ERA (European Research Area) uključuje širok spektar istraživačkih i razvojnih aktivnosti, programa i znanstvenih organizacijskih struktura koje se ostvaruju i djeluju na nacionalnoj, regionalnoj i europskoj razini.

Uključivanje u ERA-u omogućuje znanstvenicima pojačanu mobilnost, koordinaciju financiranja znanstvenih istraživanja u europskim državama i regijama, kao i jače povezivanje znanstvenog i gospodarskog, te društvenog sektora koje nije ograničeno državnim granicama.

EUROPEAN RESEARCH AREA (ERA) ROADMAP 2015-2020

ERA PRIORITY 1 – EFFECTIVE NATIONAL RESEARCH SYSTEMS

ERA PRIORITY 2(A) - JOINTLY ADDRESSING GRAND CHALLENGES

ERA PRIORITY 2(B) - MAKE OPTIMAL USE OF PUBLIC INVESTMENTS IN RESEARCH INFRASTRUCTURES

ERA PRIORITY 3 - AN OPEN LABOUR MARKET FOR RESEARCHERS

ERA PRIORITY 4 - GENDER EQUALITY AND GENDER MAINSTREAMING IN RESEARCH

ERA PRIORITY 5 – OPTIMAL CIRCULATION AND TRANSFER OF SCIENTIFIC KNOWLEDGE

ERA PRIORITY 6 – INTERNATIONAL COOPERATION

EUROPEAN UNION

EUROPEAN RESEARCH AREA
AND INNOVATION COMMITTEE

Brussels, 20 April 2015
(OR. en)

UNESCO Publishing

United Nations
Educational, Scientific and
Cultural Organization

UNESCO SCIENCE REPORT

Towards 2030

Gross domestic expenditure on R&D (GERD)

Table 9.2: **GERD/GDP ratio in the EU28 in 2009 and 2013 and targets to 2020 (%)**

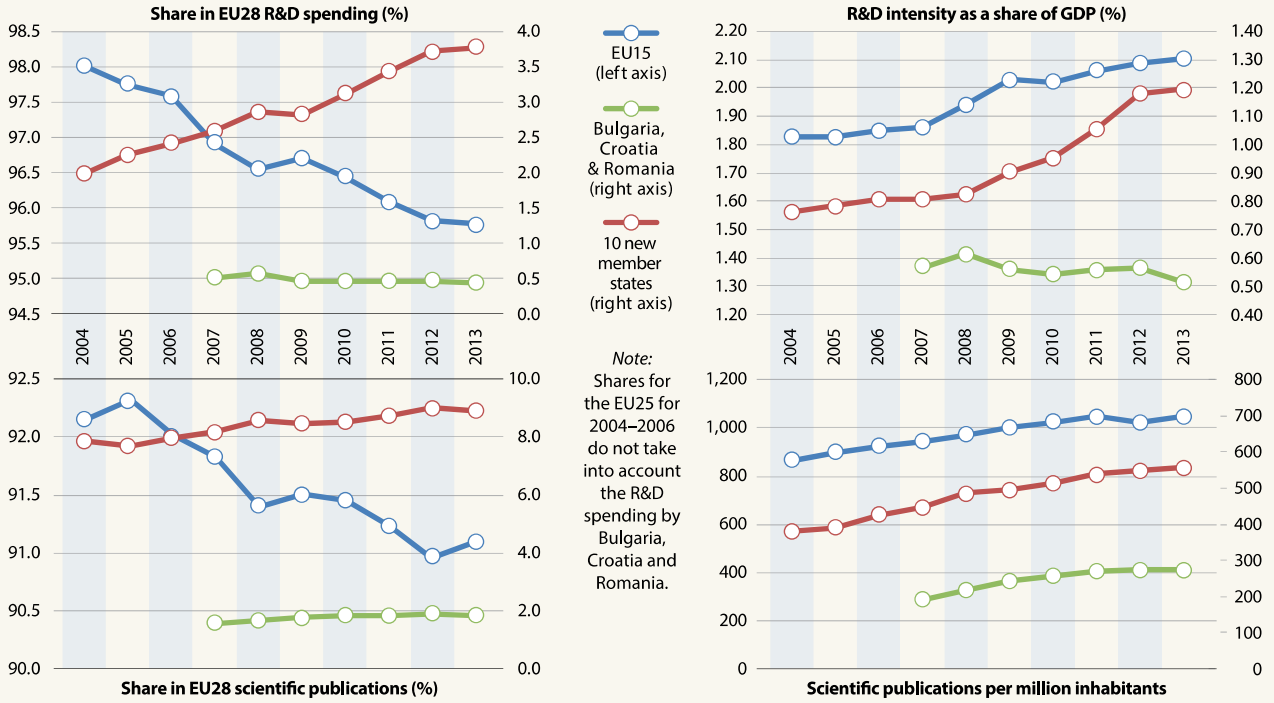
	GERD/GDP ratio, 2009	GERD/GDP ratio, 2013*	Target for 2020	Industry-financed share of GERD, 2013*
EU28	1.94	2.02	3.00	54.9
Austria	2.61	2.81	3.76	44.1
Belgium	1.97	2.28	3.00	60.2
Bulgaria	0.51	0.65	1.50	19.4
Croatia	0.84	0.81	1.40	42.8
Cyprus	0.45	0.48	0.50	10.9
Czech Rep.	1.30	1.91	–	37.6
Denmark	3.07	3.05	3.00	59.8
Estonia	1.40	1.74	3.00	41.3
Finland	3.75	3.32	4.00	60.8
France	2.21	2.23	3.00	55.4
Germany	2.73	2.94	3.00	66.1
Greece	0.63	0.78	0.67	32.1
Hungary	1.14	1.41	1.80	46.8
Ireland	1.39	1.58	2.00**	50.3
Italy	1.22	1.25	1.53	44.3
Latvia	0.45	0.60	1.50	21.8
Lithuania	0.83	0.95	1.90	27.4
Luxembourg	1.72	1.16	2.30–2.60	47.8
Malta	0.52	0.85	0.67	44.3
Netherlands	1.69	1.98	2.50	47.1
Poland	0.67	0.87	1.70	37.3
Portugal	1.58	1.36	3.00	46.0
Romania	0.46	0.39	2.00	31.0
Slovakia	0.47	0.83	1.20	40.2
Slovenia	1.82	2.59	3.00	63.8
Spain	1.35	1.24	2.00	45.6
Sweden	3.42	3.21	4.00	57.3
UK	1.75	1.63	–	46.5

The newer member states have progressed

There has been a marked improvement in the volume of R&D conducted by the ten countries which joined the EU in 2004. Their share of total R&D spending increased from less than 2% in 2004 to almost 3.8% by 2013 and their R&D intensity from 0.76 in 2004 to 1.19 in 2013. Although their R&D intensity remains well below that of the EU15 countries, the gap has been narrowing consistently since 2004 (Figure 9.8).

For Bulgaria, Croatia and Romania, on the other hand, which joined the EU in 2007 and 2013 respectively, the situation has deteriorated. All three contributed less to EU28 GERD in

Figure 9.8: **Uptake of STI activities by new EU member states, 2004–2013**



Source: for top two graphs: Eurostat, January 2015; for bottom two graphs: computed by Science–Metrix using Thomson Reuters' Web of Science

Figure 10.1: **GERD/GDP ratio in Southeast Europe, 2003–2013 (%)**

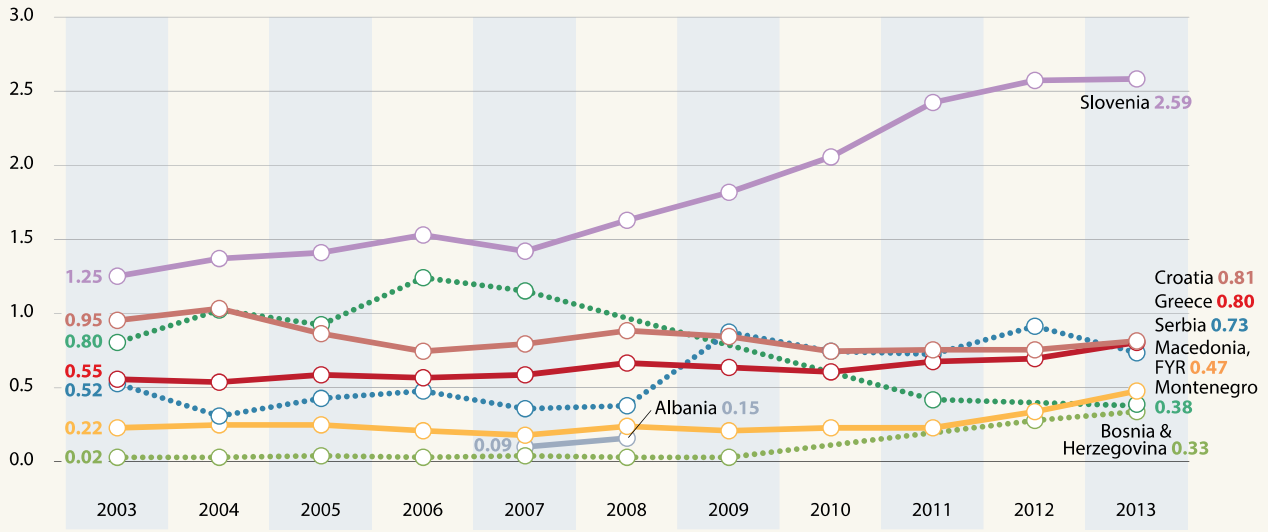
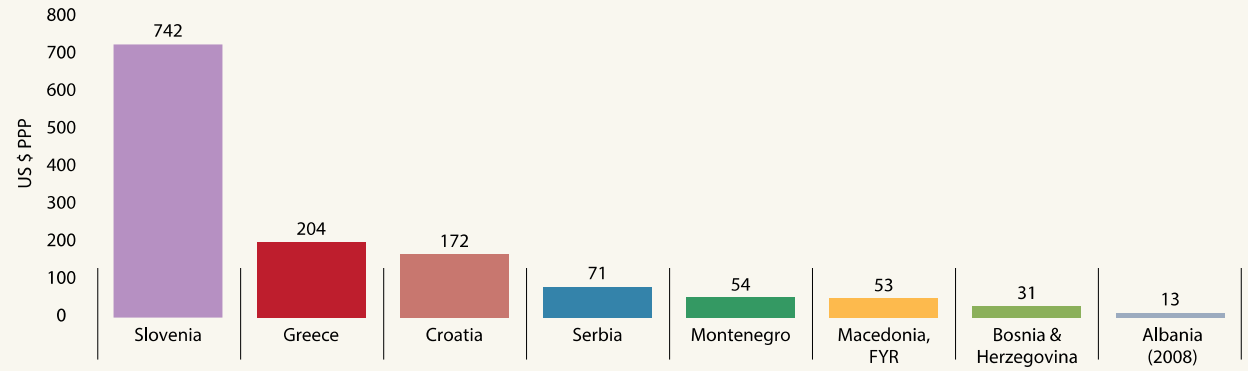


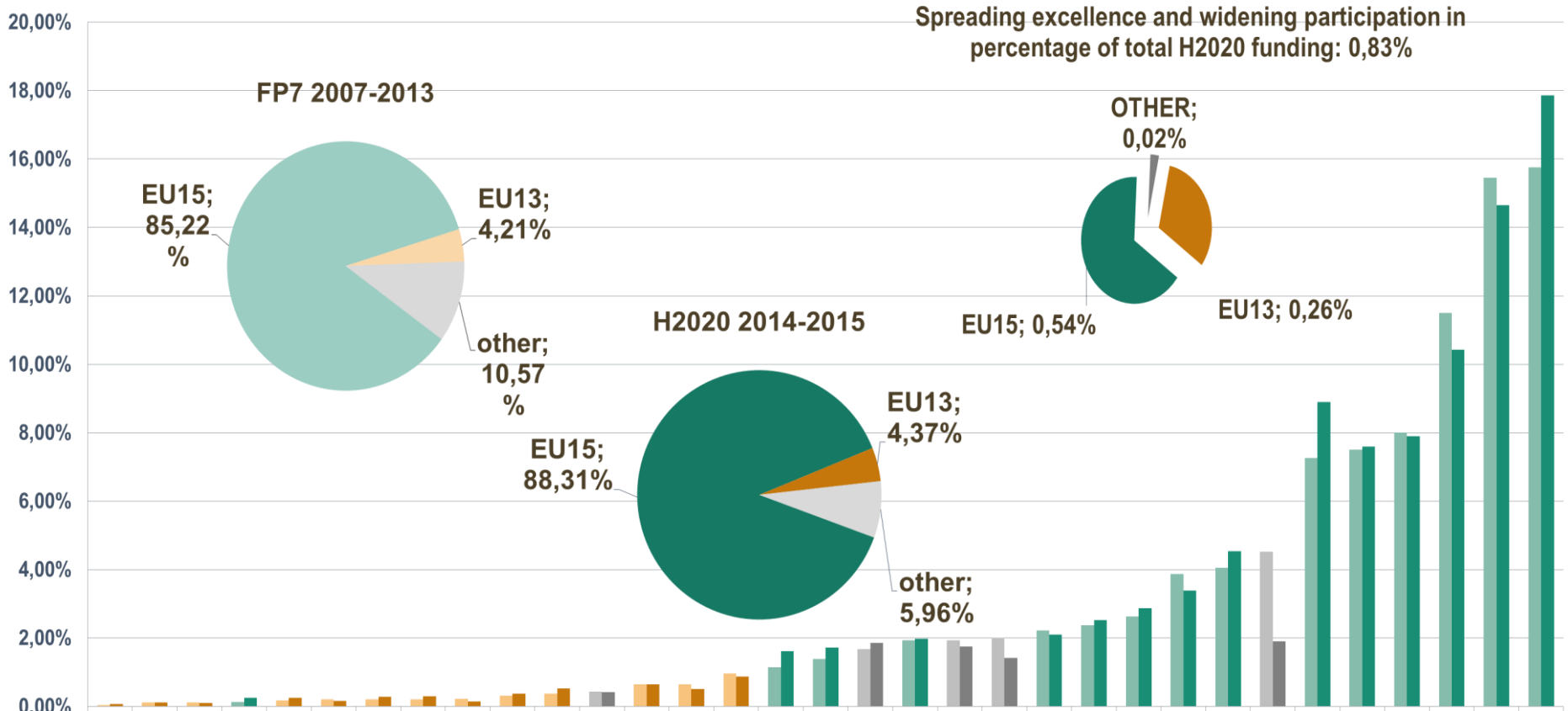
Figure 10.2: **GERD per capita in Southeast Europe, 2013 (%)**



Source: UNESCO Institute for Statistics, August, 2015

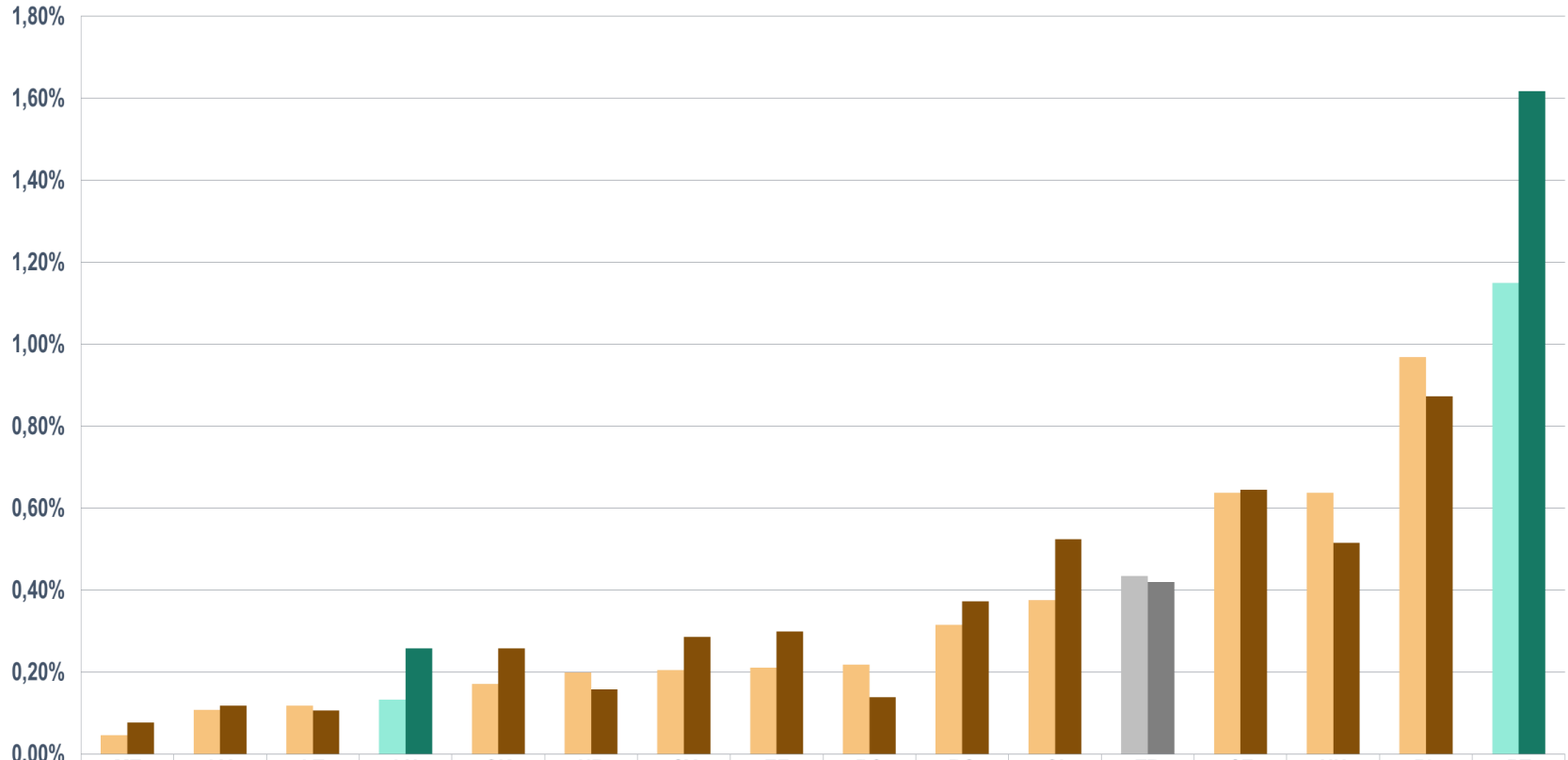
In 2013 Slovenian investment per capita in R&D was 4.4 times that of Croatia.

Share of funding to member states and other countries in FP7 and H2020: 2007-2016



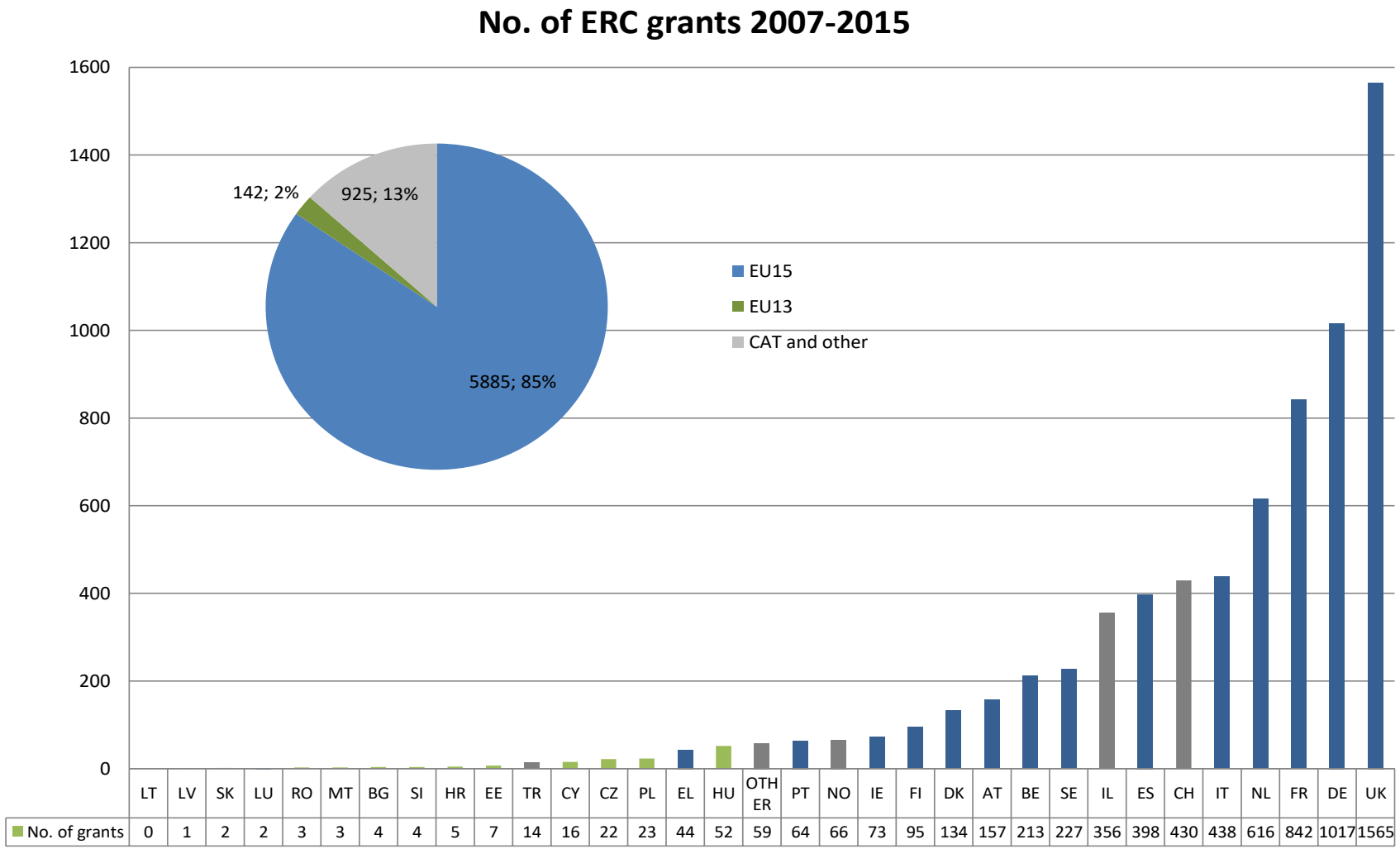
	MT	LV	LT	LU	SK	HR	CY	EE	BG	RO	SI	TR	CZ	HU	PL	PT	IE	NO	FI	IL	OTHER	EL	DK	AT	SE	BE	CH	ES	NL	IT	FR	UK	DE
FP7	0,05	0,11	0,12	0,13	0,17	0,20	0,21	0,21	0,22	0,31	0,38	0,43	0,64	0,64	0,97	1,15	1,38	1,68	1,93	1,93	2,01	2,23	2,38	2,63	3,87	4,04	4,52	7,25	7,51	8,00	11,5	15,4	15,7
H2020	0,08	0,12	0,11	0,26	0,26	0,16	0,29	0,30	0,14	0,37	0,52	0,42	0,64	0,52	0,87	1,62	1,72	1,85	1,98	1,75	1,41	2,10	2,52	2,87	3,38	4,54	1,90	8,90	7,60	7,90	10,4	14,6	17,8

Share of funding in FP7 and Horizon 2020 in low-performing member states:



	MT	LV	LT	LU	SK	HR	CY	EE	BG	RO	SI	TR	CZ	HU	PL	PT
FP7	0,05%	0,11%	0,12%	0,13%	0,17%	0,20%	0,21%	0,21%	0,22%	0,31%	0,38%	0,43%	0,64%	0,64%	0,97%	1,15%
H2020	0,08%	0,12%	0,11%	0,26%	0,26%	0,16%	0,29%	0,30%	0,14%	0,37%	0,52%	0,42%	0,64%	0,52%	0,87%	1,62%

ERC results



	LT	LV	SK	LU	RO	MT	BG	SI	HR	EE	TR	CY	CZ	PL	EL	HU	OTHER	PT	NO	IE	FI	DK	AT	BE	SE	IL	ES	CH	IT	NL	FR	DE	UK
No. of grants	0	1	2	2	3	3	4	4	5	7	14	16	22	23	44	52	59	64	66	73	95	134	157	213	227	356	398	430	438	616	842	1017	1565

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Table 9.12: **EU government budget appropriation for R&D by socio-economic objective, 2013 (%)**

Data for 2005 are given between brackets for comparison

	Exploration and exploitation of the Earth	Environment	Exploration and exploitation of space	Transport, tele-communication and other infrastructure	Energy	Industrial production and technology	Health	Agriculture	Education	Culture, recreation, religion and mass media	Political and social systems, structures and processes	General advancement of knowledge: share of R&D financed from General University Funds	General advancement of knowledge: R&D financed from sources other than GUF	Defence	Total R&D appropriations (€ millions)
EU28	2.0 (1.7)	2.5 (2.7)	5.1 (4.9)	3.0 (1.7)	4.3 (2.7)	9.2 (11.0)	9.0 (7.4)	3.3 (3.5)	1.2 (3.1)	1.1	2.8	34.6 (31.4)	17.3 (15.1)	4.6 (13.3)	92 094
Austria	1.7 (2.1)	2.4 (1.9)	0.7 (0.9)	1.1 (2.2)	2.6 (0.8)	13.3 (12.8)	4.9 (4.4)	1.7 (2.5)	1.7 (3.4)	0.3	1.2	56.1 (55.0)	12.3 (13.1)	0.0 (0.0)	2 589
Belgium	0.6 (0.6)	2.2 (2.3)	8.9 (8.4)	1.7 (0.9)	1.9 (1.9)	33.5 (33.4)	2.0 (1.9)	1.3 (1.3)	0.3 (4.0)	2.1	3.2	17.1 (17.8)	25.1 (24.2)	0.2 (0.3)	2 523
Bulgaria	4.3	1.5	2.0	1.1	0.2	7.8	2.0	20.0	7.3	1.1	1.7	9.1	40.5	1.4	102
Croatia	0.2	0.4	0.2	0.9	0.1	0.6	0.7	0.4	0.1	0.6	0.7	64.1	31.0	0.0	269
Cyprus	0.2 (1.9)	1.0 (1.1)	0.0 (0.0)	0.7 (1.5)	0.0 (0.4)	0.0 (1.3)	3.3 (10.4)	11.6 (23.5)	4.9 (8.2)	0.9	0.0	40.1 (28.7)	37.3 (22.9)	0.0 (0.0)	60
Czech Rep.	1.8 (2.3)	2.0 (2.9)	1.9 (0.8)	4.3 (4.1)	3.2 (2.4)	14.6 (11.9)	6.4 (6.8)	3.8 (5.0)	1.2 (2.8)	1.7	1.4	22.9 (25.4)	33.4 (27.3)	1.5 (2.5)	1 028
Denmark	0.4 (0.6)	1.6 (1.7)	1.3 (2.0)	0.6 (0.9)	4.0 (1.7)	7.9 (6.3)	12.6 (7.2)	3.5 (5.6)	3.9 (6.3)	1.6	2.6	47.8 (45.3)	11.8 (20.6)	0.3 (0.7)	2 612
Estonia	1.0 (0.3)	5.5 (5.4)	2.8 (0.0)	6.1 (8.1)	1.4 (2.2)	10.4 (5.8)	9.0 (4.3)	9.5 (13.5)	3.5 (6.4)	4.6	2.0	0.0 (0.0)	43.8 (49.2)	0.5 (1.0)	154
Finland	1.3 (1.0)	1.3 (1.8)	1.6 (1.8)	1.7 (2.0)	8.4 (4.8)	20.6 (26.1)	5.3 (5.9)	4.8 (5.9)	0.1 (6.1)	0.2	4.7	28.4 (26.1)	19.5 (15.2)	1.9 (3.3)	2 018
France	1.1 (0.9)	1.9 (2.7)	9.7 (9.0)	6.1 (0.6)	6.7 (4.5)	1.6 (6.2)	7.6 (6.1)	2.0 (2.3)	6.6 (0.4)	6.6	5.1	25.3 (24.8)	19.8 (17.8)	6.3 (22.3)	14 981
Germany	1.7 (1.8)	2.8 (3.4)	4.6 (4.9)	1.5 (1.8)	5.2 (2.8)	12.6 (12.6)	5.0 (4.3)	2.8 (1.8)	1.1 (3.9)	1.2	1.8	40.0 (40.6)	17.1 (16.3)	3.7 (5.8)	25 371
Greece	4.7 (3.4)	2.0 (3.6)	1.4 (1.6)	4.1 (2.2)	2.4 (2.1)	2.1 (9.0)	8.0 (7.0)	3.3 (5.4)	0.5 (5.3)	19.0	2.6	41.3 (42.2)	8.1 (17.0)	0.4 (0.5)	859
Hungary	1.8 (2.9)	2.6 (9.7)	0.5 (2.3)	6.7 (2.1)	6.8 (10.4)	14.2 (19.6)	10.3 (13.1)	8.2 (16.4)	0.6 (9.1)	2.2	1.4	9.3 (9.1)	35.4 (5.0)	0.2 (0.1)	663
Ireland	0.4 (2.4)	1.2 (0.8)	2.4 (1.5)	0.5 (0.0)	0.5 (0.0)	22.3 (14.2)	5.7 (5.3)	13.4 (8.9)	2.9 (2.4)	0.0	1.0	17.8 (64.3)	31.9 (0.1)	0.0 (0.0)	733
Italy	5.5 (2.9)	2.7 (2.7)	8.7 (8.0)	1.2 (1.0)	3.8 (4.0)	11.7 (12.9)	9.6 (9.9)	3.4 (3.4)	3.9 (5.3)	0.9	5.7	39.4 (40.3)	2.6 (5.8)	0.8 (3.6)	8 444
Latvia	0.5 (0.6)	10.4 (0.6)	0.8 (1.1)	4.9 (2.3)	6.7 (1.7)	16.0 (5.1)	15.4 (4.0)	16.3 (7.3)	2.2 (1.7)	1.7	0.9	0.0 (74.6)	22.9 (0.0)	1.2 (0.0)	32
Lithuania	3.0 (2.6)	0.2 (6.8)	0.0 (0.0)	0.0 (1.8)	4.6 (3.4)	5.4 (6.0)	4.7 (12.4)	5.3 (17.5)	0.6 (20.1)	2.1	1.4	50.9 (0.0)	21.6 (0.0)	0.1 (0.2)	126
Luxembourg	0.5 (0.5)	3.2 (3.1)	0.4 (0.0)	1.0 (3.4)	1.6 (0.6)	13.2 (21.0)	18.3 (7.8)	0.5 (1.8)	11.6 (16.4)	0.4	13.4	11.2 (16.4)	24.7 (25.6)	0.0 (0.0)	310
Malta	0.2 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.2 (0.1)	0.4 (0.0)	0.6 (0.0)	3.8 (5.6)	0.1 (6.9)	0.0	0.1	94.4 (89.9)	0.0 (0.0)	0.0 (0.0)	22
Netherlands	0.5 (0.3)	0.7 (1.2)	3.5 (2.5)	2.6 (3.6)	2.1 (2.2)	8.8 (11.5)	4.9 (3.8)	3.1 (6.1)	0.5 (2.1)	0.5	2.3	52.4 (49.0)	16.9 (10.8)	1.2 (2.2)	4 794
Poland	3.4 (1.8)	5.9 (2.4)	2.4 (0.0)	6.6 (1.2)	2.2 (0.9)	11.1 (5.9)	14.8 (1.9)	4.9 (1.3)	4.3 (0.9)	0.8	0.7	1.6 (5.3)	36.2 (76.9)	5.2 (1.3)	1 438
Portugal	1.9 (1.6)	3.4 (3.5)	0.7 (0.2)	4.0 (4.5)	2.2 (0.9)	6.9 (15.1)	11.5 (7.6)	3.6 (9.9)	2.9 (3.4)	3.0	2.4	40.2 (38.8)	17.2 (10.4)	0.2 (0.6)	1 579
Romania	3.7 (1.2)	7.4 (2.1)	1.8 (2.4)	3.7 (3.4)	3.7 (0.9)	12.9 (10.7)	2.8 (4.4)	4.9 (4.3)	4.7 (0.3)	0.4	2.4	0.0 (0.0)	50.0 (40.9)	1.4 (1.7)	297
Slovakia	1.7 (0.6)	2.7 (3.3)	0.6 (0.0)	1.6 (1.0)	1.0 (11.5)	7.4 (0.0)	7.9 (1.6)	4.2 (5.0)	2.9 (3.6)	3.1	1.7	48.2 (25.6)	15.6 (35.9)	1.4 (8.3)	289
Slovenia	1.2 (0.4)	3.1 (3.1)	0.5 (0.0)	3.3 (0.8)	2.9 (0.5)	15.2 (22.6)	7.3 (2.0)	4.0 (3.2)	1.2 (2.7)	1.8	2.2	0.3 (0.0)	56.4 (59.7)	0.7 (4.9)	175
Spain	1.7 (1.6)	3.9 (3.0)	5.0 (3.5)	3.5 (5.5)	2.3 (2.2)	6.8 (18.5)	15.5 (8.2)	6.6 (6.3)	1.0 (2.2)	0.6	1.0	29.4 (17.8)	21.3 (11.0)	1.4 (16.4)	5 682
Sweden	0.4 (0.7)	2.1 (2.2)	1.9 (1.2)	5.0 (3.8)	4.0 (2.3)	2.6 (5.4)	1.7 (1.0)	1.5 (2.2)	0.2 (5.0)	0.1	2.4	49.9 (46.1)	22.0 (12.7)	4.0 (17.4)	3 640
UK	3.1 (2.3)	2.8 (1.8)	3.3 (2.0)	3.4 (1.1)	2.5 (0.4)	3.4 (1.7)	21.1 (14.7)	4.0 (3.3)	0.4 (3.5)	1.8	1.5	23.6 (21.7)	13.3 (16.0)	15.9 (31.0)	11 305

EU13 = 4655 M€

Science Europe Message on Widening Excellence and Closing the Knowledge Divide

Message 1
Strengthening of research capacity and reform of the research system is primarily a national-level responsibility.

Message 2
An essential component in building a strong national research system is the ability to attract excellent research talent, ... in order to alleviate 'brain drain' from low-performing EU Member States.

Message 3
Another essential component in attracting talent and improving research performance is the availability and use of state-of-the-art research infrastructures.

Message 4
EU funding aimed at 'widening participation' should be maintained and strengthened. In addition to current schemes, the introduction should be encouraged of horizontal measures that aim to improve newcomers' participation in research consortia and increase the active, meaningful participation of institutions in low-performing Member States.

Message 5
The full potential of Structural Funding to support research capacity building has still not been exploited. It is crucial for both national authorities and the European Commission to allow use of this funding for projects focused on excellent research.

Table 10.3: **Capacity of Southeast Europe to retain and attract talent, 2014**

Country's capacity to retain talent			Country's capacity to attract talent		
Country	Value	Rank (148 countries)	Country	Value	Rank (148 countries)
Albania	3.1	93	Albania	2.9	96
Bosnia & Herzegovina	1.9	143	Bosnia & Herzegovina	1.9	140
Croatia	2.1	137	Croatia	1.8	141
Greece	3.0	96	Greece	2.3	127
Macedonia, FYR	2.5	127	Macedonia, FYR	2.2	134
Montenegro	3.3	81	Montenegro	2.9	97
Serbia	1.8	141	Serbia	1.6	143
Slovenia	2.9	109	Slovenia	2.5	120

Source: WEF (2014) *Global Competitiveness Report 2014–2015;* for Bosnia and Herzegovina: WEF (2013) *Global Competitiveness Report 2013–2014*

Today, Croatia faces five main structural challenges:

- its R&D policy is obsolete and lacks vision, not to mention a coherent and integrated policy framework; the *National Research and Innovation Strategy on Smart Specialization* due to be adopted in 2015 should go some way towards tackling this challenge;
- the business environment is not conducive to innovation;
- with the exception of a few big spenders, private companies show little interest in R&D;
- reform of the research and higher education system has been sluggish so far; and
- the regional research and innovation system remains weak.

→ potrebno je daljnje jačanje istraživačkih kapaciteta u RH s ciljem povećanja međunarodne kompetitivnosti hrvatske znanstvene zajednice.

→ neophodno je dalje razvijati i održati stabilan sustav financiranja znanstvenih projekata i razvoja karijera mladih istraživača na nacionalnoj razini.

→ nedostatak proračunskog financiranja nije moguće u potpunosti nadomjestiti izvan-proračunskim sredstvima (donacije, suradnja s gospodarstvom, uslužne i stručne djelatnosti) te sredstvima europskih fondova.

→ potrebno je stvoriti povoljno okruženje za jače uključivanje gospodarstva i privatnog sektora u znanstvena istraživanja.