



COMAR - the international database for certified reference materials

Access: <http://www.comar.bam.de>

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Use of CRMs / Find a CRM

Certified reference materials:

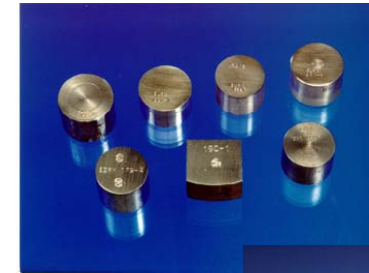
- are measurement benchmarks
- ensure reliability and comparability
- help to create confidence
- provide traceability in chemical analysis
- are required in quality assurance (ISO 17025)

One main problem for users:

- How to find the proper CRM needed?

Ways out:

- catalogues of producers
- websites of producers
- **COMAR database (world wide scope)**
- other databases of regional orientation or for special kinds of materials (GoeReM, JCTLM, RMInfo, VIRM)





What is *COMAR*?

COMAR has been developed to assist users in finding the reference materials they need.

Performance:

- Browser independent (Microsoft, Netscape, Opera,...)
- CRM information language is English
- Navigation language can be multilingual
- Update rights are given to the *COMAR* coding centres (national or international institutes)
- CRM classification by harmonised catalogues

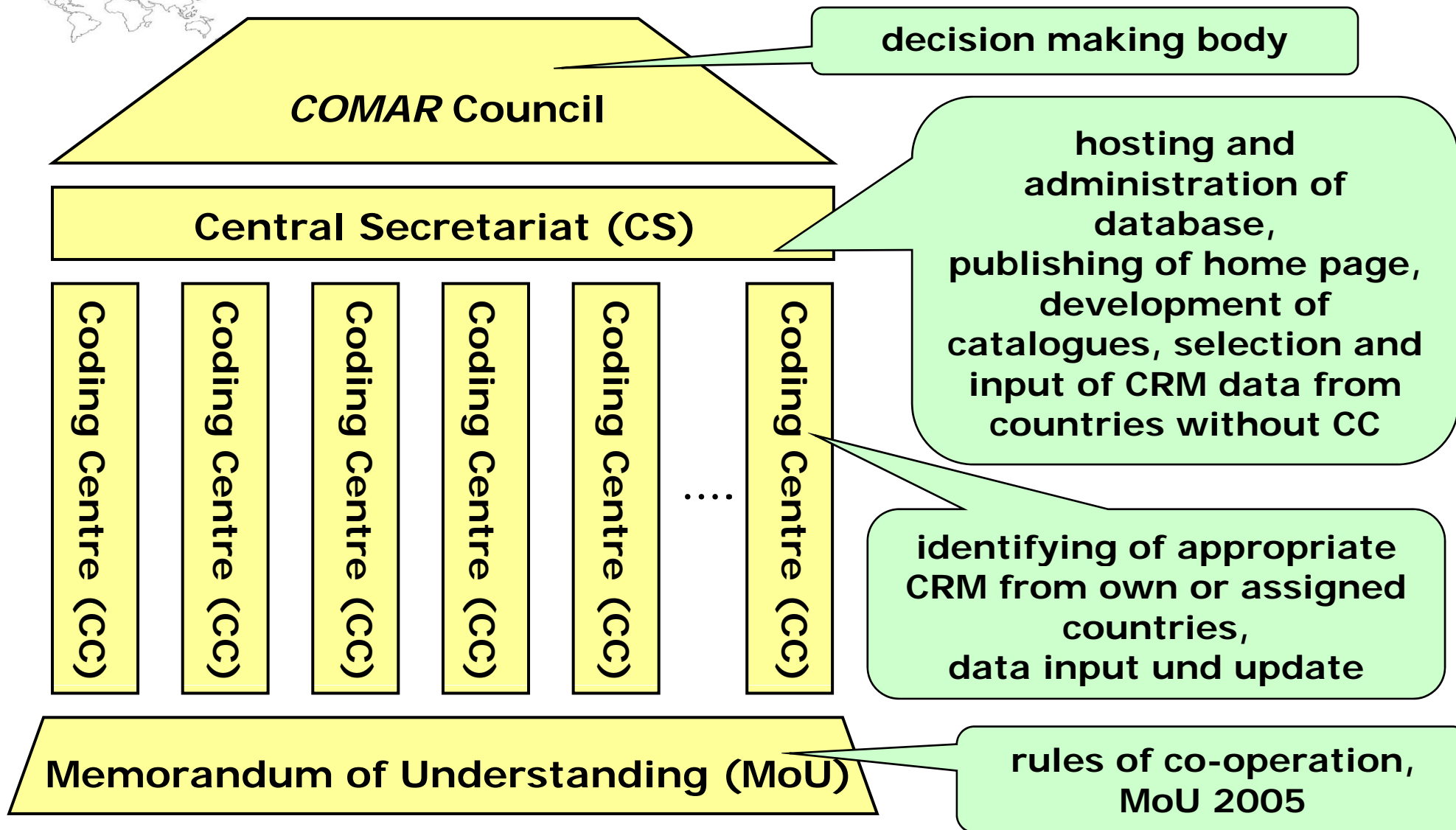


History of *COMAR*

- **Late 1970s:** French LNE proposed an RM database
*CO*de d'Indexation des *MA*tériaux de *R*éférence
- **Mid-1980s:** *COMAR* was improved and established by LNE (France), LGC (United Kingdom) and BAM (Germany)
 - not free of charge
 - floppy disks updated and distributed once a year
- **May 1990:** broadening co-operation, 7 institutes, first MoU
- **2001/2002:** development of an internet based version by BAM
 - free of charge for users since **March 2003**
 - available via internet and can be directly updated
- **2005:** Memorandum of Understanding (MoU) renewed
- **2007/2008:** software update and extension of search tools
- **Currently** *COMAR* is supported by 21 national or international institutes (coding centres)

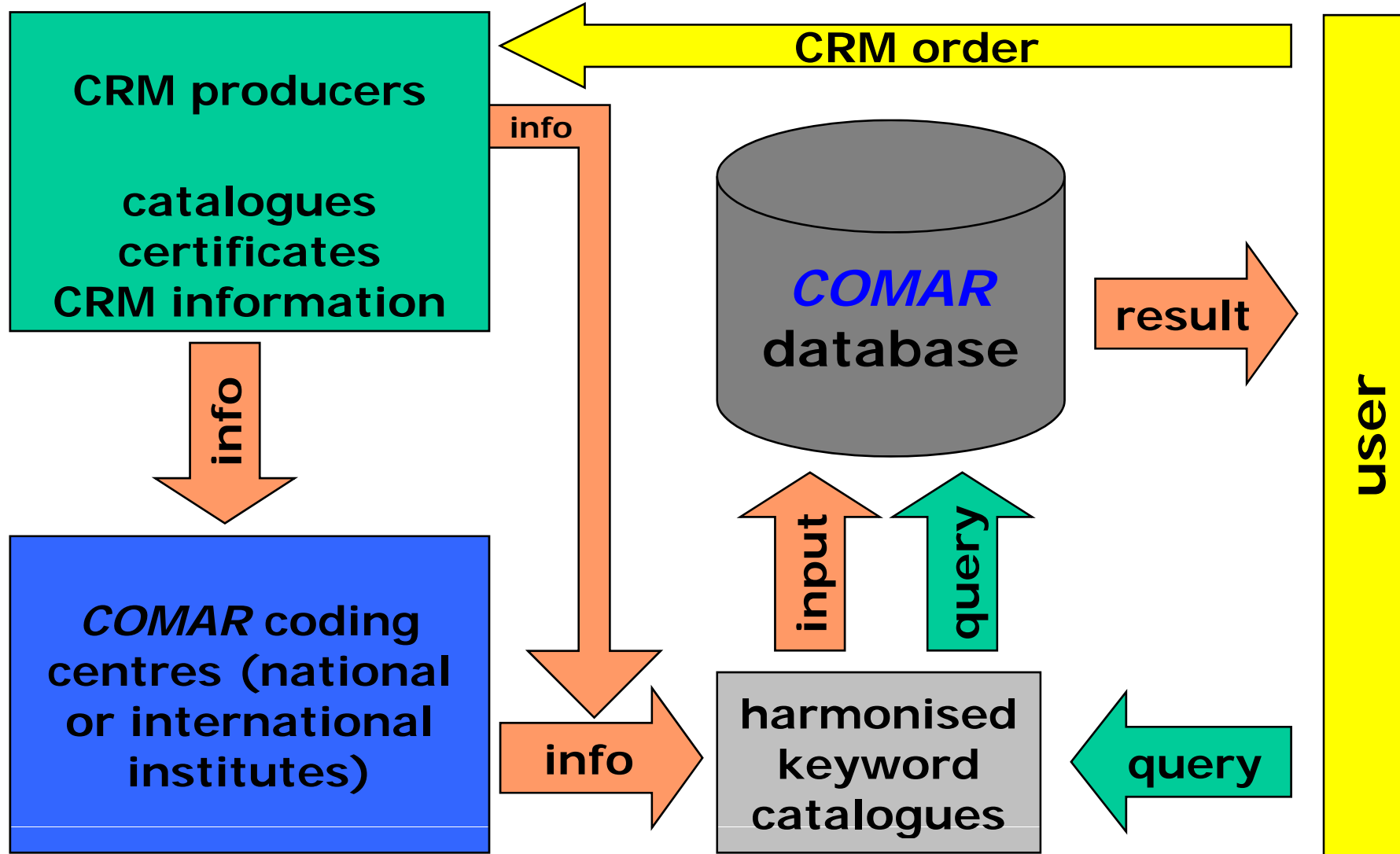


COMAR organisation structure





COMAR management





Improvement of *COMAR* database (version released March 2008)

- New update right level for CRM producers:
 - Can be assigned to individual CRM producers
 - Allows closer involvement of CRM producers in the update process
 - Intended to make update more efficient and to keep *COMAR* more up-to-date
- Internal use of CAS (Chemical Abstract Service) numbers in the search process:
 - Search for particular molecule name now results in all CRM hits referring to the same CAS number, whatever molecule name was used for the data input or was selected for query
- Extension of the searchable CRM description field to 1000 characters:
 - Allows to enter more information in the easy-to-handle search tool (string search)
- New search tool “matrix search”:
 - Important for searching for proper matrix reference materials
 - Matrix keyword catalogue used in *COMAR* correspond to matrix categorisation recently developed by ISO REMCO (Technical Report 10989)
 - Currently the new search tool has not been released for users. Prior to release a substantial part of existing *COMAR* entries have to be assigned to the new keyword catalogue
- The search tool “chemical composition” has been combined with the search in the “CRM description field” and with the new “matrix search”:
 - Makes database handling much easier and allows for more carefully targeted queries



COMAR coding centres (CC)

| | | | | | |
|---|---------|-------------------|---|-------|--------------------|
|  | BAM | Germany |  | LGC | United Kingdom |
|  | BelGIM | Belarus |  | LNE | France |
|  | BIM | Bulgaria |  | NITE | Japan |
|  | CANMET | Canada |  | NIM | China |
|  | CENAM | Mexico |  | NMIA | Australia |
|  | CGL | Mongolia |  | NMi | The Netherlands |
|  | CMI | Czech Republic |  | NPL | India |
|  | GUM | Poland |  | SMU | Slovakia |
|  | INMETRO | Brazil |  | SP | Sweden |
|  | IRMM | European Union |  | UNIIM | Russian Federation |
|  | KRISS | Republic of Korea | | | |



Statistics January 2012

About 10200 CRMs from about 250 producers in 25 countries

| | | |
|-----------|----------------|--------------------|
| Australia | Czech-Republic | Poland |
| Austria | France | Russian Federation |
| Belarus | Germany | Slovakia |
| Brazil | India | South-Africa |
| Bulgaria | Japan | Sweden |
| Canada | Korea | The Netherlands |
| China | Mexico | UK |
| Colombia | Mongolia | USA |

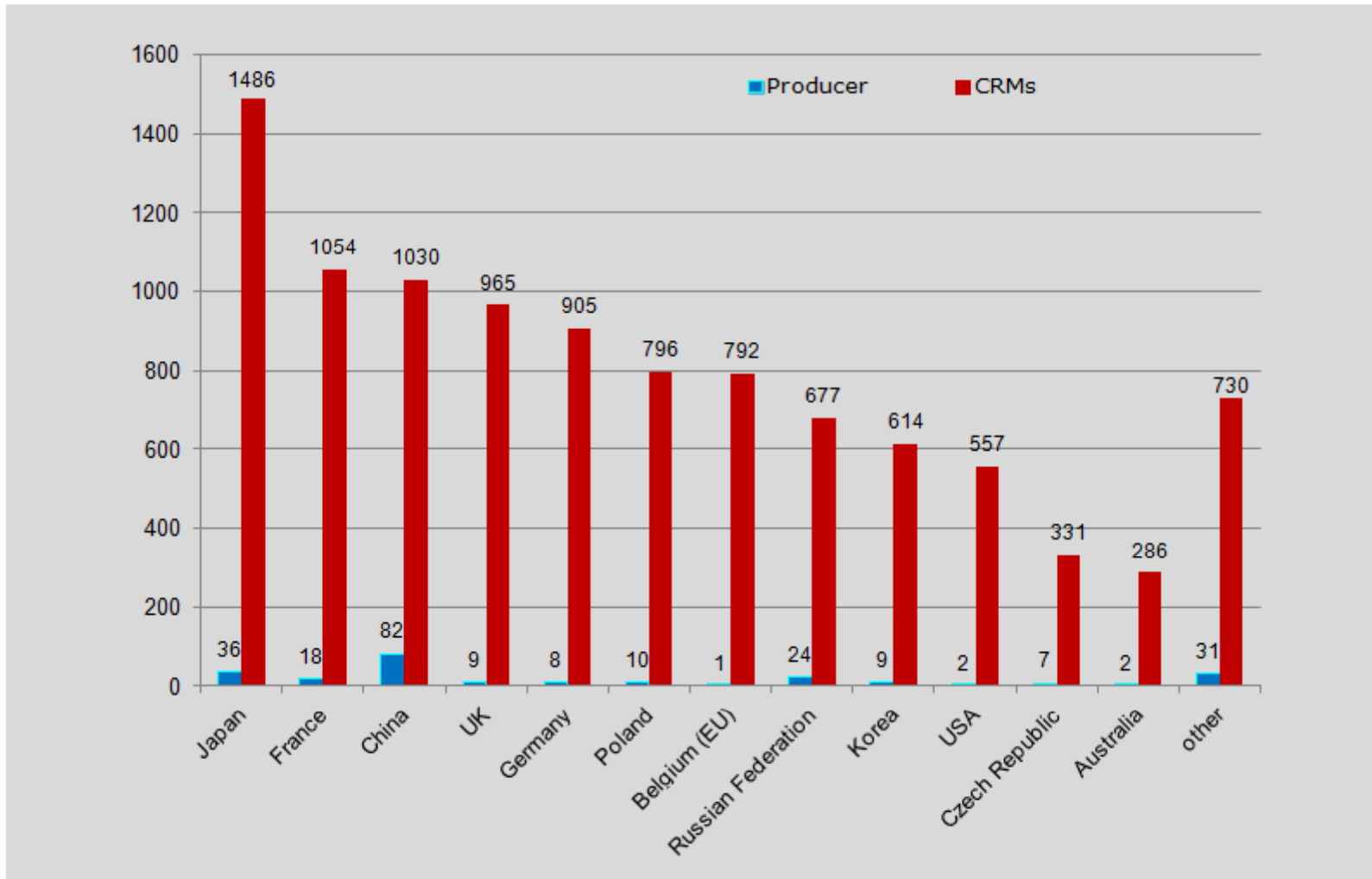
European and international institutions:

IRMM/BCR

IAEA

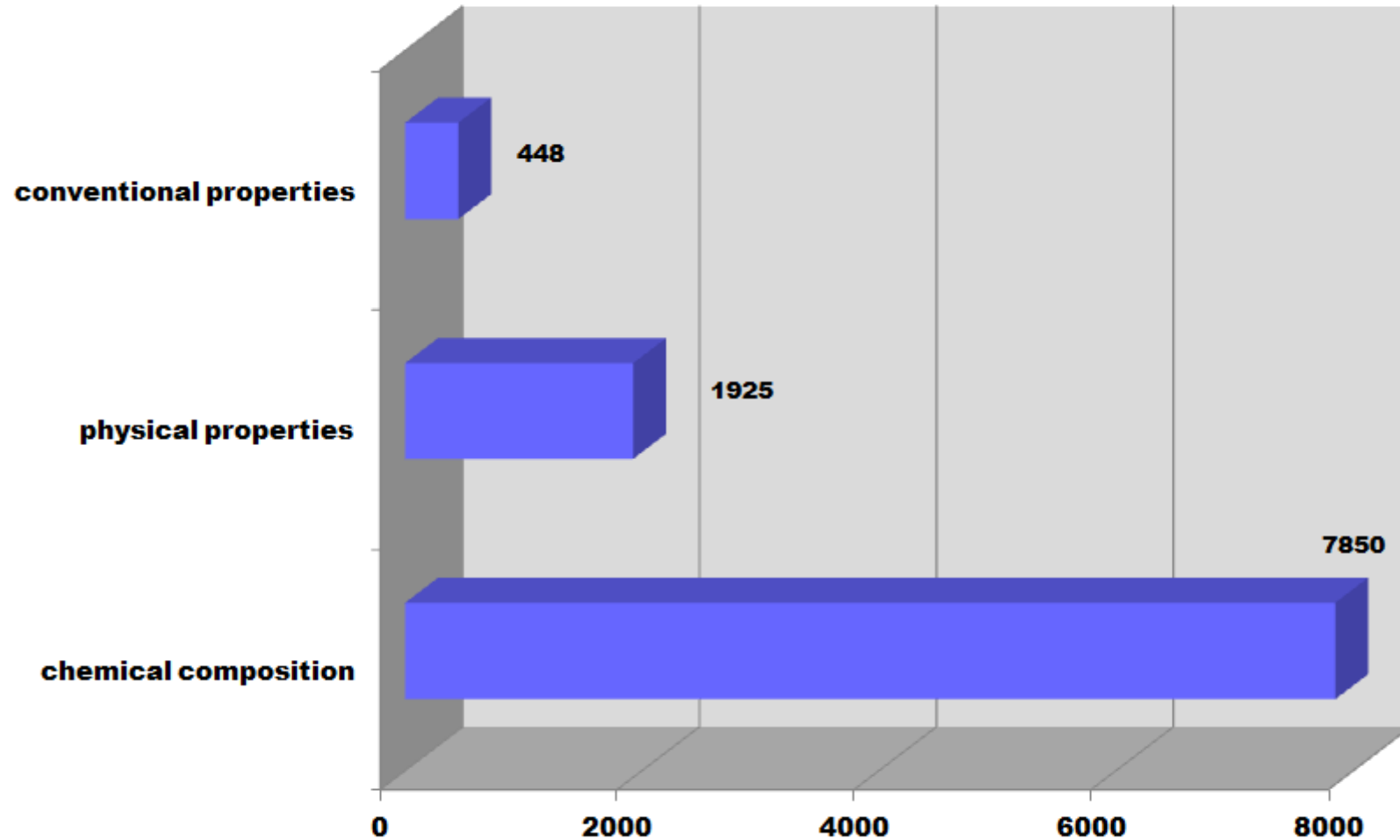


Number of CRMs and producers by countries (January 2012)



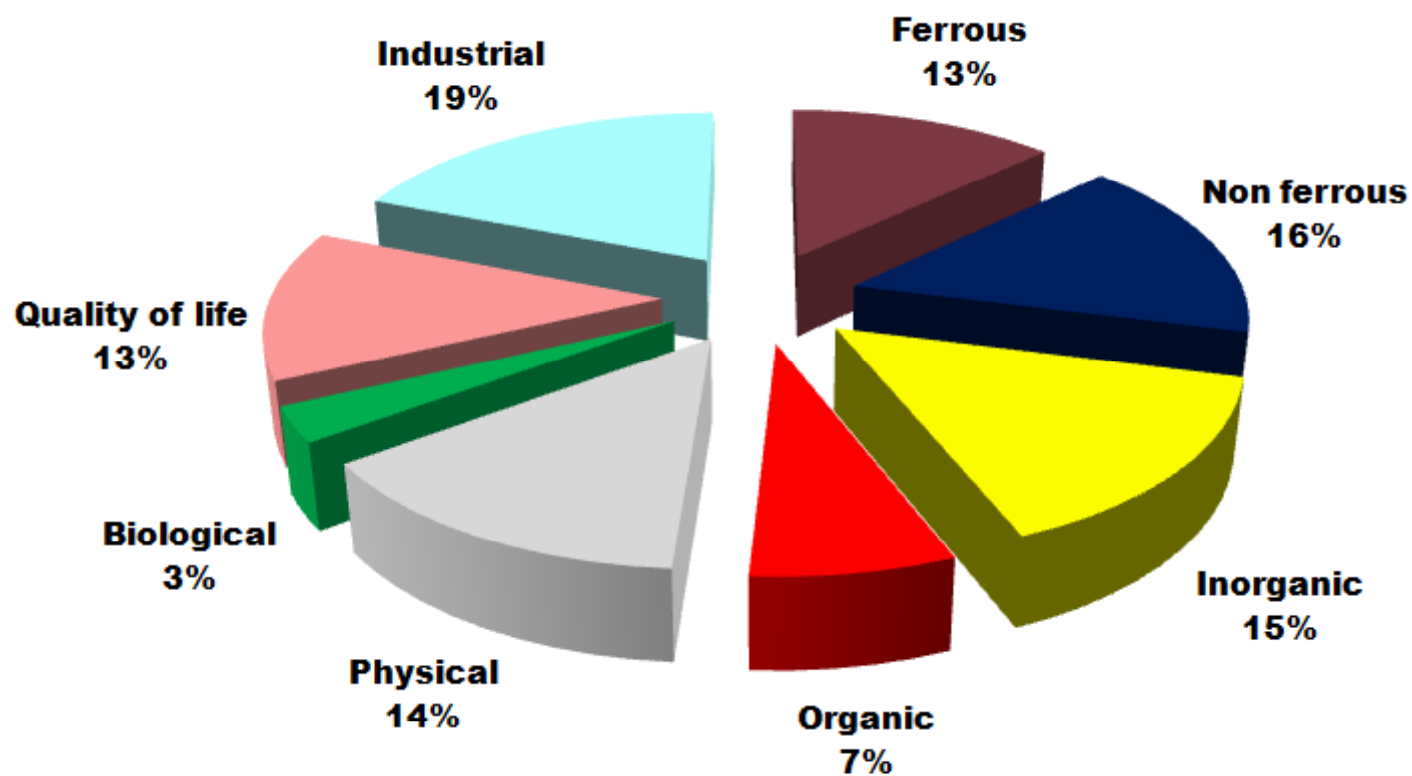


Number of CRMs according to certified properties (January 2012)





Distribution of CRM by fields of application (January 2012)





Searching in *COMAR*

- Full text search in the CRM description field
- Search using harmonized catalogues
 - ✓ certified properties
 - ✓ field of application
- Setting lower and upper limit values for quantity of interest
- Combining search strings using Boolean operators
- Restrict search to selected producers or countries
- Important:
 - ✓ Use only *COMAR* navigation tools (not “back” and “forward” of your browser) !
 - ✓ Comprehensive user guide available from *COMAR* website



Contained CRM information

| | |
|---|--|
| Producer | complete address of the producer |
| Additional information (purchase, experts, QMS) | (pdf files, if available) |
| CRM name | e.g. BAM-376 |
| Description | e.g. pure copper, Cu 99,5 |
| Application description | e.g. intended use |
| Packaging / storage | e.g. 40 g bottle; storage at -20 °C |
| Form of material | e.g. disc |
| Chemical composition | |
| Elements | e.g. Ag 163.0 µg/g |
| Molecules (CAS-No.) | e.g. alpha-HCH (319-84-6) 32.0 µg/kg |
| Physical/conventional properties | |
| Physical properties (ISO-No.) | e.g. Activity / 9-33 4 - 400 kBq |
| Conventional properties | e.g. Flash point /ISO 1516 10.3 - 9.8 °C |
| Data files | certificate, report, references (if available) |
| Quality | CRM, RM |
| Status | available, out of stock, under development |



COMAR catalogues

Search is supported by following catalogues:

- fields of application (e.g. environment)
- physical properties (e.g. kinematic viscosity)
- conventional properties (e.g. hardness Vickers)
- form of material (e.g. powder)
- elements (e.g. As)
- molecules (e.g. alpha-HCH, CAS No. 319-84-6)

under development:

- matrix (e.g. soil)
- element / molecule groups (e.g. pesticides)



Login screen

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To use the COMAR database it is necessary to register. Already registered users should enter their user name and password and click on the "Login" button below. New users should click on the "Sign Up" button.

User

Password

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click button "Sign Up"



Start screen for users

Click one of the buttons



COMAR

| | |
|-----------------------|--|
| CRM Name | Search by CRM name, catalogue number or in the field description |
| Physical Property | Search by physical properties |
| Conventional Property | Search by standardized properties |
| Fields of Application | Search by fields of application |
| CRM Form | Search by form of material |
| Composition | Search by content of molecules and elements |

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Access and search

