Cracow – Science – Industry.

Links for effective economy

Radosław Rudź, PhD
Centre for Technology Transfer CITTRU
Jagiellonian University
Jagiellonian University overview

The oldest university in Poland

One of the oldest universities in the world

One of the best universities in Poland

One of the biggest universities in Central Europe: 45 000 students

One of the widest educational offer in Poland:

- 16 faculties
- over 150 study programmes

Our famous graduates include:

astronomer Nicolaus Copernicus
and Pope John Paul II

Poet Wisława Szymborska, later Nobel Laureate in Literature, studied at the Jagiellonian University
International collaboration

Over:

300 bilateral agreements with universities worldwide
1500 Erasmus+ agreements
2000 international students
1000 foreigners participating in short-term programmes

Networks

- AUCSO
- Baltic University Programme
- COIMBRA Group
- European University Association
- EUNIS
- EUROPÆUM
- SAR
- The Guild
- Una Europa
- Unitown
- UTRECHT Network
Jagiellonian University – leading research fields

Medical sciences (drug discovery, medical diagnostics)

Life sciences (chemistry, biotechnology, earth sciences)

Technical sciences (physics, mathematics, IT, SOLARIS synchrotron)

Humanities and social sciences
Jagiellonian University

Situated in Kraków (Malopolska region):

• ca. **760 thousand** residents (**200 thousand** students)
• a dynamic research and development centre (**23 HEI**, R&D centres: ABB, Google, IBM, Motorola, Delphi)
• 1st in Poland as a place for business services sector (BPO/SSC)
• one of the **10 most attractive** cities in the world for outsourcing investments ("Top 100 Outsourcing Destinations Report 2013")
• leading tourist destination: 9.25 m. tourists, the European Capital of Culture (2000), the European City of Literature (2013)
Ecosystem of innovation

- Life Science Cluster
- Solaris Synchrotron
- Other Universities
- Business partners
- Public administration (City of Kraków, Małopolska Provincial Office)
- Jagiellonian Centre for Experimental Therapeutics
- Malopolska Centre for Biotechnology
- Special Economic Zone
- University start-ups
- Academic Entrepreneurship Incubator
- Technology Parks
- SOCIETY
Jagiellonian University - the sole Polish and Eastern Europe university included to prestigious group of 100 most innovative European universities.
Source of innovations in companies?

EXHIBIT 2 | Strong Innovators Cast a Wide Net

How often do new projects and ideas for growth generally come from each of the following sources?

% of respondents selecting “Often” and “Very often”

<table>
<thead>
<tr>
<th>Source</th>
<th>Strong Innovators</th>
<th>Weak Innovators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal sources</td>
<td>78</td>
<td>33</td>
</tr>
<tr>
<td>Competitive intelligence</td>
<td>72</td>
<td>32</td>
</tr>
<tr>
<td>Strategic partnership (company)</td>
<td>66</td>
<td>22</td>
</tr>
<tr>
<td>Strategic partnership (academia)</td>
<td>64</td>
<td>15</td>
</tr>
<tr>
<td>Incubator</td>
<td>62</td>
<td>13</td>
</tr>
<tr>
<td>Customer suggestions</td>
<td>70</td>
<td>26</td>
</tr>
<tr>
<td>Employee ideation forums</td>
<td>68</td>
<td>15</td>
</tr>
<tr>
<td>Suppliers or vendors</td>
<td>65</td>
<td>21</td>
</tr>
<tr>
<td>External firms we hire to generate ideas</td>
<td>62</td>
<td>21</td>
</tr>
<tr>
<td>Customer complaints</td>
<td>57</td>
<td>26</td>
</tr>
<tr>
<td>Acquisitions or licensing deals</td>
<td>63</td>
<td>18</td>
</tr>
<tr>
<td>Social network or big data mining</td>
<td>65</td>
<td>14</td>
</tr>
</tbody>
</table>

To search *(and hopefully find)* for effective ways of developing and transmitting knowledge for the *public good*
R&D spendings by Polish companies in 2018 [bln USD]*

CD PROJEKT  0.0418
Synthos  0.0116

Asseco Polska  0.0195
Mabion  0.0106

* - The 2018 EU Industrial R&D Investment Scoreboard
R&D spendings in 2018 – top global companies [bln USD]*

- **Amazon**: 22.6
- **Alphabet**: 16.2
- **Samsung**: 15.3
- **Microsoft**: 12.3
- **Apple**: 11.6
- **Johnson & Johnson**: 10.6
- **Toyota**: 10.0
- **Pfizer**: 7.7

* - Ranking of the 20 companies with the highest spending on research and development in 2018 (www.statista.com)
There is still a lot of work to do...

So... what we do?
Contract research for business and public institutions

Local and regional impact:

• **Centre for Evaluation and Analysis of Public Policies**: reports and evaluation for the government, NGOs, Małopolska and the City of Kraków

• **Institute of Geography**: research and services for national parks and environmental institutions

• **Faculty of Physics, Astronomy and Applied Computer Science**: air quality monitoring installed in a few neighbouring municipalities

• **Social faculties**: supporting social activity and integration of excluded groups
Joint projects - examples

- Joint research project with Waterworks Kraków for more efficient water purification (including specified pollution – e.g. medicines)
- Cooperation between Kraków and 8 universities for disabled students – improvement of their quality of life
- Environmental monitoring and education (air pollution monitoring, Jagiellonian University Apiary)
Start-ups

- **Mar Cel Li Adv Tech** - technological start-up developing electrode material manufacturing technology as well as electrolytes designed for applications in lithium-ion batteries (Li-ion), used in the Energy Storage Systems (ESS) and in electromobility (xEV)
Jagiellonian Centre for Innovation

- Company owned by Jagiellonian University
- Mission:
  - Management of the Life Science Technology Park (infrastructure for science-industry cooperation)
  - Services for life sciences: rental of specialised laboratories, financial support for innovative companies, contract research (incl. clinical trials), educational initiatives
Innovative „safari” – how does it work

Main topic is determined – 2019: energy efficient construction, renewable energy sources

SME companies are taken to universities

Discussion between science and business

Cooperation – joint research project/contract research/expertise/tech transfer

Free of charge
SME just apply and come
Organisation – Małopolska Region

photo: Herbert Aust
Centre for Technology Transfer CITTRU

www.cittru.uj.edu.pl
sciencemarket.pl
cittru@uj.edu.pl

phone. +48 12 664 42 07,
radoslaw.rudz@uj.edu.pl