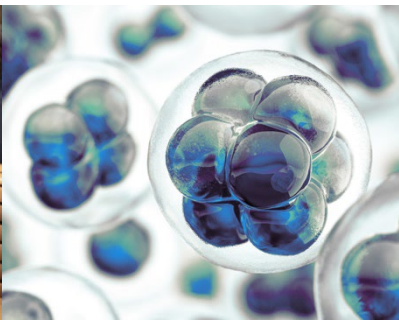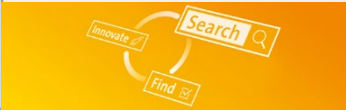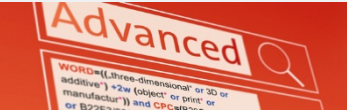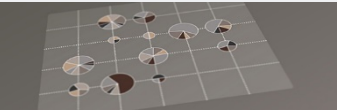# Make the best out of Global Patent Index (GPI)

Agenda – GPI 5 key benefits

1. Run detailed searches in EPO's worldwide bibliographic, legal event and full text data collections

2. Run preliminary data quality assessment (risk management)

3. Run regular monitoring searches

4. Work effectively when browsing search result sets

5. Visualise/download search result sets (statistics)

EPO's worldwide searchable data collections

	Espacenet	GPI	PATSTAT
Bibliographic data	🟢	🟢	🟢
Legal events	🔴	🟢	🟢
Full text[1]	🟢🟢	🟢	🔴
Update frequency	*daily*	*weekly*	*twice a year*

1. Current GPI full text coverage: **DE ES FR GB** + **EP WO** (in de en fr language) – next addition: **CH**

Access to GPI at [epo.org/gpi](epo.org/gpi)

GPI is a powerful tool that enables you to perform detailed searches in the EPO's worldwide bibliographic, legal event and full-text da

Open   Order   > Test GPI for free ←

1-month free trial
No search limitation
Download limitation

Login window

1. Login
2. Select GPI

Search window

Search target: **data encryption** applied to **blockchain** technology

Combine bibliographic data + full text

Query 🔍 **12 505 doc. (7 487 families)** ⊞ ✕ **Family filter** ▼ ⤒

No filter
Application filter
Family filter

(WORD = (public* **or** private* **or** secret* o̲ [...] or decrypt* **or** encrypt*) **+2w** key* **or** (clé* **or** clef*)
+2w (publique* **or** privé* **or** secrète* **or** as [...] chiffr* **or** chiffr*) **or** (öffentlich* **or** privat* **or** geheim*
or asymmetr*) **+2w** schlüssel* **or** ###schl [...] lüssel* **or** (cryptograph* **or** kryptograph*) **/2w**
signatur* **or** (asymmetr* **or** asymetr*) **/2w** (encrypt* **or** chiffr* **or** verschlüssel* **or** decrypt* **or** déchiffr* **or**
[...] tal*) **+2w** signature*)) **or** (elliptisch* **and**
[...] * **and** elliptique* **and** ((cryptograph* **or**
[...] chain* **or** block* **+1w** chain* **or** chaîne*
+2w bloc* **or** Blockkette* **or** (distributed **or** shared **or** decentrali#ed) **+2w** ledger* **or** register* **+2w**
(distribué* **or** partagé **or** décentralisé*) **or** (dezentral* **+2w** geführte* **+2w** Kontobuch*) **or** dezentrale* **+2w**
Hauptbuch* **or** (distributed **+2w** consensus **+2w** network*) **or** DLT **or** DAG**)**

WORD combines bibliographic data and full text:
titles + abstracts + descriptions + claims

= < <= > >= [] () " # ? ★ ⊞ ⊞ ⊞ ⤢

FYI, see EPO [glossary of terms](#) on blockchain technology with translated terms and CPC information – also in other technical areas

Combine bibliographic data + full text

Query   🔍   12 505 doc. (7 487 families)   Family filter ▾   ⬆

(**WORD** = (public* **or** private* **or** secret* **or** asymmetr* **or** decrypt* **or** encrypt*) **+2w** key* **or** (clé* **or** clef*) **+2w** (publique* **or** privé* **or** secrète* **or** asymetr* **or** déchiffr* **or** chiffr*) **or** (öffentlich* **or** privat* **or** geheim* **or** asymmetr*) **+2w** schlüssel* **or** ###schlüsselungsschlüssel* **or** (cryptograph* **or** kryptograph*) **/2w** signatur* **or** (asymmetr* **or** asymetr*) **/2w** (encrypt* **or** chiffr* **or** verschlüssel* **or** decrypt* **or** déchiffr* **or** entschlüssel*) **or** (elliptic* **and** curve* **and** ((cryptograph* **or** digital*) **+2w** signature*)) **or** (elliptisch* **and** kurve* **and** ((kryptograph* **or** digital*) **+2w** signatur*)) **or** (courbe* **and** elliptique* **and** ((cryptograph* **or** signature*) **+2w** numérique*)) **or** ECDSA*) **AND** (**WORD** = blockchain* **or** block* **+1w** chain* **or** chaîne* **+2w** bloc* **or** Blockkette* **or** (distributed **or** shared **or** decentrali#ed) **+2w** ledger* **or** register* **+2w** (distribué* **or** partagé **or** décentralisé*) **or** (dezentral* **+2w** geführte* **+2w** Kontobuch*) **or** dezentrale* **+2w** Hauptbuch* **or** (distributed **+2w** consensus **+2w** network*) **or** DLT **or** DAG)

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Usual next step: query enrichment with classification information, but …

Run preliminary quality assessment searches

before combining terms with IPC/CPC in your query: how many documents **without** IPC/CPC?

⇨ Run quality assessment, i.e. **measure the risk** of not retrieving documents due to missing classification information

History				
ID	Database	Result	Query	P...
$74	GPI 2021/14	29	$73 andnot (IPC or CPC = *)	(T...
$73	GPI 2021/14	7 487	$71 and $72	(T...
$72	GPI 2021/14	51 730	(WORD = blockchain* or bl...	TI...
$71	GPI 2021/14	88 905	(WORD = (public* or private...	TI...
$70	GPI 2021/14	7 487	(WORD = (public* or private...	(T...

Query $73 (terms only): returns 7.487 families

$73 andnot (IPC or CPC = *): returns 29 families

⇨ **risk = 0,4%**

Note: % sometimes much higher (e.g. for "Applicant country of residence")

Run preliminary quality assessment searches

FYI, [PATSTAT bibliographic data completeness](#) (Tableau Public):

Visualise search result sets

Simple statistics to identify classification symbols most frequently assigned by patent examiners:

Easy transfer of relevant symbols to your initial query based on keywords only

Visualise search result sets

Cross reference to identify co-assignments of classification symbols:

Consider combining G06F with H04L in your query
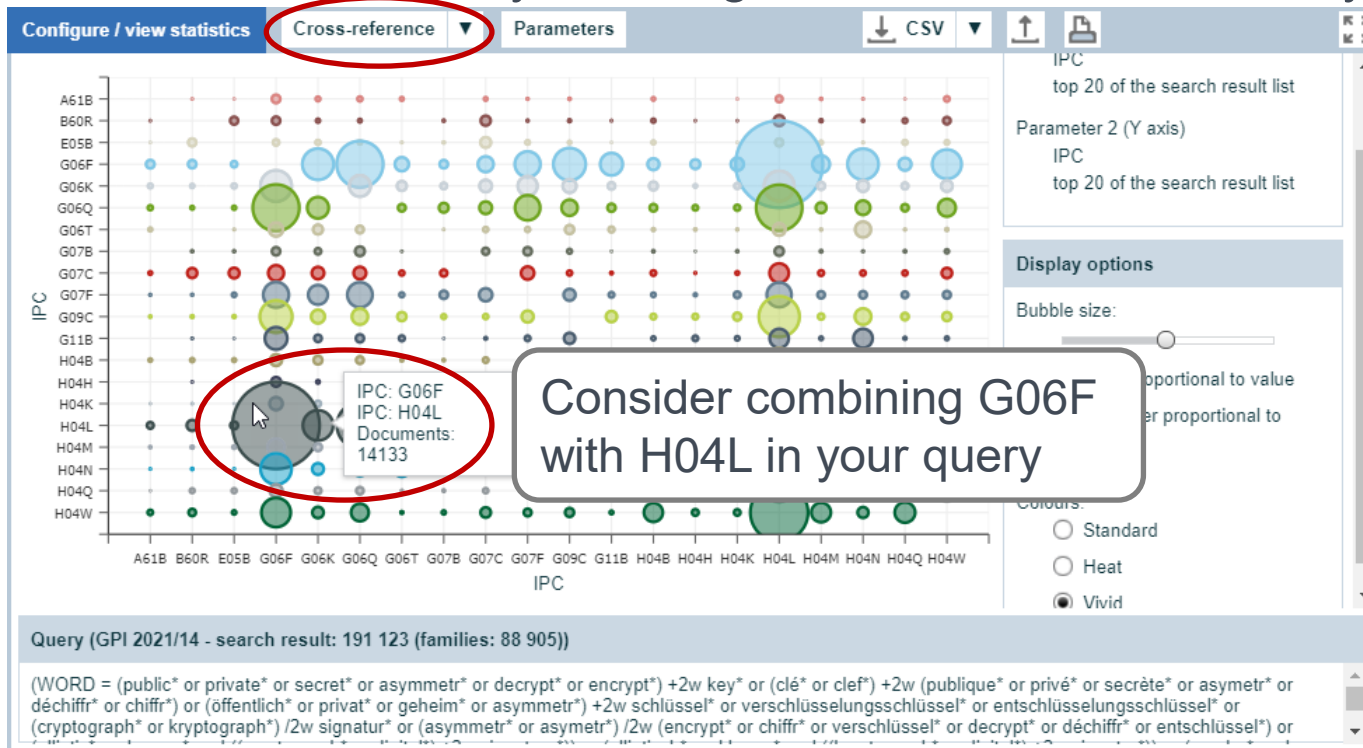
Query enrichment with classification information

Query   🔍   10 264 doc. (5 858 families)   🗗 ✕   **Family filter** ▾   ⬆

(**WORD** = (public* **or** private* **or** secret* **or** asymmetr* **or** decrypt* **or** encrypt*) **+2w** key* **or**
(clé* **or** clef*~~~~~~~~~~~é* **or** secrète* **or** asymetr* **or** déchiffr* **or** chiffr*) **or**
(öffentlich* o~~~~~~~~~~~~~~~~asymmetr*) **+2w** schlüssel* **or** ###schlüsselungsschlüssel*
or (cryptograph* **or** kryptograph*) **/2w** signatur* **or** (asymmetr* **or** asymetr*) **/2w** (encrypt* **or**
chiffr* **or** verschlüss~~~~~~~~~~~~~~~~~~~~~~~~~~~~~nd curve* **and**
((cryptograph* **or** di~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ptograph* **or**
digital*) **+2w** signatu~~~~~~~~~~~~~~~~~~~~~~~~~~~ature*) **+2w**
numérique*)) **or** EC~~~~~~~~~~~~~~~~~~~~~~~~~r chaîne* **+2w**
bloc* **or** Blockkette* **or** (distributed **or** shared **or** decentrali#ed) **+2w** ledger* **or** register* **+2w**
(distribué* **or** partagé **or** décentralisé*) **or** (dezentral* **+2w** geführte* **+2w** Kontobuch*) **or**
dezentrale* **+2w** Hauptbuch* **or** (distributed **+2w** consensus **+2w** network*) **or** DLT **or** DAG)
AND (**IPC or CPC** = H04L9 **or** G06F21 **or** **CPC** = H04L2209 **or** H04L63)

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20% families less

Possible next step for your search strategy : identify and use classification **subgroup** levels

Combine bibliographic data + full text + legal events

Highly relevant when searching for applicants/proprietors:

APP: applicant/proprietor in bibliographic data, known at the time of publication

EVOW: owner mentioned in legal events, e.g. following a change of ownership

Query 🔍   Family filter ▼ ⬆️

WORD = ... AND IPC OR CPC = ... AND APP OR EVOW = "PING INDENTITY" OR ...

= | < | <= | > | >= | [ ] | ( ) | " | # | ? | ★

Combine bibliographic data + full text + legal events

EP 2521992 A1 20121114

Event date	Event category	Event code	Event description
2018.05.30	B - Application discontinuation	18R	APPLICATION REFUSED Effective date: 2017.12.15
2017.12.15	B - Application discontinuation	REG DE R003	REFUSAL DECISION NOW FINAL
2016.02.24	D - Search and examination	17Q	FIRST EXAMINATION REPORT DESPATCHED Effective date: 2016.01.22
2015.07.22	R - Party data change	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED Owner: PING IDENTITY CORPORATION
2013.09.04	D - Search and examination	A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED Effective date: 2013.08.07

EP 2521992 A1 20121114   Text   Original

Applicant
ACCELLS TECHNOLOGIES 2009 LTD (IL)

Abstract (en)
[origin: WO2011083471A1] A transaction system for use in cooperation with a client mobile device, the transaction system constituted of: a provider associated device arranged to obtain an identifier associated with the client mobile device; and a transaction server in communication with the provider associated device. The provider associated device is arranged to output a transaction request message comprising information regarding the obtained identifier of the client mobile device. The transaction server, responsive to the transaction request message, is arranged to process the received transaction request message in accordance with one of a plurality of processing paths responsive to an attribute of the received transaction request message.

Title (en)
SYSTEM AND METHOD FOR PERFORMING A TRANSACTION RESPONSIVE TO A MOBILE DEVICE

⇨ EP 2521992 A1 **not retrieved** with APP = "PING IDENTITY"
Only retrieved with APP or EVOW = "PING IDENTITY"

Combine bibliographic data + full text + legal events

Compare search results:

ID	Database	Result	Query	Parsed query
$25	GPI 2021/15	29	$23 or $24	APPD_WORD ...
$24	GPI 2021/15	27	EVOW = "PING IDENTITY"	EVOW_WORD...
$23	GPI 2021/15	21	APP = "PING IDENTITY"	APPD_WORD ...

Owner Ping Identity, e.g. in the case of US assignments:

US 8473749 B1 20130625

Event date	Event category	Event code	Event description
2012.08.02	R - Party data change	AS	ASSIGNMENT ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MADSEN, PAUL;CAMPBELL, BRIAN;SIGNING DATES FROM 20120525TO 20120620;REEL/FRAME:028708/0216 Owner: PING IDENTITY CORPORATION, COLORADO

Combine bibliographic data + full text + legal events

Applicant/proprietor and **new owner** available as result list columns:

Run regular monitoring searches

Monitoring with GPI means running a search at regular intervals (e.g. monthly or quarterly) to retrieve patent documents made available in GPI for the first time in the monitored time period.

Use case: e.g. monitoring of technical areas and/or competitors

Scenario: early April 2021 we monitor 2021 Q1, for our technical area of interest (query $78)

Means: criterion DFE "Date of first exchange" = date a document is included in GPI for the first time:

DFE [202101, 202103] AND $78

Run regular monitoring searches

Search result set on 09.04.2021:

ID	Database	Result	Query	Parse...
$79	GPI 2021/14	757	DFE [202101, 202103] AND $78	(DFE_...
$78	GPI 2021/14	7 487	$76 and $77	(TIEN ...
$77	GPI 2021/14	51 730	(WORD = blockchain* or block*...	TIEN ...
$76	GPI 2021/14	88 905	(WORD = (public* or private* or...	TIEN ...

757 families where at least one family member has been made available in GPI for the first time in 2021 Q1

Run regular monitoring searches

Note: "Added for the first time" in 2021 Q1 does not necessarily mean published in 2021 Q1 :
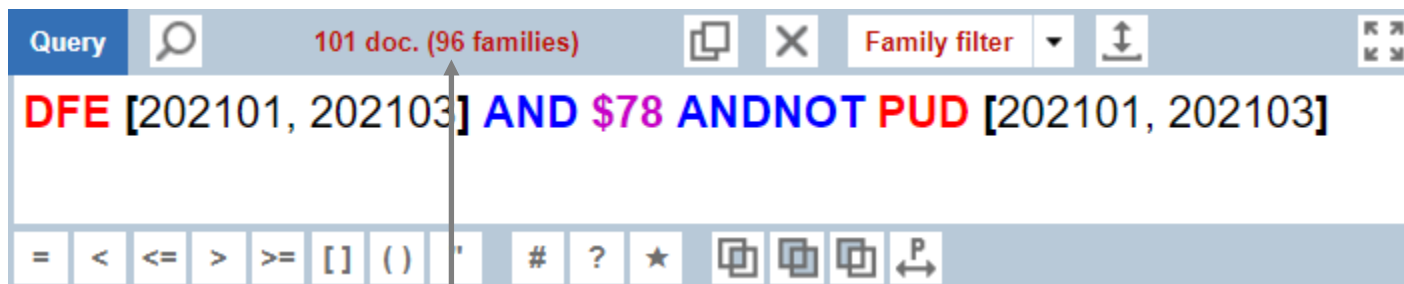
13% of our result set includes documents published **before** Q1 2021, provided by IPOs to the EPO in Q1 2021, and available in Espacenet/GPI also in Q1 2021

Run regular monitoring searches

Search result list:

Result list		20 / 96				
Publication		**Publication date ▲**	**Date of first exchange**	**Date of addition (DOCDB)**	**Is granted**	
CA 3105570 A1 20200130		20200130	20210204	20210129	NO	
TW 202037112 A 20201001		20201001	20210121	20210113	NO	
TW 202037109 A 2					NO	
TW 202036344 A 2					NO	
TW 202036402 A 2					NO	
TW I706276 B 202					YES	
TW I706661 B 202					YES	
TW 202037115 A 2					NO	
TW 202036351 A 2					NO	
TW I707245 B 20201011		20201011	20210121	20210113	YES	
TW I707244 B 20201011		20201011	20210121	20210113	YES	

1. Regular deliveries from IPOs to the EPO **frequently** contain recent and less recent publications.

2. Publication dates **not recommend** for regular monitoring.

Run regular monitoring searches

Scenario #2 – monthly monitoring of companies:

- First monitoring run in January 2021 (monitoring of December 2020)
- Current monitoring run this month (monitoring of March)
- Removal of families already retrieved by a previous monitoring

DFE =202103 ANDNOT FMDFE [202012, 202102] AND APP OR EVOW = …

FMDFE: first exchange of a family member

ANDNOT FMDFE eliminates families already retrieved during the monitoring run in January, February and March

Run regular monitoring searches

Scenario #3 – monitoring of licensing information published in March:

$$EVD = 202103 \text{ AND } EVCA = S \text{ AND } \ldots$$

EVD: legal event date (publication, e.g. in Bulletin or Gazette)

EVCA: event category **S** = "*Information on licensing and similar transactions*". EPO categorised around 3.000 detailed legal events. Category **S** = 250 detailed legal events!
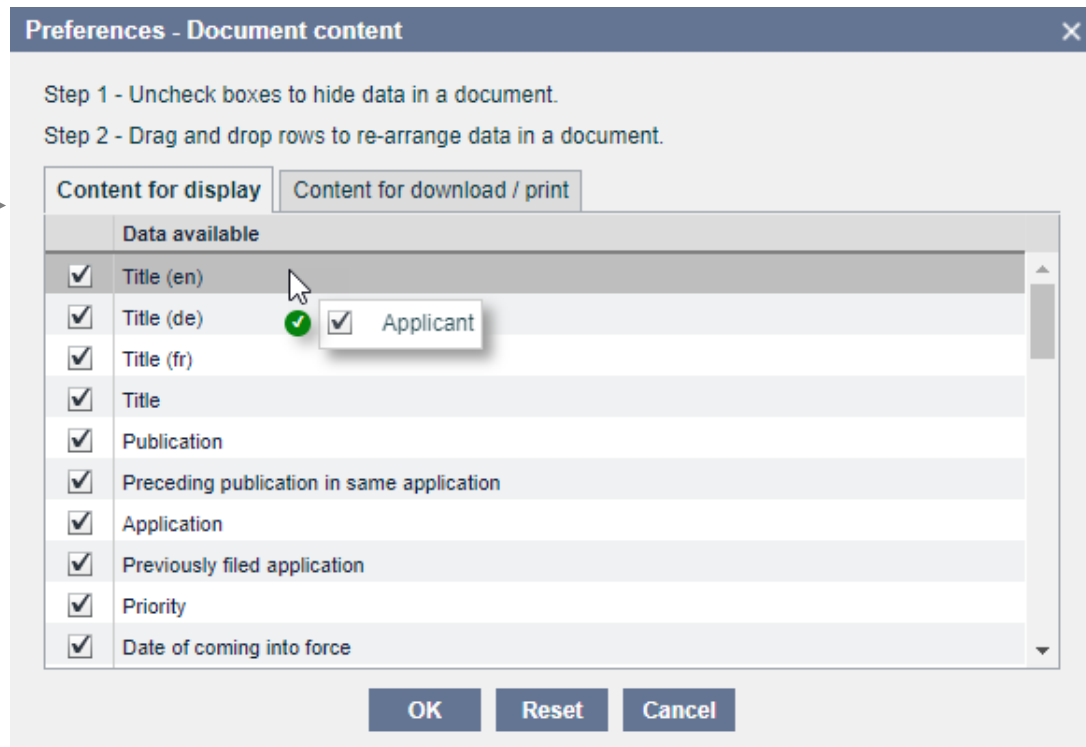
Run regular monitoring searches

Event categories = powerful entry means in the world of legal events

Work effectively when browsing search result sets
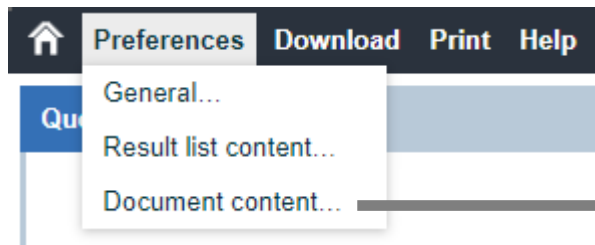
Customise result list and document content to focus on relevant information

Work effectively when browsing search result sets

Add result list columns

Rearrange document fields

Work effectively when browsing search result sets

Browse result list

Navigate in search hits

Switch to mode **document viewer** (query and result list boxes are hidden)

Open max. 4 document sections

Visualise search result sets to prepare reports

Simple statistics

e.g. top 100 applicants

#	Applicant	Documents ▼	Ranking (%)
1	☐ ADVANCED NEW TECHNOLOGIES CO LTD	55	7.27
2	☐ NCHAIN HOLDINGS LTD	37	4.89
3	☐ ALIPAY HANGZHOU INF TECH CO LTD	23	3.04
4	☐ MICROSOFT TECHNOLOGY LICENSING LLC	18	2.38
5	☐ ERICSSON TELEFON AB L M	11	1.45
6	☐ VISA INT SERVICE ASS	9	1.19
7	☐ SIEMENS AG	9	1.19
8	☐ HUAWEI TECH CO LTD	9	1.19
9	☐ SKYGRID LLC	8	1.06
10	☐ IBM	8	1.06

Cross reference

e.g. top 20 applicants * top 20 IPC
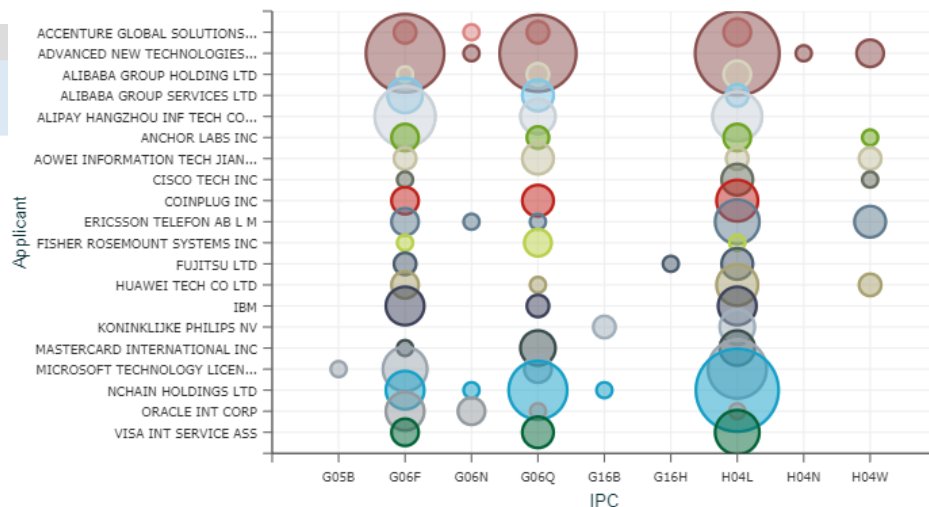
Not enough statistics parameters? ⇨ download customised result lists

Download of search result lists for post-processing

XSLX or **CSV** file:

Publication	Applicant	Family size (applications)	CPC (invention information)
WO 2019001923 A1 20190103	SIEMENS AG	3	H04L 9/0891 (2013.01) H04L 9/3236 (2013.01) H04L 9/3239 (2013.01) H04L 9/3247 (2013.01)
WO 2018167253 A1 20180920	BUNDESDRUCKEREI GMBH	3	H04L 9/3236 (2013.01) H04L 9/3247 (2013.01)
DE 102017204536 B3 20180308	BUNDESDRUCKEREI GMBH	4	G06F 21/645 (2013.01) G06Q 30/018 (2013.01) G06Q 50/18 (2013.01) H04L 9/0825 (2013.01) H04L 9/30 (2013.01)

- Prepare information annexed to your search report
- Create your own statistics

Download of search result lists for post-processing

XML file – e.g. loaded/modified with Excel:
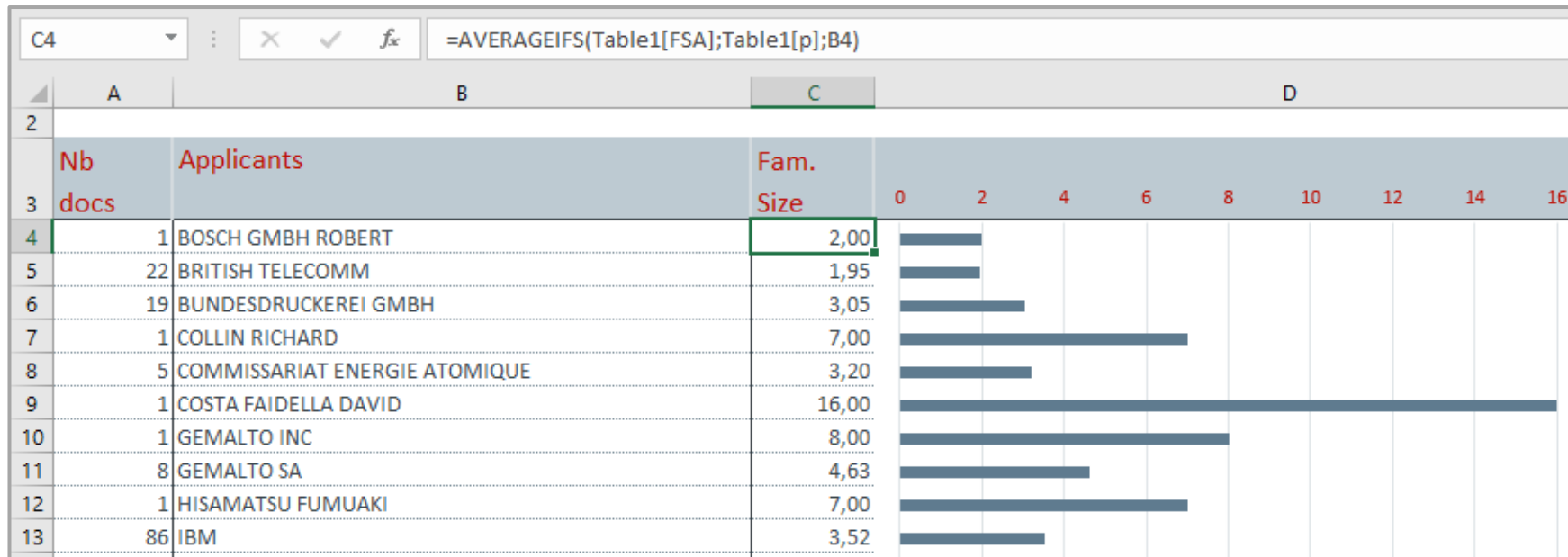
Download of search result lists for post-processing

XML file – e.g. loaded/modified 1st with Excel and 2nd with Power BI:

Collaboration networks

ASTRAZENECA AB	CENTRE NAT RECH SCIENT	1
ASTRAZENECA AB	INST NAT SANTE RECH MED	1
CENTRE NAT RECH SCIENT	HOFFMANN LA ROCHE	2
CENTRE NAT RECH SCIENT	INST NAT SANTE RECH MED	33
PFIZER	MERCK PATENT GMBH	2
PFIZER	SQUIBB BRISTOL MYERS CO	1
UNIV LELAND STANFORD JUNIOR	UNIV CALIFORNIA	2
UNIV PENNSYLVANIA	NOVARTIS AG	8
Total families:		**50**
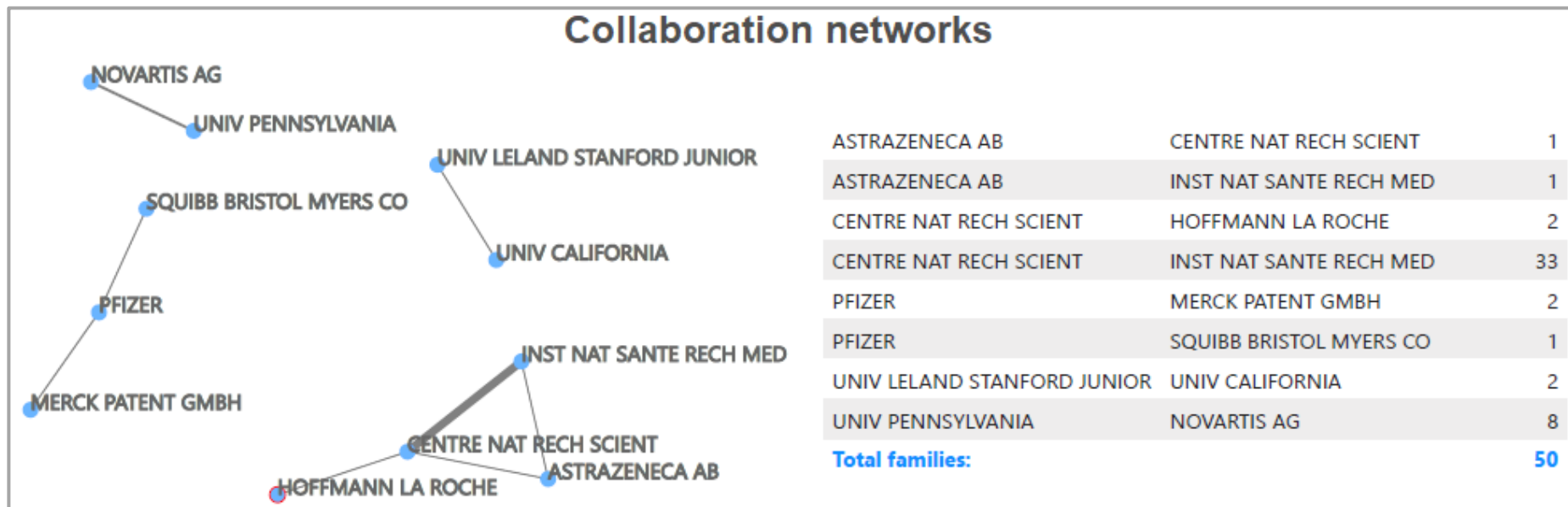
With GPI, can I …

1. Search all granted patents in one go? ☑ yes   ☐ no

Using criterion ISG "Is granted": e.g. ISG = YES

2. Easily combine queries of my search history? ☑ yes   ☐ no

Using query IDs: e.g.

$1 andnot $2

$3 and IPC or CPC = …

3. Easily spot top companies in a given tech. area? ☑ yes   ☐ no

Using **Simple statistics** with the parameter **Applicant**

With GPI, can I …

4. Assess freedom to operate in the US market? ☐ yes ☑ no

Current full text coverage: DE EP ES FR GB WO

5. Use publication dates for regular monitoring? ☑ yes ☐ no

But not recommended: data deliveries from IPOs to the

EPO sometimes cumulate frontfile with backfile data

Use DFE/FMDFE instead of PUD

6. Use APP to spot changes of ownership? ☐ yes ☑ no

A change of ownership is a legal information – use EVOW,

combined or not with APP – e.g. APP or EVOW = …

Global Patent Index - subscribe to the [GPI Forum](#)

Thank you for your attention

[epo.org/gpi](#)

Getting started	Conditions	Related products

Learn how to use GPI:

☐ **GPI – pocket guide**   (PDF, 728 KB)

☐ **GPI user manual**   (PDF, 3.7 MB)

› **GPI - Introductory Video**

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