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COVER NOTE

from: Secretary-General of the European Commission,
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 28 May 2014

to: Mr Uwe CORSEPIUS, Secretary-General of the Council of the European
Union

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PART 2/2

COMMISSION STAFF WORKING DOCUMENT

Digital Agenda Scoreboard 2014

COMMISSION STAFF WORKING DOCUMENT

Digital Agenda Scoreboard 2014

Table of content

(part 2 of 2)

4.	eGovernment	26
5.	Use of Internet Services	29
6.	The EU ICT Sector and its R&D Performance	33
7.	Research and Innovation: Research Projects in the ICT Domain	39



eGovernment

Digital Agenda Scoreboard
2014

1

eGovernment use in EU28 has been flat

In 2013 eGovernment services have been used by 41% of the EU28 population, down from 44% in 2012 and almost at the same level as in 2011. Currently only 9 out of 28 countries are above the 2015 target, namely DK, NL, SE, FI, FR, LU, AT, SI, BE (although DE and EE are also close to it) and only 7 countries have seen usage increasing in 2013. In five countries (RO, IT, BG, PL and HR) online public services are used by less than a quarter of the population with generally little progress in term of catching-up (and even some big drops like in RO and PL).

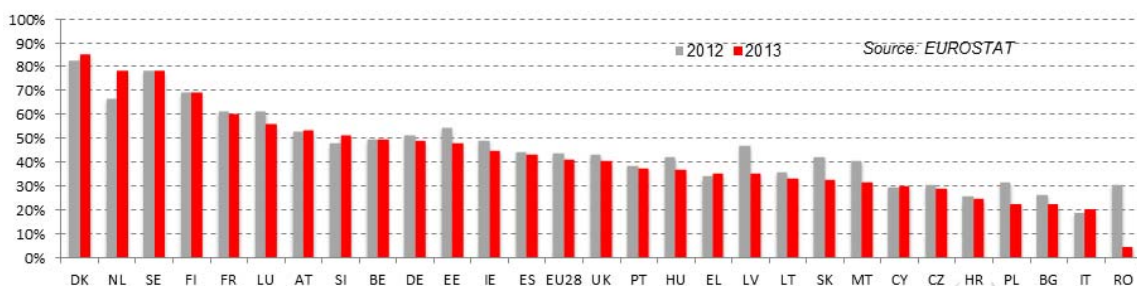
Our target

Half the population using eGovernment by 2015

Current performance

41% in 2013

eGovernment use by citizens in the last 12 months



Digital Agenda Scoreboard 2014 - eGovernment

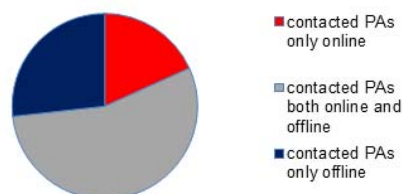
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Internet-savvy citizens often use the Internet to contact public administrations, but less so to conclude more complex interactions.

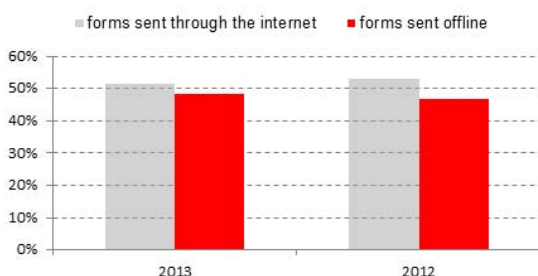
Almost three quarters (73.3%) of Internet users (in the last 12 months) who needed to contact a public authority (or to use a public service) did so online in 2013. A quarter of these used exclusively the Internet, while the others used also other channels of interaction. 26.7% of the internet users contacted their public administrations without using the Internet at all. The preferred offline channels of interaction were personal visits (54%), telephone (50%), email (25%) and other methods (e.g. SMS, post, 20%).

Internet users (in the last 12 months) contacting public authorities through the online and offline channels (EU28, 2013)



Source: Commission calculations based on EUROSTAT data

Citizens (internet users in the last 12 months) needing to send official forms to public authorities



Source: Commission calculations based on EUROSTAT data
Digital Agenda Scoreboard 2014 - eGovernment

*The EU28 aggregate in 2013 does not include IT, LV and PL for which no data on need to submit forms was available

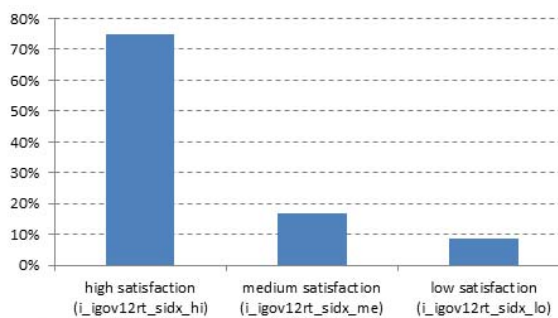
However, when more advanced interaction is required, Internet users are less likely to carry this out online. In 2013, among Internet users who needed to submit official forms to public authorities, only 52%* did so via Internet, down from 53% in the previous year



Users of eGovernment services are in general satisfied, while the main reason for non-use is a lack of trust

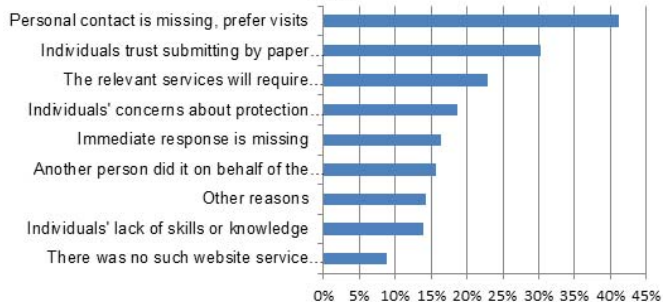
Once citizens start to use online public services, they generally find the experience highly satisfying (75%), with only a minority feeling very disappointed (8%). The most appreciated feature is the usefulness of information (87% mainly satisfied), followed by the ease of finding information (84%), the ease of using online services (79%) and the transparency/follow-up (75%).

Citizens sending filled forms online and level of satisfaction with eGovernment services



Source: EUROSTAT

Reasons for not using the online channel for submitting official forms



Source: Commission calculations based on EUROSTAT data
Digital Agenda Scoreboard 2014 - eGovernment

Lack of trust seems to be the main source of non-use. It comes in several forms: a preference for personal contact (41%), higher trust for paper submissions (30%), concern about personal data (19%), and a lack of immediate feedback (16%). Other main factors of non-use are a lack of skills and an incomplete digitalization of government services. The Commission, via the ISA programme, has taken up actions to help Member States strengthen interoperability between public services.



The measurement of eGovernment supply, some methodological notes

The supply side of eGovernment is measured through a user journey approach. This is undertaken by researchers acting as mystery shoppers, that is, by posing as ordinary users of eGovernment services. The mystery shoppers simulate an event in the life of the citizen/entrepreneur requiring administrative action from the government (e.g. a marriage) and then go through public authorities websites in order to fulfil the related administrative requirements through the online channel when possible.

Seven of these life events are analysed in the course of two years (the first complete measurement is from 2012-2013) in different government domains:

- losing/finding a job
- enrolling to university
- moving
- starting a small claim procedure
- buying/owning a car
- starting a business
- regular business operations

Different aspects of service provision are examined in this new methodology, but the two examined here are the following : User-centric eGovernment and Transparent eGovernment. The User-Centric eGovernment indicator measures the availability of eGovernment services, their connectedness and their user-friendliness. The Transparent eGovernment indicator measures the online transparency of governments on the different aspects of online service delivery, treatment of citizens' personal data and activities of the public administrations. Both indicators range from 0 (complete absence of required features) to 100 (all features included).

The source for the eGovernment supply data is the eGovernment Benchmark Report (see <https://ec.europa.eu/digital-agenda/news-redirect/16475>)

Digital Agenda Scoreboard 2014



On the supply side signs are more encouraging but important steps still need to be taken to improve transparency and win citizens' trust

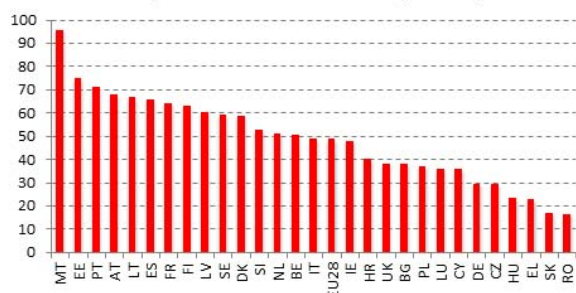
The results for EU28 show that for many countries the provision of user-friendly services is already a reality in most government domains, although on average there is still distance from the digital by default approach (a score of 100). Some countries still score 50 or less, displaying a rather analogue approach to public service delivery (SK, RO, HU, EL).

User-Centric eGovernment in the EU (2012-2013)



Source: eGovernment Benchmark Report

Transparent eGovernment in the EU (2012-2013)



Source: eGovernment Benchmark Report

Digital Agenda Scoreboard 2014 - eGovernment

Transparency is an important element for increasing the take-up of online public services, since it helps building trust of citizens in public administrations. The data show that this important feature is still not sufficiently at the center of eGovernment strategies for many governments, with few exceptions.



Use of Internet services

Digital Agenda Scoreboard
2014

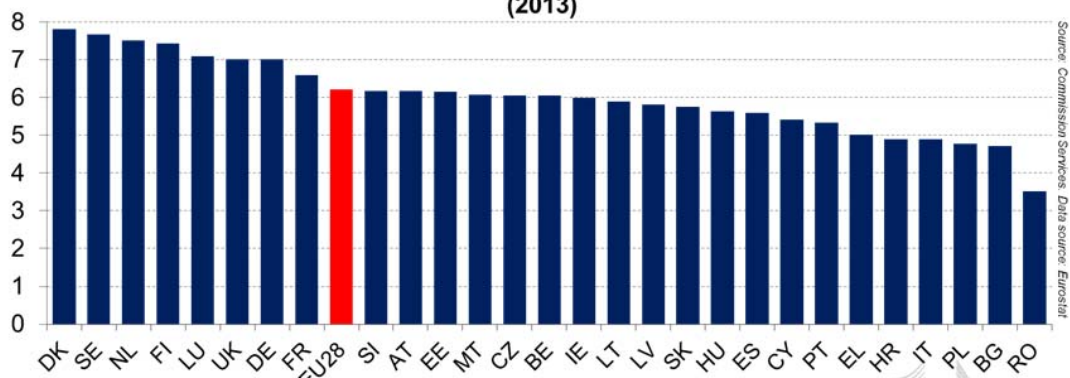
In countries where internet use is more defused, individuals also use a wider variety of online services.

The Diversification index (see chart) measures the mean number of online activities (out of a set of 12) undertaken by internet users. The index has **grown continuously of the past few years, from 5.1 in 2009 to 6.2 in 2013**, showing that as people become more experienced and confident online, they not only increase their frequency of use but also the diversity of the activities they perform. **This process takes time**, and while leading countries such as Denmark and Sweden are about 4 years ahead of the EU average, internet users in lagging countries such as Romania, Bulgaria, Italy and Poland are 4 years behind the average in terms of diversification of their online behaviour.

The Diversification Index is calculated for individuals that used the Internet in the previous 3 months, and is computed as the number of activities performed out of the following 12 selected activities:

- sending/receiving e-mails
- browsing for information about goods and services
- reading online newspapers/news
- looking for information on travel/accommodation services
- posting messages to social media
- interacting with public authorities
- internet banking
- telephoning or video calls
- selling goods or services
- purchasing content (films, music, software)
- purchasing goods
- purchasing services

Diversification Index of Activities performed Online by Internet Users (2013)



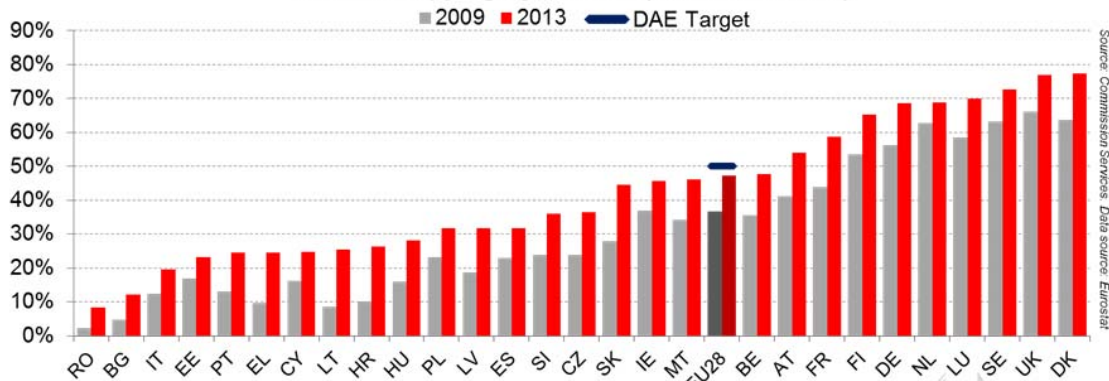
Digital Agenda Scoreboard 2014 – Use of Internet services

Online shopping is growing, but less so cross-border.

The proportion of **online shoppers continues to grow**, up more than 10 percentage points over the period 2009-2013 to **47% of citizens**, advancing in a close parallel with the rate of internet use. As such the Digital Agenda **target of 50% by 2015 is likely to be achieved**. While there appears to be no overall relationship between the rate of online shoppers in a country and the rate of increase in this rate over the period observed, the countries with the lowest rates of online shoppers (Romania, Bulgaria, Italy and Estonia) have also seen least progress in increasing rates.

Cross-border online shopping has also increased somewhat over this period, up to **12% in 2013** (+4 percentage point over 2009), but this pace is **too slow to achieve the target of 20% by 2015**. As could be expected, smaller member states have higher rates of cross-border shopping. However, they also exhibit higher growth. In Poland only 9% of online shoppers purchased cross-border, the lowest share of all member states by far.

Online shopping by citizens (% of individuals)



Digital Agenda Scoreboard 2014 – Use of Internet services

3



Europeans increasingly download Apps.

App Economy continues solid growth both in Europe and worldwide.

In 2013, **total App downloads** from all platforms reached 90bn worldwide and 20bn in Europe.

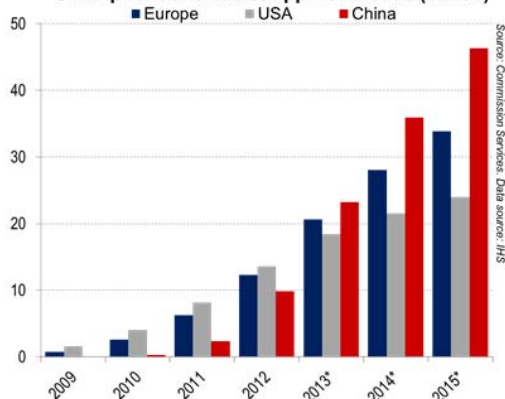
The number of downloads grew a staggering 80% worldwide in 2013. Europe showed a 68% growth, and the USA grew at a rate of 36%. However, growth is slowing, and forecasts for 2014 point to an increase of 44% in downloads worldwide, 36% in Europe and 17% in the USA.

In 2013, **App revenues** (downloads and In-App purchases) reached EUR 12bn worldwide and EUR 2.75bn in Europe.

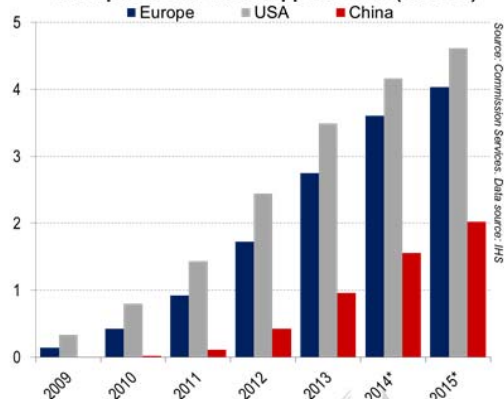
Worldwide App revenue has roughly doubled in 2013 (97% growth). In Europe it grew 59% and 43% in the USA. Revenue growth is slowing down and in 2014 it is expected to grow 32% worldwide, 31% in Europe and 19% in the USA.

China's App economy "woke up" only recently. From nearly no downloads until 2010, China has surpassed both Europe and the USA in 2013 with a total of 23bn downloads and a growth rate of 135% for that year. However, revenues have not yet caught up. While China accounted for 26% of worldwide App downloads in 2013, it accounted for a mere 8% of revenue.

Smartphone and Tablet App Downloads (billion)



Smartphone and Tablet App Revenue (bn EUR)



Digital Agenda Scoreboard 2014 – Use of Internet services
* forecast for 2014 and 2015

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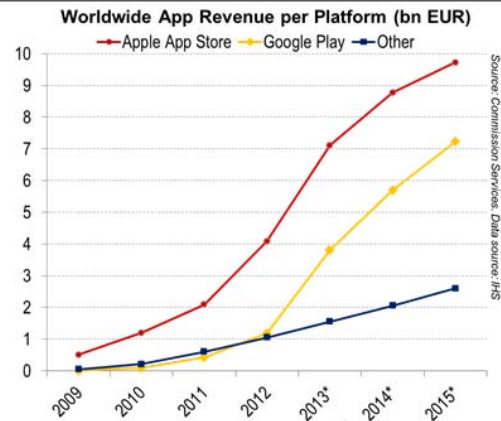
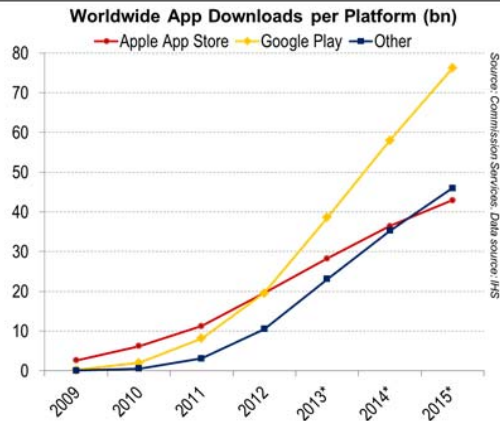


Apple App Store and Google Play are the main App platforms.
Google Play becomes leader in App downloads.
Apple App Store remains ahead in total revenues.

Google Play and the Apple App store are the two main platforms for App distribution worldwide. In 2013 they accounted together for three quarters of worldwide App downloads and about 90% of revenue from App purchases (App downloads plus In-App purchases).

Concerning App downloads, Google Play is in the lead with 38bn downloads in 2013 versus 28bn for the Apple App Store. In terms of revenue, Apple's App Store generated over EUR 7bn in 2013, almost the double of the EUR 3.8bn generated by Google Play.

Both platforms are in rapid expansion, whether measured in terms of App downloads or in revenues therefrom. The Apple App Store grew 45% in terms of downloads and 75% in terms of revenues in 2013. Google Play nearly doubled in number of downloads and saw a near 4-fold increase in revenue.



Digital Agenda Scoreboard 2014 – Use of Internet services
 * forecast for 2013, 2014 and 2015



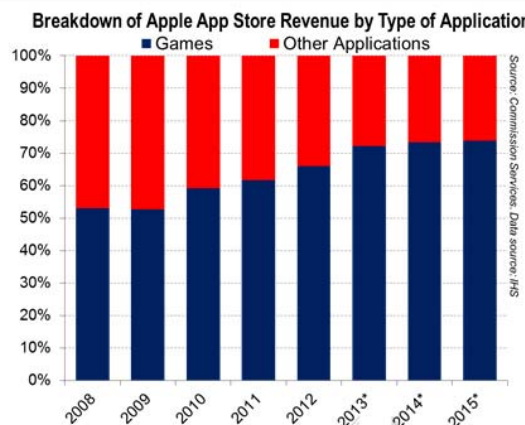
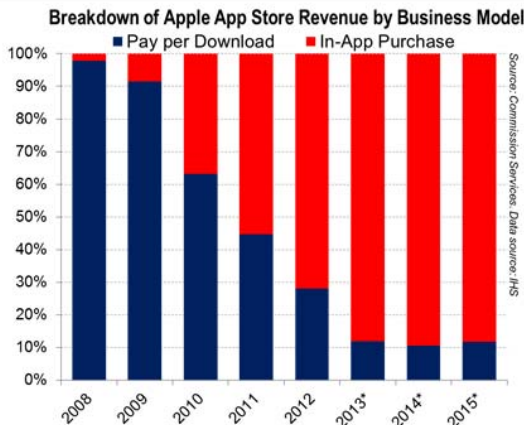
In-App Purchases have become the preferred App business model.

Games generate more revenue than all other Application types together.

Looking at the breakdown of revenue from the **Apple App Store** in Europe reveals preferred business models and types of content.

In-App purchases are the preferred App business model, over Pay per Download. In-App purchases account for close to 90% of App Store revenues in Europe in 2013. The revenue from In-App purchases was over EUR 1.4bn in Europe, versus less than EUR 200m from App paid downloads.

Games generate the largest share of App revenues, more so than all other Applications together. Games account for over 70% of App Store revenues in Europe in 2013. The revenue from Games reached about EUR1.2bn in Europe, whereas other Applications generated only over EUR 400m.



Digital Agenda Scoreboard 2014 – Use of Internet services
 * forecast for 2013, 2014 and 2015



Advertising revenues are in **slow recovery** after the financial crisis.

Online + Mobile advertising are growing much faster than the advertising sector as a whole.

Online advertising is overtaking traditionally dominant segments in terms of revenue share.

After the severe dip due to the financial crisis and the ensuing period of near-stagnation, **advertising revenues have slowly started to recover**.

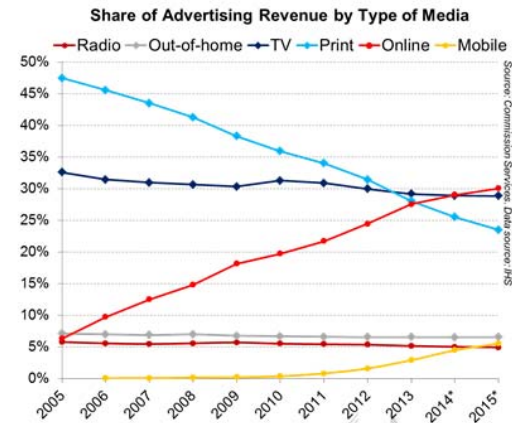
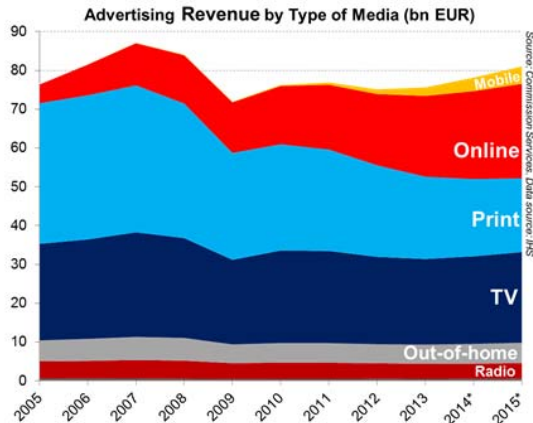
Total advertising revenues** reached EUR 75.593bn in 2013, which still represents only 87% of the 2007 pre-crisis peak value.

Revenue for the whole advertising industry returned to **positive growth of 1%** in 2013 (+EUR 0.5bn) largely due to the Online + Mobile segments.

In 2013, revenue from **traditional segments decreased 5%** (-EUR 2.9bn), while the **Online + Mobile segments grew 18%** (+EUR 3.4bn).

Online + Mobile advertising revenue shares have grown steadily since 2005. At EUR 23bn in 2013, they accounted for over 30% of total advertising revenue.

By contrast, the revenue shares of the **Print and TV segments have been declining**, and are about to be overtaken by the Online segment.



Digital Agenda Scoreboard 2014 – Use of Internet services

** data comprising 23 EU countries (excluding Cyprus, Latvia, Lithuania, Luxembourg and Malta)

* forecast for 2014 and 2015

7



European Commission

Germany, the UK and France account for over 60% of advertising revenue in the EU. The UK accounts for the largest share of online revenues.

The largest European countries also generate the most advertising revenues: **Germany** (23.5%), the **UK** (22.9%) and **France** (14%).

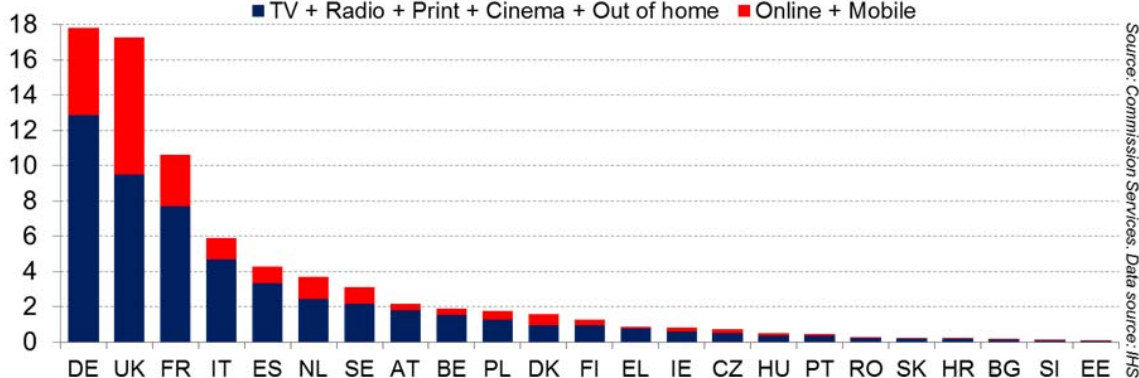
The share of online revenue in total advertising revenue varies significantly across countries. The **UK accounts for the largest share of online revenues** (45%), followed by Denmark (39%) and the Netherlands (34.5%).

Both the UK and Germany showed growth in total advertising revenues in 2013 (UK: 9.5%, DE: 4.3%), as well as in the online segment (UK: 24%, DE: 33%). France showed some growth in the online segment (6%), but a decline in total revenues (-1.2%).

Due to the revenue from the Online segment, **the UK is expected to overtake Germany** as the biggest advertising revenue generator in 2014, with a forecast EUR 18.5bn in total revenue.

Advertising Revenue per Country in 2013 (bn EUR)

■ TV + Radio + Print + Cinema + Out of home ■ Online + Mobile



Digital Agenda Scoreboard 2014 – Use of Internet services

8



European Commission



THE EU ICT SECTOR AND ITS R&D PERFORMANCE

Digital Agenda Scoreboard 2014

1

METHODOLOGICAL NOTE

Definition of the ICT sector

In the following section, the ICT sector is defined according to the definition provided by the OECD on the basis of the NACE (Statistical Classification of Economic Activities in the European Community) Rev.2 (2008) nomenclature. The ICT sector consists of 12 subsectors:

• *ICT Manufacturing*

C261	Manufacture of electronic components and boards
C262	Manufacture of computers and peripheral equipment
C263	Manufacture of communication equipment
C264	Manufacture of consumer electronics
C268	Manufacture of magnetic and optical media

• *ICT Services*

G4651	Wholesale of computers, computer peripheral equipment and software
G4652	Wholesale of electronic and telecommunications equipment and parts
J5820	Software publishing
J61	Telecommunications
J62	Computer programming, consultancy and related activities
J631	Data processing, hosting and related activities; web portals
S951	Repair of computers and communication equipment

Comprehensive vs. Operational definition

The "comprehensive" definition of the ICT sector corresponds to the 2007 OECD definition

The "operational" definition of the ICT sector allows international comparisons but does not include the following sectors: Manufacture of magnetic and optical media (268) and ICT trade industries (465).

Segment analysis

In the following section, a segment analysis is made for each indicator. The 12 subsectors are aggregated into 4 segments: ICT Manufacturing (excluding Communication equipment), Communication equipment, ICT Services (excluding Telecommunications) and Telecommunications

Source

JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project

VALUE ADDED IN THE ICT SECTOR At EU and World level

The ICT sector Value Added (VA) amounts to €496bn in 2010. After a slowdown in 2009, the ICT sector has experienced a partial recovery in 2010.

The breakdown by subsectors shows the predominance of ICT services (€450bn and 91% of total ICT VA in 2010) over ICT manufacturing industries (€46bn and 9% of total ICT VA in 2010).

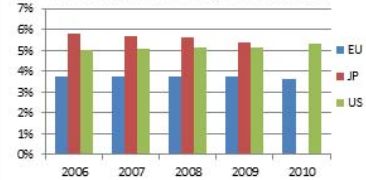
The ICT services (excluding Telecoms) segment is the only one that has recorded an increase in VA in the medium term up to €274bn in 2010.

The Communication equipment segment has experienced the sharpest decline in the medium term. From its apex of €26bn in 2007, it has dropped to €16bn in 2010, showing evidence of a structural decline.

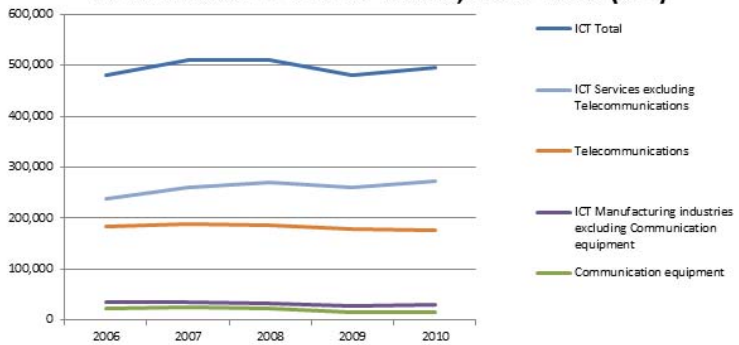
In 2010, ICT VA represents 4.0% of EU GDP (based on the comprehensive definition – see methodological note).

However (based on the comparable operational definition), ICT VA in EU (3.7% in 2010) lags behind Japan (5.4% in 2009) and US (5.3% in 2010).

ICT share of GDP, 2006-2010



Value Added in the ICT sector, 2006-2010 (€m)



Digital Agenda Scoreboard 2014

Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project 3

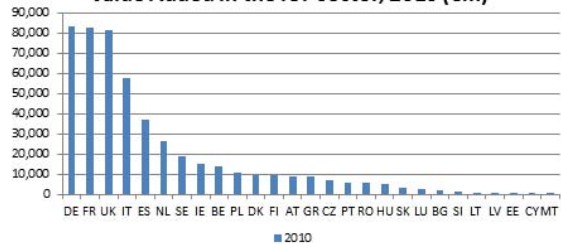


VALUE ADDED IN THE ICT SECTOR By Member States

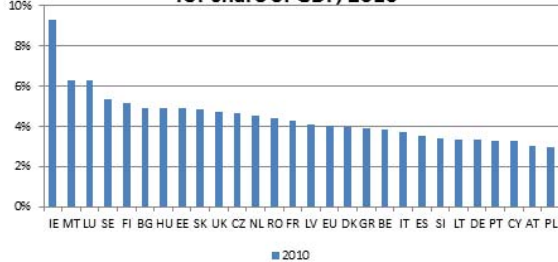
Unsurprisingly, the five largest economies are also the five biggest contributors to ICT VA in 2010: Germany, France and the United Kingdom (€82-83bn and 16-17%), Italy (€58bn and 11.6%) and Spain (€37bn and 7.4%).

Together, those five countries represent 69% of total EU ICT VA in 2010.

Value Added in the ICT sector, 2010 (€m)



ICT share of GDP, 2010



Ireland has – by far – the highest ICT share of GDP with a ratio of 9.3% in 2010, whereas Poland lags behind with less than 3.0%.

Other countries: Malta and Luxembourg (both 6.3%), followed by Sweden (5.4%) and Finland (5.2%). Important shares characterise also some eastern Member States (BG, HU, EE, SK, CZ).

In most of the Member States, ICT shares of GDP remain globally stable during the crisis (2008-09) with the exception of Finland (2009/08: - 1.63pp)

Digital Agenda Scoreboard 2014

Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project 4



EMPLOYMENT IN THE ICT SECTOR At EU and World level

The ICT sector employs a little less than 6.0m (million) people in 2010, down from 6.1m in 2008.

The ICT services (excluding Telecoms) segment employs more than 4.0m people and 69% of total ICT employment in 2010. It has stabilized since the crisis and is the only segment that has recorded a structural increase.

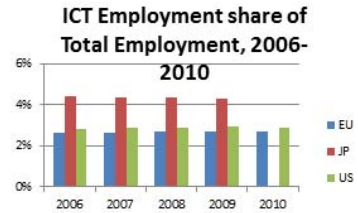
The Telecommunications segment employs more than 1.0m people in 2010, a number which has been decreasing in the medium term.

The ICT manufacturing industries (excl. Communication equipment) segment employs 596,000 people in 2010 and the number has been decreasing.

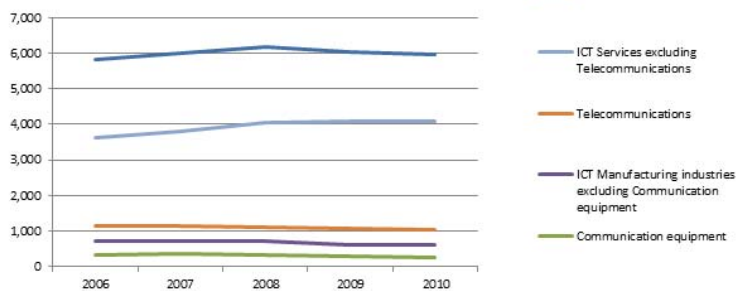
The Communication equipment segment has recorded the sharpest structural decline down to 248,000 people in 2010.

Employment in the ICT sector represents 2.7% of EU total employment in 2010, remaining remarkably stable in the mid-term.

The EU share compares to that of the US (2.9% and stable), but both lag markedly behind Japan (4.3% and stable).



Employment in the ICT sector, 2006-2010 (1000 persons)



Digital Agenda Scoreboard 2014

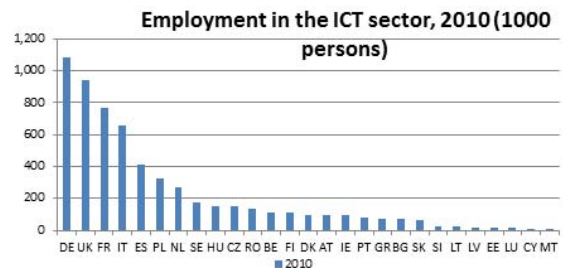
Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project 5



EMPLOYMENT IN THE ICT SECTOR By Member States

As in the case of Value Added, the five largest economies are also the five biggest employers of the ICT sector in 2010: Germany (more than 1m people and 18.2%), the United Kingdom (0.94m people and 15.8%), France (0.77m and 12.9%), Italy (0.65m and 11%) and Spain (0.4m and 6.8%)

Together, those five biggest employers represent 65% of total ICT employment in 2010.



Ireland holds again the lead with 4.9% of ICT employment in total employment in 2010, and Romania brings up the rear with only 1.5% of ICT employment.

Other countries: Finland (4.3% in 2010); Sweden, Hungary, Luxembourg and Malta follow with ratios between 3.5% and 4%.

During the crisis, the share of ICT employment in total employment remains stable in almost all countries.

Digital Agenda Scoreboard 2014

Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project 6



BUSINESS ENTERPRISE R&D (BERD) EXPENDITURE IN THE ICT SECTOR At EU and World level

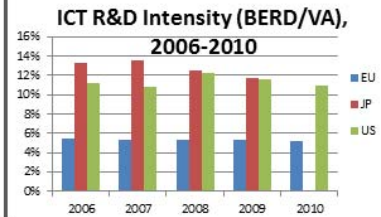
The ICT sector BERD expenditure amounts to €26bn in 2010, down from its high point of €27bn in 2008, with signs of recovery since the low point of €25bn in 2009

The breakdown by subsectors shows a more balanced situation for BERD than for VA: despite driving only 9% of ICT VA, the ICT manufacturing segment spends 43% of total ICT BERD (€11bn) while the ICT services segment spends 57% (€15bn) in 2010.

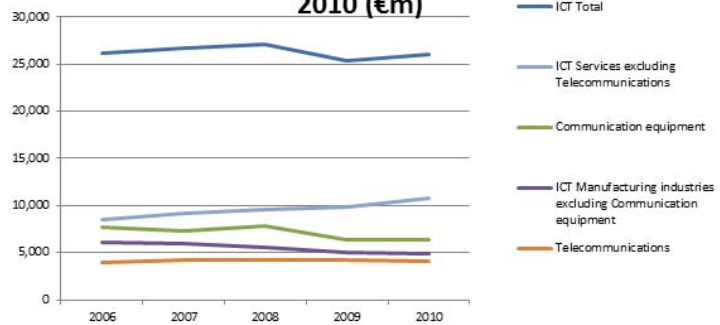
In the medium term, the situation is contrasted. The ICT Manufacturing segment records a structural decline (-18% in 4 years). On the contrary, the ICT services segment shows a structural increase (+18% over 2006-10), especially the ICT Services (excluding Telecoms) segment (+25% over 2006-10).

R&D intensity in the ICT sector (comprehensive definition) amounts to 5.2% (in 2010).

EU (5.2% in 2010) has kept lagging behind US (10.9% in 2010) and Japan (11.7% in 2009) (comparable operational definition).



ICT Business Expenditure in R&D (BERD), 2006-2010 (€m)



Digital Agenda Scoreboard 2014

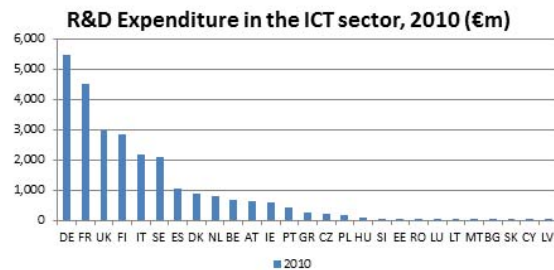
Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project 7



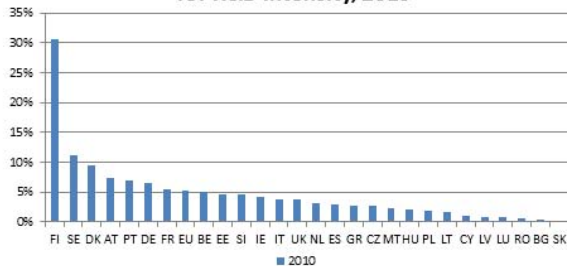
R&D EXPENDITURE IN THE ICT SECTOR By Member States

The five main contributors in terms of R&D expenditure in the ICT sector in 2010 are four of the five main countries of the EU plus Finland: Germany (€5.5bn and 21%), France (€4.5bn and 17%), the United Kingdom (€3bn and 11.4%), Finland (€2.8bn and 11%) and Italy (€2.2bn and 8.4%). They are followed by Sweden (€2.1bn and 8%), confirming the importance of Nordic countries for ICT R&D.

Together, the five biggest contributors represent 69% of ICT R&D expenditure in 2010.



ICT R&D Intensity, 2010



Finland leads Europe with more than 30% of ICT R&D Intensity in 2010, and Slovakia bottoms out with a tiny 0.2%.

Other countries: Sweden (11%) and Denmark (9.4%). Other important countries are Austria (7.4%), Portugal (7%), Germany (6.6%) and France (5.5%).

During the crisis, ICT R&D intensity remains globally stable with the notable exception of Finland which experiences a surge of more than 8 percentage points (2009/08) due to a sharp drop of its value added (denominator of the ratio).

Digital Agenda Scoreboard 2014

Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project 8



PUBLIC FUNDING ICT R&D EXPENDITURE At EU and World level

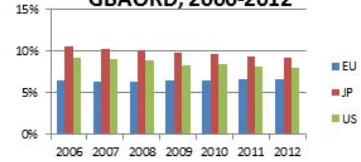
After increasing for several years, in 2011 the estimated ICT R&D publicly funded expenditure increases despite a fall in total public R&D expenditure. In 2012, ICT R&D public expenditure has followed the overall decrease and went down by 2.6%, a bit faster than the overall decline.

The Digital Agenda target of doubling publicly funded R&D in ICT by 2020 requires an annual growth rate of 5.5% (assuming constant annual growth rate). Already in 2011, the estimated public ICT R&D is below the necessary trend line; in 2012 the gap is about 20%.

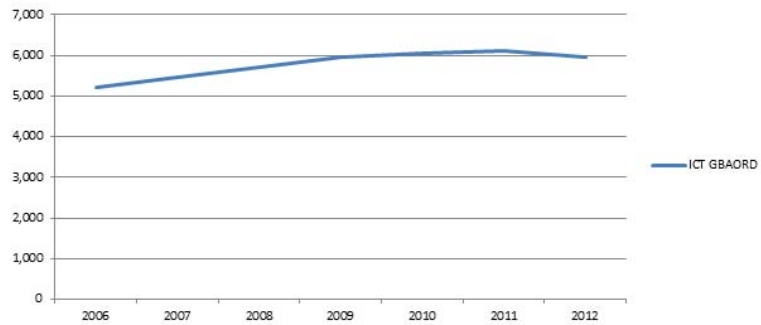
In 2012, ICT GBAORD represents 6.6% of EU Total GBAORD, broadly stable in the medium term

The EU lags behind Japan (9.1%) and the US (7.9%), even if both have experienced some decline in their ratios.

ICT GBAORD as share of Total GBAORD, 2006-2012



ICT GBAORD, 2006-2012 (€m)



Digital Agenda Scoreboard 2014

Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project

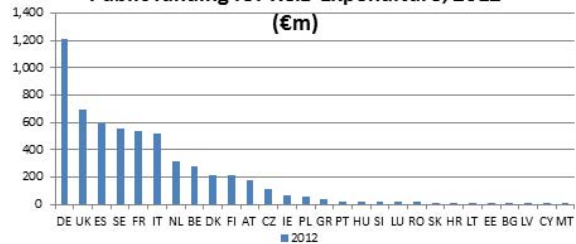


PUBLIC FUNDING ICT R&D EXPENDITURE By Member States

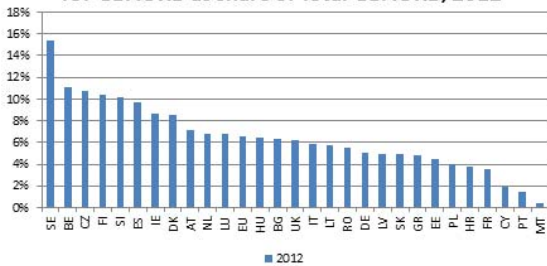
The five biggest public funders of R&D in ICT in 2012: Germany takes – by far – the lead (€1.2bn and 20%), followed by the United Kingdom (€0.69bn and 12%), Spain (€0.60bn and 10%) and on equal footing Sweden (€0.55bn and 9%) and France (€0.54bn and 9%).

Together, those five countries represent 60% of total public funding of R&D in ICT.

Public funding ICT R&D Expenditure, 2012 (€m)



ICT GBAORD as share of Total GBAORD, 2012



The ranking of ICT GBAORD as share of Total GBAORD in 2012 highlights again the performance of Nordic countries: Sweden (1st with 15%) and Finland (4th with 10%).

However, other countries do seem to attribute special importance to ICT in their R&D public spending: Belgium (2nd with 11%), Czech Republic (3rd with 11%), and Slovenia (5th with 10%).

Digital Agenda Scoreboard 2014

Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project



R&D PERSONNEL IN THE ICT SECTOR At EU and World level

R&D personnel in the ICT sector includes 256,000 Full Time Equivalent (FTE) in 2010, with an increasing trend in the medium term, and a recovery in 2010.

The ICT services (excluding Telecoms) segment employs 138,000 FTE in 2010 (54% of R&D personnel in the ICT sector, first place), with an increasing trend.

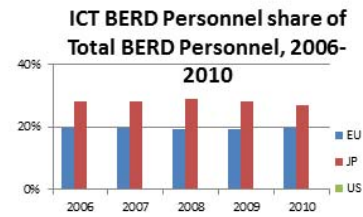
The ICT Manufacturing (excluding Communication equipment) segment employs 40,000 FTE in 2010, in constant decline.

The Communication equipment segment follows the same path as the ICT Manufacturing segment.

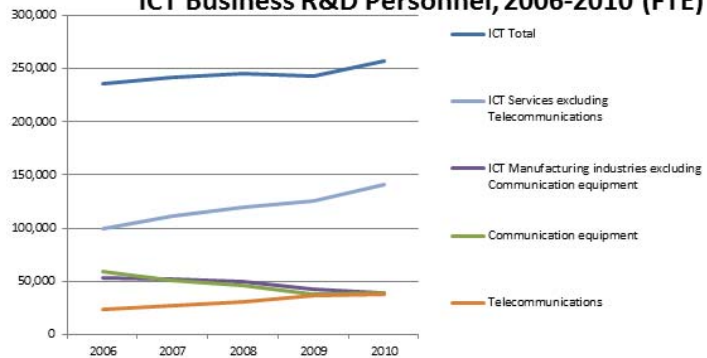
The Telecommunications segment employs 39,000 FTE in 2010 (15% of R&D personnel in the ICT sector), with a strong positive trend (+62% over 2006-2010).

R&D personnel in the ICT sector makes up 20% of total R&D personnel in 2010, stable in the medium term.

However, it has remained below Japan (27%-29% on the medium term). No data is available for US.



ICT Business R&D Personnel, 2006-2010 (FTE)



Digital Agenda Scoreboard 2014

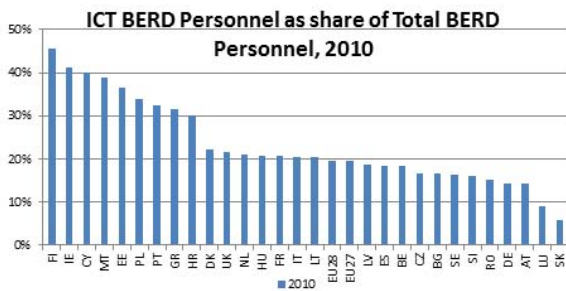
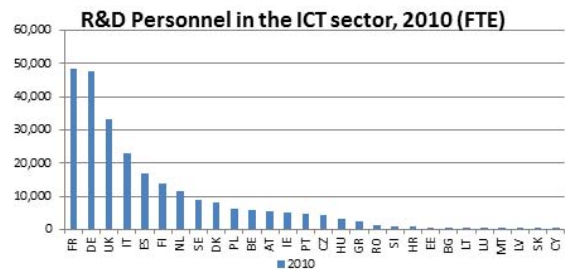
Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project¹¹



R&D PERSONNEL IN THE ICT SECTOR By Member States

The five largest economies are also the five biggest employers of R&D personnel in the ICT sector in 2010: France (49k and 19%), Germany (48k and 19%), the United Kingdom (33k and 13%), Italy (23k and 9%) and Spain (17k and 6.6%). Finland follows suit (14k and 5.4%).

Together, the five biggest employers represent 66% of total R&D personnel in the ICT sector in 2010.



Finland is a country where R&D personnel is highly concentrated in the ICT sector (46% in 2010). Slovakia is the weakest (less than 6%), as for R&D expenditure.

Other performing countries (between 35-40% of R&D personnel for the ICT sector in 2010) are: Ireland (41%), Cyprus (40%), Malta (39%) and Estonia (36%).

Digital Agenda Scoreboard 2014

Source: JRC-IPTS calculations and estimates, based on EUROSTAT data, PREDICT project¹²



Research and Innovation: Research Projects in the ICT domain (FP7 ICT and CIP)

Digital Agenda Scoreboard
2014

1

In the past seven years FP7 allocated **€8.1 billion** of Union funding to **2,401** projects in the field of ICT (ICT Cooperation – ICT Theme and e-infrastructures), attracting about **6,940** organisations from all over the world

ICT is the largest research area in the FP7 Cooperation programme. Under this theme, the EU has co-funded over the period 2007-2013 **2,261** projects for a total Union funding of about **€7.6 billion**. **6,551** organisations participated to the Programme from **120** countries.

The EU also co-funded projects within the **Capacities Programme** for the development of e-infrastructures underpinning a digital European Research Area. The cumulated total funding was **€537.8 million** and the number of projects **140**, involving **839** organisations from **83** countries.

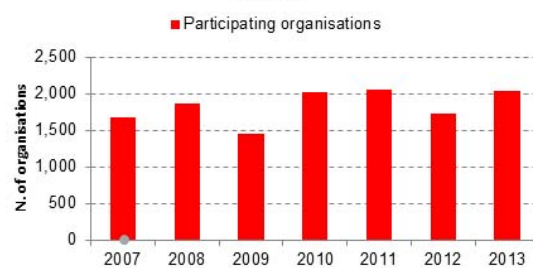
On average, **1,830** legal entities take part in FP7 every year. Also, every year **new organisations** participate in the programme, with a share of new entries over the total participants stabilizing at **40%** per year.

EU funding allocated and projects funded
(Cooperation – ICT Theme and e-infrastructures),
2007-2013



Source: MIS Database

Participating organisations by year,
(Cooperation – ICT Theme and e-infrastructures),
2007-2013

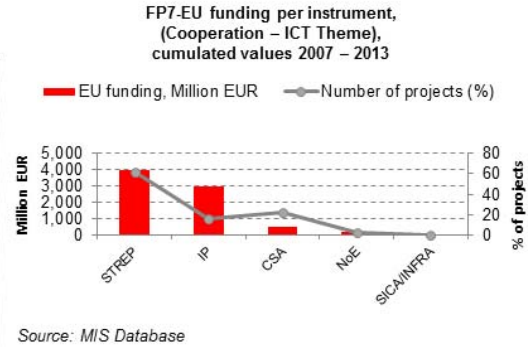


Source: MIS Database

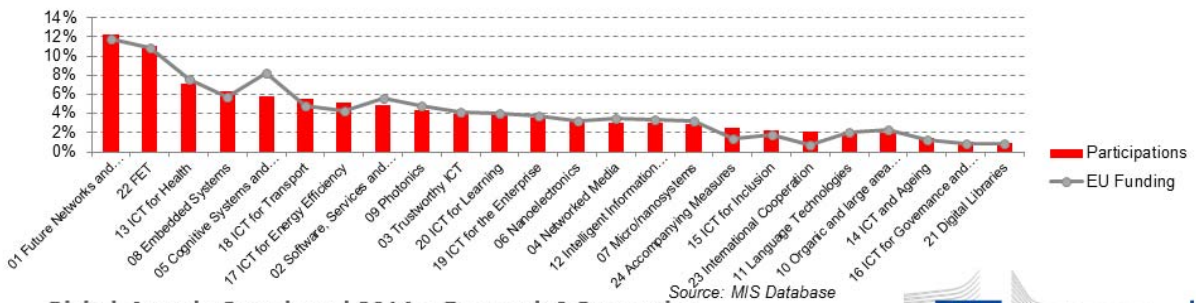
Future Networks and Future Emerging Technologies are the research areas that attract the highest number of participants and funding

Under the ICT Theme of FP7 Cooperation Programme, Specific Targeted Research Projects (STREPs)* are the prevailing instruments, as they account for about half of funding and participations, and 64% of projects. Large scale Integrated Projects (IPs) follow, with 41% of funding, 17% of projects and 29% of participations. In terms of funding, participations and number of projects, other large Specific Objectives are "ICT for Health", "Embedded systems and "Cognitive Systems and Robotics".

* STREP - Specific Targeted Research Projects; IP - Large scale integrating collaborative projects; CSA - Coordination and Support Action; NoE - Network of Excellence; SICA/INFRA - Specific International Cooperation Actions / Infrastructural projects



FP7 ICT EU funding and participations by Specific Objective, (Cooperation – ICT Theme) cumulated figures 2007-2013



Digital Agenda Scoreboard 2014 – Research & Innovation



Higher education institutions and research organisations are the main beneficiaries of EU funds. The business enterprise sector represents just slightly over one third of participations and budget

HES/REC* organisations account for more than half of all participations in the projects (57%) and receive the largest share (64%) of the overall FP7 budget

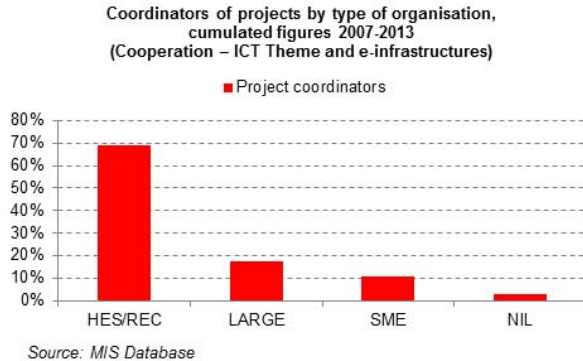
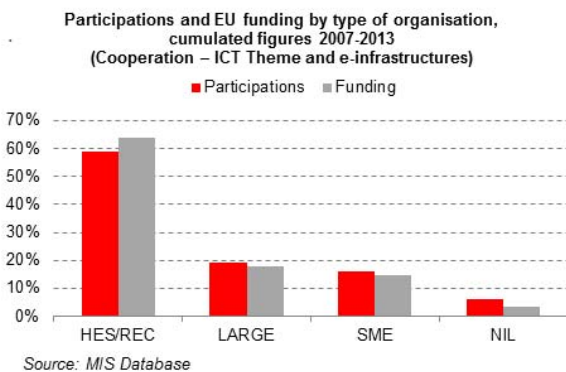
They also coordinate most of the projects (69%). Large companies coordinate 18% of projects, whereas SMEs coordinate only 10%.

SMEs represent 16% of participations and receive 15% of the funding. A little less than 20% of participations and funding are attributed to large companies.

As for ICT Theme under the Cooperation programme, three quarters of projects involve SMEs and about 70% large enterprises.

Regarding e-infrastructures, SMEs participated in 54% of projects and large enterprises in 49% of projects.

* HES / REC - High Education Institutions and Research Centres
LARGE - Large Companies
SMEs - Small and Medium Enterprises
NIL - Other organisations



Digital Agenda Scoreboard 2014 – Research & Innovation

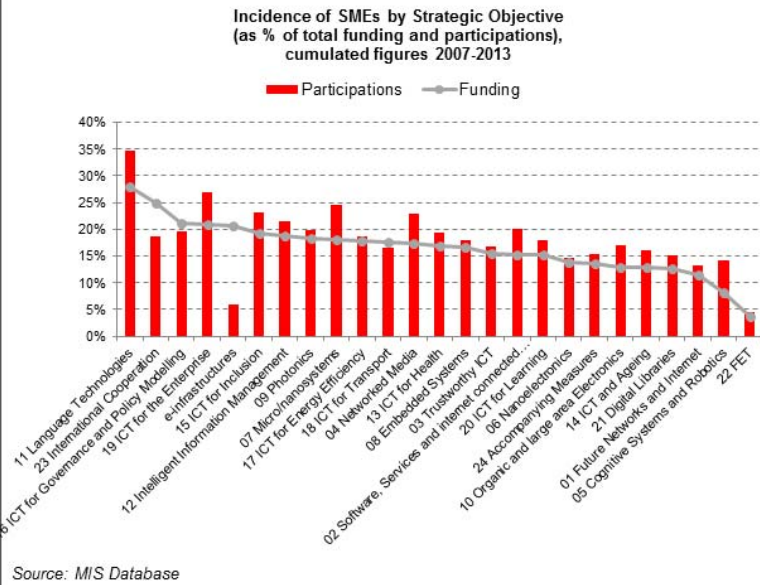


SMEs are especially present in the research theme **Language Technologies. **Estonia, Slovakia, Bulgaria** and **Hungary** are the countries with the highest share of SMEs in total participations and funding.**

SMEs are 35% of the participating organisations. Their share in terms of participations is higher than in budgetary terms (with some exceptions), indicating that on average SMEs obtain less funding than other types of organisations.

"International Cooperation" and "ICT for Governance and Policy Modelling" are areas of high participation, whereas SMEs are particularly weak in Future Emerging Technologies (3.6% of funding, 4.6% of participations).

In certain Member States, SMEs represent more than one third of participations (Estonia, Slovakia, Bulgaria and Hungary with 42%, 34%, 33% and 31% respectively) and account for up to half of total funding (Bulgaria, 51%). In others, such as **Croatia and Luxembourg**, they account for just 8% of participations and similar low shares of funding (8% and 6% respectively).

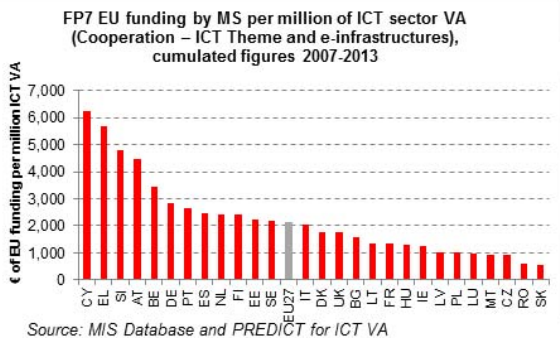
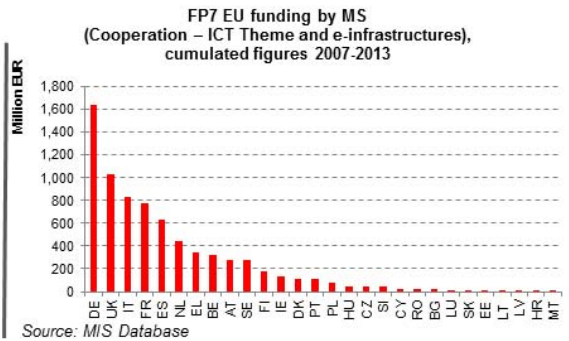


In absolute terms, **Germany and the **United Kingdom** are the biggest recipient of EU funding, but **Cyprus** and **Greece** are the countries with the highest funding in relation to the size of their ICT sector**

Germany, the United Kingdom, Italy, France and Spain account for 60% of total EU funding and 57% of participations over the period 2007 – 2013.

Cyprus, Greece, Slovenia, Austria and Belgium are the 5 Member States with the highest amounts of funding compared to the size of their ICT sector.

In some countries the R&D activity is heavily concentrated in the capital Region (e.g. Finland, Portugal, Greece, France and Spain), whereas in others funding is distributed among several important clusters of research (e.g. Germany, Italy and the UK).



Research and Development activities are concentrated in a number of key regions: the top 50 Regions in the EU (NUTS3 classification) attract 62% of funding and 56% of participations.

The top 50 regions are located in 15 Members States (as for funding) and 16 Member States in terms of participations.

In terms of overall funding and participations over the period 2007-2013, Munich is the European city that leads, followed by Paris, Madrid, London and Athens.

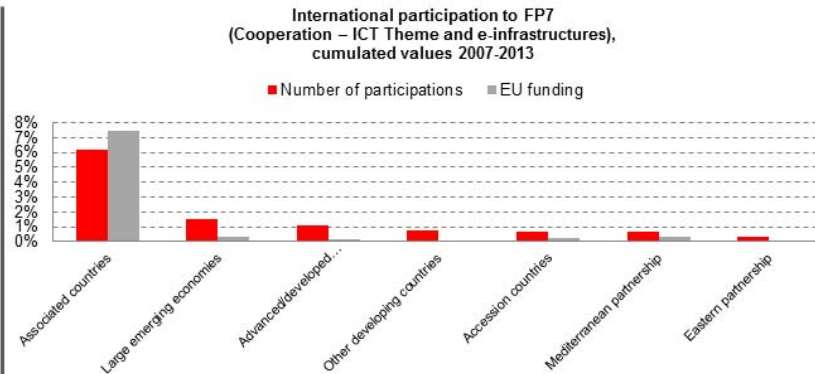
91% of EU funding in FP7 is allocated to EU Member States, followed by Associated Countries. Third Countries take part in the Research Programme but with little EU funding (1%)

6% of participations and 7.5% of funding go to associated countries*, mainly due to the presence of research-oriented players such as Switzerland, Israel and Norway. Accession countries and Third Countries (TCs)** together account for 1% of the budget and 4% of participations.

Over the period 2007-2013, over 600 organisations participated in 362 projects within the FP7 ICT Cooperation Theme and in 67 projects within the Capacities theme (e-infrastructures).

Most of the projects with international participants fall under the specific objectives (SOs) "Future Emerging Technologies" (61 projects), "Future Networks and Internet" (58 projects), "International Cooperation" (39 projects) and "ICT for Health" (22 projects).

Associated countries: Iceland, Israel, Liechtenstein, Norway, Switzerland.
***Accession countries:** Albania, Bosnia-Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Kosovo, Montenegro, Serbia.
****Third countries:**
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, Moldova)
Mediterranean Partnership: (Morocco, Algeria, Tunisia, Libya, Egypt, Lebanon, Jordan, Syria, Turkey)
Other developing countries



Source: MIS database

The CIP ICT Policy Support Programme has allocated € 593.2 million of EU funding over the period 2008 – 2013, distributed to 233 different projects. 2,720 different organisations from 41 countries participated in the programme.

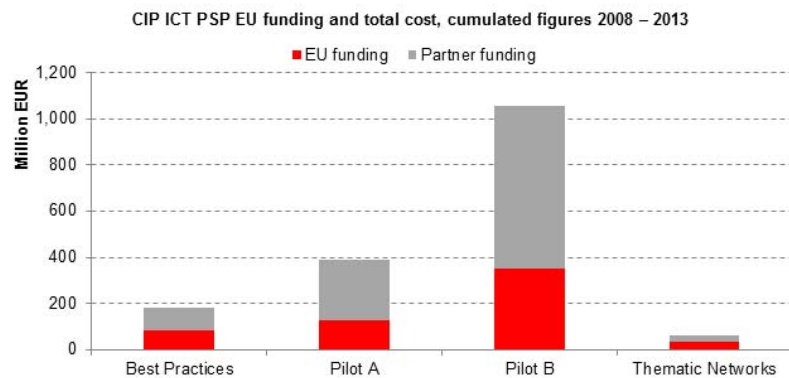
Each project receives on average around € 2.5 million of EU funding. Public bodies account for one third of total funding and participations, whereas SMEs account for 15%.

The European Foundation is the organisation receiving the largest EU funding.

In absolute terms, Italy is the country receiving the largest EU funding, followed by Spain, Germany, the United Kingdom and the Netherlands. When compared to the country's ICT sector total value added, however, Estonia, Slovenia, Cyprus, Greece and Malta receive the highest funding.

***Pilot A:** projects building on initiatives in Member States or associated countries;
Pilot B: projects stimulating the uptake of innovative ICT based services and products;
Thematic Networks (TN) - providing a forum for stakeholders for experience exchange and consensus building;
Best Practices Networks (BPN) – ad hoc instruments only active in certain scientific areas

Pilot B* types of projects account for 59% of the total funding (€351 million), followed by Pilot A projects with €129 million). Thematic Networks (TN) and Best Practice Network (BPN) received €32 and € 82 million respectively. Pilot A projects involve mainly public bodies, as do TN, where the presence of the private sector is limited (25% in total). Pilot B projects have a more balanced presence of the various organisation types. Large companies account for 26% of funding for Pilot A and 18% for Pilot B projects, while SME account for 20% of funding in pilot B projects.



Source: MIS Database