



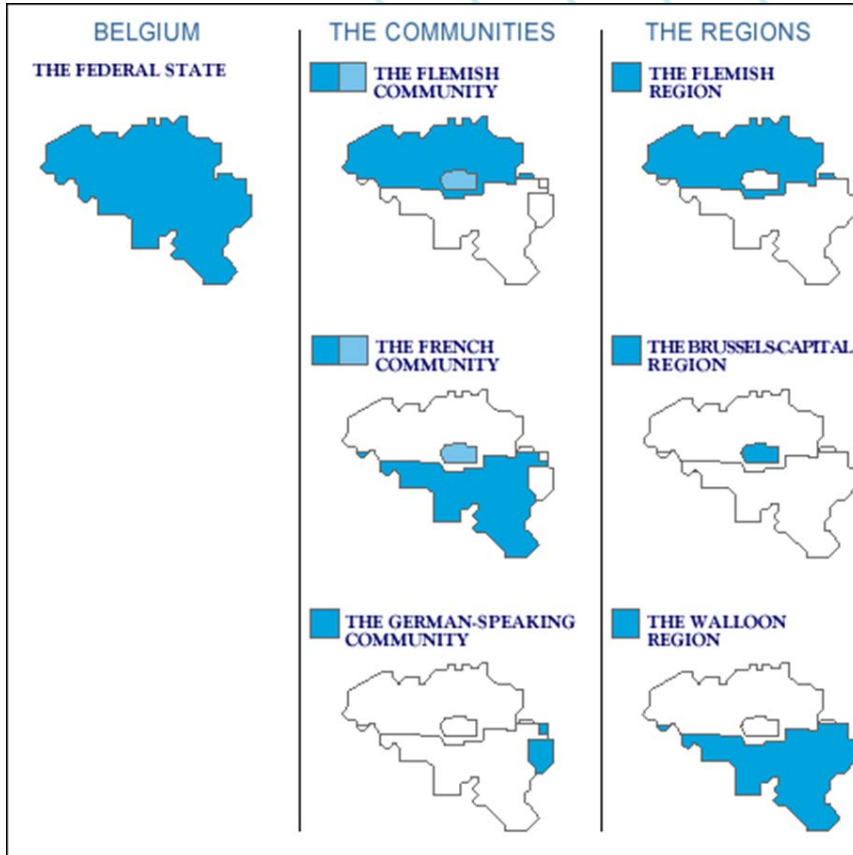
# Research Foundation - Flanders

31 March 2016

dr. Hans Willems  
Director Research Affairs

dr.ir. Isabelle Verbaeys  
Head International Affairs

# Belgian Science and Innovation Policy



## Primary responsibility of Communities/Regions

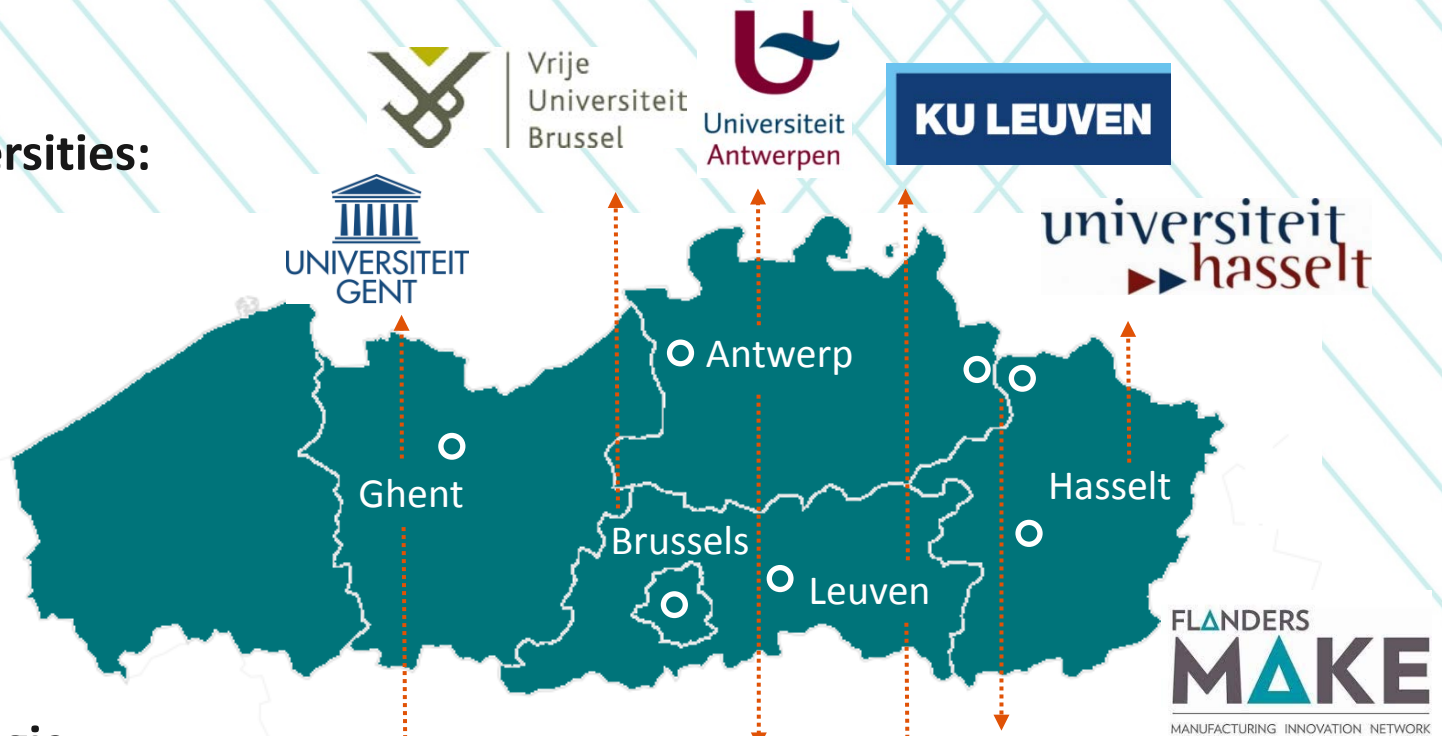
Communities: Education and basic research

Regions: Economy and applied research

Federal: Thematic programs including marine, space, and polar research (e.g. Station on Antarctica), federal scientific institutions

# Main Research Performing Centers

## World-Class Universities:

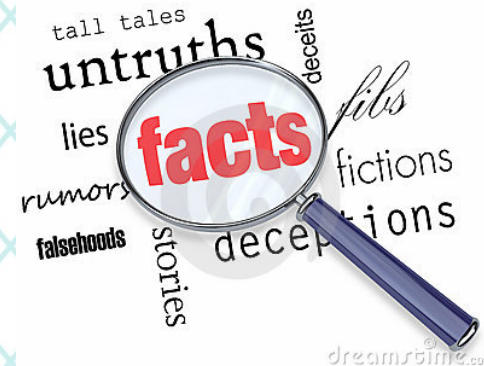


## Leading Strategic Research Centers:



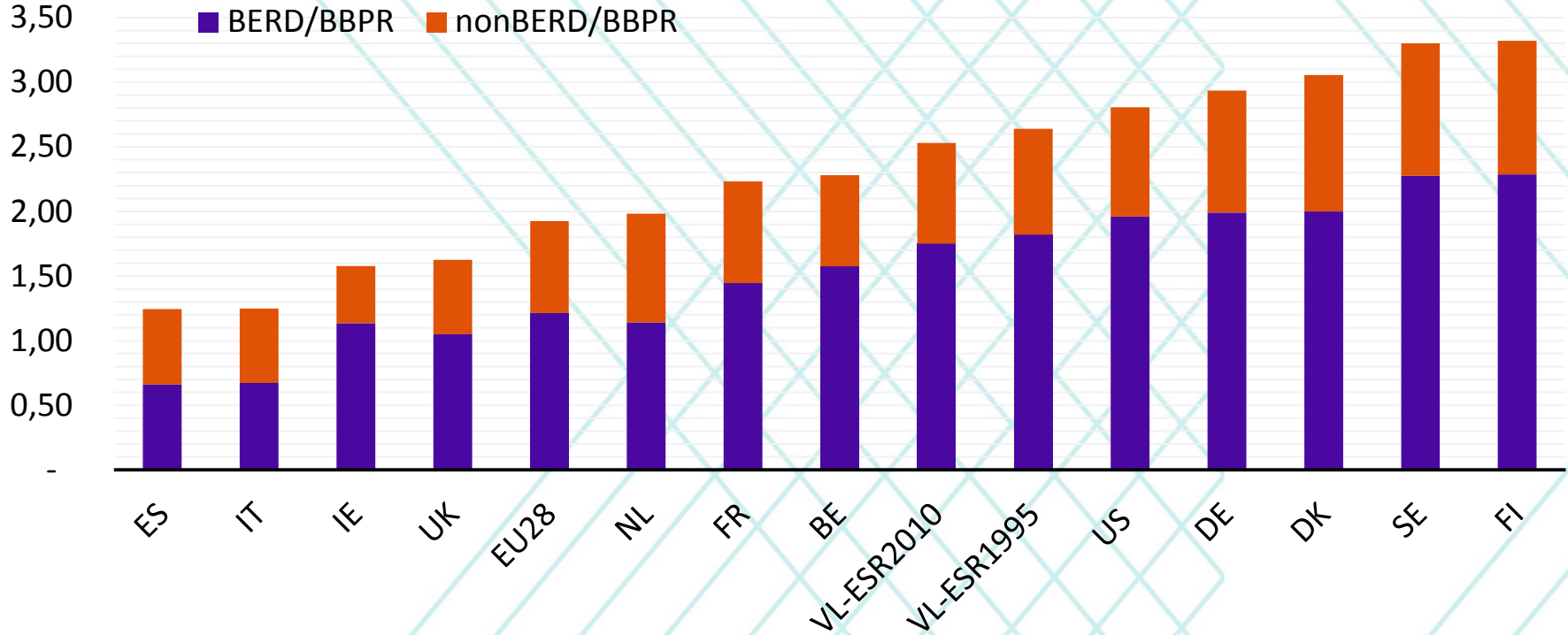
# Facts about Flanders

- Population: ca. 6.410.705 (on 01/01/2014)
- Number of R&D personnel (2013):  $\pm$  41.806 (or 0,65% population – 1,41% working force)
- Number of scientific papers:  $\pm$  1% world, or 22,19/10.000 inhabitants
- Number of EPO-patent applications (2011): 230,5/million inhabitants
- R&D-investments:  $\pm$  2,58 % GDP (2013)



3% norm

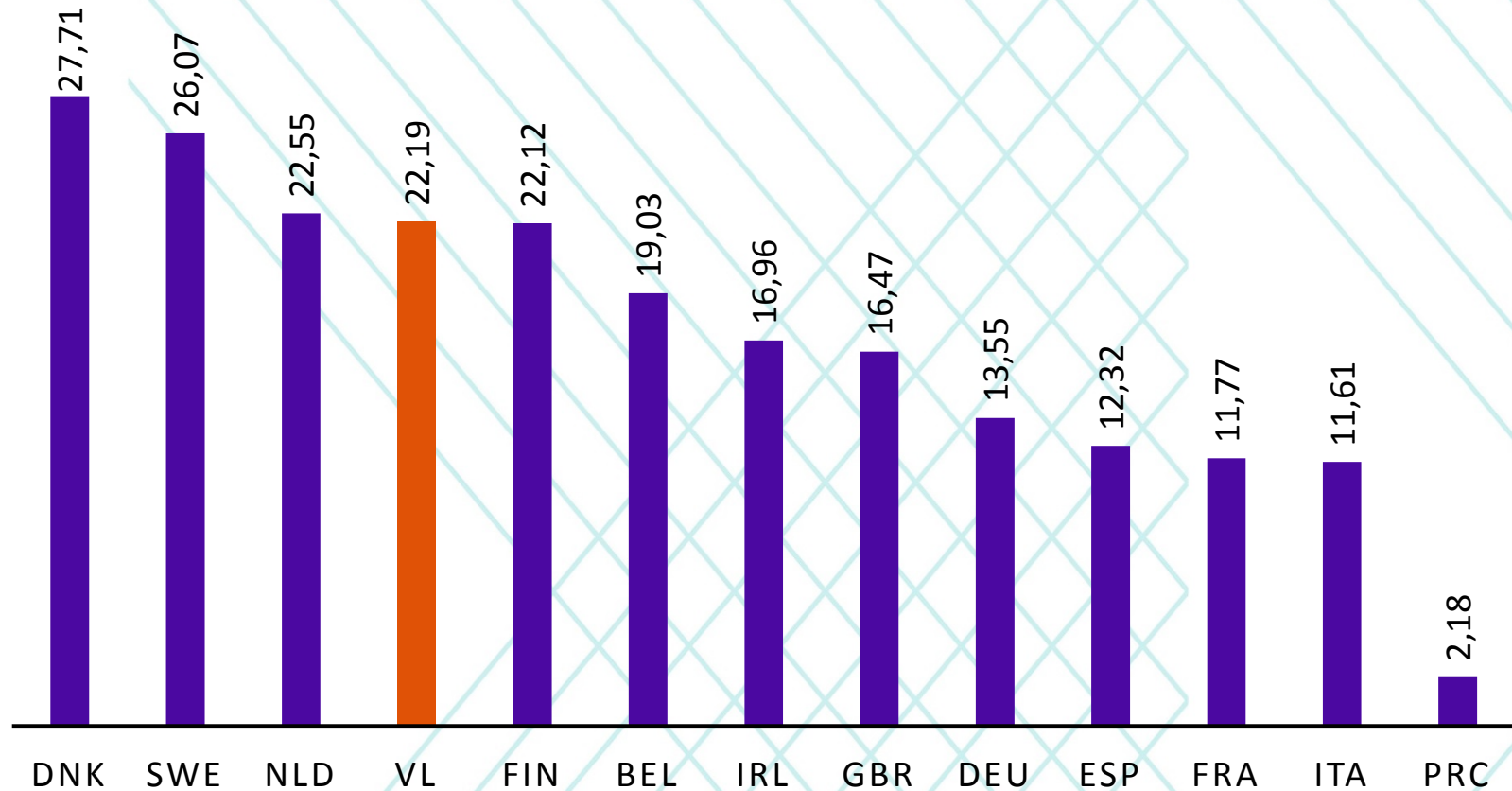
R&D-intensity (GERD as % GDP):  $\pm 2.58\%$  GDP (2013)



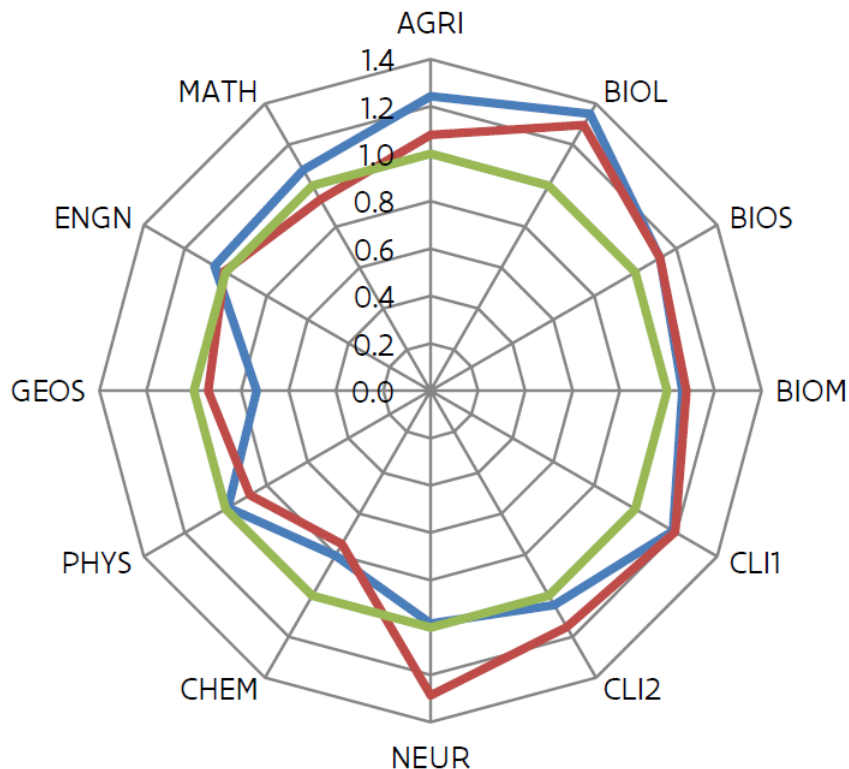
# Government Budget Appropriations or Outlays on R&D (GBAORD) in %GDP (2013)



# Publication Output per 10.000 Inhabitants



# Flemish Publication Output

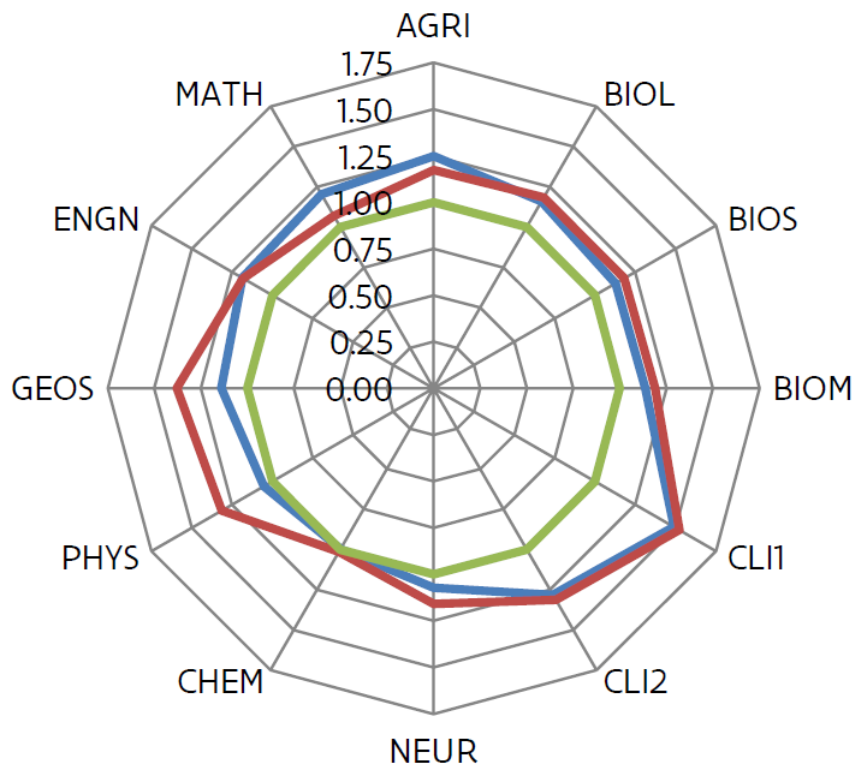


AGRI = Agronomy and Environmental Sciences  
 BIOL = Biology (at the organism and the supra-organism level)  
 BIOS = Life Sciences (general, cellular and subcellular biology, genetics)  
 BIOM = Biomedical Research  
 CLI1 = Clinical and Experimental Medicine (general and internal medicine)  
 CLI2 = Experimental Medicine II (non-internal)  
 NEUROS = Neurosciences  
 CHEM = Chemistry  
 PHYS = Physics  
 GEOS = Earth and Space Sciences  
 ENGN = Engineering  
 MATH = Mathematics

— 2002-2007  
 — 2008-2013  
 — World Standard



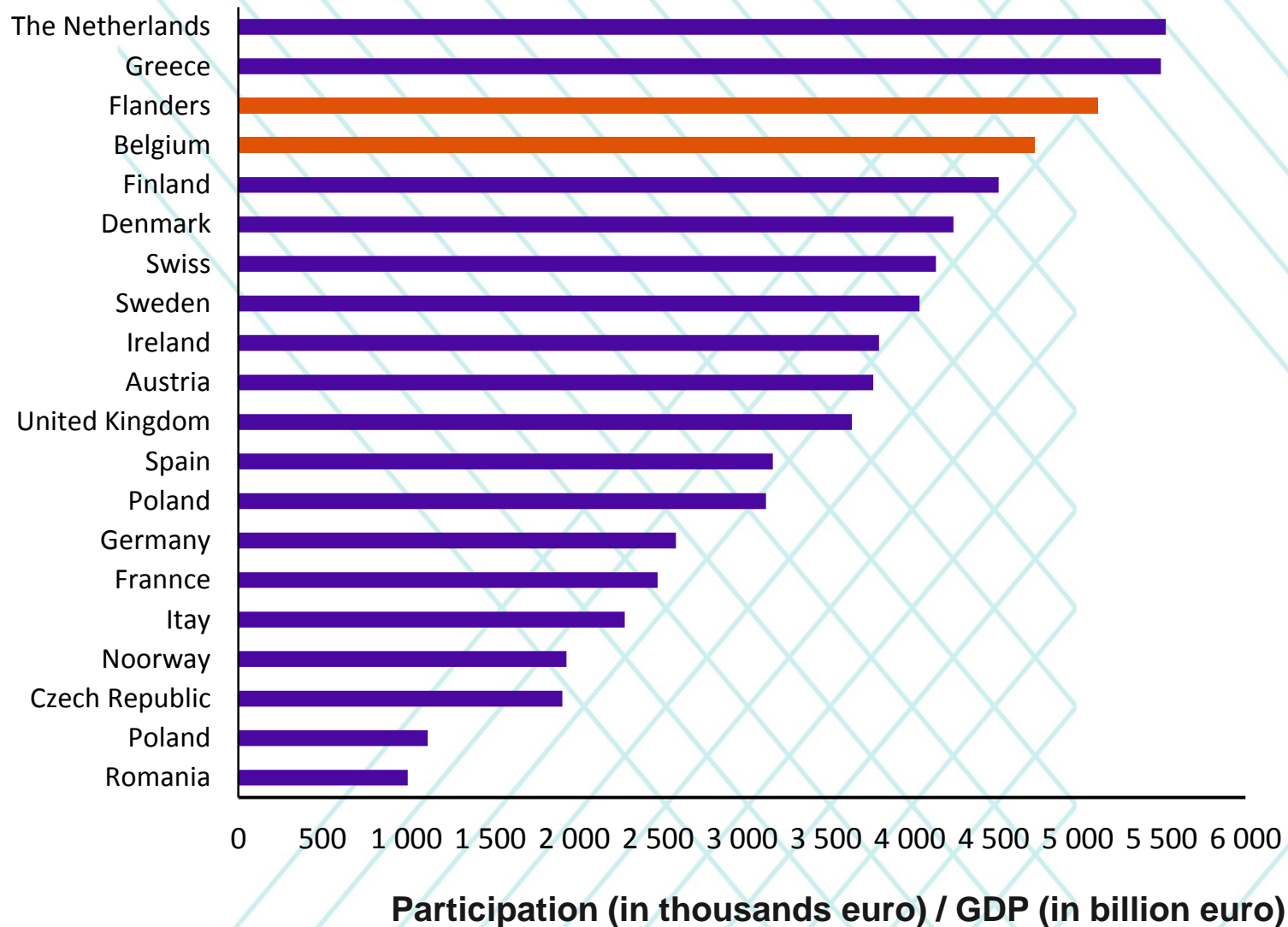
# Citation Frequency



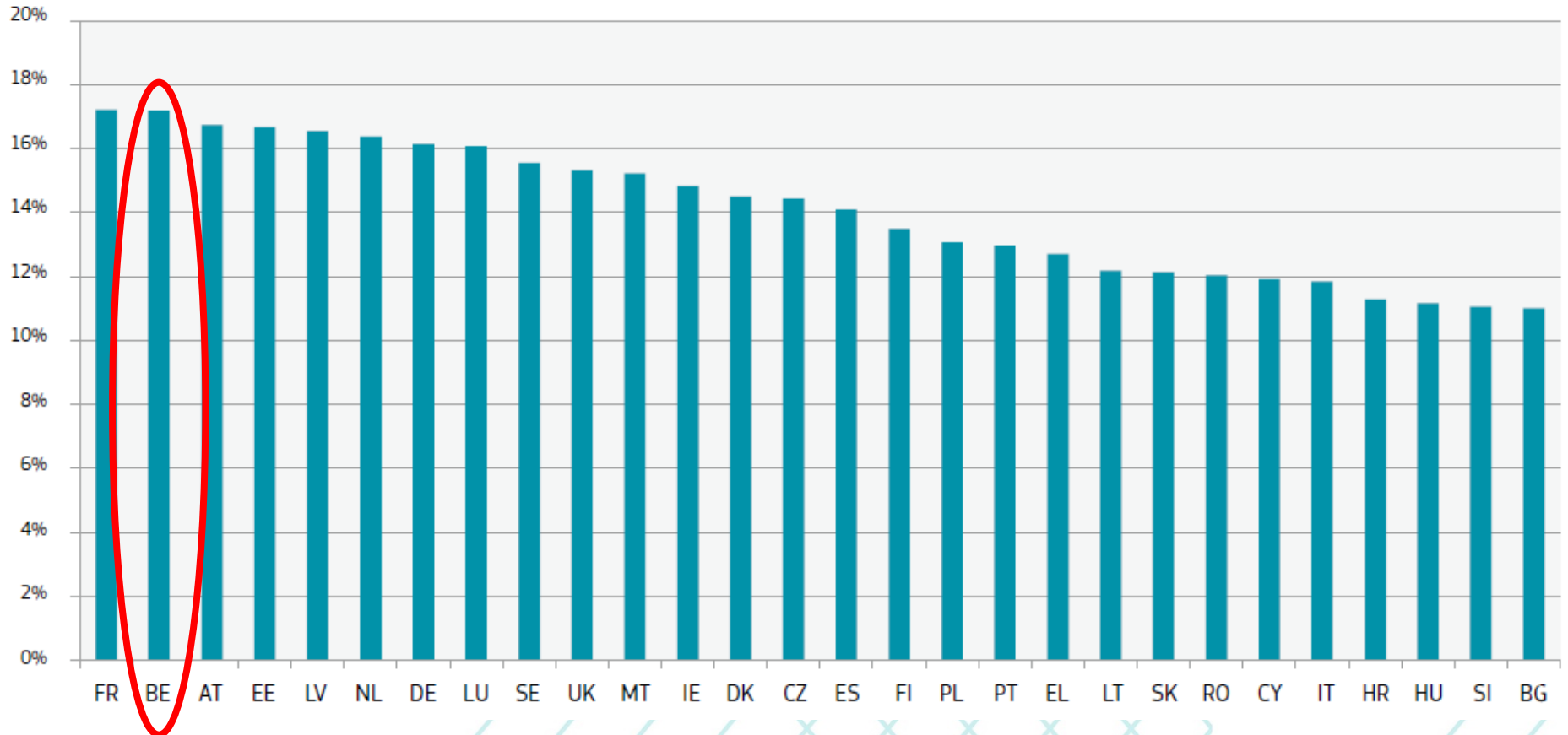
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— 2002-2007  
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# Flemish Participation in FP7 (per GDP)



# Success Rates for Applications to Horizon 2020 per EU Member State





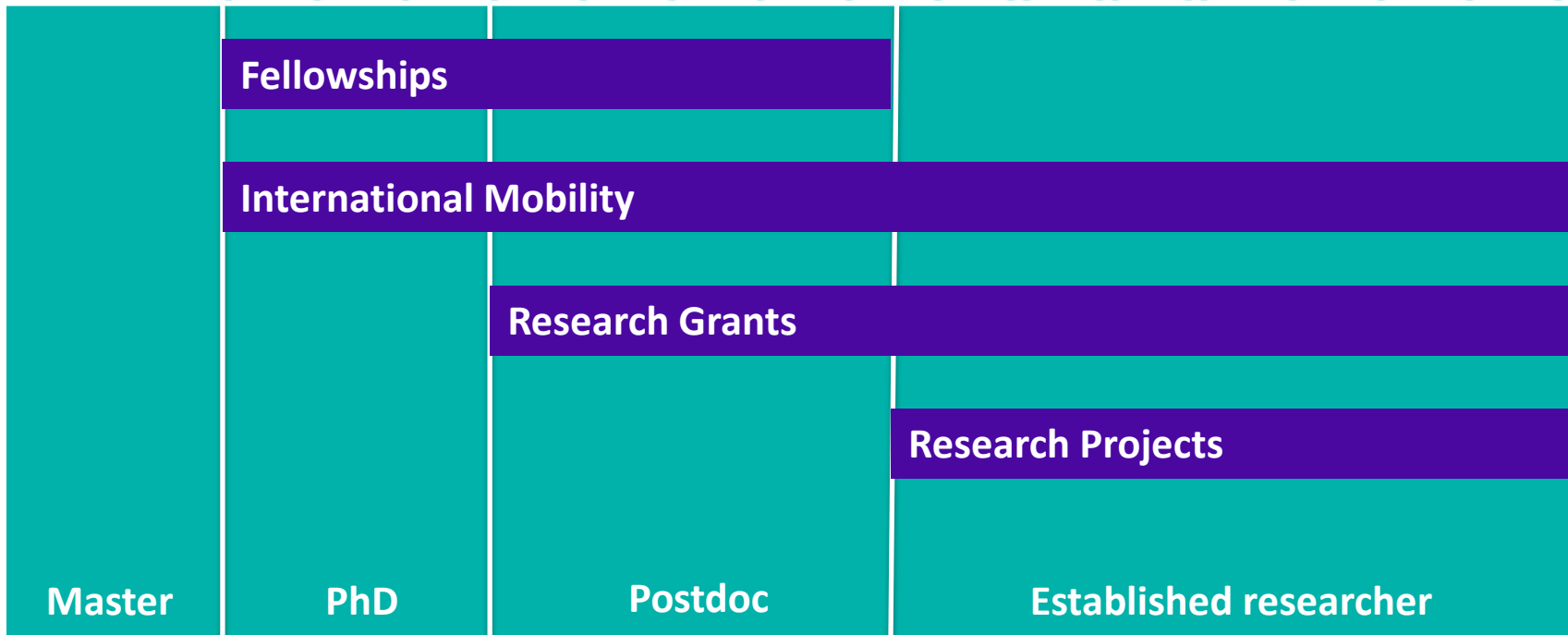
HR EXCELLENCE IN RESEARCH



# Research Foundation – Flanders (FWO)

[www.fwo.be](http://www.fwo.be)

# Main FWO Funding Schemes

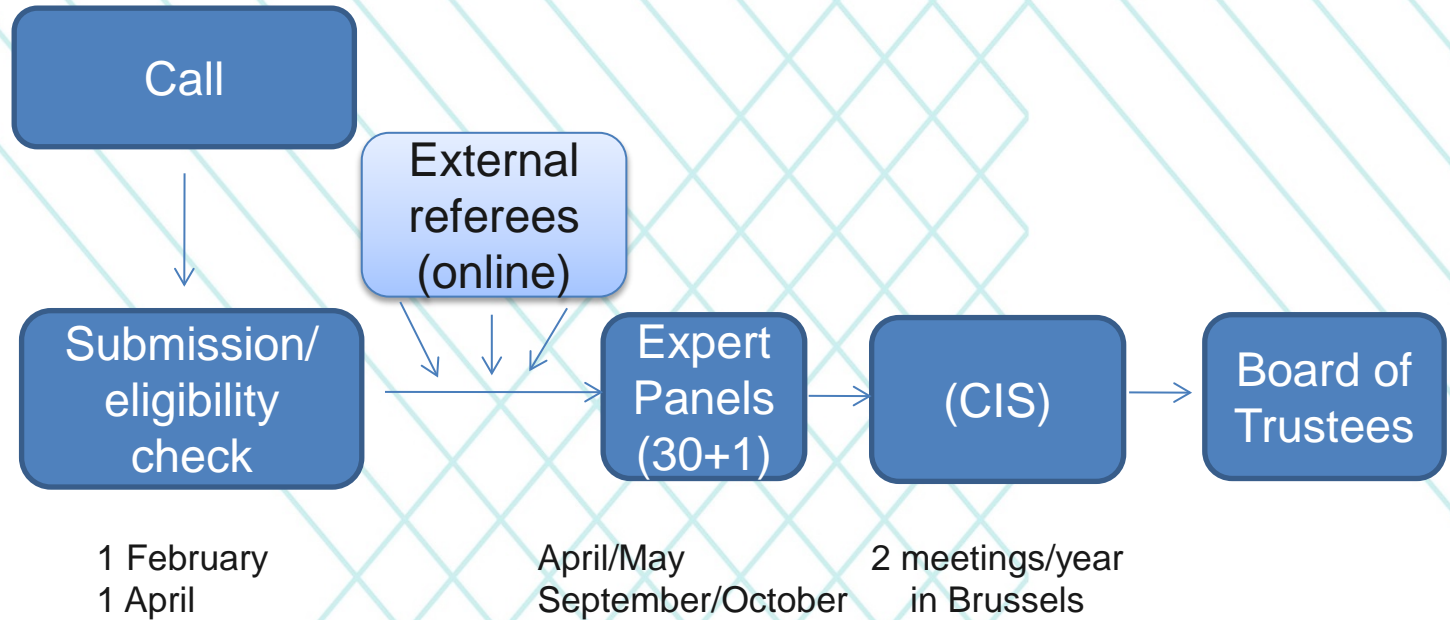


# Funding Schemes of FWO

- Funding for individual researchers
  - Pre- and postdoctoral fellowships including SB, bench fees and research grants
- Funding for research teams
  - Research projects including SBO and TBM, Big Science, Bilateral agreements, ...
- Infrastructure
  - Large and medium scale research infrastructure, Flemish Supercomputer Centre, ESFRI
- Supporting mobility, international contacts and collaborations
  - Travel grants, sabbatical leaves, scientific research communities, organisation of conferences in Belgium, international coordination actions, collaboration agreements, ...
- Attracting excellent researchers, active abroad, to Flanders
  - Odysseus, [PEGASUS]<sup>2</sup>
- Awarding scientific prizes

# The Application Procedure

**FWO E-Portal  
(www.fwo.be)**



Duration workflow fellowships: < 5 months  
Duration workflow projects: < 7 months

# Evaluation Procedure

- Excellence as main criteria
- International peer review
- Severe regulations to avoid Col
- Feedback procedure
- Evaluation panels:
  - 30 discipline-specific Expert Panels
  - + 1 Interdisciplinary Panel
  - International Collaboration Committee (CIWC)
  - Panel for International Collaboration (CIS)





# Research Foundation – Flanders

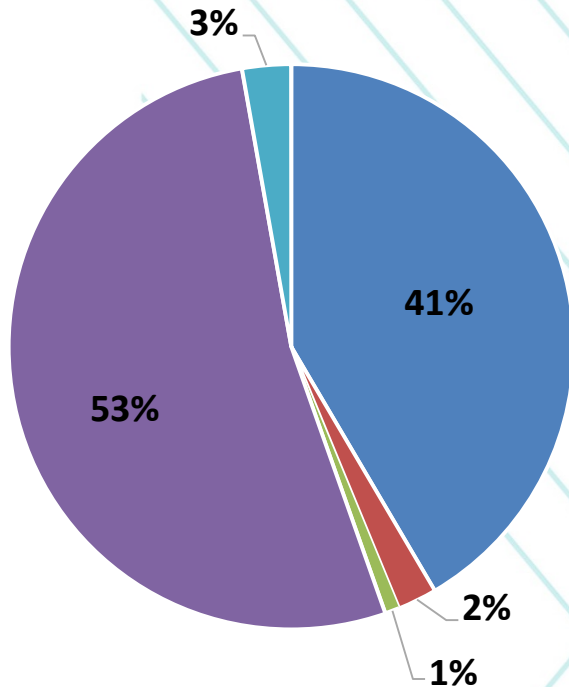
In 2015 FWO invested:

- 220 million EUR
- Approx. 1.700 individual fellowships
- Over 1.360 projects

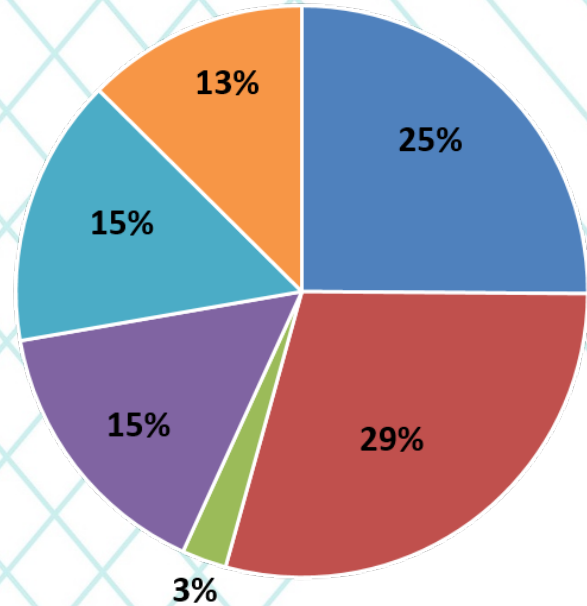
Budget 2016: 320 million EUR

- Basic Research: fellowships, projects, mobility, ...
- Strategic research (SBO/TBM/SB): 200 fellowships + projects
- Infrastructure

# Budget Allocation 2015



- Fellowships
- International contacts
- Research grants
- Research projects
- Administrative management



- Science & Technology
- Interdisciplinary
- Social Sciences
- Medical Sciences
- Humanities
- Biological Sciences

# Why internationalisation?

- Improving Flemish research community's international character (ERC prerequisite)
- Placing Flemish research in a broader perspective
- Coping with Flanders' "smallness"
- Guarding our research quality through international evaluation and peer review
- Collaboration with other funding agencies

- Wide range of funding opportunities to support and stimulate international mobility
- International peer review
- Open recruitment: European degree for predocs, no nationality restriction for postdocs
- Member of Science Europe / ESF/ Global Research Council
- NCP Horizon 2020 – Excellent Science, JRC, Societal challenge 6, ...

# International Mobility Funding Opportunities

- Participation in international conferences
- Short and long stays abroad
- Organising international conferences
- Sabbatical leaves
- Scientific research networks
- Long list of exchange and cooperation agreements with different countries

## Big Science

### LARGE INTERNATIONAL RESEARCH FACILITIES

Programme to support research at large, **international research facilities**. In 2012, 6 projects have obtained funding: CERN-CMS, CERN-ISOLDE, ESRF-DUBBLE, Icecube, Spiral II and the Mercator Telescope.



**Brain gain programme** of the FWO to attract promising postdocs and top researchers to Flanders. To date, 59 researchers have received an Odysseus grant, which covers start up funding for 5 years.



Programme of the FWO in cooperation with **MSCA COFUND** to attract excellent postdoctoral researchers to Flanders and increase **international mobility** of researchers in Flanders

## BILATERAL AGREEMENTS

Agreements with several foreign institutions for joint funding of **research and exchange projects**

# ODYSSEUS

- **Attracting Top Scientists to Flanders - Universities suggest candidates**
- **Start-up funding to develop a research group or to set up a research line at a Flemish university**

## Group I

- Internationally recognized leading researchers
- Budget: between € 400.000 and € 1.500.000 per year (max. 5 years)
- Permanent position at a university in the Flemish Community

## Group II

- Researchers with the potential to grow to a leading position
- Budget: between € 100.000 and € 200.000 per year (max. 5 years)
- Postdoctoral fellowship at a university in the Flemish Community

calls  
for

# [PEGASUS]<sup>2</sup>

Research Foundation - Flanders

Marie Skłodowska-Curie fellows

more information: [www.fwo.be](http://www.fwo.be)

**APPLICATION**

**DEADLINE**

**01/05/2016**

**INCOMING**

= 3 years

postdoctoral fellowship

- from abroad to Flanders

**OUTGOING**

= 3 years

postdoctoral fellowship

- from Flanders 2 years abroad
- 1 return year to Flanders

## [PEGASUS]<sup>2</sup> Marie Skłodowska Curie Fellowships

Prestigious Horizon2020 COFUNDED postdoctoral funding scheme

EU COFUND budget: € 6.372.000



## 3-year **INCOMING** fellowships:

- To attract excellent postdoctoral researchers to the Flemish Community
- To improve Flemish research and to stimulate internationalization of research

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*Fellowship/employment contract with attractive salary*

*Full social security and occupational accident insurance, travel and repatriation insurance*

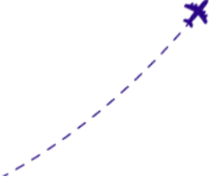
*Annual bench fee of €4.000 for research, training and research-related travel costs.*

*Mobility allowance and one-time return trip from/to Brussels*

*Career support at the Flemish host university and participation in training activities*

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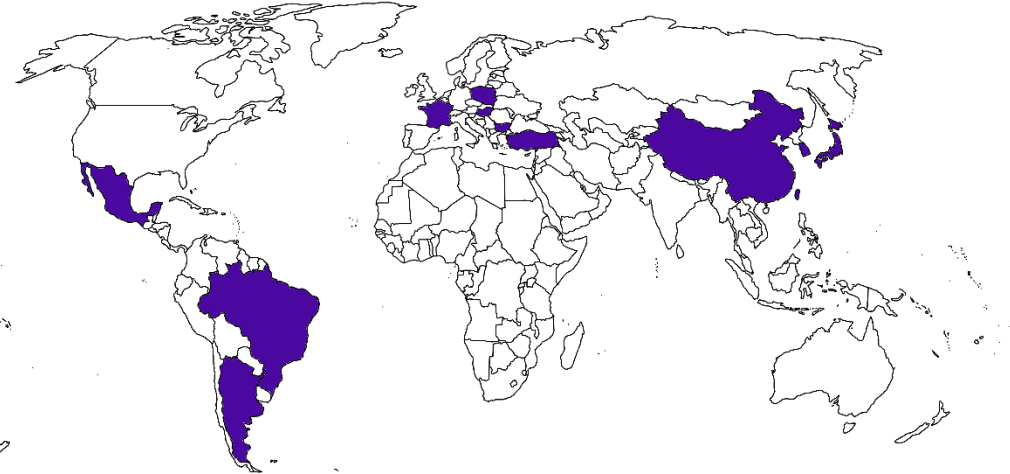
## 3-year **OUTGOING** fellowships: (first 2 years abroad – third return year)

- To boost the career of postdoctoral researchers in Flanders by gaining international research experience
  - To anchor the gained knowledge and expertise in Flanders
- 

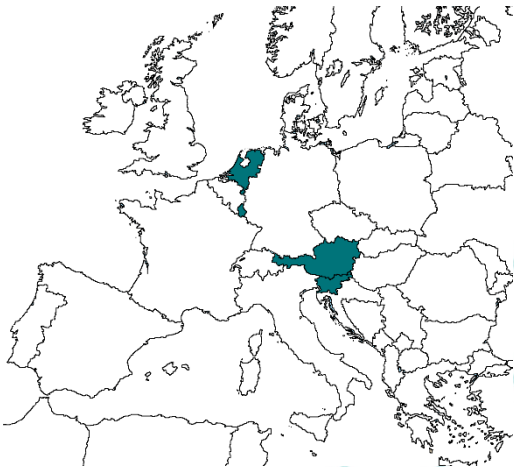
# Bilateral Agreements



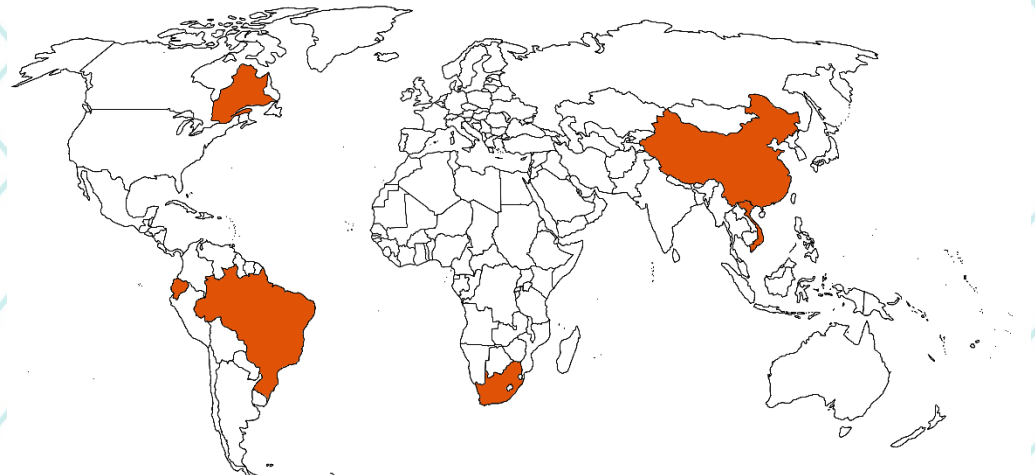
Exchange Agreements



Scientific Cooperations



Lead Agency Procedures



Bilateral Research Cooperations

# Scientific Exchange and Cooperation Agreements

- Phased approach
- Establish concrete partnership between countries
- Exchange of best practices
- Exchanging researchers
- Step-up to further bilateral research cooperation

## *Exchange agreements:*

- Czech Republic
- China
- Romania
- Slovakia
- Slovenia

## *Scientific cooperation:*

- Japan
- Bulgaria
- Poland
- China
- Brazil
- Argentina
- France
- South Korea
- Taiwan
- Turkey
- Mexico
- Hungary

# Bilateral Research Collaboration

- International collaboration in fundamental scientific research
- Agreements with partner organisations in non-EU countries (Research Councils, Government departments, ministries, ...)
- Selected countries / regions:
  - Québec
  - China
  - Vietnam
  - South Africa
  - Brazil
  - Ecuador
- Cooperation between equal partners
- Indicative annual budget: € 300 000 per country/region

# Lead Agency Procedure

- One agency responsible for evaluation
- Transparent procedures / mutual trust
- Results accepted by all partners
  - The Netherlands (NWO)
  - Luxembourg (FNR)
  - Austria (FWF)
  - Slovenia (ARRS)

# Lead Agency Procedure

