

Industry's expectations towards Horizon Europe

Dale A. Martin
CEO, Siemens Hungary
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Focus points for today

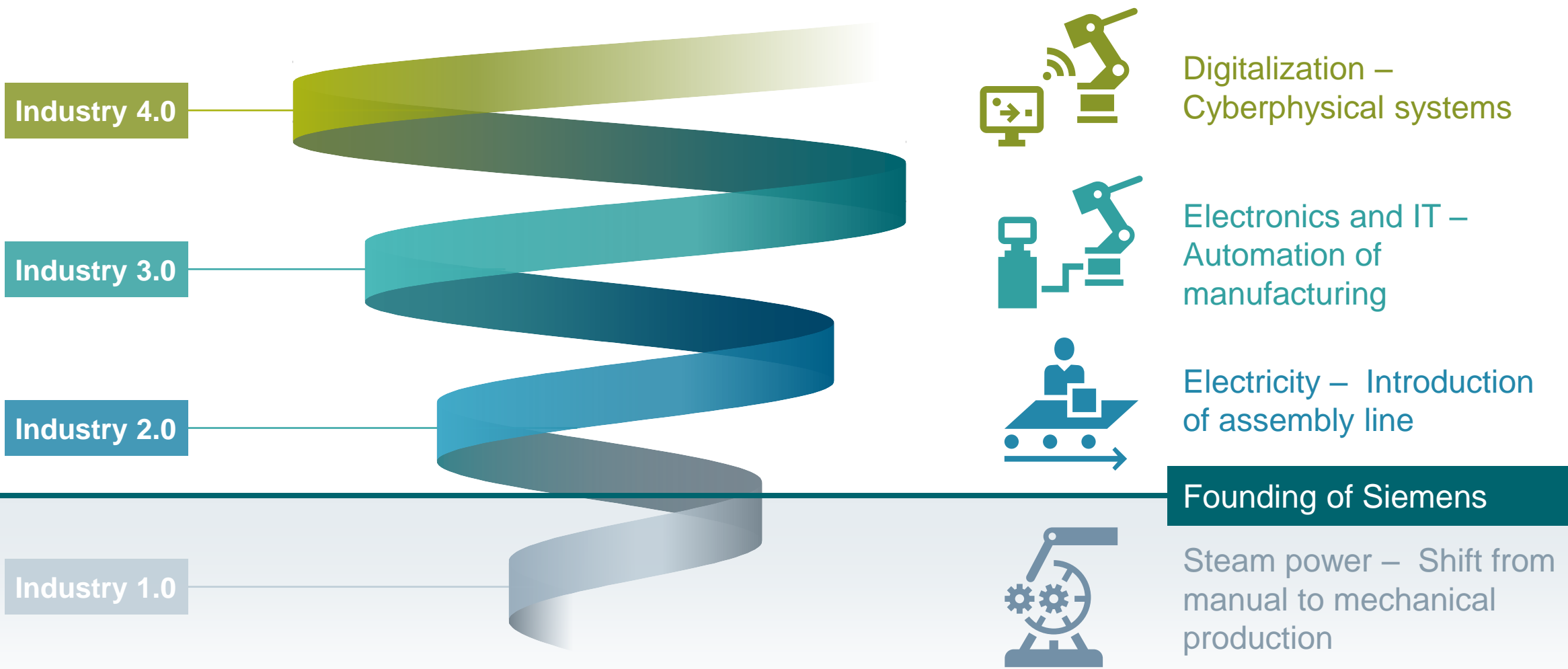


- Siemens and universities
- Siemens and Horizon 2020
- Siemens' expectations towards Horizon Europe

Siemens and universities

Siemens: an industrial company shaping industrial revolutions since its founding

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In the 4th industrial revolution, Siemens R&D is focusing on.....



Additive manufacturing

Autonomous robotics

Blockchain applications

Connected (e)mobility

Connectivity and edge devices

Cybersecurity

Data analytics, artificial intelligence

Distributed energy systems

Energy storage

Future of automation

Materials

Power electronics

Simulation and digital twin

Software systems and processes

Drivers of University Relations

R&D/ Innovation



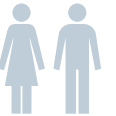
- Access to latest academic trends and cutting edge research
- Source for Open Innovation
- Strengthening of Siemens innovative power

Training on Siemens products

- Positive product branding
- On campus NX and Tecnomatix Plant Simulation SW-Trainings
- MindSphere



HR/Talent Acquisition



- Positive employer branding on campus
- Build up a talent pipeline
- Hire the right fresh outs
- Co-creation of curricula



**Connection of industry and academy
and promotion of research and recruiting activities**



Drivers of University Relations / examples from Hungary

R&D/ Innovation



- Access to latest academic trends and cutting edge research
- Source for Open Innovation
- Strengthening of Siemens innovative power



**Solar Decathlon,
Center for University-
Industry cooperation (FIEK)**

Training on Siemens products



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**MindSphere, Labs,
Siemens Digital Industries
Software**

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**Dual education
BME, University of Óbuda,
BGE**

Several factors are crucial for a successful strategic university-industry collaboration

Partner choice

- Partners which have a long **history of successful cooperation** and a good relationship among each other (often based on **individual personal relations**)
- **Proximity** matters
- Interaction with partners **on equal terms**
- Understanding of **cultural differences** between university and industry (different incentives, timescale, ...)

Research activities

- Clear **goal** and clearly defined **research agenda**
- **Fit** of research topics **to company strategy**
- **Balanced mix** of different collaboration methods (contract research (short term & strategic), 3rd party funded research, sponsoring, lectures, colloquia / conferences, expert exchange, ...)
- Quick start of **pilot projects**

Execution

- Long-term **financial commitment**
- **Steering committee** with decision power (and budget) in all participating organizations
- Commitment on **working level**
- Plenty of opportunities for all campus members to **meet personally** and exchange ideas
- **Resources** to coordinate campus activities and communication

Awareness

- **Management commitment** from all partners
- Broad **awareness** of campus activities within company and university



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EXPERIMENTAL

HA-XEH

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**...and now, let's widen
our Horizon!**

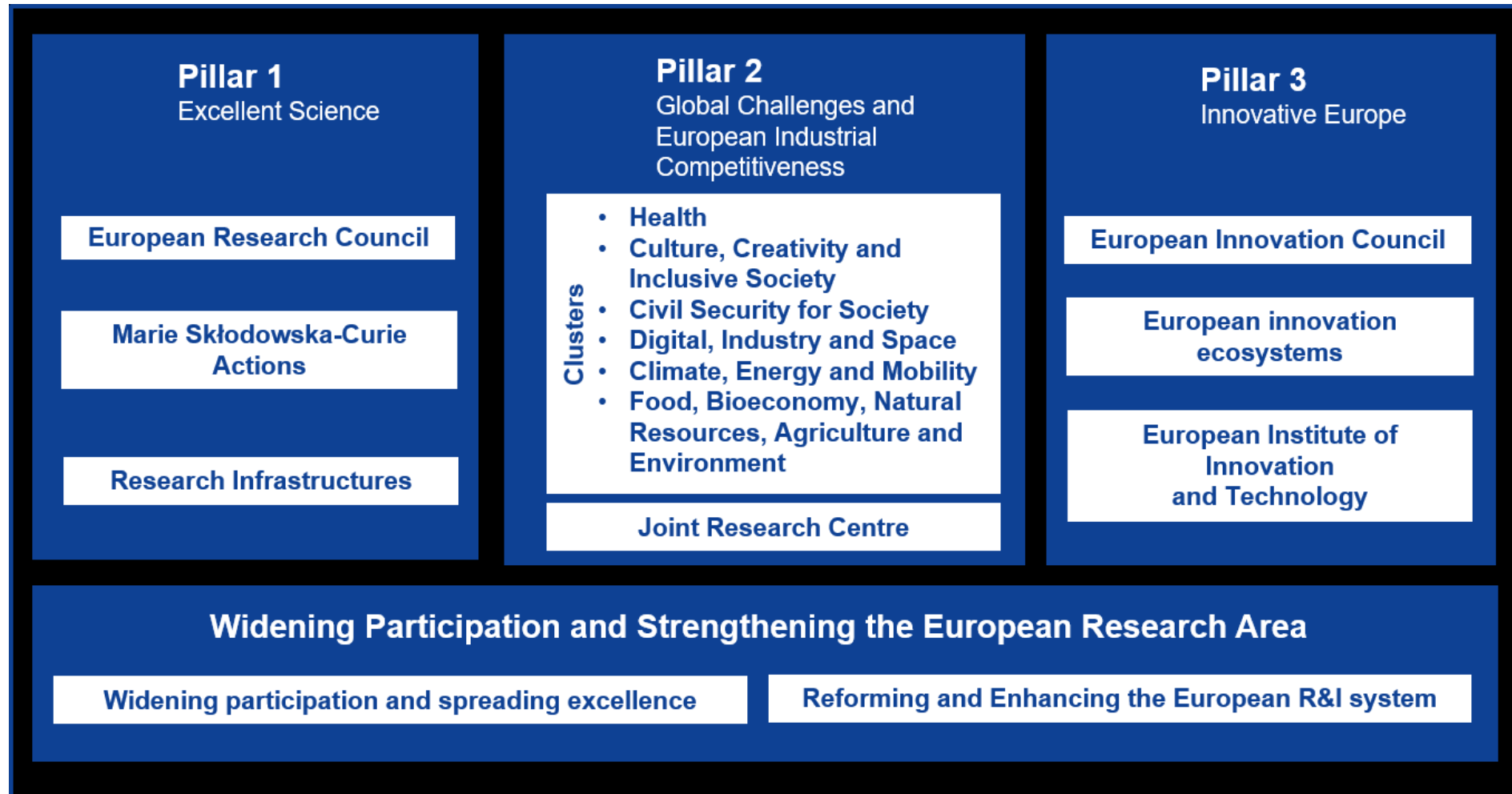
Siemens and Horizon 2020

- Currently engaged in 160+ Horizon2020 projects since the beginning of the Framework Programme in 2014 (approximately 50% of these running with Siemens in Germany)
- Strictly following Siemens' own thematic focus of electrification, automation and digitalization
- The key Siemens areas of EU project engagement are:
 - ICT (= *Information and Communication Technologies* i.e. AI, Cyber-Physical-Systems, Smart Systems, IOT, Big Data, etc.);
 - FOF (= *Factories of the Future* i.e. Automation, Additive Manufacturing, etc.);
 - MG (= *Mobility for Growth* i.e. Intelligent Rail, Electrification of Public Transport etc.);
 - as well as Energy-related topics (i.e. Hydrogen, Storage, Decentralized Systems etc.)

Horizon Europe: Investing to shape our future



Horizon Europe: 3-Pillar Structure



WHAT should Horizon Europe accomplish, according to Siemens?



- Sustain or re-establish European technological competitiveness in key enabling technologies;
- Bridge the “valley of death” between invention and innovation;
- Drive the digital transformation of European industries;
- Tackle climate change effectively;
- Address major diseases (such as cancer or multiple sclerosis);
- Provide sustainable solutions for affordable, clean and highly secure energy and transportation systems

HOW should this happen? Our expectations are that...

- "Excellence criteria" must prevail
- Added value is needed for the EU (without repetition of national programmes)
- It must be technology-neutral
- The European industry should be strongly involved
- The Mission Boards should include members from the industry
- Missions must be specific and actionable, with measurable and verifiable results

8 general recommendations from Siemens to maximize impact

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1. **Mission driven approach** is supported! These missions should be established as a new way to drive breakthrough innovation. They must ensure an **interdisciplinary approach & technology neutrality**: non-prescriptive (how to achieve the mission). Implementation & financing should go beyond Horizon Europe.
2. Further **increase industry participation** in cooperation R&D projects (2/3 R&D exp in EU, only ca. 26% funding goes to Industry). Increasing the number of industry evaluators is needed (e.g. by introducing more remote evaluations).
3. **Further measures to increase the success rates, to reduce administrative burdens** to get more industries on board. **Introduce higher flexibility in the calls.**
4. **Use existing good practices** in PPPs, JTIs or EIT KICs to measure or evaluate impact (“Hard” or “Soft” KPIs)
5. Need for **systemic innovation to transform whole systems through an interdisciplinary approach** – KETs must be maintained as building blocks of European R&D funding, (Siemens calls these “CCTs” – e.g. Cybersecurity as one of them). *(We welcome that Cybersecurity & Artificial Intelligence are added as new KETs but feel that “Simulation & Digital Twin” and some important energy related KETs e.g. “power electronics” are missing)*
6. **Right framework conditions for innovation are needed: a more risk-taking culture, skilled labor force and an innovation-friendly regulatory environment.** Consistent application of the “**Innovation Principle**”
7. **For mission-driven R&D, often regulatory/policy initiatives will be needed to stimulate the introduction of new technologies or the phasing out of older ones**, e.g. more polluting technologies, when addressing Climate Change (e.g. EPS of 550 g CO₂/KWh).
8. Enhanced **coordination/synchronization of EU R&D&I work programs** (H2020/ FP9) and Structural & Cohesion funds (ESIF) & EFSI (Juncker Plan) **with national and regional efforts** (especially for mission-driven R&D)

A nighttime panoramic view of Budapest, Hungary, featuring the illuminated Chain Bridge and the Parliament Building. The scene is overlaid with a digital network of white dots and lines, and several red concentric circles representing signal waves emanating from various points in the city.

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**We look forward to a
fruitful cooperation !**