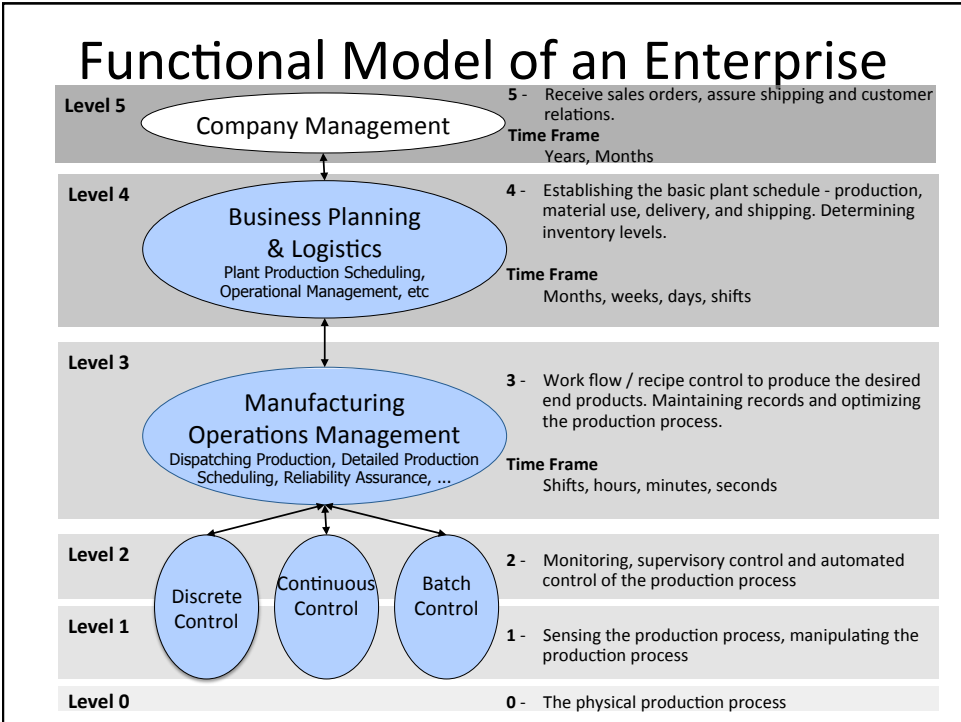
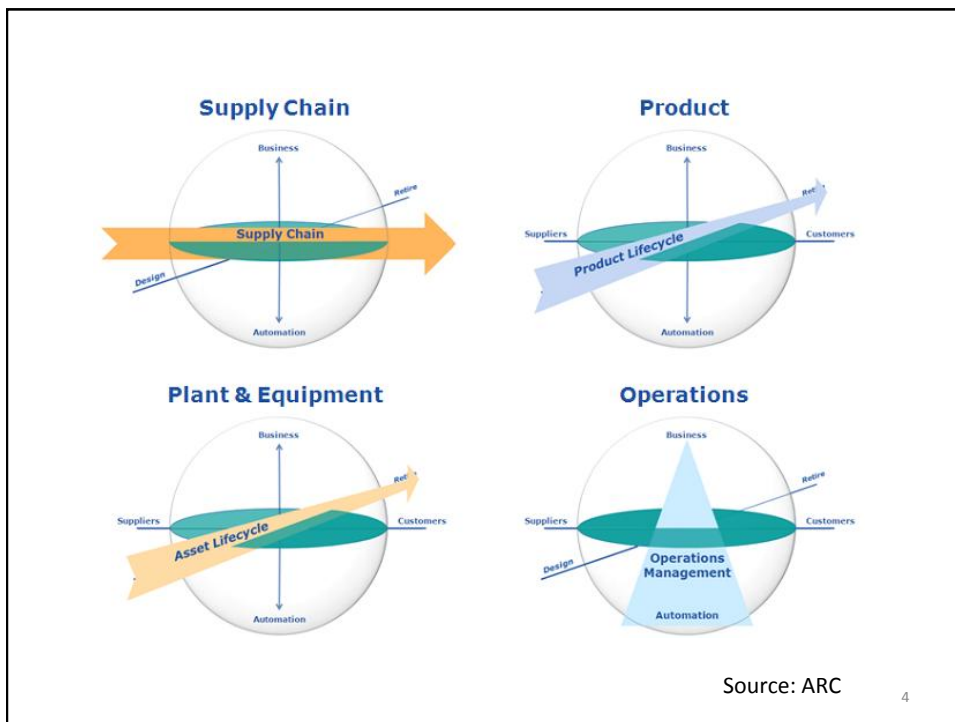
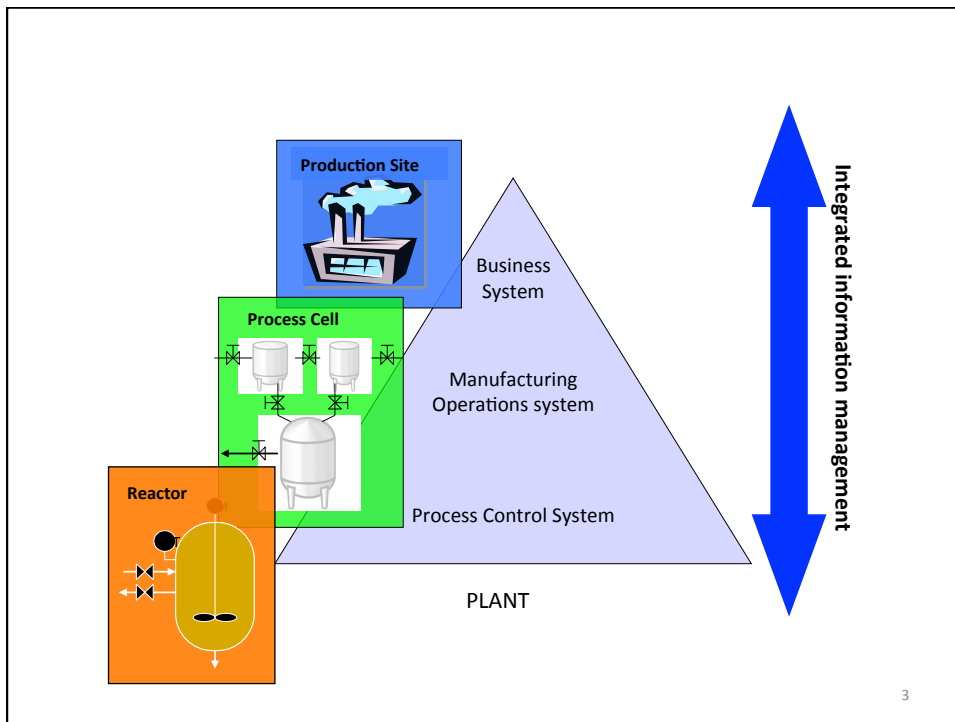
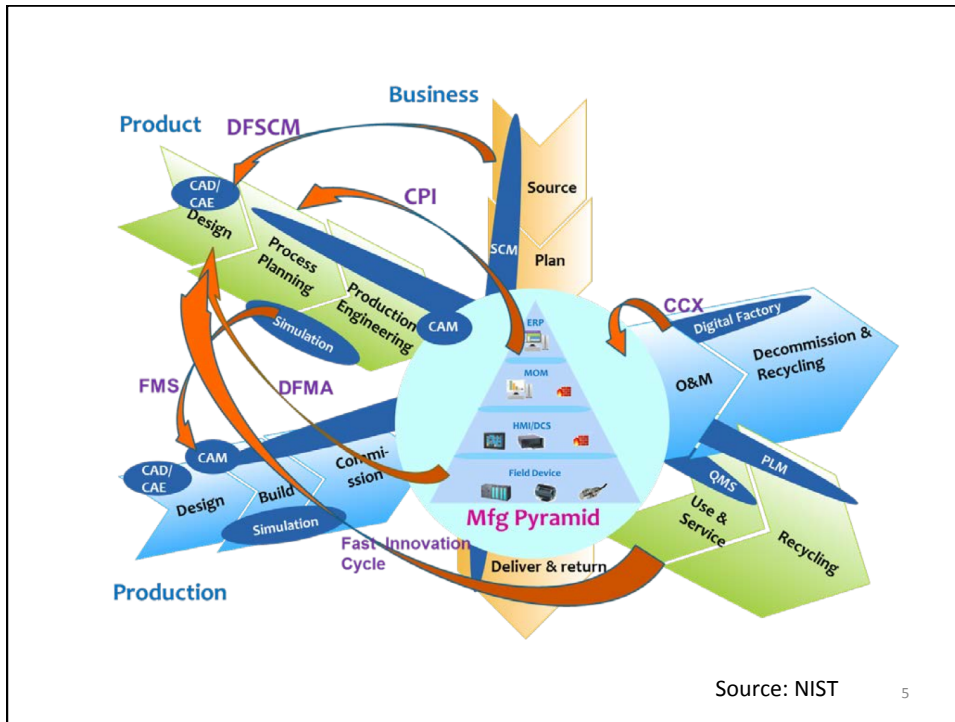


**Market-Driven Systems**  
*Marknadsstyrda System*  
**FRTN20**  
 Lecture 8 – Industry 4.0

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There are major new initiatives (both visionary and realistic in today's industry) that are based on the new available technologies; referred to under many different names;

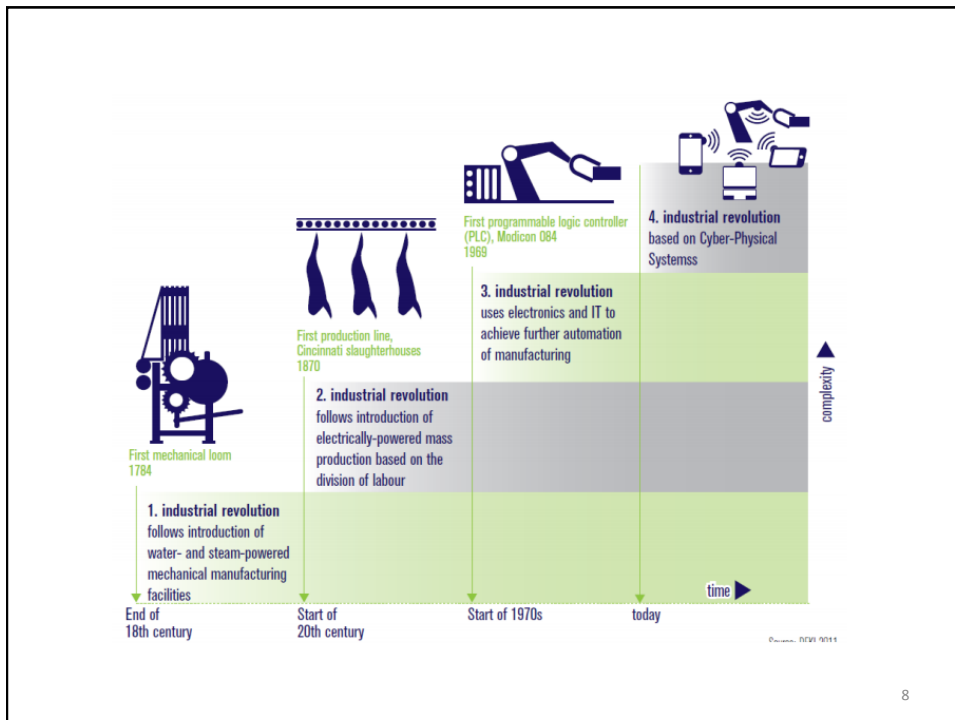
- Industrie 4.0 (Germany)
- Smart Manufacturing (USA)
- Industry 4.0 / Smart Manufacturing (IEC and ISO)
- China 2030 (China)
- Usine du Future (France)
- Digitalization (Sweden)
- Other terms; Connected Enterprise, Industrial internet, Internet of things

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Ultimately, Industry 4.0 et al. should result in

- more rapid product development,
- facilitated customized production,
- improved handling of complex environments,
- faster supply chains,
- a more holistic life-cycle management, etc

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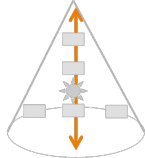


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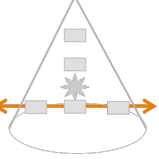
**Vertical integration:** vertically integrated manufacturing systems implies that the systems involved in the supply chain (from procurement to shipping) are integrated.

**Horizontal integration:** horizontally integrated manufacturing systems implies that the systems involved in the supply chain (from procurement to shipping) are integrated

**Vertical integration**



**Horizontal integration**

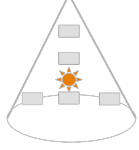


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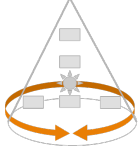
**Intelligent products:** Smart products are uniquely identifiable, may be located at all times and know their own history, current status and alternative routes to achieving their target.

**Smart production processes:** in an intelligent production process the various steps in the lifecycle (starting with the design phase and ending with the retirement phase), should be well integrated with each other.

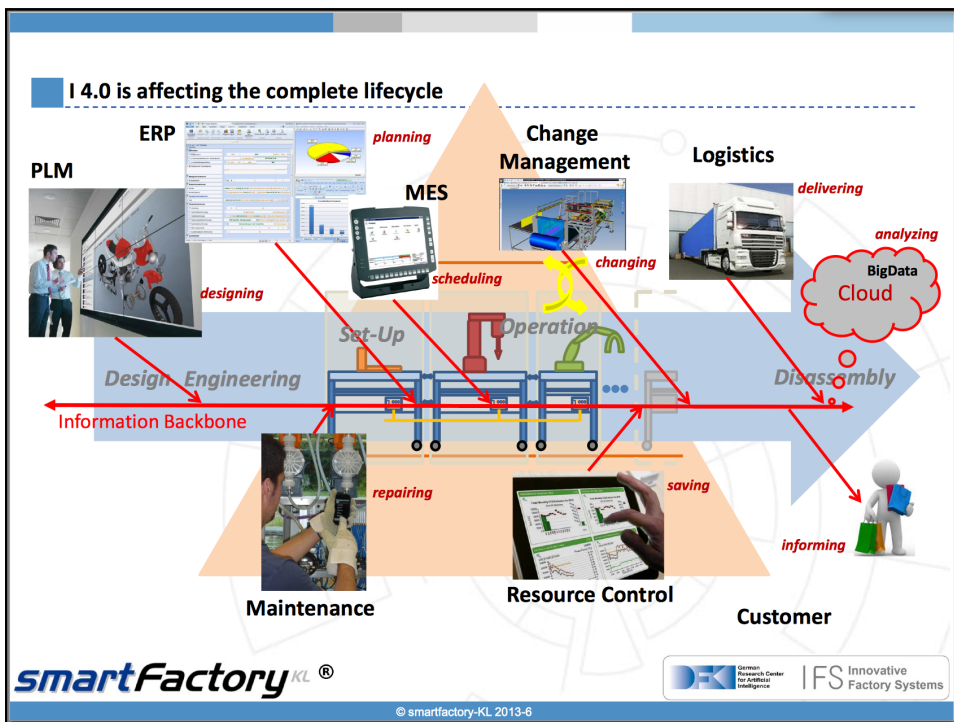
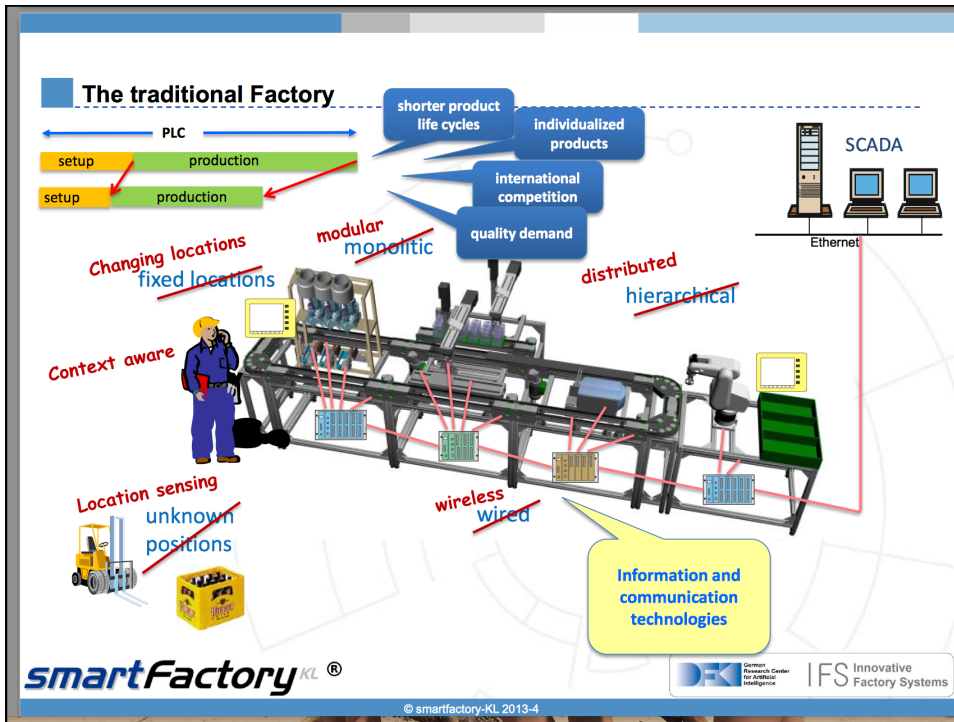
**Intelligent products**

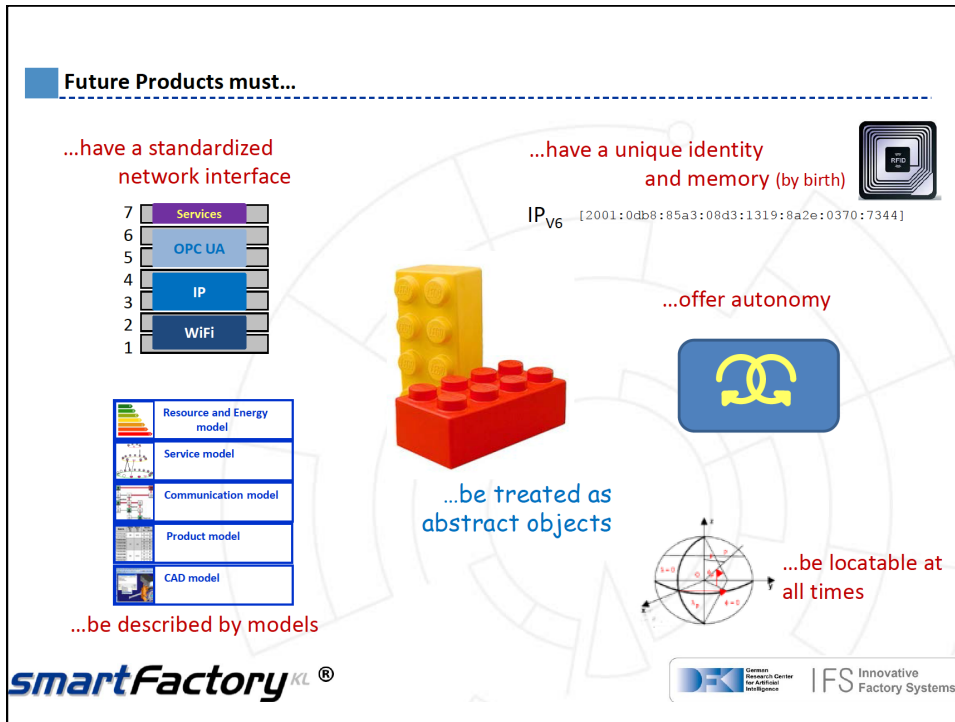


**Smart production processes**

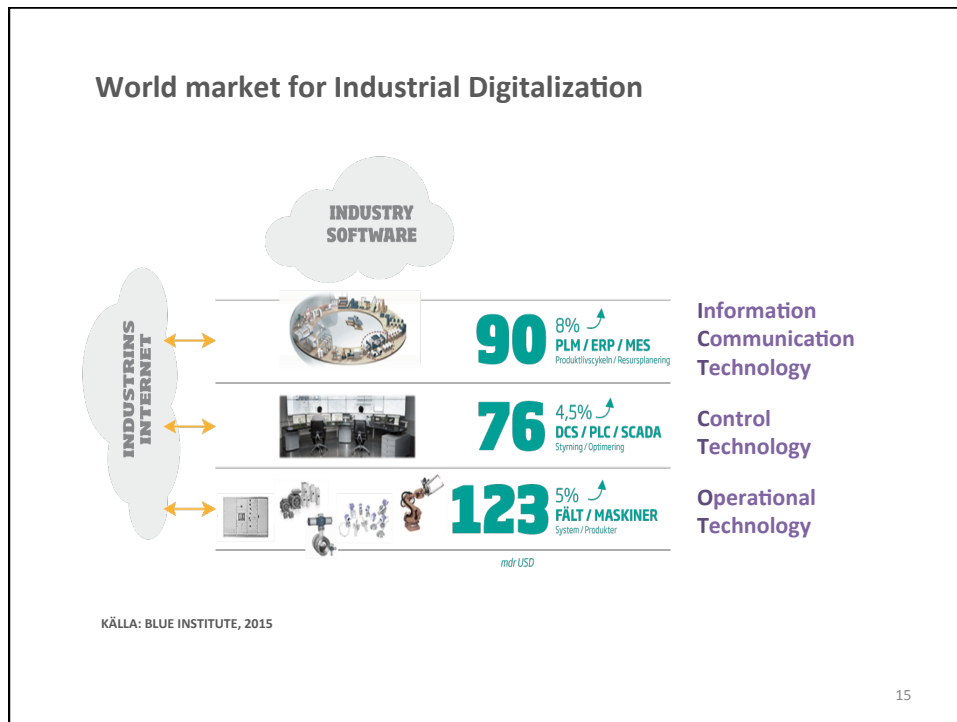


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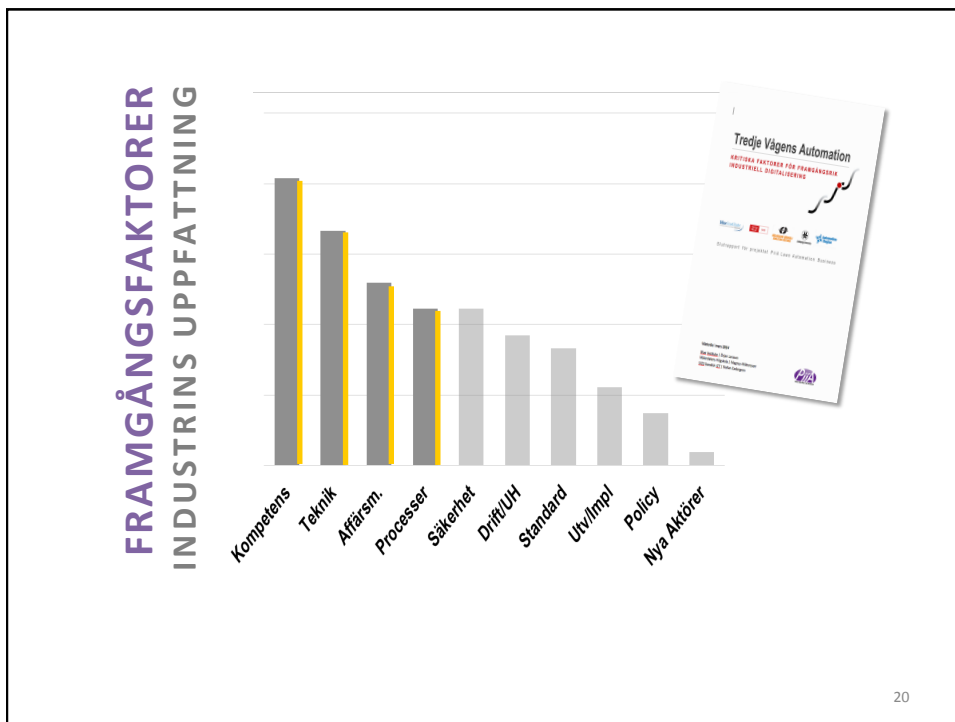
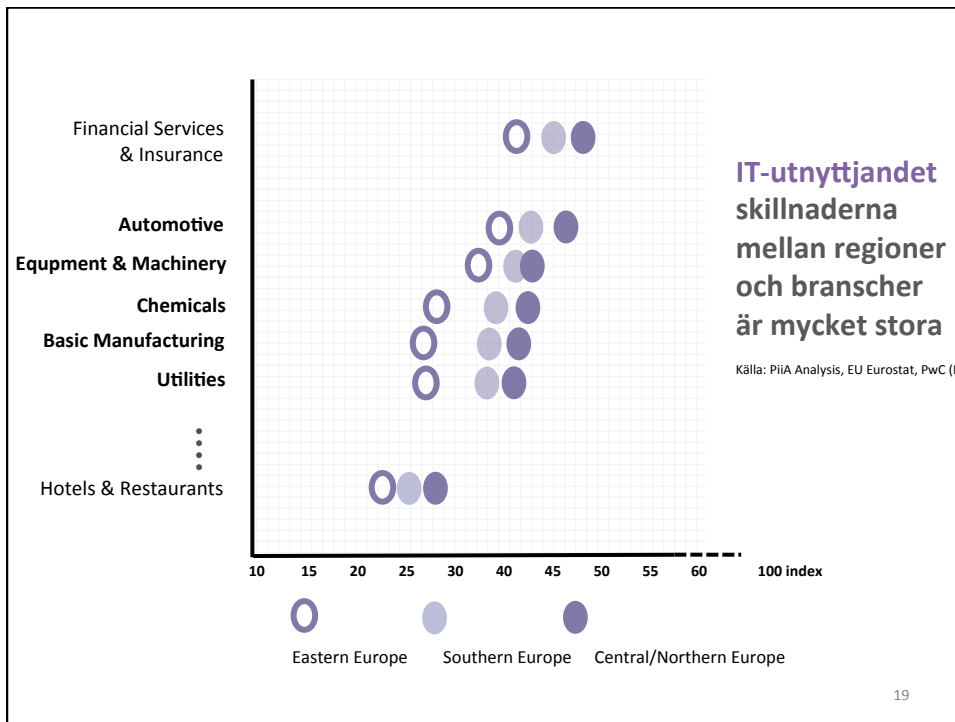


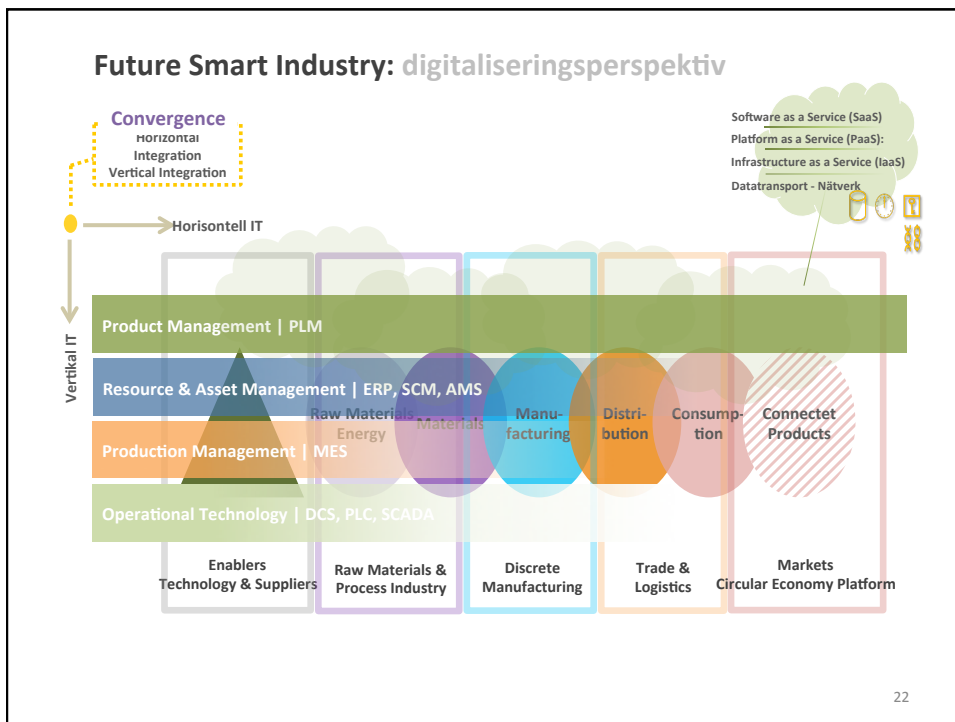
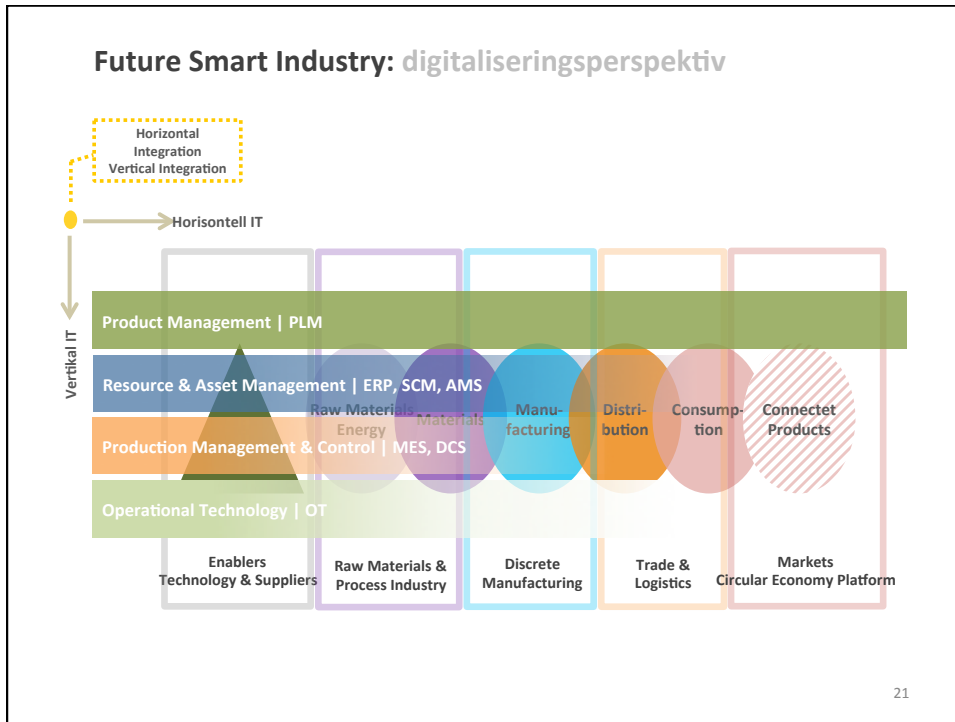
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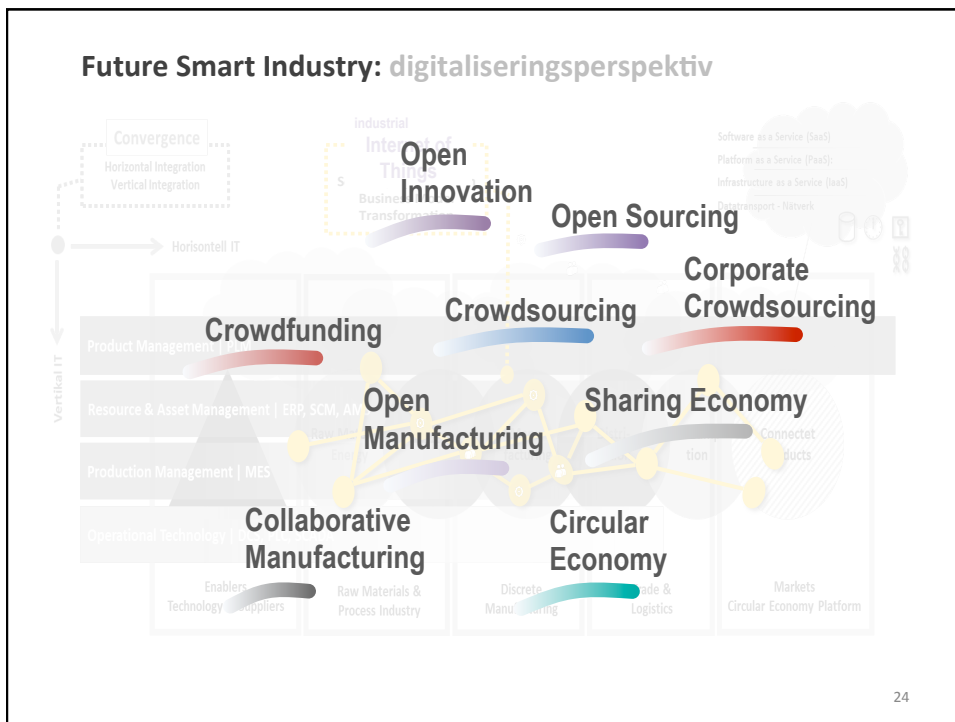
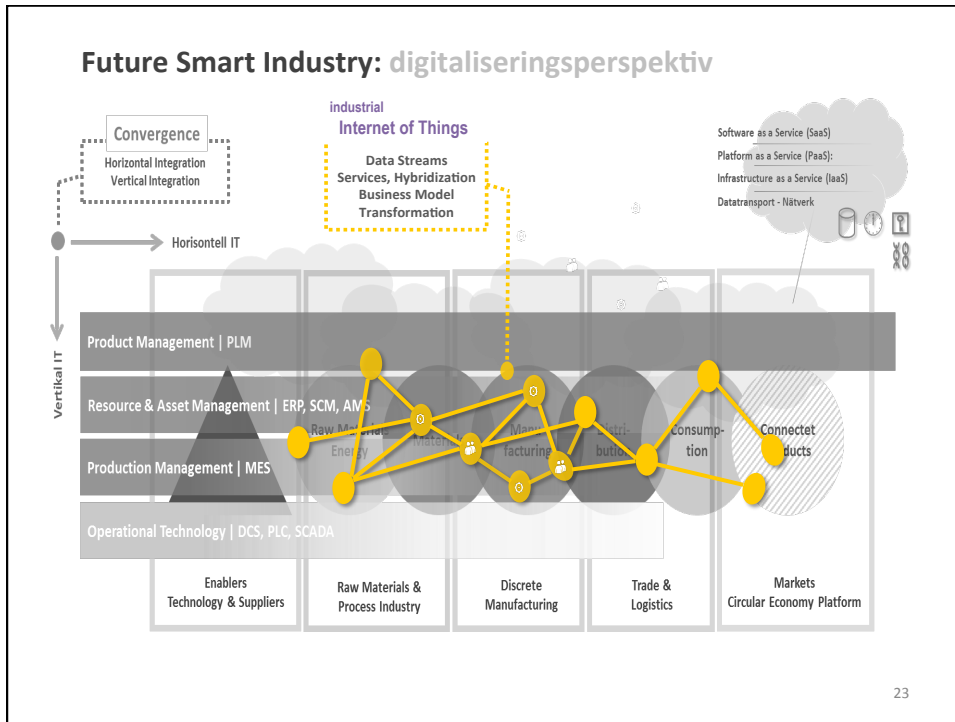






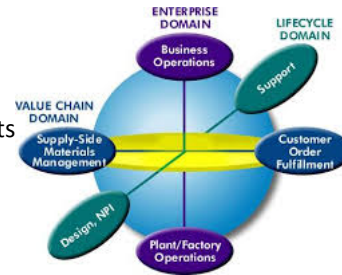




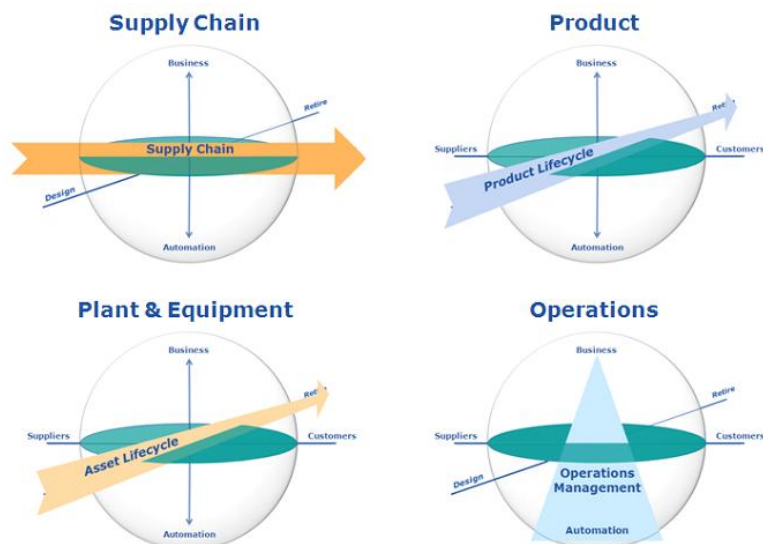


# SUMMARY

- Industry 4.0 / Smart Manufacturing is referred to as the 4th industrial revolution
- The various axes should be better integrated
- The aim is to assure:
  - more rapid product development,
  - facilitated customized production,
  - improved handling of complex environments
  - faster supply chains,
  - a more holistic life-cycle management, etc
- Research and education are important factors for success
- Sweden is investing in "industrial digitalization"



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