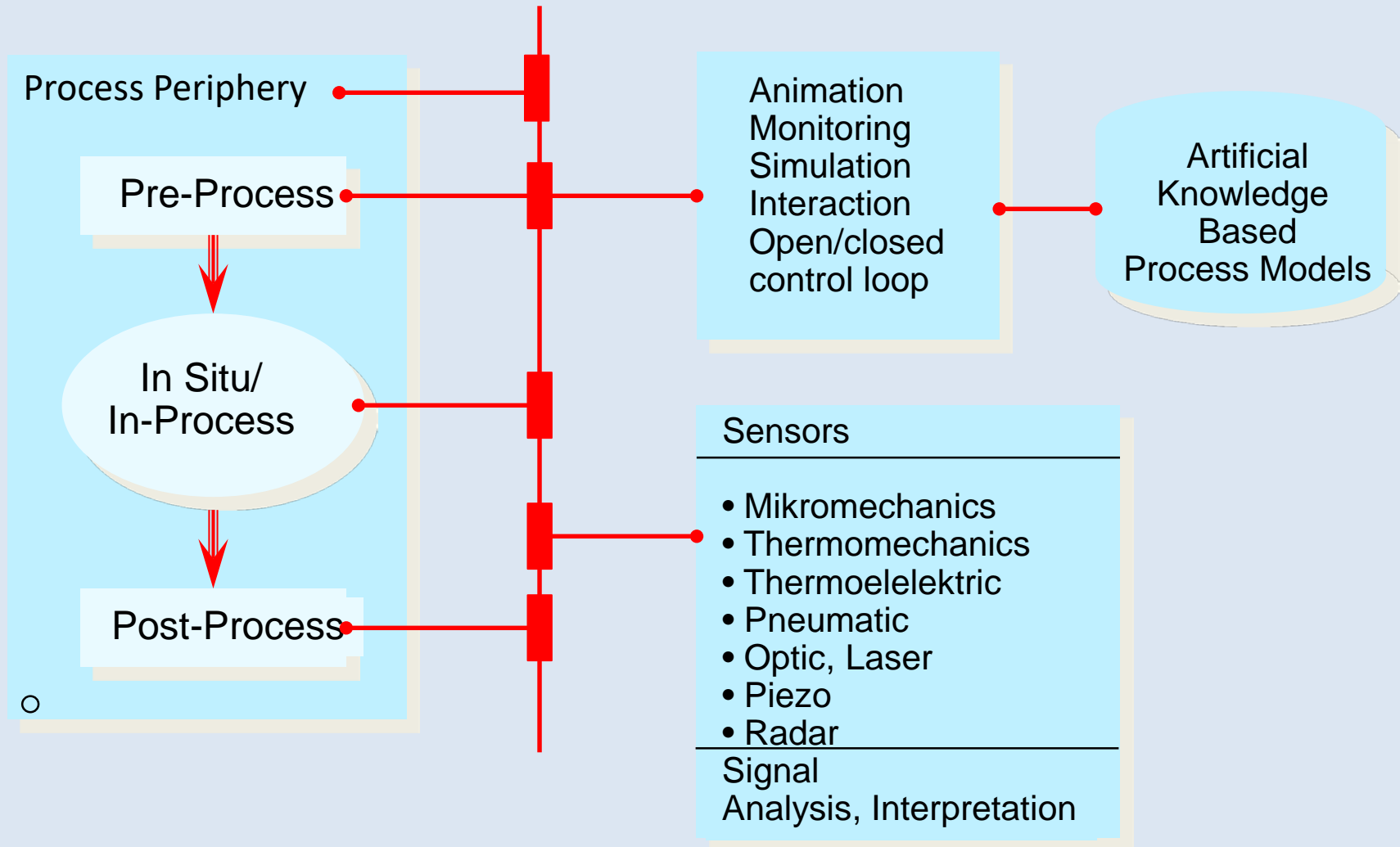
E -Services

Automation

# Internet based Usage support

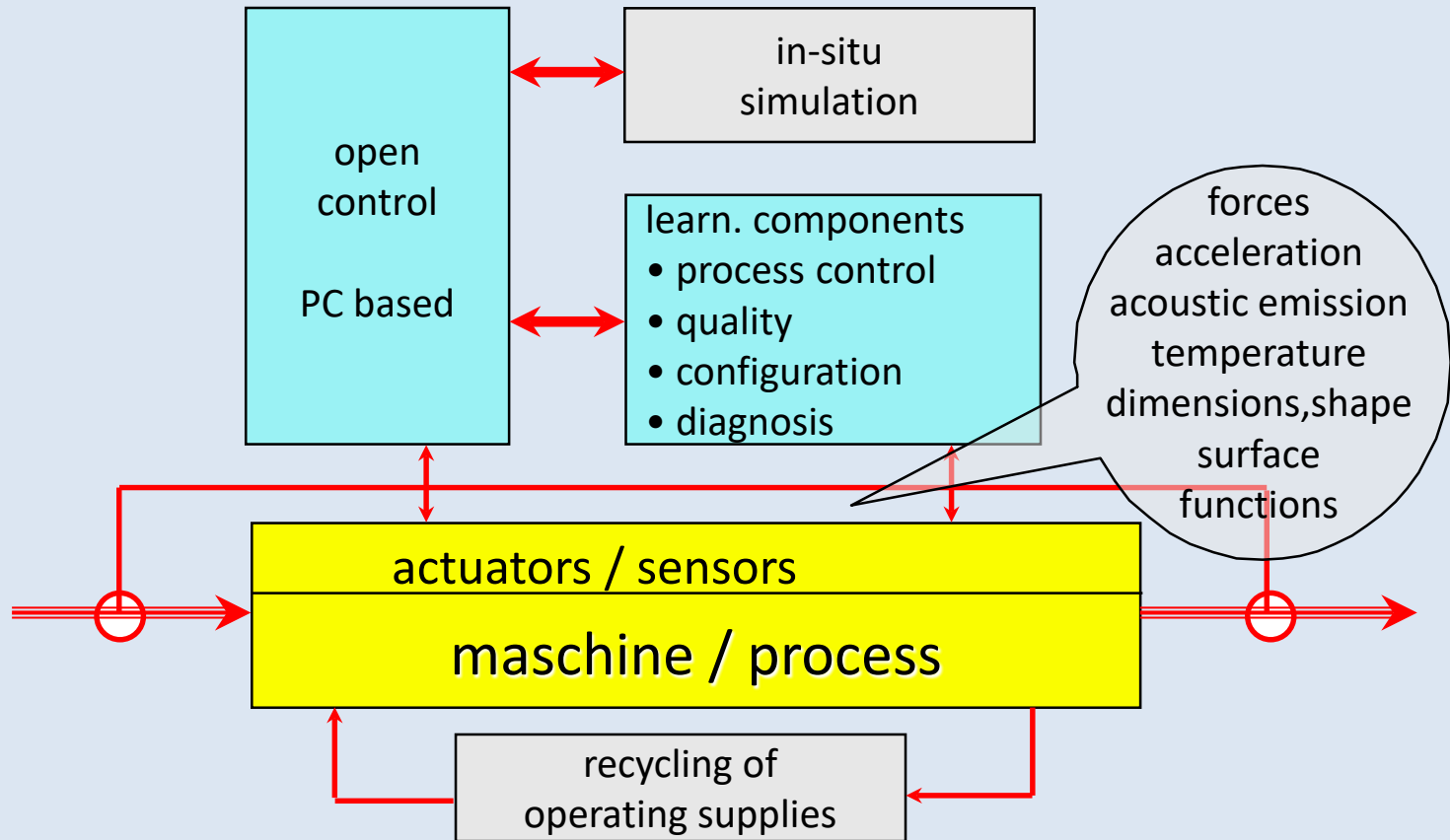


# Sensors for real time process control and process monitoring

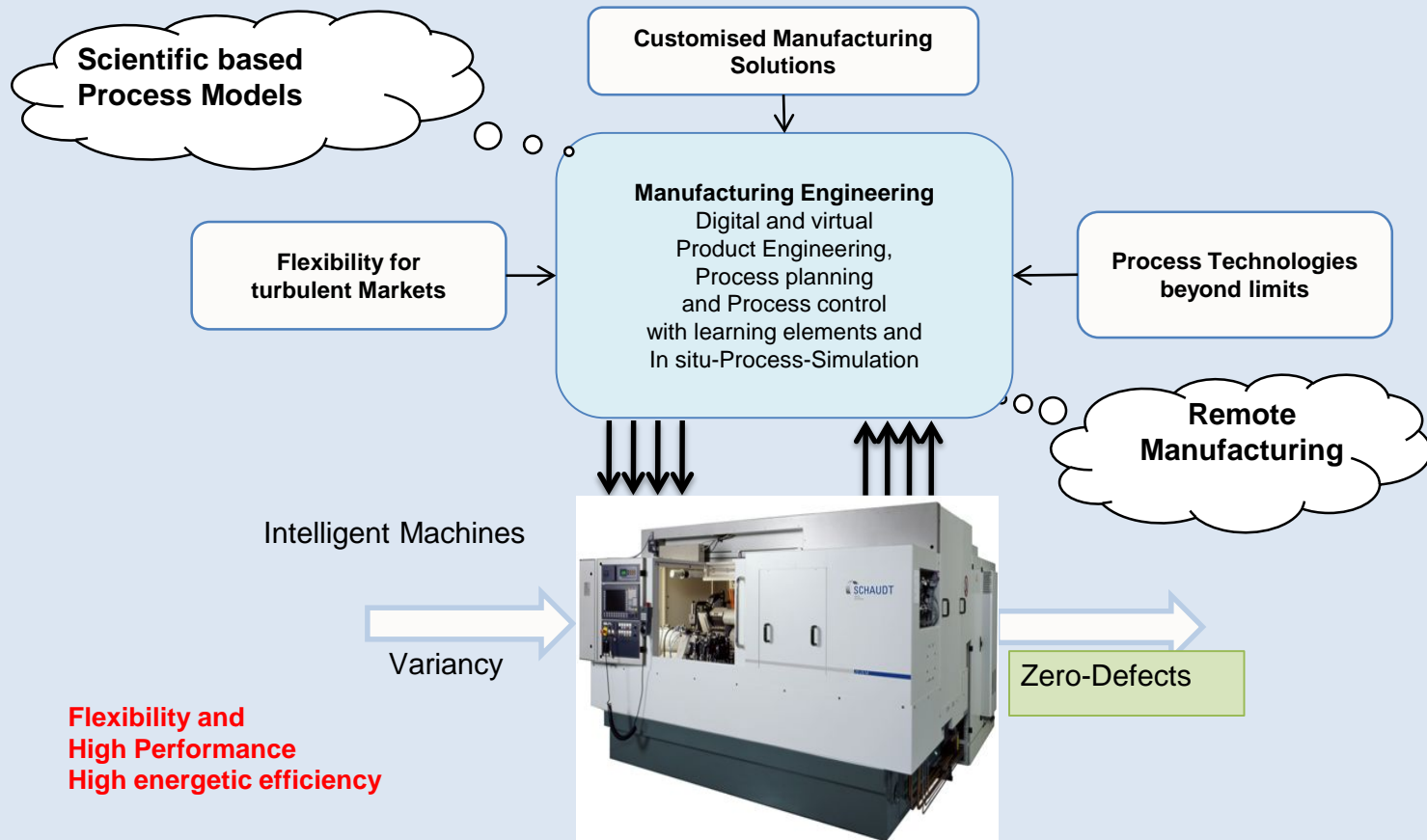




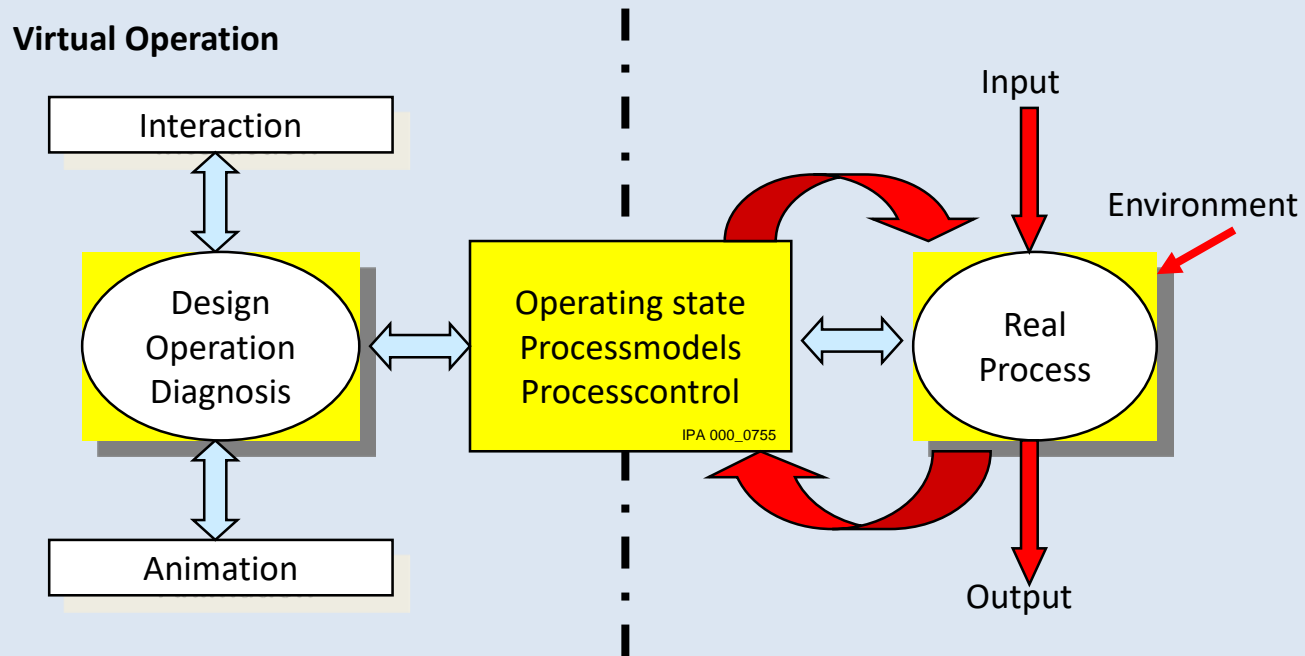
# Intelligent Production System



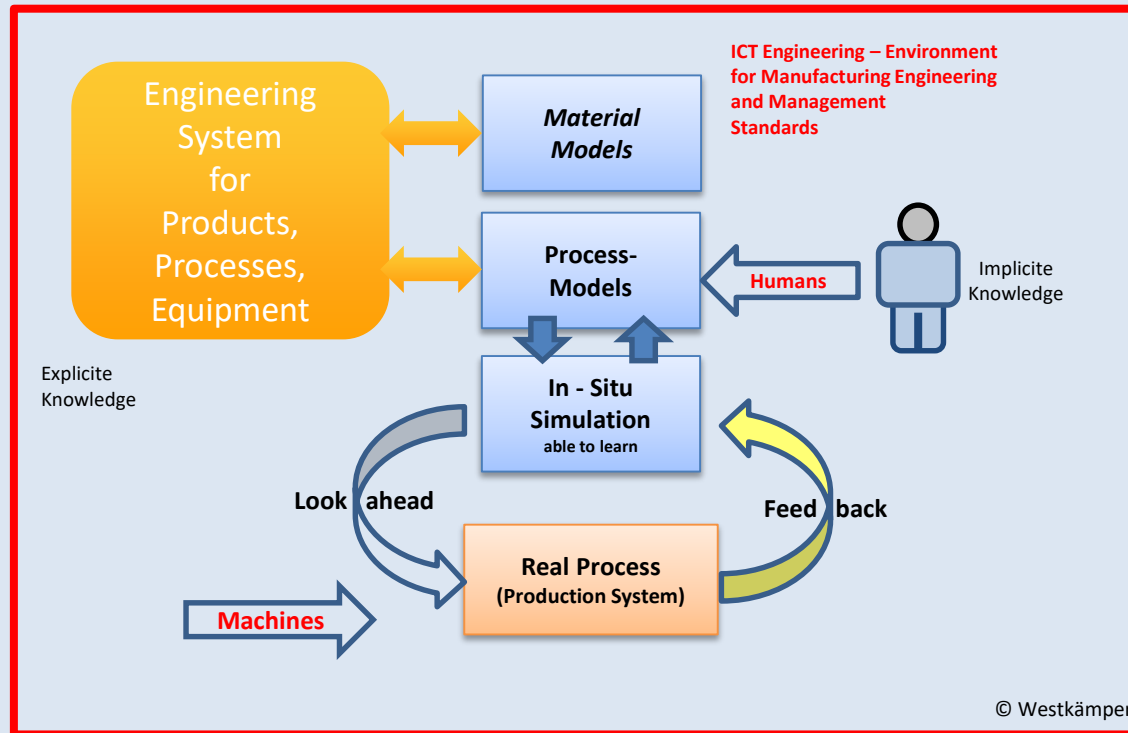
# Knowledge based Manufacturing



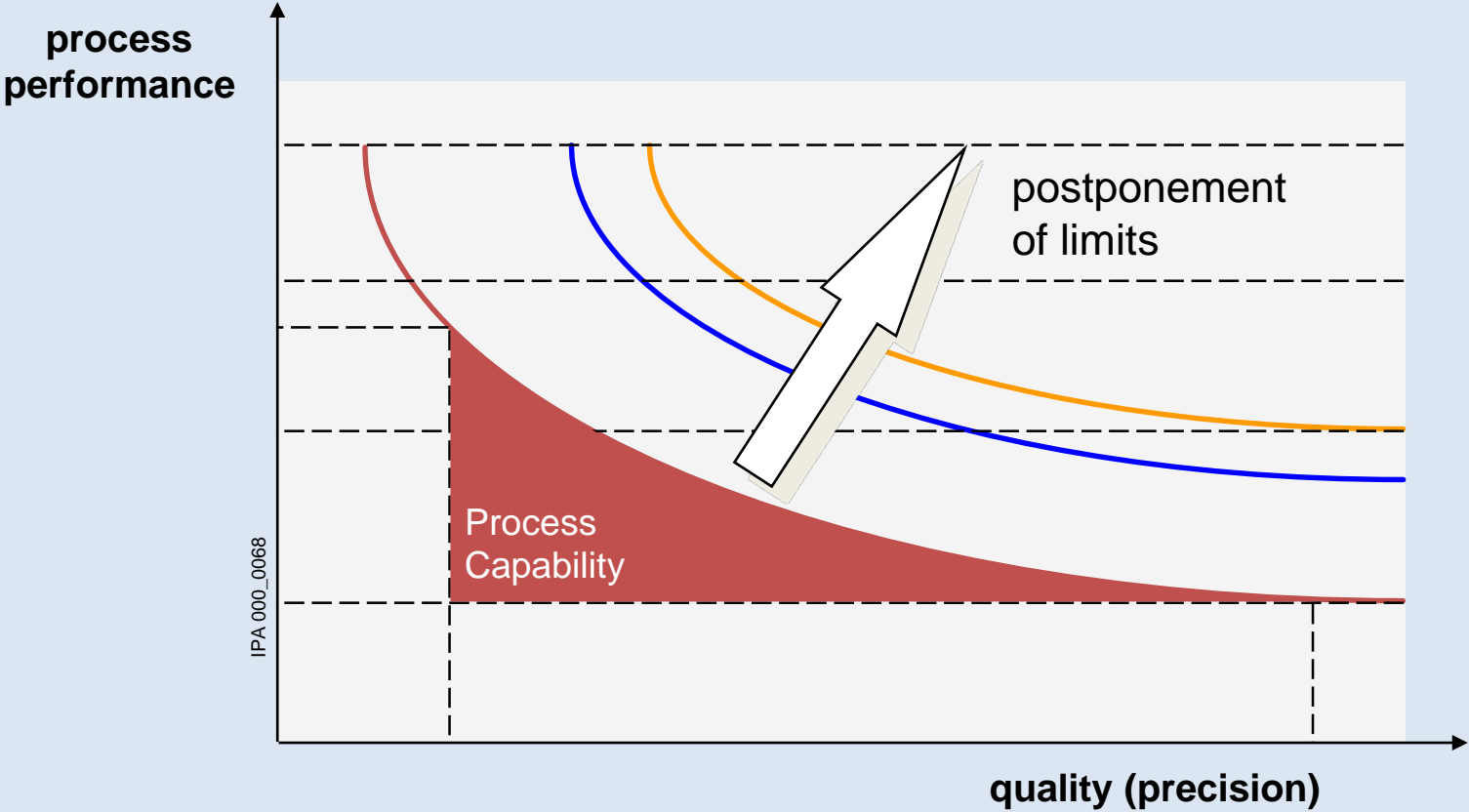
# Virtual Engineering - Control



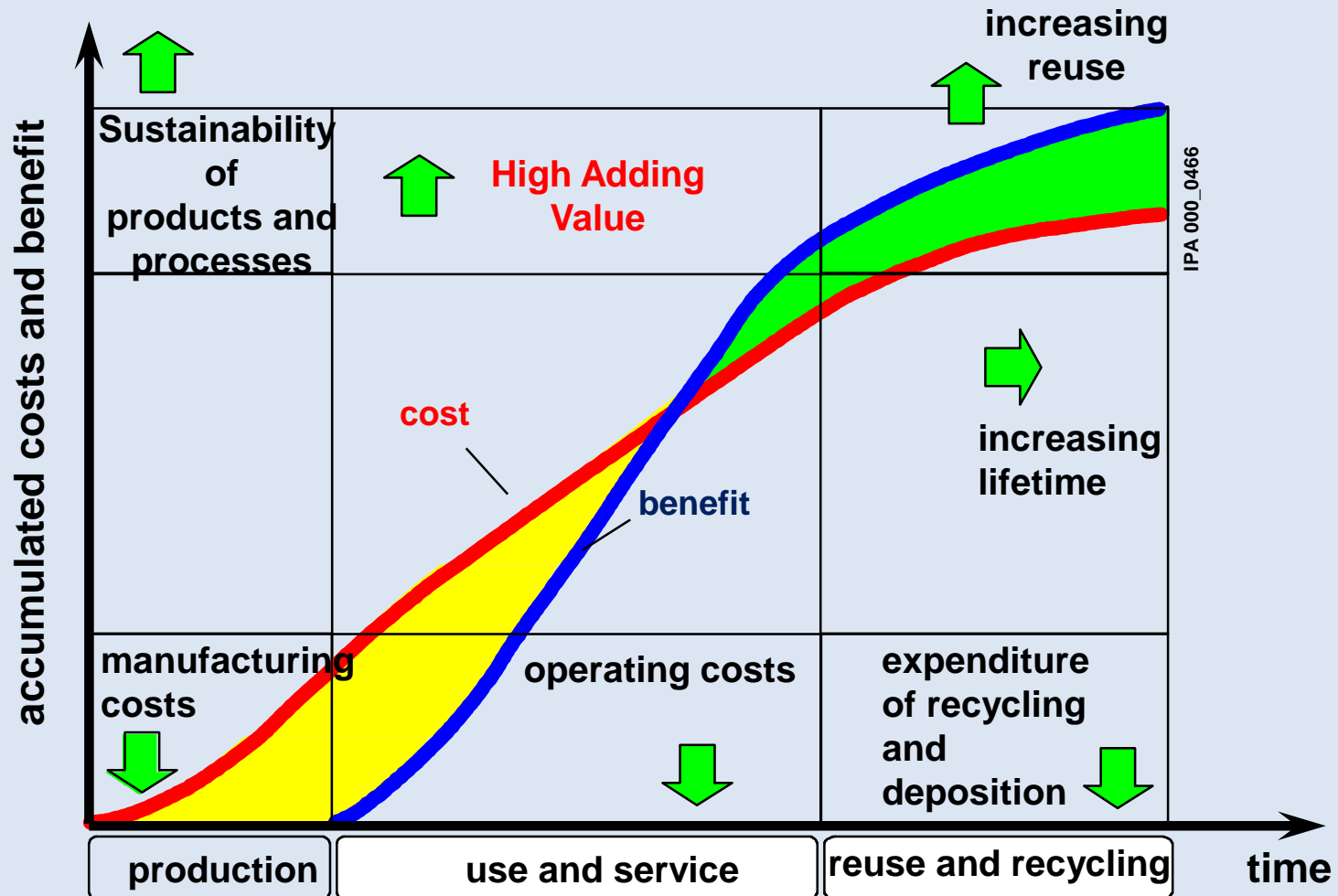
# Implementation of technical intelligence



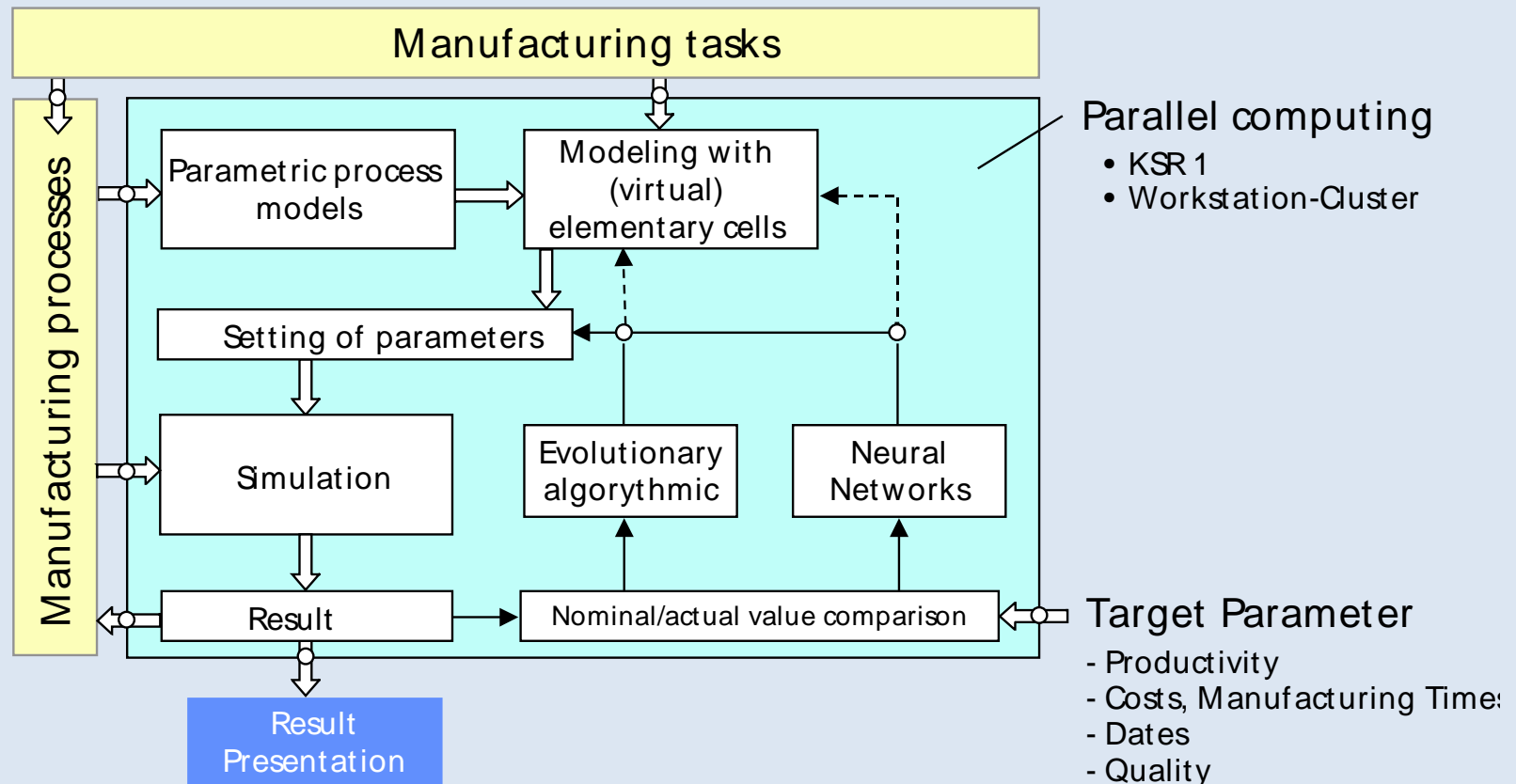
# Efficiency, Quality and Process-Safety



# Sustainability of Manufacturing



# Future Development with Machine Learning



Thank You for Your Attention