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”
Motivation and background (2)

• Traditionally strong research in manufacturing and computer science → CPPS
• Active international scientific networking for decades
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 economy – macro (37 Q)
  – Contact (1 Q)

• Responses
  – 133 fully completed
DE vs. HU

22. Past and Planned investments in Industry 4.0

- HU Present
- HU Future
- DE Present
- DE Future

Production

Sales

Purchasing

Services

Logistics

Research and development
23. Past and Planned investments in Industry 4.0

- Production
- IT
- Quality management
- IT security
- Sustainability
- Production planning
- Research and development
- Logistics
- Services
- Purchasing
- Supply Chain management
- Customer relation management
- Finance and accounting
- Sales

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