



World Corporate Top R&D Investors: *Innovation and IP bundles*

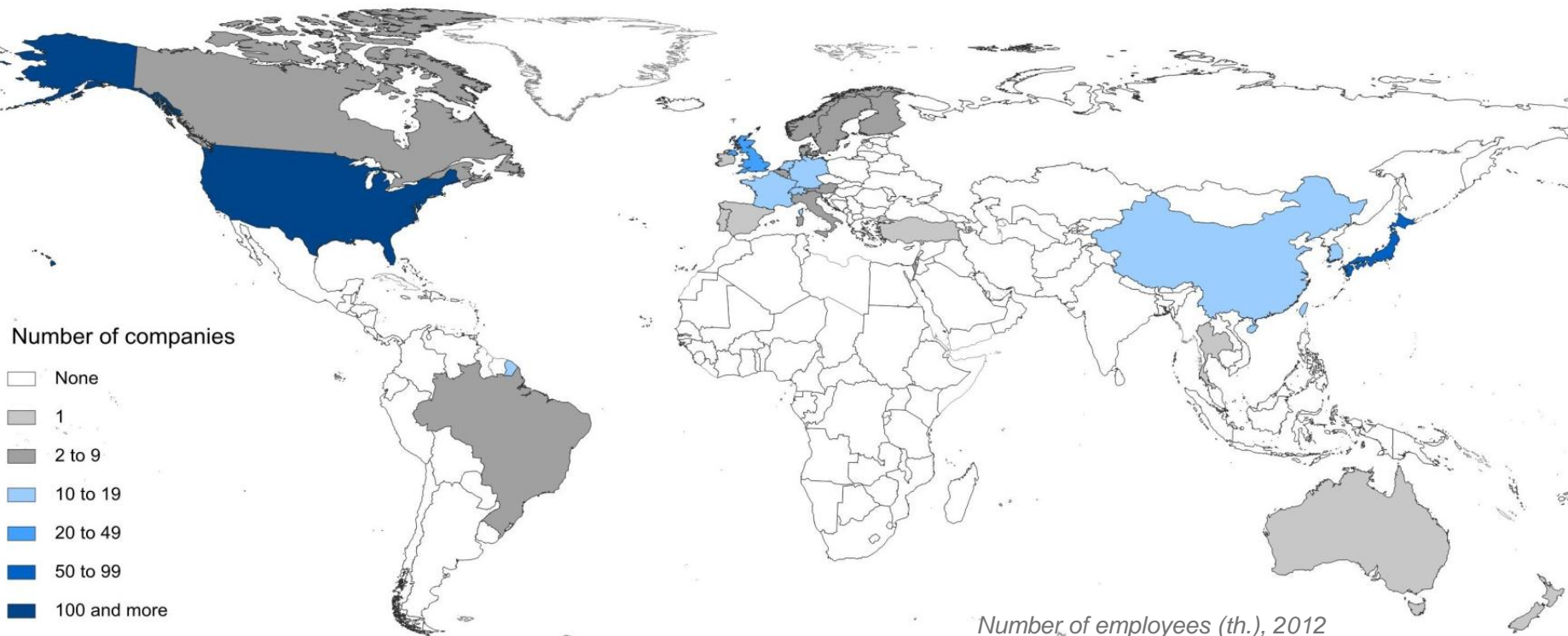


Innovation in the European Digital Single Market: The Role of Patents
Brussels, 17 March 2015



World top R&D investors - ICT

Location of headquarters, 2012



<i>Number of employees (th.), 2012</i>	
United States	3 554
EU28	2 557
Japan	1 859
China	666
Rest of the World	2 351

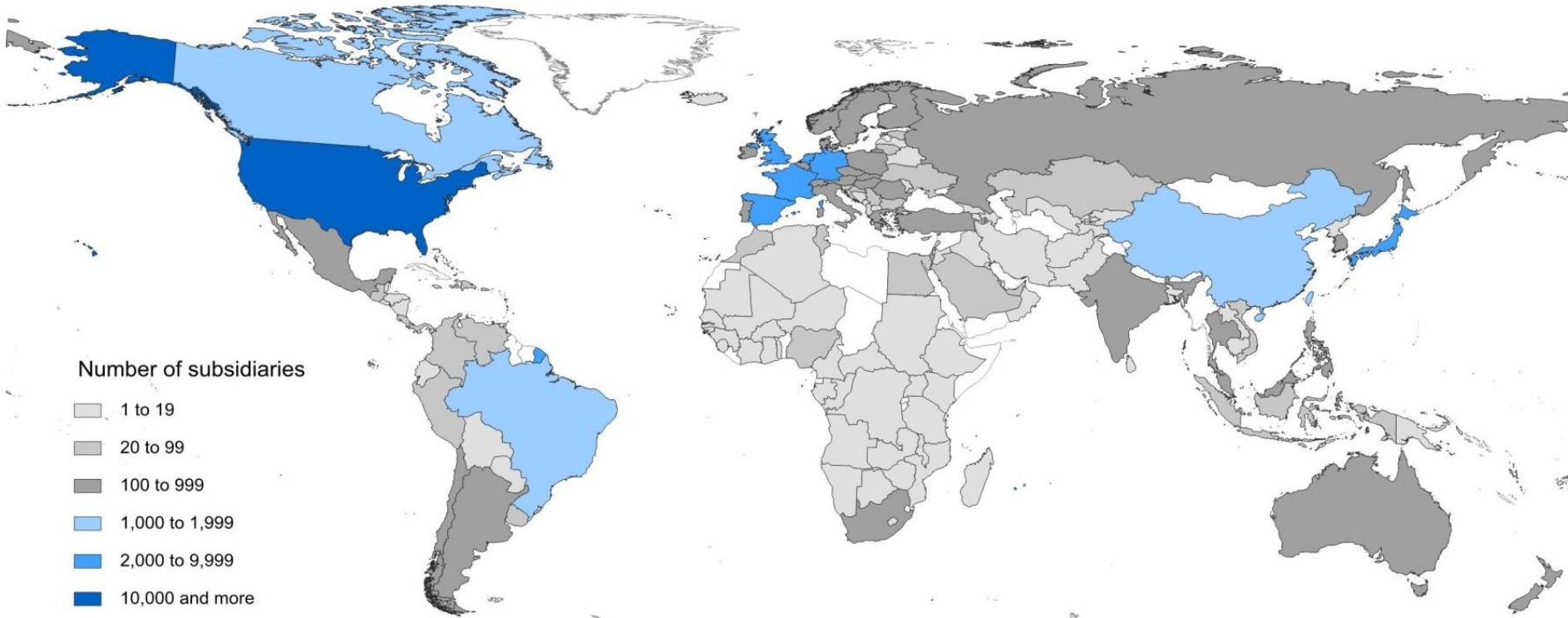
Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013.

Map source: ARCTIQUE© - All rights reserved.



World top R&D investors – ICT

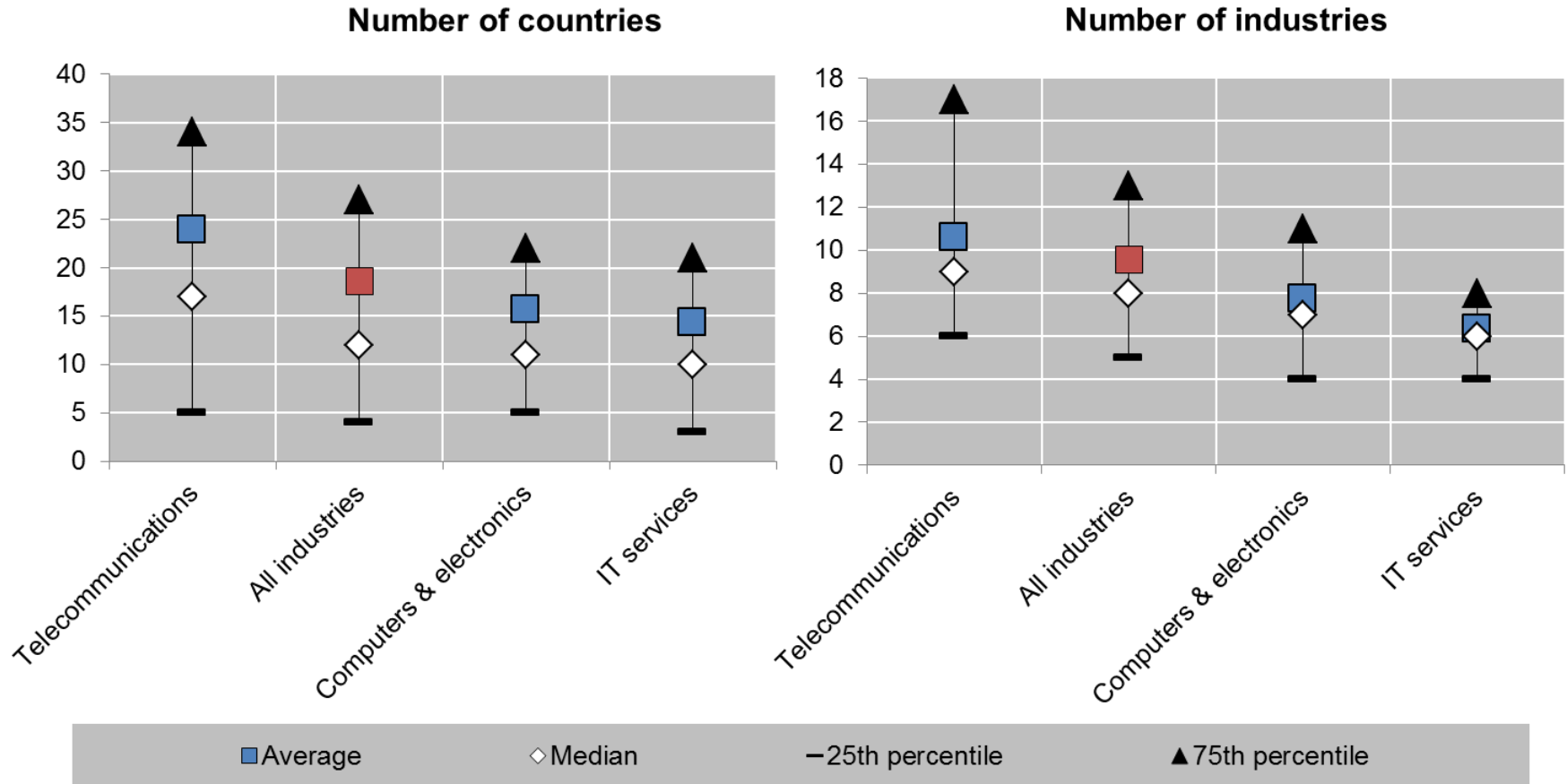
Location of subsidiaries, 2012



Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013.
Map source: ARCTIQUE© - All rights reserved.



Diversification of subsidiaries of the top world R&D investors, ICT, 2012

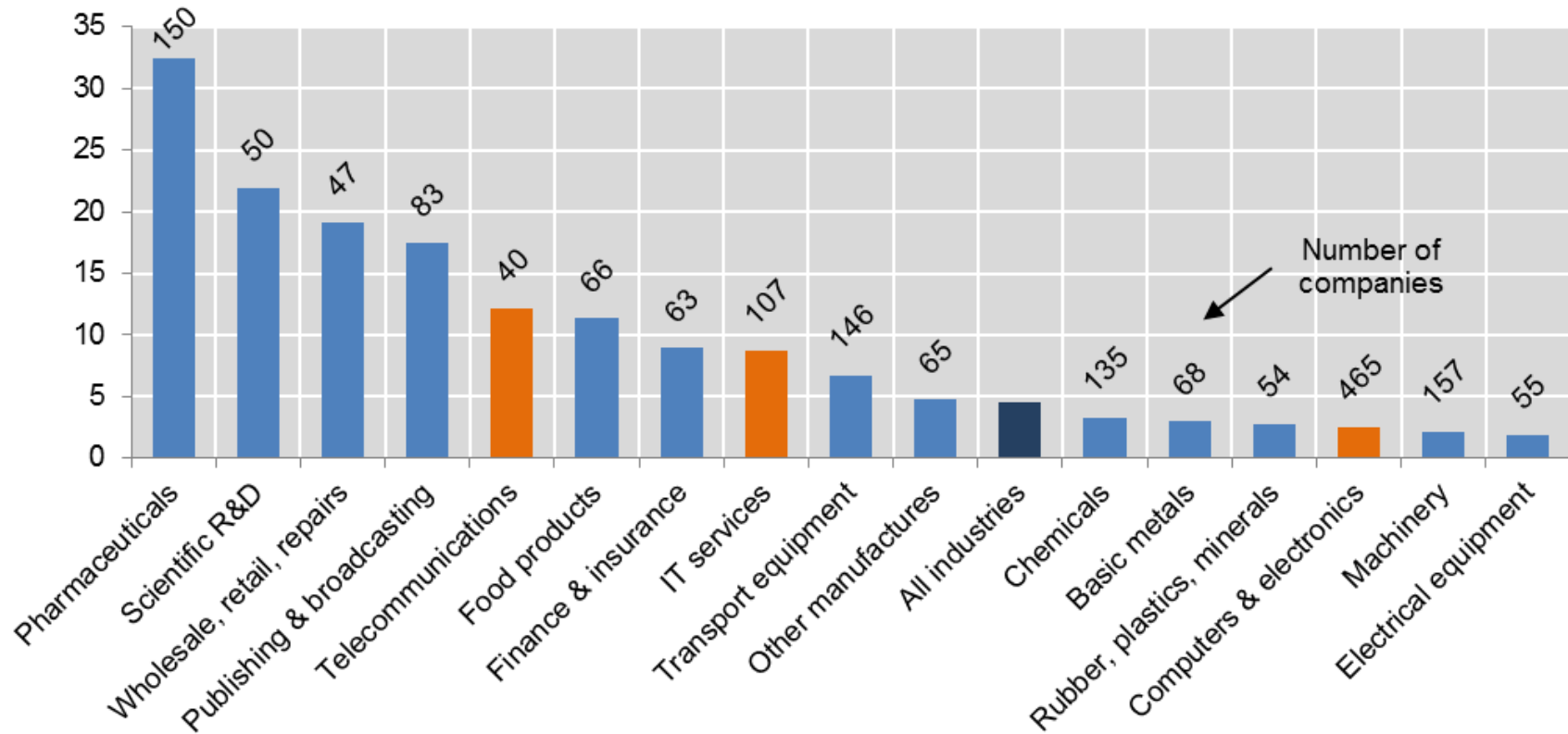


Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013.



R&D investment per patent

Million € spent per IP5 patent family



Note: Data relate to industries with at least 40 companies in the top 2000 top corporate R&D sample.

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; and the Worldwide Patent Statistical Database, EPO, December 2014.



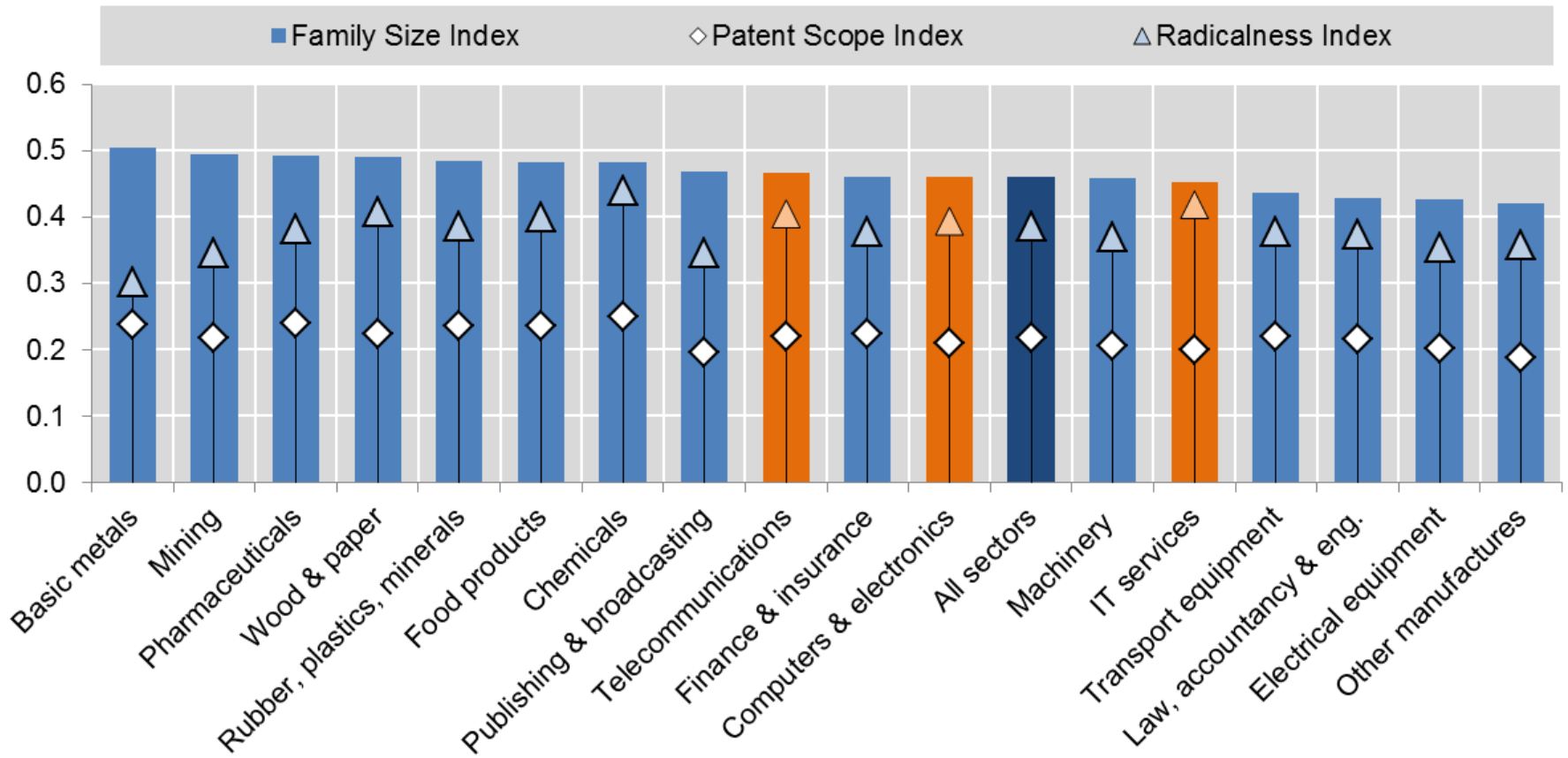
Technology advantage by headquarter location, 2010-12

Field of Technology	Europe	United States	Japan	Korea	China	RoW
Electrical machinery	1.0	0.7	1.1	1.3	0.5	1.1
Audio-visual tech.	0.4	0.5	1.2	1.6	0.6	2.1
Telecommunications	0.7	0.7	1.0	1.4	3.1	1.3
Digital communication	1.1	1.1	0.6	1.3	8.0	1.2
Basic communication	0.8	1.0	1.0	1.0	1.1	1.7
Computer technology	0.5	1.3	0.8	1.4	1.4	1.8
IT methods	0.8	1.8	0.7	1.0	0.6	1.2
Semiconductors	0.4	0.7	1.1	2.0	0.1	1.5
Optics	0.3	0.4	1.6	1.1	0.2	1.0
Micro- and nano-tech.	1.2	1.0	0.7	1.3	0.0	1.7
Measurement	1.4	1.1	0.9	0.5	0.3	0.8
Bio materials	1.6	1.6	0.7	0.6	0.0	0.1
Control	1.7	1.9	0.4	0.1	0.7	1.3
Medical technology	1.5	1.6	0.9	0.3	0.0	0.2
Organic chemistry	2.0	1.4	0.6	0.3	0.5	0.3
Biotechnology	1.8	1.6	0.6	0.6	0.1	0.2
Pharmaceuticals	2.0	1.8	0.5	0.2	0.1	0.6

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; and the Worldwide Patent Statistical Database, EPO, December 2014.



Relative value of EPO patents, *average indices by industry, 2010-12*



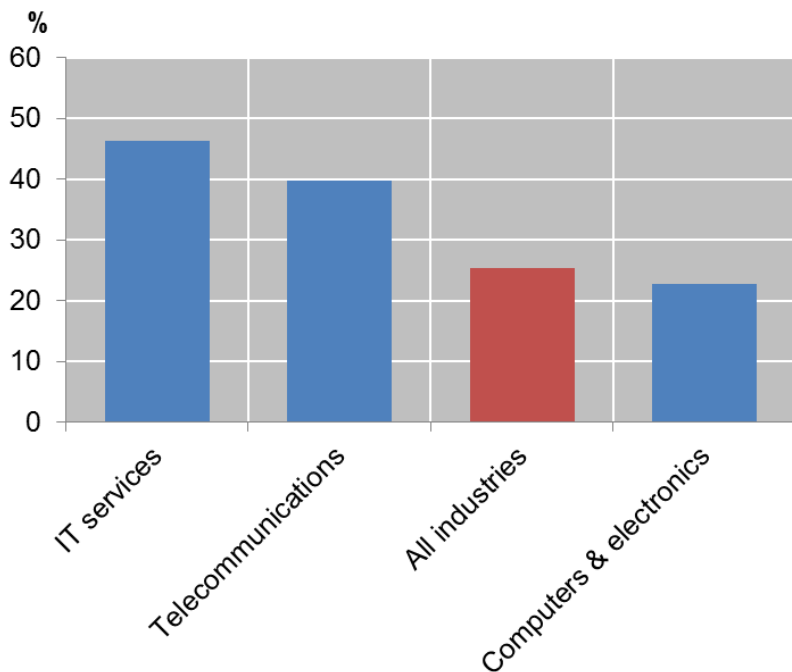
Note: Data refer to patent applications filed to EPO that belong to IP5 families. Family size and patent scope indices are normalised according to maximum value observed by patents in the same cohorts (filing date and WIPO technology fields). Data relate to industries with more than 1000 EPO patents in the given period.

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; and the Worldwide Patent Statistical Database, EPO, December 2014.

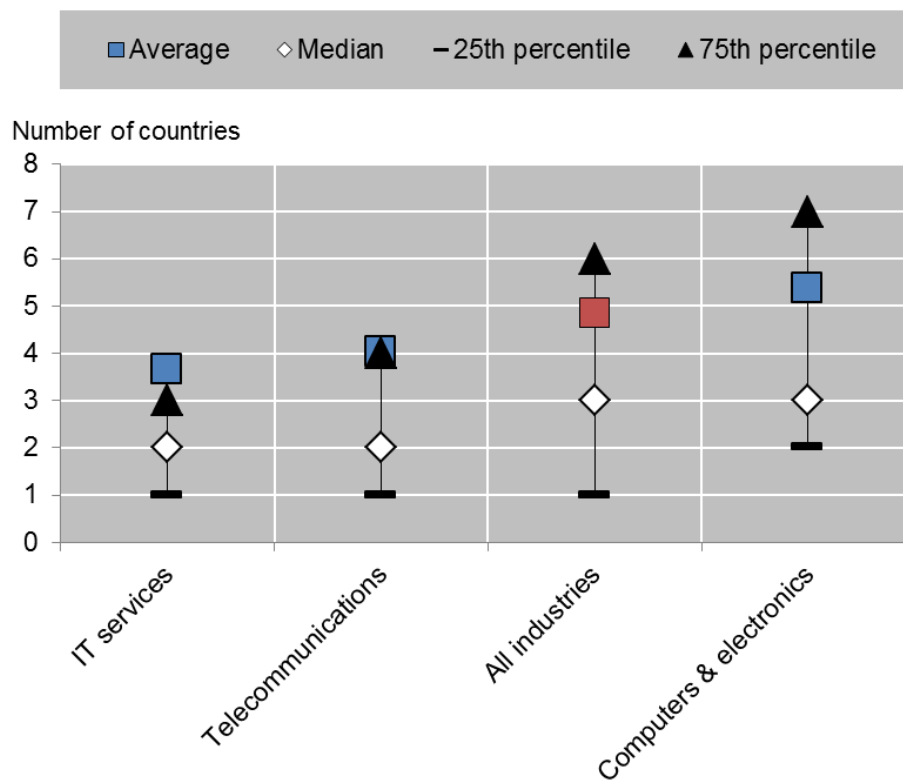


Patents based on inventions made abroad, *by industry, 2010-12*

% of patents with at least one inventor residing outside the company's location



Inventors' location



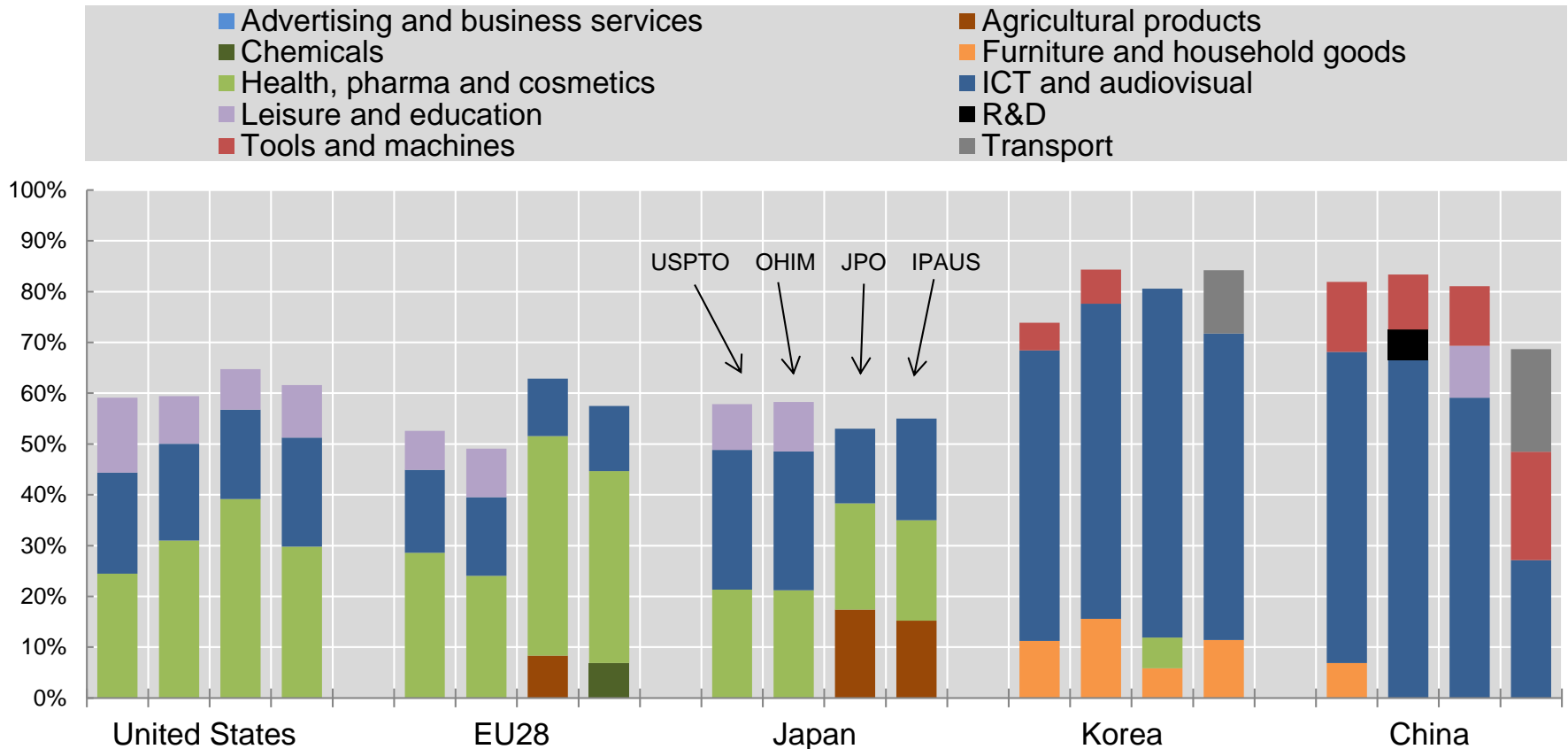
Note: The data is based on all the inventors' countries listed per each company's patent portfolios (EPO and USPTO only).

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; and the Worldwide Patent Statistical Database, EPO, December 2014.



Top 3 TM application fields, 2010-12

By TM office and headquarters' location



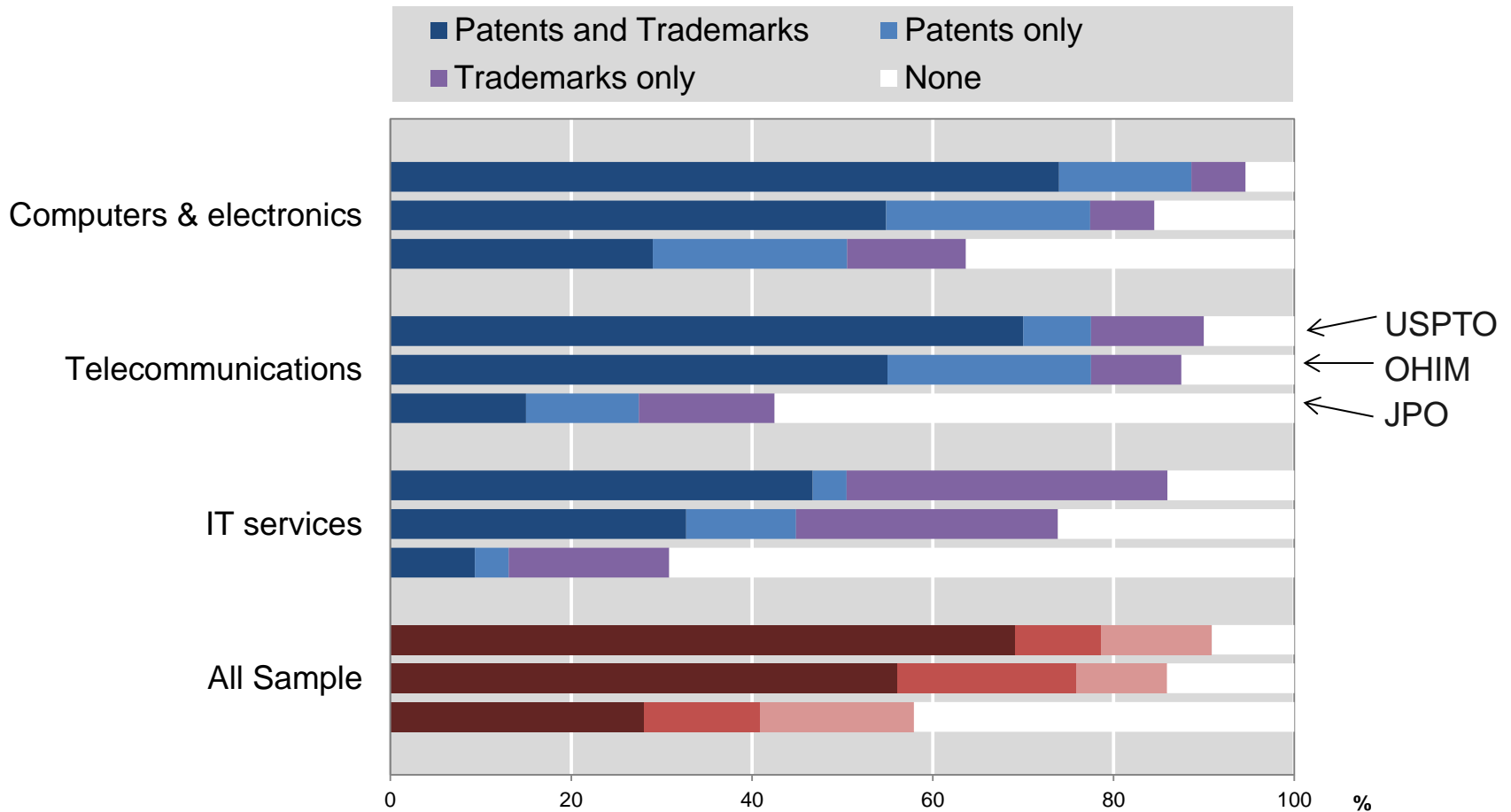
Note: TM counts are based on the application date, the address of the applicant's headquarters and the designated Nice classes aggregated in 13 product fields (using fractional counts).

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; and OECD Trademark database (internal), 2014.



TM and patents strategies, 2010-12

By industry, ISIC rev. 4

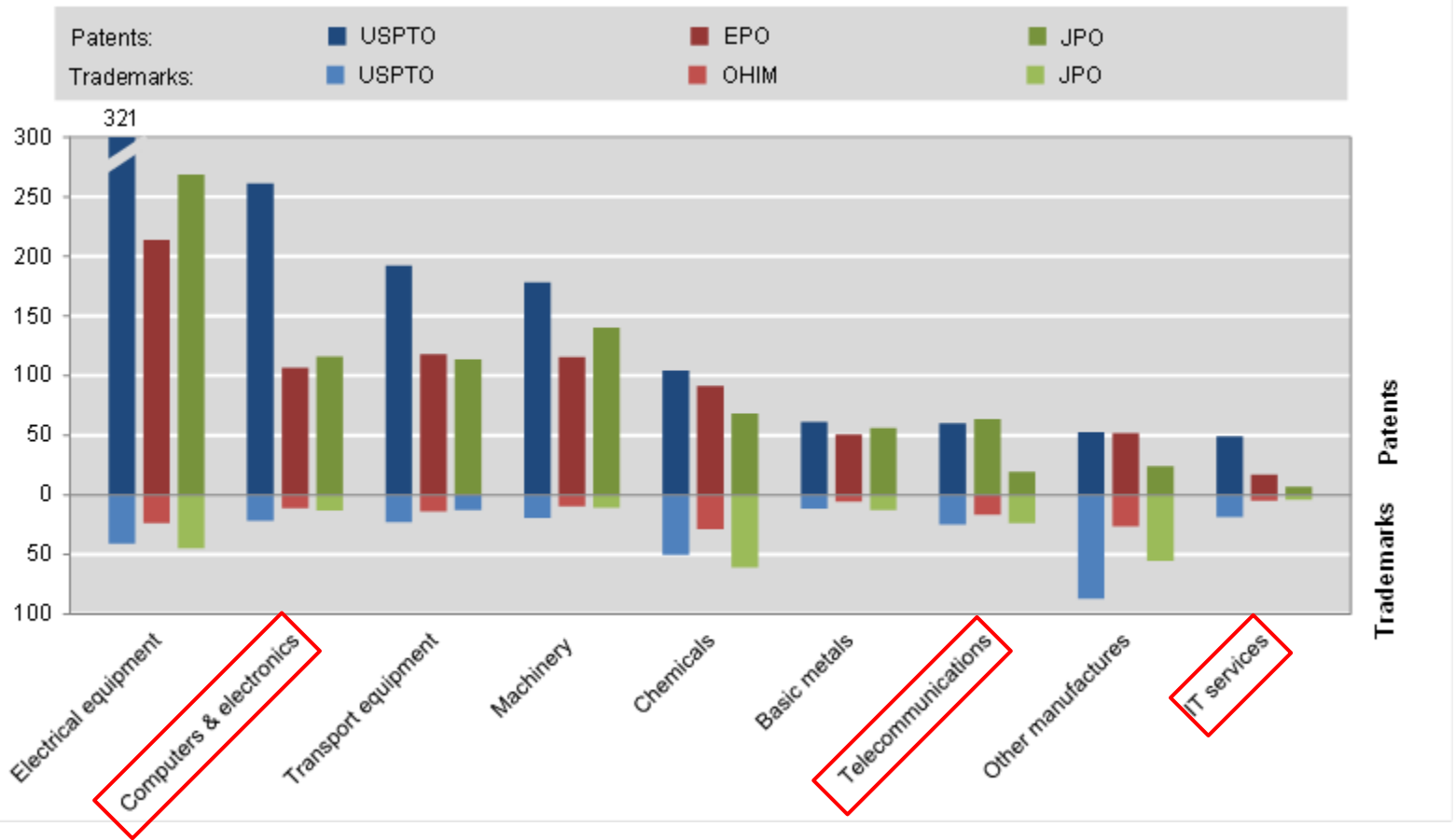


Note: Share of companies with trademarks and/or patents filed at USPTO, EPO & OHIM, and JPO.

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; the Worldwide Patent Statistical Database, EPO, December 2014; and OECD Trademark database (internal), 2014.



The IP bundle of world Top R&D investors, by industry, 2010-12

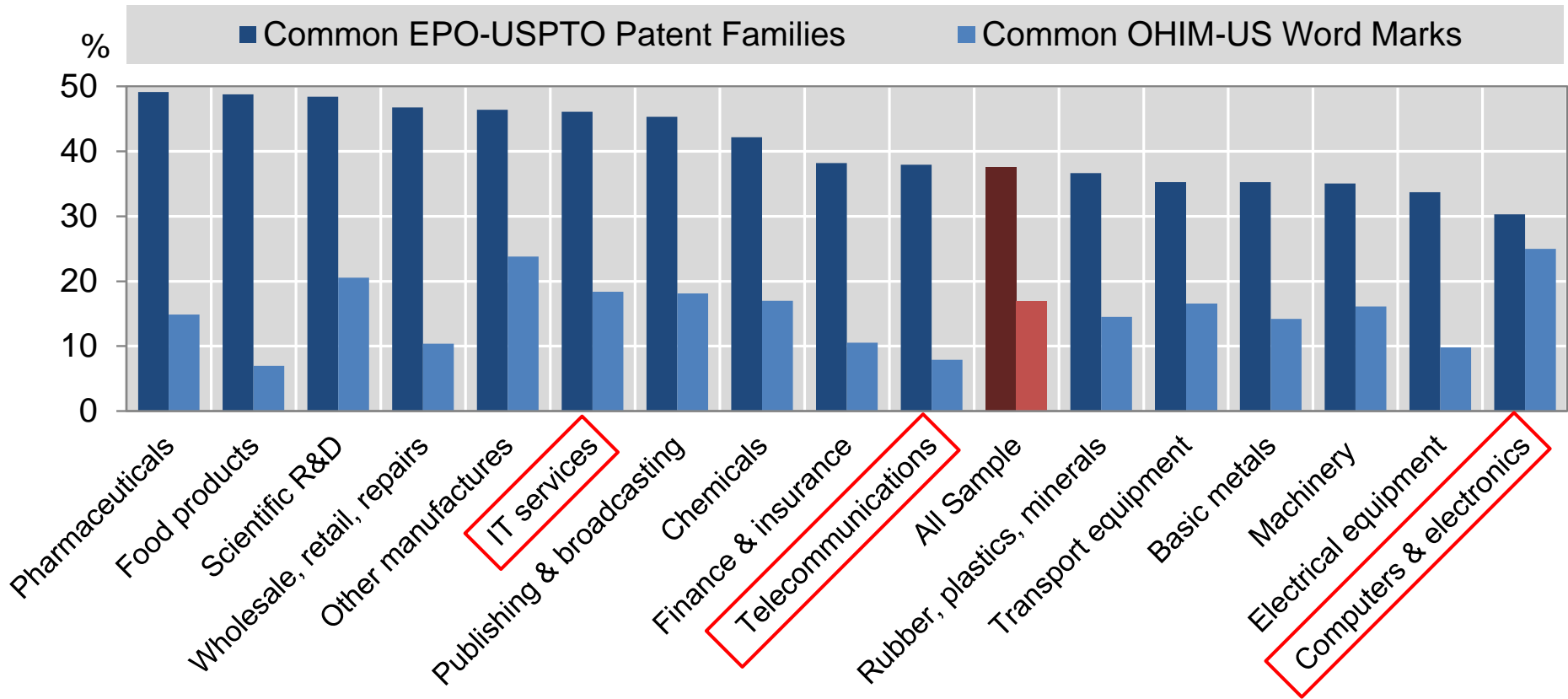


Note: Average number of trademark and patent applications filed at USPTO, EPO & OHIM, and JPO per company. Selected industries ranked according to the USPTO figures.

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; the Worldwide Patent Statistical Database, EPO, December 2014; and OECD Trademark database (internal), 2014.



Joint IP protection in Europe and US, 2010-12



Note: Average share of patent families filed at EPO and at USPTO in total patent families with EPO and USPTO and Average share of common OHIM and USPTO word marks in total trademarks filed at OHIM and USPTO. Data relate to industries with at least 40 companies in the top 2000 corporate R&D sample. Companies with at least 10 EPO-USPTO patent families or 10 OHIM-USPTO word marks are considered in the aggregation.

Source: IPTS-OECD, calculations based on EU R&D Scoreboard data, 2013; the Worldwide Patent Statistical Database, EPO, December 2014 and OECD Trademark database (internal), 2014.



World Corporate Top R&D Investors: Innovation and IP bundles

The team:

Hélène Dernis

Mafini Dosso

Fernando Hervás

Valentine Millot

Mariagrazia Squicciarini

Antonio Vezzani

The report on the web:

oe.cd/ipstats

iri.jrc.ec.europa.eu/other-reports.html

mariagrazia.squicciarini@oecd.org