Exchange of best practices of GEO education to meet changing labour market needs in Europe

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Lifelong Learning Programme

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About us...
Objective of our paper

To tackle the mismatch in quantity and quality of graduates we can learn from each other with examples from tools, insights and methods

SAGEO  GeoSkill Plus
The Netherlands

- In 2008 first signs of a mismatch between demands of GEO labour market and quantity and quality of students and graduates
- Establishment Geo Employment Market Foundation
Research Supply and Demand GEO Labour Market in NL 2008

• Labour market in 2008
  – Yearly turnover ± 1.4 billion euros.
  – More than 15,000 full-time employees

• Labour market demands in 2008
  ± 125 graduate Vocational level
  ± 120 graduate Bachelor level
  ± 80 graduate Masters level

• Only 16 to 23% of this demand is realized
2008 Demand Geo Industry

**Industry:**
900 M€ turnover/yr
10,000 employees.
300 employers

**Government:**
465 M€ turnover/yr
4,650 employees

**Research:**
45 M€ turnover/yr
450 employees.

Geo Employment Market Foundation

Education with GEO components

80%

PhD

MSc

Ba

VET

20%

Education for GEO specialists

Source: Geo Employment Market Foundation 28 May 2009
Geo Employment Market Foundation Results

• Establishment of cooperation model
  – Private sector
  – Public sector
  – Education
• Awareness Raising Campaign ‘Go Geo’
• Closing the gap: New curricula and renewed programs
  – GI Minor
  – GeoMedia & Design
  – Surveying Program at VET level
Awareness Raising Activities in Netherlands
Survey 2008 - 2013

- Commissioned by Stichting Arbeidsmarkt Geo
- Performed by Bettine Erbé-Baas
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Introduction

• The research is important to form an image of the current and future labour market for graduates and young professionals.

• The survey focused on period 2010 – 2012

• Questions were asked about the current situation and about the expected situation for the coming 5 years.
Number of permanent employees stayed the same

Percentage of permanent employees

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%

- <10
- 10-50
- 51-100
- 101-250

- 2010
- 2011
- 2012

GEO Skills+
Temporary workers

- < 10 temporary employees: In the years 2010, 2011 and 2012, the number of temporary workers is declining.
- > 10 temporary employees: the numbers increased from 2010-2012.
- There were no companies with more than 50 temporary workers.
Development of percentage geo-professionals in companies.

There is a light increase since 2010.
Recruitment by level

Geo-professionals divided by level of education in the current situation and the expected situation in 5 years

- In all levels there is an increase expected.
- At Bachelor and Bachelor+ level the increase is expected to be the highest.
Geo vacancies/jobs

There is a slight increase in available vacancies

![Bar chart showing Geo-vacancies/jobs from 2010 to 2012. The number of vacancies increases from 2010 to 2012.](chart.png)
Years of experience asked in current vacancies

Work experience remains important. But there are more vacancies for graduates than experienced employers.
Expected skills from graduates

- VET’s don’t have to think strategic,
- Academics don’t have to know about basic registration and gathering data
- Bachelors should know about everything!
Lack off skills

<table>
<thead>
<tr>
<th></th>
<th>VET</th>
<th>Bachelor</th>
<th>Master</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic registrations, special B A G,</td>
<td>30%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>work with laserdata</td>
<td>30%</td>
<td>20%</td>
<td>0</td>
</tr>
<tr>
<td>ability to deal with object-oriented</td>
<td>30%</td>
<td>20%</td>
<td>0</td>
</tr>
<tr>
<td>customer-oriented and problem-</td>
<td>10%</td>
<td>40%</td>
<td>10%</td>
</tr>
</tbody>
</table>
Skills desired in the next 5 years

Skills that didn’t make the chart are: Remote sensing, Surveying (!!!), Visualisation and cartography, project managers capacities.

Skills that are a less desired (10/20%):

Commercial gis software/ Open Source GIS, data gathering, photogrammetry, Legal aspects, work with laserdata, work with point clouds, ability to deal with object-oriented data, structure large scale data, customer-oriented and problem-solving thinking, geodetic knowledge.
GEO SKILLS PLUS

GEO Education

Labour Market
European approach

GEO SKILLS PLUS will bundle and examine additional examples ..... 

• Of cooperation 
• Of raising awareness activities 
• Of bridging the gap activities 

... in Europe
The Work Packages

- Work package 1: Cooperation Model
- Work package 2: Awareness Raising
- Work package 3: Bridging the Gap
- Work package 4: Dissemination
- Work package 5: Project Management and Progress Reporting
Project Partners
Gap in European countries
Levels of cooperation

4 cooperation partners

• Business
• Government
• Education / Science
• Associations

• National AND European Level
VET - Three levels of surveying

Differences in VET throughout Europe

- Technician
- Bachelor
- Master
Awareness Raising

Two gaps to address

• Make sure that primary school pupils and high school students are aware of the field of work

• Make sure that the graduates at different levels have the right skills that are required to enter the labour market
CONCLUSION

With the dissemination of the Dutch insights and the first results of the European project this paper contributes to a more harmonized education community and labour market, worldwide.