



Getting Started with *Due Diligence*

Table of contents

→ [How to get started?](#)

→ [Due Diligence's Pages](#)

[Coverage and Status](#)

[Technologies](#)

[Historical Highlights](#)

[Owner/Inventor/Applicant](#)

[Quality and Value](#)

[Quality Highlights](#)

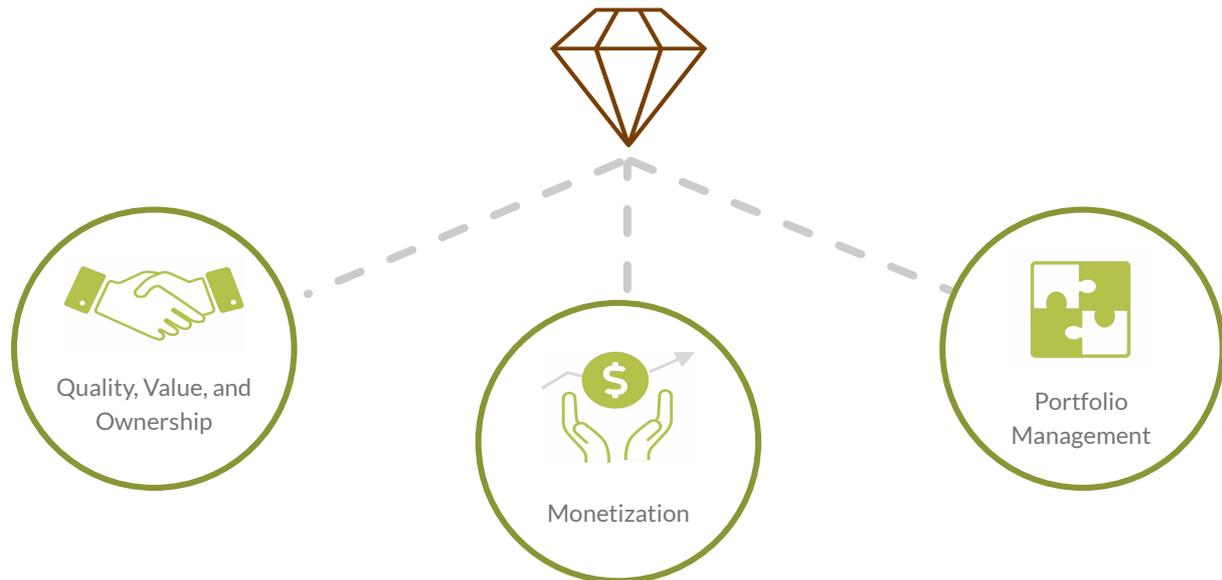
[Value Highlights](#)

→ [Managing Your Findings](#)

→ [More Tools for Working With Patents](#)

→ [Due Diligence Tutorial Videos](#)

In-Depth patent evaluation and portfolio management.



All key aspects of a patent portfolio are summarized in a *Due Diligence* report.

Gain a status summary with Quality and Value insights

Get the consolidated information you need about a patent portfolio, such as the global coverage, legal status, remaining life, technologies covered, ownership, assignment history, and more. Gain a macro view of the portfolio's quality and value with our exclusive Patent Quality and Value Rankings.

Discover highlighted quality issues

Find the possible quality issues hidden in the portfolio by examining abandoned/revoked family members and eligibility and novelty issues found in the patents' history.

Identify opportunities for realizing patent value

Find potential monetization targets of the portfolio through novelty/non-obviousness citations and identifying the portfolio's technology followers.

How to get started?

Choose the right product

Due Diligence (DD)
Patent Portfolio Evaluation Made Easy

DD Due Diligence
QI Quality Insights
SEP SEP OmniLytics
PS Patent Search
DS Design Search
PV Patent Vault

Patentcloud | Patentcloud

Need Help? Drop us a message!

Help

Find answers quickly

Search articles

Your Chats

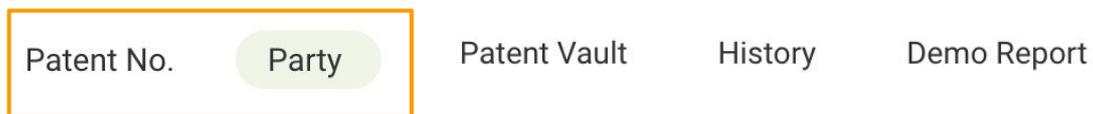
We typically reply in a few hours

InQ Support 5 mo. ago

Your chat has ended.

Select how you want to import your portfolio

You can upload or select a portfolio for analysis by searching for a company name (Party) or using a patent number list (Patent No.).

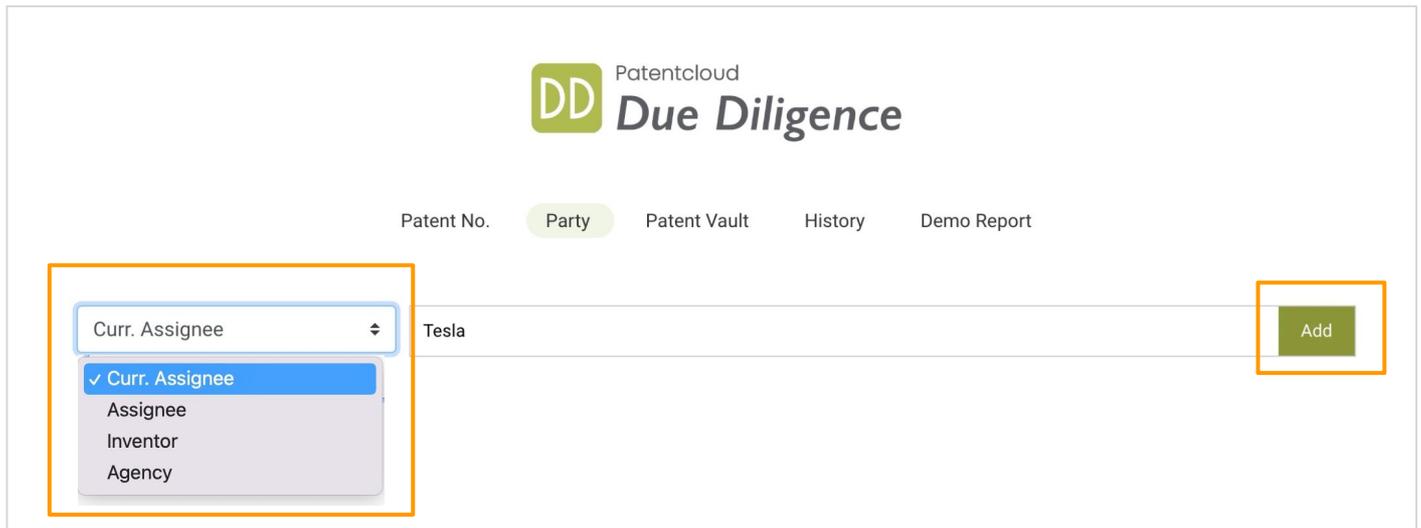


Click on the tabs to select your desired method.

Party

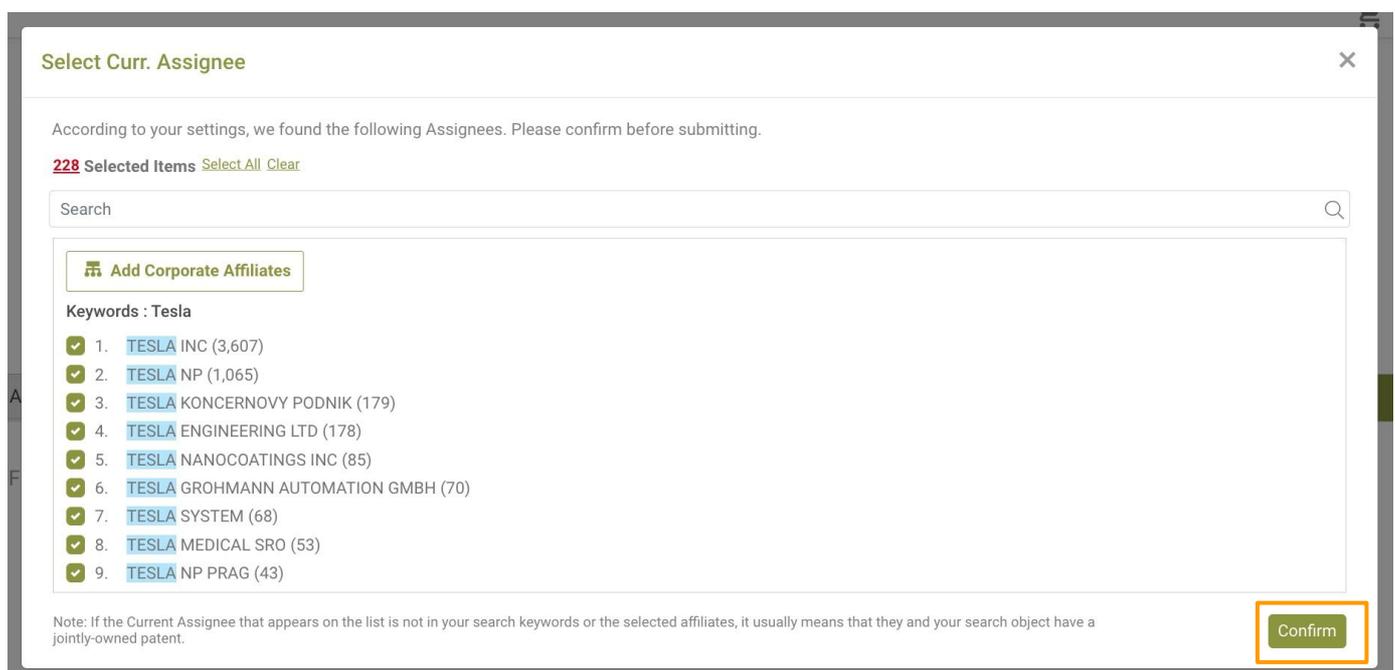
Look up patent owners (assignees) using a specific company or organization name.

1. Use the dropdown menu to select the party you wish to look up.
2. Enter a company or an organization name in the search bar and click “Add.”



The system’s search results show the patent assignees associated with the keyword. Some results may not fit the keywords you entered due to reasons such as co-ownership or abbreviations.

You can go through the list to select the companies you want to include in the analysis. After you are done, click “Confirm.”



Party

If you want to select the affiliated corporations, including a parent company or subsidiaries, click on “**Add Corporate Affiliates.**”

Select Curr. Assignee

According to your settings, we found the following Assignees. Please confirm before submitting.

228 Selected Items [Select All](#) [Clear](#)

Search

Add Corporate Affiliates

Keywords : Tesla

- 1. TESLA INC (3,607)
- 2. TESLA NP (1,065)
- 3. TESLA KONCERNOVY PODNIK (179)
- 4. TESLA ENGINEERING LTD (178)
- 5. TESLA NANOCOATINGS INC (85)
- 6. TESLA GROHMANN AUTOMATION GMBH (70)
- 7. TESLA SYSTEM (68)
- 8. TESLA MEDICAL SRO (53)
- 9. TESLA NP PRAG (43)

Note: If the Current Assignee that appears on the list is not in your search keywords or the selected affiliates, it usually means that they and your search object have a jointly-owned patent.

Confirm

Select the parent company or affiliated companies by checking and adding them to the list on the right. Click “**Confirm**” once you have finished.

Select Curr. Assignee

The following corporate affiliates were found based on your keyword: Tesla. Check the affiliates on the right and decide whether you want to include the keyword in your search.

Corporate Affiliates : TESLA INC

Selected Corporate Affiliates :

Clear all

TESLA INC

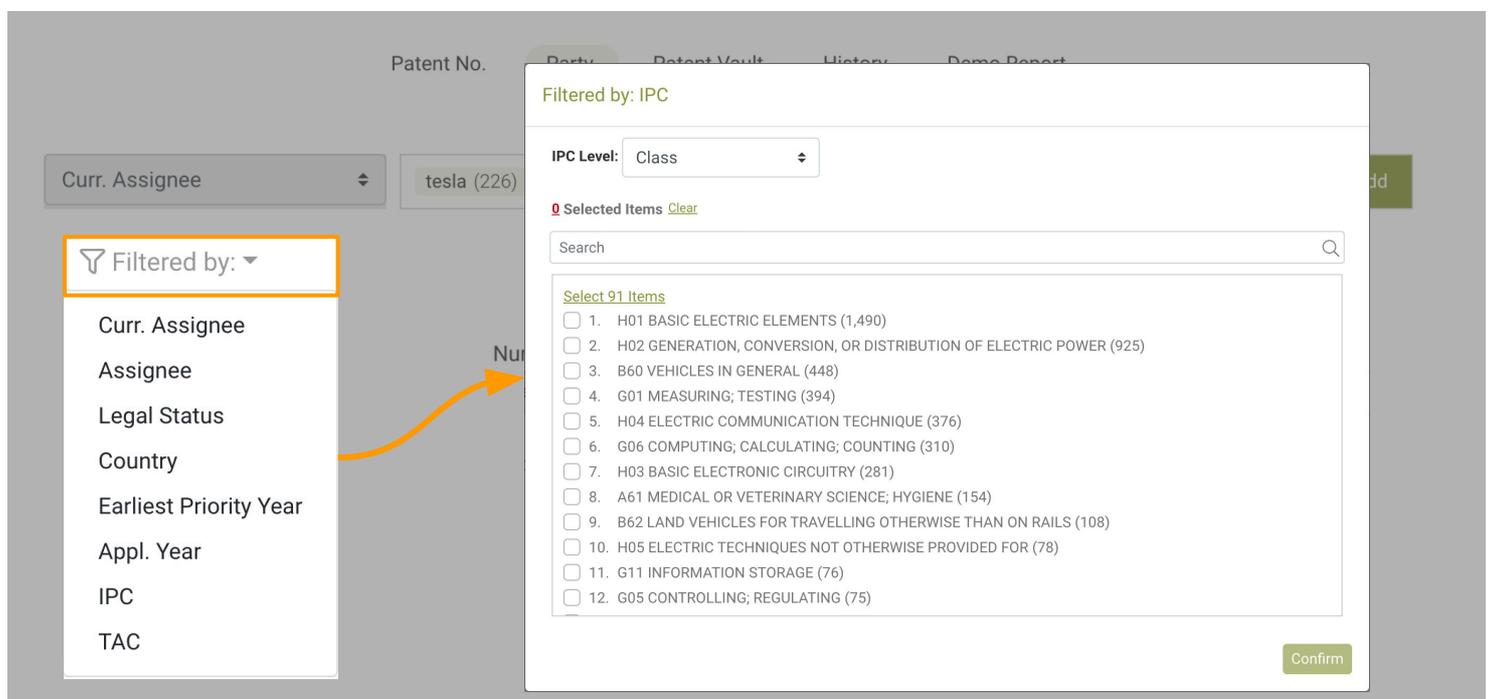
Confirm

Party

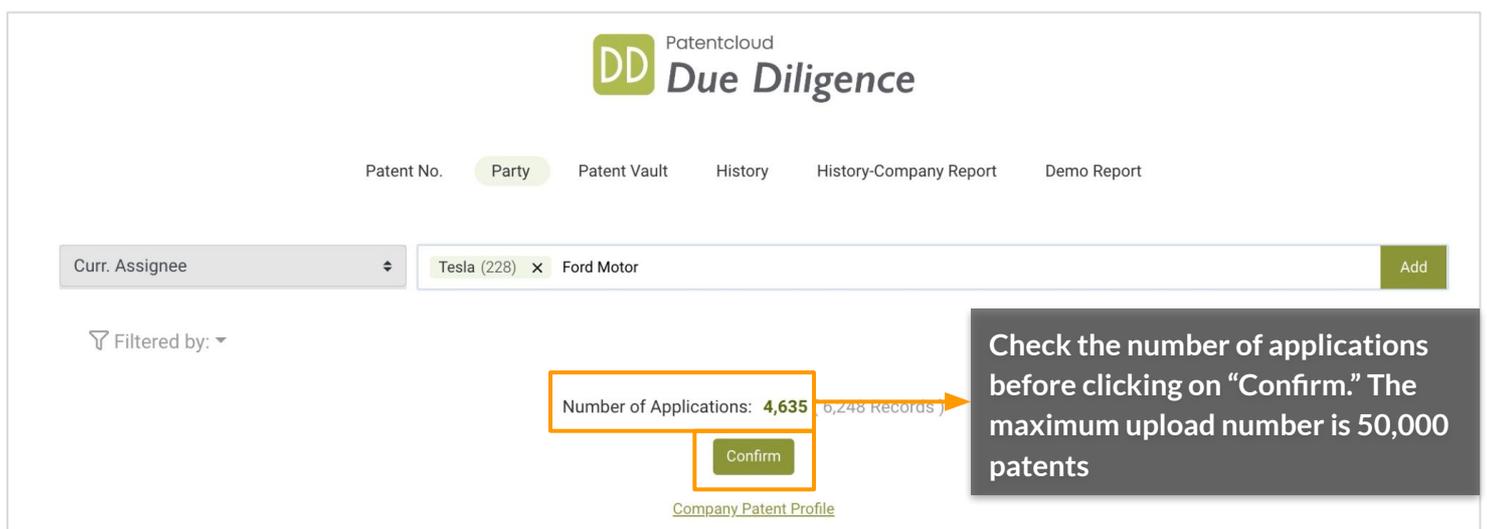
To add more than one company/organization to your analysis scope, simply type in another company name and click “Add” with the same steps mentioned before to add more current assignees.



You can refine the scope of analysis by clicking “Filtered by” on the left.



When you are ready, click “Confirm” to start generating the patent portfolio report.



How to get started? - Importing by Patent No.

1/2

Patent No.

There are two ways you can import your own list of patent numbers: **Upload** or **Input Numbers**.

Upload

You can upload a .csv, .xls, or .xlsx file containing recognizable patent numbers or use our template file.

The screenshot shows the 'Upload' tab selected in a navigation menu. Below the menu is a dashed box containing file icons for CSV, XLS, and XLSX. Text prompts the user to 'Drop files here or click to upload' and provides a 'Download template' link. A callout box points to this link with the text: 'Download the patent number template here (.xlsx)'. Below the upload area is a 'Confirm' button and a small note: 'About the JP patent number format File types: .csv, .xls, and .xlsx. (Maximum upload: 50,000 patents)'. To the right, a table shows the template format with columns for 'Patent Office' and 'Patent No.' and rows of sample data.

	A	B
1	Patent Office	Patent No.
2	US	US6354008B1
3	US	US10181070B2
4	US	US7209101B2
5	US	US6909053B2
6	CN	CN101801537A
7	CN	CN1240264C
8	JP	JP2018-175726A

When finished, click “Confirm” to start generating the patent portfolio report.

This screenshot shows the 'Confirm' step. It features the same file icons (CSV, XLS, XLSX) and the text 'demo-patent-3000.xlsx' or 'Download template'. A 'Confirm' button is highlighted with an orange border.

File types: .csv, .xls, and .xlsx. (Maximum upload: 50,000 patents)

Patent No.

Input Numbers

Manually enter the patent numbers, then click “Confirm” to start generating the patent portfolio report.

Upload

Patent No.

Enter the patent numbers.
You can separate the numbers by semicolon (;), space, or new line. For example:

```
US20030108341A1;  
US8223380B2;  
CN85104931B;  
CN100539841C;  
JP2000-030414A;  
JP3617480B2
```

ⓘ About the JP patent number format (Maximun of input: 50,000 patents)

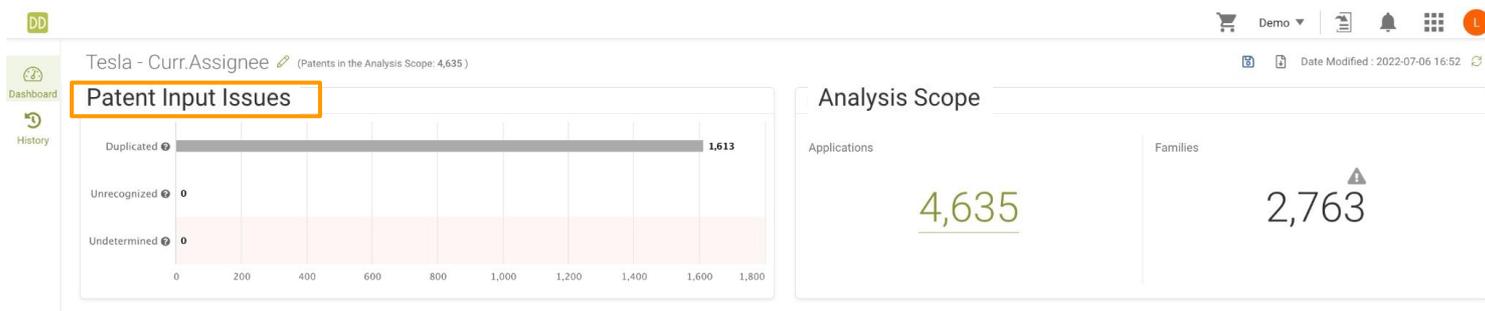
Note: As Derwent's JP patent number system conflicts with other systems, see our Help Center article for [JP Number Conversion](#).

There is one more crucial step before viewing the report – confirming the data and scope of analysis.

After uploading and generating the report, you will need to review the “Patent Input Issues” and “Analysis Scope” before starting the analysis.

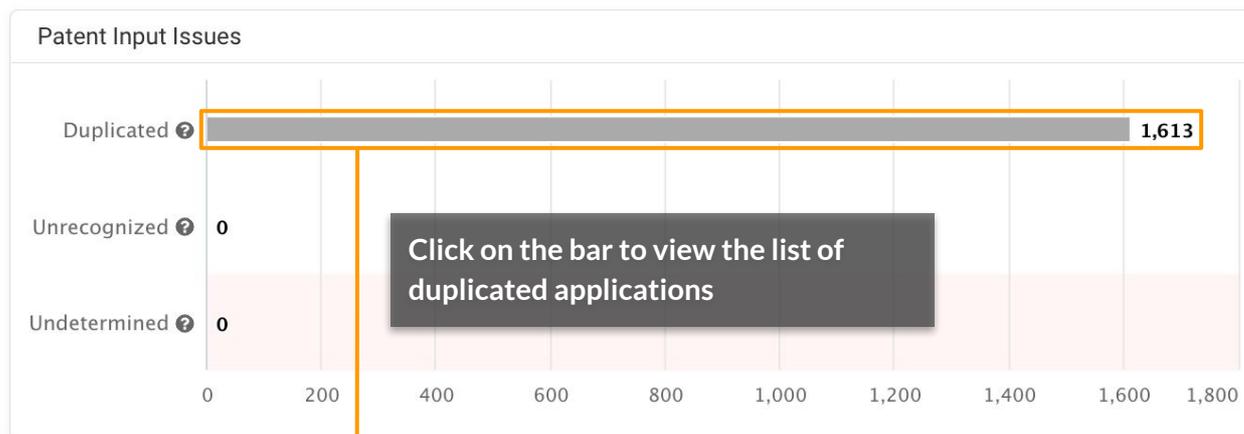
Patent Input Issues:

This section summarizes the 3 types of issues identified in the imported patents: **Duplicated**, **Unrecognized**, and **Undetermined**.



A. Duplicated:

Multiple records from your input match the same patent. This may indicate that a number was entered twice, or that both the publication number and issue number of a patent was entered.



Duplicated 2,621 Applications; 2,180 Families

Row	Patent No.	Appl. No.	Country	Title
10147	WO2005/002921A3	PCT/US2004/021470	WO	METHOD AND APPARATUS FOR PEDESTRIAN DETECTION

The following records correspond to the same patent application.

Row	Patent No.	Appl. No.	Country	Title
1549	2005/002921	PCT/US2004/021470	-	-

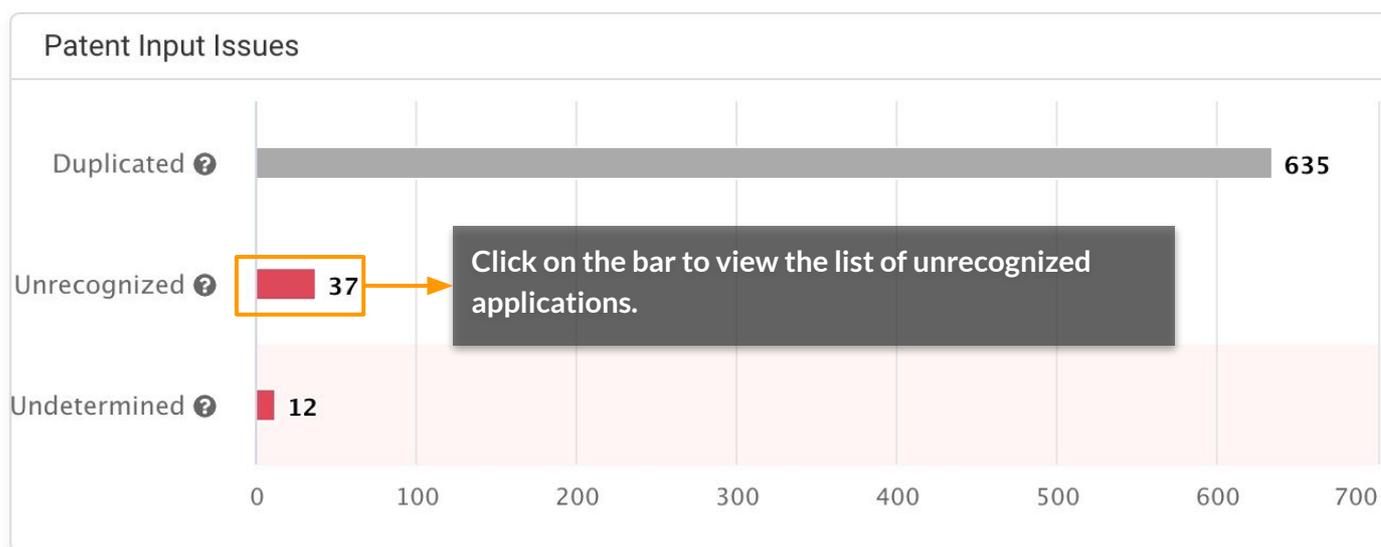
*The number on the chart indicates the number of applications.

Patent Input Issues:

B. Unrecognized:

No patent matches the input number(s). Possible reasons include:

1. Format issues. Please check for any typos and make sure the numbers correspond to Patentcloud's patent number format.
2. Patentcloud's database does not cover the patent number input.



Unrecognized 37 Applications; 37 Families [Data Collections](#) / [About the JP patent number format](#)

Row	Patent No.	Appl. No.	Country	Title
2052	NO2008087A	2008000113	NO	Wrong kind code 76
2053	NO20081113A	2008000113	NO	
2054	NO20092029A	20090002029	NO	
2055	NO20121173A	20120001173	NO	
2056	NO20140282A	20140000282	NO	
2057	AAA	886871		Wrong format
2058	US3487470			Out of the database's scope

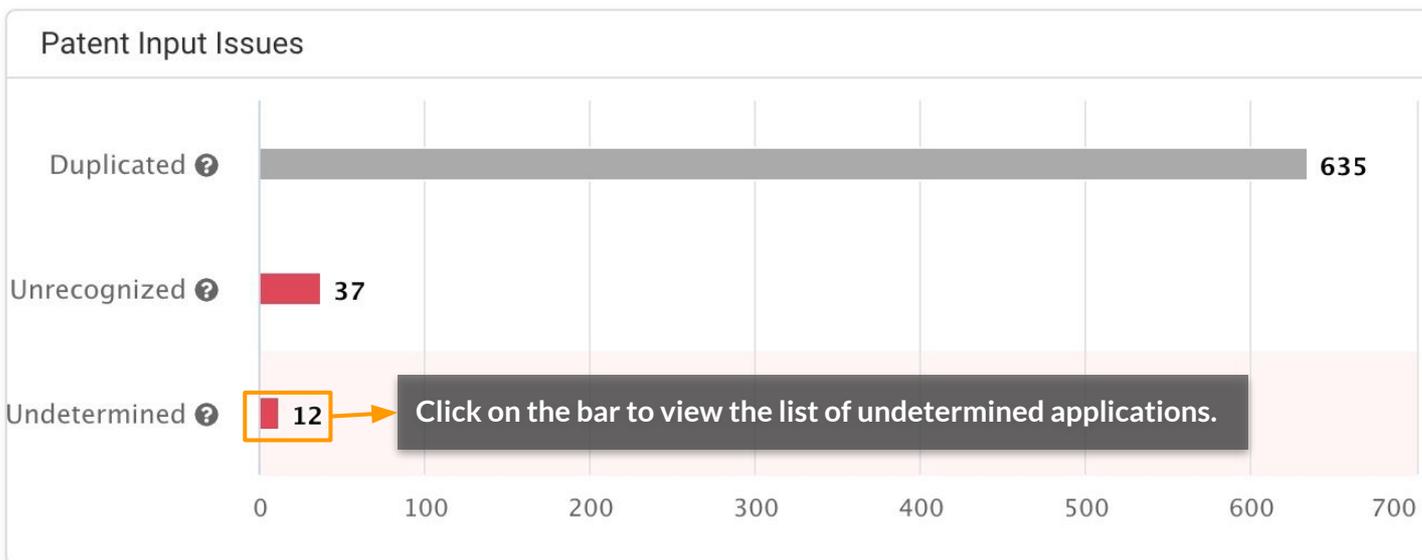
*The number on the chart indicates the number of applications.

*For more details on Patentcloud's proprietary data collection, please visit the [Timely Data Completeness](#) page.

Patent Input Issues:

C. Undetermined:

Multiple patents match the input number(s). Some patents in different countries may share the same patent numbers and can only be differentiated by kind codes. Select the correct patent numbers from the list provided and add them to the analysis scope.



Click “Submit” after you have finished selecting the correct patent or patents you want to add to the analysis scope.

Undetermined 6 Applications; 1 Families Submit

Row	Patent No.	Appl. No.	Country	Title
1	1220571A1	-	-	-

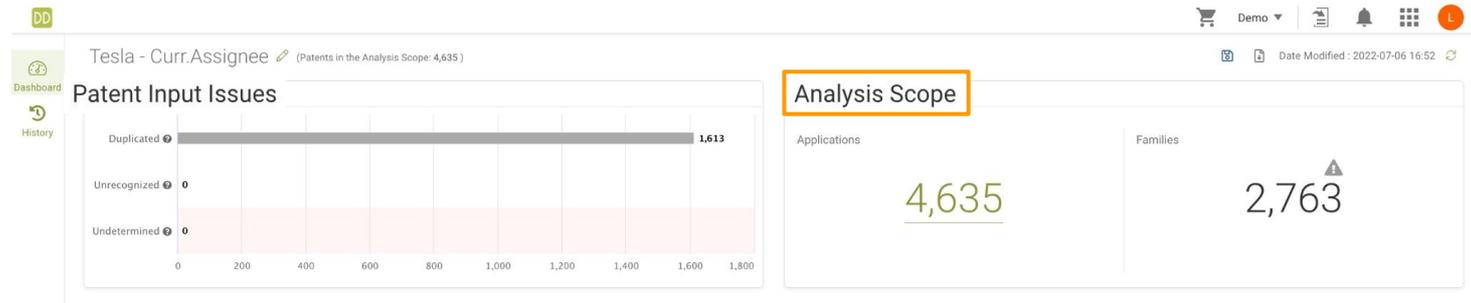
The following patent numbers all match your input.

Family in List	Family ID	Patent No.	Title
<input checked="" type="radio"/>	10446775	GB1220571A	NEW PHOSPHORIC AND THIOPHOSPHORIC ACID ESTERS AND THEIR USE AS PESTICIDES
<input type="radio"/>	14826537	FR1220571A	Systèmes de mesure des distances par échos applicables aux sonars et aux radars
<input type="radio"/>	18286231	CN1220571A	合金化系统、加热装置、阻抗匹配装置和阻抗变换方法

*The number on the chart indicates the number of applications.

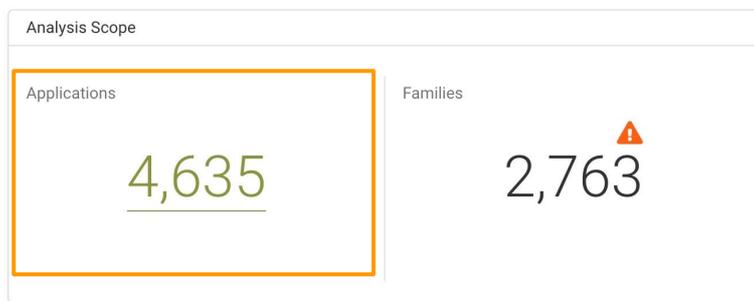
Analysis Scope:

Checking the Analysis Scope on the right is the last step in confirming the current portfolio scope. There are two parts to examine: **Applications** and **Families**.



Applications:

This number shows the number of applications already in the patent portfolio. Click on the number to check the complete list of patent applications that will be analyzed.



Success 2,316 Applications; 185 Families

#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	Curr. Assignee	
+	91	KR1020120004535A	다중 캐리어 동작을 위한 무선 링크 제어 프로토...	Abandoned Appl.	2012-01-12	2010-04-22	INTERDIGITAL PATEN...	INTERDIGITAL PATEN...
+	92	JP5491626B2	ホームノードBの検出および測定を行う...	Active	2014-03-07	2010-06-18	INTERDIGITAL PATEN...	INTERDIGITAL PATEN...
+	93	US8665838B2	Method of handling time alignment com...	Active	2014-03-04	2010-01-07	LG ELECTRONICS INC	INTERDIGITAL PATEN...
+	94	TWI504180B	執行頻間及/或無線電存取技術間測量方...	Lapsed	2015-10-11	2010-10-01	INTERDIGITAL PATEN...	INTERDIGITAL PATEN...
+	95	WO2011/159985A1	APPLICATION LAYER PROTOCOL SUPPO...	Abandoned Appl.	2011-12-22	2011-06-17	INTERDIGITAL PATEN...	INTERDIGITAL PATEN...
+	96	US9591499B2	WTRU measurements handling to mitiga...	Active	2017-03-07	2011-11-04	INTERDIGITAL PATEN...	INTERDIGITAL PATEN...

Expand all family members on this page.

Expand to see the family members of this patent (within this portfolio).

Analysis Scope:

Families:

This number displays the number of families in the patent portfolio.

The  icon indicates that there are family members of the patents in this portfolio found, but not included in this portfolio for analysis.

1. Click on the  icon to see how many applications were found but not included in the portfolio.
2. Then, click on the number to see whether you want to include these 'missing applications' in the analysis scope. The list of 'missing applications' will appear at the bottom of the page.



3. Select the applications you want to include and click "Submit" to add to the portfolio.

The 'Family Check' dialog box displays a table with 13 selected patents. The table has columns for #, Patent No., Family ID, Title, Legal Status, Issue/Pub. Date, Appl. Date, Assignee (Std), and Curr. Assignee. A 'Submit' button is highlighted in the top right corner.

#	Patent No.	Family ID	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	Curr. Assignee
13 patent(s) selected Select all 1,152 patents in this list.								
501	EP3948985A1	70465251	COMPOSITIONS AND METHODS FOR ...	Exam.	2022-02-09	2020-03-26	MAXWELL TECHNOLOGIES L...	TESLA INC
	US20200313193A1	70465251	COMPOSITIONS AND METHODS FOR ...	Exam.	2020-10-01	2020-03-26	MAXWELL TECHNOLOGIES L...	TESLA INC
	WO2020/205447A1	70465251	COMPOSITIONS AND METHODS FOR ...	Pending	2020-10-08	2020-03-26	MAXWELL TECHNOLOGIES L...	MAXWELL TECHNOLOGIES L...
	CN113939925A	70465251	用于包含弹性聚合物粘结剂的干电极膜...	Exam.	2022-01-14	2020-03-26	MAXWELL TECHNOLOGIES L...	MAXWELL TECHNOLOGIES L...
	KR1020210143777A	70465251	단성 중합체 결합제를 포함하는 건식 전극 필...	Pending	2021-11-29	2020-03-26	MAXWELL TECHNOLOGIES L...	MAXWELL TECHNOLOGIES L...

Family Check example:

Using the screenshots above as an example, we can see that the search or input result includes 2,763 simple families, which correspond to 5,787 patents or applications.

The current analysis scope includes only $5,787 - 1,152 = 4,635$ patents/applications.

This indicates that there are 1,152 patents/applications out of the 5,787 patents/applications which did not meet the search criteria or were not uploaded. We have listed these 1,152 patents for you to check whether they should be included in the analysis scope or not.

DD Karen0522

Tesla - Curr.Assignee (Patents in the Analysis Scope: 4,646) Date Modified : 2022-07-20 15:50

Patent input issues

Duplicated	1,624
Unrecognized	0
Undetermined	0

Analysis Scope

Applications	4,646
Families	2,765

Free Trial Status

Trial Deadline : 2022/07/20 - 2022/07/27

Remaining Trials : 100 (Up to 50,000 patents per input)

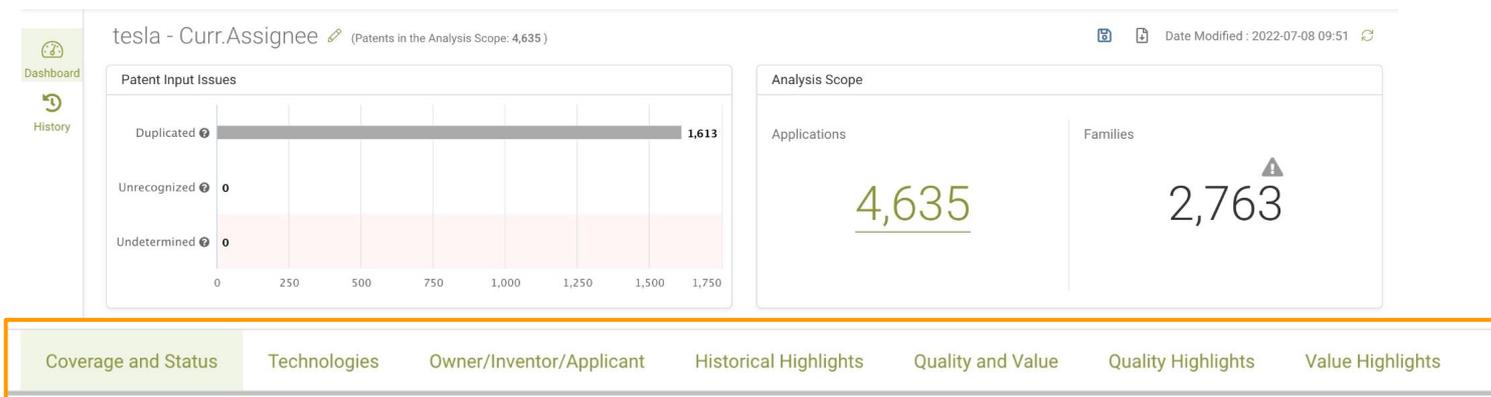
[Start Analysis](#)

Due Diligence's Tabs

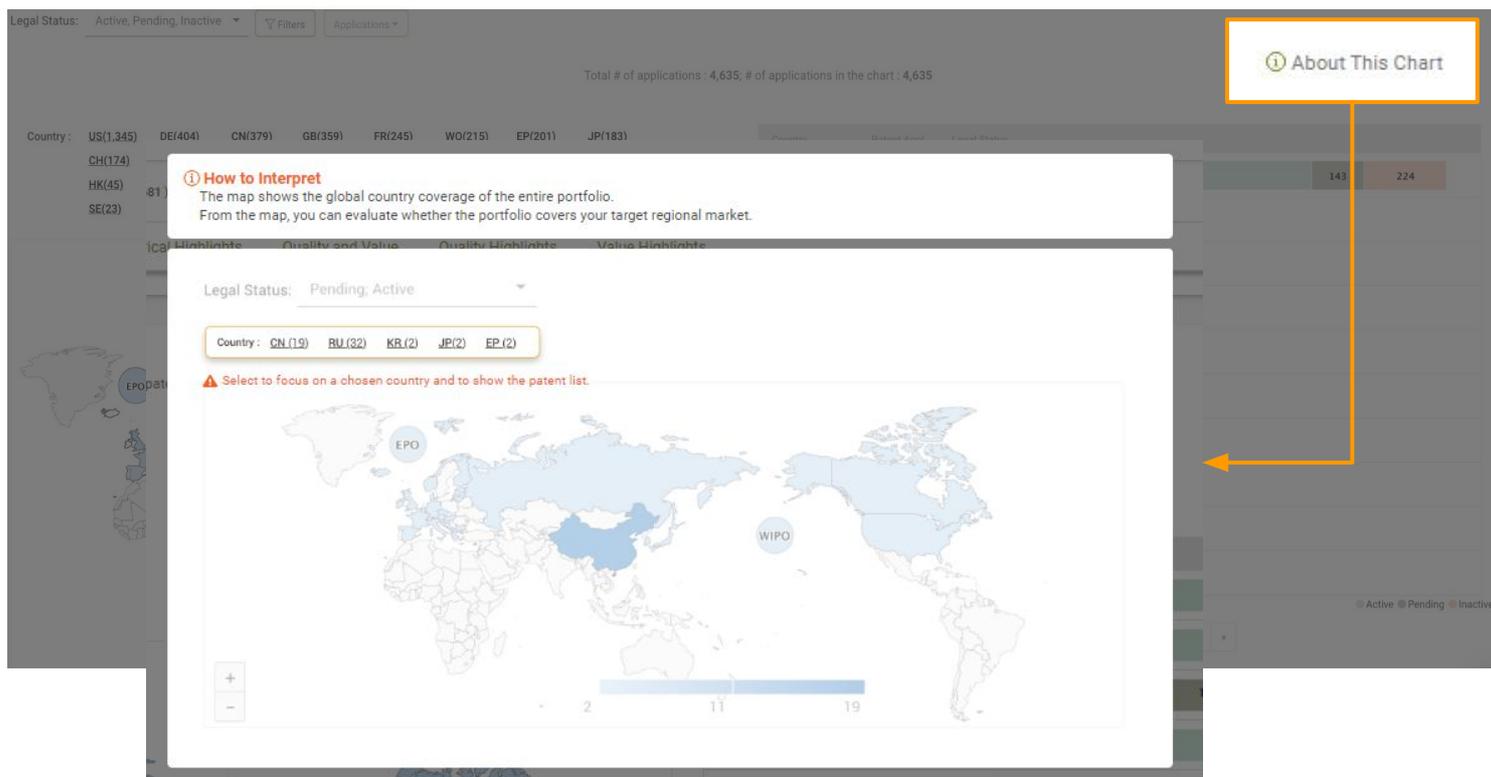
Due Diligence comprises of seven tabs, each designed to cover different aspects of a patent portfolio analysis.

Click on the tabs to access each individual page for more detailed information.

Each page includes a summary section and various charts. In this 'Tabs' section, we will explain how to interpret the charts and how the terms and numbers are defined.



On the upper right hand corner of each chart you can click “About This Chart” to see how to read the chart.



The Coverage and Status tab shows the patent portfolio's jurisdiction coverage, legal status, and remaining life for assessing the patents' market influence and value.

Summary

Gain an overview of the portfolio's legal status and corresponding list of countries covered.

[Coverage and Status](#)
[Technologies](#)
[Owner/Inventor/Applicant](#)
[Historical Highlights](#)
[Quality and Value](#)
[Quality Highlights](#)
[Value Highlights](#)

Summary:

11,653 patent assets are found in 46 regions, including United States, China, Taiwan, EPO, Germany, Japan, Korea, EUIPO, Austria, India, WIPO, Australia, Sweden, Canada, Brazil, Spain, Finland, Denmark, United Kingdom, Italy, Hong Kong, Israel, Portugal, Singapore, Cyprus, Poland, Slovenia, South Africa, France, Mexico, Malaysia, Slovakia, Tunisia, Ukraine, Belgium, Eurasian Patent Organization (EAPO), Egypt, Morocco, Norway, New Zealand, Turkey, United Arab Emirates, Bulgaria, Greece, Netherlands, and Romania. You can confirm whether this patent portfolio covers all target markets, check the application areas, legal status, and remaining years to assess the market influence and value of the patents.

<p>Active</p> <p>6,549 (56.2%)</p> <p>of them are active and enforceable.</p> <p>The active patents cover 24 regions. The longest patent term is 26 years. All of the patents are expected to expire before 2048, including EUIPO(2047), Taiwan(2041), United States(2041), China(2040), EPO(2040), Japan(2040), Korea(2040), Germany(2037), India(2037), Sweden(2036), Hong Kong (2035), Canada(2034), United Kingdom(2033), Australia(2031), Brazil(2031), Austria (2030), Spain(2029), Malaysia(2029), Ukraine(2028), Egypt (2027), Denmark(2025), Finland(2025), Poland(2025), and Portugal (2025).</p>	<p>Pending</p> <p>558 (4.788%)</p> <p>of them are still pending and may acquire patent rights in the future.</p> <p>The pending patents can be traced back to the application in 1980; they cover 26 regions, including China, EPO, United States, Germany, India, Taiwan, Italy, Australia, Japan, Korea, Sweden, Israel, Singapore, Tunisia, Malaysia, Mexico, Turkey, France, WIPO, Norway, United Kingdom, New Zealand, Brazil, Canada, United Arab Emirates, and Morocco.</p>	<p>Inactive</p> <p>4,546 (39.012%)</p> <p>Inactive</p> <p>No patent rights</p>
---	--	--

Global Coverage

View the coverage and legal status for all patents in the portfolio.

Legal Status: Active, Pending, Inactive

Total # of applications : 4,635; # of applications in the chart : 4,635

Country: [US\(1,345\)](#) [DE\(404\)](#) [CN\(379\)](#) [GB\(359\)](#) [FR\(245\)](#) [WO\(215\)](#) [EP\(201\)](#) [JP\(183\)](#)
[CH\(174\)](#) [KR\(143\)](#) [AT\(135\)](#) [CS\(108\)](#) [CZ\(79\)](#) [CA\(75\)](#) [DD\(65\)](#) [AU\(47\)](#)
[HK\(45\)](#) [HU\(39\)](#) [IN\(37\)](#) [SU\(32\)](#) [PL\(31\)](#) [ES\(31\)](#) [BG\(28\)](#) [DK\(24\)](#)
[SE\(23\)](#) [FI\(16\)](#) [BR\(14\)](#) [MX\(14\)](#) [YU\(13\)](#) [IT\(12\)](#)

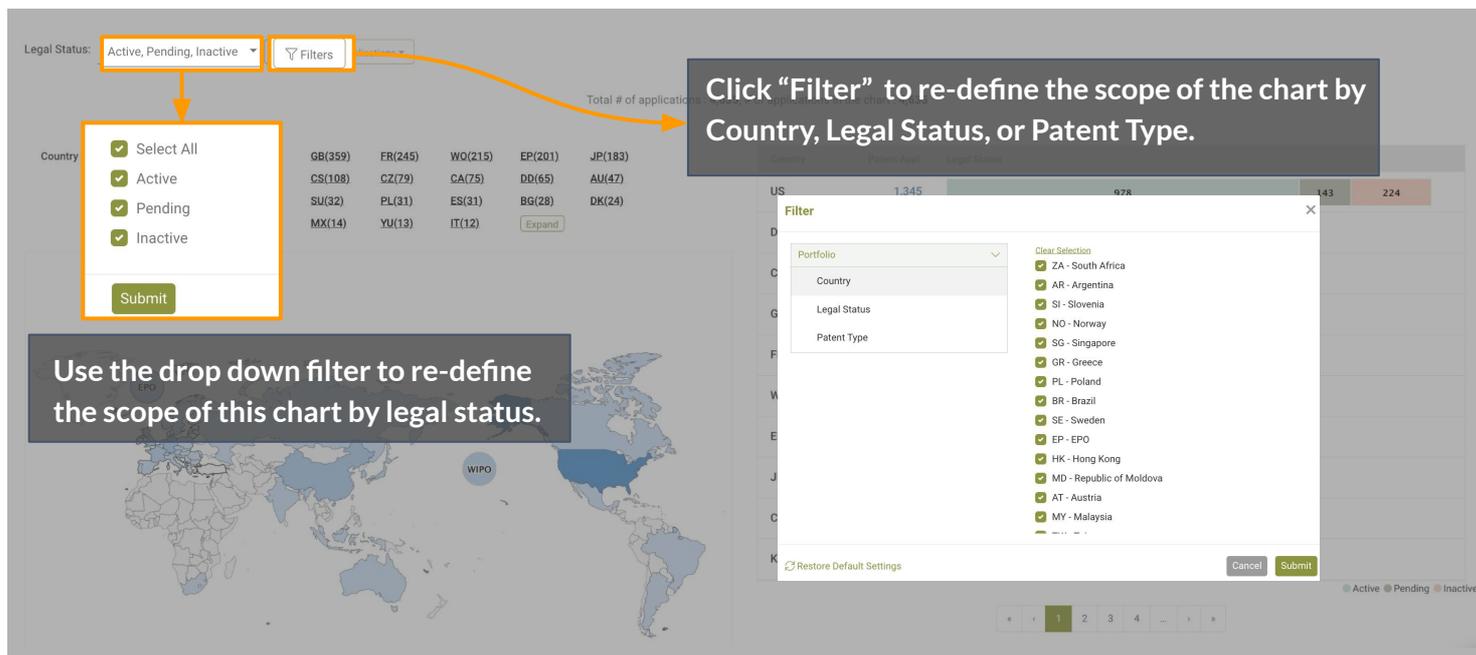


Country	Patent Appl.	Legal Status		
US	1,345	978	143	224
DE	404	138	307	
CN	379	242	65	72
GB	359	3	290	66
FR	245	13	185	47
WO	215	49	166	
EP	201	106	70	25
JP	183	129	27	
CH	174	156	18	
KR	143	78	43	

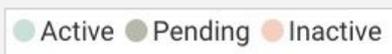
Click the legal statuses on each jurisdiction's bar to view the corresponding patent list.

Active Pending Inactive

Global Coverage



The legal status of Patentcloud’s patents are classified into 3 types:



Active patents:

Patents that are granted and not expired.

Active patents in a specific country indicate that the patent owner has the right to exclude others from manufacturing, selling, using, or importing products when any of the patents are infringed upon in that specific jurisdiction.

Pending patents:

Patents that are under examination and not yet granted nor abandoned.

Pending patents in a specific country indicate that the applicant may have patent rights in the future. However, the patent rights will only exist after the Office Actions have been adequately responded to and the patents have been granted.

Inactive patents:

Patents that are abandoned or expired.

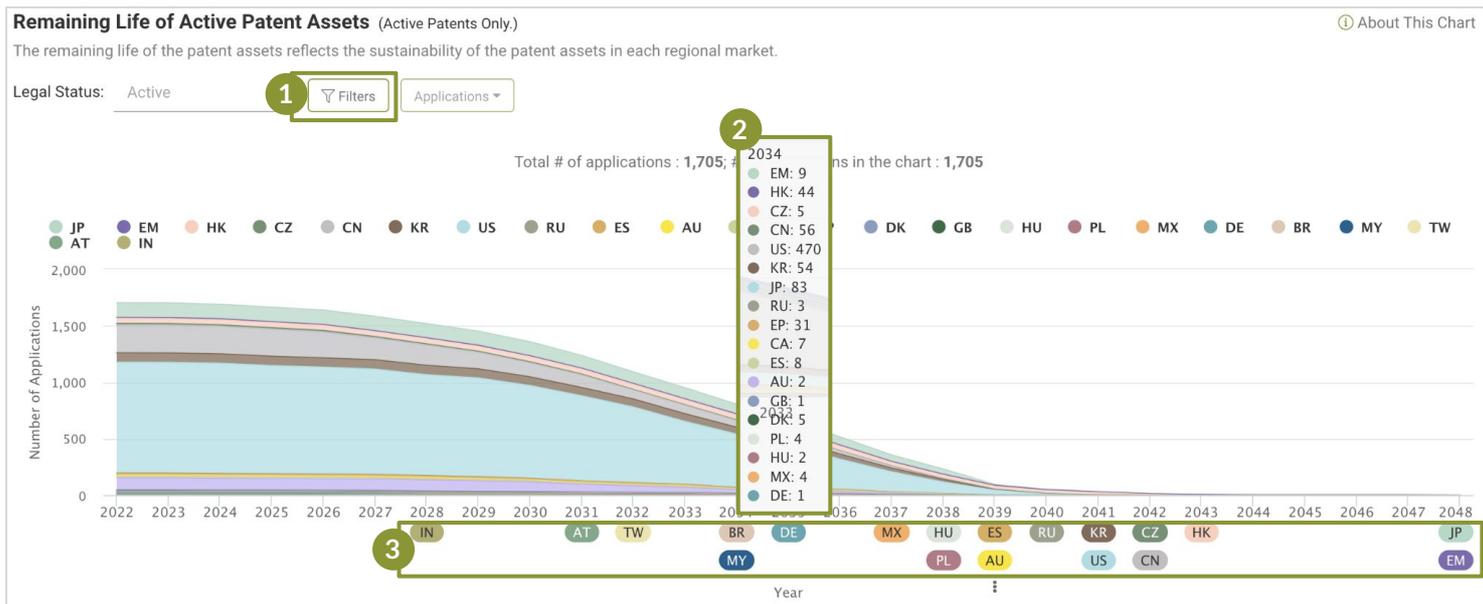
Inactive patents do not have any rights of exclusion. If inactive patents exist in a specific country, it will not affect whether the patent owner can exclude others in that country.

For more details on Patentcloud’s data coverage and legal status, please visit the [Timely Data Completeness](#) page.

Remaining Life of Active Patent Assets (Active patents only)

This chart provides the estimated expiration year of active patents in each jurisdiction and the number of remaining active patents in the jurisdiction for a specific year.

The remaining life reflects the sustainability of the patent assets in each regional market.



1 Click "Filter" to re-define the scope of the chart by Country or Patent Type.

2 Hover over each year to find the remaining active patents in each country for that year.

3 The country codes under each year indicate that the specific country will no longer have any active patents from this portfolio by that year.

*Note: Patents invalidated by a Patent Office or Court of each jurisdiction are not considered in the determination of "active patents."

For the full list of the jurisdictions covered, please see the [Appendix page](#).

Pending Patents (Pending patents only)

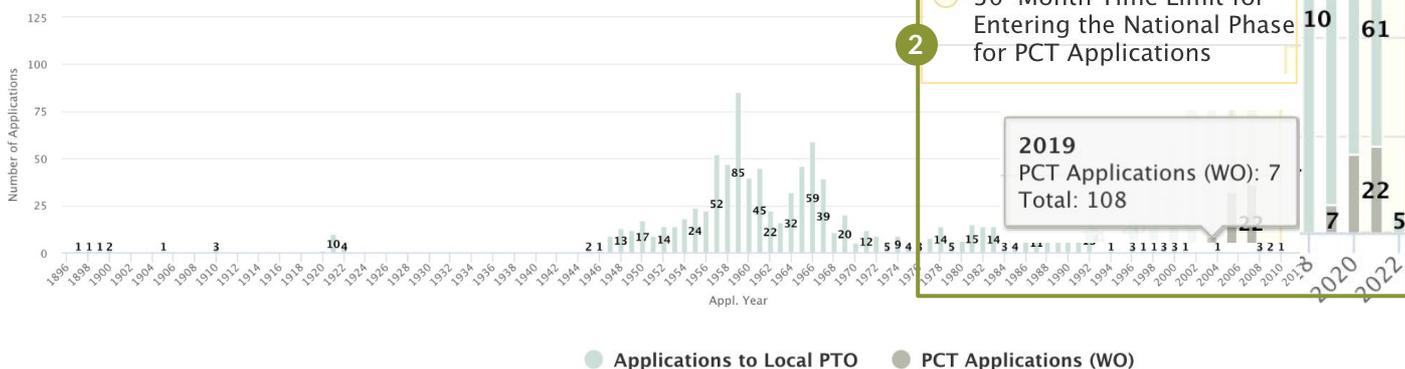
This chart provides the filing dates of the pending patents, which suggests lengthy patent filings and/or potential prosecution expenses. It also highlights PCT applications and the national phase time limits for global patent deployment.

Pending Patents (Pending Patents Only)

The filing dates of the pending patents.

Legal Status: Pending 1 Filters Applications ▾

Total # of applications : 1,482; # of applications in the chart : 1,482



1 Click “Filter” to re-define the scope of the chart by Country or Patent Type.

Filter

Portfolio ▾

Country ▾

Clear Selection

- SI - Slovenia
- DD - German Democratic Republic
- SU - Soviet Union (USSR)
- PT - Portugal
- RO - Romania
- NL - Netherlands
- ZA - South Africa
- AR - Argentina
- GR - Greece
- SG - Singapore

2 Hover over each year to find the number of applications filed in that year which are still pending.

Patent applications that have been long-pending should be taken note of.

Possible reasons that a patent has been pending for many years:

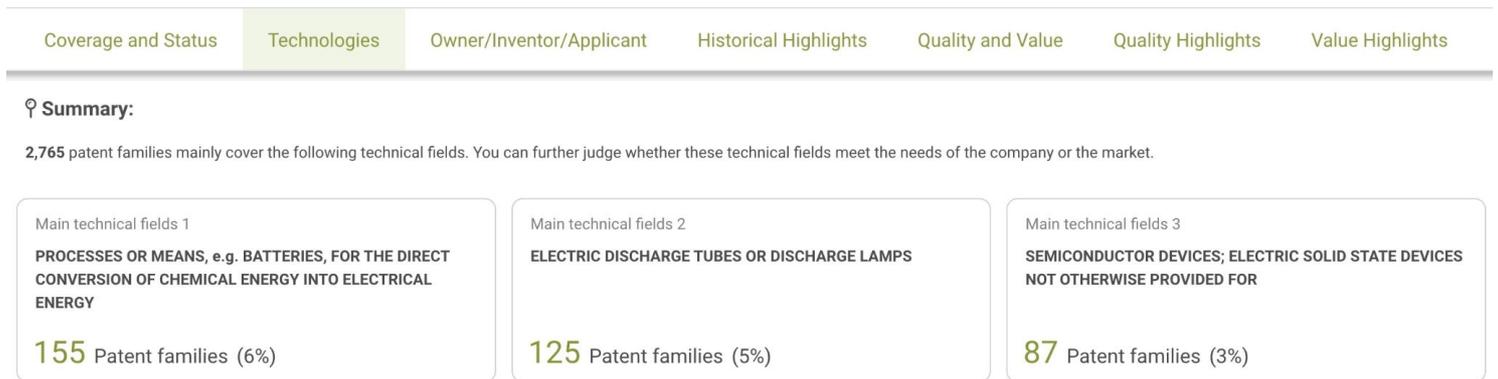
- Repetitive rejections (or appeals) over patentability issues.
- Continuation or divisional patent applications.
- Low efficiency of examination in the local patent office.
- Prior art ref. submission before issuance to raise barriers for invalidation.

For more details on Patentcloud’s proprietary data status, please visit the [Timely Data Completeness](#) page.

The Technologies tab provides the technical fields and trends of the patent portfolio, giving insight into the main and recent R&D focus of the patents in the portfolio.

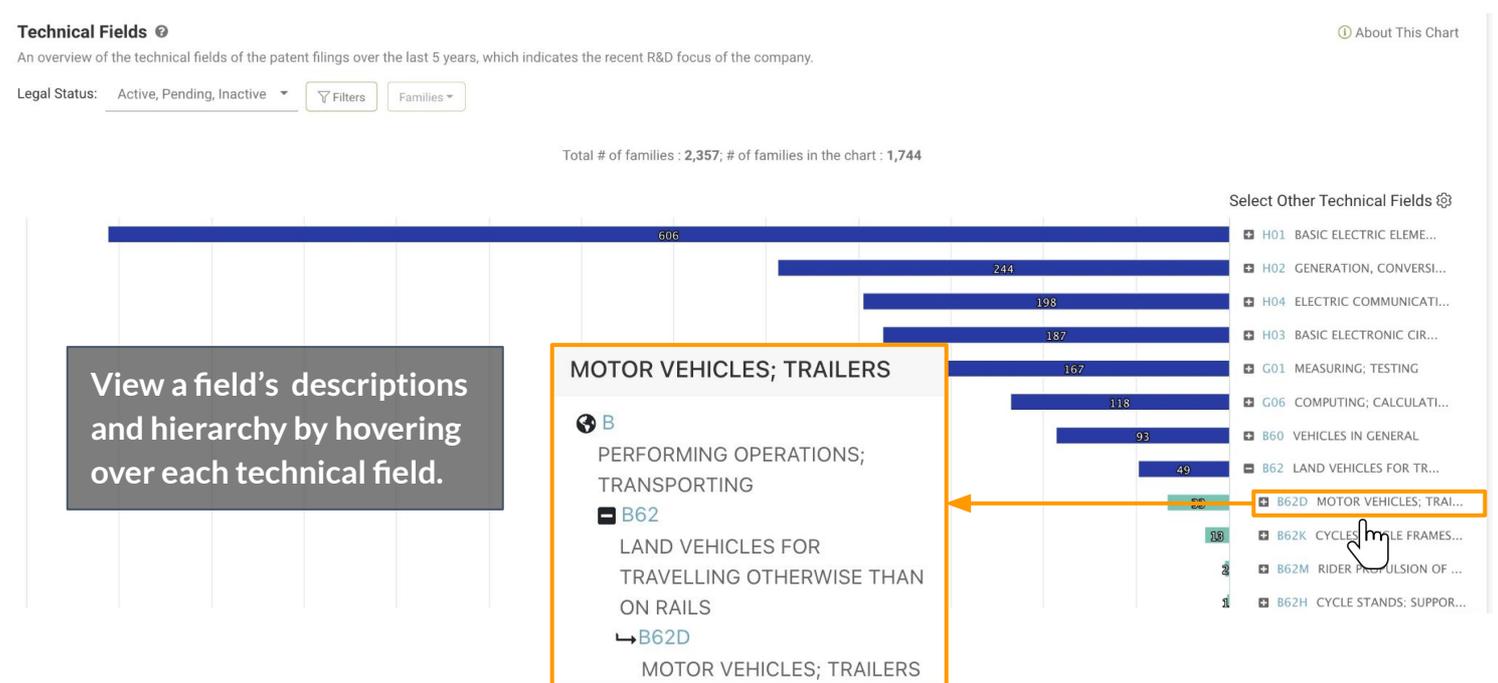
Summary

View the top three technical fields and the corresponding number of patents for each field in the summary section. The technical fields are determined according to the International Patent Classification (IPC) assigned by the patent offices.



Technical Fields

Gain an overview of the technical fields (IPC) of the patent filings in the past 5 years, which indicates the recent R&D focus of the portfolio or company.



*Note: The technical classification is NOT applicable to design patents.

Technical Fields

Expand the technical fields in this chart can to view the hierarchy and subgroups. Click on the [+] icon next to the field names to expand each category.

You can also click “Select Other Technical Fields” to customize the analysis scope in this chart to up to 10 IPC classes a time.

Technical Fields ⓘ About This Chart

An overview of the technical fields of the patent filings over the last 5 years, which indicates the recent R&D focus of the company.

Legal Status: Active, Pending, Inactive ▾ Filters Families ▾

Total # of families : 2,357; # of families in the chart : 1,744

Select Data ✕

International Patent Classification

10 Selected Items [Clear](#)

Search 🔍

- 1. H01 BASIC ELECTRIC ELEMENTS (606)
- 2. H02 GENERATION, CONVERSION, OR DISTRIBUTION OF ELECTRIC POWER (244)
- 3. H04 ELECTRIC COMMUNICATION TECHNIQUE (197)
- 4. H03 BASIC ELECTRONIC CIRCUITRY (187)
- 5. G01 MEASURING; TESTING (166)
- 6. G06 COMPUTING; CALCULATING; COUNTING (120)
- 7. B60 VEHICLES IN GENERAL (93)
- 8. B62 LAND VEHICLES FOR TRAVELLING OTHERWISE THAN ON RAILS (49)
- 9. A61 MEDICAL OR VETERINARY SCIENCE; HYGIENE (44)
- 10. H05 ELECTRIC TECHNIQUES NOT OTHERWISE PROVIDED FOR (39)
- 11. G05 CONTROLLING; REGULATING (38)
- 12. G11 INFORMATION STORAGE (38)
- 13. E04 BUILDING (28)
- 14. G08 SIGNALLING (27)
- 15. F16 ENGINEERING ELEMENTS OR UNITS; GENERAL MEASURES FOR PRODUCING AND MAINTAININ... (23)

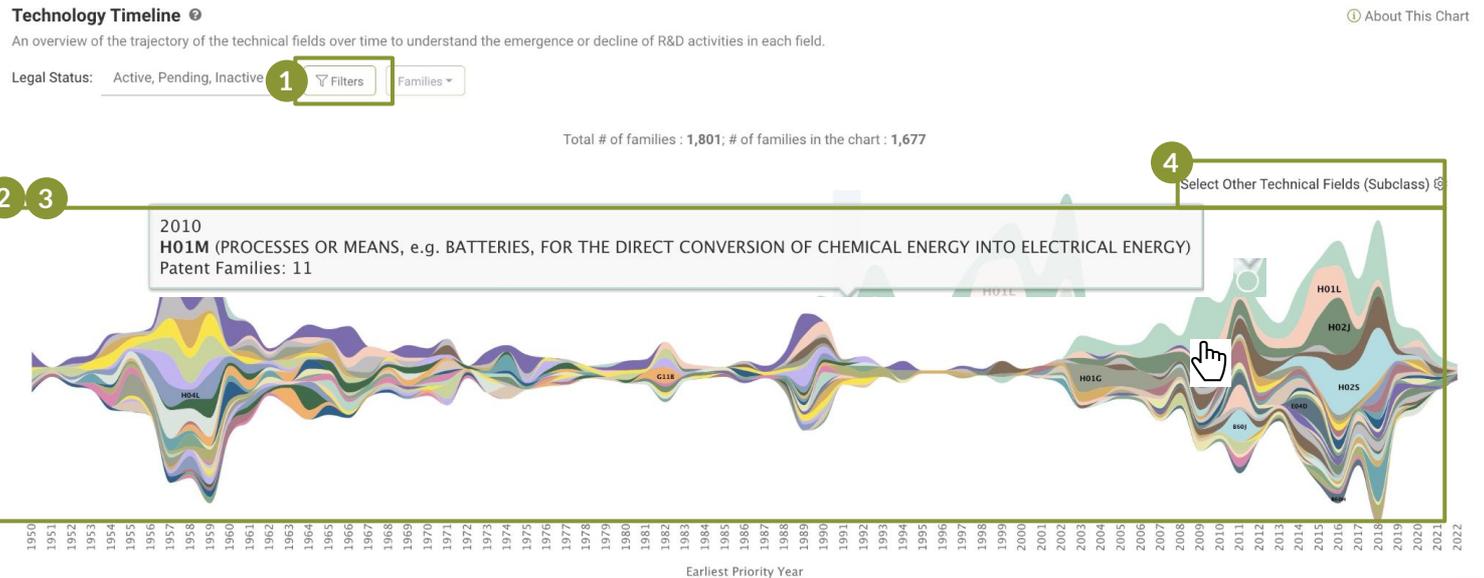
Cancel Submit

Select Other Technical Fields ⓘ

Note: The technical classification is NOT applicable to design patents.

Technology Timeline

This chart shows the chronological distribution of patent filings in each technical field by earliest priority year. You can examine how the patent holder's innovation portfolio evolves over time.



- 1 Click "Filter" to re-define the scope of the chart by Country, Legal Status, or Patent Type.
- 2 Hover over each color block to check the patent filings and their technical field distribution for a specific year.
- 3 Click on a color block to check the corresponding patent list for a specific technical field within a particular filing year.
- 4 Click here to redefine the IPC levels in the chart: Class, Subclass, Group, and Subgroup and the IPC categories shown in the chart.

Select Data ×

IPC Level: ▼ Class

Subclass

Group

Subgroup

50 Selected Select: Top_5 Top_10

Search 🔍

- 1. H01 BASIC ELECTRIC ELEMENTS (606)
- 2. H02 GENERATION, CONVERSION, OR DISTRIBUTION OF ELECTRIC POWER (244)
- 3. H04 ELECTRIC COMMUNICATION TECHNIQUE (197)
- 4. H03 BASIC ELECTRONIC CIRCUITRY (187)
- 5. G01 MEASURING; TESTING (166)
- 6. G06 COMPUTING; CALCULATING; COUNTING (120)

*Note 1: The technology timeline only works when the patent portfolio corresponds to a specific applicant, since the patent filings by a single applicant in each technical field can reflect its R&D focus, year-by-year.

*Note 2: The technical classification is NOT applicable to design patents.

Find the patents with co-owners, co-applicants, or rights transferred to different owners. Pinpoint the patents that may encounter future enforcement limitations.

Summary

See how many patents are co-owned/co-applications and the top current assignees and main applicants in the portfolio.

Coverage and Status Technologies **Owner/Inventor/Applicant** Historical Highlights Quality and Value Quality Highlights Value Highlights

Summary:

Co-ownerships

124 (2.669%)

It's better to keep an eye on the validity of these patents and the potential limitations of future implementation.

Co-applications

247 (5.316%)

It's better to keep an eye on the validity of these patents and the potential limitations of future implementation.

Main curr. assignee

TESLA INC	2,420 (52.088%)
TESLA NP	1,016 (21.868%)
TESLA KONCERNOVY PODNIK	135 (2.906%)

Main applicant

TESLA INC	1,905 (41.003%)
TESLA NP	1,017 (21.89%)
SOLARCITY CORP	237 (5.101%)

Co-Ownerships and Co-Applicants

The chart shows the percentage of patents in the portfolio with **two or more** current assignees to indicate a co-ownership issue.

Co-Ownerships and Co-Applicants
Potential limitations for future enforcement.

Legal Status: Active, Pending, Inactive Filters Applications ▾

Applications
 Families

Use the dropdown menu to choose whether to view the donut charts below by Applications or Families.

Total # of Applications: 4,635, # of applications in the chart: 272

Co-Owned Patents

2.654%

123 Applications

Co-Applications

5.264%

244 Applications

Co-Ownerships and Co-Applicants

Click on the green portion of each donut chart to access the list of the patents that are co-owned/co-applications. The list will appear at the bottom of the page.

Total # of applications : 4,635; # of applications in the chart : 272

Co-Owned Patents



Co-Applications



Click the gray portion of chart to pull up the list of solely-owned patents or individual patent applications.

Click on the numbers in the Assignee (Std) column to see all current assignees or applicants/assignees (in their standardized names) for the specific patent/application.

Data Selected 244 Applications; 206 Families

#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	Curr. Assignee
181	CA3115784A1	SYSTEMS AND METHODS F...	Pending	2020-04-16	2019-10-10	TESLA INC 4	TESLA INC
182	US20210261897A1	BIOREACTOR FOR RNA IN VI...	Exam.	2021-08-26	2019-06-28	CUREVAC GMBH	CUREVAC GMBH 2
183	KR102273379B1	체성분 측정방법	Active	2021-06-30	2020-10-23	TESLARBIOLAB CO LTD	TESLARBIOLAB CO LTD 2
184	CA3130097A1	ESTIMATING OBJECT PROP...	Pending	2020-08-27	2020-02-07	TESLA INC 4	TESLA INC 4
185	CA3129725A1	AUTONOMOUS AND USER C...	Pending	2020-08-20	2020-02-07	CHEN PAUL 19	CHEN PAUL 19
186	CA3155208A1	ENHANCED TECHNIQUES F...	Pending	2021-05-20	2020-11-10	SAYED AYESHA (NO STD) 5	SAYED AYESHA (NO STD) 5
187	GB2594686A	MRI apparatus	Pending	2021-11-10	2020-02-28	TESLA DYNAMIC COILS BV 3	TESLA DYNAMIC COILS BV

Co-Ownerships and Co-Applicants

Definition of "Co-Owned"

A patent or application with two or more current assignees, not including those historically co-owned.

How the percentage (%) is calculated in the Co-Ownerships and Co-Applicants chart:

By Applications

$$\% = \frac{\text{The number of applications with } >1 \text{ Current Assignee}}{\text{The number of applications found with a Current Assignee}}$$

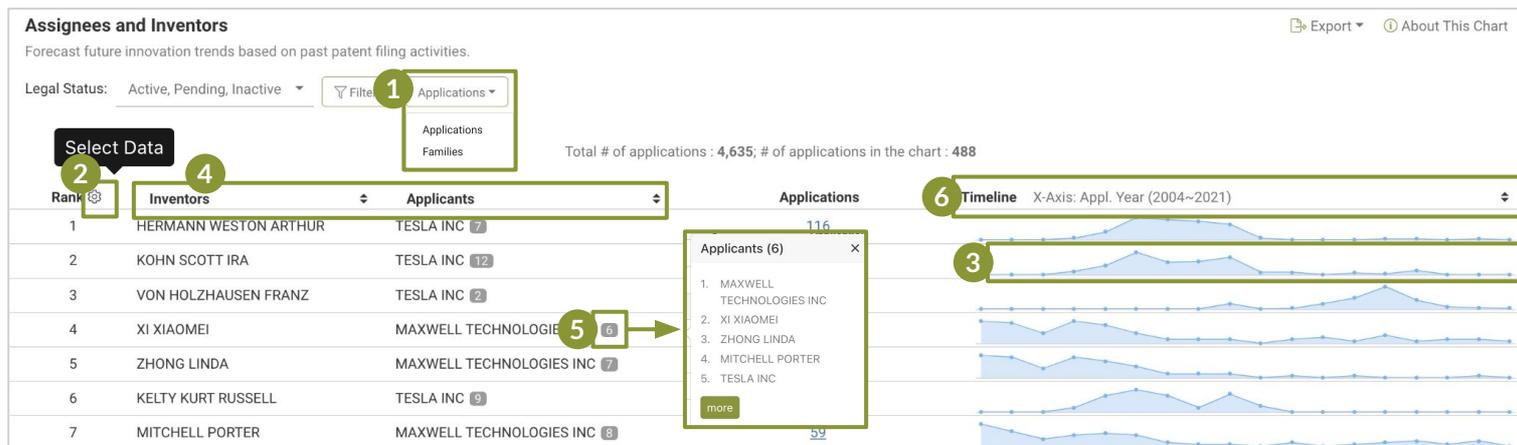
By Families

$$\% = \frac{\text{The number of families with applications having } >1 \text{ Current Assignee}}{\text{The number of families with applications found with a Current Assignee}}$$

The formula is the same for Co-Applicants, except that the "Current Assignee" field is changed to "Assignee."

Assignees and Inventors

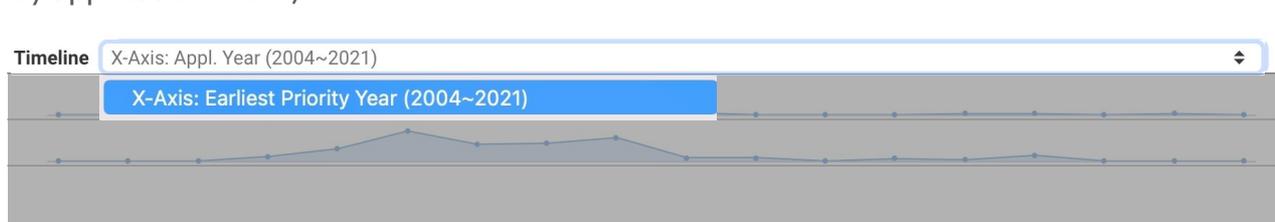
View the the assignees (along with their ultimate parent companies) and inventors with the priority date of the patents with this chart.



- 1 Select whether you want to view the chart by applications or families. When set as “Applications,” the X-axis is set as the application year by default. When set as “Families,” the X-axis is set as the earliest priority year.
- 2 Select the data you want to display in this chart. Check the top inventors, applicants, or the ultimate parents of the portfolio.
- 3 Examine the activity of each inventor or applicant by application date or the earliest priority date. Unusual patterns may reflect an inventor’s job-hopping activities. You can use *Patent Search* to further identify the inventor's applications.
- 4 Click to switch between inventors, applicants, and ultimate parents viewed in this chart.



- 5 Hover over a number to find all applicants/assignees (in their standardized names).
- 6 Click to change the X-Axis by application year or by earliest priority year. (Only applicable for the ‘by application’ view.)



*Ultimate Parent: The parent company of the entire corporate group to which the applicant or the current assignee belongs.

Current Patent Owners

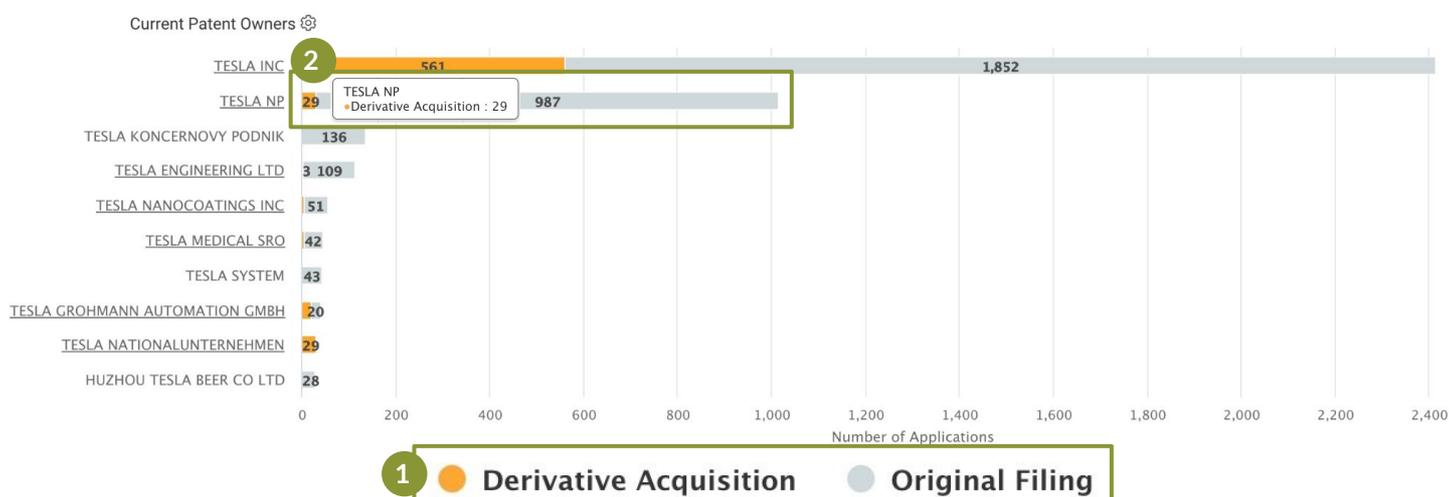
This chart identifies the current owners of the patents in the portfolio and whether the patents were filed by the patent owners or acquired from third parties.

This chart also shows the original assignees/applicants (and their ultimate parent companies) of patents with reassignment records (those acquired from 3rd parties).

Derivative acquisition: patents acquired from parties other than the current assignee through patent transfer. The patent applicant ≠ the patent’s current assignee.

Original filing: patents filed and not transferred by their current owners. The patent applicant = the patent’s current assignee.

Total # of applications : 4,635; # of applications in the chart : 3,923



1 Click on the dots on the bottom of the chart to select to view either Derivative Acquisitions, Original Filings, or both types in the chart.

2 Click the different colored portions of the bar (“Derivative acquisitions” as an example here) to see the corresponding patent list, including information on the original assignees.

Data Selected 29 Applications; 29 Families

#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	Curr. Assignee
1	CA888932A	CIRCUIT ARRANGEMENT...	Expired	1971-12-21		TESLA NP 2	TESLA NP
2	CA878130A	METHOD OF AND DEVIC...	Expired	1971-08-10		TESLA NP 6	TESLA NP
3	CA811577A	MECHANISM FOR ROTAT...	Expired	1969-04-29		TESLA NP 2	TESLA NP
4	CA808309A	REACTANCE CROSS MO...	Expired	1969-03-11		TESLA NP 2	TESLA NP

*Note: The sum of the patents from the original assignee chart may not equal the number of patents with derivative acquisitions if there are patents with multiple original assignees.

For more about Current Owner data, please see the [Appendix page](#).

Identify the patents in the portfolio that were purchased, licensed, pledged, or involved in legal disputes.

Summary

Get an overview of the number of patents with historical events at a glance.

- Coverage and Status
- Technologies
- Owner/Inventor/Applicant
- Historical Highlights**
- Quality and Value
- Quality Highlights
- Value Highlights

Summary:

Discover if there any purchased patents, licensed patents, pledged patents, or patents involved in the legal disputes in the patent portfolio.

<p>Transferred</p> <p>602 (34.878%)</p> <p>The United States or China patents have transfer records.</p> <p>The reasons behind the transfer may include a sale, gift, inheritance of patents, or allocation of patent assets within a group of companies.</p>	<p>Licensed</p> <p>7 (0.406%)</p> <p>The United States or China patents are—or have been—licensed.</p> <p>A licensed patent means that its value is recognized. However, the practicing rights may be limited and should be watched closely. The licensed patents are limited to those with patent office registrations.</p>	<p>Pledged</p> <p>311 (18.019%)</p> <p>The United States or China patents have pledge records.</p> <p>For a pledged patent, any of its existing encumbrances should be duly noted.</p>	<p>Litigated</p> <p>3 (0.223%)</p> <p>The United States patents have been infringed or invalidated in various jurisdictions.</p> <p>Please note that the decision of validity and claim scope will not be reflected in Patentcloud's legal status. You can further check the litigation dockets to confirm the current status of the litigated patents.</p>
---	--	--	---

Transacted Patents (US and CN patents only)

The chart shows the US and CN patents in the portfolio that have been transferred, licensed, or pledged. The data is collected from the assignment database of authority, i.e., the Patent Office.

Transacted Patents (US and CN Patents Only)

The value of these patents has been recognized; However, the practicing rights may be limited and should be watched closely.

About This Chart

Legal Status: Active, Pending, Inactive

Filters

Applications

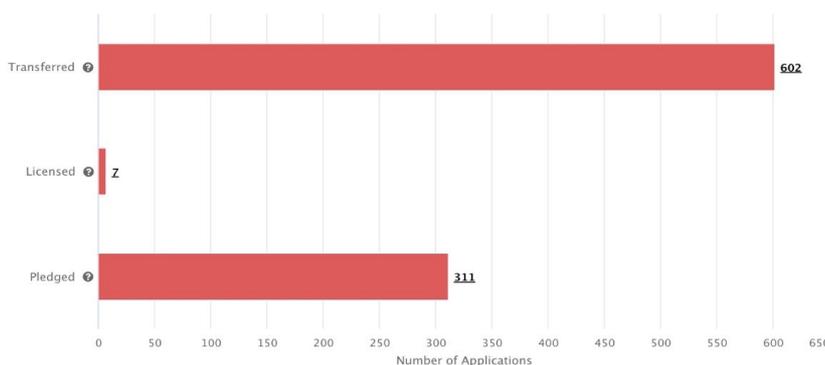
Applications

Families

Total # of applications : 1,724; # of applications in the chart : 835

48.434% COMPOSITION

Transacted Patents



Transactions may imply market recognition of value. However, transactions may also suggest potential limitations in future transactions or enforcement.

Transacted Patents (US and CN patents only)

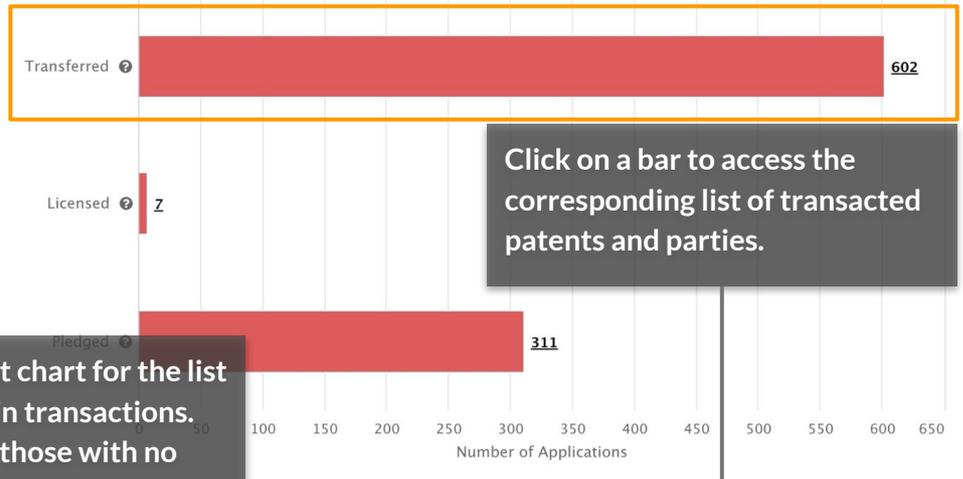
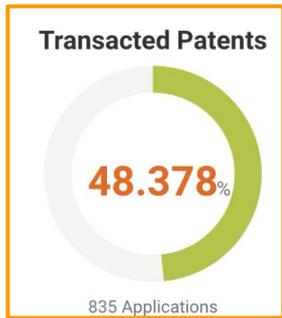
The bar chart on the right shows the number of patents that were transferred, licensed, or used as collateral.

A few notes about this chart:

- The assignment records from the inventors to their companies have been excluded from the calculation of transferred patents.
- The licensed patents are limited to those with patent office registrations, which does not cover most licensing deals.

Total # of applications : 1,726; # of applications in the chart : 835

48.378 % COMPOSITION

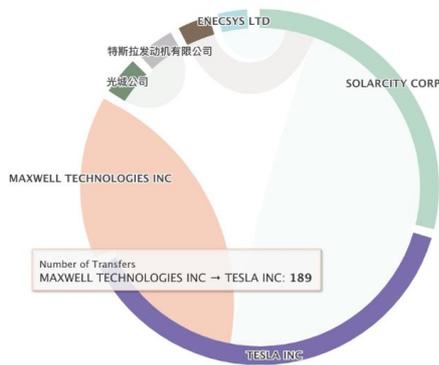


Click the green portion on the donut chart for the list of patents that have been involved in transactions. Click the gray portion for the list of those with no related histories.

Click on a bar to access the corresponding list of transacted patents and parties.

Transacted Patents / Transferred (518) ◀ Back

Total # of applications : 602; # of applications in the chart : 602



Select Data

Click here to select which assignors/assignees to view in the chart on the left.

Main Events — Assignment

Assignor	Assignee	Count
SOLARCITY CORP	TESLA INC	297
MAXWELL TECHNOLOGIES INC	TESLA INC	189
光城公司	特斯拉发动机有限公司	43
ZEP SOLAR LLC	SOLARCITY CORP	37
ENECSYS LTD	SOLARCITY CORP	34
SUNFLOWER ACQUISITION LLC	SILEVO LLC	19

Assignor / Assignee

5 Selected Items [Clear](#) Select: [Top 5](#) [Top 10](#)

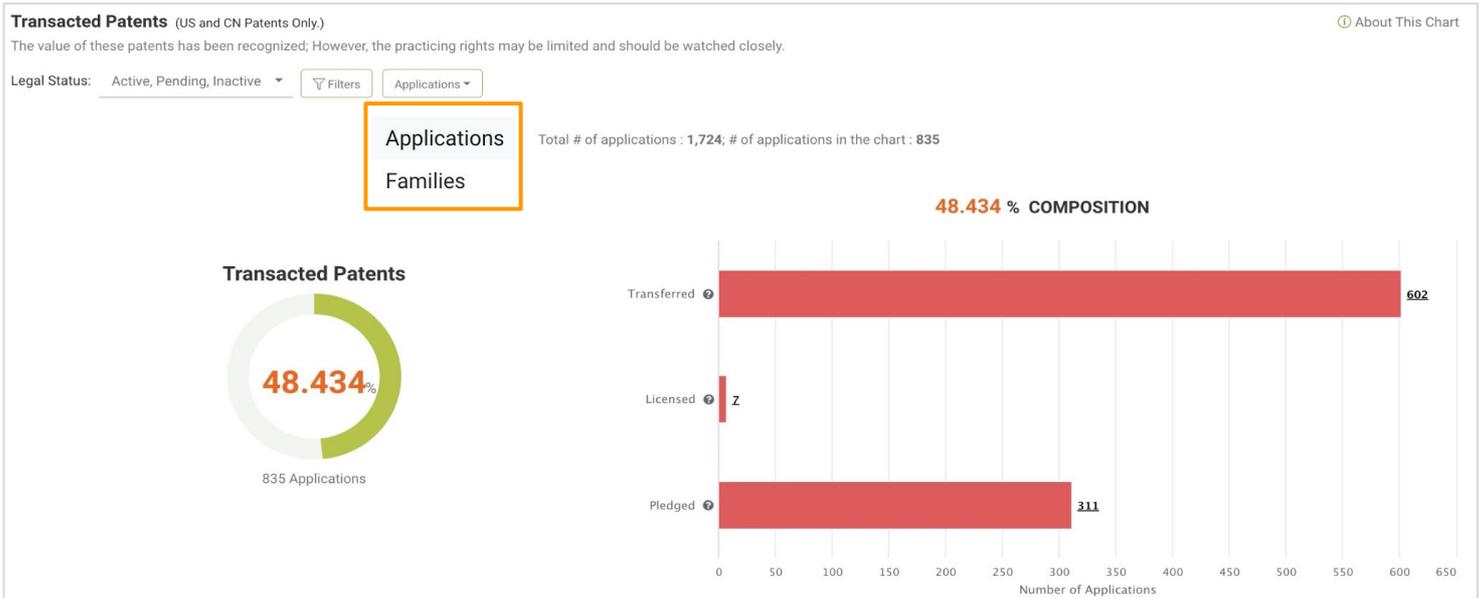
Search

Data Selected 602 Applications; 397 Families

#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	Curr. Assignee
1	US4464336A	Method of sterilization	Expired	1984-08-07	1982-11-29	USHIO INC	USHIO INC 2
2	US4462097A	Dynamic vibration absorber f...	Lapsed	1984-07-24	1982-10-29	TESLA KONCERNOVY PODNIK	TESLA KONCERNOVY PODNIK
3	US4578805A	Transmission line transmitti...	Lapsed	1986-03-25	1984-10-10	MAXWELL LABORATORIES INC	TESLA INC

Transacted Patents (US and CN patents only)

How the numbers are counted and percentage (%) is calculated in the Transacted Patents chart:



By Applications

- The numbers in the bar chart on the right are determined according to the number of applications with transfer/license/pledge records.
- The percentage (%) seen in the donut chart on the left is calculated as follows:

$$\% = \frac{\text{The number of applications with **transaction** records}}{\text{The total number of applications}}$$

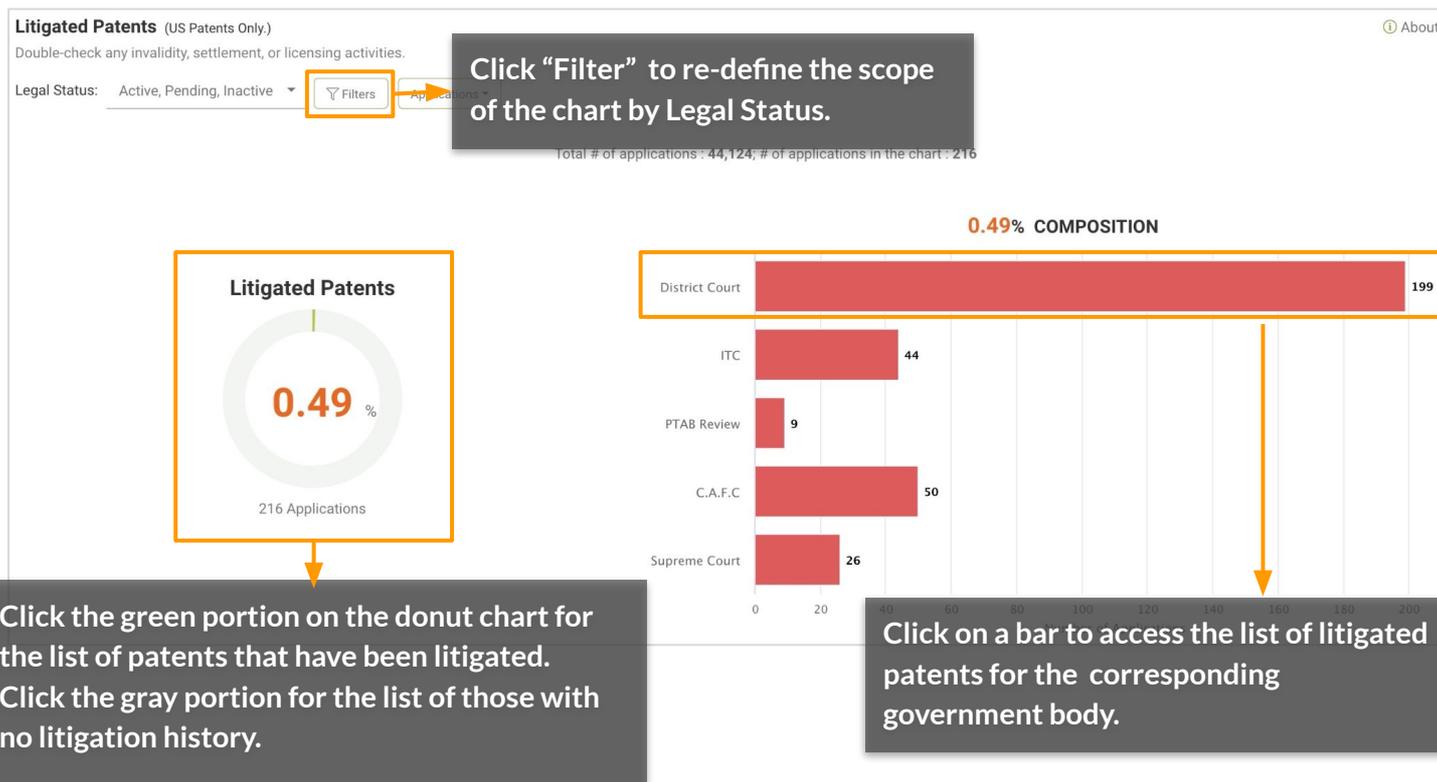
By Families

- The numbers in the bar chart on the right are determined according to the number of families with applications having transfer/license/pledge records
- The percentage (%) seen in the donut chart on the left is calculated as follows:

$$\% = \frac{\text{The number of families with applications having **transaction** records}}{\text{The total number of families}}$$

Litigated Patents (US patents only)

The chart provides information on patent families with U.S. patents that have been involved in litigations and the corresponding jurisdiction.



The percentage in the donut chart on the left is calculated as follows:

$$\% = \frac{\text{The number of litigated U.S. patents in the portfolio}}{\text{The total number of U.S. patents in the portfolio}}$$

The percentage is calculated similarly for families, except that the "number of U.S. patent families" is used instead.

Gain a macro view of the portfolio's quality and value, and benchmark against the top patent owners in the technical field.

First, what are Patentcloud's Patent Quality and Value Rankings?

Patent Quality Rankings

The Quality Ranking indicator indicates the relative eventuality of prior art references being found for a patent, which can threaten its validity.

The indicator considers the following factors (based on pre-grant information):

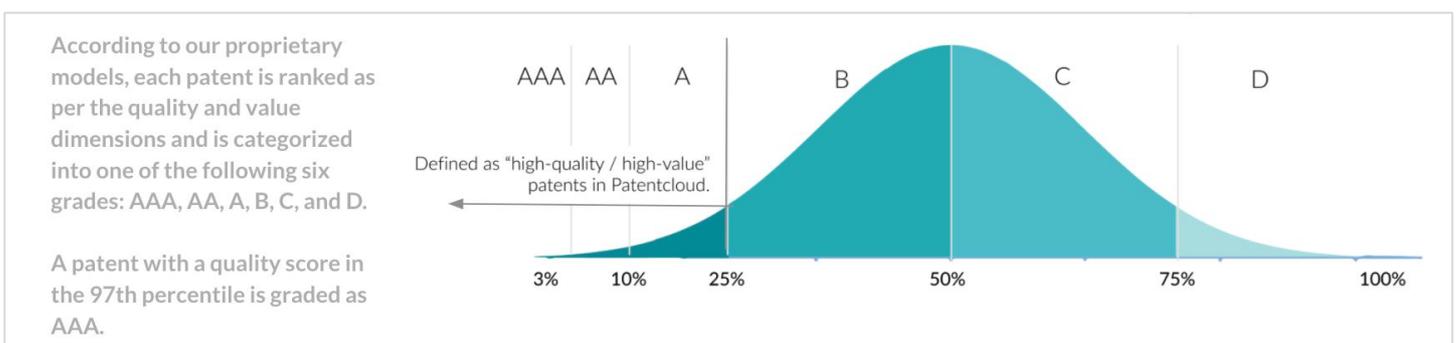
- Qualifications and profile of the attorneys and the examiners
- Potential prior art references
- Structure of independent and dependent claims

Patent Value Rankings

The Value Ranking indicator reflects the relative tendency of a patent to be practiced or monetized after its issuance.

The indicator considers the following factors (based on pre-grant information):

- Qualification and profile of the inventors and applicants
- Stage of technology lifecycle
- Citations
- Pre-grant transactions



Patents in the top 25% of the Quality / Value Rankings are considered high-quality or high-value patents.

*Note: Patent Quality and Value Rankings do not apply to design patents.

Read more in the [Patent Quality and Value Rankings](#) white paper.

Validating the Patent Quality and Value Rankings

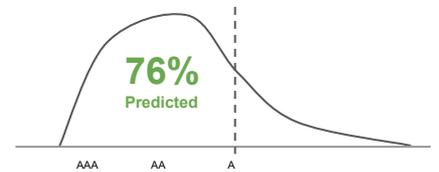
To continuously track the significance of the correlation between the models and the events they are trying to predict, we built two monitoring systems—one for patent infringement cases to validate value, the other for abandoned USPTO patents to validate quality.

Validating Value Rankings – Patent infringement cases

We used 88,340 U.S. patents involved in **infringement cases** since 2000 to validate the value model.

While not knowing that these patents are involved in infringement cases, the Patent Value Ranking model rates 76.62% of these patents as those with an above A value ranking, proving the model’s ability to predict potential monetization activities.

Total amount	>A	AAA	AA	A	B	C	D	p-value
88,340	76.62%	27.30%	24.91%	23.41%	15.33%	6.43%	2.61%	<0.001



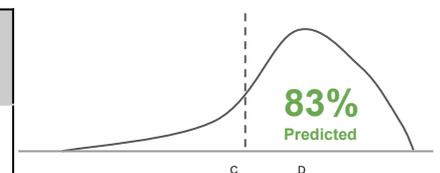
Note: Infringement case data was collected between 2000-01-01 ~ 2023-01-06

Validating Quality Rankings – Abandoned USPTO patent applications

We used 1,701,228 U.S. patent applications abandoned during prosecution since 2001 to validate the quality model.

While not knowing that these applications were abandoned, the Patent Quality Ranking model rates 83.68% of these patents as those with a below C quality ranking, proving the model’s ability to predict potential abandonment and invalidity events.

AAA	AA	A	B	C	D	<C	p-value
0.22%	0.98%	3.68%	11.45%	22.58%	61.10%	83.68%	<0.001



Note: Data for U.S. patent applications abandoned during prosecution was collected between 2001-03-15 ~ 2023-01-06

Read more in our [Patent Quality and Value Rankings](#) white paper.

Summary

See how many active and pending patents are in the portfolio and the percentage of high-value patents. Quickly find the top technical field with high-value patents.

- Coverage and Status
- Technologies
- Owner/Inventor/Applicant
- Historical Highlights
- Quality and Value**
- Quality Highlights
- Value Highlights

Summary:

Of the **871** patent families, **1,709** patents are active or pending in major countries, of which **739 (43 %)** are high-value patents.

These high-value patents are more likely to generate value through commercialization, litigation, and transactions.

For prioritizing a patent transaction or implementation, you can analyze how many high-value patents are there, the quality of the high-value patents, and analyze the coverage of the high-value patent families.

The technical fields of the high-value patents.

PROCESSES OR MEANS, e.g. BATTERIES, FOR THE DIRECT CONVERSION OF CHEMICAL ENERGY INTO ELECTRICAL ENERGY

↑ The proportion of high-value patents is higher than the average in the same field;

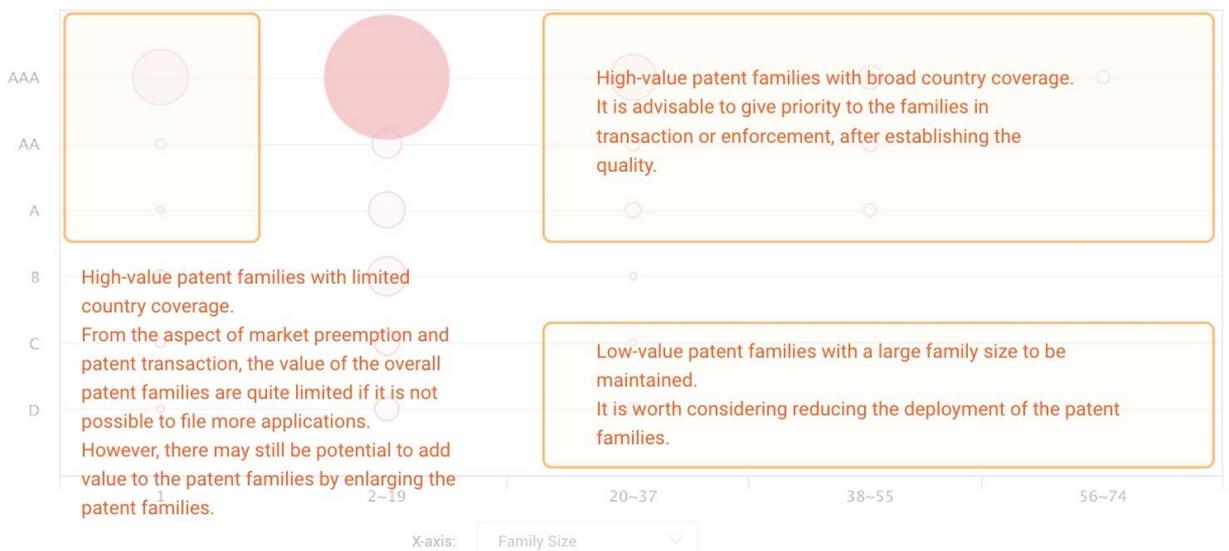
The technical fields of the high-value patents.

SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES NOT OTHERWISE PROVIDED FOR

↑ The proportion of high-value patents is higher than the average in the same field;

High-Value Patent Families (WIPO, US, CN, EP, JP, KR, TW patents only.)

This chart assesses the proportion of high-value and high-regional coverage patent families in the portfolio. Similarly, it can also reflect the proportion of low-value patent families or patent families with limited regional coverage.



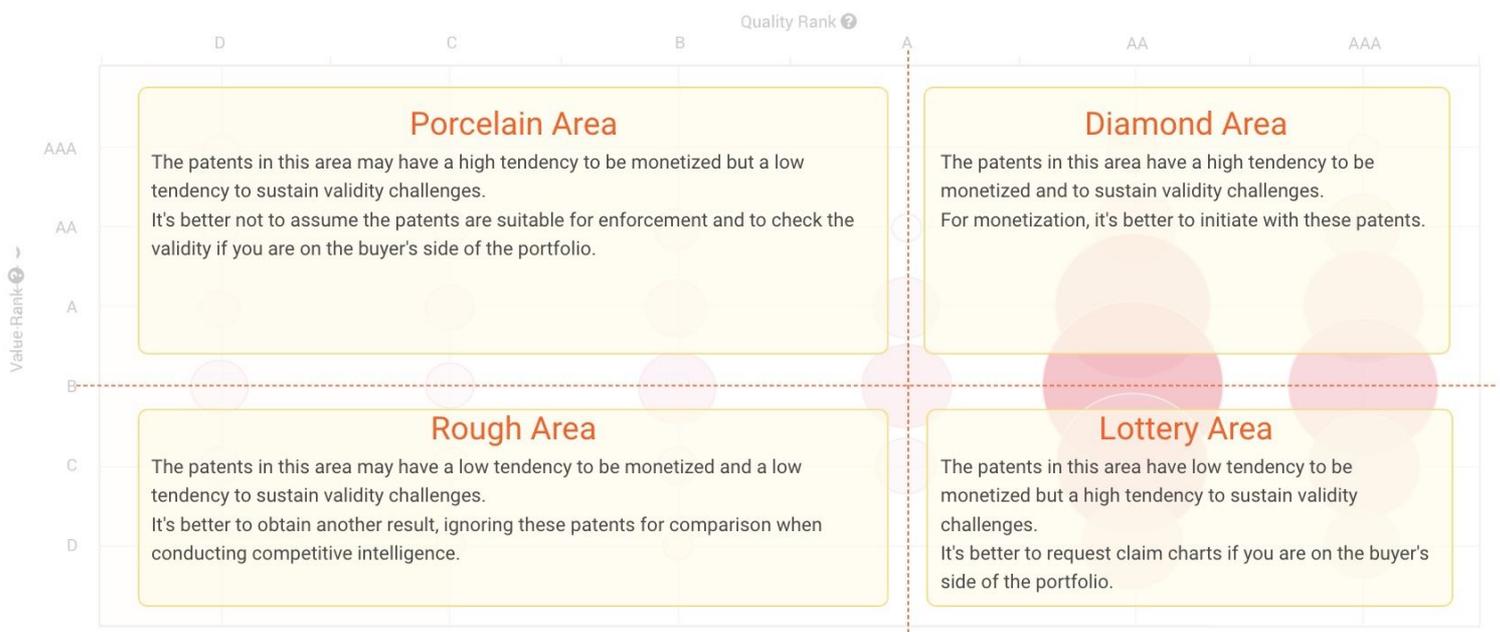
High-Value Patent Families (WIPO, US, CN, EP, JP, KR, TW patents only.)



- 1 Change the Y-axis setting to view the Patent Value Rankings by the highest-ranking or the lowest-ranking.
- 2 Change the X-axis setting to view the Patent Value Rankings either by family size (number of applications) or family coverage (number of countries covered).
- 3 Hover on a circle to view its family size or coverage and the number of patent families. Click on a circle to view the detailed patent list.

Quality of High-Value Patents (WIPO, US, CN, EP, JP, KR, TW patents only.)

The chart provides a cross-comparison of Patent Quality Rankings and Patent Value Rankings. A patent with high value and high quality may imply that the patent has a higher tendency towards being practiced and will be hard to invalidate.



Read more in our [Patent Quality and Value - Debunking the “All Patents Are Created Equal” Myth](#) white paper.

Peer Comparison in the Same Field (WIPO, US, CN, EP, JP, KR, TW patents only.)

Use Patent Quality and Value Rankings to compare the technology fields in the portfolio with those of the top owners' portfolios.

Peer Comparison in the Same Field (WIPO, US, CN, EP, JP, KR, TW Patents Only.)

[About This Chart](#)



- 1 Click to switch to compare either the quality or value.
- 2 Use the dropdown menu on the left to choose from the top technical fields of the portfolio for peer comparison. Peer comparisons can only be conducted under the same technical field (IPC subclass).
- 3 Use the dropdown menu on the right to select who to compare the portfolio to – the overall market or one of the top patent owners in the field.
- 4 Use the Country filter to choose whether to conduct peer comparison in the global or single markets.

Filter ✕

Portfolio ▼

Country

Family Size (# of Appl)

Legal Status

Patent Type

All

US - United States

CN - China

EP - EPO

WO - WIPO

JP - Japan

KR - Korea

TW - Taiwan

Restore Default Settings
Cancel
Submit

Identify potential quality issues in the portfolio through examining applications that did not withstand prosecution or challenges and finding those with novelty, non-obviousness, and indefiniteness issues in their prosecution and PTAB history.

Summary

Get an overview of the numbers and percentage of patents families with abandoned or revoked members and U.S. patents with potential quality issues in their history.

- Coverage and Status
- Technologies
- Owner/Inventor/Applicant
- Historical Highlights
- Quality and Value
- Quality Highlights
- Value Highlights

Summary:

1,786 Patent families

176 (9.854%) of the patent families are more likely to be invalidated.

A low-quality patent family is defined as having a patent family member or members that failed to pass the examination or have been revoked in at least one country. Even if determined as valid, low-quality could also refer to those patents that are easy to invalidate by third-party challenges.

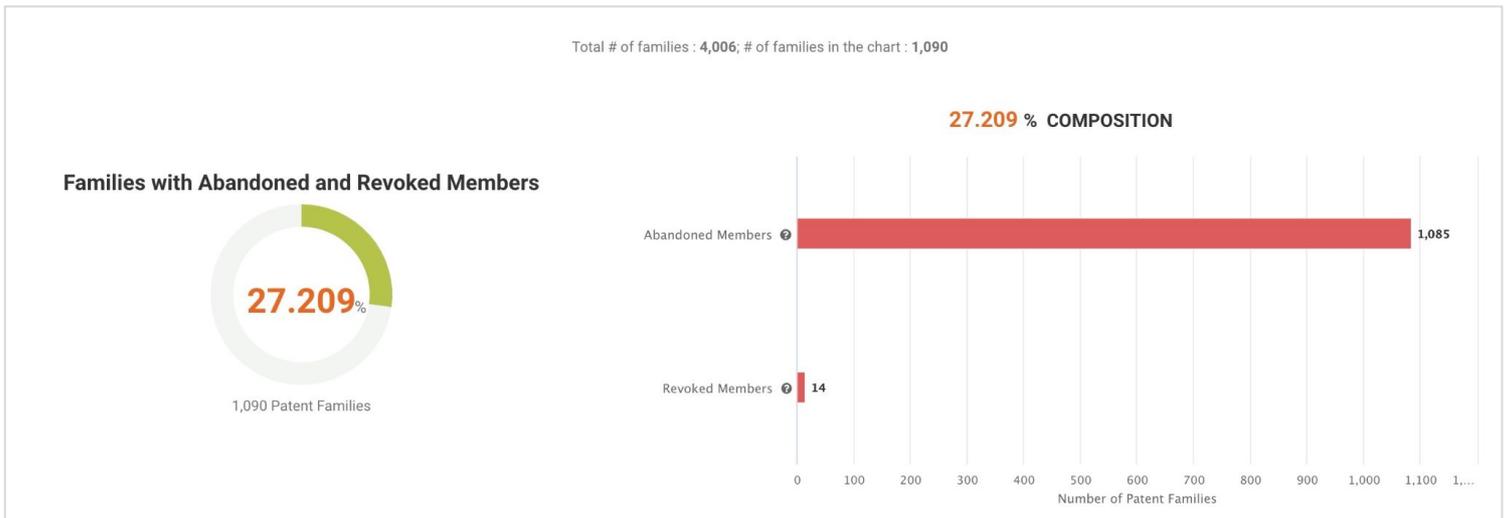
1,121 United States patents

703 (62.712%) of the United States patents have potential quality issues.

United States patents with patent eligibility, novelty, non-obviousness, and indefiniteness issues (35 U.S.C § 101, 102, 103, and 112) in their prosecution history and PTAB history indicate that these patents have quality concerns. A United States patent with quality concerns may also indicate that its patent family has similar quality issues.

Abandoned and Revoked Family Members

This chart identifies the patents with potential quality issues brought on by family members being abandoned during the examination or revoked after being issued, possibly resulting from the inability to overcome prior art references found by the examiner.



Abandoned and Revoked Family Members

Total # of families : 4,006; # of families in the chart : 1,090



- 1 Click on the green portion of the donut chart to access the list of patent families with abandoned or revoked members.
- 2 To find the families without quality issues, click on the gray portion of the donut chart to access the corresponding patent list.

Definitions:

- **Abandoned Members:** inactive patents that failed to overcome rejections and were abandoned during prosecution.
- **Revoked Members:** inactive patents that failed to overcome post-grant challenges and were revoked after issuance.

- The percentage (%) seen in the donut chart on the left is calculated as follows:

$$\% = \frac{\text{The number of families with abandoned or revoked members}}{\text{The total number of families in the portfolio}}$$

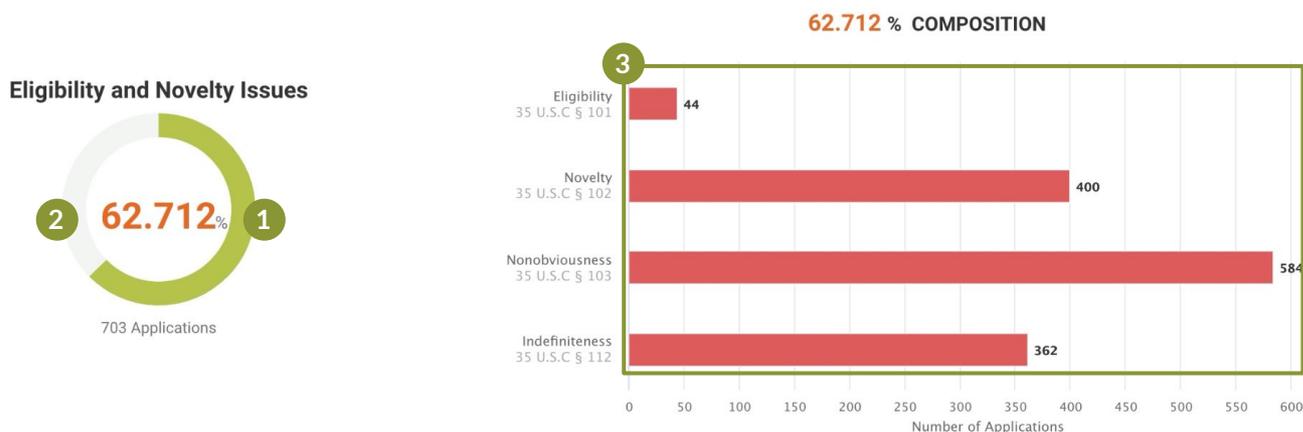
*This chart covers patents in countries with available [legal status data](#) (excluding WO), including: US, CN, JP, EP, KR, DE, GB, CA, FR, AU, ES, RU, AT, BR, MX, IT, BE, SE, CH, NL, NO, DK, FI, PL, IL, HU, CZ, GR, NZ, PT, and HK.

For more details on Patentcloud's U.S. Patent File Wrapper Collection, please visit the [Timely Data Completeness](#) page.

Eligibility and Novelty Issues (US patents only)

The chart provides information on the U.S. patents with eligibility, novelty, obviousness, and indefiniteness issues in their prosecution and PTAB history. A quality issue for a U.S. patent may reflect a similar quality concern for its patent family.

Total # of applications : 1,121; # of applications in the chart : 703



- 1 Click on the green portion of the donut chart to access the list of U.S. patent families with quality issues in their histories.
- 2 To find the families/applications without immediate quality issues based on their history, click on the gray portion of the donut chart to access the corresponding patent list.
- 3 Click on any bar in the bar chart on the right to view the patent list for each specific issue.

The percentage (%) seen in the donut chart on the left is calculated as follows:

$$\% = \frac{\text{the number of U.S. patents found with eligibility, novelty, non-obviousness, or indefiniteness issues}}{\text{The total number U.S. patents in the portfolio}}$$

Data Selected 418 Applications; 351 Families

#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	Curr. Assignee
331	US20210351742A1	EXTERNAL ELECTRICAL CO...	Exam.	2021-11-11	2021-07-21	TESLA INC	TESLA INC
332	US20220158585A1	COLORED PHOTOVOLTAIC R...	Pending	2022-05-19	2021-11-10	TESLA INC	TESLA INC
333	US20220166726A1	QOS MANAGER FOR SYSTE...	Pending	2022-05-26	2021-12-03	TESLA INC	TESLA INC
334	US11242463B2	Self-stratifying coatings	Active	2022-02-08	2021-05-28	TESLA NANOCOATINGS INC	TESLA NANOCOATINGS INC
335	US20220089128A1	PULSED LASER CLEANING ...	Exam.	2022-03-24	2021-09-02	TESLA INC	TESLA INC
336	US20220097580A1	VEHICLE SEAT WITH INTEG...	Exam.	2022-03-31	2021-08-09	TESLA INC	TESLA INC

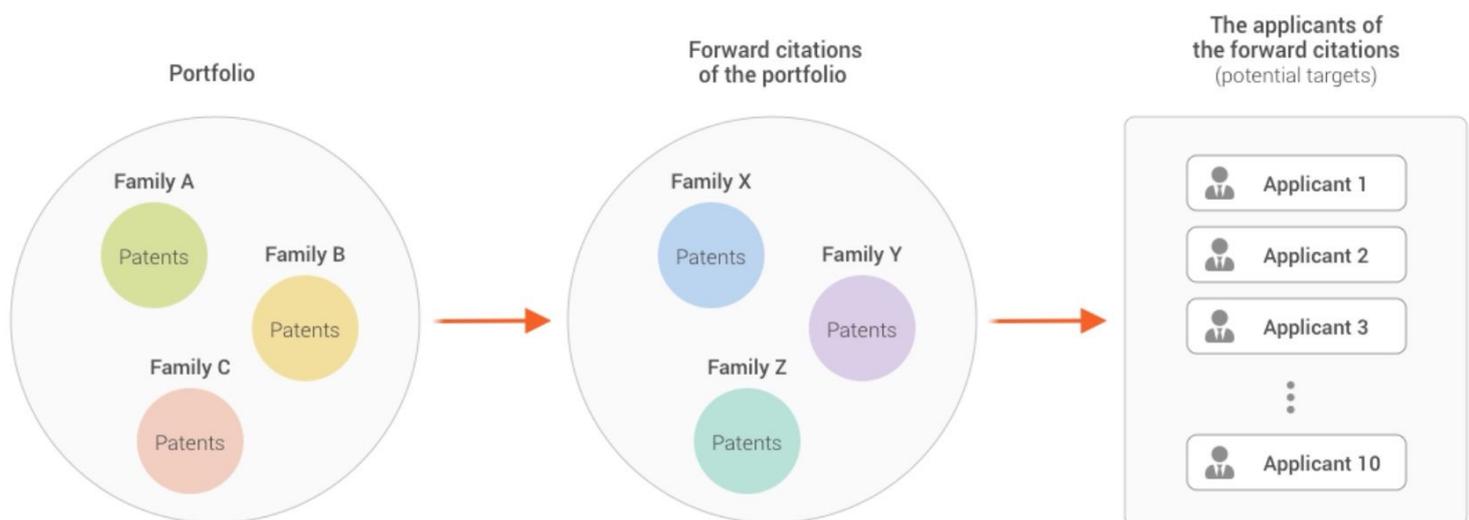
*Patentcloud's [Quality Insights](#) provides more in-depth prior art search tools and analyses.

Identify the potential monetization targets of the patent portfolio according to novelty or non-obviousness citation information.

Examine the potential targets through portfolio size, filing dates, and technology followers.

Potential targets are defined as the applicants of the portfolio's forward novelty or non-obviousness citations. These applicants have invested in the same or similar inventions.

It is worth considering whether they are practicing entities or not, what their scale is, and what their corresponding market share is.



Summary

See the top 3 potential targets and their number of patent families that cited the patents in the portfolio.

Summary:

The potential monetization targets (claimable objects) of the patent portfolio are identified as below.

Potential targets of the portfolio

SOLARCITY CORP

26 patent families

cite(s) this patent portfolio.

Potential targets of the portfolio

TESLA INC

26 patent families

cite(s) this patent portfolio.

Potential targets of the portfolio

ROBERT BOSCH GMBH

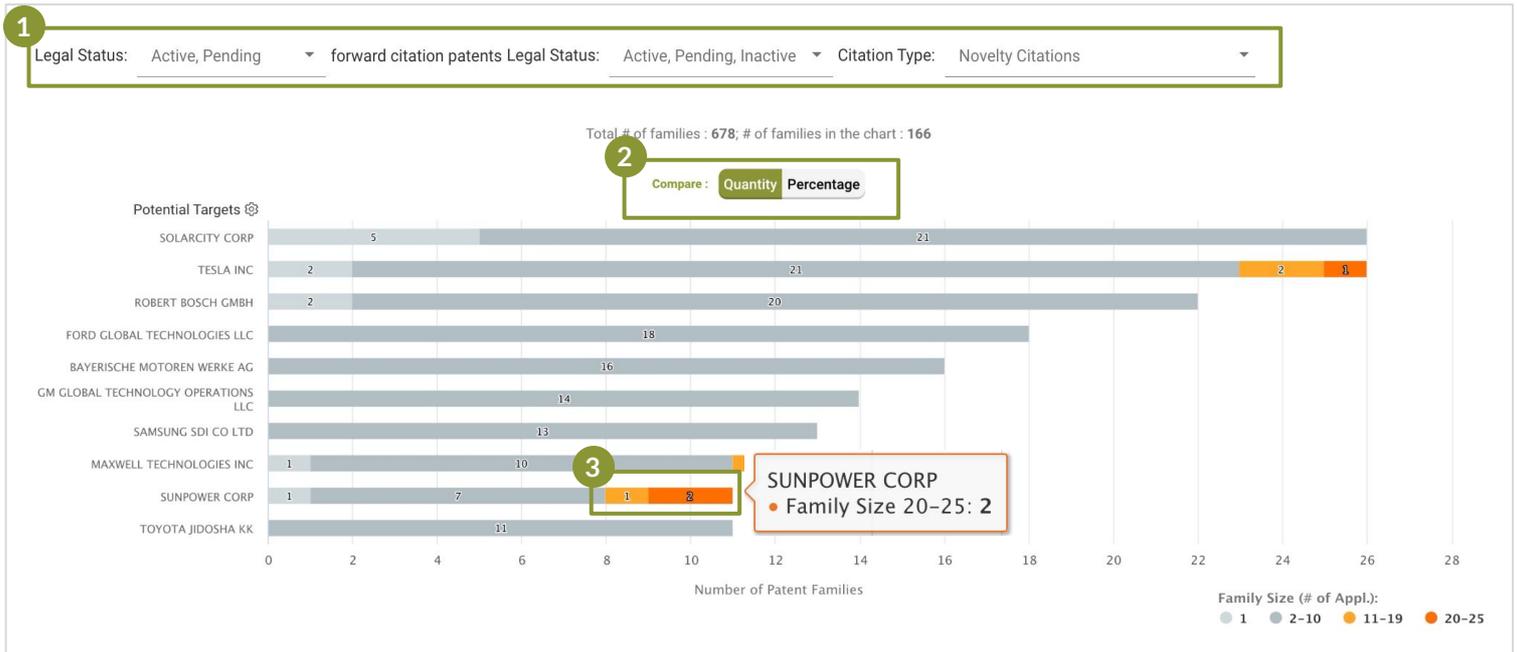
22 patent families

cite(s) this patent portfolio.

Potential Targets of the Portfolio (Novelty/non-obviousness citations: US, CN, EP, and WO patents only.)

The chart displays the size of the patent families that cited patents in this portfolio.

The size of the patent families that cited the patents in this portfolio may reflect the possibility of the potential target commercializing relevant inventions or interest in the portfolio.



1 Use the dropdown menus to filter the information you want to view.

Legal Status: Active, Pending forward citation patents Legal Status: Active, Pending, Inactive Citation Type: Novelty Citations Filters Families

Select All
 Active
 Pending
 Inactive
 Submit

Select All
 Active
 Pending
 Inactive
 Submit

Novelty Citations
 Novelty or Non-obviousness Citations
 All Applicant and Examiner Citations

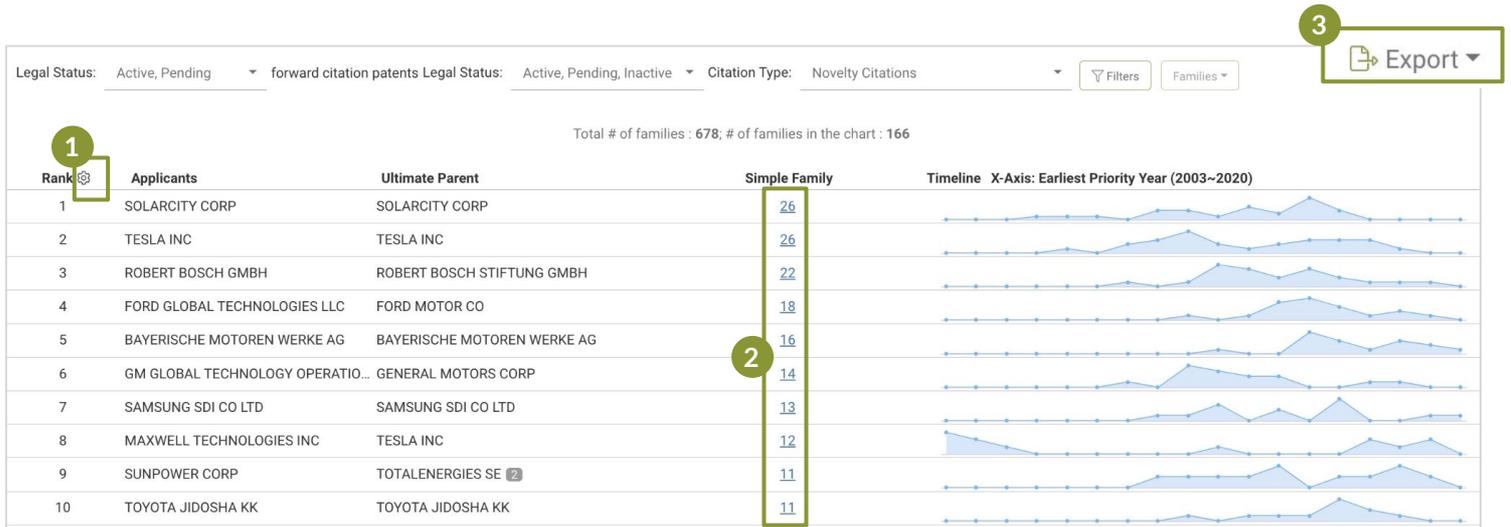
2 You can view the chart by quantity or percentage.

3 If a potential target filed more than ten forward citations, it may attach much more importance to the inventions and the tendency to adopt them into their products should be relatively high.

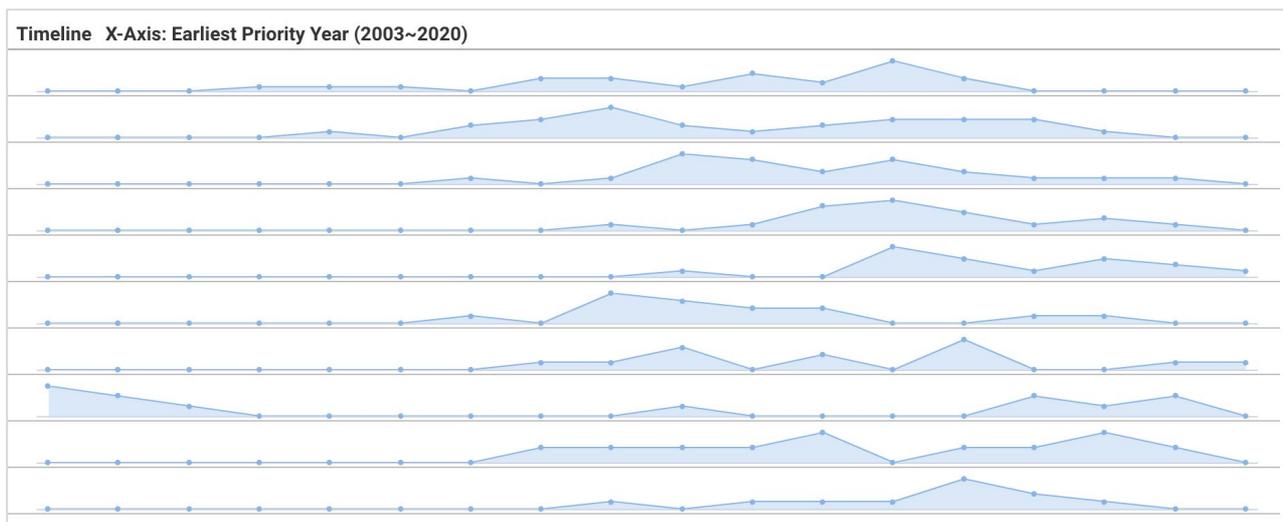
Filing Dates of Potential Targets in the Relevant Art

(Novelty/non-obviousness citations: US, CN, EP, and WO patents only.)

The chart reflects the estimated likelihood of the potential targets practicing the patents based on the continuity of patent filings in recent years.



- 1 Select up to 10 applicants to be shown in this chart.
- 2 Click on any number to view the corresponding list of patents.
- 3 Export the full potential target list (.xlsx file).

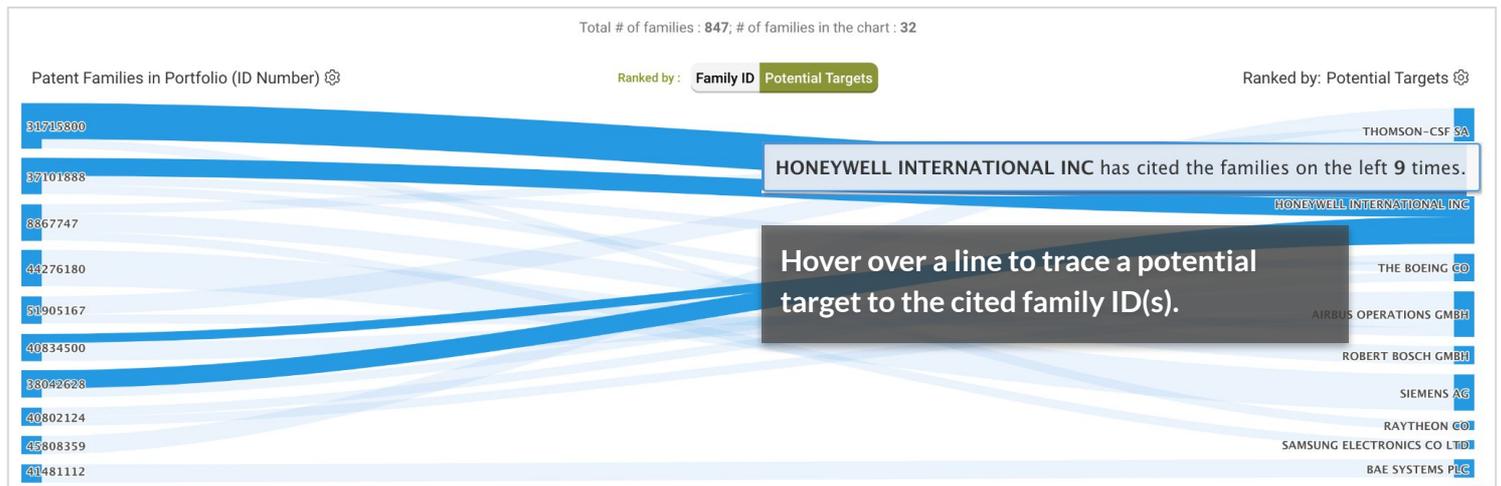
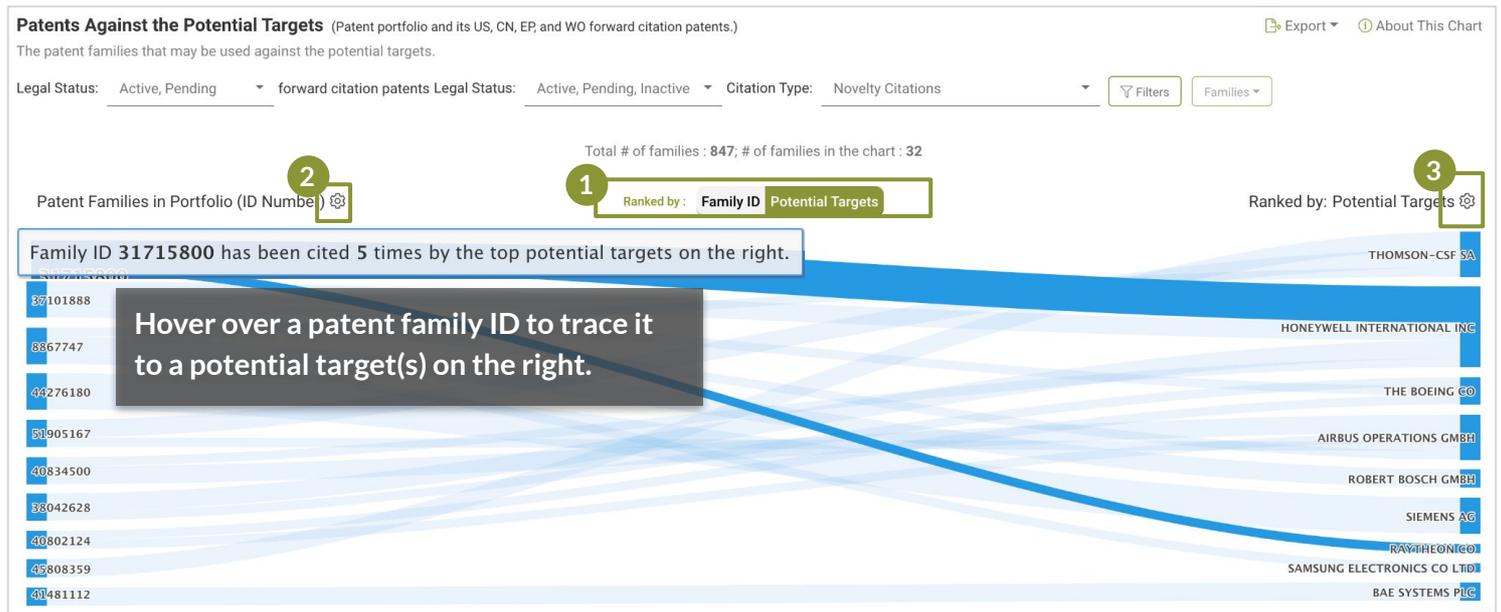


Whether the applicants are continuously filing relevant patents is an important indicator. As practicing entities, the obvious continuity of patent filing in recent years may indicate a higher possibility that the applicants are practicing these relevant patents.

Patents Against the Potential Targets

(Patent portfolio and its US, CN, EP, and WO forward citation patents.)

This chart highlights the patent families in the portfolio that may be used against the potential targets. From a licensing and enforcement perspective, you can further filter the results by country coverage.



- 1 The Family ID and Potential Targets buttons allow you to switch between the different views. When viewing the chart using “**Family ID**,” the chart lists the top 10 families (ID) with the most cited patents on the left. The potential targets on the right are the main applicants who have cited the corresponding patent family on the left. When viewing the chart using “**Top Potential Targets**,” the potential targets that cited the families are listed on the right. The top 10 patent families (ID) cited are listed on the left.
- 2 Select as many as ten patent families (ID Number) to view in this chart.
- 3 Click to select as many as ten potential targets to view in this chart.

Managing Your Findings

- Import a portfolio from *Patent Vault*
- Download a *Due Diligence* Report
- Save a *Due Diligence* Report to *Patent Vault*
- Export Patent Lists
- Access Past *Due Diligence* Reports

DD Patentcloud Due Diligence

Patent No. Party **Patent Vault** History History-Company Report Demo Report

Search

Project Name	Owner	Date Created	Date Modified	Access	Action
1 SEP-Collaborate	Karen Lee	2022-05-11 11:20	2022-05-11 11:22	Manager	Select
2 Patentcloud Demo		2021-06-08 11:02	2022-02-23 14:52	Manager	Select
3 Demo	Karen Lee	2021-11-03 15:00	2022-02-22 18:03	Manager	Select



DD Patentcloud Due Diligence

Select Folder

You can only select folders with less than 50,000 patents

Search

- All Patents (187,865)
 - Tesla (17785)

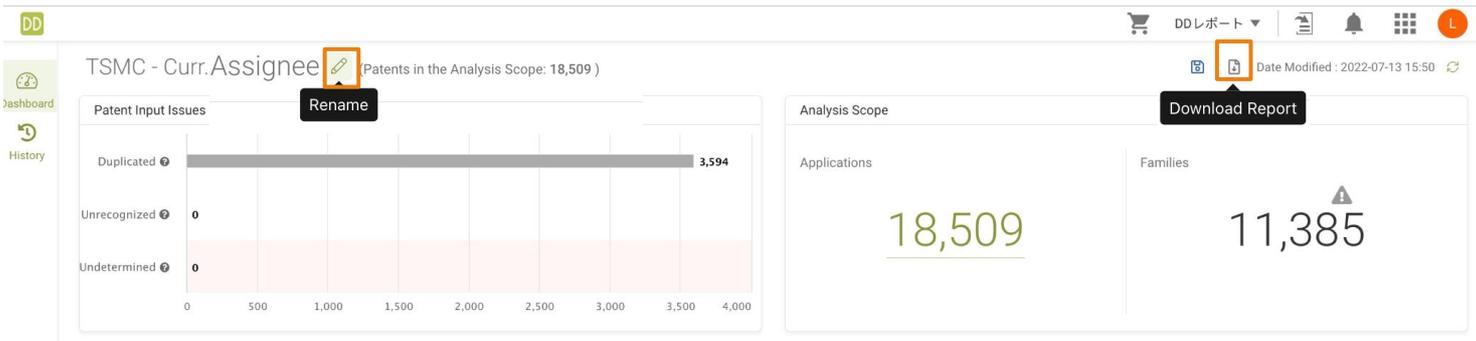
Include subfolder

Confirm

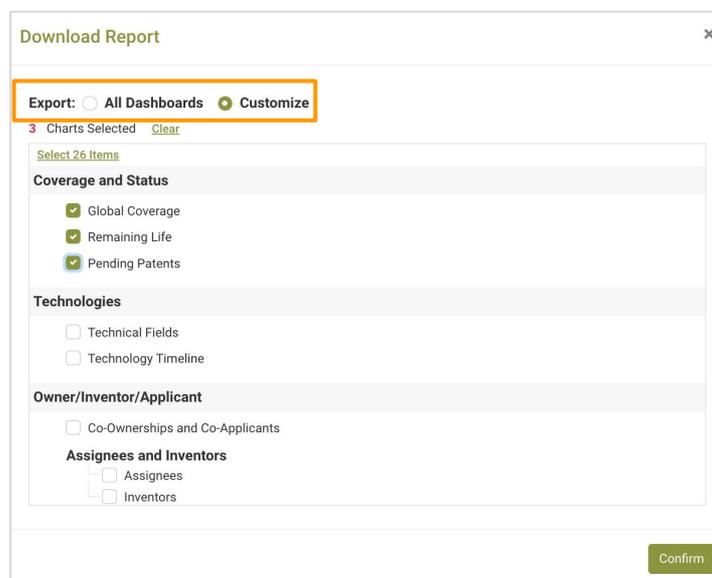
Project Name	Owner	Date Created	Date Modified	Access	Action
1 SEP-Collaborate					Select
2 Patentcloud Demo		2021-06-08 11:02	2022-02-23 14:52	Manager	Select
3 Demo	Karen Lee	2021-11-03 15:00	2022-02-22 18:03	Manager	Select

Download a *Due Diligence* Report

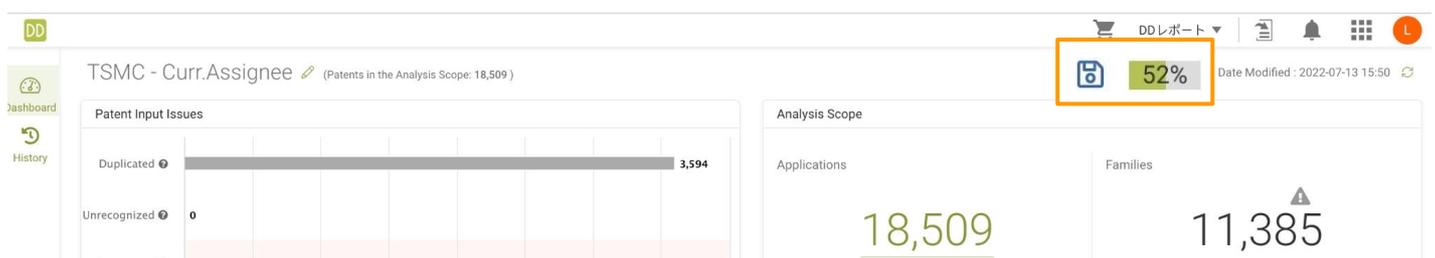
Save your *Due Diligence* report as a PDF file including its appendices by clicking the “Download Report” icon on the upper right. You can rename this report by clicking the pencil icon on the upper left.



You can choose to download the full report by selecting All Dashboards or customize your selection of dashboards.

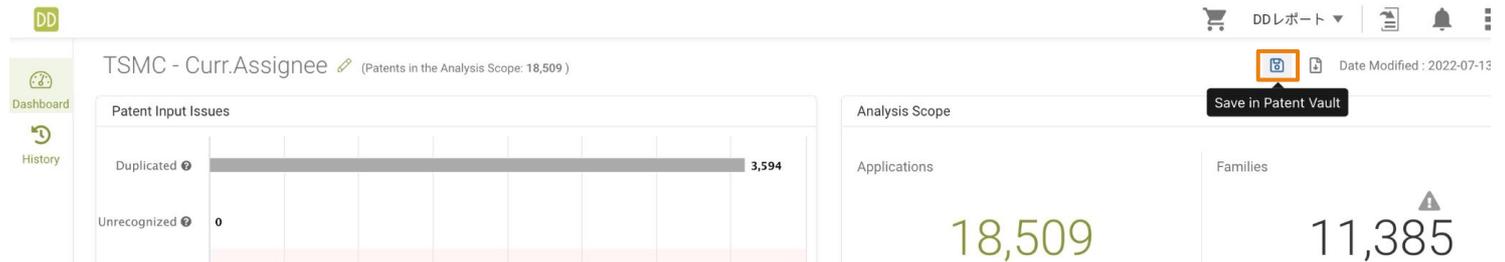


Once you click “Confirm,” a progress bar will appear to replace the Download Report icon.



Share your findings with your team by saving your *Due Diligence* report to *Patent Vault*.

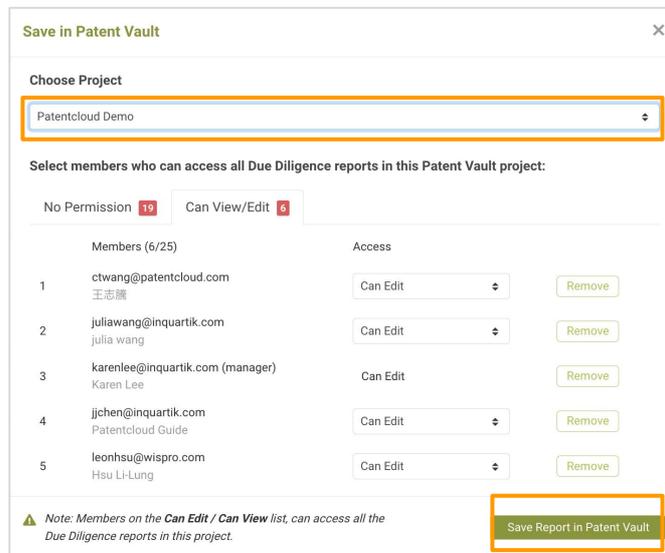
1. Click the “Save in Patent Vault” icon



The screenshot shows the 'TSMC - Curr.Assignee' dashboard. On the right side, there is a 'Save in Patent Vault' button highlighted with an orange box. The dashboard also displays 'Patent Input Issues' (Duplicated: 3,594, Unrecognized: 0) and 'Analysis Scope' (Applications: 18,509, Families: 11,385).

2. Select the target *Patent Vault* project and set the access settings

3. Save

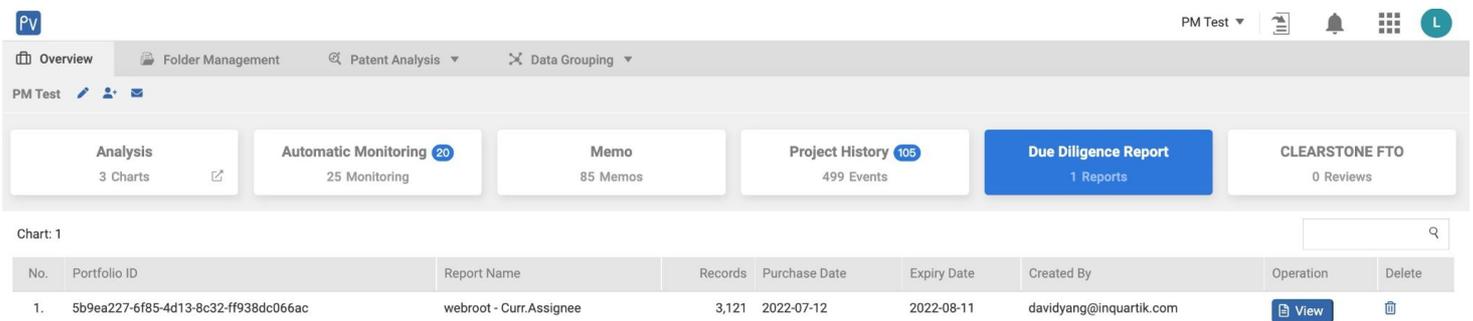


The 'Save in Patent Vault' dialog box shows the 'Choose Project' dropdown set to 'Patentcloud Demo'. Below, it lists members and their access levels. A 'Save Report in Patent Vault' button is highlighted with an orange box at the bottom right.

Members (6/25)	Access	Action
1. ctwang@patentcloud.com 王志騰	Can Edit	Remove
2. juliawang@in quartik.com julia wang	Can Edit	Remove
3. karenlee@in quartik.com (manager) Karen Lee	Can Edit	Remove
4. jjchen@in quartik.com Patentcloud Guide	Can Edit	Remove
5. leonhsu@wispro.com Hsu LH-Lung	Can Edit	Remove

Note: Members on the **Can Edit / Can View** list, can access all the *Due Diligence* reports in this project.

In *Patent Vault*, project members can access the *Due Diligence* reports they have access to.



The screenshot shows the 'Patent Vault' interface. A 'Due Diligence Report' button is highlighted with a blue box. Below it, a table lists reports:

No.	Portfolio ID	Report Name	Records	Purchase Date	Expiry Date	Created By	Operation	Delete
1.	5b9ea227-6f85-4d13-8c32-f938dc066ac	webroot - Curr.Assignee	3,121	2022-07-12	2022-08-11	davidyang@in quartik.com	View	

Export Patent Lists as Excel Files

Click on “Export Excel” to download the current list of patents. The download will start automatically.

Data Selected 424 Applications; 424 Families

#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	
1	TWI765591B	半導體元件及其製造方法	Active	2022-05-21	2021-03-03	TAIWAN SEMICONDUCTOR MA...	TAIWAN SEMICONDUCTOR MA...
2	US8932955B1	Triple patterning NAND fl...	Active	2015-01-13	2013-09-04	SANDISK TECHNOLOGIES INC	TAIWAN SEMICONDUCTOR MA...
3	US8806386B2	Customized patterning m...	Active	2014-08-12	2009-11-25	TAIWAN SEMICONDUCTOR MA...	TAIWAN SEMICONDUCTOR MA...
4	US9146469B2	Middle layer composition...	Active	2015-09-29	2013-08-29	TAIWAN SEMICONDUCTOR MA...	TAIWAN SEMICONDUCTOR MA...
5	US10063606B2	Systems and methods fo...	Active	2018-08-28	2015-03-31	TAIWAN SEMICONDUCTOR MA...	TAIWAN SEMICONDUCTOR MA...
6	US8334213B2	Bottom electrode etching...	Active	2012-12-18	2009-06-05	MAGIC TECHNOLOGIES INC	TAIWAN SEMICONDUCTOR MA...

Export Excel

Access Past *Due Diligence* Reports

History

Access your past *Due Diligence* reports using the “History” tab.



Patent No. Party Patent Vault **History** History-Company Report Demo Report

Temporary Lists Analysis Results **9** Saved in Patent Vault **2**

Analysis Results

<input type="checkbox"/>	Portfolio ID	Report Name	Number of Patents	Import from	Purchase Date	Expiry Date	Action
<input type="checkbox"/>	20220725-18335-0007	sharp - Curr.Assignee	18,335	PARTY	2022-07-25 16:54	2022-08-25 16:54	View
<input type="checkbox"/>	20220725-117830-0006	TSMC - Curr.Assignee	117,830	PARTY	2022-07-25 16:41	2022-08-25 16:41	View
<input checked="" type="checkbox"/>	20220714-06258-0003	Tesla - Curr.Assignee	6,258	PARTY	2022-07-14 13:49	2022-08-14 13:49	View

More Tools for Working With Patents –

Managing Patent Data, Patent Validity Check

Manage Your Patent Data – Patent Vault



Do more with Patent Vault

Directly import selected patents into [Patent Vault](#) for more operations, such as:

- Saving patent portfolios into customizable folders for clearer organization.
- Conducting patent analysis with the PatentMatrix Dashboard.
- Sharing *Due Diligence* reports with your colleagues.

Simply click on any number or point from within the charts to bring up the patent list, select the patents that you need and click “Save to Patent Vault” at the top left corner of the pop-up window.

You can customize the folder structure by year, company, or any other categorization type you require.

Likewise, you can import any folder in your *Patent Vault* project to conduct a *Due Diligence* analysis.

Data Selected		3,366 Applications; 2,780 Families							Add to Patent Vault	
#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)				
31	US20020028685A1	Method and apparatus fo...	PGPub - Granted	2002-03-07	2001-01-30	SEO MASAYOSHI 2			SHARP CORP	
32	US20020059584A1	Audiovisual management...	PGPub - Granted	2002-05-16	2001-03-30	FERMAN AHMET MUFIT 3			SHARP CORP	
33	US20020025792A1	AGC amplifier circuit for ...	PGPub - Granted	2002-02-28	2001-08-07	ISODA HIROSHI			SHARP CORP	
34	US20030043912A1	Method and apparatus fo...	PGPub - Granted	2003-03-06	2001-08-23	SHARP LABORATORIES OF AM...			SHARP CORP	
35	US20020039393A1	Broadcast signal receivin...	PGPub - Granted	2002-04-04	2001-08-02	SHIBATA AKIRA 3			SHARP CORP	
36	US20030053136A1	Method for rendering an i...	PGPub - Granted	2003-03-20	2001-09-17	CHANG CHING-WEI			SHARP CORP	
37	US20020009289A1	Information compressing...	PGPub - Granted	2002-01-24	2001-07-20	MORISHITA TAICHIRO 3			SHARP CORP	

Select Folder

Select Project

illumina

Select Folder Add Folder

Patent list (10,937/200,000)

- Co-own Patents (743)
- illumina Patents (8,810)
- 產品線與技術分類 (0)
- Solexa Patents (867)

Folder Note (Optional)

Cancel Confirm

Check patent details

Want to view a patent's details?

Click on a patent number in any of *Due Diligence's* patent lists to instantly access the [Patent Page](#) for full text, claims, simple/extended family, citations, event histories, and the original document.

Litigation and SEP information is also available if the patent is involved or declared.

Data Selected 980 Applications; 699 Families

#	Patent No.	Title	Legal Status	Issue/Pub. Date	Appl. Date	Assignee (Std)	Curr. Assignee
1	US7055228B2	Device for mounting sealing ...	Active	2006-06-06	2002-07-02	GROHMANN ENGINEERING GMBH	TESLA GROHMANN AUTOMATION ...
2	US7228925B2	Electrical systems for electri...	Active	2007-06-12	2003-04-25	TESLA CAPITAL LLC	TESLA CAPITAL LLC
3	US8389148B2	Separator for cylindrical cells	Active	2013-03-05	2003-11-05	HIBAR SYSTEMS LTD	TESLA INC
4	US6911821B2	Gradient coil structure for m...	Active	2005-06-28	2003-10-08	TESLA ENGINEERING LTD	TESLA ENGINEERING LTD
5	US7145337B2	Coil arrangements	Active	2006-12-05	2003-06-09	TESLA ENGINEERING LTD	TESLA ENGINEERING LTD
6	US7102877B2	Electrode impregnation and ...	Active	2006-09-05	2004-07-28	MAXWELL TECHNOLOGIES INC	TESLA INC
7	US7075397B2	Coil structure for magnetic r...	Active	2006-07-11	2004-03-31	TESLA ENGINEERING LTD	TESLA ENGINEERING LTD

US7551625B2 Active

Quality: D Value: A Risk Rel...

Method of scheduling an uplink packet transmission channel in a mobile communication system

Full Text Simple Family Extended Family Citations History SEP Declarations Litigation Original Document

Abstract (Other language versions are not available.)

A method of scheduling an uplink packet transmission channel in a mobile communication system is disclosed. The method of scheduling includes determining a scope of user equipments (UEs) to be applied to a scheduling assignment for scheduling the uplink packet transmission channel, and transmitting the scheduling assignment to the user equipments included in the determined scope, wherein the scheduling assignment includes an identifier for identifying the scope of the user equipments and scheduling contents for carrying information applicable to the scheduling assignment.

Figure (4)

Specification (Other language versions are not available.)

BACKGROUND OF THE INVENTION

[0001] This application claims the benefit of Korean Application No. P2004-22960, filed on Apr. 2, 2004, which is hereby incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a method of scheduling in wireless packet communication system, and more particularly, to a method of scheduling uplink packets in wireless communication system. Although the present invention is suitable for a wide scope of applications, it is particularly suitable for transmitting scheduling information to specified groups of subscribers or to all subscribers.

[0004]

Check for Validity Issues – Quality Insights



Check for any validity issues in a patent

You can obtain an assessment of a patent's quality using [Quality Insights](#) – a one-click solution to examine a patent's history, claim scope changes, and potential prior art references that can be used to challenge or invalidate the patent.

Simply proceed to *Quality Insights* from a patent's page in *Patent Search* or search for a specific patent on *Quality Insights* main page.

US11139872B2 Active

Quality : AAA Value : A

Codebook subset restriction signaling

Full Text Simple Family History SEP Declarations Litigation Origin

Abstract (Other language versions are not available.)

A network node signals to a wireless communication device which precoders in a codebook are restricted from being used. The network node in this regard generates codebook subset restriction signaling that, for each of one or more groups of precoders, jointly restricts the precoders in the group by restricting a certain component (e.g., a certain beam precoder) that the precoders in the group have in common. This signaling may be for instance rank-agnostic signaling that jointly restricts the precoders in a group without regard to the precoders' tr

Specification (Other language versions are available.)

RELATED APPLICATIONS

RELATED APPLICATIONS

[0001] The present application is a continu

20210106 test

Download Report Save Report

US11139872B2 Active

Codebook subset restriction signaling

Overview History Claim Analysis Claim Insights Family Prior Art Prior Art Finder Semantic Prior Art File Wrapper Search

Litigation Record **Litigated**

Claim Disclosure **Partially Disclosed**

Potential Issue

§112 **Medium** §102 **Low** §103 **High**

Bibliography

Inventor (Std)	FAXÉR SEBASTIAN(SE), JÖNGREN GEORGE(SE), WERNERSSON NIKLAS(SE), FRENNE MATTIAS(SE), JÄRMYR SIMON(SE) [+Inventor]	Earliest Priority	2015-01-14
Issue Date	2021-10-05	Appl. No.	17/168616
Legal Status	Active Last Updated On 2022-03-04	Appl. Date	2021-02-05
Estimated Exp. Date	2036-01-11 . 20 years from filing date 2016-01-11 of PCT/SE2016/050009	Curr. Assignee	TELEFONAKTIEBOLAGET LM ERICSSON PUBL 2022-03-03
		Assignee (Std)	TELEFONAKTIEBOLAGET LM ERICSSON PUBL [+Orig. Assignee]

Patent status

Legal status coverage (65 jurisdictions)

CN, JP, US, EP, KR*, WO*, AE, AM, AP, AT*, AU*, BE*, BG, BR*, BY, CA*, CH, CZ*, DE*, DK*, DZ, EC, EG, EM, ES*, FI*, FR*, GB*, GC, GR*, HK*, HN, HU*, ID, IL*, IN, IT*, KE, MC*, MN, MO, MT, MW, MX*, MY, NL*, NO*, NZ*, OA, PA, PH*, PL*, PT*, RU*, SA, SE*, SG, SM, TH, TJ, TW*, UA, VN, ZM, ZW

- From local patent offices (11)
- * From INPADOC (31)

Assignee Status

Current assignee (24 jurisdictions)

CN, JP, US, EP, WO, AT, AU, BE, BR, CH, DE, ES, FI, FR, GB, HK, HU, IL, MX, NL, NO, NZ, PL, PT, TW

- From local patent offices (5)

How Patentcloud considers Current Owner data

With each different jurisdiction, Current Owner information is collected and determined as follows:

US - Data is collected from the USPTO's assignment database, then consolidated with Original Assignee data for different conveyance types (e.g. transferring, merging, and change of name).

CN - Original Assignee data is collected and consolidated from the CNIPA's legal status database in consideration of transfers, mergers, and change of name events.

JP / TW - Current Assignee data is collected and consolidated from JPO/TIPO.

EP and others - Data is collected from INPADOC events, then consolidated with transfers, mergers, and change of name information.

For more details on Patentcloud's data coverage, legal status, and patent transaction data, please visit the [Timely Data Completeness](#) page.



[Search or Import a Patent Portfolio](#)



[Conduct Basic Analysis of a Patent Portfolio](#)



[Examine the Quality and Value of a Patent Portfolio](#)



Visit our [Help Center](#) for more information!

If you have any more questions, [Contact Us](#) !

Thank You!

If you have any questions, please [contact us!](#)

