



Opening new horizons

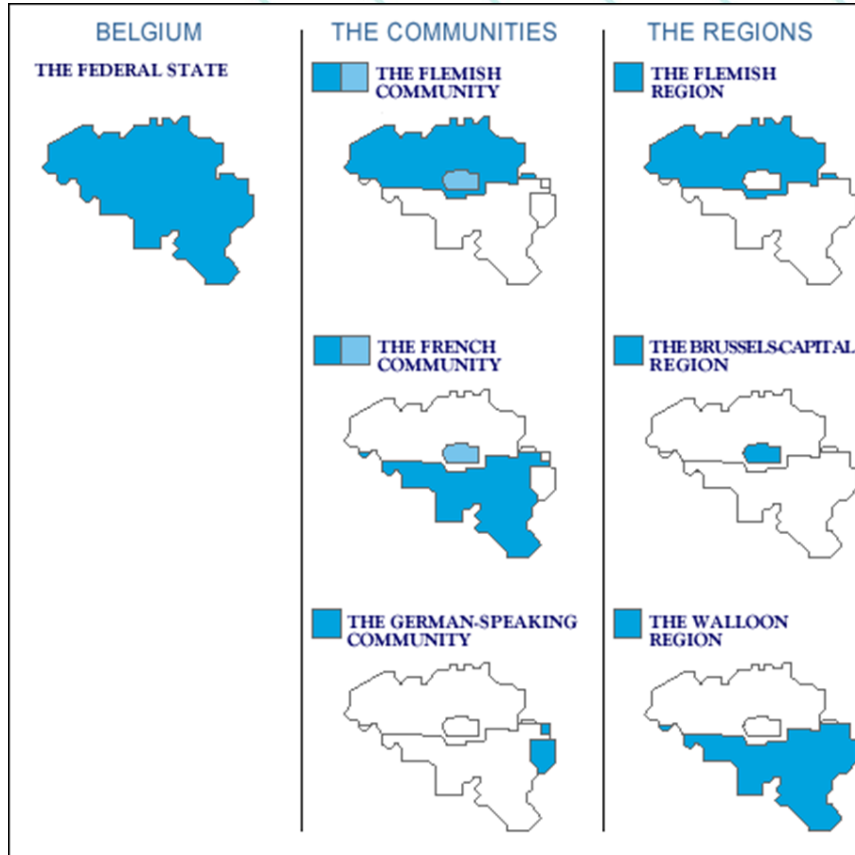
**Research Foundation – Flanders**

**Dr. Hans Willems**

21 april 2017

- Belgian Science Landscape
- Flemish Science Landscape
- FWO, Opening Horizons

# Belgian Science and Innovation Policy



## Primary responsibility of Communities/Regions

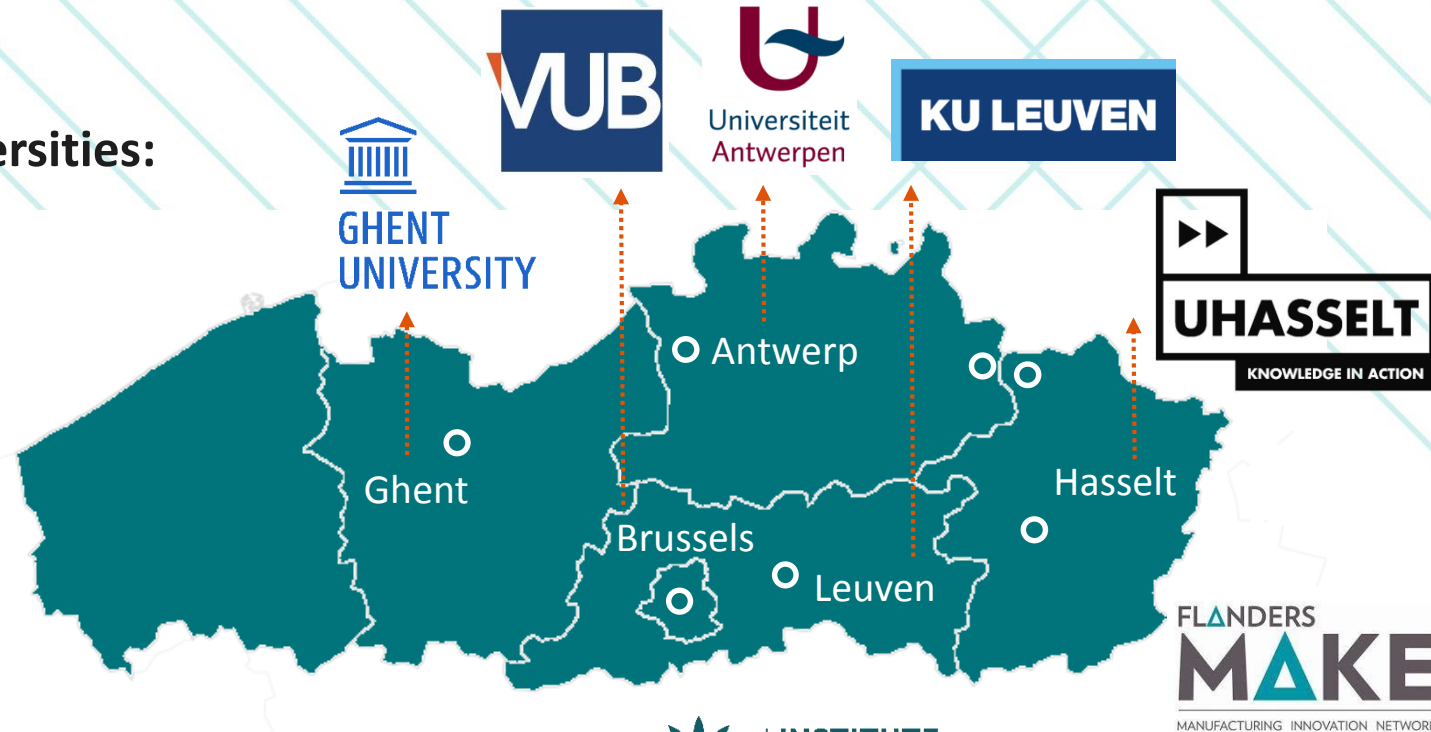
Communities: Education and basic research

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:

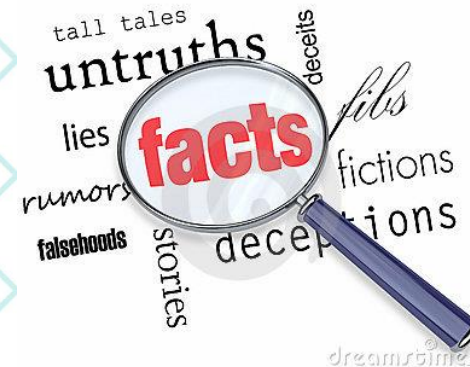


Leading (Strategic) Research Centers:



# Facts about Flanders

- Population: ca. 6.478.00 (2016)
- R&D-investments:  $\pm 2,46$  % GDP (2014) (**2,2 billion euro**)
- Number of R&D personnel (2014):  $\pm 44.077$  (or 0,69% population – 1,48% working force)
- Number of scientific papers:  $\pm 1$ % world (2013), or 24,3/10.000 inhabitants (2014)
- Number of EPO-patent applications (2012): 225,3/million inhabitants



# Main funding streams Flanders

## SINCE 01.01.2016:

- **FWO:**
  - Basic, non-oriented research (mainly at universities)
  - Strategic research (Former SB/SBO/TBM IWT programmes)
  - Research infrastructure (Before: Hercules)
- **BOF/IOF:** Basic funding for fundamental and industrial research
- **'Enterprise Flanders':** Applied and Industrial research

# Publication - EPO Patent Output

Figure 30: International comparison of the publication output per 10,000 inhabitants (2014)

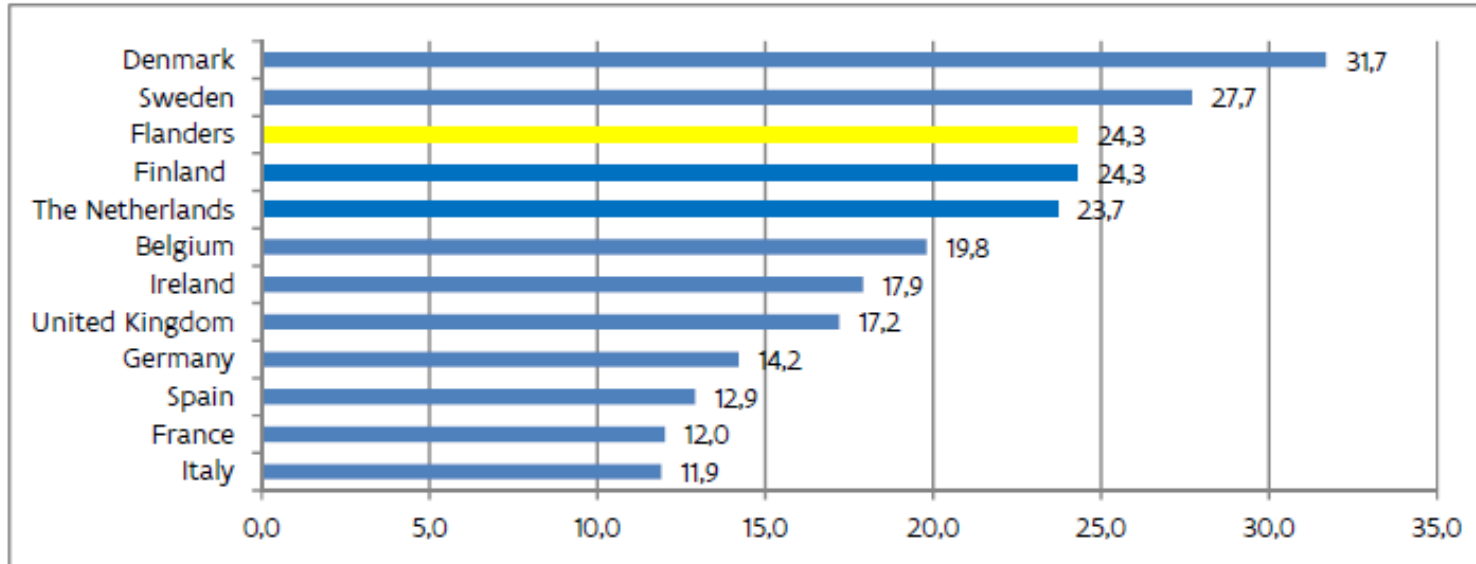
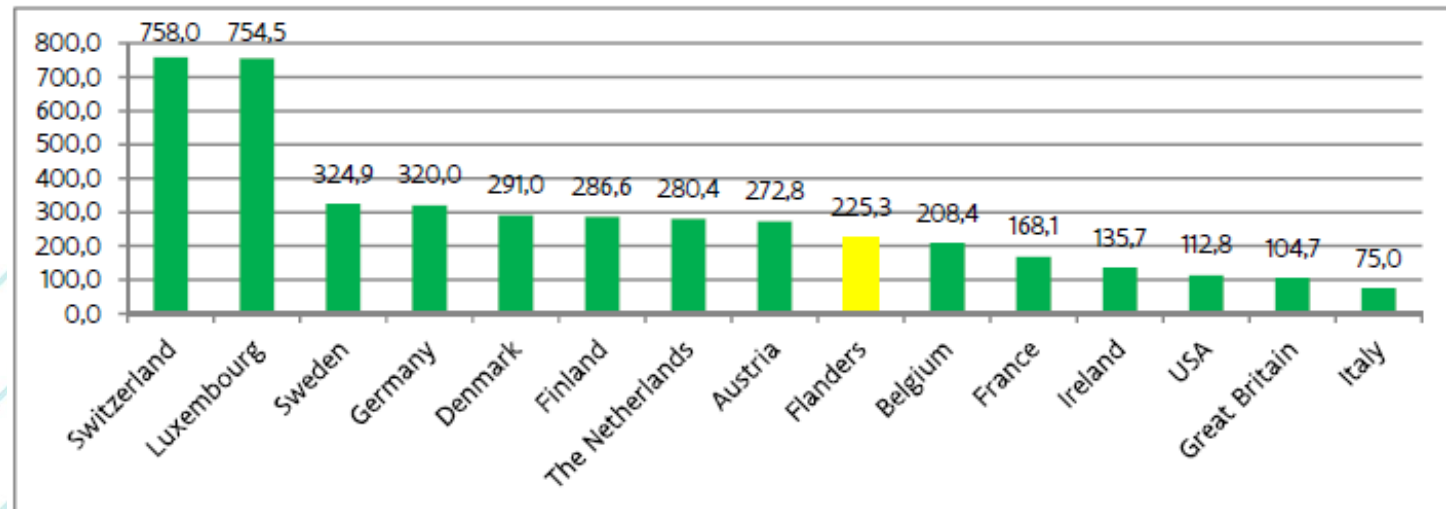


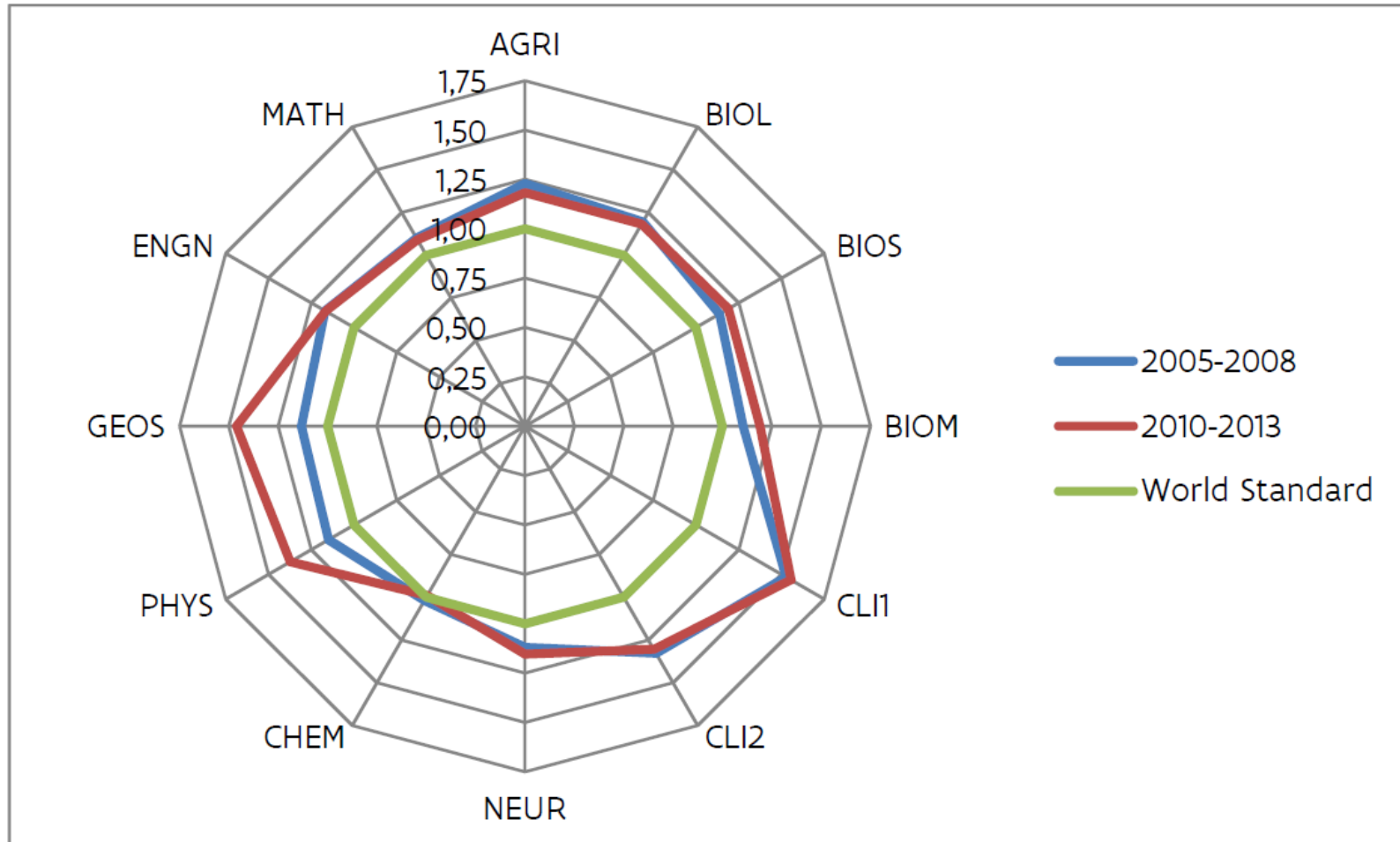
Figure 34: International comparison of EPO patent applications per million of population by origin, inventor and/or applicant (2012)



STI in Flanders, Policy & Key Figures – EWI 2016, p100, 104.

# Flemish Citation Frequency

Figure 32: The scientific citation profile of Flanders from 2005-2008 and 2010-2013 based on the Activity Index (AI)





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



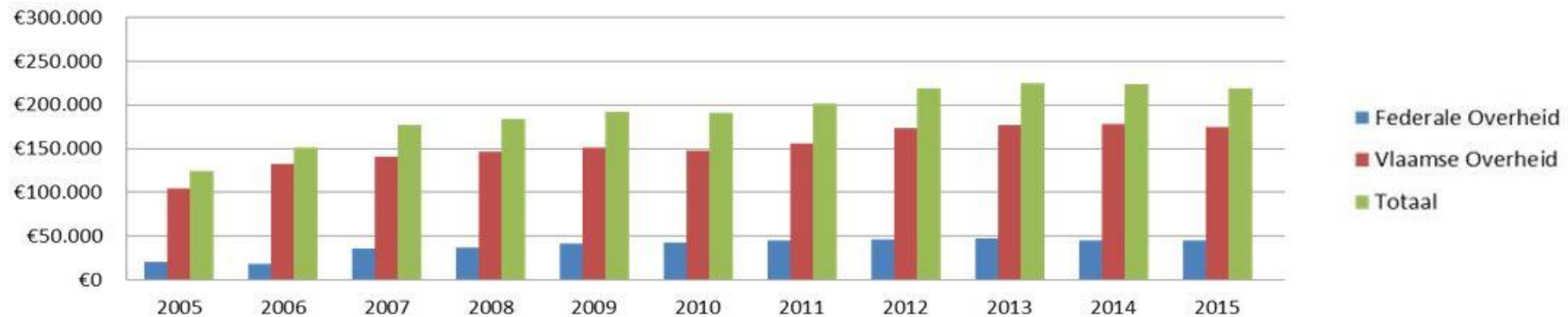
## FWO: key facts

- Funding fundamental and strategic basic scientific research ('frontier research')
- Bottom-up funding in all disciplines
- Strong selection based on scientific excellence and interuniversity competition (Flemish universities and, to a lesser extent, research institutes)

# FWO: key facts

- Budget 2015: 241 million EUR, ca. 82% of which from Flemish Government
- **Budget 2016: 321 million EUR**

Evolutie inkomsten 2005-2015  
(in EUR)



# Funding at FWO

- Funding for individual researchers:
  - pre- and postdoctoral fellowships, bench fees and grants
- Funding for research teams:
  - Research projects, Big Science, Bilateral agreements, ...
- 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
- Awarding scientific prizes

<http://www.fwo.be/en/fellowships-funding/>

# FWO and CERN

FWO CONTRIBUTION 2005-2016:  
**> 50 million €**

- PhD / postdoc fellowships; research projects
- Big Science (2008-2018)  
Long-term funding for **support and exploitation** of international research infrastructure
  - CMS
  - ISOLDE
- Hercules  
**Infrastructure** Funding
- Odysseus  
Internationally acclaimed **top-researchers**
- Pegasus & mobility grants  
**International mobility** (incoming & outgoing) for postdocs

# Belgian successes

- “small” country with large interests:
  - 2013: ‘Belgian’ Nobel Prize
  - ‘more-than-average’ number of PhD students or publications in proportion to our national participation in CERN and successful too: several “Best PhD Awards”
- Involved in design and construction of the main tracking device of the CMS detector from the start

# Future prospects

- Committed to fund fundamental research from bottom-up approach
- 2018: new FWO evaluation procedures
- 2019: new framework for investments in international collaborations for research infrastructures (incl. Big Science)



## Meer informatie over het FWO

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

Informatie over werking, reglementering, wetenschappelijke prijzen, oproepen...

Alle publicaties vrij te downloaden

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

Module geschiedenis FWO

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