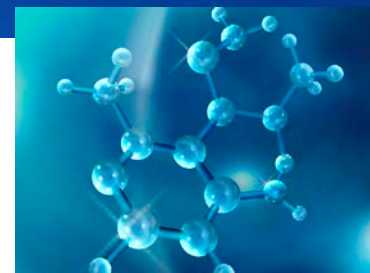


STN[®]
THE CHOICE OF PATENT EXPERTS[™]



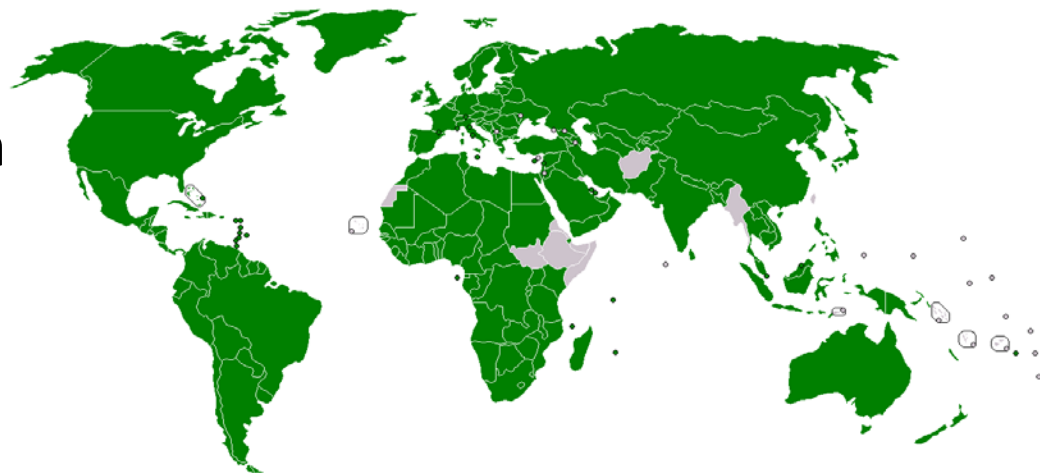
Special members of patent families:
Non-convention equivalents

Patent families summarize the global legal protection of an invention

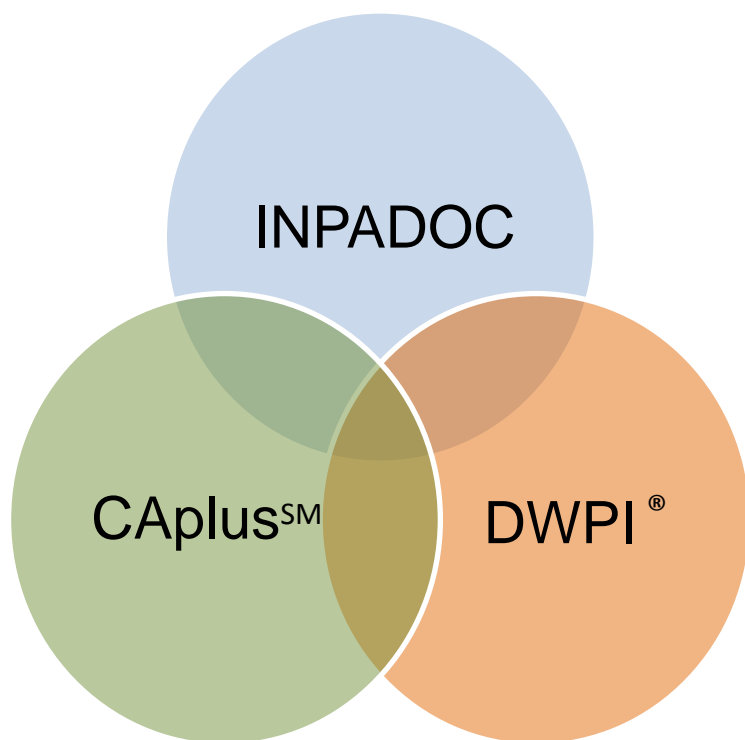
- Patent family information is of high commercial relevance
 - Protect a company's *patent portfolio*
 - Commercialize patents and technologies through *licensing deals*
 - Determine commercial value of the patent portfolio in due diligence assessments
 - Monitor *competitor activities* and identify potential markets
 - Assess the IP landscape for *freedom-to-operate*
- Useful concept for database producers and information professionals
- Patent families could help to overcome language barriers
 - Identify patent publications in *familiar languages*
 - Fewer translation expenses and delays

The concept of patent families is closely related to the *Paris Convention of 1883*

- **Priority right** – on the basis of a regular first application, the patent applicant has **12 months** to apply for protection in any other of the contracting states (patents, utility models), claiming the priority of the first application
- Almost all patents are filed within the Paris Convention: 176 member states
- All family members filed within the Paris Convention have a **priority relationship**



STN offers the major patent family databases



- Producers use different raw data feeds for compiling family records
- Patent authority, publication type, historical and subject matter coverage varies between databases
- Patent family data meet the high quality standards of different producer
- Different family concepts are used for compiling patent families

Database producers create patent families based on their own criteria

- The broad INPADOC patent family comprises all patent publications *directly* or *indirectly* linked via priority number(s)
- CAplusSM and Derwent World Patents Index[®] select the *basic patent* for indexing
 - Usually the first patent received for an invention based on priority application data
- Criteria that define most *equivalents* for CAplus/DWPI
 - Shared single priority application number
 - Shared list of priority applications
 - A patent **referencing the basic as its sole priority**
 - A patent **referencing the basic as one of its priorities**
 - Some shared priorities with the basic

Challenges for compiling comprehensive patent families: Reasons for missing or insufficient priority information

- Patents **filed outside the Paris Convention**
 - Patents filed outside the 12 month priority period
 - Patents filed in countries not part of the Paris Convention (e.g. Taiwan and Burma/Myanmar)
- Patents filed within the Paris Convention **published without priority data**
 - no family link between national filings
 - no family link between national filings and EP- or PCT-filings
- Patents filed without priority data require additional effort to match family members with the same technical content but no priority relationship



Non-convention equivalents

The three key patent family databases on STN® include non-convention equivalents

	Patent authority coverage	Year coverage	How to identify non-convention equivalents
CAplus	63 authorities	Use of T0 kind code began in 2006	T0 kind code in the PRAI field or FBIB
Derwent World Patents Index	50 authorities 2 technical disclos.	1969 - present	hash mark (#) in the PI field *
INPADOC	> 100 authorities	Many years; pre-1968 data is a strength	priority information type (e.g. CAAT) in the PRAI and PRAIT field *

*searchable

The coverage of non-convention equivalents in DWPI has a long-standing tradition

- DWPI includes > 280,000 records with non-convention equivalents
 - around 200 non-convention equivalents added per DWPI update
- Thomson systematically looks at **national filings of non-residents** in a country for which no foreign priority data are available
- **Equivalency to an existing DWPI family** requires comparisons of:
 - Inventor names, countries of residence, subject matter, drawings, diagrams
- Verification of a match results in the assignment of the non-convention equivalent to an existing DWPI family, identified by **hash marks (#)**
- Non-convention equivalents are searchable in the patent type field PT:

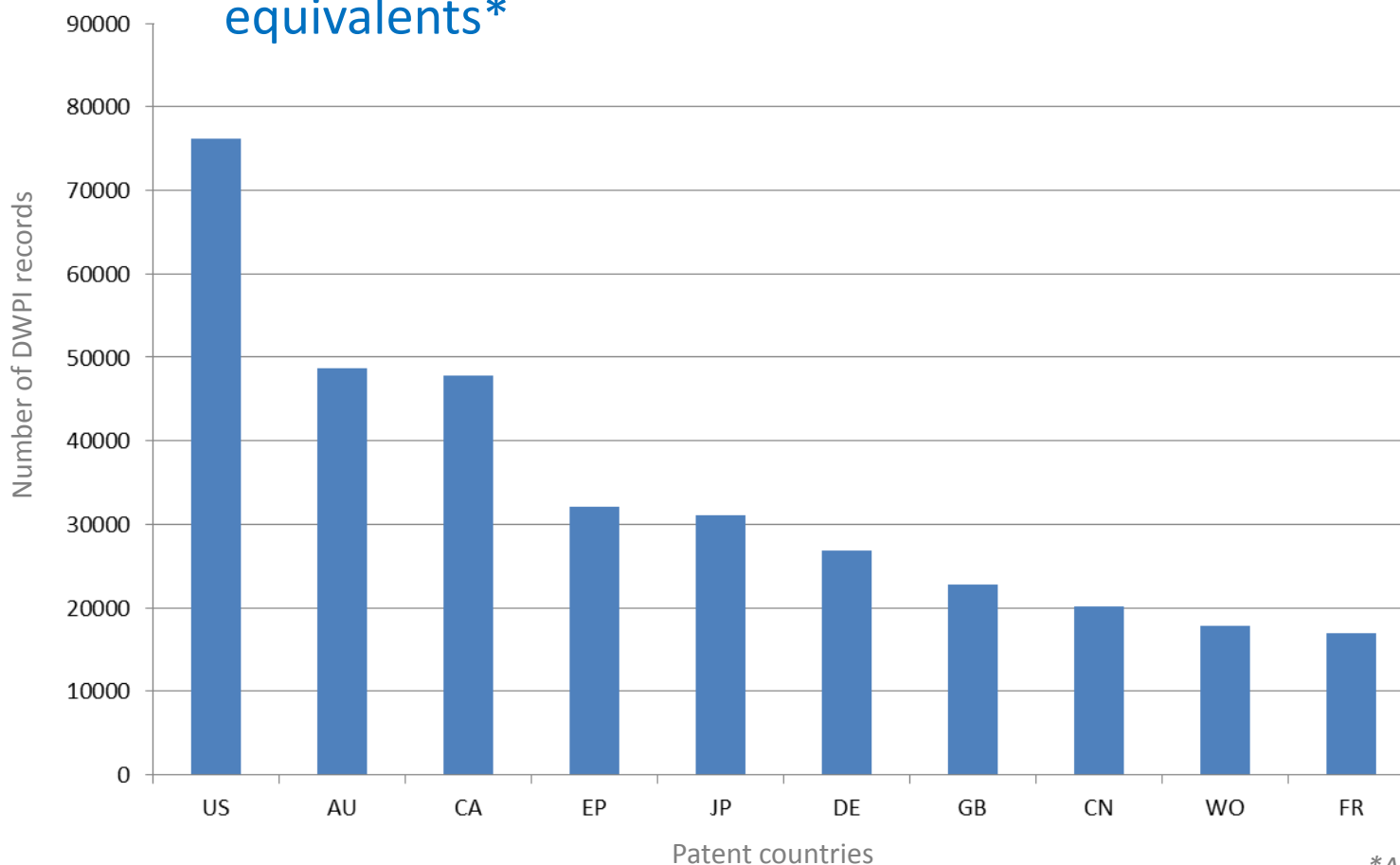
Two
alternatives

US/PC (P) EQUIVALENTNONCONVENTION/PT	STN Classic
US/PC (U) EQUIVALENTNONCONVENTION/PT	new STN
US/PC (U) \#/PT	new STN

You have to mask the hash mark because it is a truncation symbol. Use the (U) operator to link the patent country to the publication type in new STN

Derwent World Patents Index is a major source for non-convention equivalents

Top 10 patent authorities of DWPI non-convention equivalents*



*As of June 13th, 2016

DW 201638

DWPI (1): Non-convention equivalents filed outside the one year priority period

Record abbreviated

1. Immunological determination of analytes - using magnetic test strips to which magnetic particles, which are coated with analyte or analyte-specific binding partner, will bind

Invention Claims Individual Patent Pub

Assignee(s) (MERE-C) MERCK PATENT GMBH

The non-convention equivalents (#) in WO, EP, JP, US have been filed more than one year after the DE priority filing

Patent Number	Patent Kind	Date	Update	Type	Lang	Pages	Drawings
DE19547346	A1	19970626	199731	*	de	4	0
WO9834114	A1	19980806	199837	#	de		
EP963554	A1	19991215	200003	#	de		
JP2001509891	W	20010724	200147	#	ja	10	
EP963554	B1	20021023	200277	#	de		
US6479302	B1	20021112	200282	#	en		

Priority Information

The non-convention equivalents have their application numbers posted to the priority field

Priority Appl. No.	Application No.
DE1995-19547346	19951219
WO1997-EP403	19970130
EP1997-901617	19970130
JP1998-532470	19970130
US1999-355555	19991117

DWPI (2): Non-convention equivalents filed in countries not having signed the Paris Convention

1. **Producing new fatty acids from oil-producing yeast, useful in human or animal nutrition, medicine and cosmetics, comprises culturing yeast transformed with desaturases**

Accession Number 2005-788993 [200581]

Assignee(s) (YEAS-N) YEASTERN BIOTECH CO LTD

Taiwan has not signed the Paris Convention yet, but recognizes priority claims from contracting members

Record abbreviated

Patent Number	Patent Kind	Date	Update	Type	Lang	Pages	Drawings
FR2870258	A1	20051118	200581	*	fr	35	7
US20050266537	A1	20051201	200581		en		
US7364883	B2	20080429	200831		en		
TW2006039258	A	20061116	201156	#	zh		
FR2870258	B1	20121130	201280		fr		
TWI359869	B	20120311	201307		zh		

Priority Appl. No.	Application Date
US2004-568692P	20040507
TW2005-114555	20050506
US2005-123115	20050506

DWPI (3): Linking national filings without priority relationship into patent families



1. Sugarcane juice spread, e.g. ginger and cumin flavored sugarcane juice spread, comprises concentrated sugarcane juice, xanthan, carrageenan, food preservative, gelling agent and nutraceutical

Accession 2004-000066 [200401]
Assignee(s) (COUI-C) COUNCIL SCI&IND RES INDIA; (

- Canadian basic patent established DWPI record
- Patent assignee from India filed in Brazil at the same day, but without priority
- Intellectual effort established equivalency to the CA publication

Record abbreviated

Patent Number	Patent Kind	Date	Update	
CA2378890	A1	20030925	200401	*
BR2002000949	A	20031118	200403	#
CA2378890	C	20110201	201120	

Application Information Details

Patent Information		Application Information		
Patent Number	Kind	Type	Application Number	Application Date
CA2378890	A1		CA2002-2378890	20020325
BR2002000949	A		BR2002-949	20020325
CA2378890	C		CA2002-2378890	20020325

Priority Information

Priority Appl. No.	Application Date
CA2002-2378890	20020325
BR2002-949	20020325

DWPI (4): Linking national filings and PCT filings without priority relationship into patent families

Record abbreviated

1. Removing oxygen from hydrocarbon stream having four carbon atoms, comprises converting hydrocarbon stream over catalyst bed by catalytic combustion in presence or absence of free hydrogen to obtain oxygen-depleted hydrocarbon stream

Accession 2014-Q17025 [201458]

Assignee(s) (BADI-C) BASF SE

Patent Information

Patent Number	Patent Kind	Date	Update	Type
WO2014128191	A1	20140828	201458	*
US20140316181	A1	20141023	201470	#

- US application was filed by foreign inventors without priority information
- Family link to WO basic was established via intellectual effort

Application Information Details

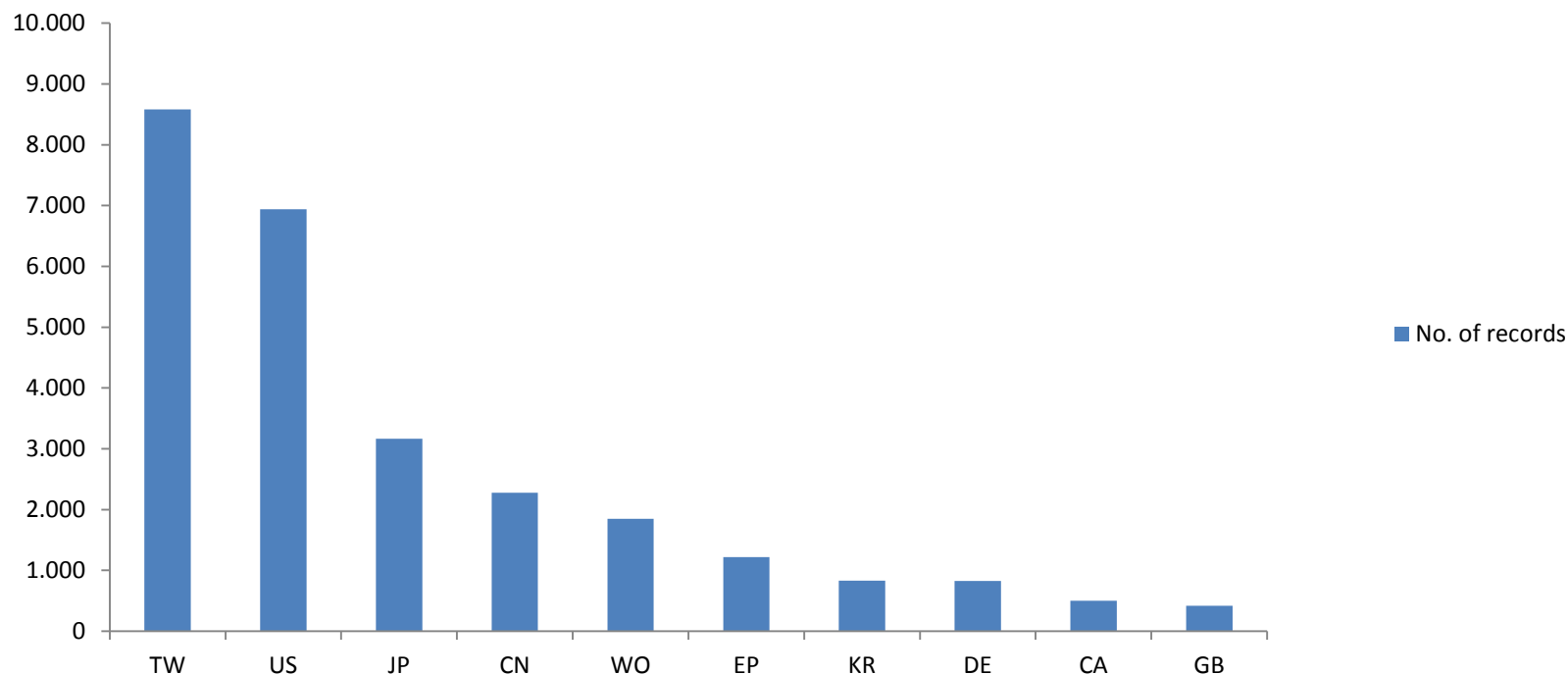
Patent Information		Application Information		
Patent Number	Kind	Type	Application Number	Application Date
WO2014128191	A1		WO2014-EP53275	20140220
US20140316181	A1	Provisional	US2013-767269P	20130221
US20140316181	A1		US2014-186142	20140221

Priority Information

Priority Appl. No.	Application Date
EP2013-156098	20130221
US2014-186142	20140221

Curation of non-convention equivalents in CAplus requires intellectual effort

Major patent authorities of CAplus non-convention equivalents*



* Based on CAS Editorial data, 9/23/2015. Data from 2006 – present.

CAplus (1): Canadian application with non-national inventors submitted without priority information



L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2015 ACS on STN
 AN 2004:866126 CAPLUS [Full-text](#)
 TI Sugarcane juice spread and a process for preparing the same
 IN Raghavan, Bashyam; Ramalakshmi, Kulathooran; Borse, Babasaheb
 Bhaskarrao; Ramesh, Mysore Nagarajarao; Prakash, Vishweshwaraiah;
 Sulochanamma, Guruguntla
 PA Council of Scientific and Industrial Research, India
 SO U.S., 4 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLIC
PI	US 6805895	B1	20041019	US 200
	CA 2378890	A1	20030925	CA 200
	CA 2378890	C	20110201	
	PRAI US 2002-106404	T0	20020325	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSU
 RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILA
 ALL CITATIONS AVAILABLE IN THE RE F

- US patent application was designated as the basic
- CA application was filed at the same day and determined to be an equivalent
- US priority was added to the Canadian equivalent, thus bringing the CA equivalent into the US family

CAplus (2): A U.S. application for an Indian invention submitted without priority information

```
L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2015 ACS on STN
AN 2013:1665 CAPLUS Full-text
DN 160:365673
TI Method system and device for providing customized point of care testing
IN Thangaraju, Shyam; Sadasivam, Siva Sakthivel
PA HCL Technologies Limited, India
SO Indian Pat. Appl., 44pp.
   CODEN: INXXBQ
DT Patent
LA English
FAN.CNT 1
      PATENT NO.          KIND  DATE          APPLICATION NO.          DATE
      -----          -
PI  IN 2012CH04676      A   20121228      IN 2012-CH4676          20121107
      US 20140320807      A1  20141030      US 2013-13874470          20130430 <
PRAI IN 2012-CH4676      T0  20121107
```

- US application was filed without priority information on 30 April 2013
- Indian application for that same invention filed 5 month earlier on 7 Nov 2012
- Research noted that the inventors, patent assignee and the title were the same
- Kind code T0 in the PRAI field indicates the presence of a non-convention equivalent

CAplus (3): Numerous applications filed more than one year after the French priority application

```

L8 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2016 ACS on STN
AN 2007:38492 HCAPLUS Full-text
DN 146:142642
TI Preparation of N-[(1,5-diphenyl-1H-pyrazol-3-yl)methyl]sulfonamide
derivatives and their therapeutic application as CB1 cann
antagonists
IN Barth, Francis; Congy, Christian; Martinez, Serge; Pointe
Rinaldi-Carmona, Murielle
PA Sanofi Aventis, Fr.
FAN.CNT 1
PI
PATENT NO.          KIND  DATE          APPLICATION NO.
-----
FR 2888236         A1   20070112      FR 2005-7360
FR 2888236         B1   20070921
AR 57660          A1   20071212      AR 2006-102940      20060707
FR 2005-7360         A    20050708
CA 2551982         A1   20080111      CA 2006-2551982      20060711
FR 2005-7360         T0   20050708
CN 101104602        A    20080116      CN 2006-10138848      20060712
FR 2005-7360         T0   20050708
KR 2008006403        A    20080116      KR 2006-65580        20060712
FR 2005-7360         T0   20050708
BR 2006003352        A    20080226      BR 2006-3352         20060712
FR 2005-7360         T0   20050708
SG 139567          A1   20080229      SG 2006-4715         20060712
FR 2005-7360         T0   20050708
NZ 548467          A    20080328      NZ 2006-548467        20060712
FR 2005-7360         T0   20050708
OS CASREACT 146:142642; MARPAT 146:142642
PRAI FR 2005-7360      A    20050708

```

- CA, CN, KR, BR, SG, NZ - applications were all filed more than one year after the French priority filing
- Use the [FBIB](#) display format to see the T0 kind codes

CAplus (4): Chinese application published without priority with inventor from Taiwan

```
L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2015 ACS on STN
AN 2015:755039 CAPLUS Full-text
DN 162:643350
TI Wheel roll type simulation grinding and optical laser plating printing
   method and printed product thereof
IN Lin, Yan-Shu
PA Bai Sha Technology Corp., Taiwan
SO Faming Zhuanli Shenqing, 6pp.
   CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1
PATENT NO.          KIND  DATE          APPLICATION NO.      DATE
-----
PI CN 104553413      A    20150429      CN 2013-10512046     20131025
PRAI TW 2013-135822  T0   20131003
```

- Research revealed a Taiwanese priority application
- Tip: For Chinese and Taiwanese patents, check the PDFs of both for complete assignee information
- Check also for alternate spellings of inventor names:
Hsin Pei Chang in TW I147431 is the same as Xinbei Zhang in CN 102465301

INPADOC assigns “technical priorities” to patents identified as non-convention equivalents

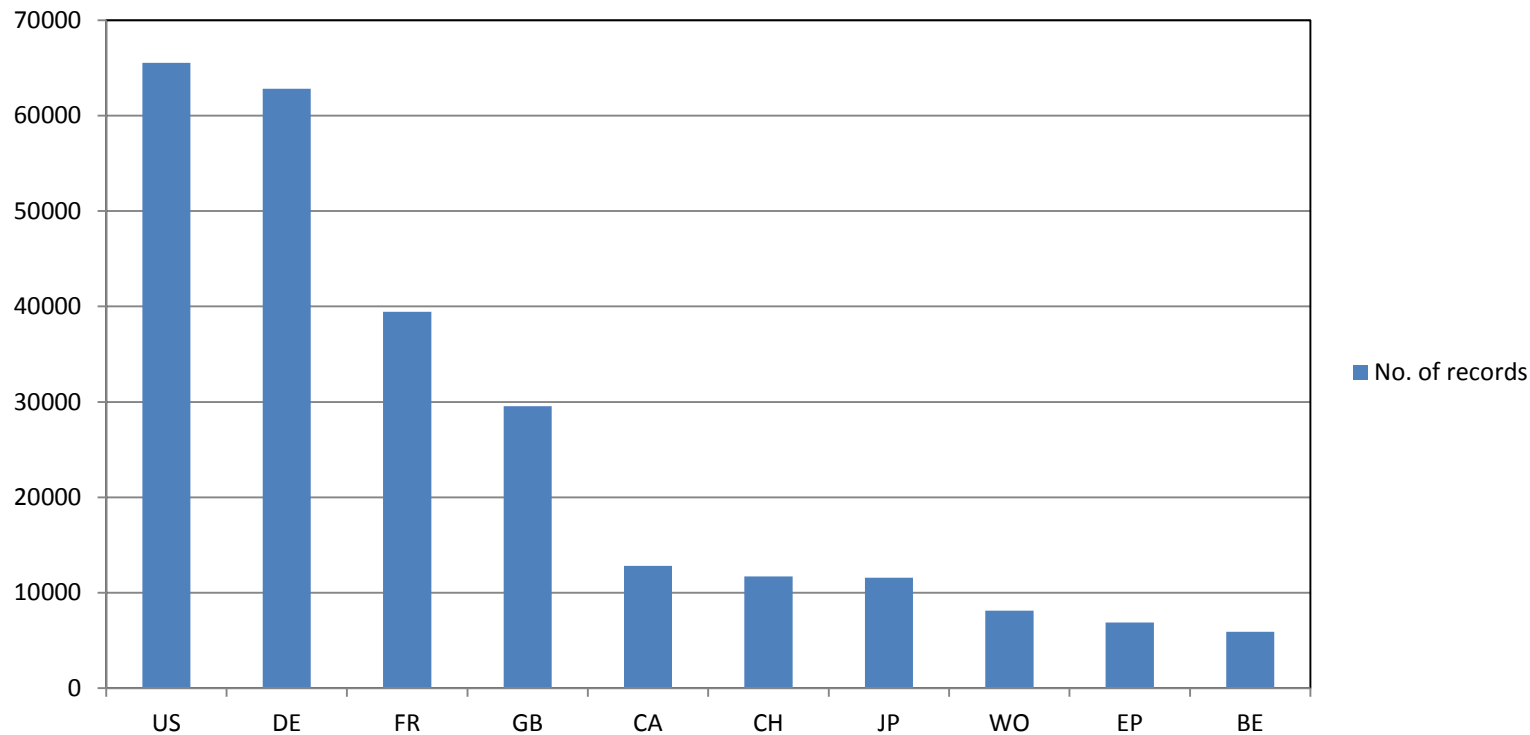
- INPADOC families are based on **real** priorities as disclosed by applicants and **technical priorities** assigned by the EPO
- When no priority has been disclosed by the applicant, individual patent family members are assigned technical priorities (false first filings)
- Intellectual family links via technical priorities are mainly established for the PCT minimum documentation
- Technical priorities in INPADOC are indicated in the priority fields PRAI and PRAIT, e.g. in the FFAM display format

```
PRAI  US 1999-374736      A  19990813  (USA, 20070621, Y)
      CA 1999-2280309      A  19990813  (CAAT, 20070621, Y)
PRAIT USA Patent application
      CAAT Technical priority
```

Priority information type is searchable:
CAAT/PRAIT

More than 190K INPAFAMDB records with more than one application include technical priorities

Major Priority Countries of Technical Priorities in INPADOC*



* Based on INPAFAMDB records with more than one application; 20th of August 2015

Simple INPADOC family based on technical priorities (*)

VETOQUINOL SA, Use of Adrafinil to treat behavioral problems in aged canines

Publication Info		Application Info		Priority Info	
CA2280309 A1	20010213	CA1999-2280309	19990813	CA1999-2280309 US1999-374736	19990813 19990813 *
CA2280309 C	20070528	CA1999-2280309	19990813	CA1999-2280309 US1999-374736	19990813 19990813 *
US6180678 B1	20010130	US1999-374736	19990813	CA1999-2280309 US1999-374736	19990813 * 19990813

- Applicant filed two applications at the USPTO and CIPO at the same day, without claiming priority
- EPO assigned a set of all application numbers as technical priorities to all family members

INPADOC has extensive family building for pre-1968 publications

BASF AG, Polymeric vinyl ethers and a process of producing them

Publication Info		Application Info		Priority Info	
DE805188 C	19510510	DE1949-P41003	19490427	DE1949-P41003	19490427
FR999702 A	19520204	FR1949-999702D	19491118	DE1949-P41003	19490427 *
GB675397 A	19520709	GB1950-5278	19500302	DE1949-P41003	19490427 *

- Priority filing in Germany was followed by two filings in France and the UK, both of them lacking priority
- EPO manually assigned the DE-technical priority to the FR/GB publications to compile the family

The Extended Patent Family in new STN is the most comprehensive patent family (1)

Merck Patent GmbH, slide 10

Source: CAplus, DWPI, INPADOC, Full-Text Patent Databases
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Table 1

Priority Summary

Publication Count: 7

Publication			Application			Language	Database
Number	Kind	Date	Number	Kind	Date		
DE19547346*	A1	19970626	DE1995-19547346	A	19951219	DE	CAplus* DEFULL DWPI* INPADOC
EP963554	A1	19991215	EP1997-901617	A	19970130	DE	CAplus DWPI EPFULL INPADOC
EP963554	B1	20021023	EP1997-901617	A	19970130	DE	CAplus DWPI EPFULL INPADOC
JP2001509891	A	20010724	JP1998-532470	A	19970130		INPADOC
JP2001509891	W	20010724	JP1998-532470		19970130	JA	DWPI
JP2001509891	T	20010724	JP1998-532470		19970130		CAplus
US6479302	B1	20021112	US1999-355555	A	19991117	EN	CAplus DWPI INPADOC USFULL
WO9834114*	A1	19980806	WO1997-EP403	W	19970130	DE, EN	CAplus* DWPI EPFULL INPADOC PCTFULL

* Indicates basic patent

The DWPI non-convention equivalents help to link the two CAplus and INPADOC records

DWPI
1X

CAplus
2X

INPADOC
2X

Full-text
5X

The Extended Patent Family in new STN is the most comprehensive patent family (2)

Bai Sha Technology, slide 18

Source: Cplus, DWPI, INPADOC, Full-Text Patent Databases
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Table 1

Priority Summary

Number	Kind	Date
TW2013-135822	A	20131003
CN2013-10512046	A	20131025

TO

The Cplus non-convention equivalent helps to link the two DWPI and INPADOC records and reveals the TW publication

Publication Count: 2

Publication			Application			Language	Database
Number	Kind	Date	Number	Kind	Date		
CN104553413*	A	20150429	CN2013-10512046	A	20131025	ZH	Cplus* CNFULL DWPI* INPADOC
TW2015014025*	A	20150416	TW2013-135822	A	20131003	ZH	DWPI* INPADOC

* Indicates basic patent

DWPI
2X

Cplus
1X

INPADOC
2X

Full-text
1X

Non-convention equivalents are a significant value-added feature of key patent databases on STN

- STN is the host for comprehensive, high quality patent family information from EPO, CAS and Thomson Reuters
- Database producers take a considerable intellectual effort to overcome quality issues of missing or insufficient priority information
- Databases provide unique non-conventional equivalents because of different curation techniques and policies, and coverage
- The Extended Patent Family Table in new STN is an excellent tool to display the comprehensive STN patent family

Acknowledgements

- Brian Sweet, Senior STN Product Manager
- Christiane Emmerich, Product Manager Patents

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