Industry 4.0: New rooms for cooperation

László Monostori

Inst. for Computer Science and Control, Hungarian Academy of Sciences (MTA SZTAKI)
Dep. of Manufact. Science and Techn., Budapest Univ. of Techn. and Economics (BME)
Centre of Excellence in Production Informatics and Control (EPIC)
Ipar 4.0 National Technology Platform, Hungary

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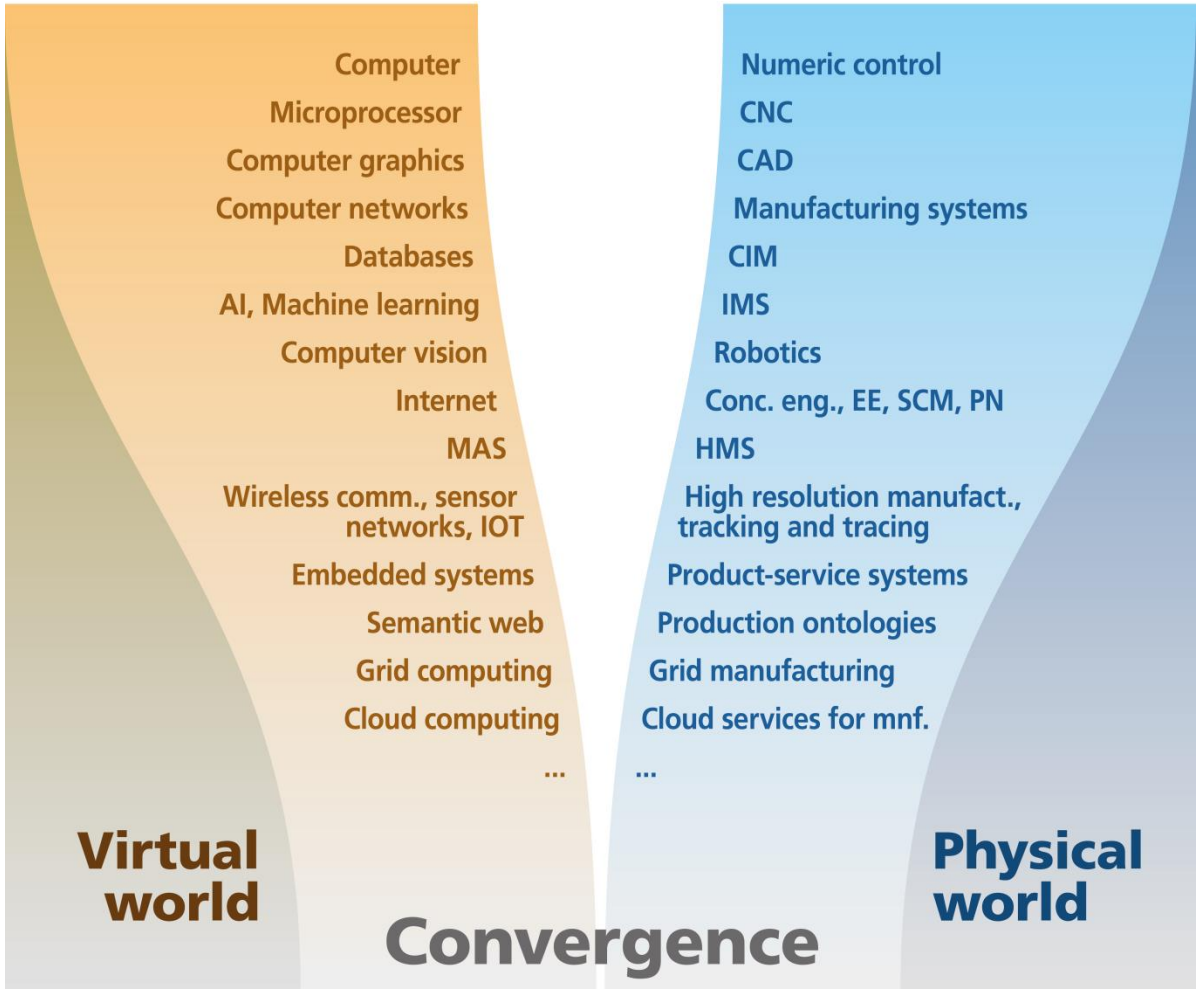
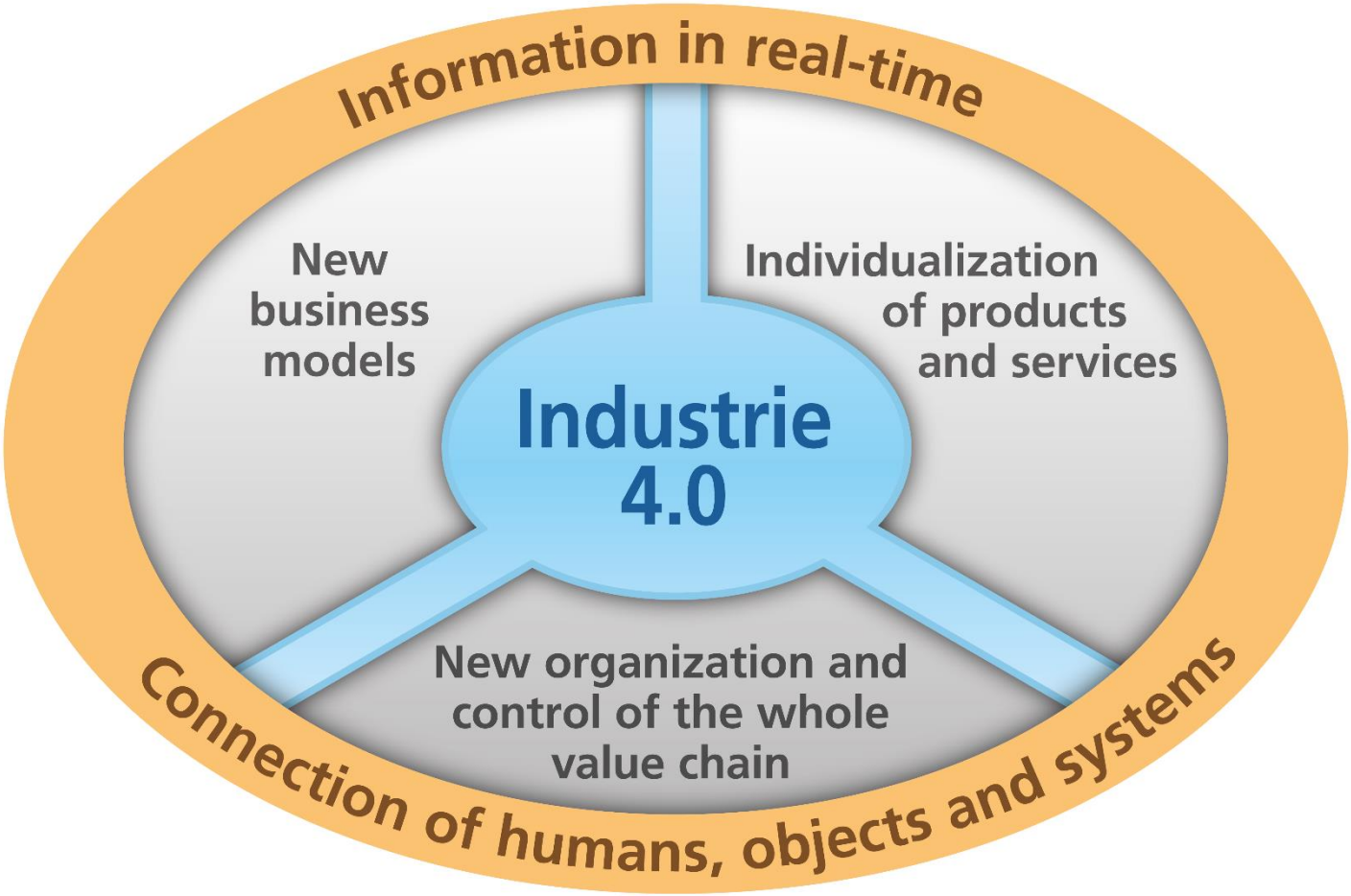
Interplay between CS, ICT and manufacturing



After: Monostori, L. (2014), *Procedia CIRP*, 17:9-13.

CPPS – Industrie 4.0 (Industry 4.0)



Source: Bauernhansl, T. 2016

CPPS programmes world-wide

- Industrie 4.0 (D)
- Advanced Manufacturing, Industrial Internet (US)
- Made in China 2025 (RC)
- Industry 4.0 → Society 5.0 (J)
- Robot Revolution Initiative (J)
- The Catapult Programme (UK)
- Alliance Industrie du Futur (F)
- Industrie 4.0 Österreich (A)
- Made in Sweden (S)
- Smart Industry (NL)
- Smart Connected Factory (Korea)
- Initiative Industry 4.0 Průmysl 4.0 (CZ)
- Ipar 4.0 National Technological Platform (H)

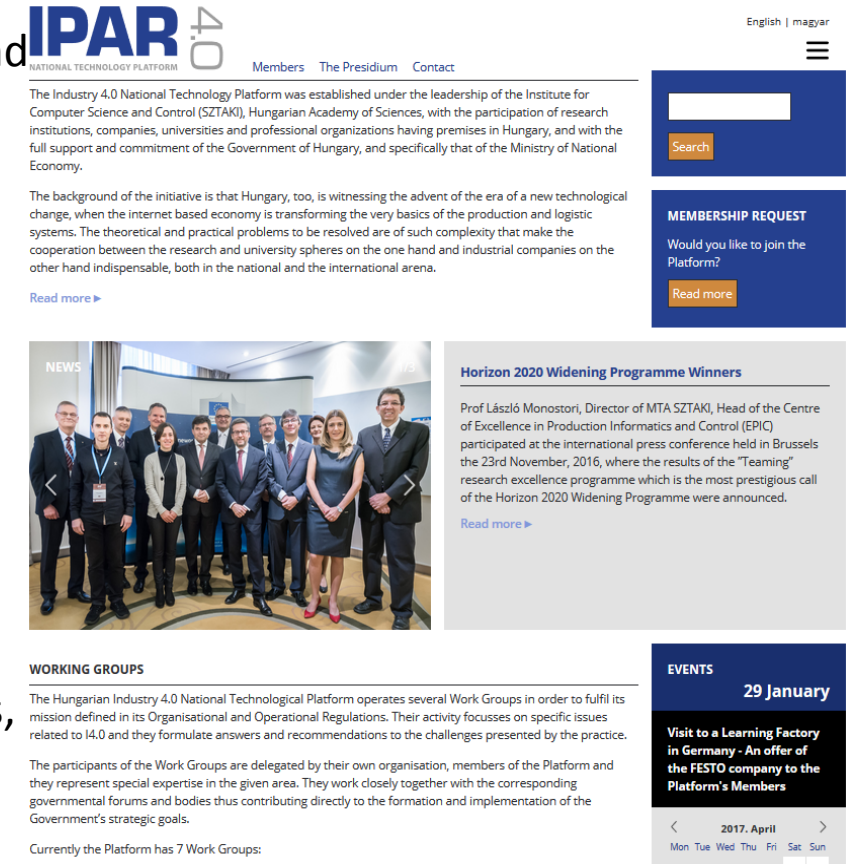
Industry 4.0 National Technology Platform in Hungary

Membership:

- SZTAKI and the Ministry for National Economy, and 37 founding members
- 26 organisations have joined since
- 27 organisations waiting for getting admitted

Organisation:

- Presidium headed by SZTAKI
- 7 Working Groups
  - Strategic Planning
  - Employment, Education and Training
  - Production and Logistics
  - ICT Technologies (safety, reference architectures, standards)
  - Industry 4.0 Cyber-Physical Pilot Systems
  - Innovation and Business Model
  - Legal Framework

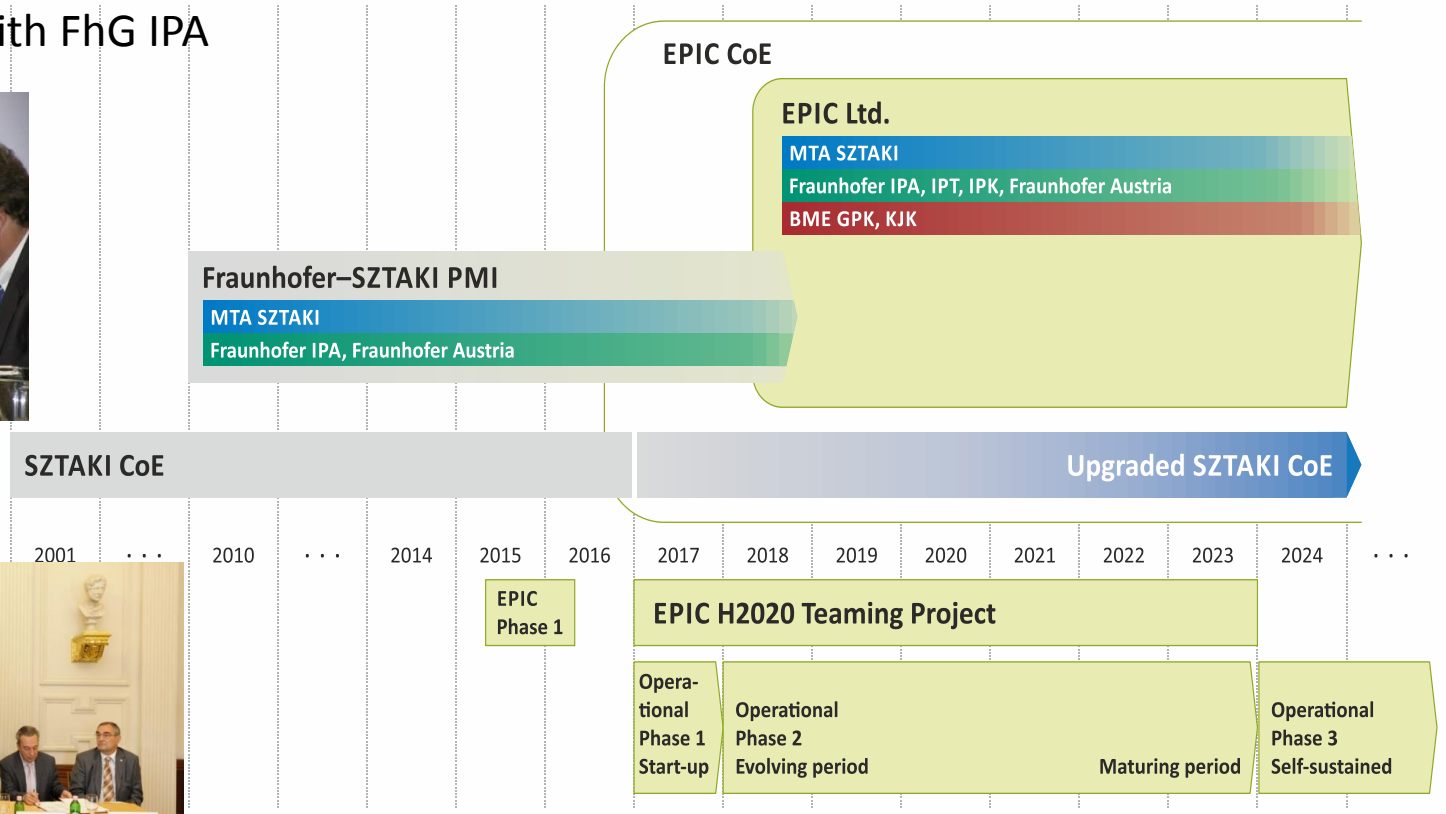


Centre of Excellence in Production Informatics and Control (EPIC)

2002: Virtual inst. with FhG IPA

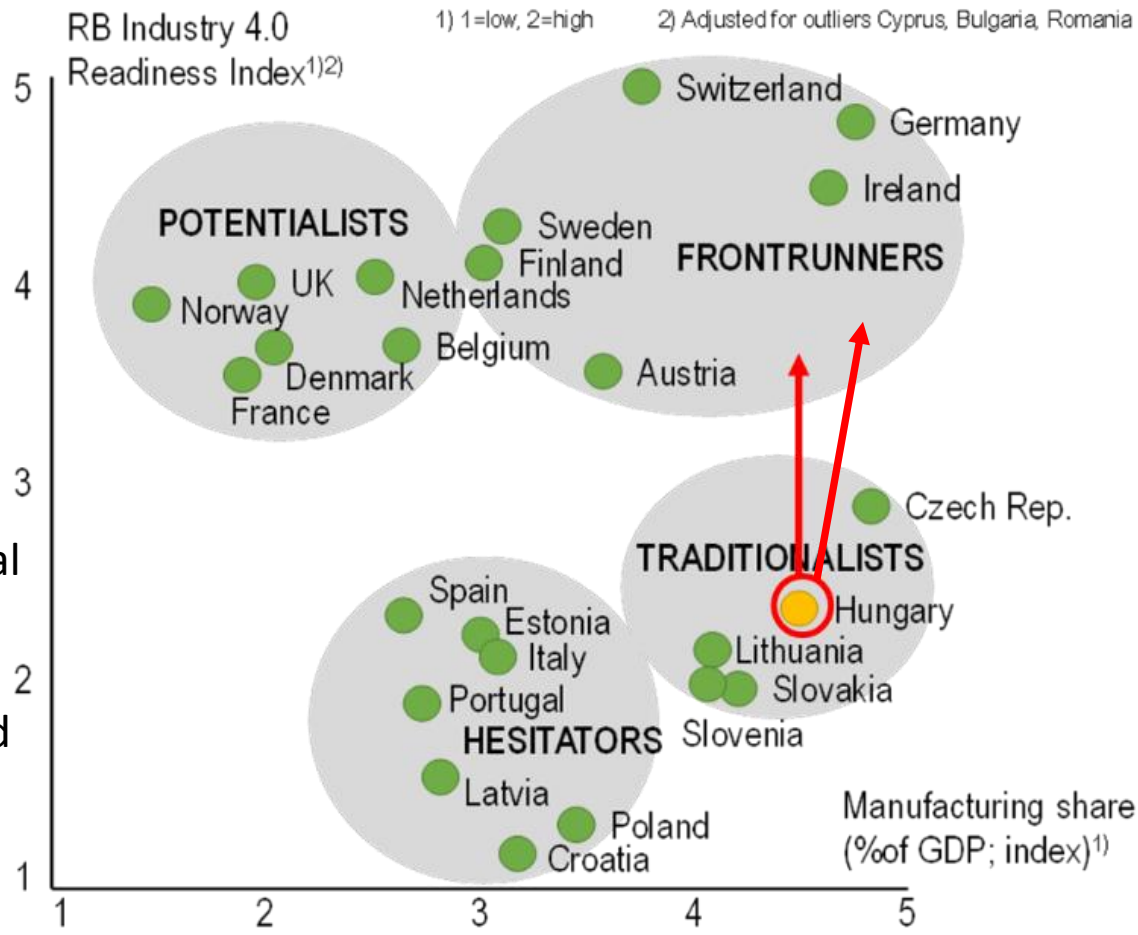
2001: SZTAKI EU CoE

2010: Fraunhofer-SZTAKI Project Centre



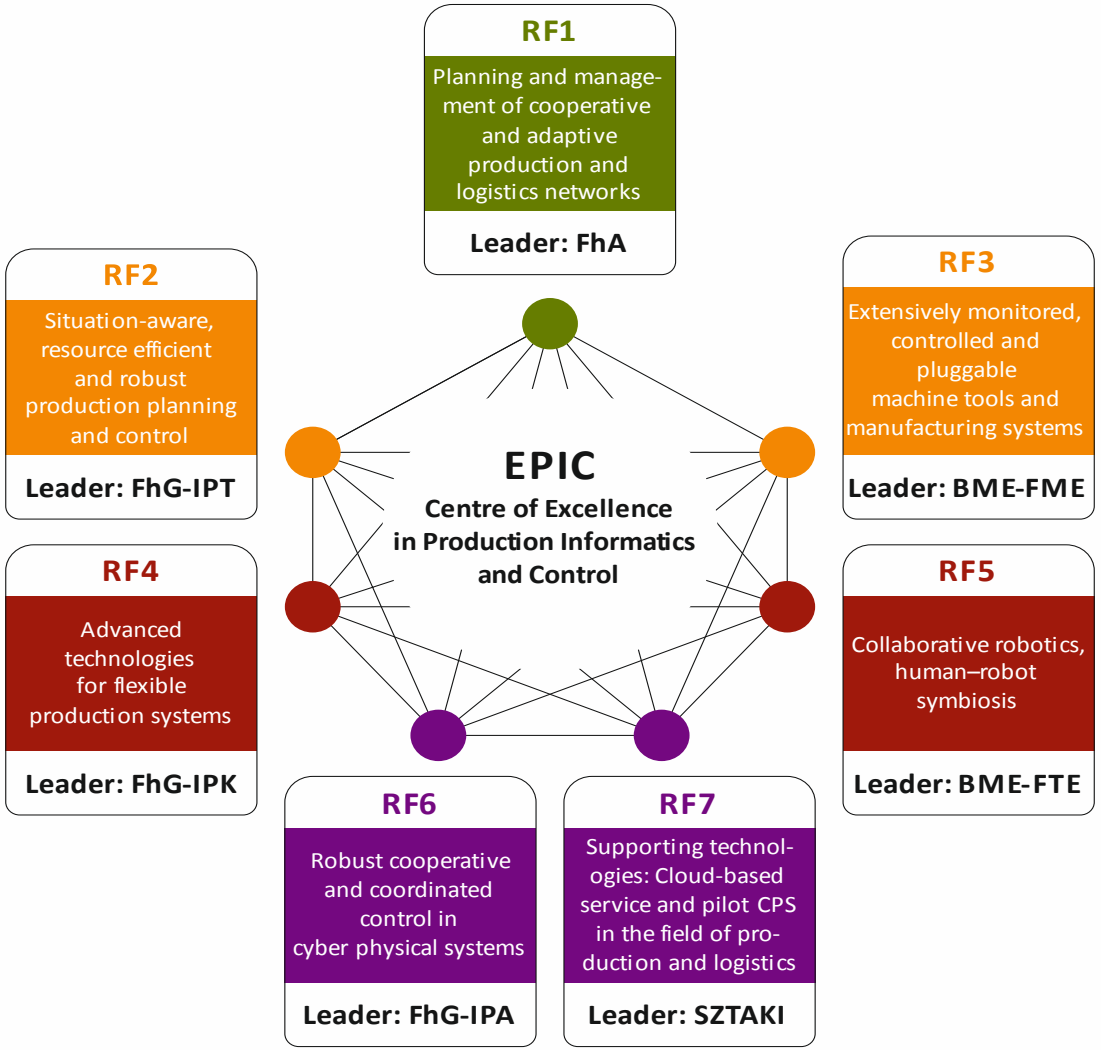
EPIC: Main goals and mission

- The **overarching goal** of the project is to establish the **Centre of Excellence in Production Informatics and Control (EPIC CoE)** as a leading, internationally acknowledged and sustainable focus point in its field representing excellence in research, development and innovation related to **Cyber-Physical Production**.
- The **mission of EPIC CoE** - as a leading-edge knowledge centre of cyber-physical production systems - is to accelerate innovation, realize industrial solutions, train new generations of highly qualified professionals and support the development of a sustainable and competitive European manufacturing ecosystem.



[THINK ACT INDUSTRY 4.0 RolandBerger, 2015]

EPIC: Priority research fields and main activities



- Strengthening of the innovation culture and accelerating the innovation process
- Spreading of new technologies and methodologies in Hungary with the support of the foreign partners
- Industry 4.0 oriented developing of production enterprises including SMEs within the framework of innovation projects
- Strengthening the supplier industry and by this way making them more competitive
- Developing and deploying Pilot Industry 4.0 solutions and systems
- Educating and training of specialists
- Setting up of knowledge triangles in different regions of the country

Future trends of Industry 4.0 – Panel discussion with keynote speakers

- *László Monostori*
  Introduction – Industry 4.0: New rooms for cooperation
- *Engelbert Westkämper*
  Strategies for reindustrialisation of European industries
- *Joerg Bauer*
  Industry 4.0: An industrial view
- *Tullio Tolio*
  Demanufacturing and remanufactuirng systems for circular economy
- *Sebastian Schlund*
  Human centred cyber-physical assembly
- *Lukas Merkel*
  Cognitive assistance systems in manufacturing