Flemish strategy for research careers

focus on

→ Intersectoral Mobility

→ Academic careers

overall approach needed
International comparison of # doctorate holders compared to reference population (25-34 year)

Source: ECOOM, Vlaams Indicatorenboek 2017
Intersectoral mobility
Intention for intersectoral mobility amongst junior researchers

Source: ECOOM-Belspo, CDH-survey 2013 (Belgium)
Sector of employment 3 yrs after Phd (graduates 1990-2009)

- Natural sciences (863)
  - University (39%)
  - Industry (18%)
  - Government (9%)
  - Service sector (8%)
  - Public research institution (7%)
  - HE outside university (6%)
  - Hospital (5%)
  - Private non-profit sector (3%)
  - Non-higher education (2%)
  - Other business sector (2%)

- Engineering (518)
  - University (39%)
  - Industry (18%)
  - Government (9%)
  - Service sector (8%)
  - Public research institution (7%)
  - HE outside university (6%)
  - Hospital (5%)
  - Private non-profit sector (3%)
  - Non-higher education (2%)
  - Other business sector (2%)

- Medical sciences (420)
  - University (39%)
  - Industry (18%)
  - Government (9%)
  - Service sector (8%)
  - Public research institution (7%)
  - HE outside university (6%)
  - Hospital (5%)
  - Private non-profit sector (3%)
  - Non-higher education (2%)
  - Other business sector (2%)

- Social sciences (368)
  - University (39%)
  - Industry (18%)
  - Government (9%)
  - Service sector (8%)
  - Public research institution (7%)
  - HE outside university (6%)
  - Hospital (5%)
  - Private non-profit sector (3%)
  - Non-higher education (2%)
  - Other business sector (2%)

- Agricultural sciences (283)
  - University (39%)
  - Industry (18%)
  - Government (9%)
  - Service sector (8%)
  - Public research institution (7%)
  - HE outside university (6%)
  - Hospital (5%)
  - Private non-profit sector (3%)
  - Non-higher education (2%)
  - Other business sector (2%)

- Humanities (229)
  - University (39%)
  - Industry (18%)
  - Government (9%)
  - Service sector (8%)
  - Public research institution (7%)
  - HE outside university (6%)
  - Hospital (5%)
  - Private non-profit sector (3%)
  - Non-higher education (2%)
  - Other business sector (2%)

Source: ECOOM-Belspo, CDH-survey 2013 (Belgium)
Link between current job and PhD

<table>
<thead>
<tr>
<th>University</th>
<th>10 years</th>
<th>5 years</th>
<th>3 years</th>
<th>1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closely related</td>
<td>78%</td>
<td>76%</td>
<td>77%</td>
<td>79%</td>
</tr>
<tr>
<td>Partially related</td>
<td>20%</td>
<td>19%</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>Not related</td>
<td>3%</td>
<td>6%</td>
<td>4%</td>
<td>3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outside university</th>
<th>10 years</th>
<th>5 years</th>
<th>3 years</th>
<th>1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closely related</td>
<td>25%</td>
<td>29%</td>
<td>32%</td>
<td>34%</td>
</tr>
<tr>
<td>Partially related</td>
<td>42%</td>
<td>40%</td>
<td>40%</td>
<td>41%</td>
</tr>
<tr>
<td>Not related</td>
<td>33%</td>
<td>31%</td>
<td>29%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Source: ECOOM-Belspo, CDH-survey 2013 (Belgium)
continuing challenges

- Realistic expectations from the start
- Match skills non-academic & academic world
- Investigate PhD internships in profit & non-profit sector
- Look into Baekenland PhD’s
- Stimulate entrepreneurship
- Monitor systematically ECOOM, SERV, OESO
- ...

Academic careers
Increased success rate FWO grants

- Increased research Budget 2017
  - Research Foundation Flanders (FWO): + 30 mio euro
  - University Research Fund (BOF): + 10 mio euro

- Optimalisation FWO selection and evaluation procedure
  - Focus on excellent research and researchers
  - Transparant and efficiënt procedures
  - Based on international best practices
  - Aim to optimalisze success rates from +- 20% to 33%
  - Clear division between fundamental and strategic research applications

Continuing challenges

- Excellence in research
- Qualitative support for Young researchers
- Increased international Mobility
- Gender aspect researchers and research
- ...

Source: ECOOM, Vlaams Indicatorenboek 2017
Flemish policy
Actions and future plans
Policy action plans

- **Brain gain - Attracting talented students from abroad** *(VARIO)*
  - In collaboration with stakeholders (VLIR, department of Education, industry, VDAB)
  - 5 December 2017 presentation

- **Flemish action plan on the Mobility of researcher and teaching staff** *(EWI & OV)*
  - In collaboration with stakeholders (VLIR, expert group, industry, etc.)
  - In collaboration with other policy departments/cabinets (Education, Foreign affairs, etc.)
Support programme for young researchers

- Yearly EUR 4 mio

- Policy objectives
  - Training young researchers (doctoral schools)
  - Career development and opening up career perspectives
  - Reinforcement of the international orientation of researchers’ careers
  - Collaboration within Flanders regarding these objectives
Policy evaluations 2018

- **University Research Funding (BOF)**
  → June 2018

- **Support Young Researchers (OJO)**
  → June 2018

- **Research Foundation Flanders (FWO)**
  → December 2018

- **Expertise Centre for Research & Development monitoring (ECOOM)**
  → December 2018
Thank you

Please do not hesitate to contact me...

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Researchers’ careers

- Overall approach is needed

- Support programme young researchers
  - Career support
  - Transferable skills

- Increasing intersectoral mobility
  - Internships in profit & non-profit sector
  - Change attitude & expectations
  - Mobility from industry to university

- Increase Baekenland PhDs

Researchers’ careers

- Increase innovation capacity
- Include gender aspect in policy concerning research careers
- Balance between temporary (postdoc) and permanent (ZAP) positions
- Increase #PhD’s
- Monitor systematically
  - ECOOM, SERV, OESO

Flanders’ investment in R&D
Share of different governments in total Belgian R&D budget in 2016

- Walloon Region: 8.85%
- French Community: 12.90%
- Brussels-Capital Region: 1.71%
- Federal Government: 21.83%
- Flemish Government: 54.71%

Source: Speurgids 2017 Ondernemen en Innoveren - EWI
International comparison of R&D budgets 2015, expressed in % GDP(R)

Source: Speurgids 2017 Ondernemen en Innoveren - EWI
International mobility

“Added value of mobility:
→ Opens the mind (solution oriented, multicultural sensitivity, critical mind, ...)
→ Stimulates independence, innovation and creativity, excellence and quality, networking
→ Increases career opportunities”

“Risks of mobility:
→ Large investment (financial, personnel, personal & family)
→ Mobility should not be a purpose in itself, quality control!
→ Balance between mobility and retention”

Source: Report “mobilising mobility”, June 2011
International mobility

- Research Foundation Flanders
  - Travel grants
  - International cooperation

- EURAXESS
  - https://euraxess.ec.europa.eu/belgium
Collaboration with industry

- **Baekenland programme**
  - Flanders Innovation & Entrepreneurship (VLAIO)
  - Cofinancing (public-private funds)
  - PhD training: excellent research, supervisor at the university
  - Research with a clear economic finality and an added value for the company involved

- **Innovation mandates (spin-off or in collaboration)**
  - VLAIO
  - Cofinancing (public-private funds)
  - Offer post-doctoral researchers the opportunity of effectively transferring their research results to industry or spin-off
  - Transfer of results to an existing or new (spin-off) company in Flanders
Evolution academic staff Flanders (FTE)

Source: ECOOM, Vlaams Indicatorenboek 2017
## Skills mismatch

<table>
<thead>
<tr>
<th>Skills they find important:</th>
<th>Industrial employers’ rank</th>
<th>Junior Researchers’ rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical skills</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Analytical thinking</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Scientific knowledge</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Research skills</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Taking initiative</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Project management</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Business skills</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Independence</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

*Source: R&D survey (ECOOM Leuven 2008); SJR (2009)*