



FEANI

EUROPEAN FEDERATION OF ENGINEERS

*** 1951**

CENTRAL SECRETARIAT

Schuman Square 6,

1040 Brussels

<http://www.feani.org>

34 National Members (EHEA)

+/- 6 million engineers

WHAT IS THE ENVIRONMENT LIKE IN WHICH WE OPERATE IN EUROPE ?

1. **POLITICAL**
2. **ECONOMICAL**
3. **SOCIETAL**



European Union

Euro area

Austria	Belgium	Estonia	Finland
France	Germany	Greece	Italy
Latvia	Lithuania	Luxembourg	Malta
Netherlands	Portugal	Slovakia	Slovenia
Spain	Cyprus	Ireland	

Bulgaria	Croatia	Romania
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European Customs Union

Andorra	Monaco	San Marino	Turkey
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Schengen Area

Liechtenstein	Switzerland
Norway	Iceland

European Free Trade Association

Czech Republic
Denmark
Hungary
Poland
Sweden

European Economic Area

Russia	Moldova
Serbia	Montenegro
Albania	Ukraine

Council of Europe

Armenia
Azerbaijan
Bosnia and Herzegovina
Georgia
FYROM
Moldova
Montenegro
Ukraine

United Kingdom



NATO

Canada

United States

**Europe 2050:
Demographic
Tectonic Plates**

**Table 1
Population and GDP per capita**

Population (in millions)	2015	2050	Variation	GDP per capita (K\$ 2011 PPP)
China	1,376	1,348	-28	13 K\$
India	1,371	1,705	+334	6
Russia	144	129	-15	24
Japan	127	107	-20	36
Africa (including N. Africa)	1,186	2,478	+1,292	5
	224	354	+130	10
Latin America	634	784	+150	11
North America	358	433	+75	51
UE (28) with UK	505	500	-5	35

Sources: Population : UN – World Population Prospects 2015 Scenario medium
GDP per capita : World Economic Outlook – IMF – April 2016

**Table 2
Europe 2015-2050, Wanted: Brawn and Brains**

Population in millions	Europe	Germany	France	UK	Spain	Italy
Total 2015	505	81	64.4	64.6	46.1	60
2050	500	75	71.1	75.4	44.8	56.5
variation	-5	-6	+7	+11	-1.3	-3.5
Under age 20	-8.4	-1.8	0	1.3	-1.5	-1.1
Adults 20-64	-49.1	-11	0	+2.3	-7.3	-8.6
65 and more	+51.2	+7	6.4	+7	+7.3	+6.4
Of which 80 and more	+33.1	+6	+4	+4.3	+3.6	+4.7

Source: UN – World Population Prospects 2015 Scenario medium

Political Europe in 2017



Governments' Colours

- Left
- Right
- Caretaker government
- Left/Right coalition
- Right/Left/Populist coalition
- Left / Green coalition
- Right/Left/Green coalition
- Radical Left / Far-right coalition
- Other coalition

Juri Ratas Head of Government.

Elections planned in 2017:

- 12th February: Germany, *presidential*
- 15th March: Netherlands, *legislative*
- 26th March: Bulgaria, *legislative*
- April: Hungary, *presidential*
- 23th April- 7th May: France, *presidential*
- 11th-18th June: France, *legislative*
- 24th September: Germany, *legislative*
- October: Czech Republic, *legislative*
- November: Slovenia, *presidential*

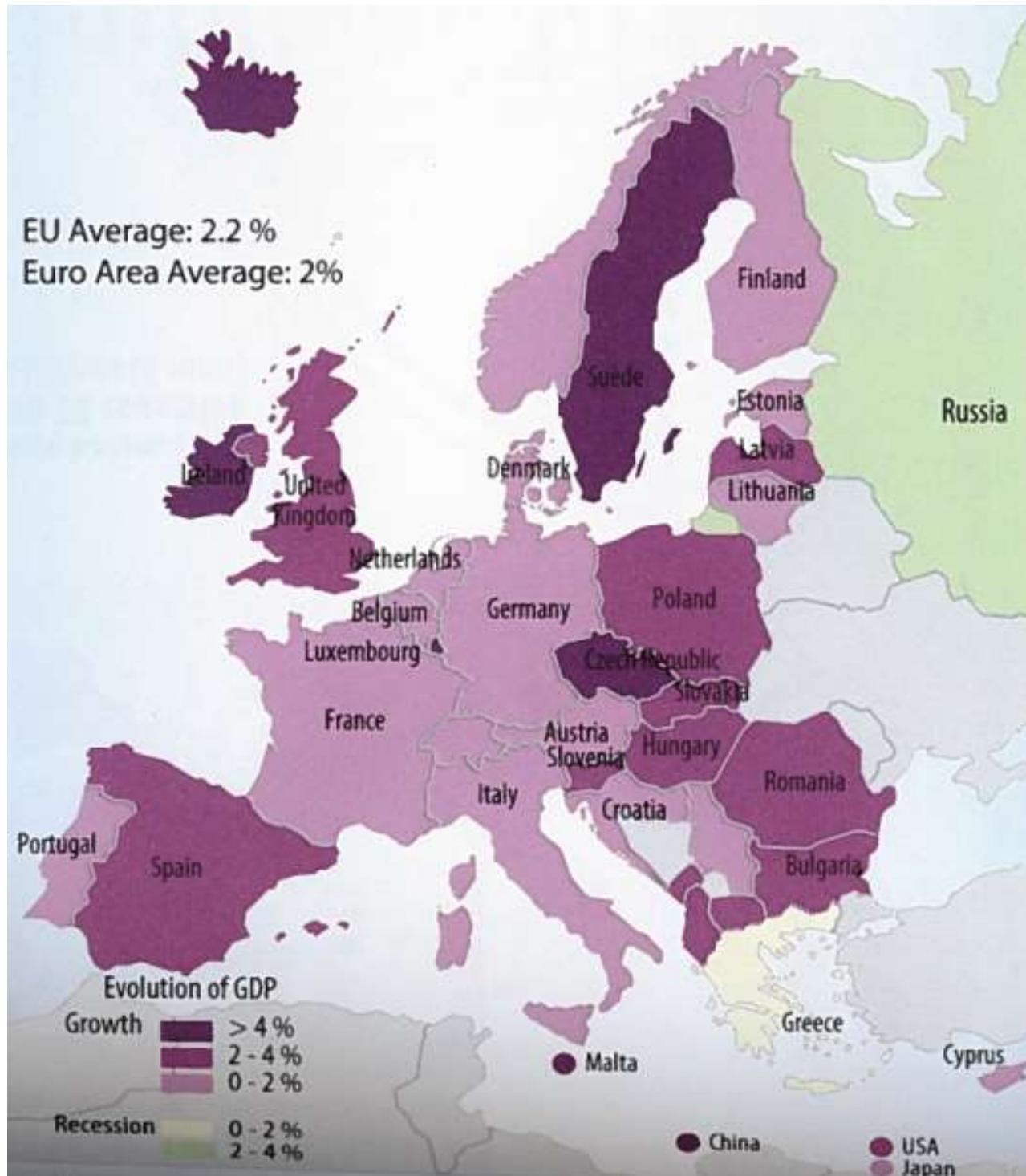
* posts of both President and Prime Minister.
 **Former Yugoslav Republic of Macedonia

Sources: compilation by the Robert Schuman Foundation (<http://www.robert-schuman.eu/>).

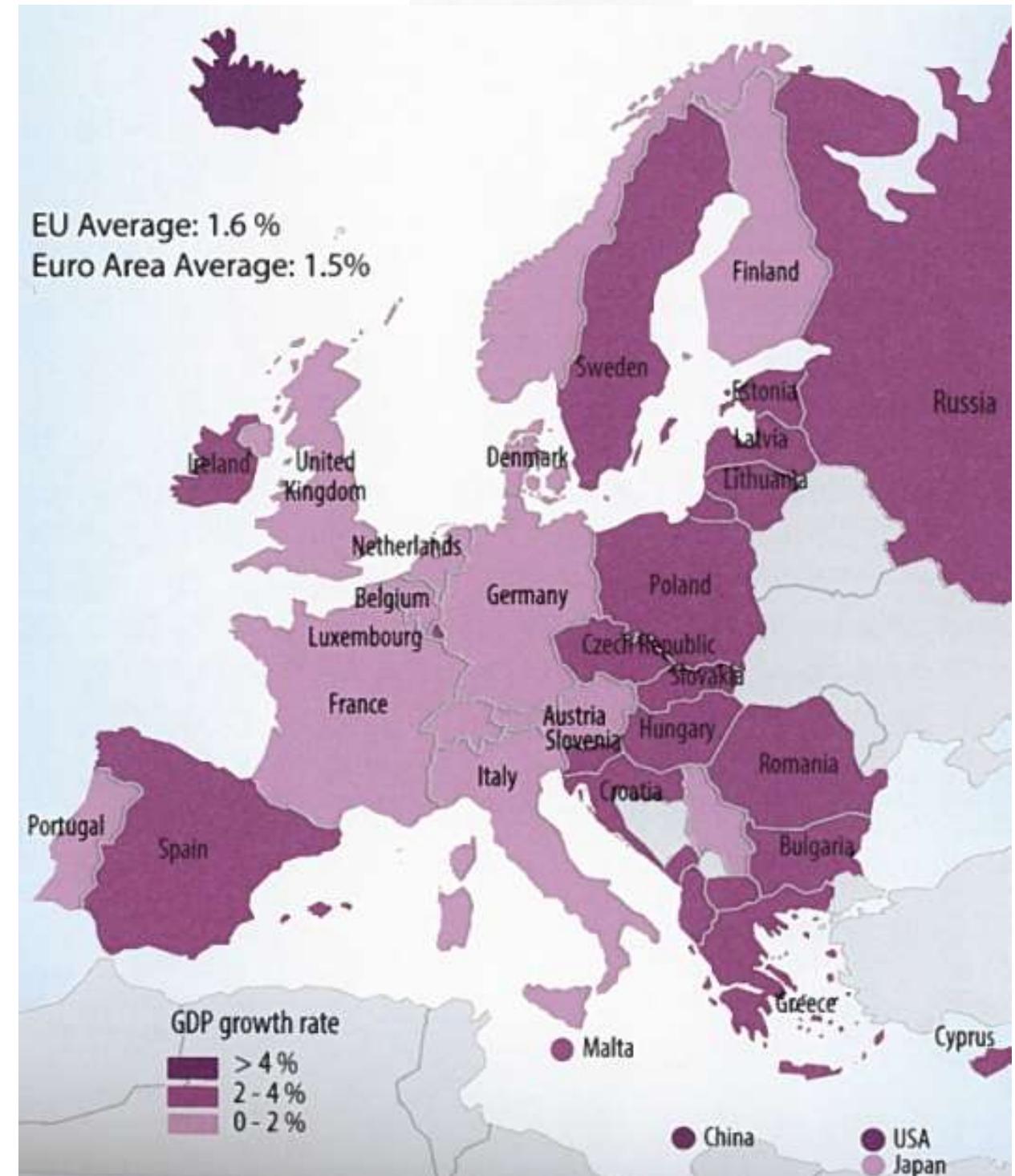
Map Order for the Robert Schuman Foundation, January 2017, © RFS.

Economic Growth in Europe

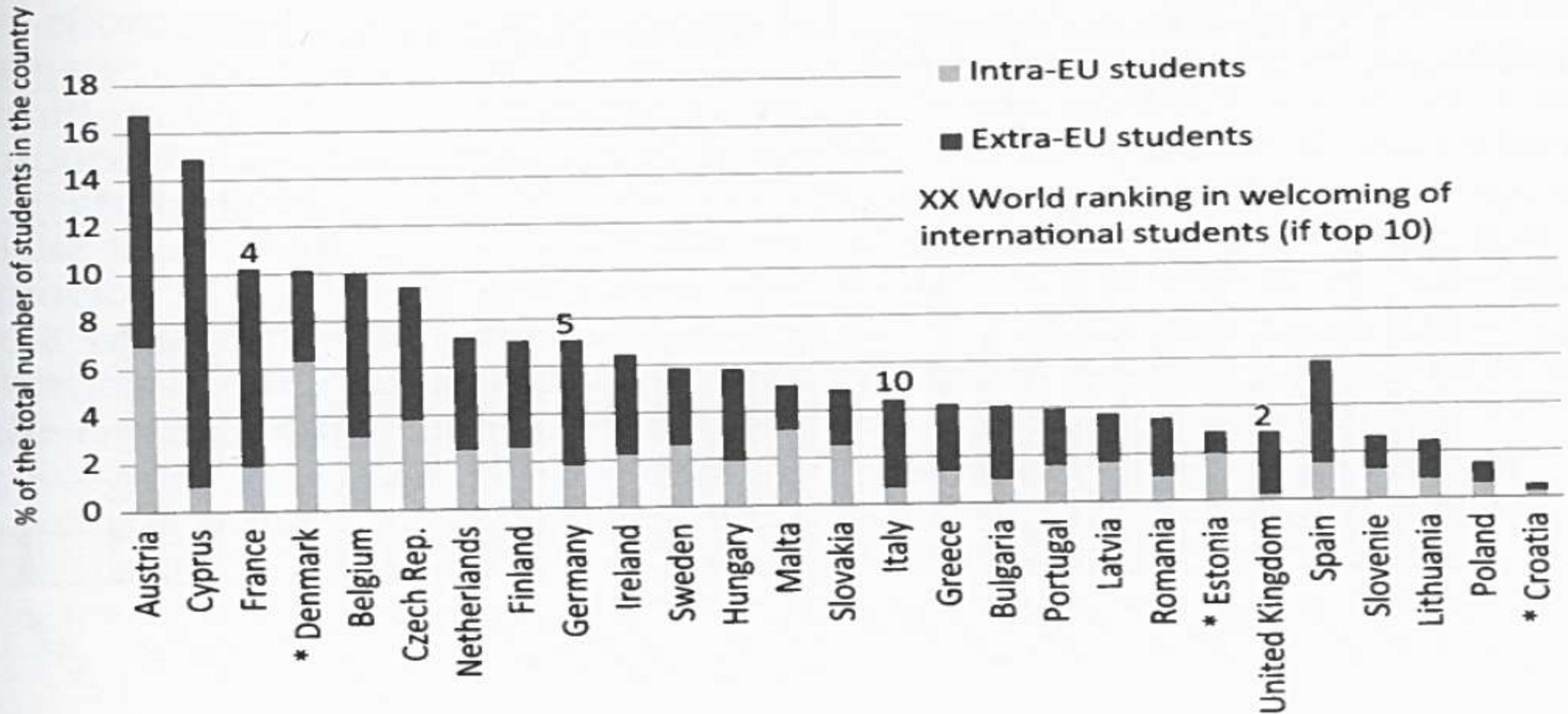
Economic growth in Europe (2015)



Growth forecast for 2017



MOBILITY of STUDENTS in EUROPE



To make reading easier, Luxembourg (33,3% of intra-EU students, 7,1% of extra-EU students) is not included in the graph.

* Data 2012

Data: UNESCO

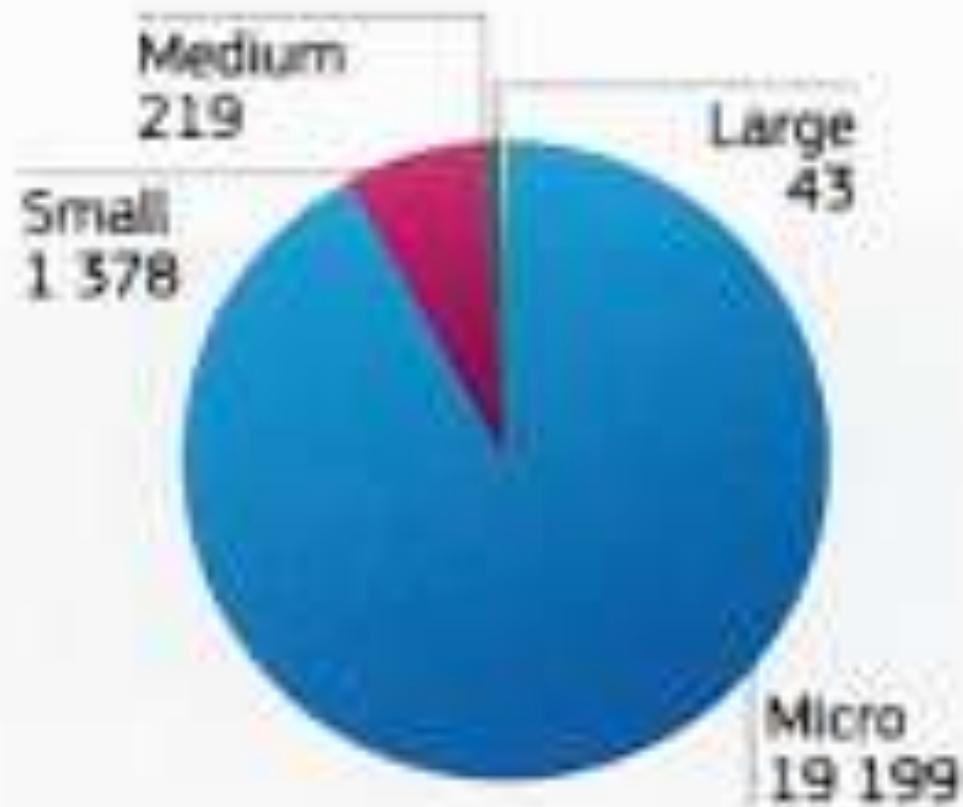
MOBILITY of WORKERS in EUROPE

EU total:
More than 7 million mobile workers
3.3% of total employment



SMEs hold the key to economic growth

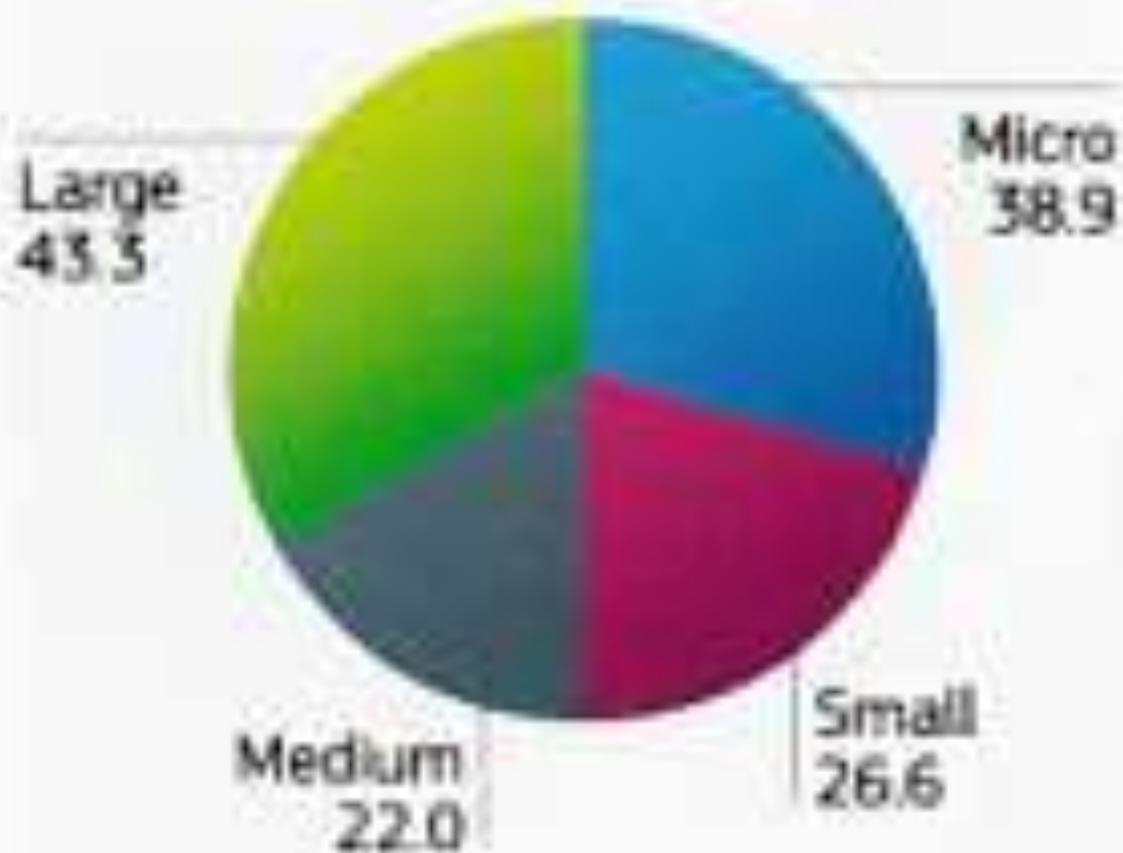
Number of enterprises ('000s)



The vast majority of small businesses are microenterprises that employ fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed €2 million.

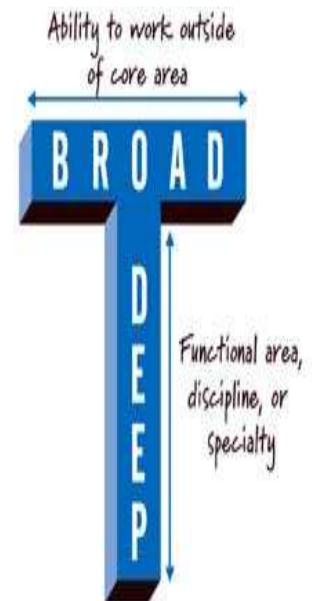
SMEs hold the key to economic growth

Persons employed (millions)



Employment is evenly distributed across enterprises, although SMEs account for two thirds of all jobs in the EU.

EMPLOYER CAREER PATHS FOR ENGINEERS



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EMPLOYER CAREER PATHS FOR ENGINEERS



2.8 million customers / 4.500 staff / over 1.500 engineers

- 1. PRODUCT LEADERSHIP**
- 2. OPERATIONAL EXCELLENCE**
- 3. CUSTOMER INTIMACY**



EMPLOYER CAREER PATHS FOR ENGINEERS



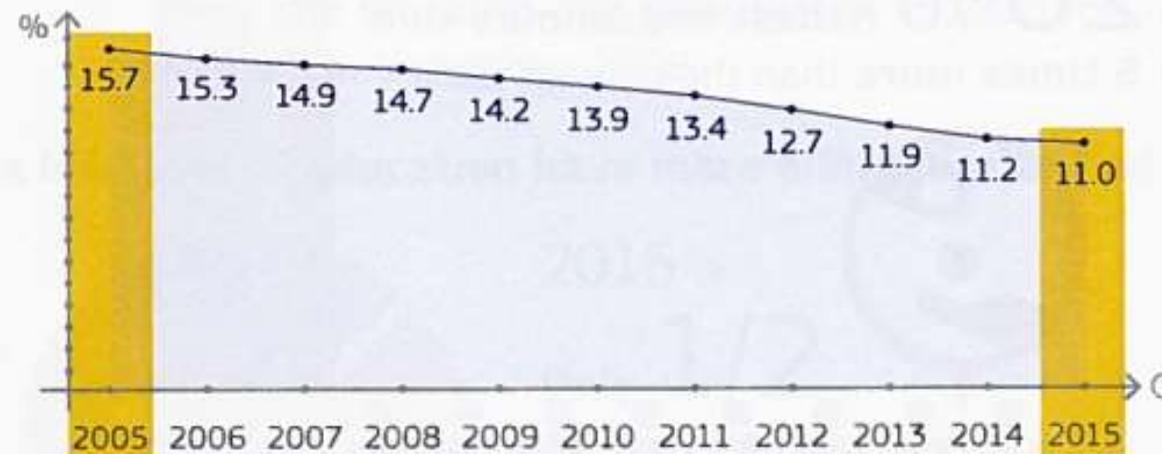
C.A.R.E.

- **CAPABILITY**
- **ACHIEVEMENT**
- **RELATIONSHIP**
- **ETHICS**

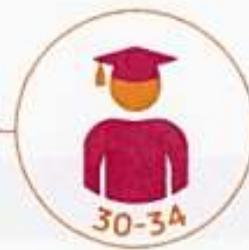
AREA
1

EDUCATION, SKILLS AND LIFELONG LEARNING

Fewer young people leave school without an upper secondary degree



More young people have university level education



2005 28.1% → 2015 38.7%



More people participate in lifelong learning activities



2005 9.6% → 2015 10.7%



Participation rate in education and training (last 4 weeks)

10 best universities in Europe in 2016

Rank	University	Country
1	Oxford University	United Kingdom
2	Cambridge University	United Kingdom
3	Imperial College London	United Kingdom
4	ETH Zurich - Swiss Federal Institute of Technology Zurich	Switzerland
5	University College London (UCL)	United Kingdom
6	London School of Economics and Political Science (LSE)	United Kingdom
7	Edinburgh university	United Kingdom
8	King's College London	United Kingdom
9	Karolinska Institute	Sweden
10	LUM Munich	Germany

Data: Times Higher Education 2016

Ranking of European Universities (2016)

European universities in the THE 2016 ranking

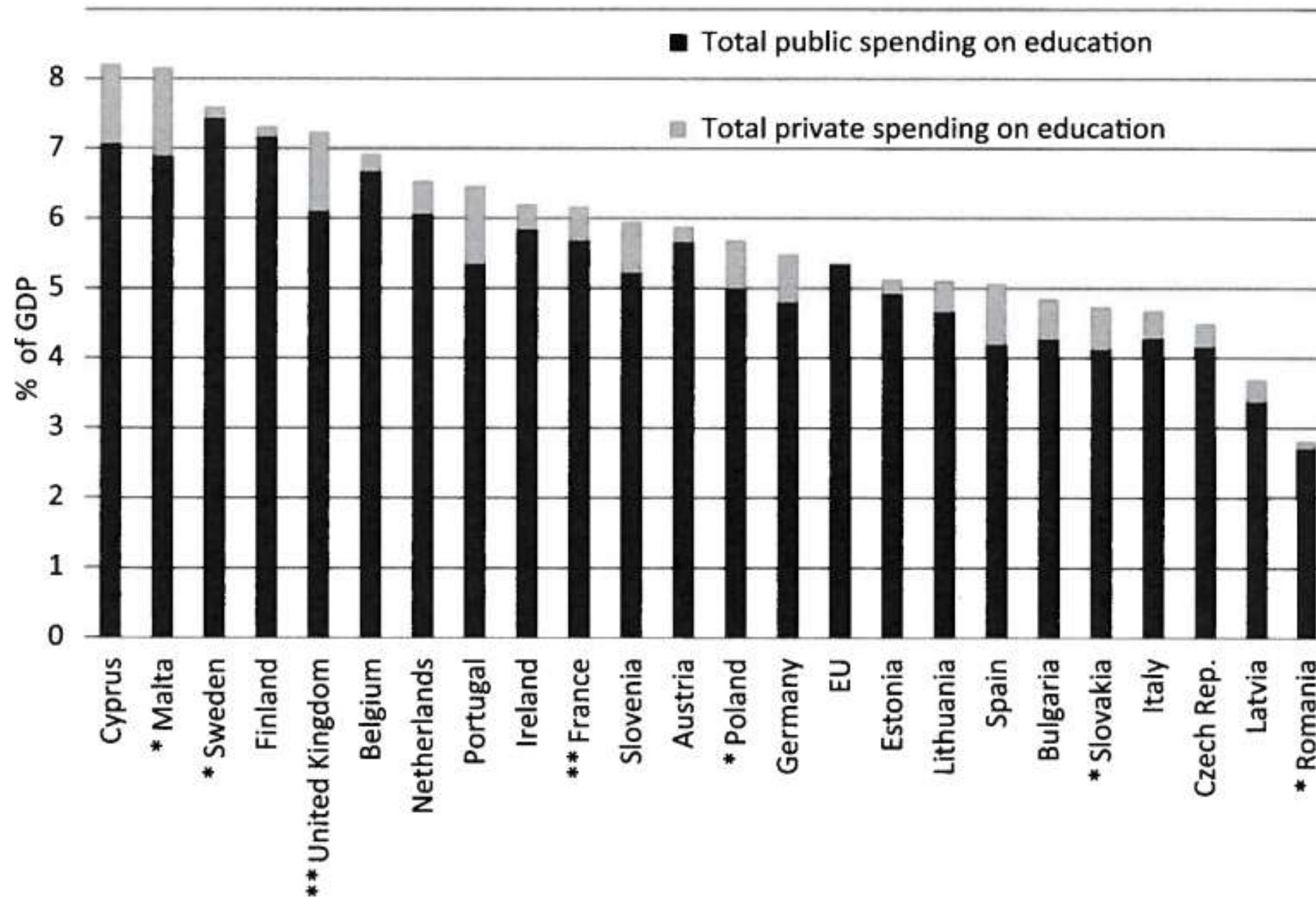
Country	Number of institutions in the European top 200	Position of the most high-ranking institution in European ranking	Position of the most high-ranking institution in world ranking	Most high-ranking institution
Austria	5	67	142	Vienne university
Belgium	7	12	35	KU Leuven
Cyprus	1	181-190	351-400	Cyprus university
Czech Rep.	1	161-170	301-350	VSB – Ostrava Technical University
Denmark	6	33	82	Copenhagen university
Estonia	1	181-190	351-400	Tartu university
Finland	6	28	76	Helsinki university
France	15	17	54	École Normale Supérieure
Germany	36	10	29	LMU Munich
Greece	1	171-180	351-400	Crete university
Iceland	1	131-140	251-300	Iceland university
Ireland	6	78	160	Trinity College Dublin
Italy	19	50	112	Scuola Normale Superiore di Pisa
Luxembourg	1	99	193	Luxembourg university
Netherlands	13	14	47	Wageningen University and Research Center
Norway	4	63	135	Oslo university
Portugal	1	181-190	351-400	Instituto Superior Tecnico Lisboa
Russia	5	79	161	Lomonosov Moscow State University
Spain	5	70	146	Autonomous university of Barcelon
Suisse	9	4	9	ETH Zurich - Swiss Federal Institute of Technology Zurich
Sweden	11	9	28	Karolinka Institute
United Kingdom	46	1	2	Oxford university

Notes:

= university of equal ranking with another institution in the list

As from a certain position, ranking indicates a range (e.g. 161-170) rather than a specific rank.

The human capital challenge



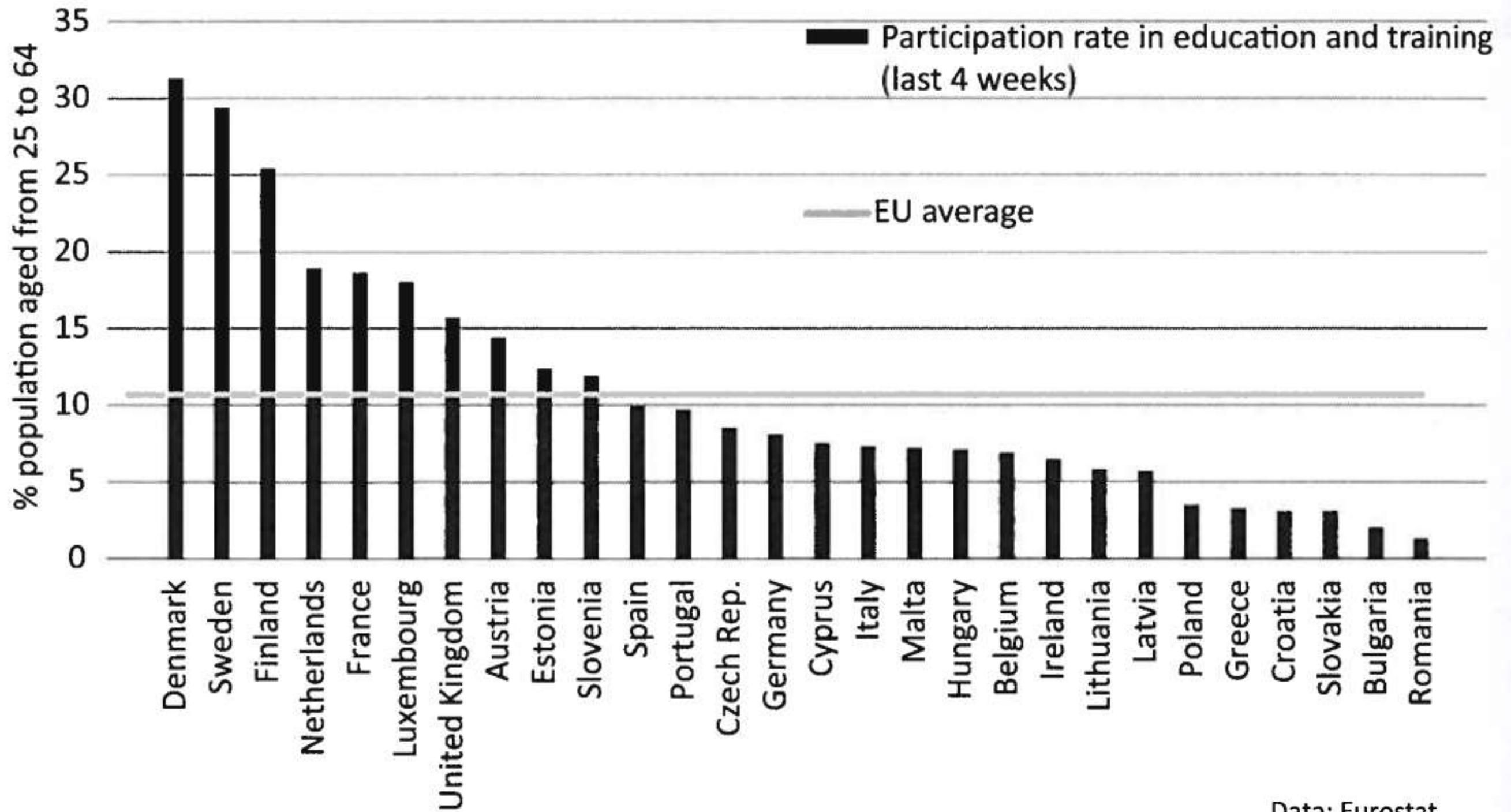
* Private expenditure, data 2011.

** Public expenditure, data 2012.

Data not available for Croatia, Denmark, Greece, Hungary and Luxembourg.

Data: Eurostat.

In-service training and apprenticeship (2015)



Data: Eurostat

NATIONAL MEMBERS



CORPORATE MISSION

1. To be **a single voice** for the engineering profession in Europe
2. To affirm and develop their professional identity
3. To facilitate the mutual recognition of engineering qualifications in Europe
4. To **strengthen the position**, role and responsibility of engineers in society

WHAT ? (Part 1)

1. Better understanding **future job prospects** of students and young engineers = Gain industry based insights into the variation of different professional roles an engineer can take on.
2. Promotion of **STEM**
3. Assessing **the relevance of research** conducted within the HEI
4. Transfer of knowledge and experiences to **impact product and services development** of professional engineering bodies.
5. Curriculum development, **CPD and LLL-priorities** (e.g. entrepreneurship) with industry and governance support.

WHAT ? (Part 2)

6. **Improve commercial orientation** of the academic world
7. **Address societal challenges and issues, gain new insights**
= knowledge society
8. **Widening the networks** and develop supporting mechanisms while working cooperatively and in a coordinated manner

WHAT ? (Part 3)

Possible **projects or working areas** should be in **alignment with the EU Single Market Strategy** and could e.g. focus on :

- **Supporting the further development of the EU STEM Coalition**
- **Delivering Digital Competence**
- **Human Prosperity in a Changing World**
- **Harnessing Globalisation by 2025**
- **Etc.**

WHO ? (Part 1)

4 STAKEHOLDER GROUPS:

Brussels based European Organisations or Networks of :



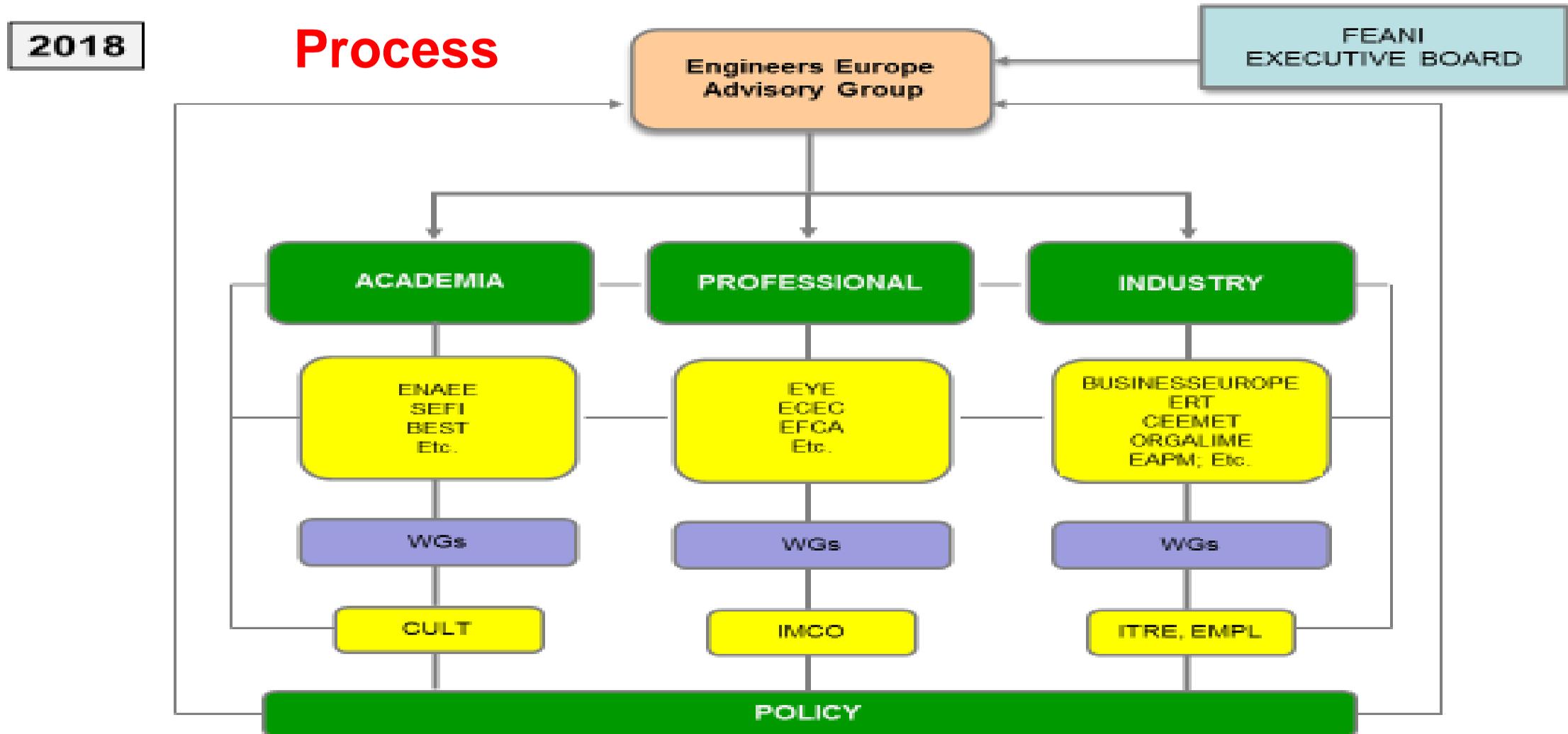
Strategic Plan for 2018-2023

Objectives :

Identify and promote common themes and work items towards a closer understanding between the various stakeholders, relating to :

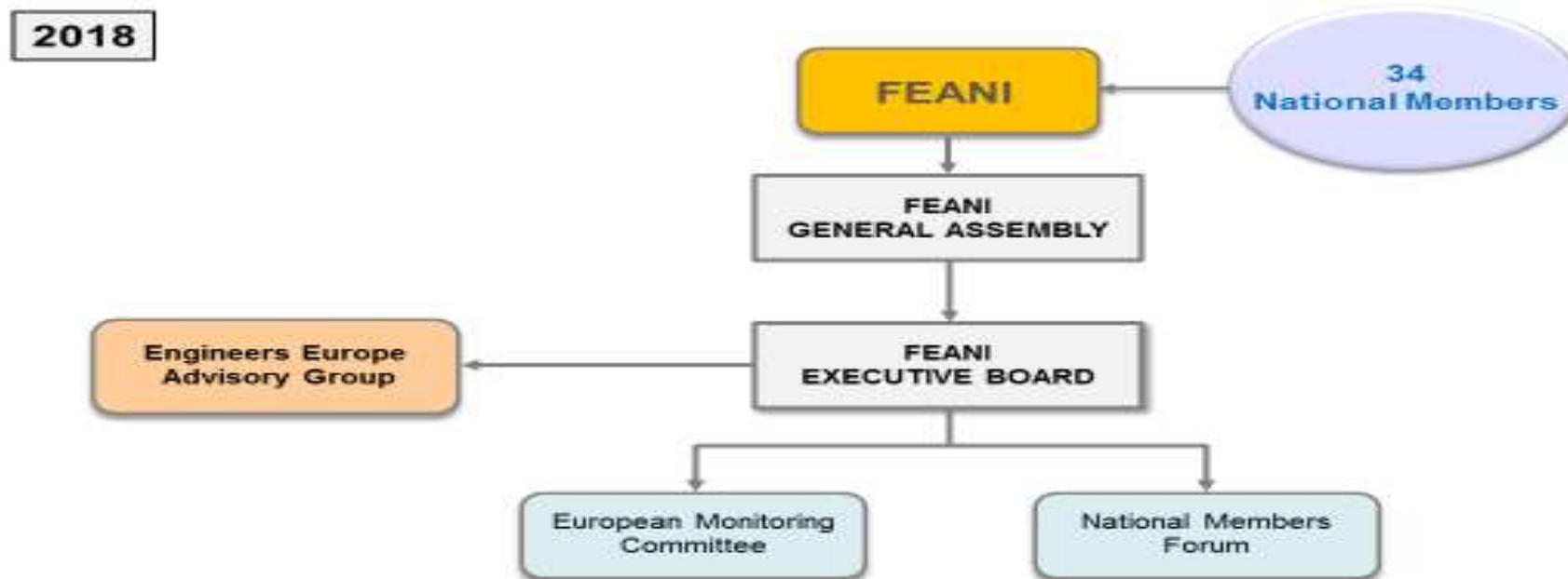
- 1. Generic issues :** future job prospects and professional roles of engineers in society, engineers as a liberal profession, etc.
- 2. Educational issues:** curriculum development, STEM, CPD, LLL, VET, accreditation
- 3. Political issues :** development of common position papers, pro-active lobbying regarding EU legislation (revision of Directives, Regulations, etc.)
- 4. Societal issues :** digitalisation, industry 4.0, green economy, etc.

Strategic Plan for 2018-2023

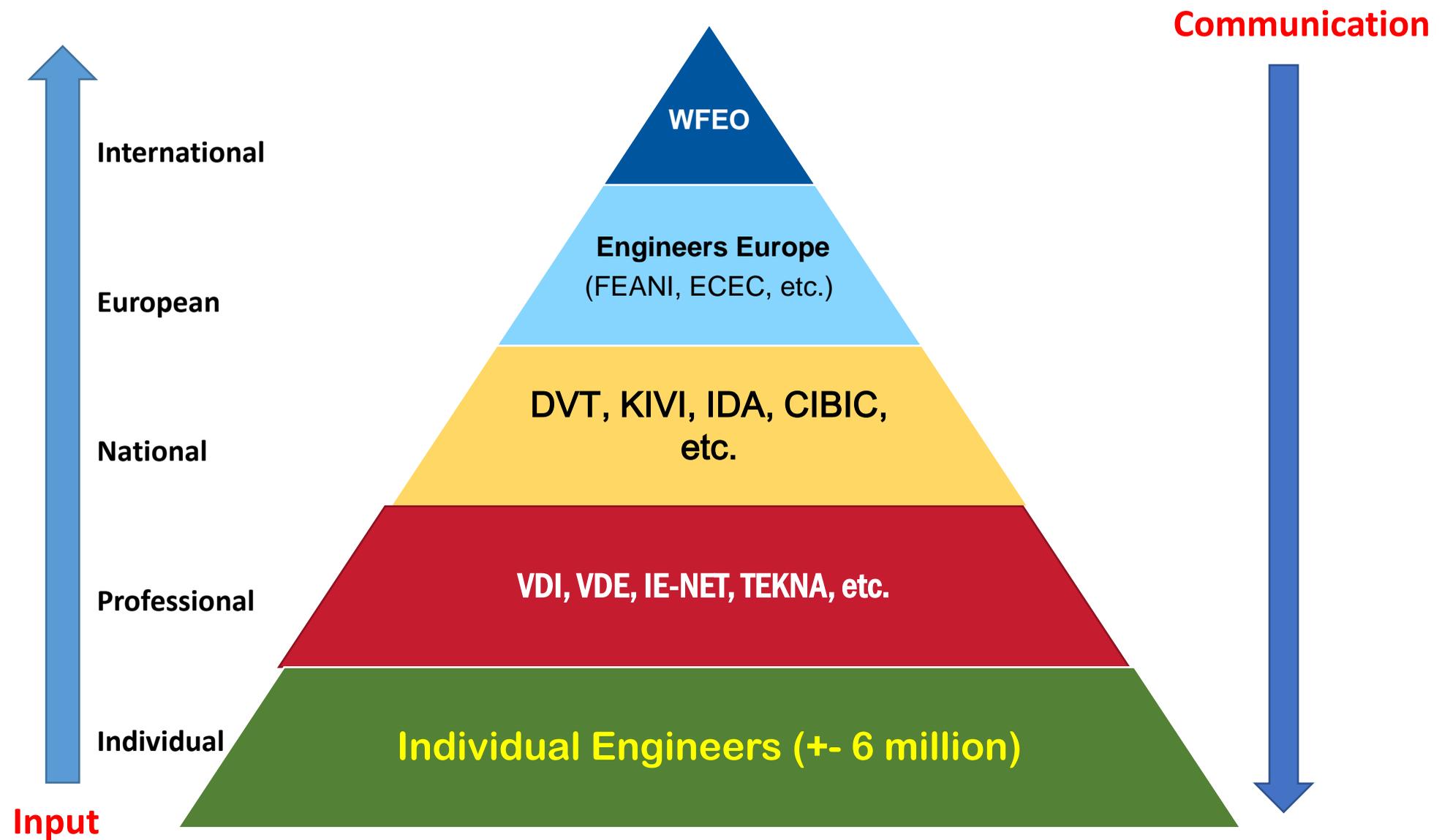


Strategic Plan for 2018-2023

Structure



Strategic Plan for 2018-2023



Strategic Plan for 2018-2023

We will start-up “informally” as an “Engineers Europe Advisory Group” and while doing so think of “repositioning” and “rebranding” ourselves as an Organization.



CHALLENGES FOR TOMORROW



<https://www.youtube.com/watch?v=uqZiI00YI7Y>