Research and Innovation: Research Projects in the ICT domain

(Horizon 2020)

Digital Agenda Scoreboard
2015

In its first year of implementation, Horizon 2020 has allocated € 1.55 billion of Union funding to 545 projects in the field of ICT, attracting 2,315 organisations

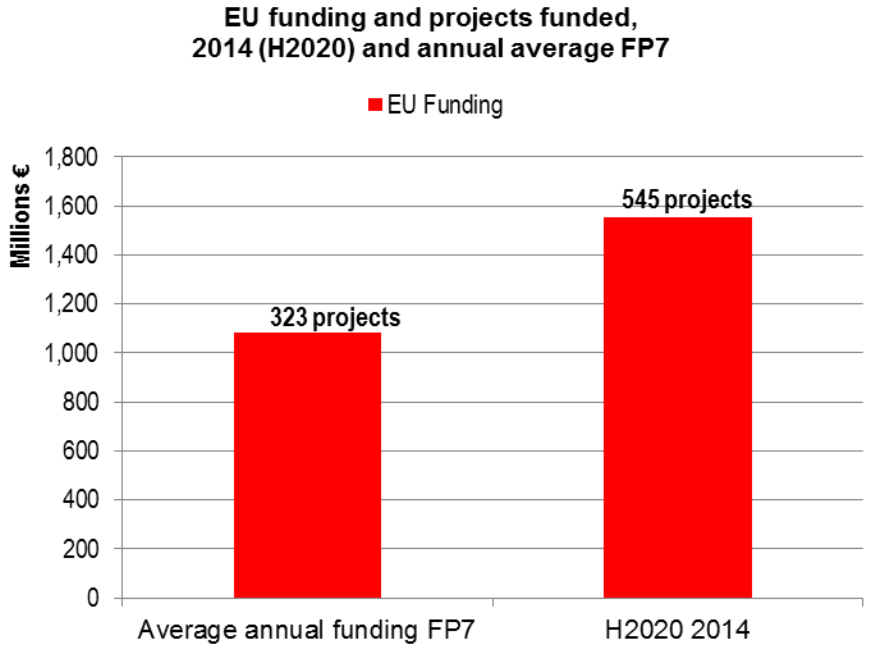
The annual funding has increased compared to the previous Framework Programme, FP7, where the average annual funding was €1.08 billion/year.

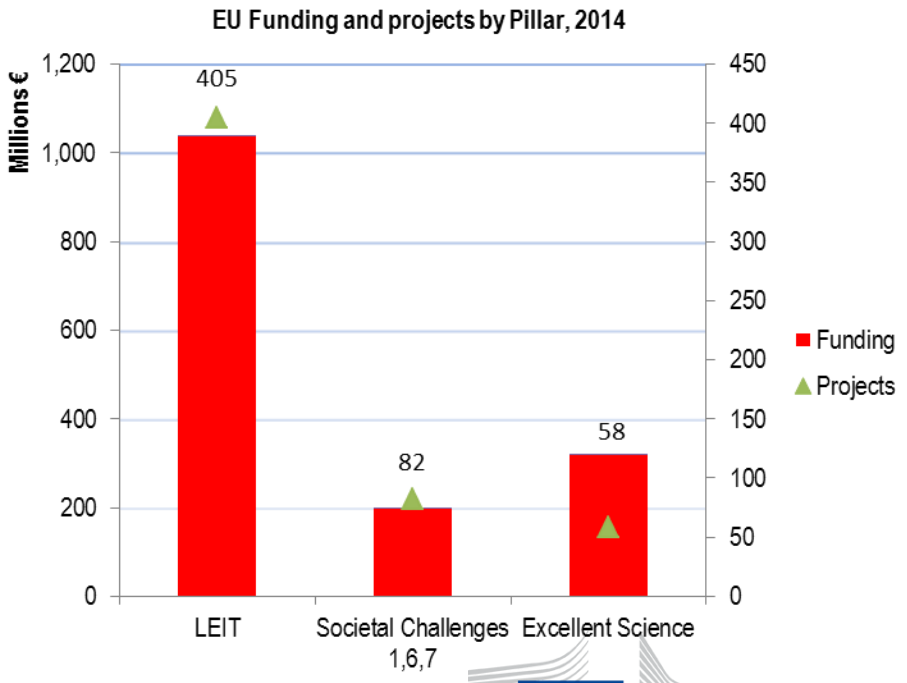
LEIT ICT accounts for the majority of funding (67%), participations (66%) and 74% of the projects.

Excellent science* accounts for one fifth of the budget (20%) and participations (19%) and 11% of projects. Societal Challenges (SC) 1,6 and 7 account for 13% of the budget, 15% of projects and 15% of participations. An indicative budget of € 88.7 million was assigned to SC 3, 4 and 5.

* e-Infrastructures, FET Open, FET Proactive, FET Flagships and High Performance Computing.

The number of participants has also increased in comparison with FP7, where on average 1,830 legal entities took part every year. 46% of the participants are new compared to FP7, and among these the large majority (74%) are Private Commercial Organisations (PRC). H2020 has been able to attract in 2014 520 new SMEs .





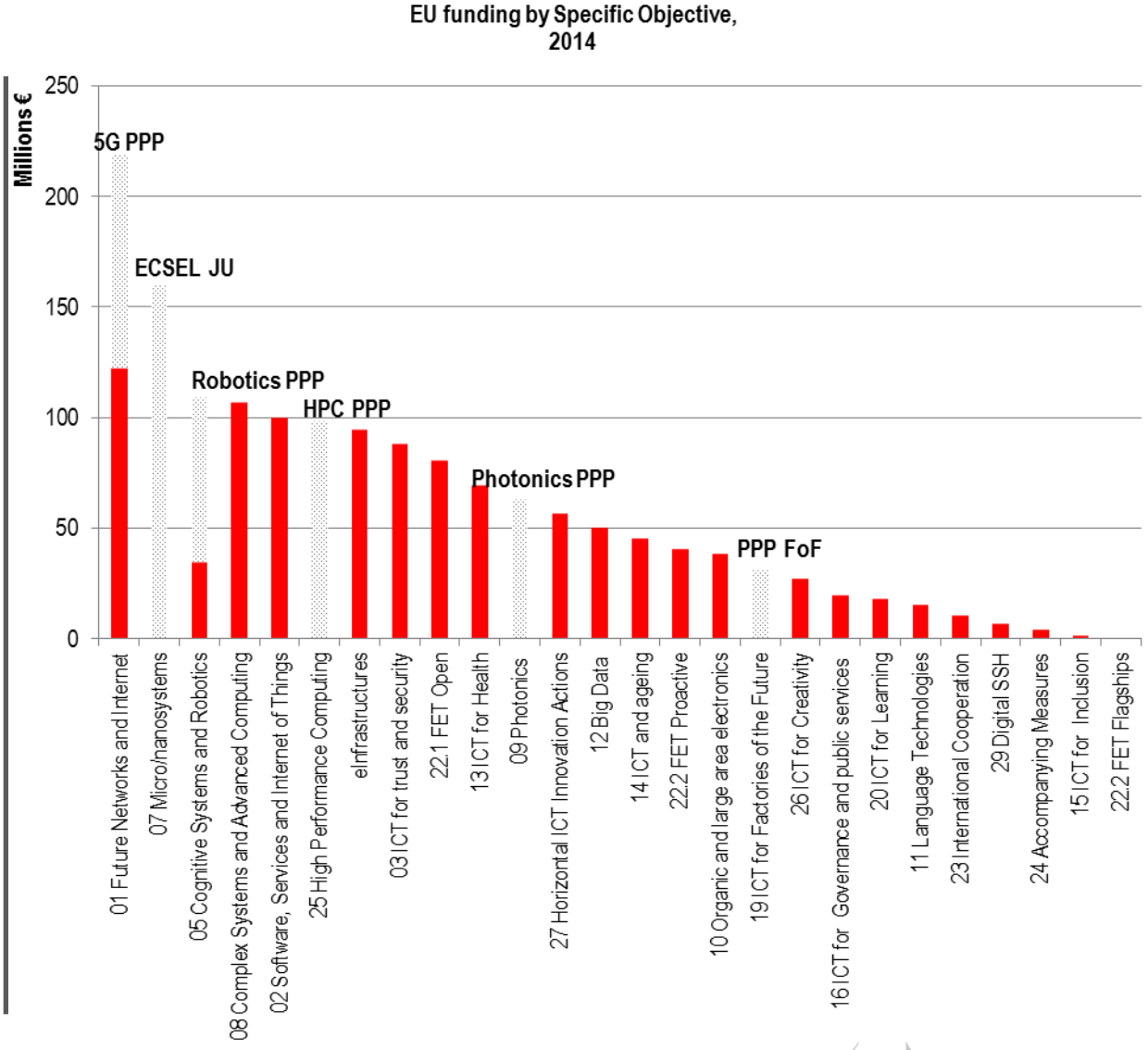
Future Networks and Internet and the Micro/nanosystems are the research areas that attract the highest number of participants and funding

Within the Strategic Objective "Future Networks and Internet", the contractual Private Public Partnership for 5G (PPP) accounts for €97 million. The ECSEL Joint Undertaking allocated from the European Commission €159 million. The other newly launched PPPs in H2020, High Performance Computing (HPC), Robotics and Photonics, allocated €98, €74.5 and €63 million respectively. The ICT part of the Factories of the Future PPP allocated €30 million.

eInfrastructures is second in terms of participations and co-funded projects for total €94 million.

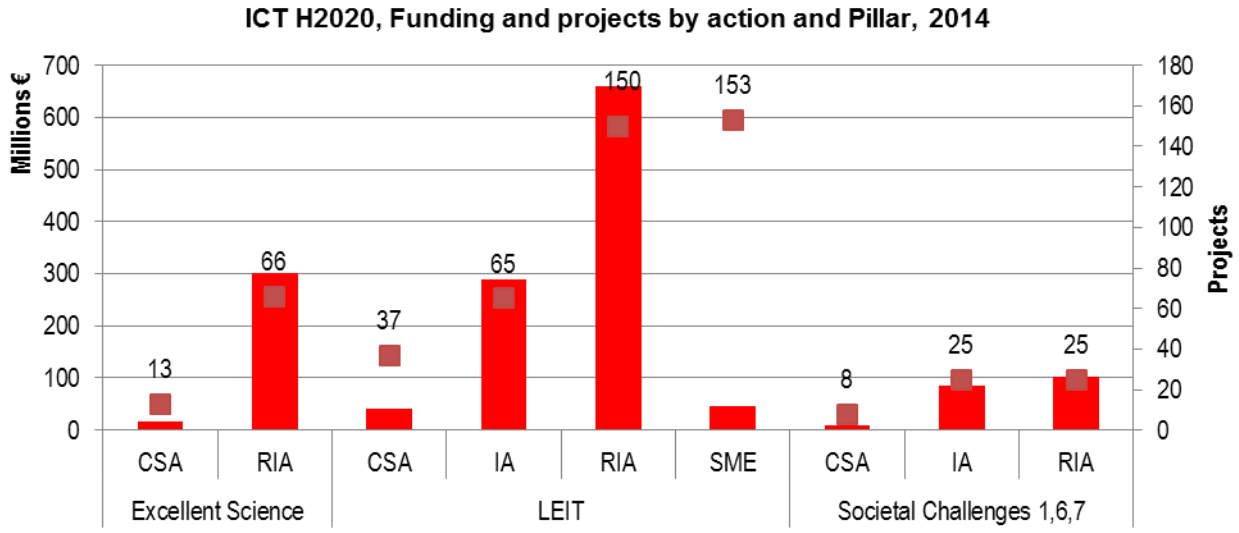
Within the Societal Challenges, "ICT for Trust and Security" and "ICT for Health" are the SOs with the highest funding, with €88 and €69.5 million respectively.

Within Horizontal ICT Innovation Actions, the Open Distructive Innovation (ODI) Scheme allocated €6.25 million to 125 projects for the Phase I, and €40.5 million to 28 projects in Phase II.



EC Funding for PPPs and JU within the Strategic Objective

Research and Innovation Actions are the prevailing type of action



Research and Innovation actions (RIA) account for 66% of total funding, 57% of participations, and 43% of projects. Innovation Actions (IA) follow, with 27% of funding, 23% of participations and 18% of projects.

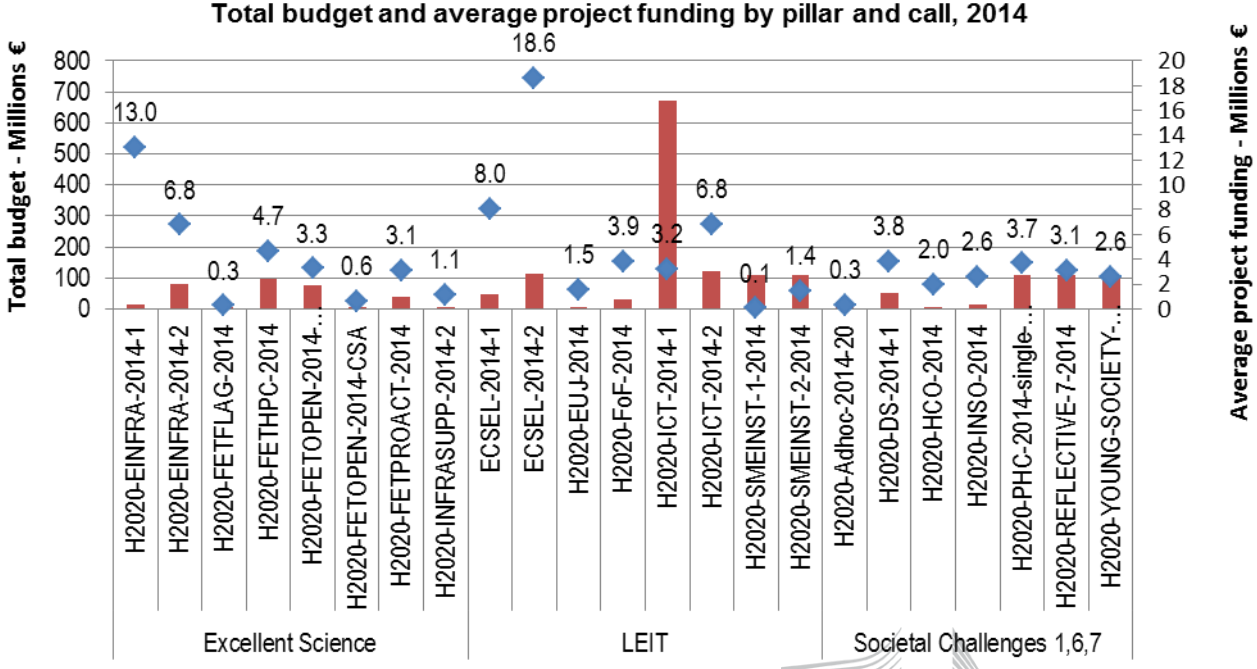
Coordination and Support Actions (CSA) account for 11% of projects and participations, and 4% of funding. The SME Instrument (within the ODI Scheme) accounts for 27% of projects, and 3% of funding.

The average project size differs by Pillar, with projects averaging as much as €18.6 million in the ECSEL JU within LEIT and €13 million in eInfrastructures for Big Data.

Projects size within Societal Challenges 1,6,7 ranges from of €2 to €3.8 million per project. Phase II of the ODI Scheme has an average funding of €1.45 million.

The average size of CSAs is €1.2 million, slightly lower than FP7 (€1.3 million).

In FP7 the average project size was €3.38 million.Strep projects had an average size of €2.2 million and IPs of €7.95 million.

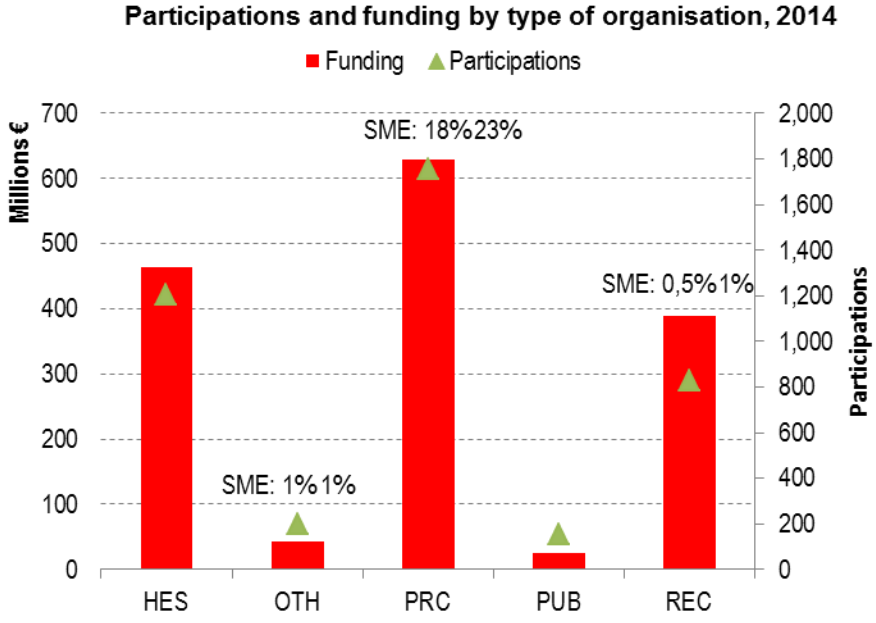


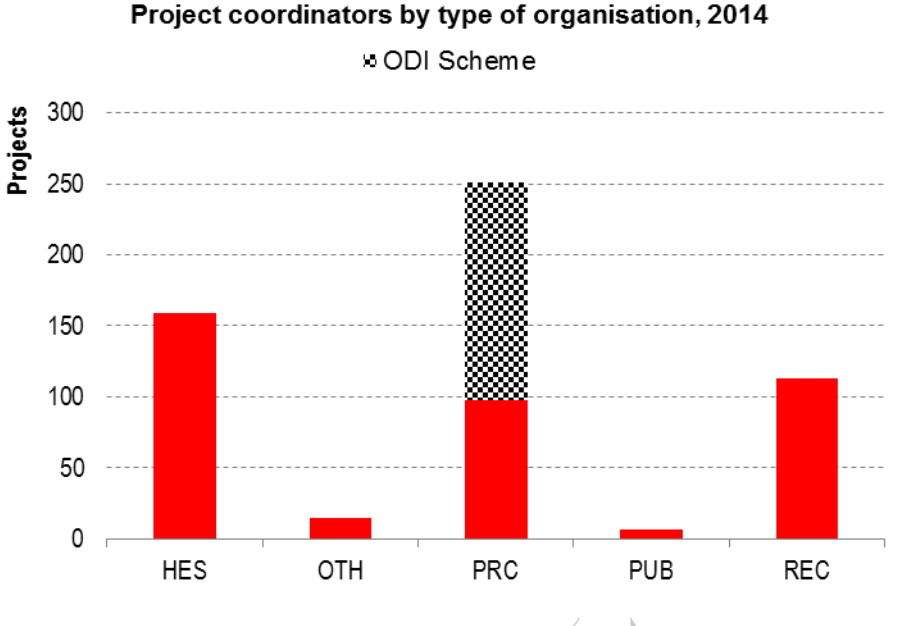
In H2020 the enterprise sector shows an increased participation compared to FP7, representing 42% of participations and 41% of budget

High Education Institutions (HES) and Research Centres (RES) taken together account for almost half of all participations in the projects (49%) and receive the highest funding (55%). Still the main beneficiaries in ICT H2020, their relative size has however decreased in comparison with FP7 (average figures), where they accounted for 64% of budget and 57% of participations.

Conversely, in the first year of H2020 one can observe an increase in enterprise participation, with Private Commercial (PRC) organisations accounting for 41% of budget and 42% of participations, up from 33% and 35% respectively in FP7. The funding going to SMEs has also increased, from 15% to 19%, and so did the share of SMEs participations, increasing from 16% to 25%.

HES and REC coordinate half of the projects, followed by PRC (46%), with 36% of projects coordinated by SMEs. This is however largely influenced by the number of projects within the ODI Scheme. For the rest of the projects and areas, the share of projects coordinated by SMEs is however higher than in FP7, at 13% (it was 10% in FP7), but large enterprises coordinate a lower share of projects (14%) compared with 18% in FP7.





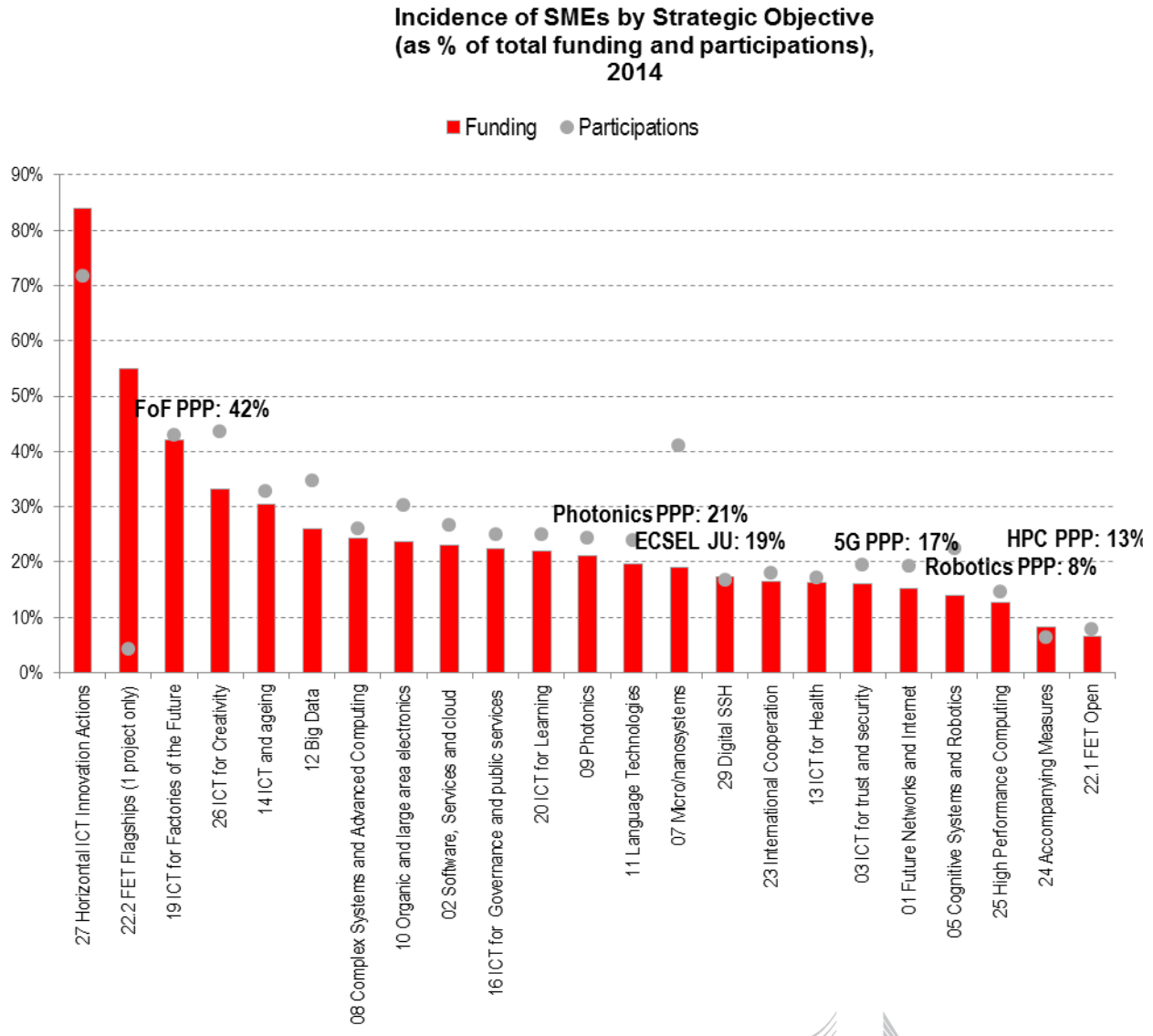
SMEs are especially present in the research theme Horizontal ICT Innovation Actions and in the ICT part of the PPP Factories of the Future.

SMEs are about one third (32%) of the participating organisations and their participation varies by Pillar and Strategic Objectives.

Beyond the "Horizontal ICT IAs", where the presence of SMEs is prevalent due to the ODI Scheme, SMEs are present in the Societal Challenges, such as "ICT for Creativity" and "ICT and Ageing". SMEs are also present in LEIT research areas, such as "Big Data" and "Complex Systems and Advanced Computing". They are particularly weak in "FET Open" and "FET Proactive" (7% and 5% of funding, 4.6% of participations).

As for the PPPs and the JU, the presence of SMEs ranges from 8% in Robotics, to 13% in HPC and 19% in ECSEL, to 17% in 5G and 21% in Photonics, 42% in FoF.

In certain Member States SMEs account for the large majority of the total funding going to the country: in Estonia the share is 84%, in Hungary 50%, in Cyprus and Bulgaria 42% and 40% respectively.

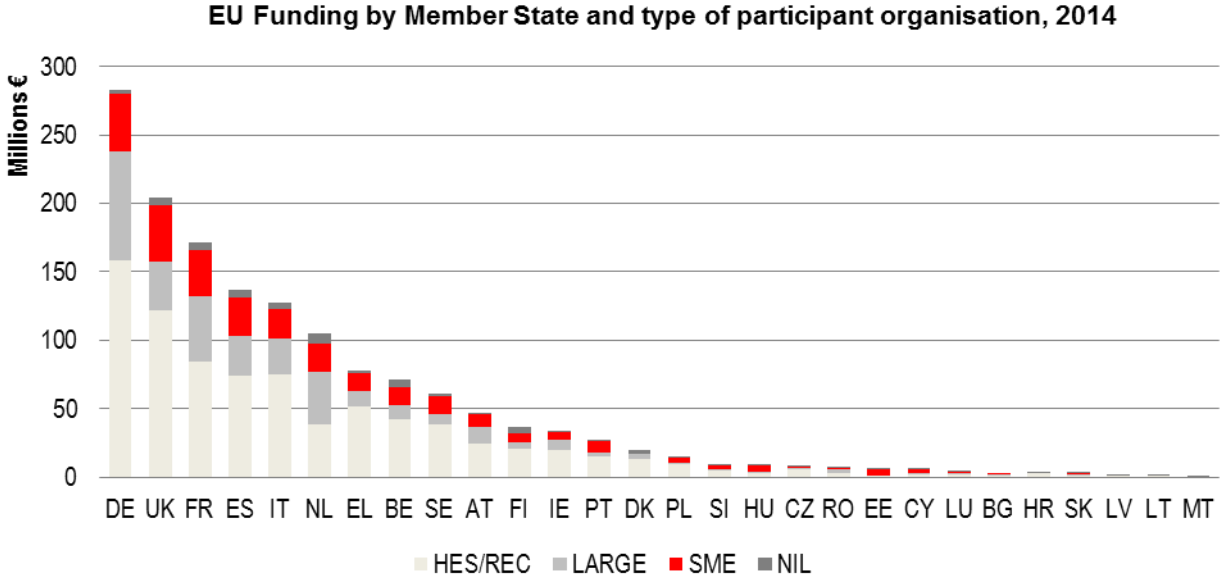


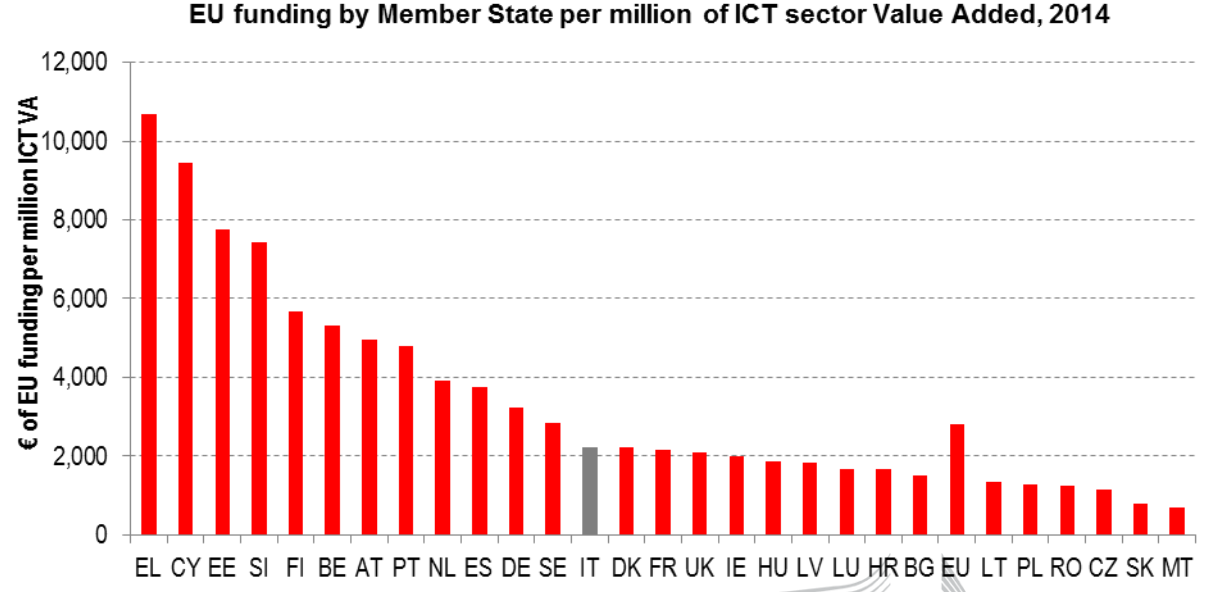
In absolute terms, Germany and the United Kingdom are the biggest recipient of EU funding, but Greece and Cyprus are the countries with the highest funding in relation to the size of their ICT sector

Germany, the United Kingdom, France, Spain and Italy account for 60% of total EU funding and 56% of participations in 2014. These countries also lead in terms of projects coordinated (60%).

Estonia, Slovenia and Finland are also among the Member States with highest amounts of funding compared to the size of their ICT sector

When looking at the total funding by country, and the distribution among research pillars, it is noted that in all the countries except Croatia, at least 47% of the total funding allocated to the country is in projects within LEIT, with a peak of 91% for Lithuania and 84% for Estonia. As for Croatia, 76% of funding is in Excellent Science. In Romania, slightly above half of the total funding is in Societal Challenges (51%), in Cyprus 41% and in Greece 29%.





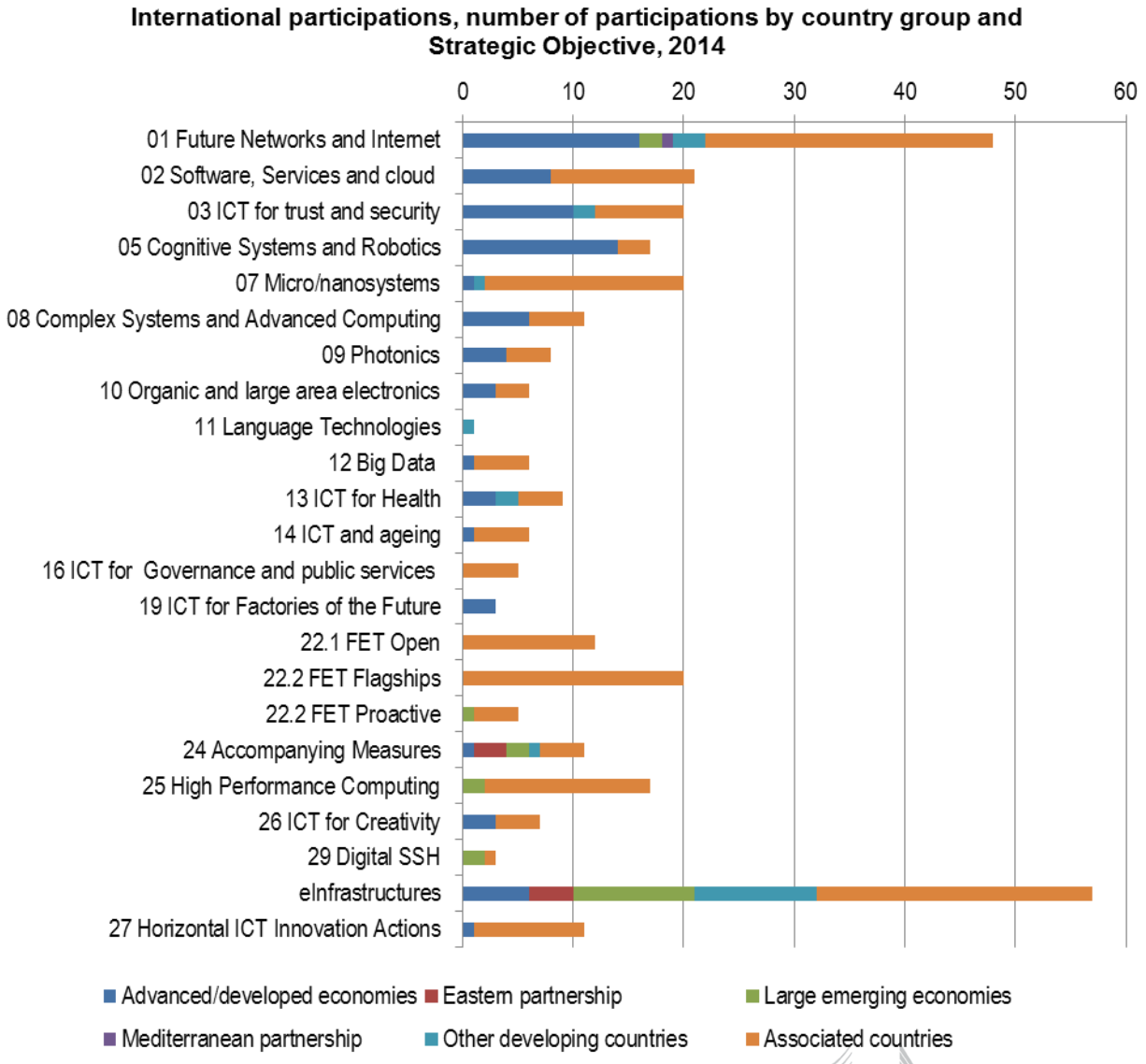
95% of EU funding in H2020 is allocated to EU Member States, followed by Associated Countries. Third Countries take part in the Research Programme but with little EU funding (1%)

In 2014, 243 organisations from countries other than the Member States participate to 192 projects.

5% of participations and funding go to associated countries, mainly due to the presence of research-oriented players such as Israel and Norway.

The rest of the budget and participations are equally distributed among other Third Countries (TCs).

Most of the projects with international participants fall under the specific objectives "Future Networks and Internet" (29 projects), "Software, Services and cloud" (17 projects), eInfrastructures (14 projects), "ICT for trust and security (13 projects), "Cognitive Systems and Robotics" (12 projects)" and "High Performance Computing" (11 projects).



Notes

The following Country Groups are used for the international cooperation part:

- Associated countries (art. 7 of H2020 Regulation): Iceland, Norway, Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, Serbia, Turkey, Israel, Moldova, Switzerland (partial association: Excellent Science Pillar only), Faroe Islands
- Advanced / developed economies: US, Japan, Canada, Australia, New Zealand, Korea, Singapore
- Large emerging economies: BRICS (with South Africa); Mexico, Indonesia, Nigeria (the MINT group), South America (Argentina, Chile, Uruguay, Colombia).
- Eastern Partnership: Ukraine, Belarus, Armenia, Azerbaijan, Georgia
- Mediterranean Partnership: Morocco, Algeria, Tunisia, Libya, Egypt, Lebanon, Jordan, Syria
- Other developing countries: all other Third Countries

Source: the report is based on CORDA data elaborated by DG CONNECT. The source of data for ICT Value Added is PREDICT.

Correspondance Strategic Objectives, Calls and H2020 Pillars

01 Future Networks and Internet	H2020-ICT-2014-1	LEIT
	H2020-ICT-2014-2	LEIT
02 Software, Services and cloud	H2020-ICT-2014-1	LEIT
03 ICT for trust and security	H2020-DS-2014-1	Societal Challenge 7
	H2020-ICT-2014-1	LEIT
05 Cognitive Systems and Robotics	H2020-ICT-2014-1	LEIT
07 Micro/nanosystems	ECSEL-2014-1	LEIT
	ECSEL-2014-2	LEIT
08 Complex Systems and Advanced Computing	H2020-ICT-2014-1	LEIT
09 Photonics	H2020-ICT-2014-1	LEIT
10 Organic and large area electronics	H2020-ICT-2014-1	LEIT
11 Language Technologies	H2020-ICT-2014-1	LEIT
12 Big Data	H2020-ICT-2014-1	LEIT
13 ICT for Health	H2020-Adhoc-2014-20	Societal Challenge 1
	H2020-HCO-2014	Societal Challenge 1
	H2020-PHC-2014-single-stage	Societal Challenge 1
14 ICT and ageing	H2020-HCO-2014	Societal Challenge 1
	H2020-PHC-2014-single-stage	Societal Challenge 1
15 ICT for Inclusion	H2020-INSO-2014	Societal Challenge 7
16 ICT for Governance, policy modelling and public services	H2020-INSO-2014	Societal Challenge 6
	H2020-YOUNG-SOCIETY-2014	Societal Challenge 6
19 ICT for Factories of the Future	H2020-FoF-2014	LEIT
20 ICT for Learning	H2020-ICT-2014-1	LEIT
22.1 FET Open	H2020-FETOPEN-2014-2015-RIA	Excellent Science
	H2020-FETOPEN-2014-CSA	Excellent Science
22.2 FET Flagships	H2020-FETFLAG-2014	Excellent Science
22.2 FET Proactive	H2020-FETPROACT-2014	Excellent Science
23 International Cooperation	H2020-EUJ-2014	LEIT
	H2020-INFRASUPP-2014-2	Excellent Science
24 Accompanying Measures	H2020-ICT-2014-1	LEIT
25 High Performance Computing	H2020-FETHPC-2014	Excellent Science
26 ICT for Creativity	H2020-ICT-2014-1	LEIT
	H2020-REFLECTIVE-7-2014	Societal Challenge 6
27 Horizontal ICT Innovation Actions	H2020-ICT-2014-1	LEIT
	H2020-SMEINST-1-2014	LEIT
	H2020-SMEINST-2-2014	LEIT
29 Digital SSH	H2020-ICT-2014-1	LEIT
eInfrastructures	H2020-EINFRA-2014-1	Excellent Science
	H2020-EINFRA-2014-2	Excellent Science