

IPR-intensive industries: contribution to economic performance and employment in the EU

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PSDM Conference,
Rio de Janeiro,
12 November 2013



Background of study

- Joint study of EPO and OHIM
- Main objectives
 - To **quantify** the contribution of IPR-intensive sectors to the EU economy
 - To provide facts for policy discussion on IPRs
- Broad scope of the study
 - **combined effect** of various intellectual property rights: patents, trade marks, designs, copyright and geographical indications
 - **IPR-intensive industries** identified out of all EU industries
 - **27 EU Member States** (not Croatia)
- Comparison with results of recent **USPTO study** (March 2012)



OFFICE FOR HARMONIZATION
IN THE INTERNAL MARKET
(TRADE MARKS AND DESIGNS)

Intellectual property rights intensive industries:
contribution to economic performance and employment
in the European Union

Industry-Level Analysis Report, September 2013

A joint project between the European Patent Office and the
Office for Harmonization in the Internal Market



Full report available at:
www.epo.org/ip-intensive-industries

Some headlines

- **"IP-intensive Industries A Powerhouse of EU Economy, Study Finds"** (IP Watch)
- **"Patente sind Europas Jobmotor"** (Handelsblatt)
- **"La propriété intellectuelle crée plus d'emploi en Europe qu'aux États-Unis"** (L'Echo)
- **"EPO/OHIM Study puts a value on European IP"** (Managing IP)
- **"One in three EU jobs created by IPR-intensive industries, study calculates"** (Techworld)

Methodology - identifying IPR-intensive industries

- Similar method used for **patents, trade marks** and **designs**
- **Databases** are used:
 - EPO PATSTAT: European patent applications and grants
 - OHIM's register of Community Trade Marks: CTM applications and publications
 - OHIM's register of Registered Community Designs: RCD applications and publications
 - ORBIS, commercial database with information on 20 mln European companies, including industry classification
- PATSTAT/OHIM's registers **without** NACE codes, ORBIS **with** NACE codes
- Different approach used for **copyright** and **geographical indications**

Identification of patent-intensive sectors

- **Step 1:** Match **applicant names** in PATSTAT database with **company names** in ORBIS database
 - **Algorithm** to match names in PATSTAT with names in ORBIS (algorithm developed by Catholic University of Leuven)
 - Matching done at the **country** level
 - Depending on country and IPR, roughly **40% to 70%** match (i.e. OHIM and EPO applicant names found in ORBIS)
- **Step 2:** Use NACE code (four-digit level) in ORBIS to assign NACE code to patent applicants
 - NACE code for **primary area** of activity of a company

Identification of patent-intensive sectors II

- **Step 3**: Determine **absolute patent intensity** for each industry
 - Sum of all patent applications in the **EU** in the same primary NACE code
 - ... **between 1 January 2004 and 31 December 2008** ...
 - ... with **at least one applicant based in the EU** ...
 - ... which are **granted** up to 8 February 2013
- **Step 4**: Determine **relative patent intensity**
 - Number of patents per 1,000 employees
- **Step 5**: Above-average industries in terms of relative patent intensity
→ **patent-intensive industries**

Absolute patent-intensity

Steps to determine absolute patent intensity	# patent applications
All EPC applications in PATSTAT	3,525,852
At least one applicant address in the EU	2,014,558
Filed between 1 January 2004 and 31 December 2008	684,953
Names matched with ORBIS	352,726
Granted between 1 January 2004 and 8 February 2013	94,471

Relative patent-intensity

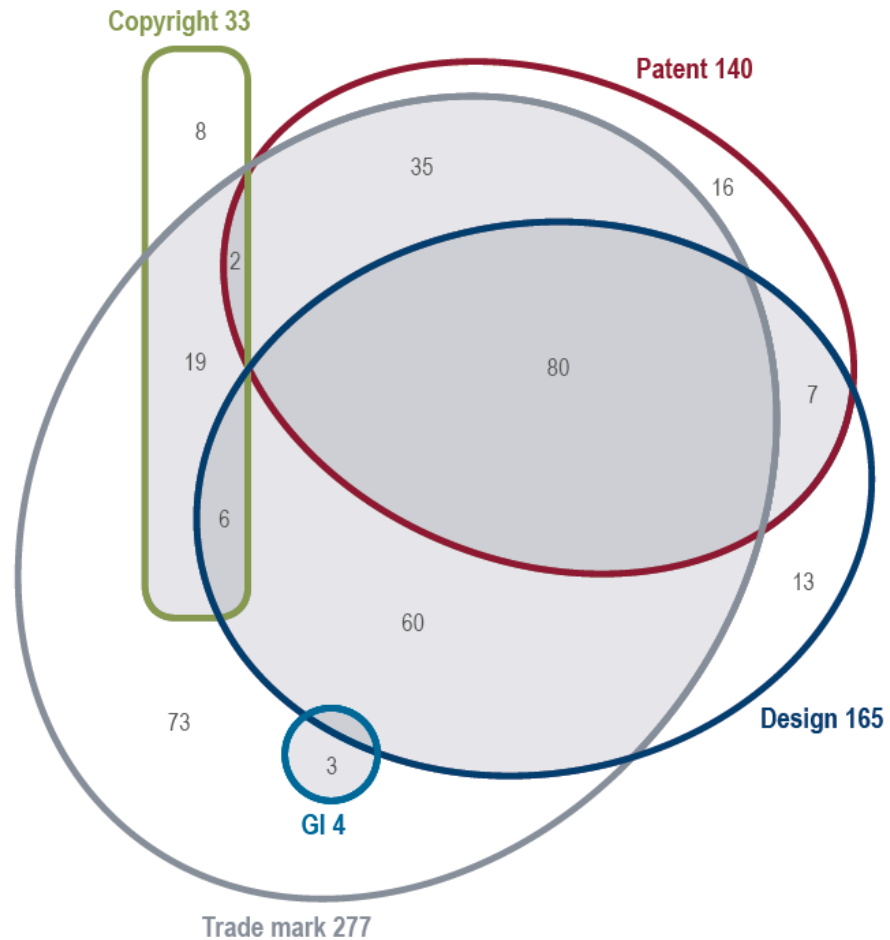
- To determine the average number of patents, not all 615 industries were taken into account:
 - Only NACE codes with patent activity (taking out industries with no patent applications or grants)
 - Certain industries taken out (public administration, health, education)
- Number of patents per 1,000 employees for each remaining NACE code
- Employment data at the EU level Eurostat's Structural Business Statistics (SBS): average employment per NACE code for 2008-2010
- Average number of patents/1,000 employees across all industries

Number of IPR-intensive industries

	Total number of industries active in specific IPR	Average number per 1000 employees	Intensive industries	Share on intensive in total number of industries
Patent	449	0.69	140	31%
Trade mark	501	3.16	277	55%
Design	470	1.61	165	35%
Copyright	n.a.	n.a.	33	n.a.
GI	n.a.	n.a.	4	n.a.
At least one IPR	615		321	52%

Overlap between rights in IPR-intensive industries

- Most IPR-intensive industries are intensive in **more than one type of IPR**.
- Trade marks are used by most of the industries.
- No **double counting** when assessing the impact on the economy.



Identification of copyright- and GI-intensive industries

- Copyright-intensive industries
 - WIPO methodology (2003)
 - Adaptation of WIPO methodology by USPTO (2012) (stricter approach)
 - NAICS code in USPTO → NACE code
 - 33 copyright-intensive industries
- GI-intensive industries
 - GI-intensity varies significantly across countries (contrary to other IP rights)
 - Identification based on DG AGRI study (2012)
 - 4 GI-intensive industries

Link to main economic variables

Successful applications in the period 2004 – 2008



Economic performance indicators in the period 2008 - 2010

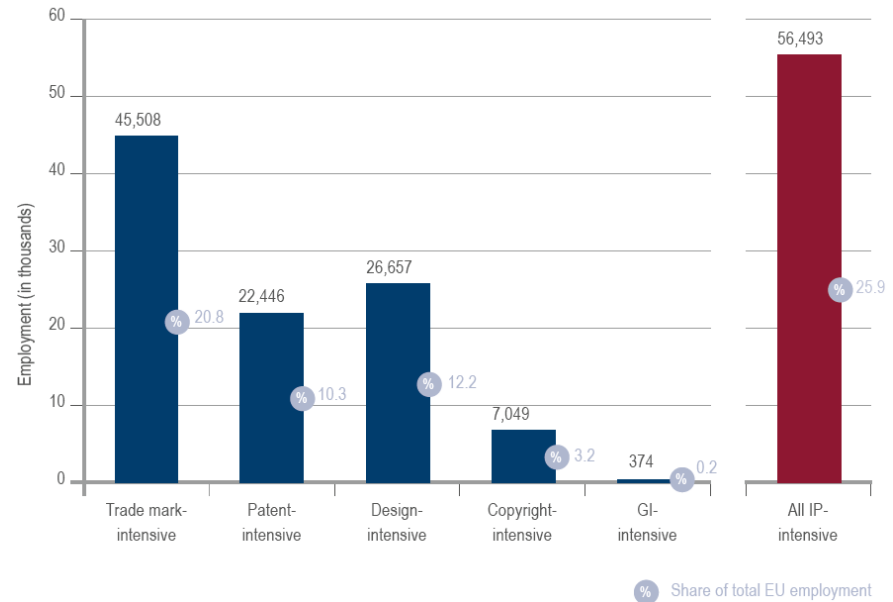
- No impact of 2009 financial crisis on applications
- Time lag before applications turn into economic performance

Link to main economic variables

- Careful interpretation of results required:
 - **no causal relationships** between IPR and economic variables
 - **no value** of IPR for firms or industries
 - for some countries a relatively large share of applicants **unaccounted for**
 - assumption of **no variation** in the industry use of IPR **across countries**

IPR-intensive industries and employment

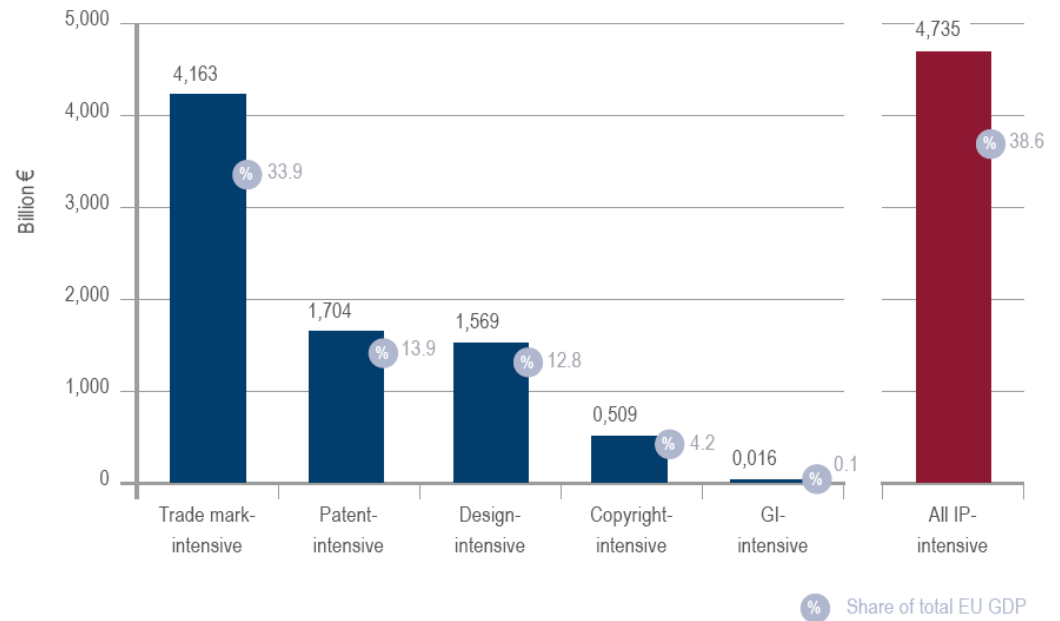
- **26% of all EU jobs** were directly generated by IPR-intensive industries during the period 2008-2010. That is, **56.5 million jobs**.
- An **additional 9%** were generated indirectly, by industries that supply goods and services to the IPR-intensive industries. That is, **20.1 million jobs**.
- In total **35% of all EU jobs** are supplied directly and indirectly. That is, **76.6 million jobs** out of 218 million.



IPR-intensive industries and GDP

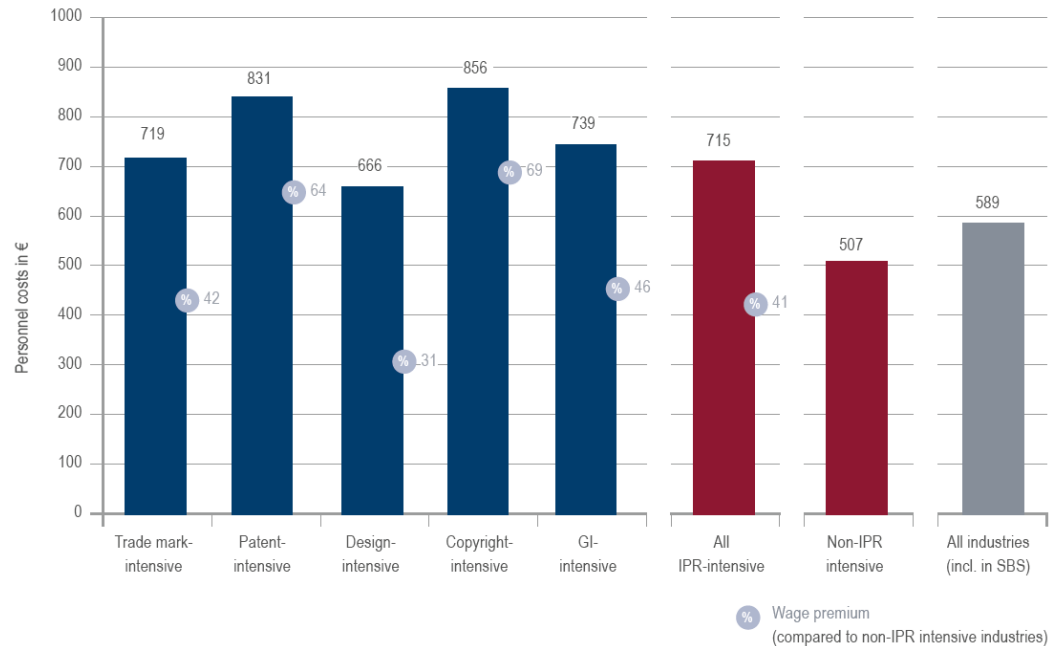
■ **39% of total economic activity (GDP)** in the European Union was generated by IPR-intensive industries from 2008-2010.

This totals **over € 4.7 trillion** annually, out of the € 12.3 trillion total EU GDP.



Average personnel cost in IPR-intensive industries

▪ IPR-intensive industries **pay significantly more** than other industries, with a wage premium of **over 40%**.



Main findings: country level analysis

- Differences in contribution of IPR-intensive industries between individual countries are reflection of differences in **industrial structure** and the presence of **individual companies**
- Origin of IPRs not taken into account
- No measure of how innovative a country is

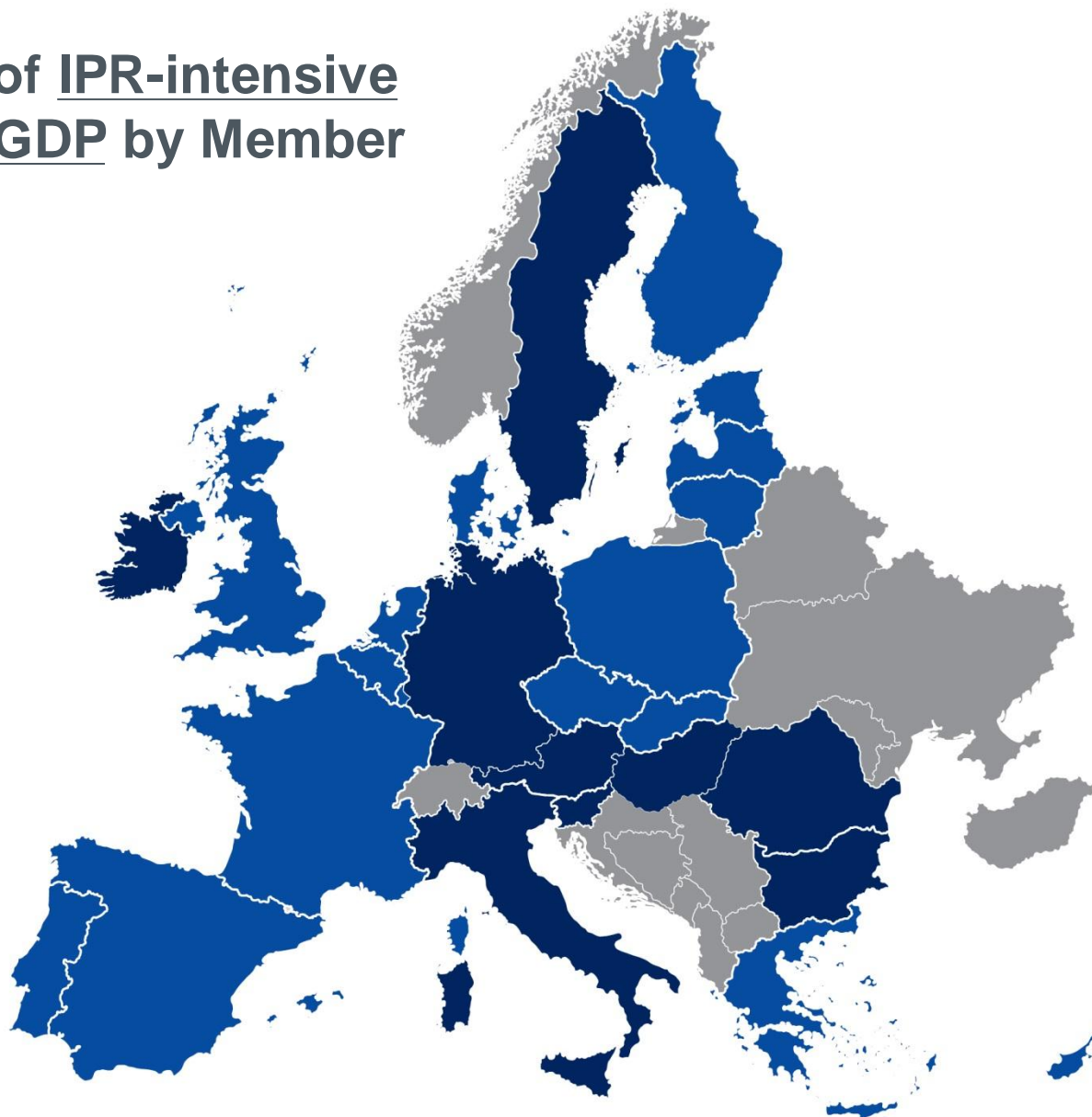


Contribution of IPR-intensive industries to GDP by Member State

IPR-intensive industries contribute **38.6% of GDP** in the EU.

38.6%
EU average

- above EU average
- below EU average



IPR-intensive industries: contribution to economic performance and employment in the European Union



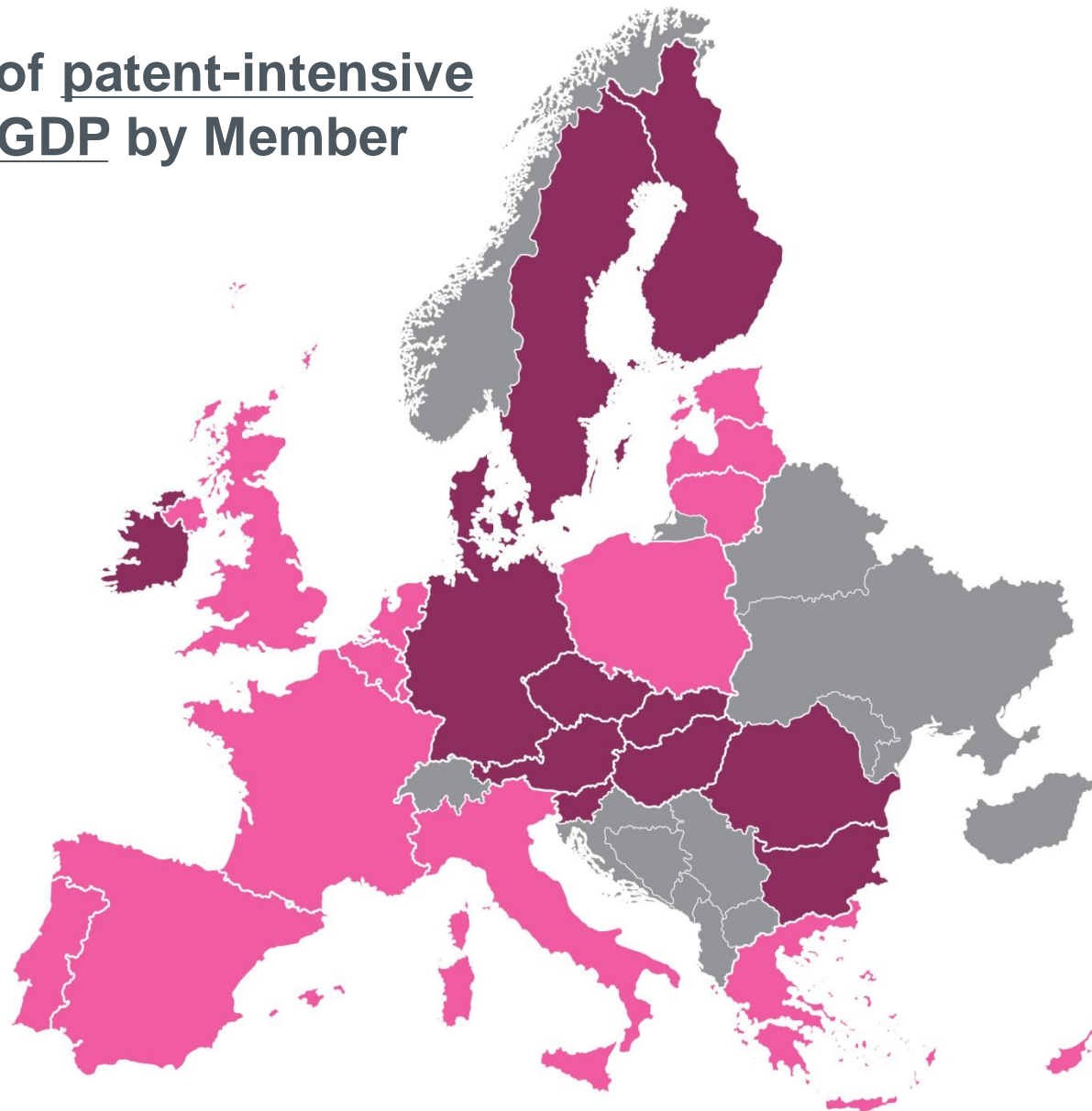
Contribution of patent-intensive industries to GDP by Member State

Patent-intensive industries contribute **13.9% of GDP** in the EU.



13.9%
EU average

- above EU average
- below EU average





Thank you for your attention