

What are trademarks and what can be expected from them as an innovation indicator?

RISIS



- Trademarks refer to **signs** in general
 - words, phrases, symbols, designs or combination of these → are used as **brands** and tools for **individual identification** of goods and services
- Potential to cover a large number of innovative activities and can thus be seen as a **complementary indicator** to patents
 - allows us to look into innovations in services



• Advantages

- Timeliness, closeness to the market, allow us to look at portfolios of IPRs (in combination with patents, utility models, designs, etc.)

▪ Disadvantages

- existing classification scheme is very broad and cannot (easily) be adapted to more specific topics
- trademarks are only registered and not examined (only compliance with formal regulations) and filing costs are low → very hard to identify “innovative” trademarks

Two Trademark Datasets in RISIS



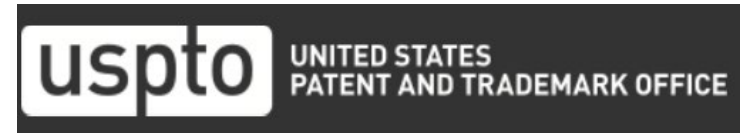
About 100,000 applications p.a. from 1996 to 2020

Bibliographic information

- Trademark number (ID)
- Applicant/owner, incl. address
- Dates (application, registration,...)
- Representative, incl. address
- Type (word, figurative, sound,...)
- Language
- Opposition

Classifications

- 45 classes (Nice)
- Vienna classes (figurative elements)



About 300-400k applications p.a. from early 19th century

Bibliographic information

- Trademark number (ID)
- Applicant/owner, incl. address
- Dates (application, registration,...)
- Attorney name
- Legal status

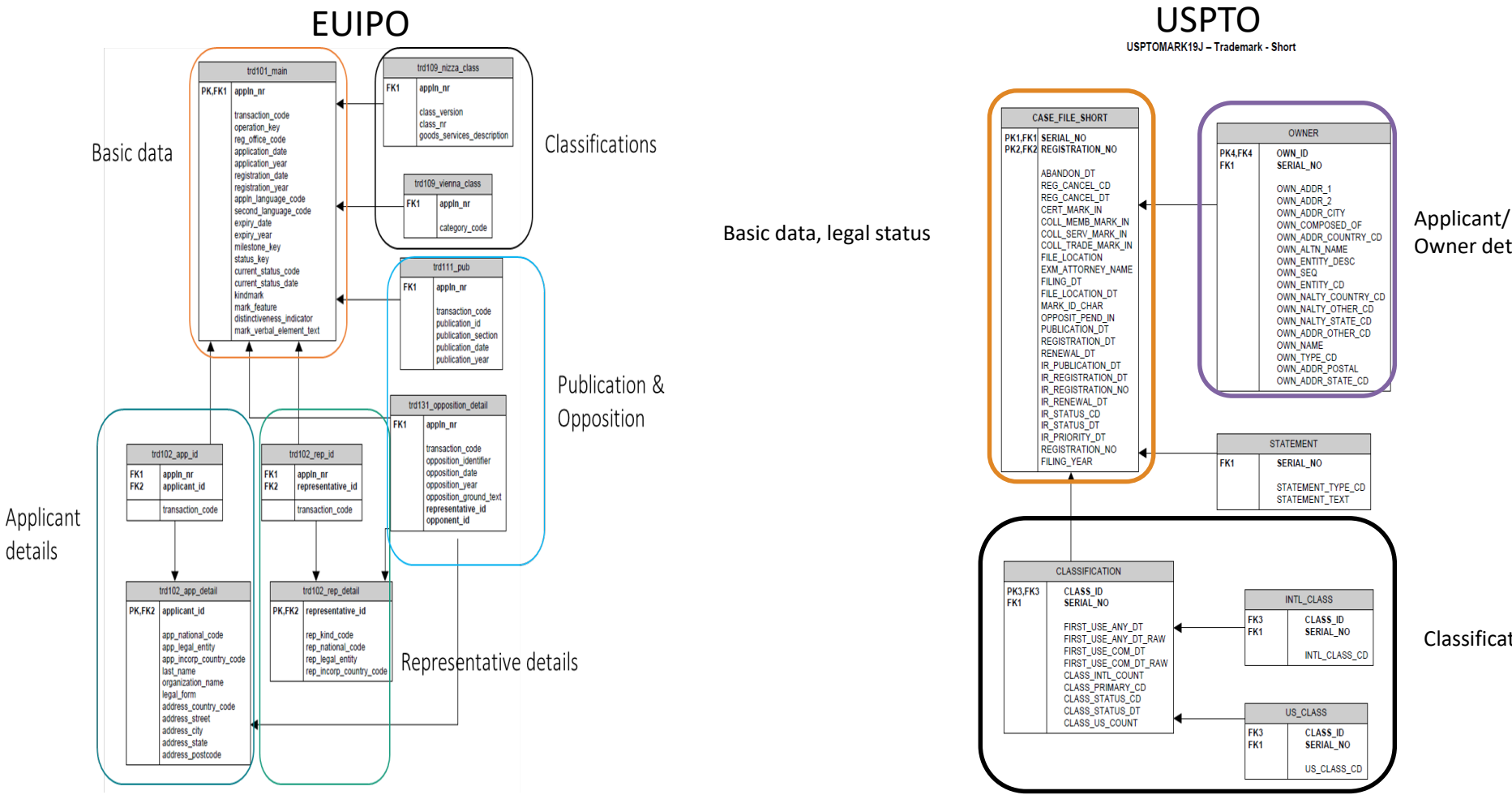
Classifications

- 45 classes (Nice)
- U.S. classification

Images: <https://euipo.europa.eu/ohimportal/en/>, <https://www.uspto.gov/>

SQL Database Scheme: EUIPO & USPTO (selected tables)

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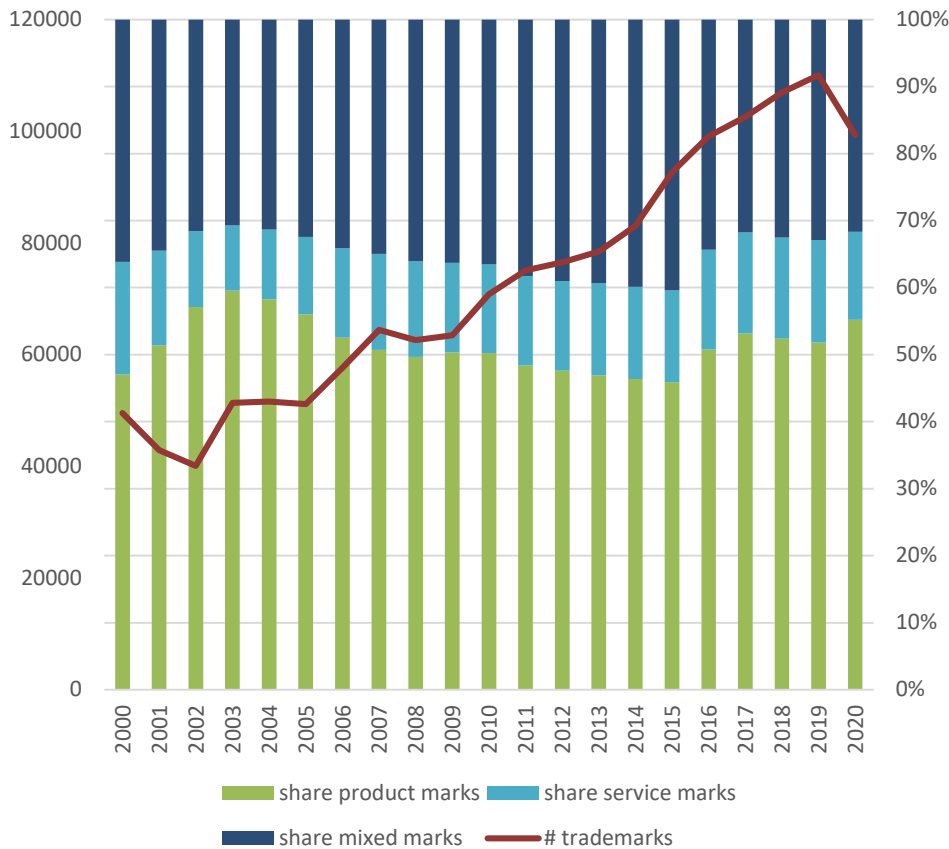


Basic statistics – EUIPO filings

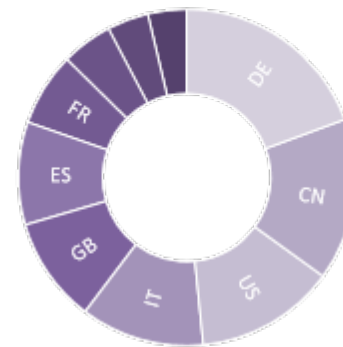
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trademark filings and shares of trademark types



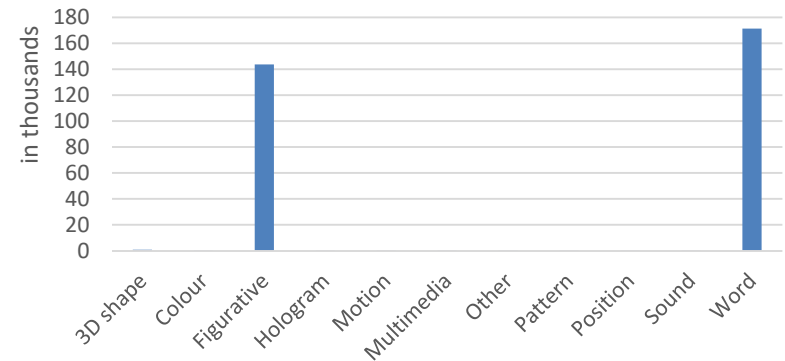
trademarks by applicant country



trademarks by representative country



trademarks by type of mark

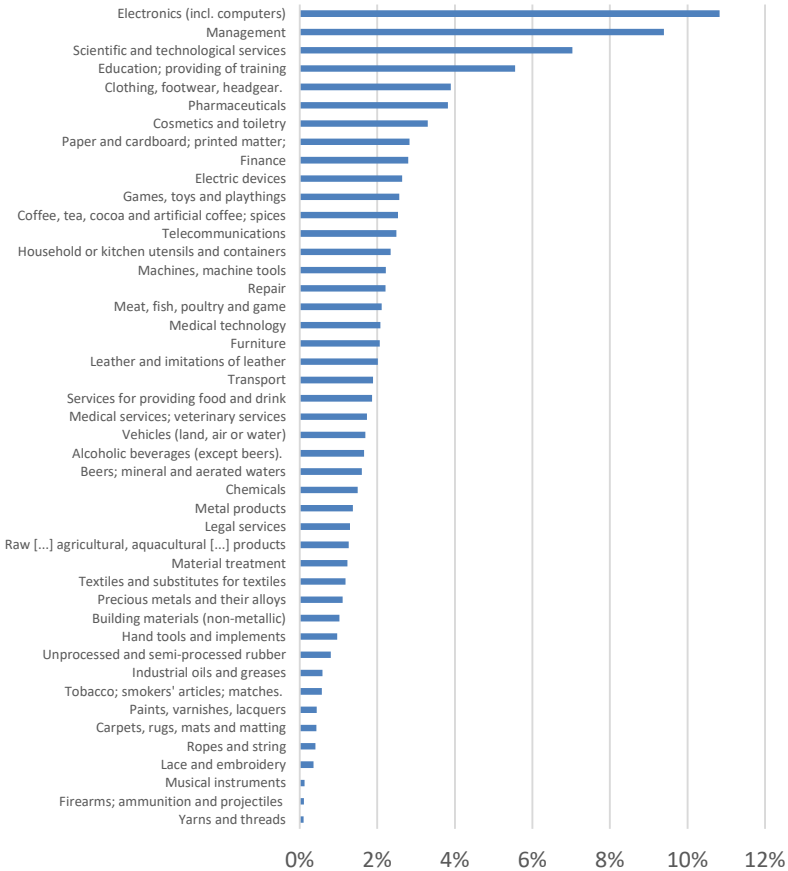


Field classifications – EUIPO filings

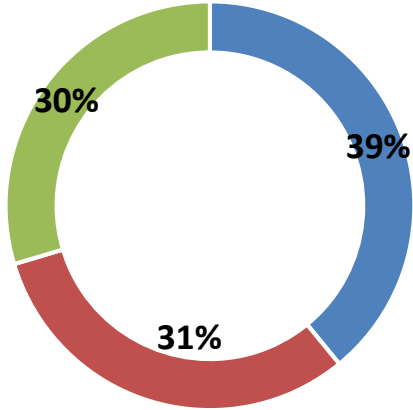
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Share of NICE fields in total filings



Technology orientation



■ technology-oriented goods ■ technology-oriented services
 ■ non technology-oriented marks

based on the classification by Schmoch & Gauch 2009

Source: EUIPO

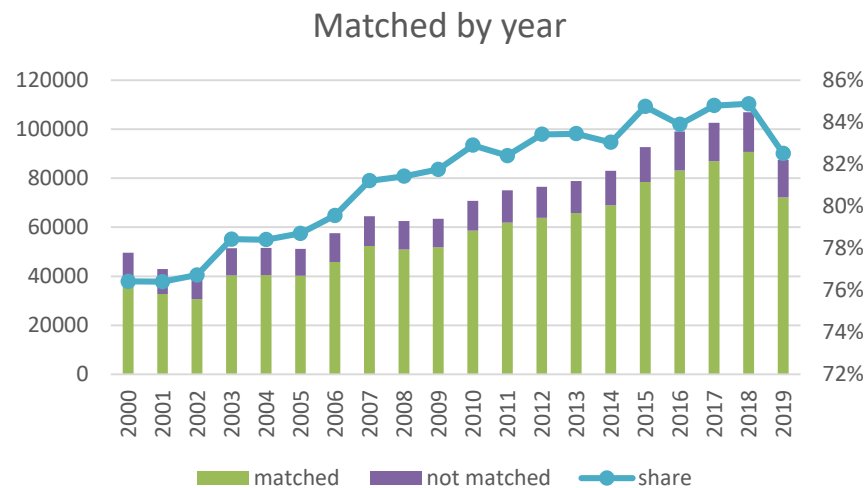
Generating a classification for trademark filings - A String Matching approach

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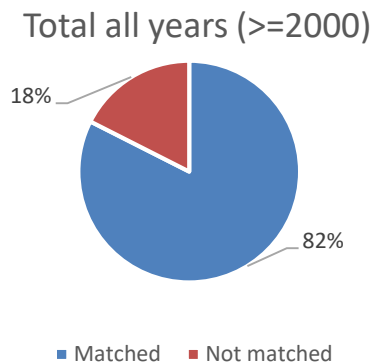


- Generation of a fine-grained classification scheme for more in-depth field analyses and the opportunity to identify innovative trademarks

- Approach: Match (partly) standardized text by which the applicant can describe his/her trademark with the pre-defined keyword list by the WIPO



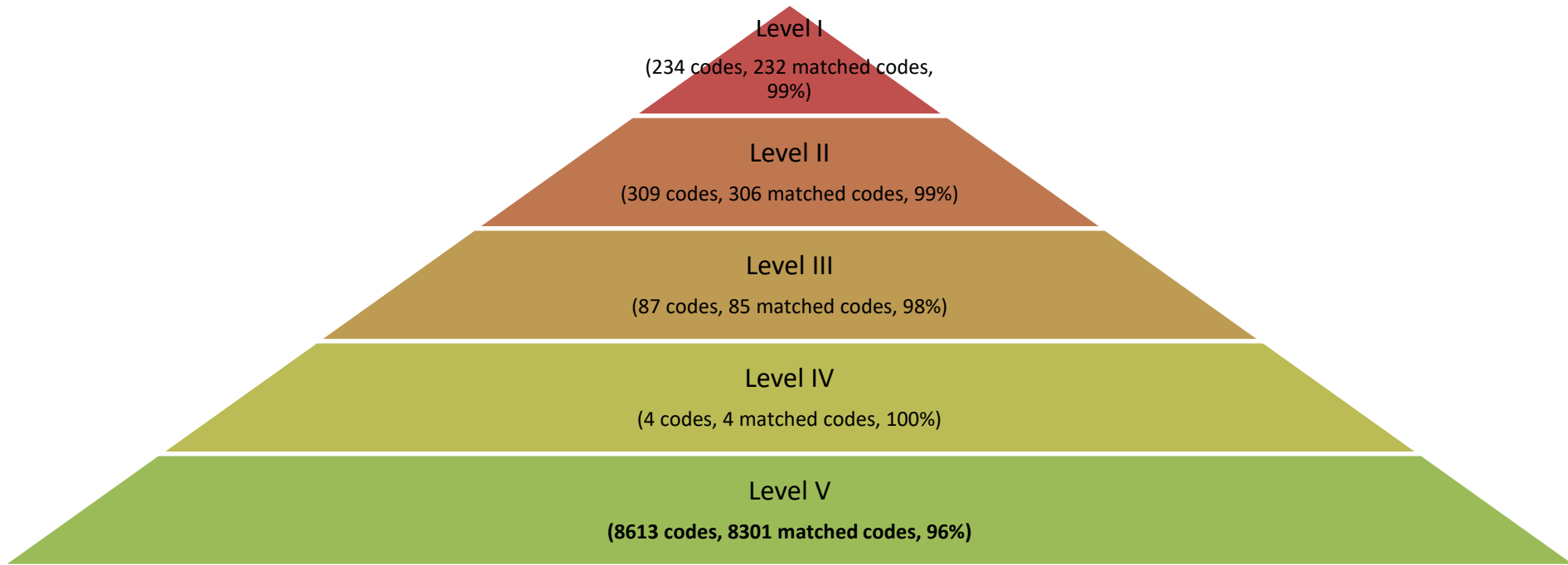
Matched ~1.3m of ~1.6 million EUIPO trademarks between 2000 and 2019



→ For more than 80% of all trademarks, a sub-level classification is now available

Classification setup

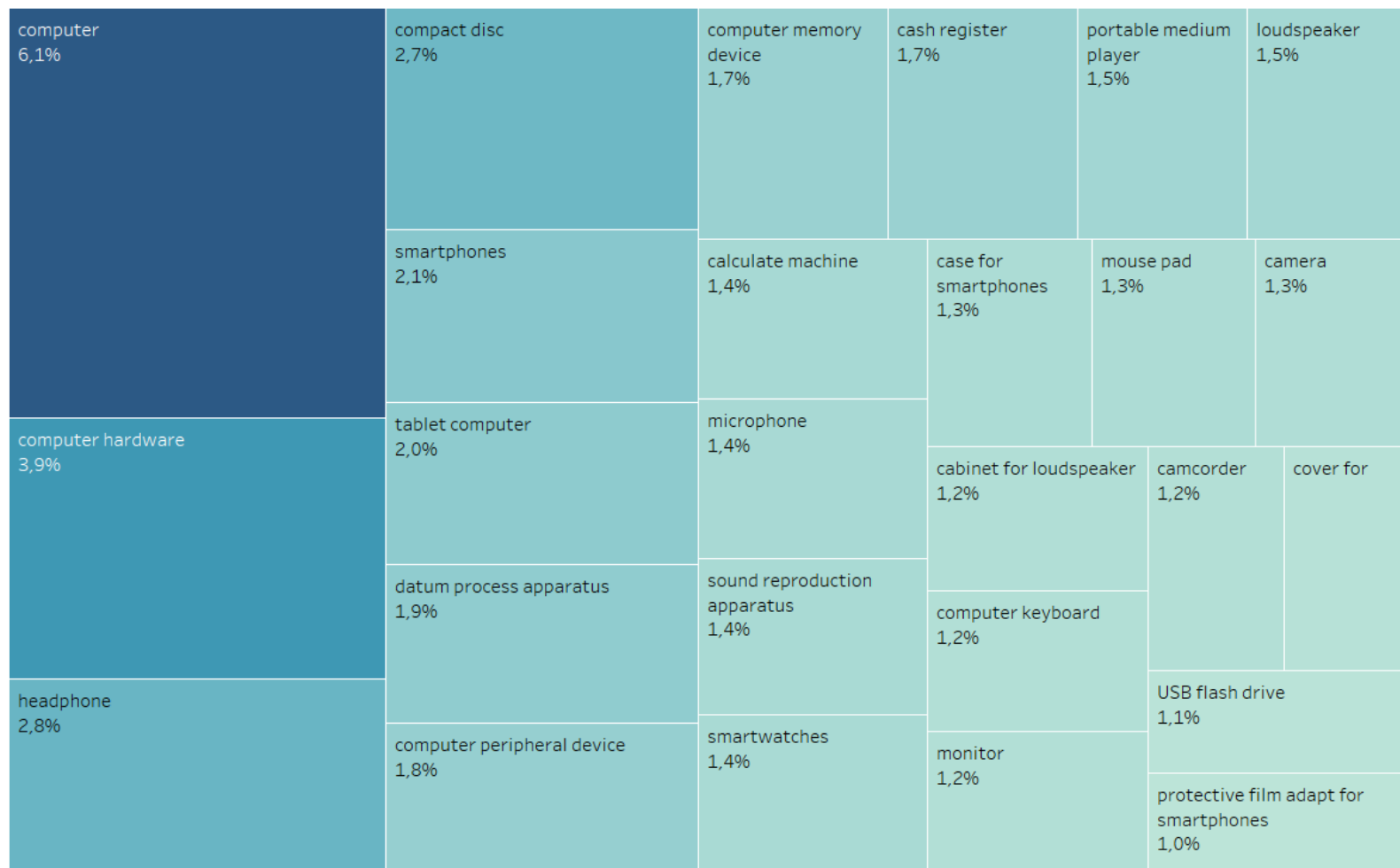
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NICE Class	Lvl_1_name	Lvl_2_name	Lvl_3_name	Lvl_4_name	Lvl_5_name	Lvl_5_nr
12	VEHICLES	LAND VEHICLES	GENERAL	GENERAL	wheelbarrow	120218
12	VEHICLES	LAND VEHICLES	MOBILITY CONVEYANCES	GENERAL	wheelchair	120062
12	VEHICLES	LAND VEHICLES	RAIL VEHICLES	GENERAL	locomotive	120138
12	VEHICLES	PARTS AND FITTINGS	PARTS FOR LAND VEHICLES	POWERTRAINS	motorcycle eng.	120286
12	VEHICLES	PARTS AND FITTINGS	PARTS FOR LAND VEHICLES	POWERTRAINS	motor electric	120109

Shares of trademarks within level I class "information technology and audio-visual, multimedia and photographic devices" at level 5, world, 2018

RISIS

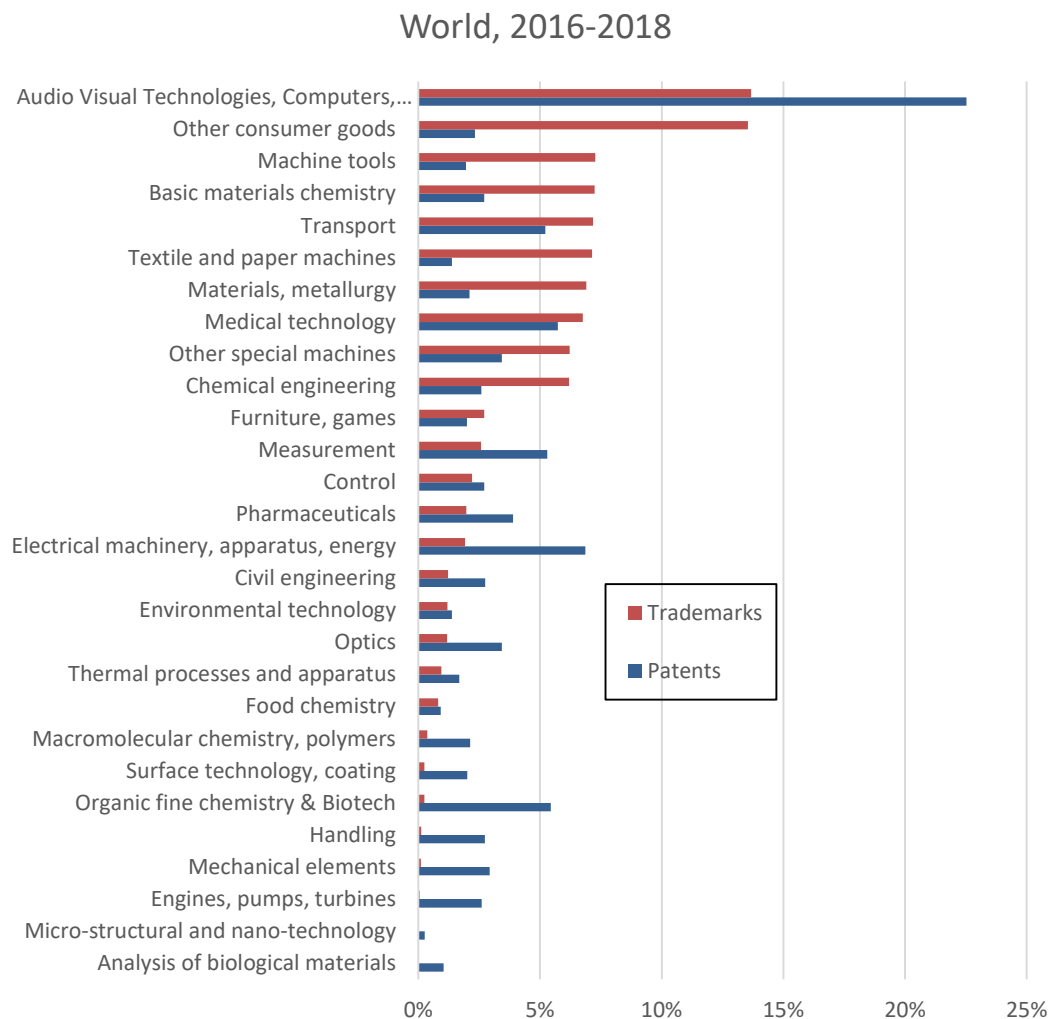


Concordance Scheme of patents and trademarks based on technology fields



- **Idea:** Generate a common classification for patents and trademarks, so we are able to compare country (and firm) profiles on a common denominator

→ Basis: Technology field classification of the WIPO (35 fields) and „Level 1 classes“ in trademarks



Matching of trademark data: FirmReg to EUIPO

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- **Aim**
Find information on trademark applicants in EUIPO that match (or are similar to) a company name FirmReg
- **Approach:** Calculate the similarity of company names from FirmReg to applicant names EUIPO. A certain degree of similarity determines the selection of the respective pair of entries as a "match". Similarity is calculated based on a Levenshtein distance based algorithm with several steps.

FirmReg		
	step 1-3	step 1-4
Total matches	175366	847464
Unique firms covered	95868	248443
as % of total FirmReg	25,38%	65,76%
Unique applicants covered (EUIPO)	20243	35035
as % of total applicants (year>2000)	4,19%	7,25%

What to do with the data? RISIS



- Trademark data allow us to take a closer look into innovation in service sectors
- With the new classification, we are able delineate trademark indicators on a fine-grained technology level and provide policy advice on this basis
- In addition, we are on the way to differentiate innovative from „non-innovative“ trademarks
- The connection of trademarks with patents gives us the opportunity to dig deeper into IPR profiles of companies/countries and their relation to other firm-specific data (e.g. FirmReg)

