## **Exercises Topic 8**

The IPC website is <a href="http://web2.wipo.int/classifications/ipc/ipcpub/#refresh=page">http://web2.wipo.int/classifications/ipc/ipcpub/#refresh=page</a>
EPO Espacenet: <a href="http://worldwide.espacenet.com/">http://worldwide.espacenet.com/</a>

## Task 1: What are the IPC codes for

- coffee (in general and for roasting),
- air conditioning,
- brakes (brakes in general, electronic control of brakes, brakes for harvesting machines)

A: You may use the catch word index of the IPC; search the IPC for keywords; or try to find relevant patent documents and review their classification.

- coffee in general A23F 5/04; and for roasting A23F 5/04
- air conditioning F24F
- brakes in general F16D

## Task 2: Combined keyword and PC search

Search all EP applications related to a turbo-molecular pump. First try to find the IPC and CPC codes. Then use additional keyword searches in tile and abstract. Consider alternative spellings of the keywords.

Q: Which is the CPC code for turbomolecular pumps? Which is the corresponding IPC code? A: F04D 19/042 is the appropriate CPC codes. You can find it by running a keyword search and checking the classification of documents that clearly relate to such pumps. Or else, you do a "classification search" in Espacenet.

Q: How many EP documents do you get when you search for the CPC code.

A: 267 as of March 14, 2016. To limit the documents to EP publications, either put EP in the publication number field or select the EP collection.

Q: Which are the alternative keyword spellings? And how many documents do you get? A: turbo-molecular pump(s); turbomolecular pump(s) turbo-molecular pump\*: 82 as of March 14, 2016 turbomolecular pump\*: 105 as of March 14, 2016

Q: How many EP documents have either the one or the other spelling?
A: (turbomolecular pump\*) OR (turbo molecular pump\*): 179 as of March 14, 2016

Q: How many have both the variations of the keywords and the CPC code? A: 89 documents as of March 14, 2016

Q: What conclusion do you draw? Did you find additional documents by using the classification? A: Of the 267 documents with the CPC code, 267-89=178 did not have the keywords. A pure keyword search would have missed them. Of the 179 documents with the keywords, 179-89=90 do not have the CPC code and would have been missed by a pure CPC search. Therefore a combination of both types of searches is more effective in terms of recall.

Q: How many more EP documents do you get when you search for the keywords in the fulltext? Are they related to inventions about TM pumps?

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A: 2660 documents, as of March 14, 2016, for (turbomolecular OR (turbo molecular)) AND (pump OR pumps); no, e.g. EP2991103 a TM pump is only used in the gas exhaust of an etching unit.

Q: Can you search in Espacenet for all documents that either have the classification or the keyword variations or both?

A: Not in Advanced Search because the CPC field and the abstract field are combined by the AND operator. However you can do it in smart search:

(Cpc="f04d19/042" OR ((txt="turbomolecular" OR txt="turbo molecular") AND txt=pump\*)) AND pn=ep