Hungarian Industry 4.0 National Technological Platform – I4.0 NTP

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Motivation and background

- **Irinyi Plan** -- Recent strategy of the Ministry of National Economy
  - Main directions of the re-industrialisation of the country
  - Target: by 2020 the share of industrial production in the GDP should increase from the current 24% to 30%
  - Increase the level of R&D expenditures to 1.8 % of the GDP by 2020
  - Specifically mentioning the Industry 4.0 related R&D&I activity in the manufacturing
  - Launching new complex programs
  - Reinforcing the growth, export and innovation potential of the domestic companies
  - Employment: „low skill" → „high skill"

Roland Berger
Industry 4.0
Readiness Index[1]
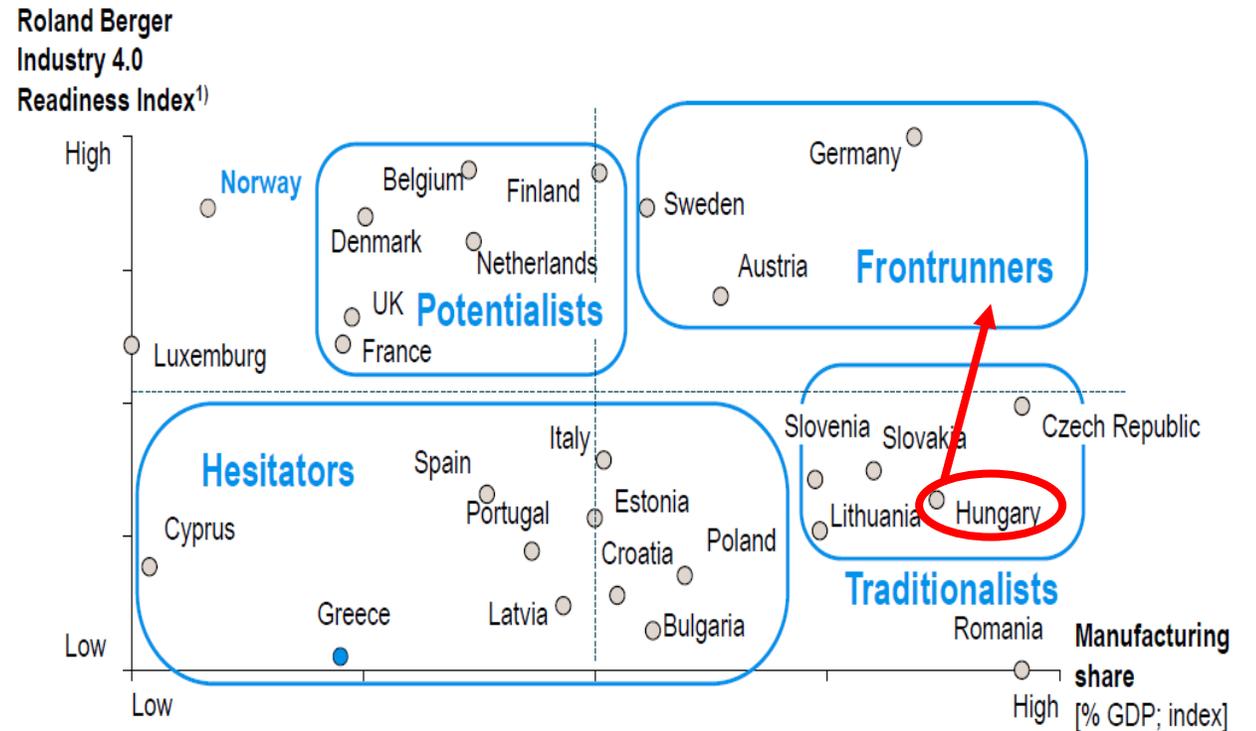
1) Based on industrial excellence (production process sophistication, degree of automation, readiness workforce and innovation intensity) and value network (focus on high value add, industry openness, innovation network, internet sophistication)
Source: Roland Berger

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Motivation and background (2)

- Traditionaly strong research in manufacturing **and** computer science → CPPS
- Active international scientific networking for decades
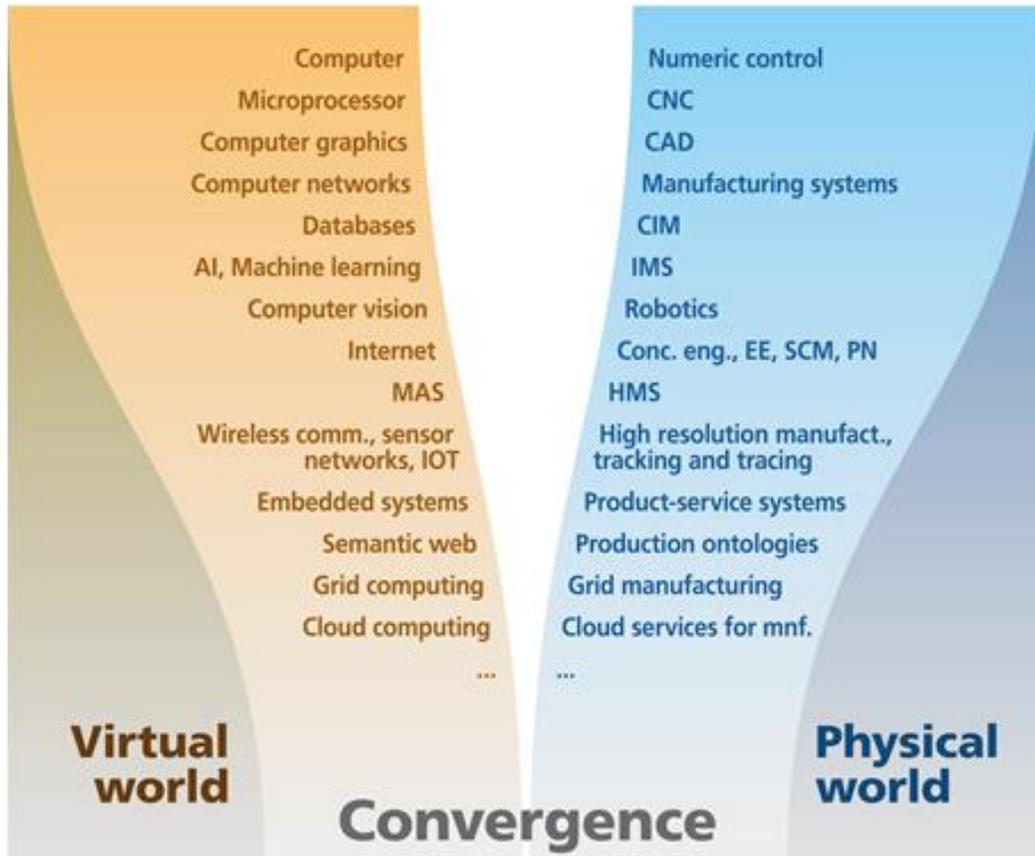
Cyber-physical systems in manufacturing

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Objectives

- Catalyse to perform high added-value research and development

- Prepare the industrial sector for, and adapt it to the requirements of I4.0 innovation

- Assist in re-focussing the education system according to the new needs of industry

- Be a key factor in contributing to the success of the national I4.0 programme
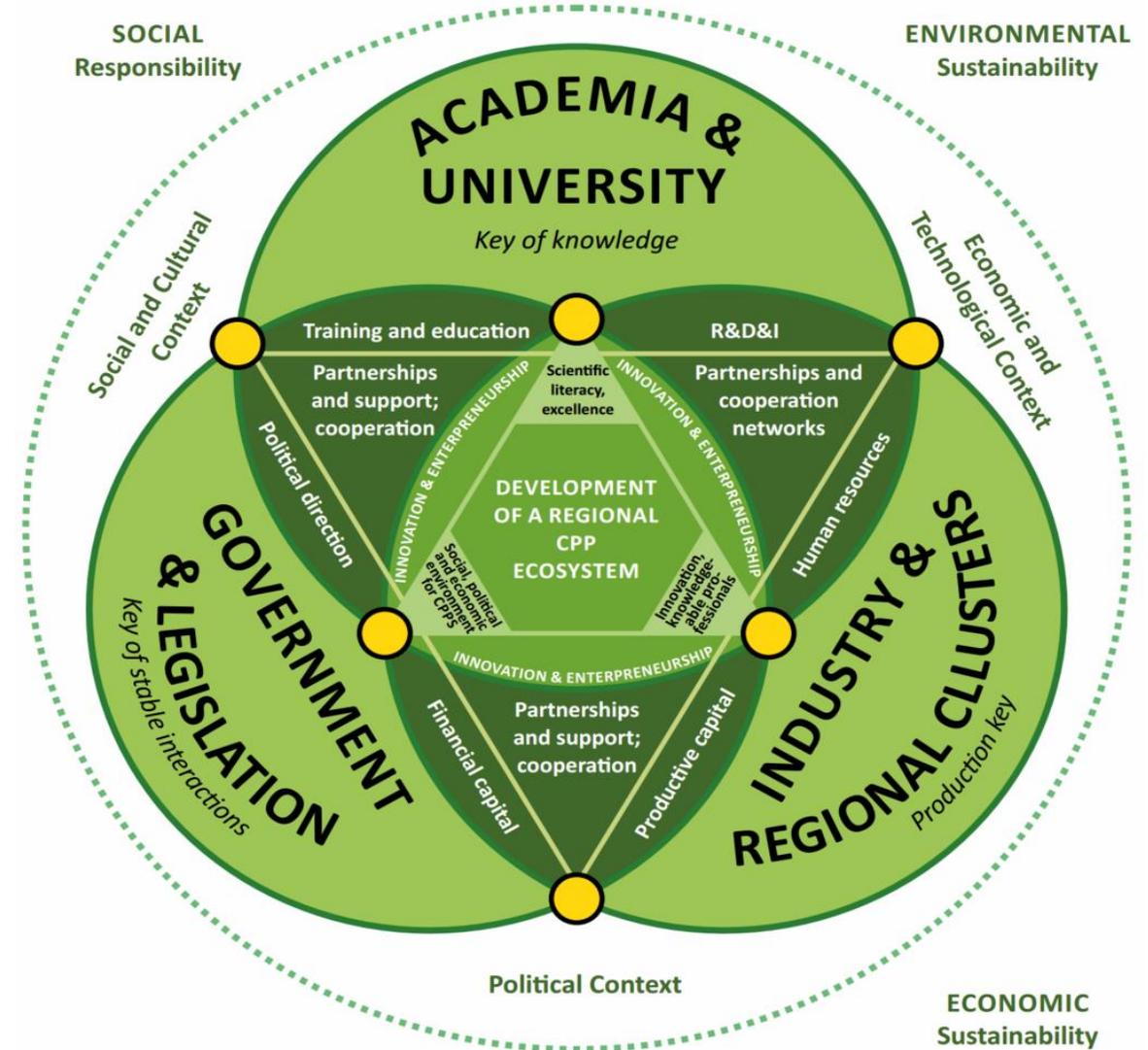
Foundation and structure

Membership

- 2016 May: SZTAKI and the Ministry for National Economy, and 37 founding members
- 53 additional organisations have joined since

Organisation

- Presidium headed by SZTAKI
- President: Prof. László Monostori
- 7 Working Groups

  – Strategic Planning
  – Employment, Education and Training
  – Production and Logistics
  – ICT Technologies (reference architectures, standards)
  – Industry 4.0 Cyber-Physical Pilot Systems
  – Innovation and Business Model
  – Legal Framework

https://www.i40platform.hu/en

I4.0 national questionnaire

- Structure of the survey
  - Basic business data and statistics (15 Q)
  - I4.0 capability – micro (46 Q)
  - National ecomony – macro (37 Q)
  - Contact (1 Q)
- Responses
  - 133 fully completed
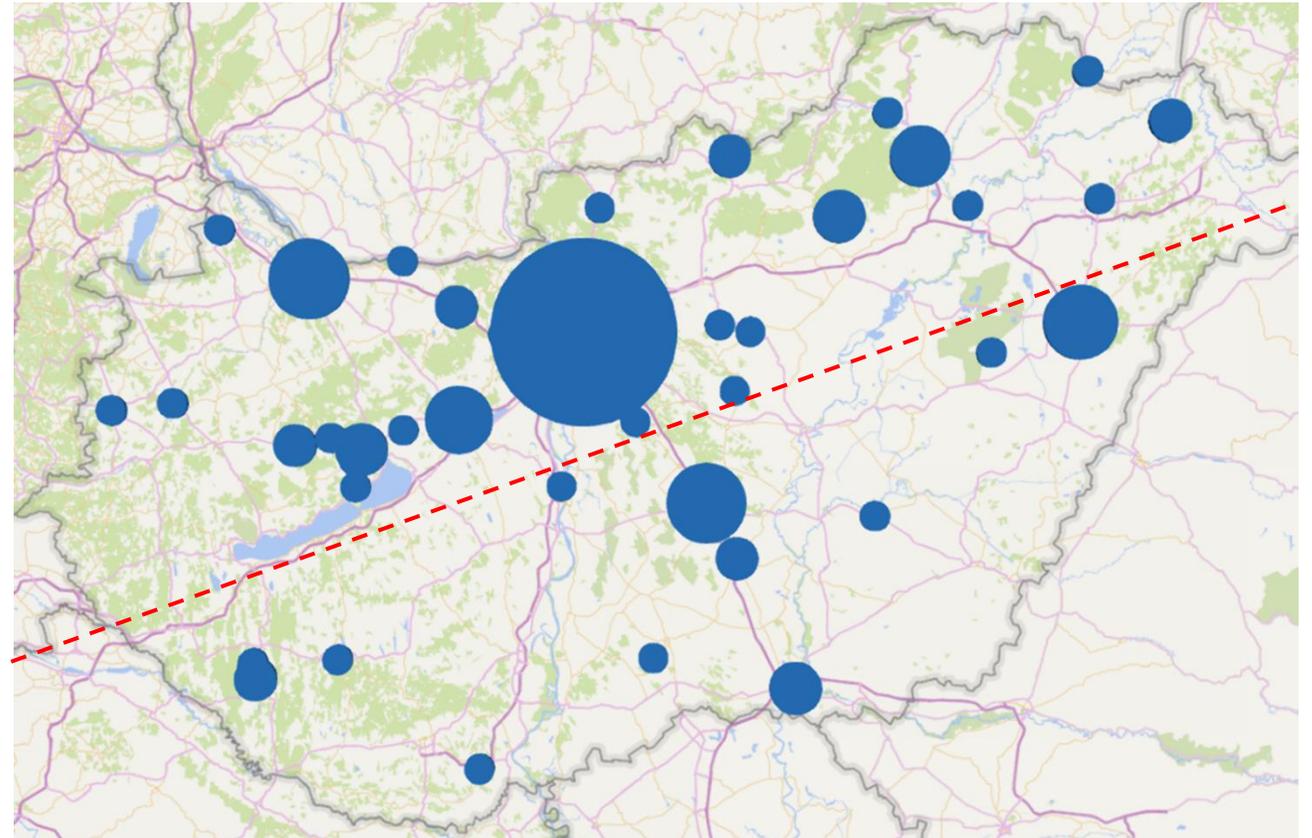
DE vs. HU

22. Past and Planed investments in Industry 4.0

23. Past and Planed investments in Industry 4.0

HU

National I4.0 strategy – structure and priorities

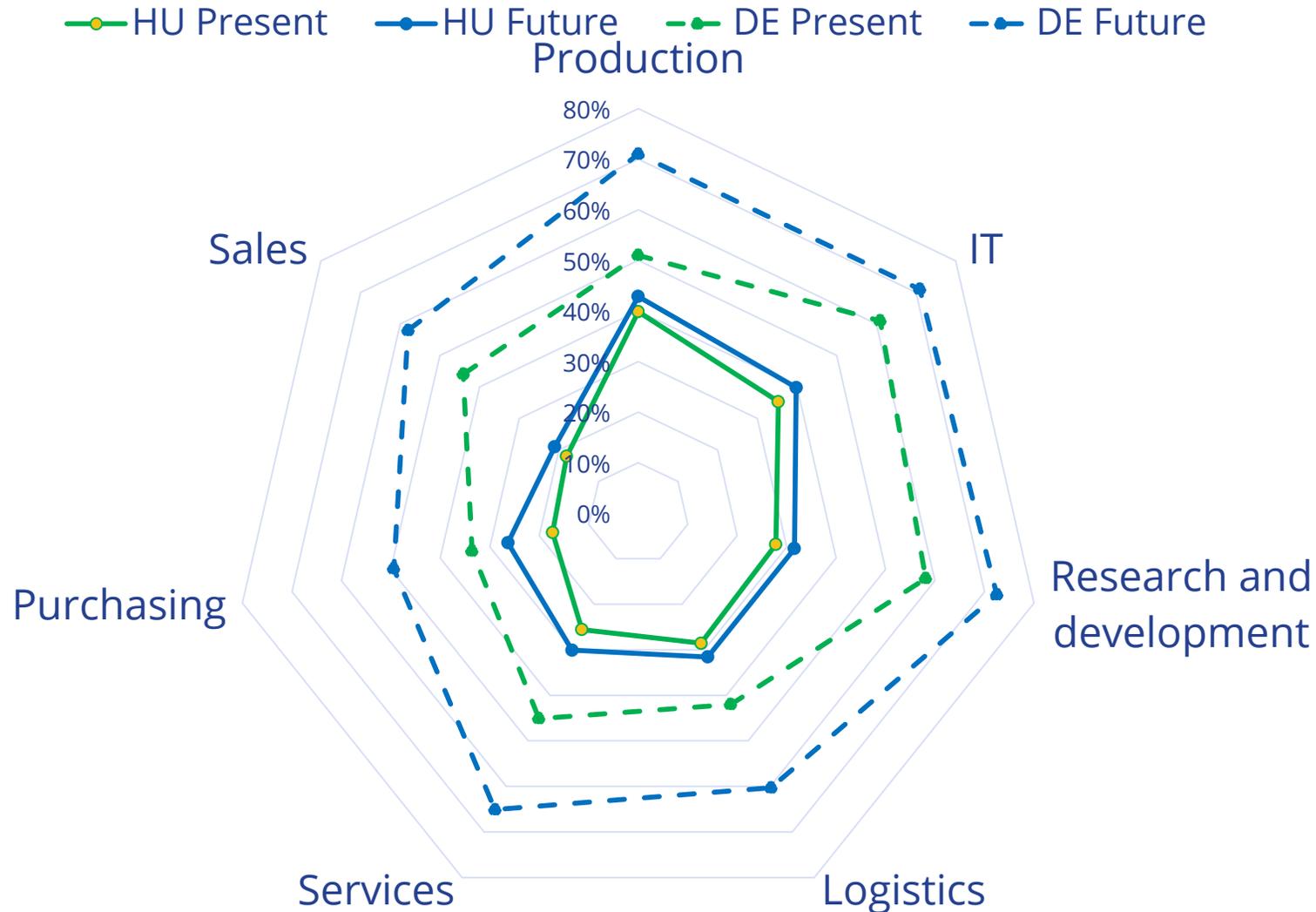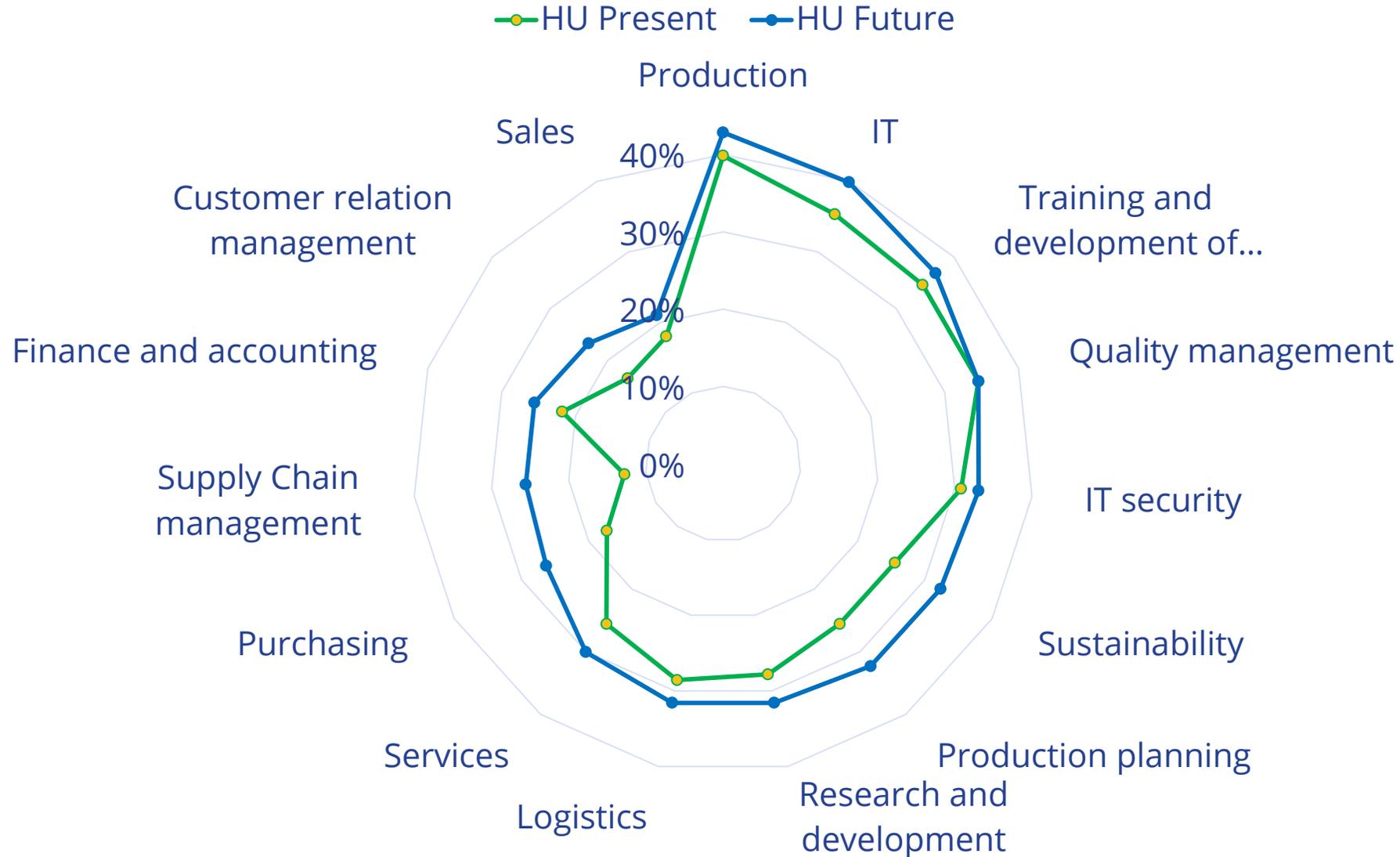| Pillar ⇒ Dimension ⇓	Digitalization and business development	Production and logistics	I4.0 labour market development	Research, development and innovation	I4.0 ecosystem
Technology	Dedicated digitalization investment programs	**Improved efficiency and increased capacities**	Infrastructure for I4.0 training and education	**Production related RDI services**	Technology and infrastructure development
Society	Survey and attitude shaping	Concentrated strategy projects, supplier programs	**From vocational I4.0 training up to graduate and postgraduate education**	**Reinforcing science, RDI programs**	**Legislation, standardisation, control**
Business	**Revival of SMS business models**	Cluster formation	In-company training	New business models, RDI incubation	Digital I4.0 networks

MTA SZTAKI

IPAR 4.0
NEMZETI TECHNOLÓGIAI PLATFORM

CENTRE OF EXCELLENCE **EPIC**
Production Informatics and Control

Tasks ahead of I4.0 NTP

- Evaluate the national I4.0 survey in detail
- Elaborate the national I4.0 roadmap
  - Qualification system
  - Monitoring system for I4.0 strategy implementation
- Adopt best practice solutions
- Cover all educational aspects of I4.0 which determine the highest priority HR preconditions and implications for its implementation in practice
- Facilitate progress in culture and the change of existing paradigms of thinking
- Formulate recommendations as for developing and applying new business models
  - Especially for SMEs and start-ups
- Define the final legal and organisation form of the Platform
- Harmonise with the EU directive Digital Single Market Strategy for Europe
- Formalize relationships with similar organizations in the CEE region
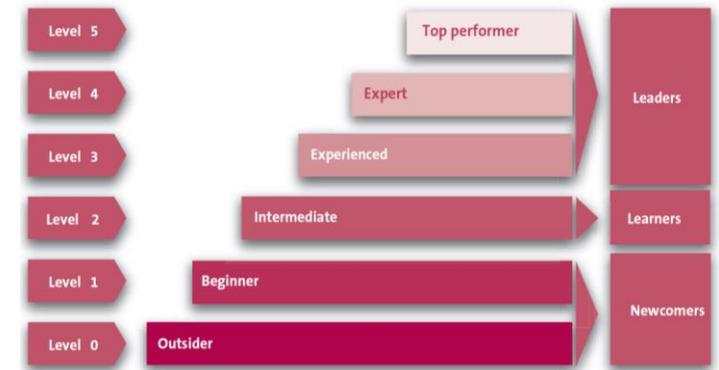
Thanks for your attention!

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