



Magnachip Semiconductor Terminated Merger Deal With China's Wise Road Capital

Date of analysis: Jan. 3rd, 2022

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On Dec. 13, 2021, Magnachip Semiconductor and Chinese private equity firm Wise Road Capital announced the termination of their merger deal.

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- Magnachip Semiconductor designs and makes semiconductor platform solutions for a wide array of segments, including communications, consumer, IoT, automotive and industrial applications. According to its official website, Magnachip has operated for over 40 years and owns a portfolio of around 1,200 registered patents and patent applications.
 - Magnachip Semiconductor Corporation (NYSE: MX) announced that the company received permission from the Committee on Foreign Investment in the United States (CFIUS) to withdraw its CFIUS filing regarding the merger with the Chinese private equity firm Wise Road Capital. Magnachip and Wise Road Capital mutually agreed to terminate the merger agreement.
 - According to the Patent Rankings developed by InQuartik, around 18% of Magnachip's patents in some major markets are more likely to be monetized. The potential targets for Magnachip to monetize its patents include Samsung Electronics, Sony, and Qualcomm.

Coverage and Status - Global Coverage

Applications: 7,671

Families: 5,788

Active

2,896 (37.753%)
of them are active and enforceable.

Pending

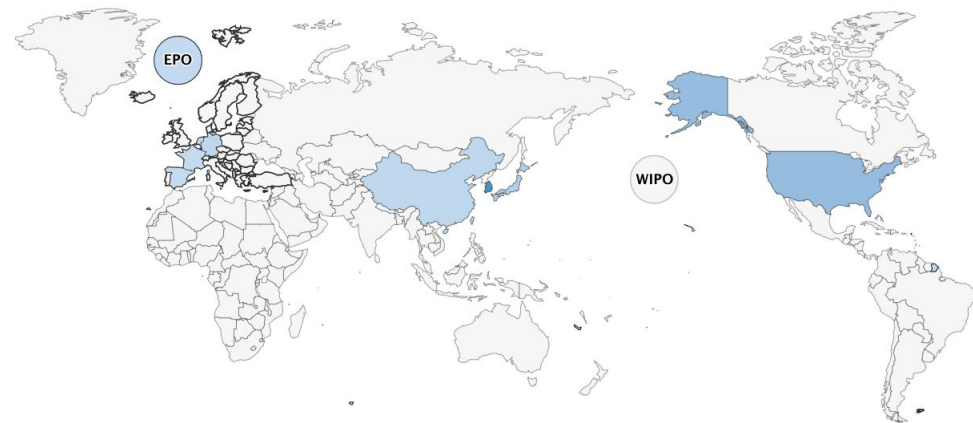
147 (1.916%)
of them are still pending and may acquire patent rights in the future.

Inactive

4,628 (60.331%)
Inactive

The geographic coverage of Magnachip's patents:

Country : [KR\(4,512\)](#) [US\(1,770\)](#) [JP\(625\)](#) [TW\(266\)](#) [CN\(222\)](#) [DE\(214\)](#) [EP\(42\)](#) [NL\(1\)](#)
[SG\(4\)](#) [FR\(1\)](#) [ES\(1\)](#)



Country	Patent Appl.	Legal Status		
KR	4,512	1,741	45	2,726
US	1,770	762	33	975
JP	625	148	475	
TW	266	161		
CN	222	124		
DE	214	197		
EP	42	20		
NL	14	14		
SG	4	4		
FR	1	1		

Magnachip has the most patents in Korea and the U.S.

Yet, the majority of them are inactive and cannot be enforced against others.

● Active ● Pending ● Inactive

Coverage and Status - Pending Patents

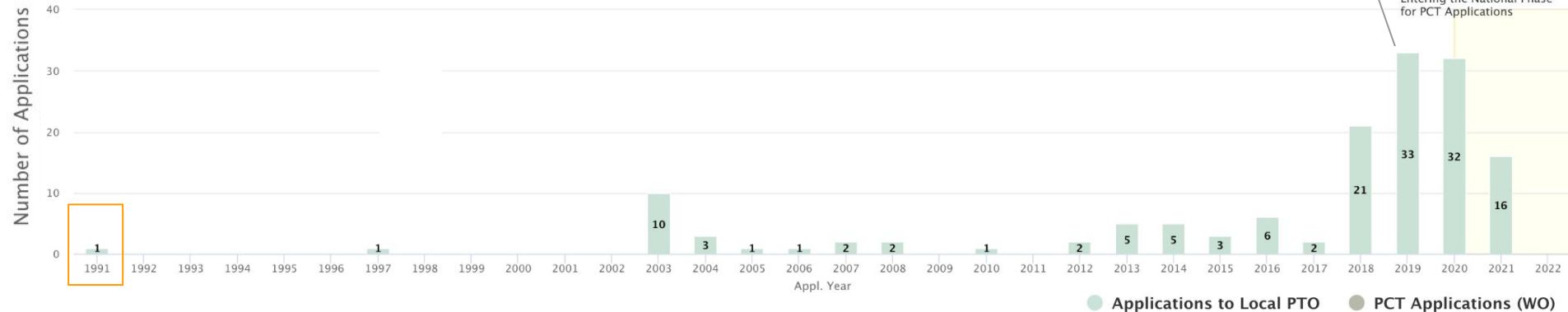
According to the patent data, Magnachip's pending patents were filed the earliest in 1991 and the year 2019 has the most pending applications.

Data Selected 33 Applications; 23 Families

+	#	Patent No.	Title	Legal Status
	1	CN110827910A	电力开关电路和向存储器装置提...	Exam.
⊕	2	TW202036697A	形成及封装半導體晶粒的方法	Pending
⊕	3	CN111106922A	接收设备及其操作方法	Exam.

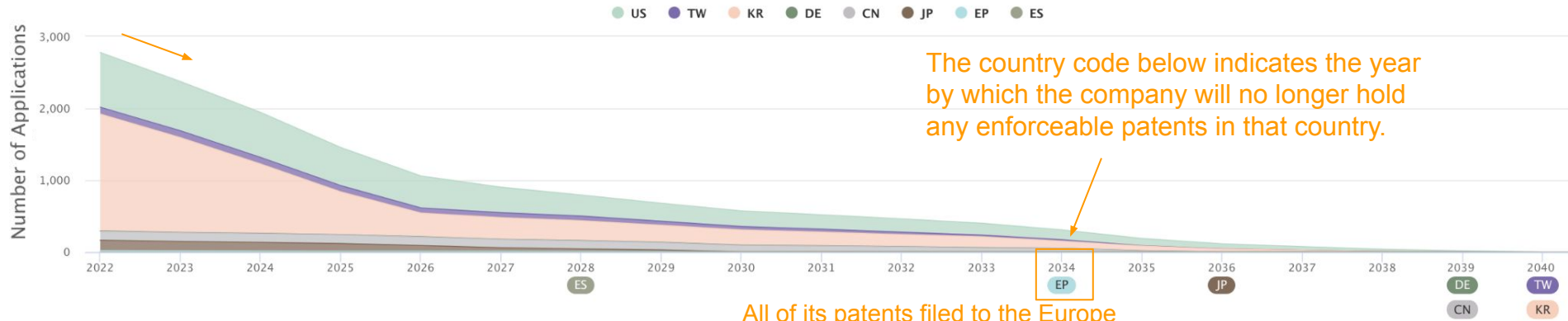
You can see Magnachip's pending applications in each year. Go to [Due Diligence](#) to find out more.

○ 30-Month Time Limit for Entering the National Phase for PCT Applications



Coverage and Status - Remaining Life

The number of Magnachip's active patents is decreasing rapidly — mainly due to the increase of expiring patents in the U.S. and Korea.



The country code below indicates the year by which the company will no longer hold any enforceable patents in that country.

All of its patents filed to the Europe (EP) will expire before January 1, 2034.

Technologies

Main technical fields 1

SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES NOT OTHERWISE PROVIDED FOR

3,858 Patent families (67%)

Main technical fields 2

ELECTRIC DIGITAL DATA PROCESSING

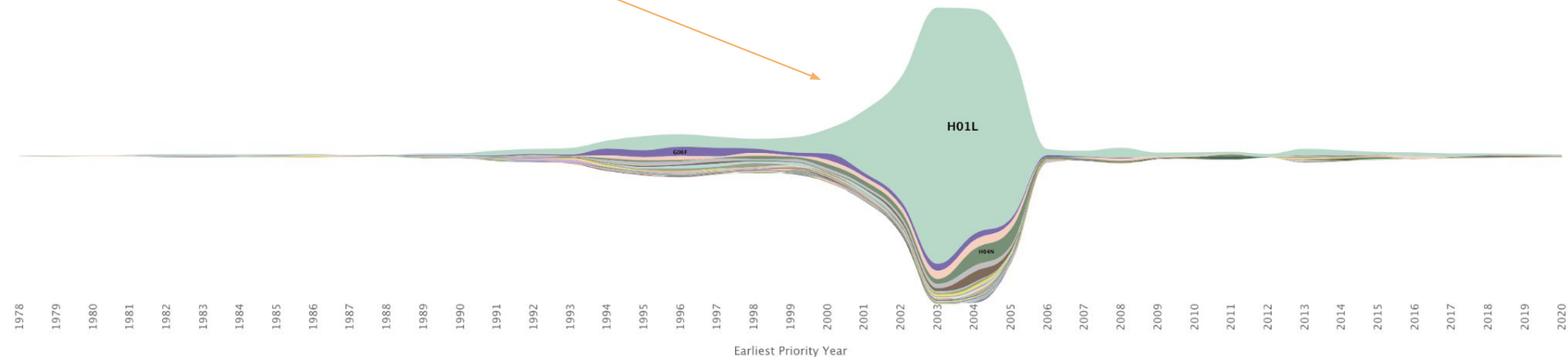
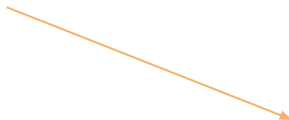
304 Patent families (5%)

Main technical fields 3

STATIC STORES

264 Patent families (5%)

The portfolio of Magnachip's inventions is highly concentrated. Around 67% of its patent families are related to “semiconductor devices,” IPC H01L.



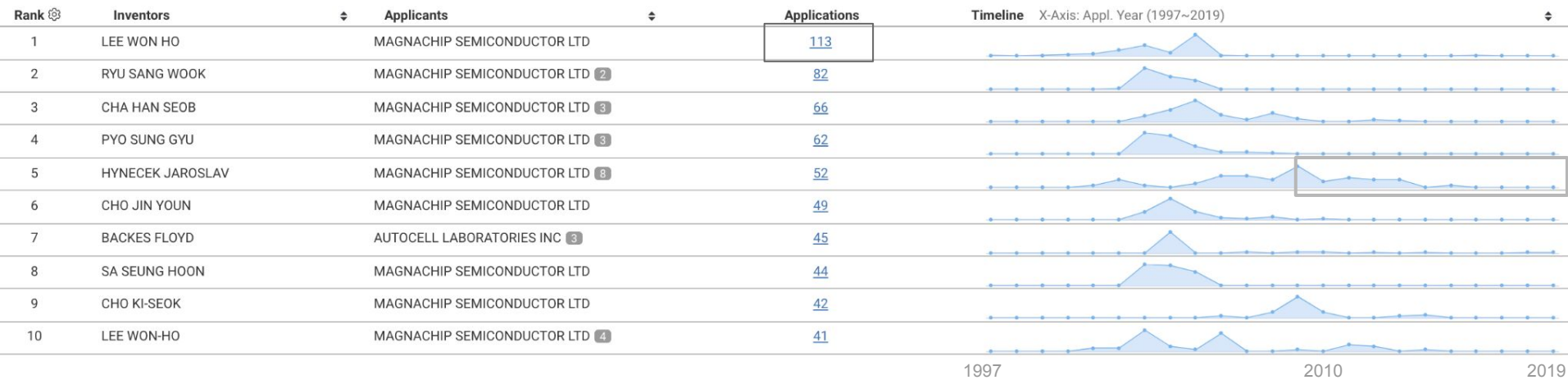
Top Inventors

We found the ten most productive inventors in terms of patent applications.

Notice that the major inventors may shift over time.

Won-ho Lee, the inventor in 1st place, has filed far more patent applications than other inventors.

The inventor in 5th place filed for more patents than others between 2010 and 2019.



Patent Transaction History

According to the patent records in the U.S. and China, around 78.26% of Magnachip's patents have been transacted.

Transacted Patents

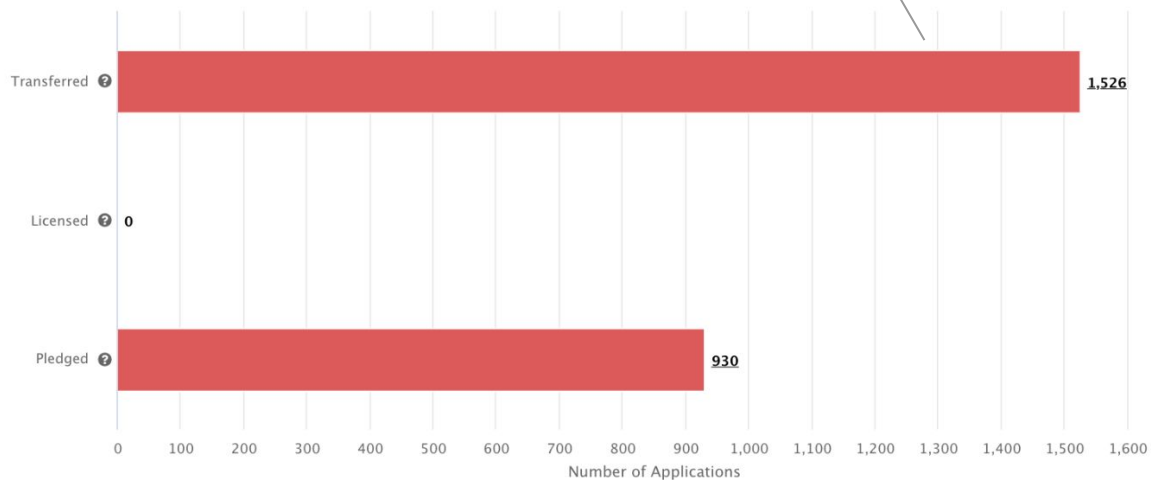


1,559 Applications

Main Events — Assignment		
Assignor	Assignee	Number of Transfers
SK HYNIX INC	MAGNACHIP SEMICONDUCTOR LTD	711

Semiconductor provider SK Hynix has transferred 711 patent applications to Magnachip.

78.263 % COMPOSITION



Patent Litigation History

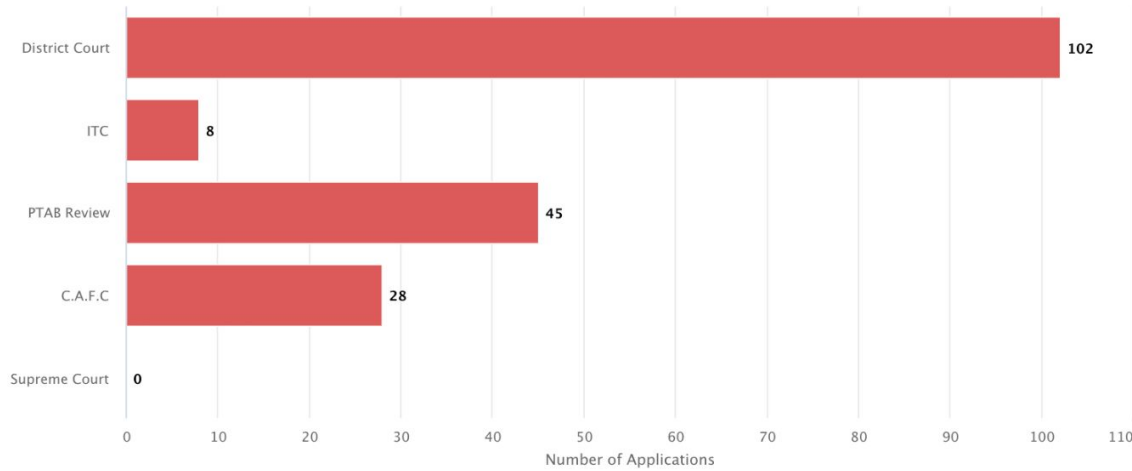
Around 5.76% of Magnachip's U.S. patent applications have been litigated.

See the government bodies to which these patent applications were taken.

Litigated Patents



5.763% COMPOSITION



Quality and Value Evaluation

Why Quality and Value?

Quality and Value are the two cornerstones of patent evaluation. By reflecting on a patent's true quality and value, we can evaluate patents with an objective viewpoint instead of relying on subjective guesswork—eventually giving a fair price to patents.

Quality and Value Definition

Quality:

Predicts the tendency for invalidation.

Describes whether a patent is eligible, novel, non-obvious, and described with clarity.

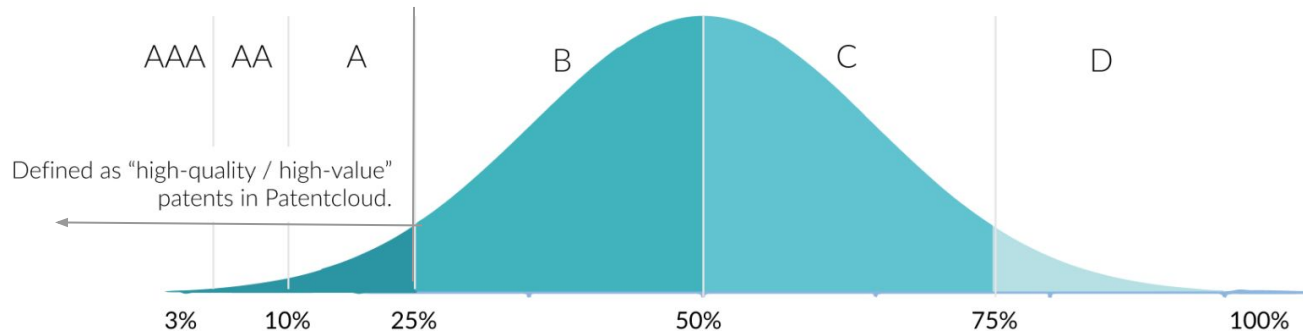
Value:

Predicts the tendency for monetization.

Describes whether a patent has commercial viability—either realized from enforcement, transaction, or other commercial practices.

According to our proprietary models, each patent is ranked as per the quality and value dimensions and is categorized into one of the following six grades: AAA, AA, A, B, C, and D.

A patent with a quality score in the 97th percentile is graded as AAA.



Quality and Value Rankings - Quality and Value*

Our Patent Quality & Value Dashboard shows that 18% of Magnachip's patents in major countries are of high value.

Of the 2,044 patent families, 3,020 patents are active or pending in major countries, of which 556 (18 %) are high-value patents.



* The scope of the Quality and Value analysis includes patents filed with the patent offices of the US, China, Europe, Japan, Korea, Taiwan, and the WIPO.

Quality and Value Rankings - Quality and Value*

Among the high-value patents, some have a higher likelihood of standing against legal challenges.

High-value, low-quality patents: They have good monetization potential, but the risk of invalidation is high.

High-quality, high-value patents: The potential for monetization is high, and the risk of being invalidated is low.



* The scope of the Quality and Value analysis includes patents filed with the patent offices of the US, China, Europe, Japan, Korea, Taiwan, and the WIPO.

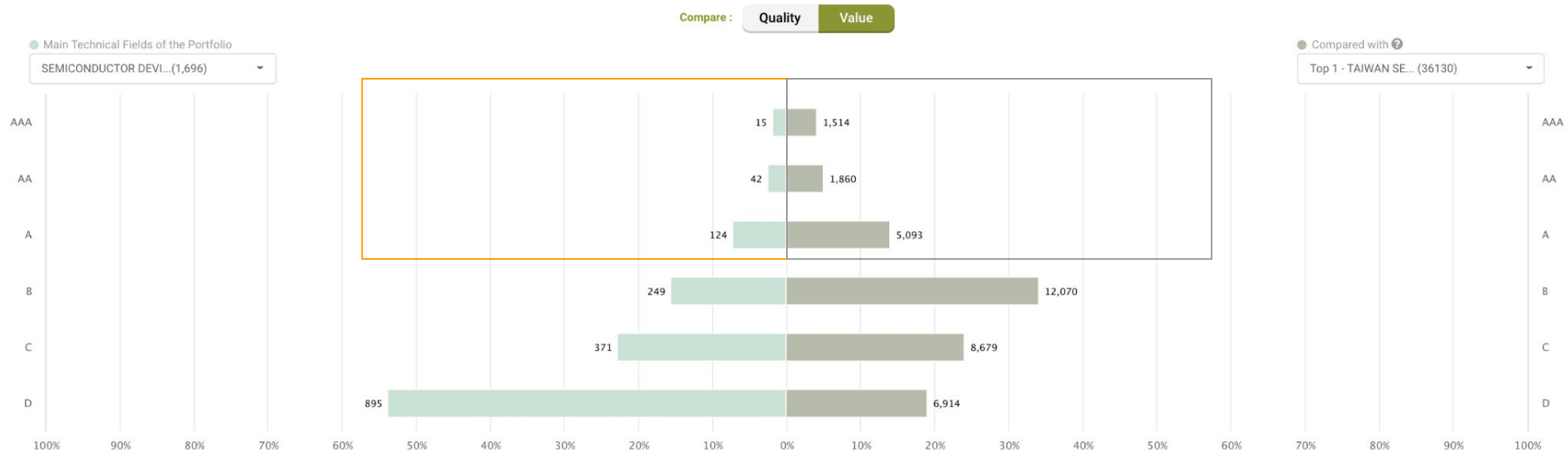
Peer Comparison - Quality Rankings

For Magnachip's patents under IPC H01L, the proportion of high-quality patents is **34.73%**, **higher** than the patents in the same field (**22.77%**).



Peer Comparison - Value Rankings

The proportion of Magnachip's high-value patents in the same field is **10.67%**, lower than the overall market (**15.73%**).



Quality and Value Highlights - Eligibility and Novelty Issues

Around **78.74%** of Magnachip's U.S. patents have been challenged during prosecution or at PTAB — an indicator of potential patent quality issues for its patents' family members.

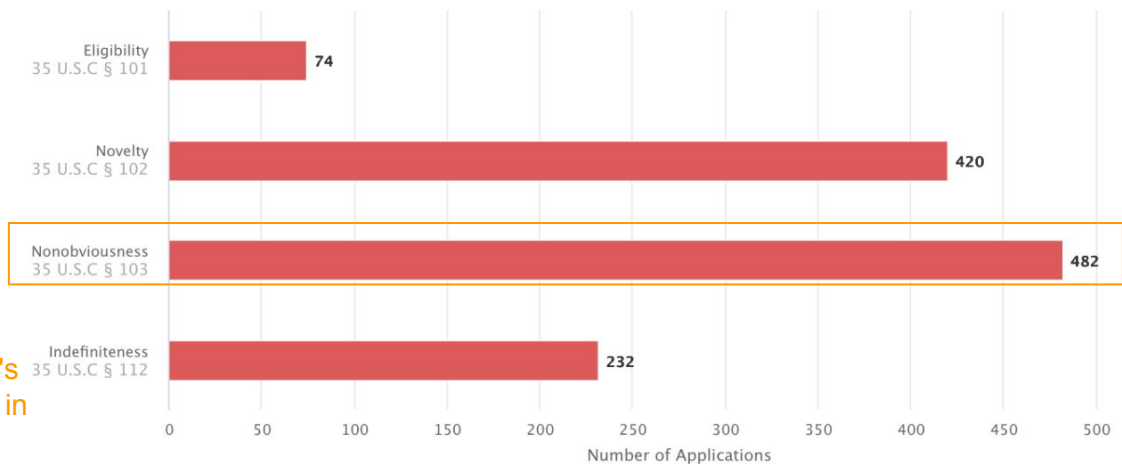
Eligibility and Novelty Issues



626 Applications

Nonobviousness is the most common challenge brought against Magnachip's patent applications in the U.S.

78.742 % COMPOSITION

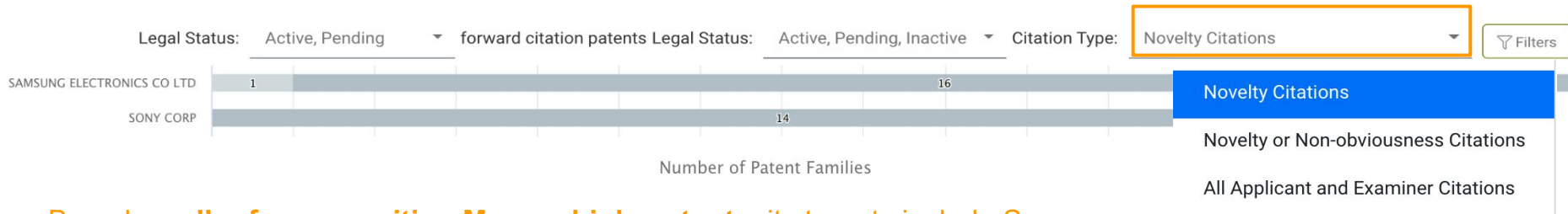


Quality and Value Highlights - Potential Targets of the Portfolio

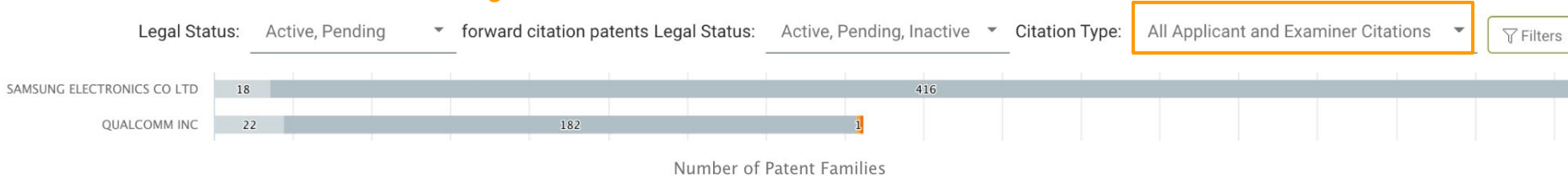
Magnachip's potential targets based on **novelty citations** include Samsung Electronics and Sony, among others.

Some of these companies' patent applications received a novelty (§102) rejection based on patents currently held by Magnachip.

You can search for potential targets based on the nature of the citations.



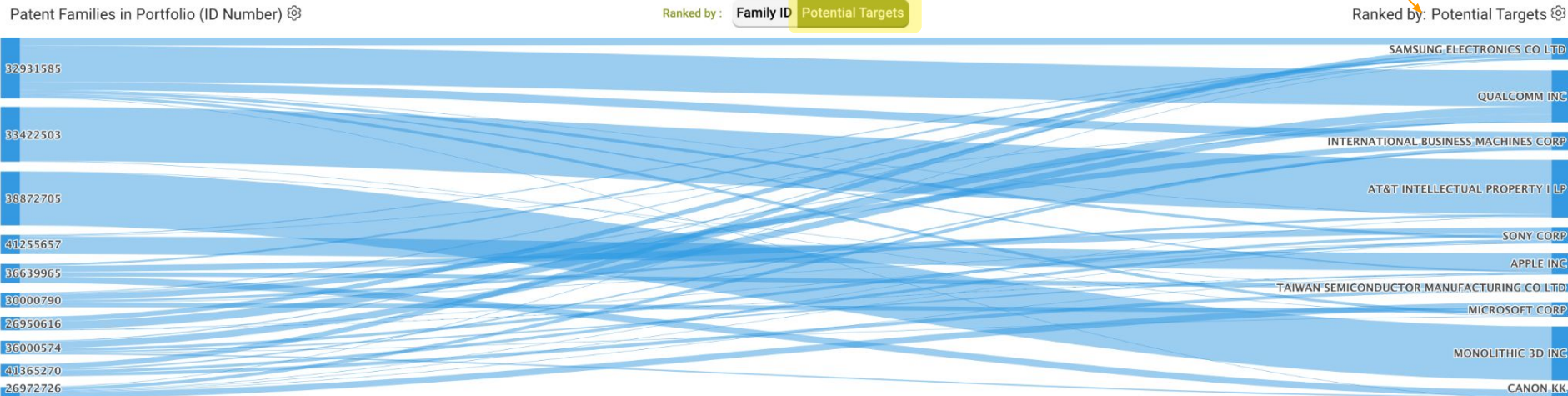
Based on **all references citing Magnachip's patents**, its targets include Samsung Electronics and Qualcomm, among others.



Patents Against the Potential Targets

Legal Status: Active, Pending forward citation patents Legal Status: Active, Pending, Inactive Citation Type: All Applicant and Examiner Citations Filters Patent Families

The ten companies that cite Magnachip's patents the most. They are potential targets for Magnachip to monetize its patents.



Patents Against the Potential Targets

Legal Status: Active, Pending forward citation patents Legal Status: Active, Pending, Inactive Citation Type: All Applicant and Examiner Citations Filters Patent Families

The most heavily cited families — these patent families are ideal for Magnachip to use against potential targets.

You can view potential targets by the types of references that cite Magnachip's patents.



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5 Charts Selected [Clear](#)

Select 25 Items

Coverage and Status

- Global Coverage
- Remaining Life
- Pending Patents

Technologies

- Technical Fields
- Technology Timeline

Owner/Inventor/Applicant

- Co-Ownerships and Co-Applicants

Assignees and Inventors

- Assignees
- Inventors

Confirm

2. Select **All Dashboards** or **Customize** your own report

JC DEMO

Date Modified : 2021-04-14 18:27

Analysis Scope

Applications	Families
<u>3,896</u>	1,331

Highlights Quality and Value Quality Highlights **Value Highlights**

Matrix Analysis

Analyze like an expert!

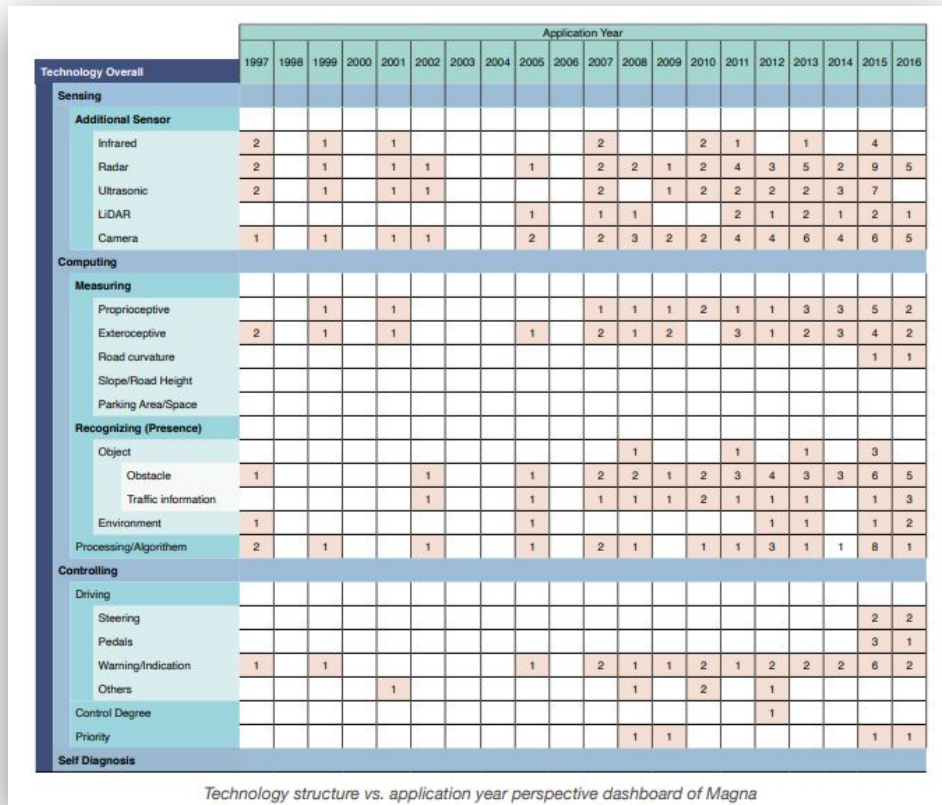
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Source: Patent Vault



Technology structure vs. application year perspective dashboard of Magna



Visualize patent assets with just one click

- Instantly access and examine patent portfolio attributes to aid in decision-making.
- Discover the patents with the greatest monetization potential – and the most likely targets.
- Identify the strengths and weaknesses of a patent portfolio.
- Maximize investment opportunities and value.