Innovation – that’s how Siemens shapes the future

5.2 billion €
R&D expenditures\(^1\)

38,000
R&D employees\(^1\)

7,400
Inventions\(^1\)

3,600
Patent applications\(^1\)

>1,200
Collaborative projects\(^1\)

8
CKI universities\(^2\)

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1 In FY 2017
2 Centers of Knowledge Interchange
Drivers of university collaboration

<table>
<thead>
<tr>
<th>R&amp;D/Innovation</th>
<th>Training on Siemens products</th>
<th>HR/Talent Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Access to latest academic trends and cutting edge research</td>
<td>• Training of next generation engineers</td>
<td>• Positive employer branding on campus</td>
</tr>
<tr>
<td>• Source for Open Innovation</td>
<td>• Positive product branding</td>
<td>• Build up a talent pipeline</td>
</tr>
<tr>
<td>• Strengthening of Siemens innovative power</td>
<td></td>
<td>• Hire the right fresh outs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Co-creation of curricula</td>
</tr>
</tbody>
</table>

Connection of industry and academy and promotion of research and recruiting activities
Our global network of strategic partner universities

8 CKI Universities

- Technical University of Munich, Germany
- Technical University of Berlin, Germany
- RWTH Aachen University, Germany
- Friedrich-Alexander-University (FAU) Erlangen-Nuremberg, Germany
- University of California Berkeley, USA
- Tsinghua University, Beijing, China
- Technical University of Graz, Austria
- Georgia Institute of Technology (Georgia Tech), USA

+ 17 Principal Partner Universities
Four intermediaries in a CKI partnership

<table>
<thead>
<tr>
<th>University</th>
<th>Siemens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive level</td>
<td></td>
</tr>
<tr>
<td>CKI director</td>
<td>Management sponsor</td>
</tr>
<tr>
<td>Working level</td>
<td></td>
</tr>
<tr>
<td>CKI manager</td>
<td>UR manager (R&amp;D / HR)</td>
</tr>
</tbody>
</table>
Innovative approaches to tap the university innovation ecosystem

Global University Challenge “Automation meets Edge”
Starting May 2018

Hardtech Entrepreneurship Course at DTU Copenhagen
February 2018

Siemens-Class at TU Graz
2017-2018

Industrial Cyber Security Hackathon at RWTH Aachen
October 2017
Key challenges to university-industry cooperation and some policy suggestions

Challenges

- Still high level of misunderstanding and mistrust
- Different incentive systems
- Different time scales
- High bureaucratic overhead (partner selection, proposal writing, contract negotiations, reporting)
- IP considerations often hinder collaboration
- Universities often lack “unique selling proposition”

Policy suggestions

- Establish professional cooperation facilitators
- Make non-scientific achievements part of the evaluation for new academic positions
- Support secondments from U to I and vice-versa
- Two-stage proposals for funding programs (e.g. BMBF)
- Introduce innovation challenges (similar to DARPA challenge)
- Support feasibility studies with short evaluation, short runtime, little overhead (e.g. Innovate UK)
- Do not make patents a general KPI for universities
- Higher basic funding of research institutes and stronger role of management