

# Use of patent literature for technology mapping

## ERA-Net COMPERA

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### Uses of patent information

Statistical analyses

- Assessment of risks (legal status of patents)
- Who's-who finder (supplier, customer...)
- Information on technology:
  - new technology for own processes/products
  - new uses for own technology
- Identification of business opportunities (gaps)
- Assessment of competitors' position and market approach (eg internationalisation strategy)
- Analysis of technological trends (by country, industry, etc)

# Patent analytics

## Patent mapping\*

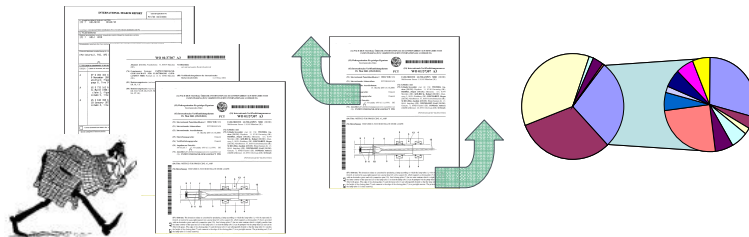
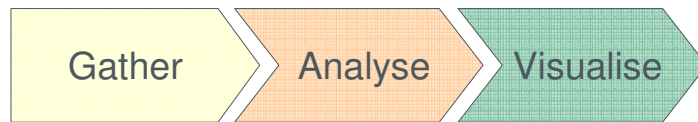
**Visualisation of patent analyses  
to understand  
complex patent information easily**

\* All examples and data given in this presentation are for exercise purposes only to explain the functioning of the software. The information provided may neither be complete nor accurate.

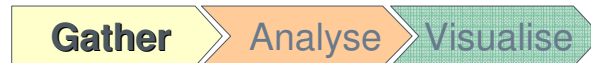
# Users of patent maps

- **Management** (all functions)
- **Innovators** (R&D)
- **Investors** (Venture capitalists, promotional banks)
- **Influencers** (patent offices, policy makers)

## Preparation of patent maps



## Preparation of patent maps



1. Define goals
2. Choose database
3. Define query (dates, IPC, key words...)
4. Collect data and remove noise
5. Harmonize applicant names



espatenet

Japan Patent Office

USPTO



MIMOSA

Commercial providers

**MIMOSA**  
interface

The screenshot shows the MIMOSA search interface with several key components:

- available fields:** A list of search criteria on the left, including APDT (Date of filing), APNM (Applicant(s)), APNR (Application number), IPC (All classification), CLMN (Main international), CLMS (Main/supplemental), CLNO (Non-obligatory int.), ICA (Classifications adv.), ICAV (Advanced level ac), ICAI (Advanced level in), DCST (Designated contra), and INCY (Inventor's country).
- index:** A table showing search results for the query, with columns for 'Nb Occ.' and 'Index for the APNM criteria'. Results include BSH (120), BSH BOSCH UND SIEMENS HAUSGERATE GMBH (115), BSH HOLICE AS (1), and BSH (1).
- query:** An 'Expert mask' field containing the query: `apnm=(BOSCH* and Siemens*) or BSH`.
- history:** A table showing previous search queries and their results.

Key	Result	Database	Query	Parsed Query
\$3	115	MBUL2006002	APNM=(Bosch* and Sie...	APNM = "Bosch*" and APNM = "Siemens**"
\$2	120	MBUL2006002	APNM=(Bosch* and Sie...	(APNM = "Bosch*" and APNM = "Siemens**") or APNM = "BSH"
\$1	120	MBUL2006002	APNM=BSH	APNM = "BSH"

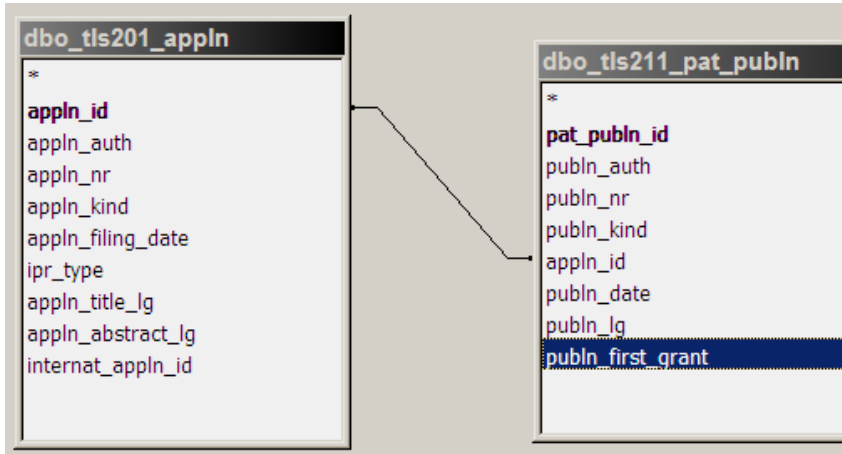
**ESPACE ACCESS**

Content: EP and WO documents  
Searchable fields

<b>AB</b>	<b>English abstract</b>	<b>IC</b>	<b>All classification</b>
<b>AD</b>	<b>Application Date</b>	<b>INV</b>	<b>Inventor</b>
<b>AF</b>	<b>French Abstract</b>	<b>KI</b>	<b>Document kind</b>
<b>AN</b>	<b>Application number</b>	<b>MC</b>	<b>Main classification</b>
<b>DC</b>	<b>Correction date</b>	<b>NO</b>	<b>WO-EuroPCT number</b>
<b>DP</b>	<b>Publication date</b>	<b>PA</b>	<b>Applicant</b>
<b>DS</b>	<b>Designated states</b>	<b>PD</b>	<b>Priority date</b>
<b>EP</b>	<b>EP Publication number</b>	<b>PR</b>	<b>Priority number</b>
<b>ET</b>	<b>English title</b>	<b>PRESENCE</b>	<b>Available data</b>
<b>FT</b>	<b>French title</b>	<b>WO</b>	<b>WO Publication number</b>
<b>GT</b>	<b>German title</b>		

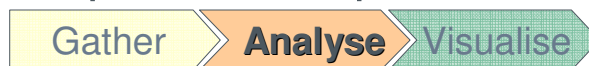


## PATSTAT example: Which applications were granted?



One publication per `appln_id` will have this flag set to "1" in case the patent was granted.

## Preparation of patent maps



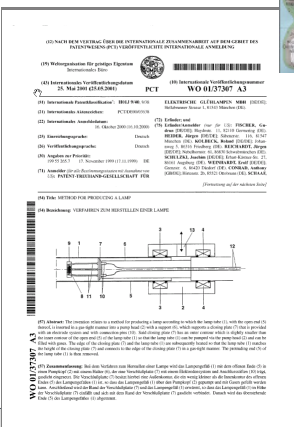
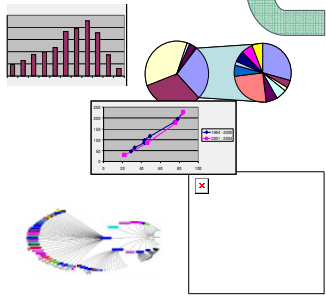
### Steps

- Export data to spreadsheet (full data set if possible)
- Define dimensions of analysis (eg technologies, application)
- Add codified dimensions to documents
- Run statistical analysis
- Check results

# Preparation of patent maps



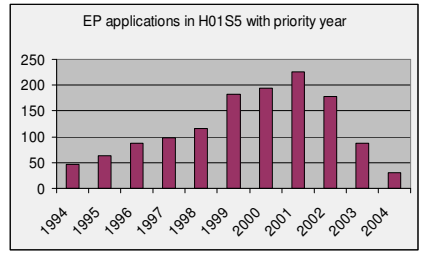
Bibliographic data:  
**Statistical analysis  
 of structured  
 information**



**Abstract  
 description  
 and claims:  
 Text mining of  
 unstructured  
 information**

# Preparation of patent maps Example: Laser diodes

Time series



Source:  
 Bulletin Dec 1978- Dec 2005

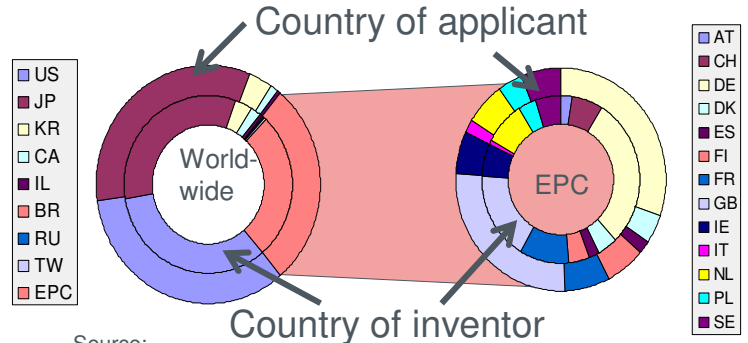
# Preparation of patent maps

## Example: Laser diodes

Pies

Visualise

EP applications with priority year 2002



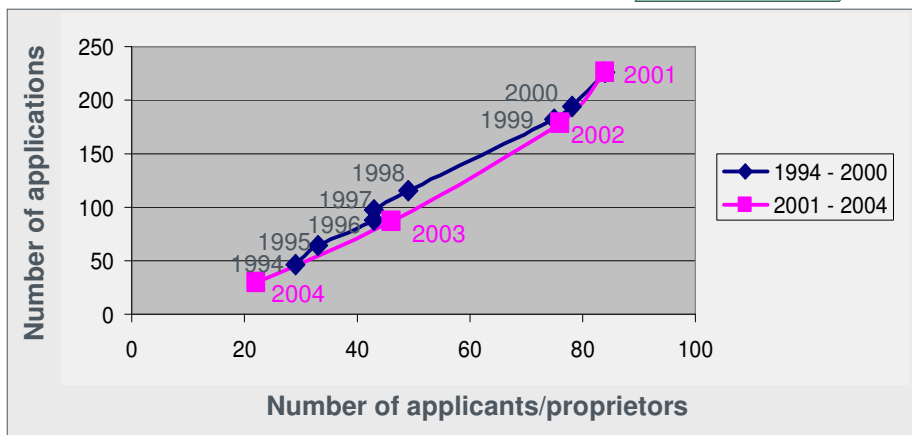
➤ preparation of patent maps

# Preparation of patent maps

## Example: Laser diodes

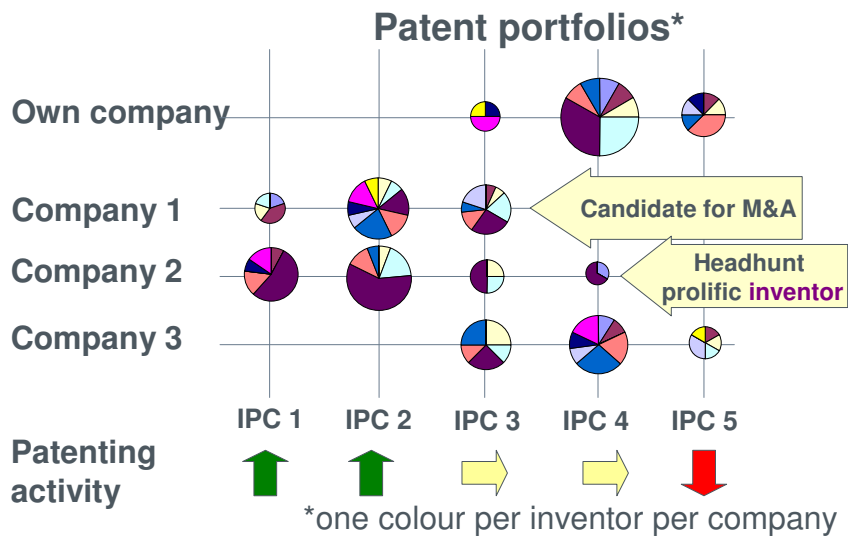
Graphs

Visualise



➤ preparation of patent maps

## Preparation of patent maps



## Assessment of importance of invention

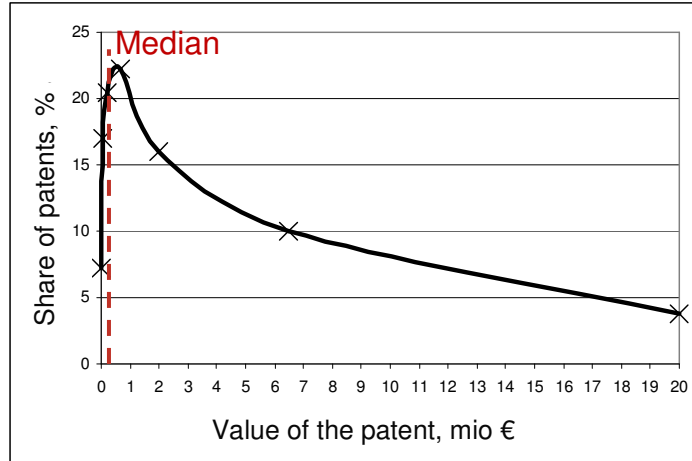
### Problem

Pure counting of patents is often not appropriate without taking the **importance** of the invention into consideration.

### Suggestions to assess importance

- Granted patents only
- Citation information
- Family size/Triadic patents (US, JP and EP)
- Number of inventors / applicants
- Duration of patent in force

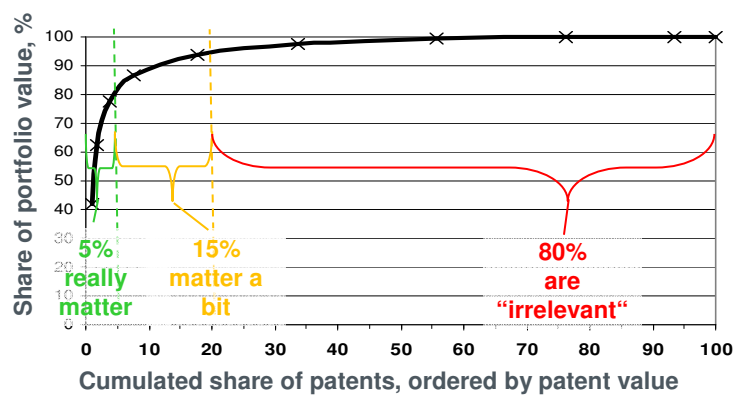
## Empirical distribution of patent value



**50% of (EP) patents are worth less than € 300k  
(25% are worth less than € 100k)**

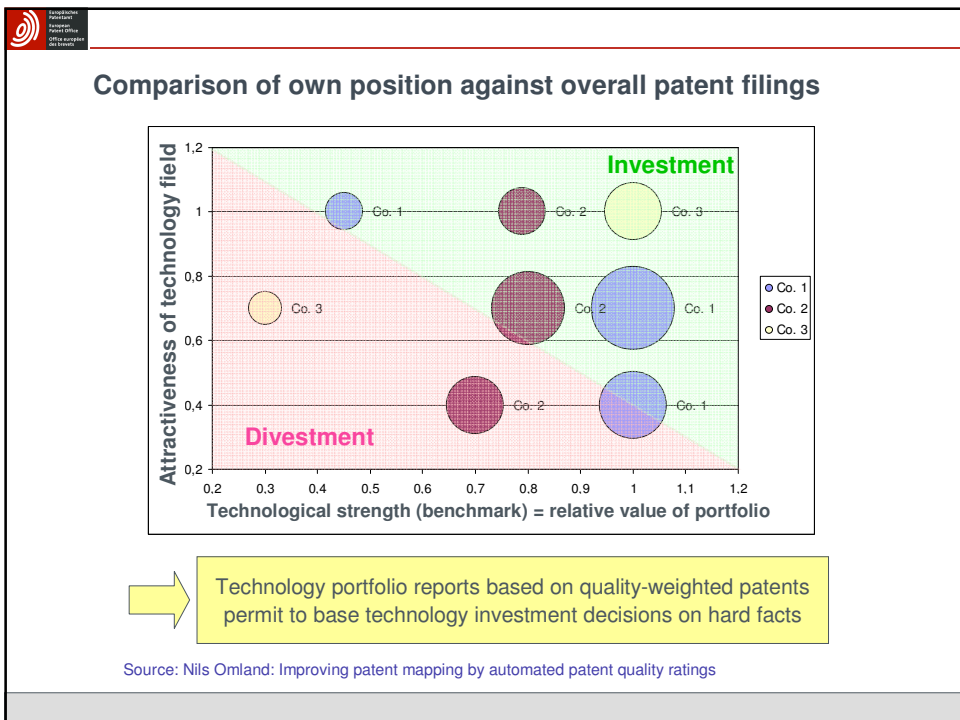
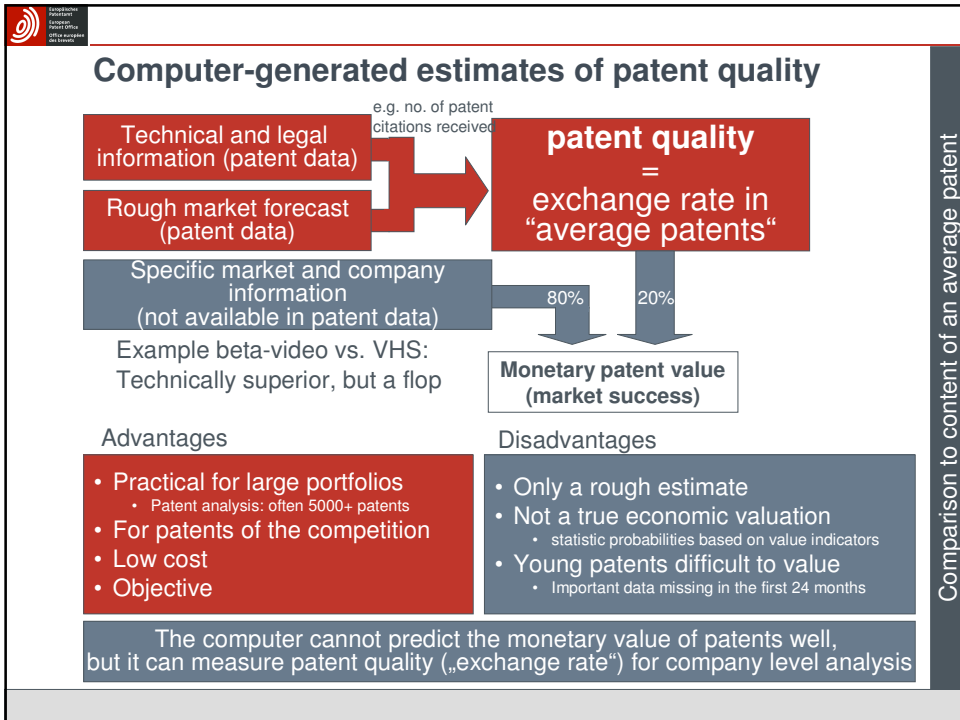
Data for about 7000 EP-patents. Source: European research project 'PATVAL'.

## Empirical distribution of patent value (cumulated)



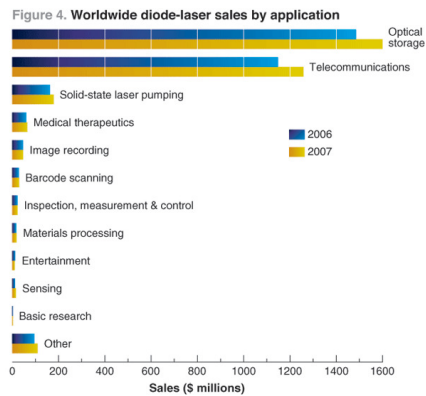
**80% of the value is derived from less than 20% of the patents**

Data for about 7000 EP-patents. Source: European research project 'PATVAL'.



# Comparison other sources of information

## Market data: Application



Source: <http://www.optoq.com/index/display/article-display/283868/articles/laser-focus-world/volume-43/issue-2/features/laser-marketplace-2007-diode-laser-market-takes-a-breather.html>

*Thank you for your attention*

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*Acknowledgement*

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