



**The challenges of catching up:  
Spreading Excellence  
and Widening participation  
TWINNING CALL**

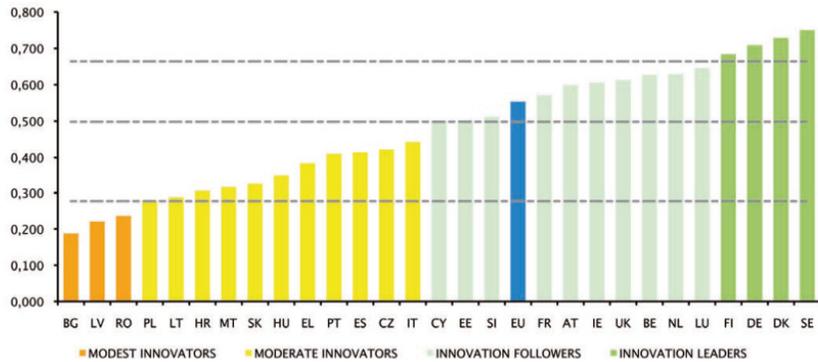
**Seminar für Antragstellende zur Förderlinie "Twinning"  
des Rahmenprogramms für Forschung und Innovation der EU "Horizont 2020"  
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Figure 3: EU Member States' innovation performance

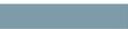
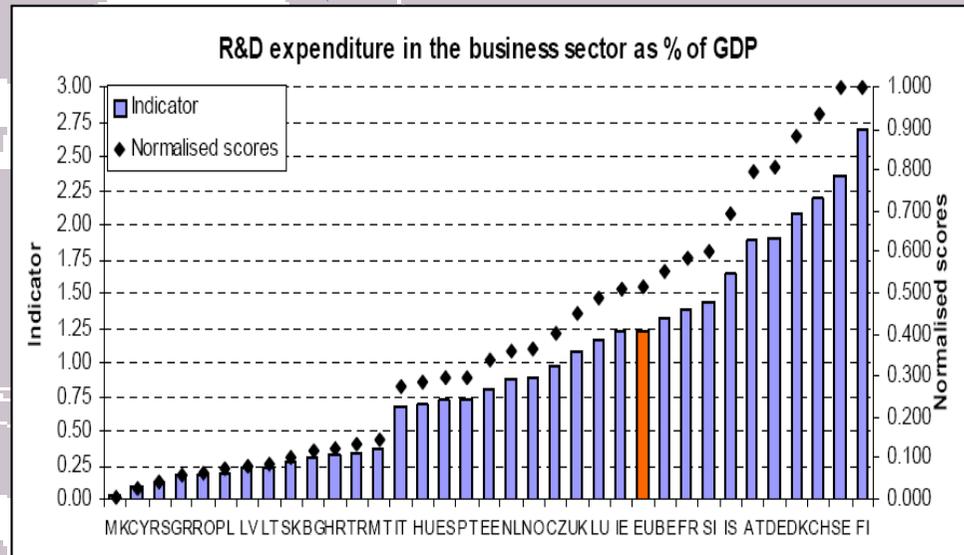


Note: Average performance is measured using a composite indicator building on data for 25 indicators going from a lowest possible performance of 0 to a maximum possible performance of 1. Average performance reflects performance in 2011/2012 due to a lag in data availability.



# Innovation performance (2014)

# R&D expenditure in the business sector as % of GDP (2011)





# Europe's innovation divide undermines competitiveness

- Large parts of the EU out of 'sync'
- Modest and Moderate Innovators holding back the EU as a whole
- Grand policy designs at risk without a sound and functioning base
- Identification of priorities and strategies of crucial importance – yet still, among the major bottlenecks



# The issues with catching-up economies

- **Moris Abramovitz has summarised some issues as follows:**
  - *Countries that are technologically backward have a potentiality for generating growth more rapid than that of more advanced countries, provided their social capabilities are sufficiently developed to permit successful exploitation of technologies already employed by the technological leaders.*
  - *The pace at which potential for catch-up is actually realized in a particular period depends on factors limiting the diffusion of knowledge, the rate of structural change, the accumulation of capital and the expansion of demand.*
  - *The process of catching up tends to be self-limiting, but the strength of the tendency may be weakened or overcome, at least for limited periods, by advantages connected with the convergence of production patterns as followers advance towards leaders or by endogenous enlargement of social capabilities”*
    - *Catching Up, Forging Ahead and Falling Behind, The Journal of Economic History, Vol. 46, No 2, The Tasks of Economic History (Jun.1986), pp. 385-406*



## The issues with catching-up economies (II)

- “...Arguably, to avoid being stuck along an inferior path and never catch up, “institutional instruments” may be needed to compensate for some of these “latecomer disadvantages”, to use a Gerschenkronian term. In particular what the developing country firm may need are “institutional instruments” that improve:
  - **links with the technology frontier,**
  - **links with markets (and sophisticated users),**
  - **supply of needed skills, services and other inputs,**
  - **the local innovation system/network...”**
    - *Jan Fagerberg and Manuel Mira Godinho in Paper presented at the Workshop “The Many Guises of Innovation: What we have learnt and where we are heading”, Ottawa, October 23-24.2003, organized by Statistics Canada.*



## Spreading Excellence and Widening Participation Background

- Currently national / regional disparities in research excellence and innovation performance, hamper competitiveness, business growth and employment creation. Simultaneously, a number of countries are experiencing low participation in the EU FP; Wide political debate during Horizon 2020 negotiation process.
- **Disparities due to structural issues, such as:** insufficient national RTDI investment, insufficient capacities and reduced access to international networks.
- **Problems need to be primarily addressed at national and regional level** and through other instruments, **such as Cohesion Policy funding.**
- **However Horizon 2020 will also take relevant action under the separate specific objective "Spreading Excellence and Widening Participation" (WIDESPREAD)**



## Spreading excellence and widening participation through Horizon 2020

- New **Part IV** in Horizon 2020 (budget circa EUR 800M)
- Main actions on **Teaming** (Centres of Excellence), **Twinning** (institutional networking), **ERA Chairs** (bringing excellence to institutions); also **Policy Support Facility** and a special action from **COST on Widening actions**



# Twinning

- ❑ **Twinning of research institutions:** Twinning aims at significantly strengthening a defined field of research in an emerging institution through links with at least two internationally-leading institutions in a defined field. A comprehensive set of measures underpinning this linkage would be supported (e.g. staff exchanges, expert visits, short-term on-site or virtual trainings, workshops; conference attendance; organisation of joint summer school type activities; dissemination and outreach activities).
- ❑ Twinning proposals are also encouraged to explain their links with the Smart Specialisation Strategy of the host location of the applicant institution



## Widening Participation: Eligibility Criteria (1)

Why?

- Political objective of Widening in H2020
- H2020 calls for a targeted approach to help participants with low R&I performance
- H2020 Framework & Specific Programme legislation: "low performing RDI Member States and regions"

How?

Eligibility Criterion: The Composite Indicator of Research Excellence



# The Composite Indicator of Research Excellence

## Why this indicator?

- ✓ Excellence is a key factor for performance for the whole R&I system
- ✓ Only indicator that can measure excellence embedding several dimensions
- ✓ Parameters normalised to eliminate size and population biases
- ✓ Innovation taken into account also through the patent applications variable
- ✓ Strong correlation between the Excellence indicator and the FP7 Budget share per country



# Composite Research Excellence Indicator at National level

**Origin:** Developed by DG RTD & JRC, part of the IU progress at country level 2013 publication & will be included in the ***IU Competitiveness Report 2013*** to be published in November.

**Definition:** "A composite indicator developed to measure the research excellence in Europe, meaning the effects of the European and national policies on the modernisation of research institutions, the vitality of the research environment and the quality of research outputs in both basic and applied research."

**Methodology:**

Composite indicator of four variables:

1. Highly cited **publications** of a country as a share of the top 10% most cited publications normalised by GDP
2. Number of world class **universities** and public research institutes in a country normalised by population in the world top 250 universities and research institutes
3. **Patent** applications per million population
4. Total value of **ERC grants** received divided by public R&D performed by the higher education and government sectors

**Threshold:** MS below 70% of the EU average

**Resulting eligible MS:** Latvia, Croatia, Lithuania, Malta, Slovakia, Romania, Luxembourg, Poland, Bulgaria, Estonia, Portugal, Slovenia, Cyprus, Czech Republic and Hungary

	Composite indicator of research excellence 2010
EU27 average	47,9
EU27 70% threshold	33,5
<b>Member States below 70% of the EU27 value</b>	
Latvia	11,5
Croatia	12,2
Lithuania	13,9
Malta	17,5
Slovakia	17,7
Romania	17,8
Luxembourg	19,8
Poland	20,5
Bulgaria	24,7
Estonia	25,9
Portugal	26,5
Slovenia	27,5
Cyprus	27,8
Czech Republic	29,9
Hungary	31,9
<b>Member States above 70% of the EU27 value</b>	
Greece	35,3
Spain	36,6
Ireland	38,1
Italy	43,1
France	48,2
Austria	50,5
United Kingdom	56,1
Belgium	59,9
Germany	62,8
Finland	62,9
Sweden	77,2
Denmark	77,7
Netherlands	78,9

Source: DG Research and Innovation - Economic Analysis Unit  
Data: Eurostat, DG JRC - ISPRA



# Twinning

## What?

Strengthening a defined field of research of a knowledge institution in a low performing Member State or region through linking with at least two internationally-leading counterparts in Europe.

## How?

Proposals: Will have to outline the scientific strategy for stepping up and stimulating scientific excellence and innovation capacity in a defined area of research as well as the scientific quality of the partners involved in the twinning exercise

## Funding for:

- expert visits and short-term on-site or virtual training;
- workshops & conference attendance;
- organisation of joint summer school type activities;
- dissemination and outreach activities.

Equipment & researchers' salaries will NOT be funded.



# Twinning

## The Partners

- **ONE** institution located in a Low Performing MS/region (**COORDINATOR**)
- A minimum of **TWO** additional partners from two different Member States or Associated Countries.

## Call 2015 Details:

Budget: ~ € 65 M

Call publication date: 2 July 2014

Call deadline: 07 May 2015

Project Size: €1 M per proposal

Project Duration: 3 years

Type of action: Coordination and Support Action

**Total Budget for Twinning in H2020: ~ € 100 M**



# Twinning

## Examples from FP7-Research Potential (REGPOT)

- **OPENGENE (REGPOT-2009)**: the Estonian Genome Center of Tartu (Estonia) has built successful networks with key partnering organisations on genomics from UK, the Netherlands, Finland and Germany.
  - **STRONGER (REGPOT-2011)**: the Pasteur Institute of French Guiana strengthened transdisciplinary research on infectious diseases. Partnerships with France, UK, USA, Brazil.
- ✧ FP7 REGPOT eligibility – Convergence Regions only



# Bottom Line:

- A significant effort for knowledge transfer
- Not a cohesion but a performance oriented approach
- Focus is on institution building
- Marked importance of Smart Specialisation!
- ESIF actions can be coupled to Teaming and Twinning initiatives
- Big expectations – big risks; but maybe also huge gains



## Learn more:

[http://ec.europa.eu/research/horizon2020/index\\_en.cfm](http://ec.europa.eu/research/horizon2020/index_en.cfm)

[http://ec.europa.eu/regional\\_policy/what/future/index\\_en.cfm](http://ec.europa.eu/regional_policy/what/future/index_en.cfm)



**Thanks a lot for  
your attention**