

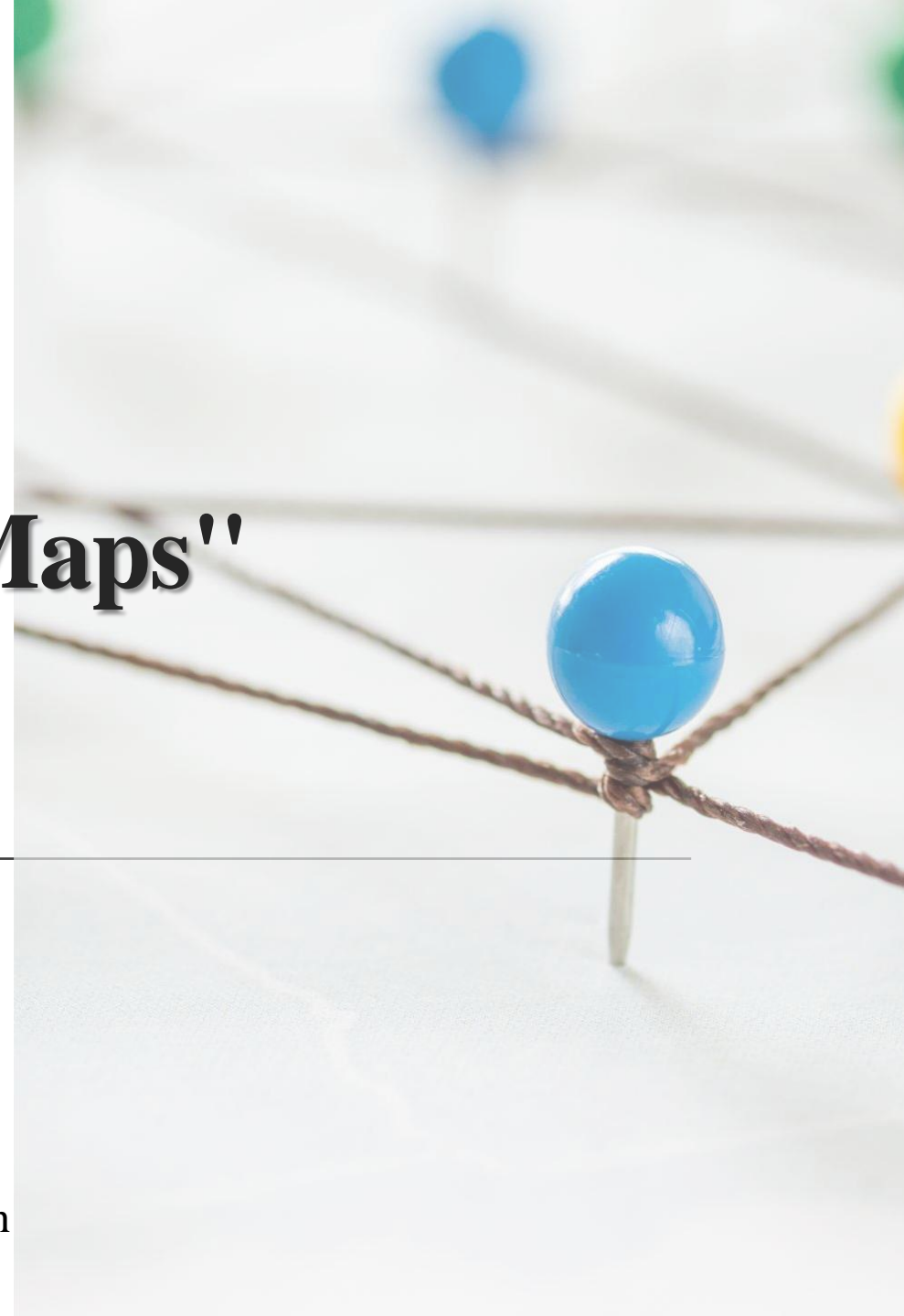
Proposal for Seminar on “Creating and Using Patent Maps”

*(EFFECTIVELY CREATING AND USING PATENT MAPS
FOR RESEARCH AND INDUSTRY)*

Analyzing Patent Maps



PROPERTY CO., LTD
Intellectual Property Research





About our company

The Property Co., LTD is a professional intellectual property research firm. Established in August 1996, with staff of the technology research departments, the commercial consulting department, and the legal advisement department, Property provides fine quality technological development and IP strategy support and service for our clients.

Mission-critical Tasks

- 1. The investigation and reporting of patents for legal requests**
- 2. Data mining and mapping of patents and technical documents for economic requests**



Login ► WIPS-Global ▼ Cnpr WebPat Trademarks, Designs, and Web Monitoring ▼ GIPLES Links to National Patent Offices | r



High-precision patent research and

Home Industrial property rights research Patent Analysis Services Patent Search System Patent Translation

Intellectual property system development Intellectual property education content Intellectual Property Seminar

PRODUCTS AND SERVICES

INDUSTRIAL PROPERTY RIGHTS RESEARCH

PICK UP

— Industrial property rights research

— Patent Research

Optimizing research services

Since industrial property rights such as patents, utility models, trademarks, and designs are filed on an

RECENT SERVICE



At Property Co., LTD we continuously research and organize information derived from patent documents.

For each project commissioned by corporate IP departments and other clients, we deliver a range of core services tailored to the specific workflows involved—always aiming for optimal performance and refinement.

Login ▶ WIPS-Global + Cnpr WebPat Trademarks, Designs, and Web Monitoring + GIPLES Links to National Patent Offices | notice

Patent Analysis Service Overview

PRODUCTS AND SERVICES

- Patent Analysis Services
 - Patent Map
 - Text mining/Data mining
 - Output service from commercial databases
 - Data Processing Services
 - Database delivery
 - Creating business analysis reports

The "Patent Analysis Service" is an analysis service that uses a huge amount of patent documents as a data resource to analyze patent data according to purpose from various perspectives to obtain more advanced and strategic information. Traditionally, it has been called "patent maps" or "landscapes" because it provides an overview of the whole.

Due to the large amount of patent data, the old buzzwords that have been used are "information downsizing" → "from microanalysis to macroanalysis" → "big data visualization" → "landscape," but the "patent analysis service" referred to here is used in a broader sense.

"Patent Landscape" is a trademark of Property Co., Ltd., filed in 2007.

Multidimensional Scaling Mining Examples

PICK UP

[Analysis of patent information by itemizing its contents]

When it comes to patent mapping, the most important thing to do, even if it takes time, is to analyze the technical (rights) content shown in the patent information. There are various possible approaches to this, but generally, you create categories (technical elements as items) according to the physical properties/chemical properties/electrical properties/psychological properties, etc., shown in the patent information, and then analyze them. You can also create a hierarchy based on attributes such as the problem/solution/purpose/effect, etc. There are three main ways to do this:

Substitution by classification and search formula

Itemization by morpheme words

Granting by reading judgment

PRODUCTS AND SERVICES

- Patent Analysis Services
 - Patent Map
 - Text mining/Data mining
 - Output service from commercial databases
 - Data Processing Services
 - Database delivery
 - Creating business analysis reports

[Related diagram analysis]

This is an analysis using a diagram that shows the relationships between interrelated elements (different from correlation analysis). Representative examples include a diagram showing the relationships between applicants based on the state of joint applications, and a diagram showing citations and cited applications.

PRODUCTS AND SERVICES

- Patent Analysis Services
 - Patent Map
 - Text mining/Data mining
 - Output service from commercial databases
 - Data Processing Services
 - Database delivery
 - Creating business analysis reports

(1) Matching applicants and applicant groups

If the same applicant has different spellings due to a company name change or transfer, it is necessary to process the data as if it were the same applicant. Especially in the case of overseas patent data, there are many cases where the English spelling is different even though the applicant is the same. If these are tabulated separately, the statistics will be unclear. Also, in competitive analysis, applicants that can be considered the same are better grouped together to show the actual barrier to entry, so such processing is necessary. The figure on the left is an example of a case where such a name matching function is available on the patent search system. The 6th and 12th applicants are considered to be the same, and the same spelling is entered in the box on the right.

PRODUCTS AND SERVICES

- Patent Analysis Services
 - Patent Map
 - Text mining/Data mining
 - Output service from commercial databases
 - Data Processing Services
 - Database delivery
 - Creating business analysis reports

We also serve as a distributor, introducing a variety of tools—such as IP databases and mapping software used in our daily operations—through close collaboration with tool developers and manufacturers.



- **Objectives of the presentation**

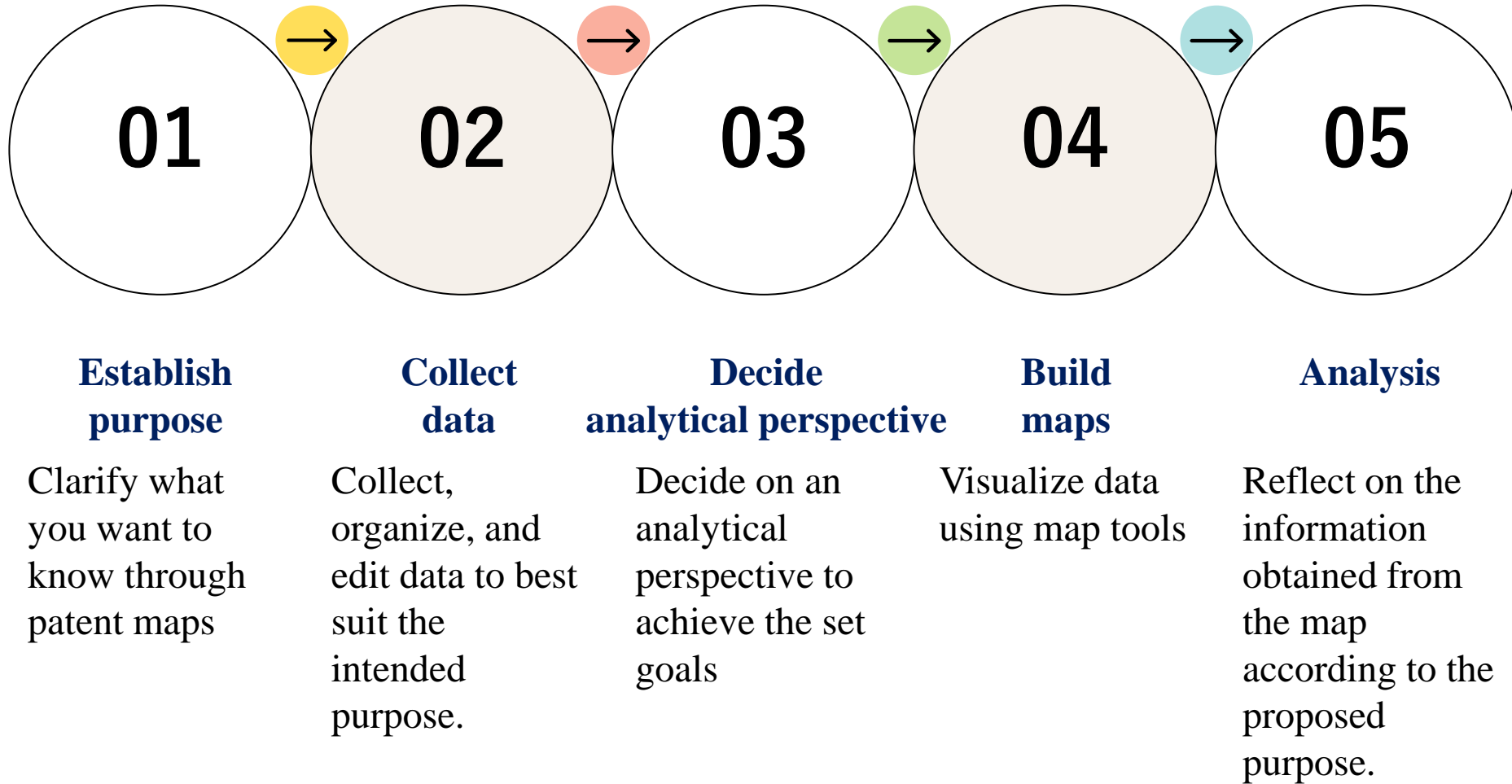
- ❑ Helps to understand the process in order to apply patent maps
 - ❑ Improve analytical skills through specific examples
-

Overview of the presentation

1. Patent map application process
2. Arrangement and editing according to usage purpose
3. Introducing patent maps by usage purpose



Patent map application process





01

Arranging and editing according to usage purpose

02

Application in technology

- Master technology trends
- Select a research topic for development
- Identify gaps in current technology

•
•
•
•

03

Application in governance

- Market entry status
- Master the moves of competitor businesses
- Develop product usage purpose

•
•
•
•

04

Application from the perspective of intellectual property rights

- Capture patentability
- Avoiding the risk of patent infringement

•
•
•
•

05



01

02

03

04

05

Application in technology

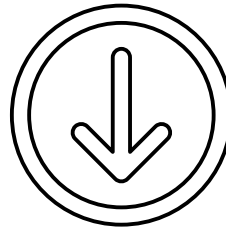
▣ Master technology trends

- Set the map axes from the collected data
 - Visualize technologies by filing date announced in the patent gazette, capture time of and analyze the changes. From there, you can know the continuous progress from when the technology was developed until now.
 - Check the application volume by country of application



● Information captured

- Is the technology your business is developing following the overall trend?
- What direction are other businesses developing their products in, which can help predict where the field will grow in the future?
- Know the extent of the technology's diffusion by knowing the country of application





01

02

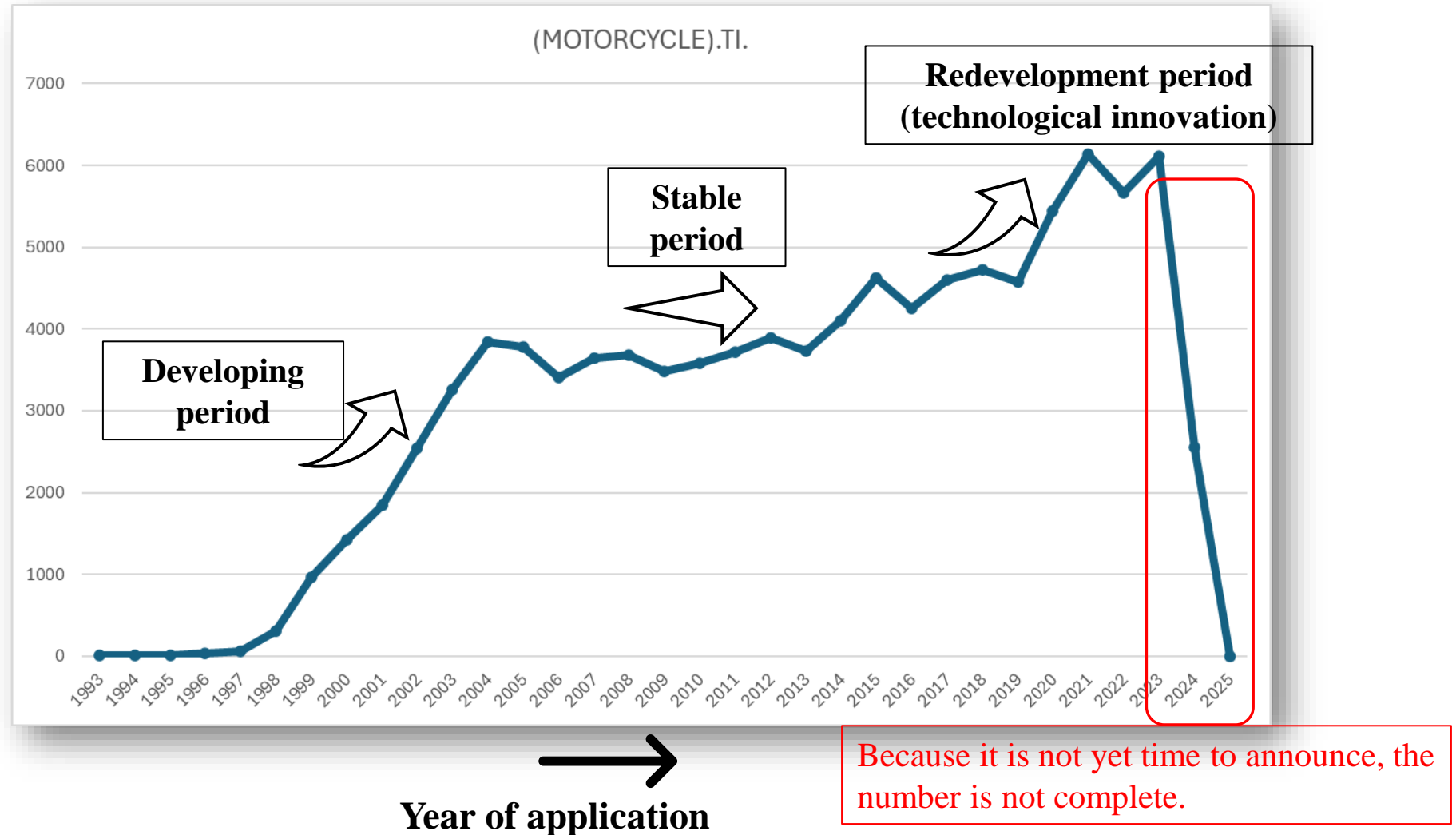
03

04

05

Number of
applications

Master the technology trend - Maps of application volume





01

02

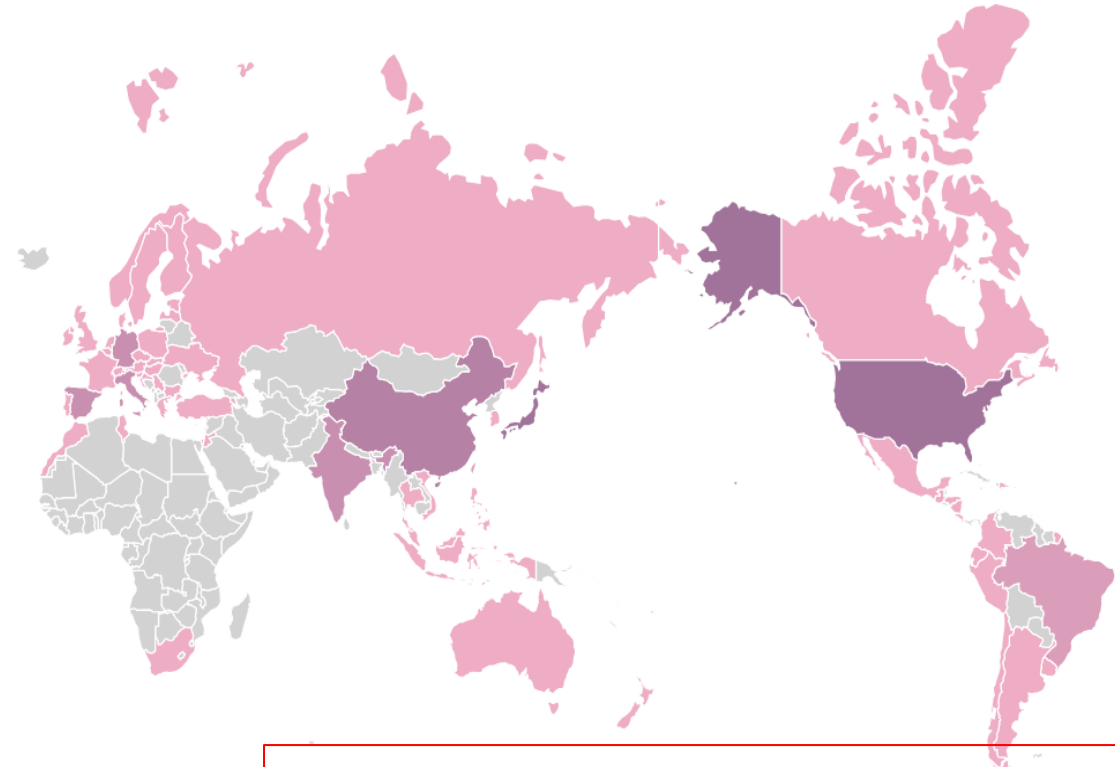
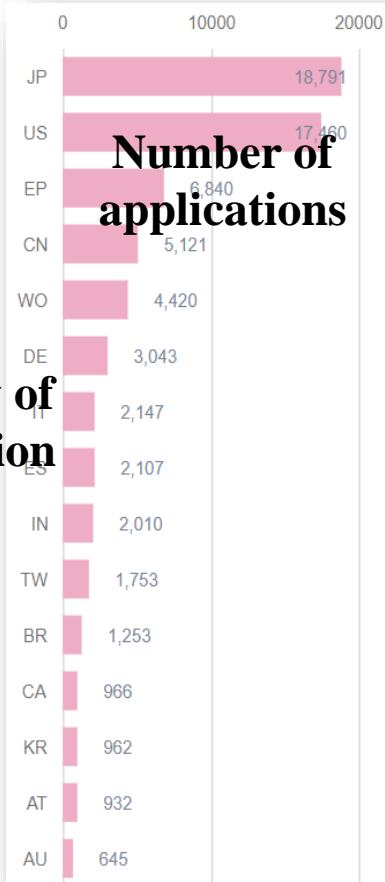
03

04

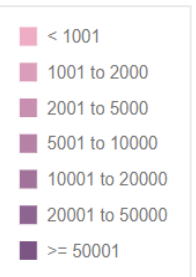
05

□ Capture technology trends - Map of application volume by country of application

Country of application



The intensity of the color is proportional to the application volume.





01

02

03

04

05

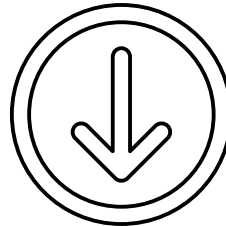
Application in technology

- ❑ Select research topics for development
- Set the map axes from the collected data
 - By combining patent classification (IPC, CPC) with technical keywords, check how users (market) demand the product, and how the market has been formed in society.



● Information captured

- Know how research topics have developed in the past; understand your business's strengths and weaknesses to differentiate yourself from other businesses.



IPC (International Patent Classification)
CPC (Cooperative Patent Classification)



01

02

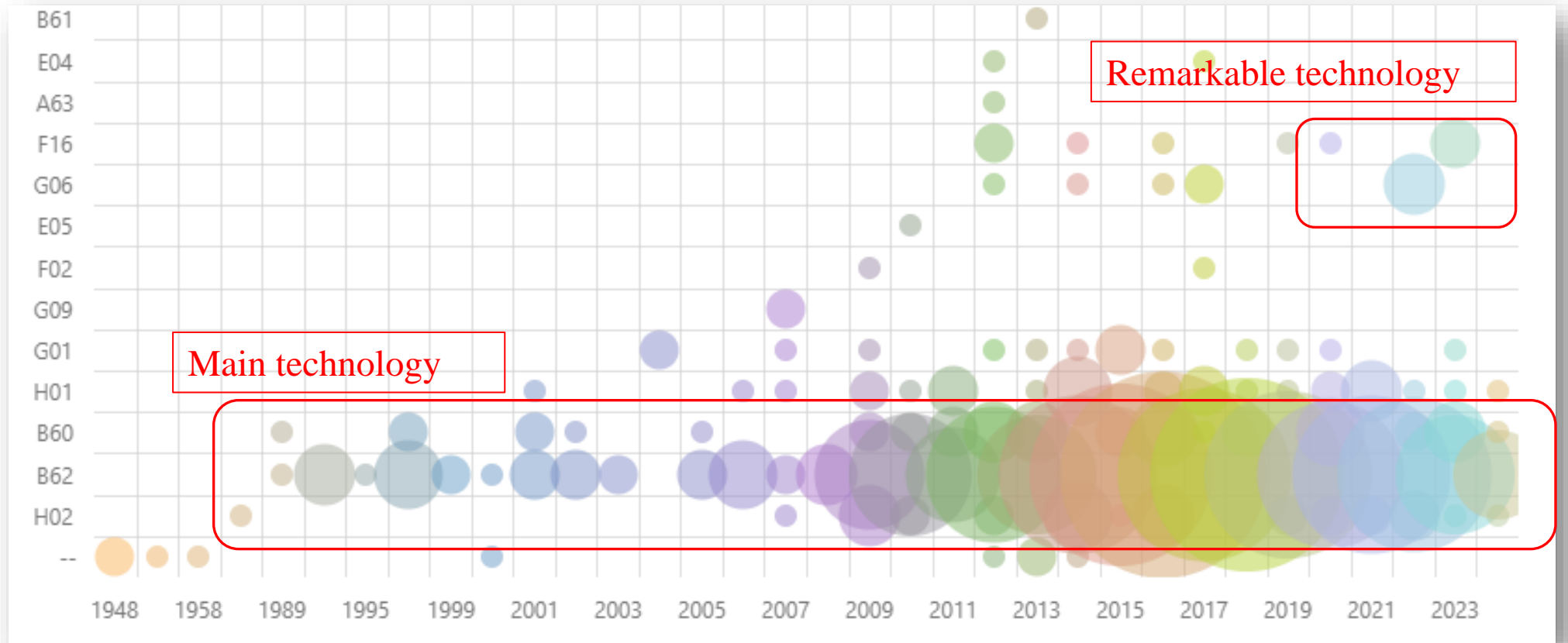
03

04

05

□ Select Research Topic for Development – Patent Classification Map

IPC



Year of application



01

02

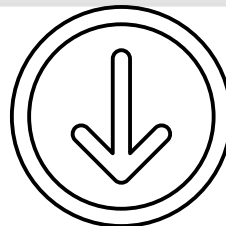
03

04

05

Application in technology

- ❑ Identify gaps in current technology
- Set the map axes from the collected data
 - Classify data by technology, analyze matrix with technology content. Set technology development goals with white spaces in matrix map.
- Information captured





01

02

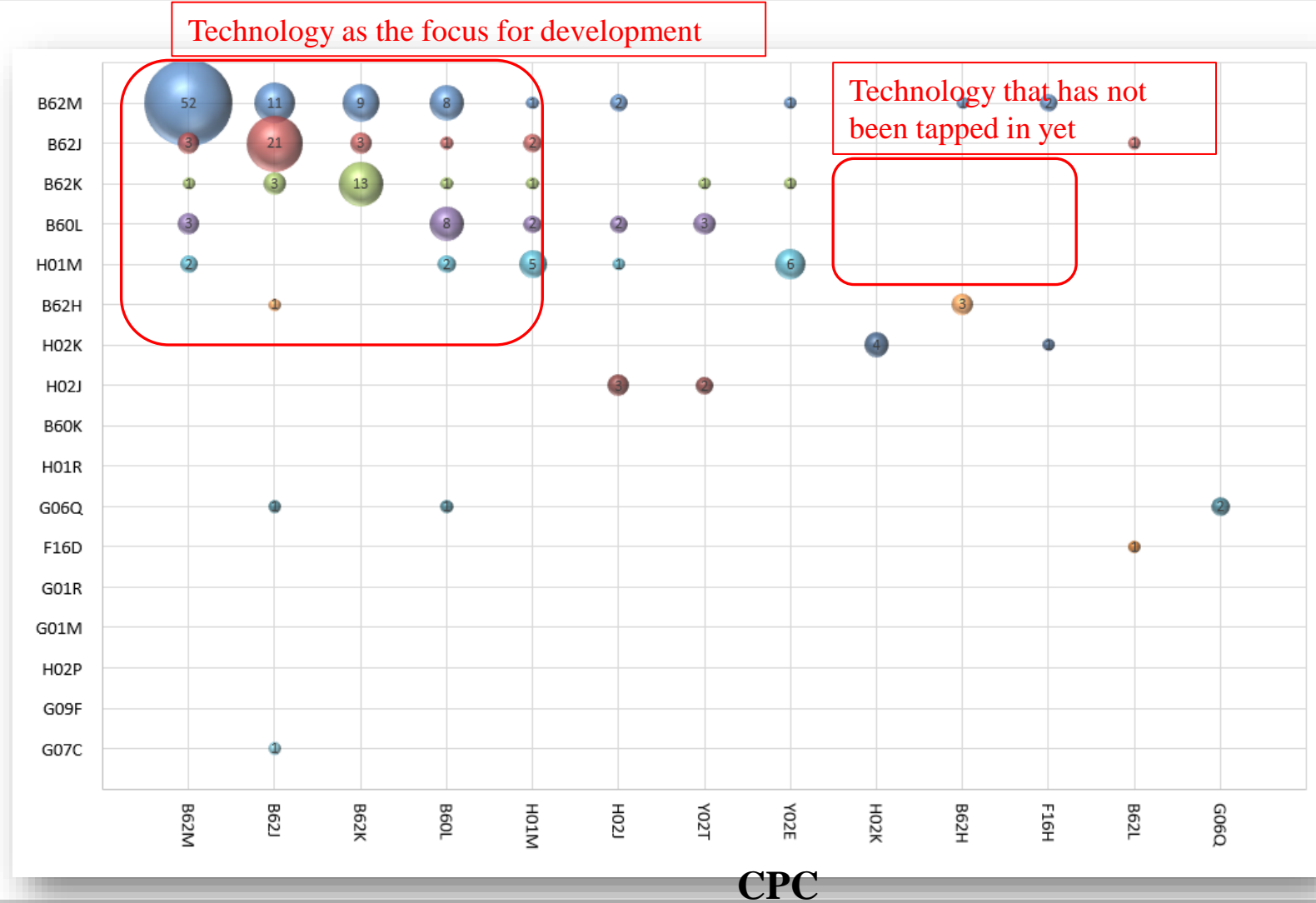
03

04

05

Identifying gaps in current technology - IPC × CPC

IPC



The size of the bubble is proportional to the application volume.

01

02

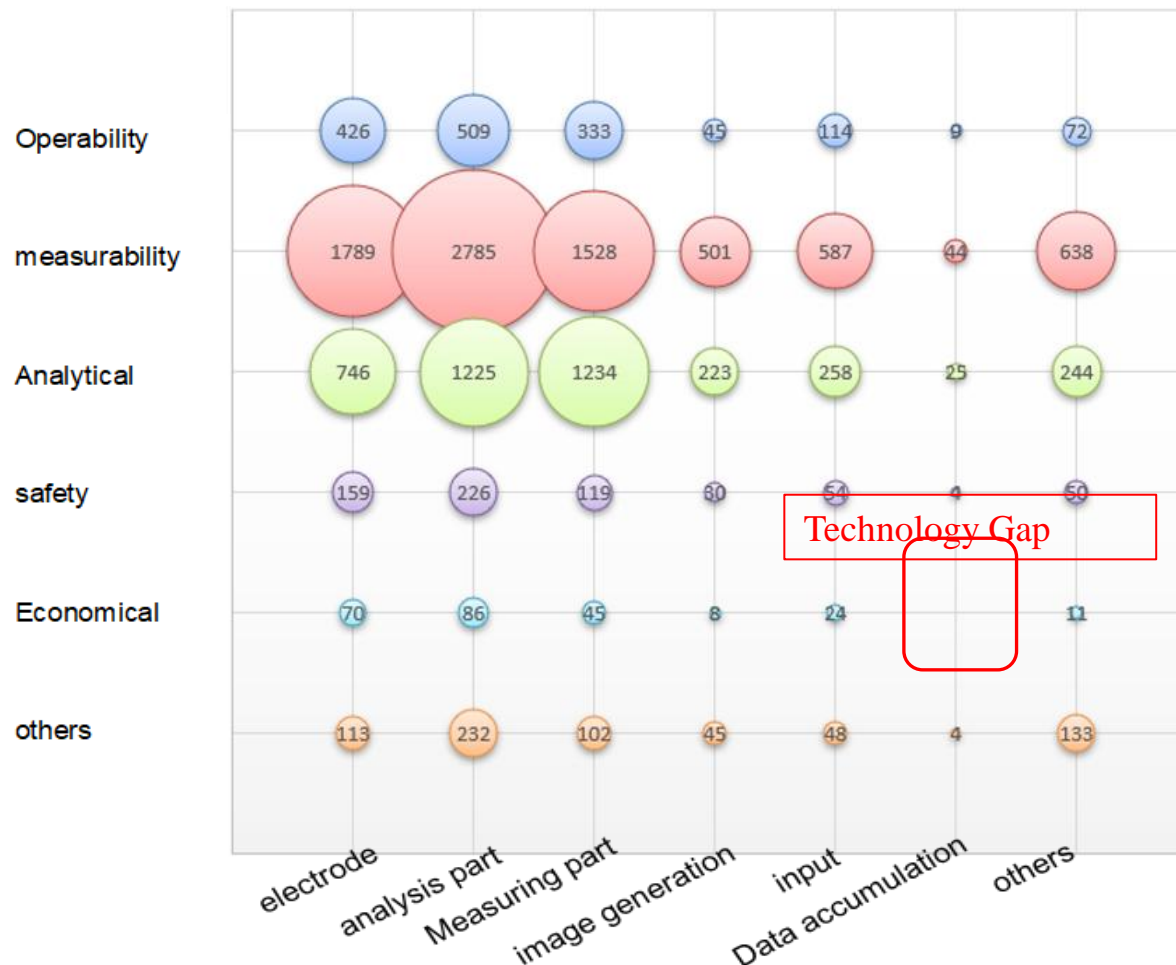
03

04

05

Identifying the Gapa in Current Technology - Problem × Solution

Problem



Grouping of patent properties by nature for qualitative analysis

Technology Gap

Solution

Source: Analysis of bioelectrodes



01

02

03

04

05

Application in governance

□ Market entry status

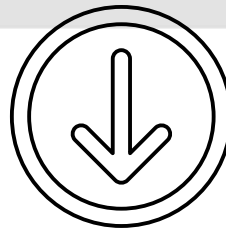
● Set the map axes from the collected data

- Find applicants who have filed in a technology area and then review the application volume over time. Get not only the applicant data with the application number at the top of the map, but also the data of co-inventor applicants or applicants whose data is not available when surveying the market.



● Information captured

- Can identify businesses with great potential for research and development but have not yet entered the market (future competitors).
- It is possible to identify technology partners that have entered the market.





01

02

03

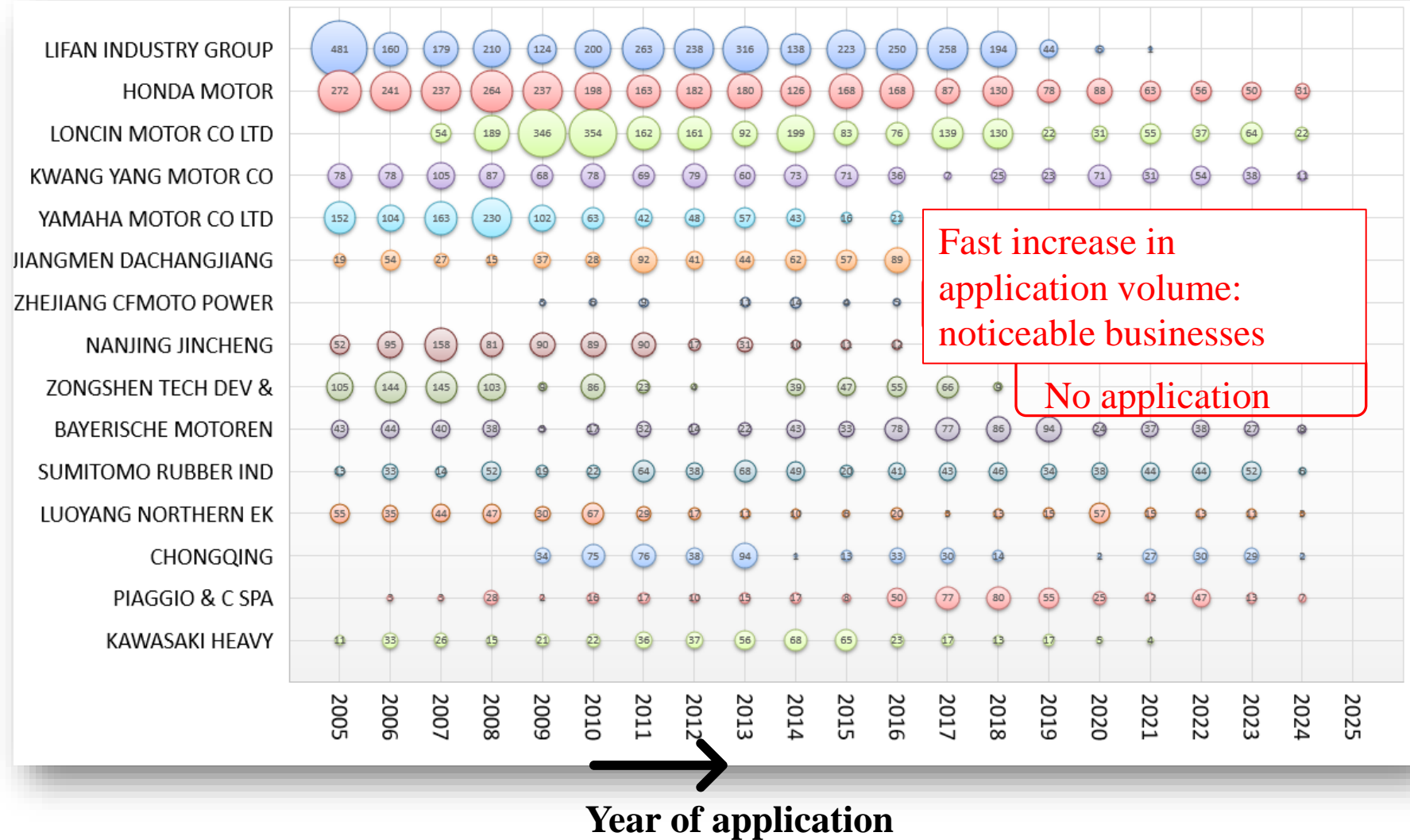
04

05

Applicant
ranking



Market Entry Status – Applicant Ranking × Filing Year





01

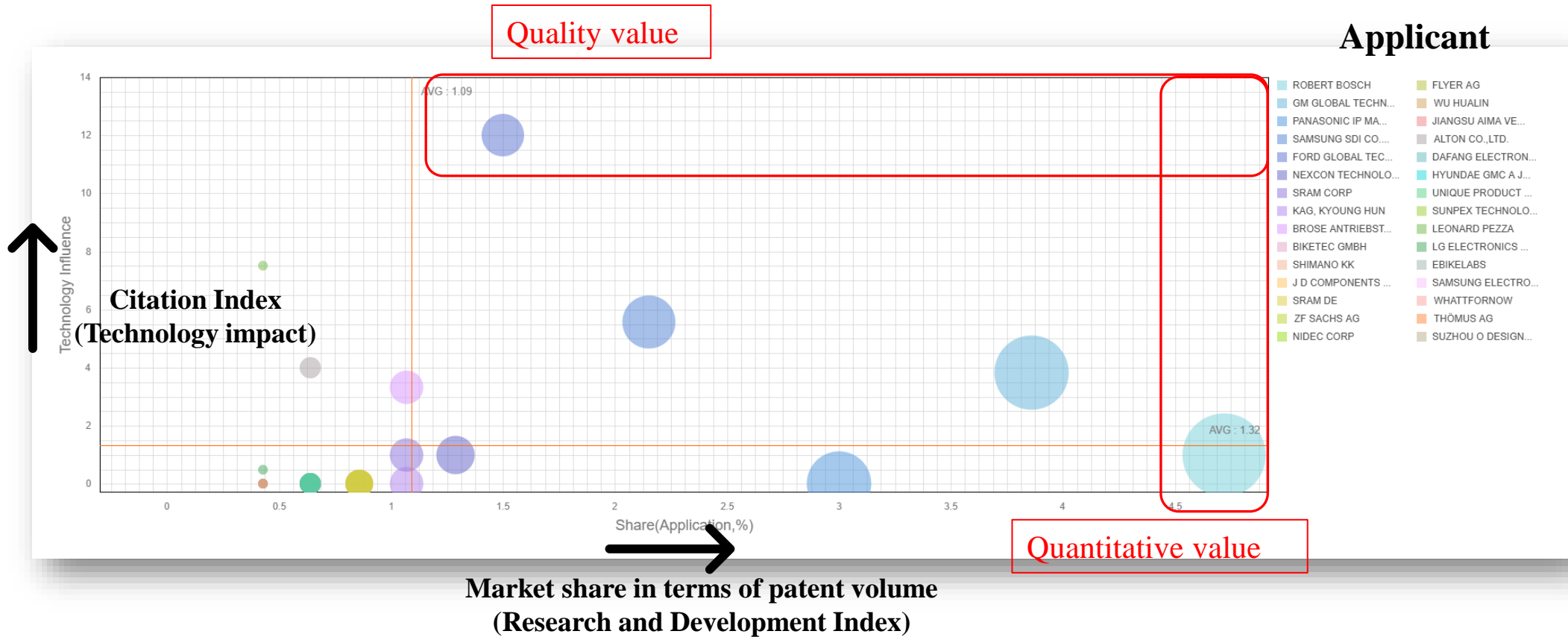
02

03

04

05

Market Entry Situation - Intellectual Property Competitiveness by Applicant





01

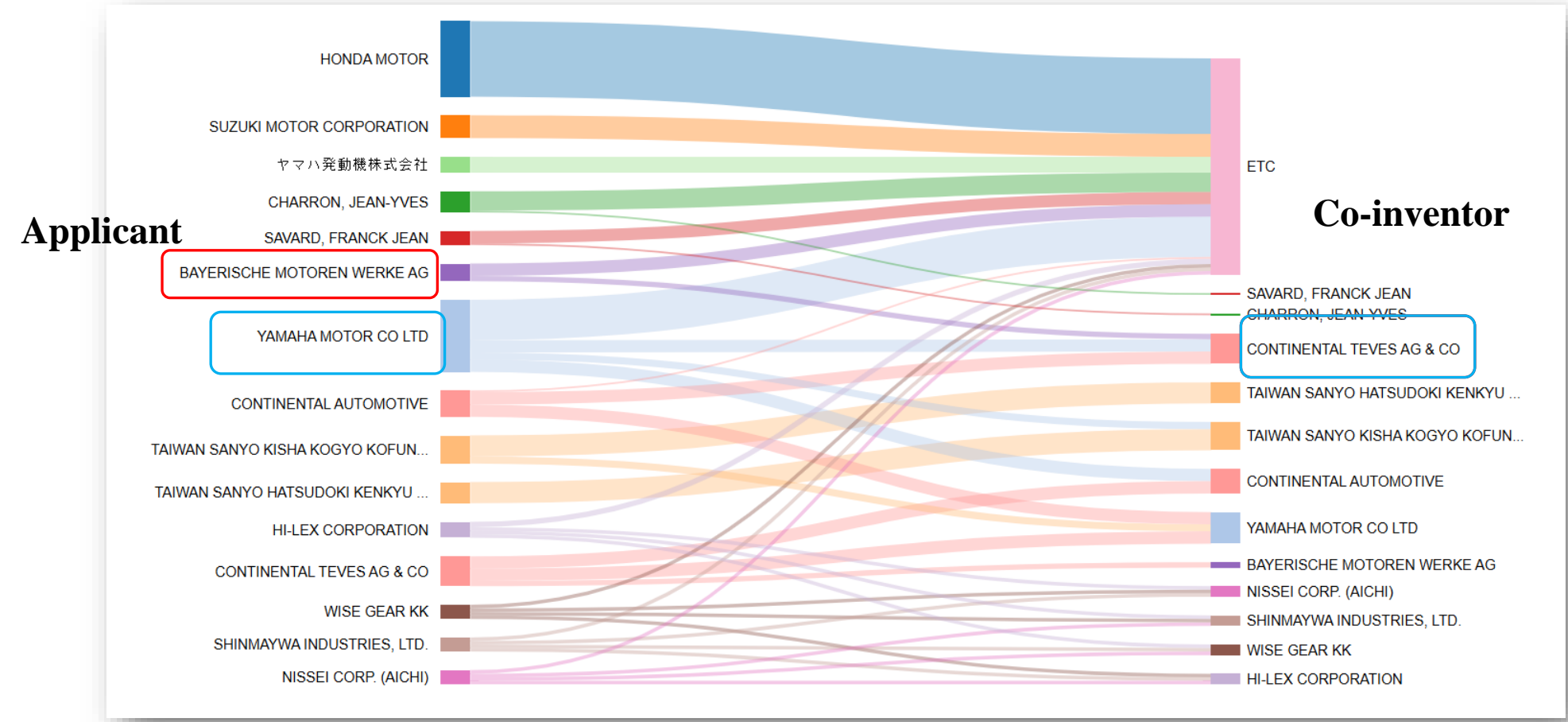
02

03

04

05

Market Entry Situation – Co-inventor patent Map





01

02

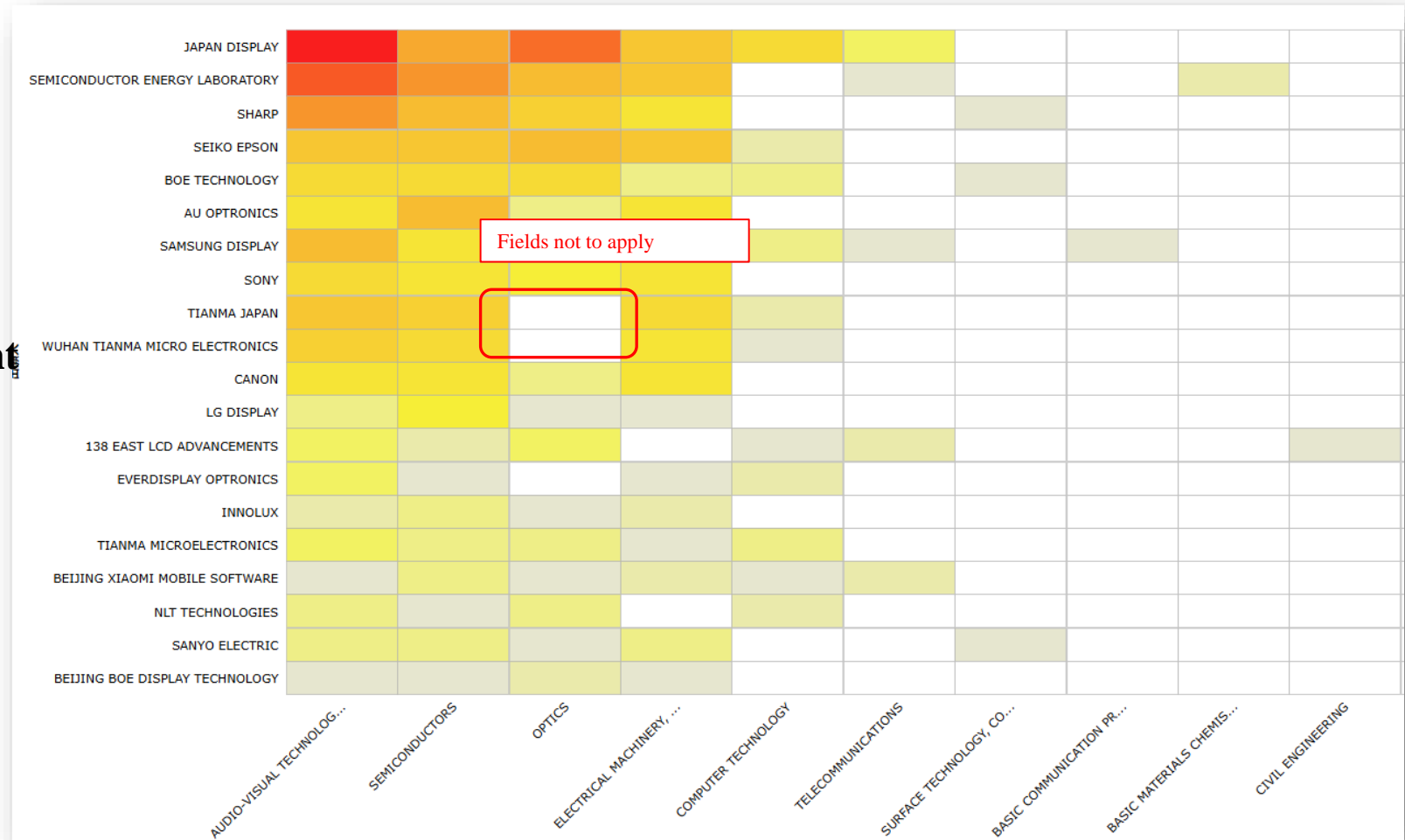
03

04

05

Market Entry Status - Applicant × Technology Area

Applicant



Technology Area

Source: Analysis of liquid crystal displays



01

02

03

04

05

Application in governance

□ Capture the moves of the competitor business

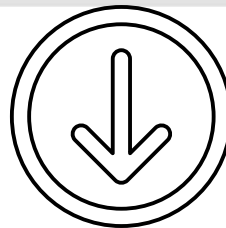
● Set the map axes from the collected data

- Create a data set with a specific business (competitor) as the target and look at how the number of applications or the technology disclosed in the applications changes over time.



● Information captured

- Research and development situation of the target business (competitor)
- Compare the technological development activities of the target business (competitor) with your own business.





01

02

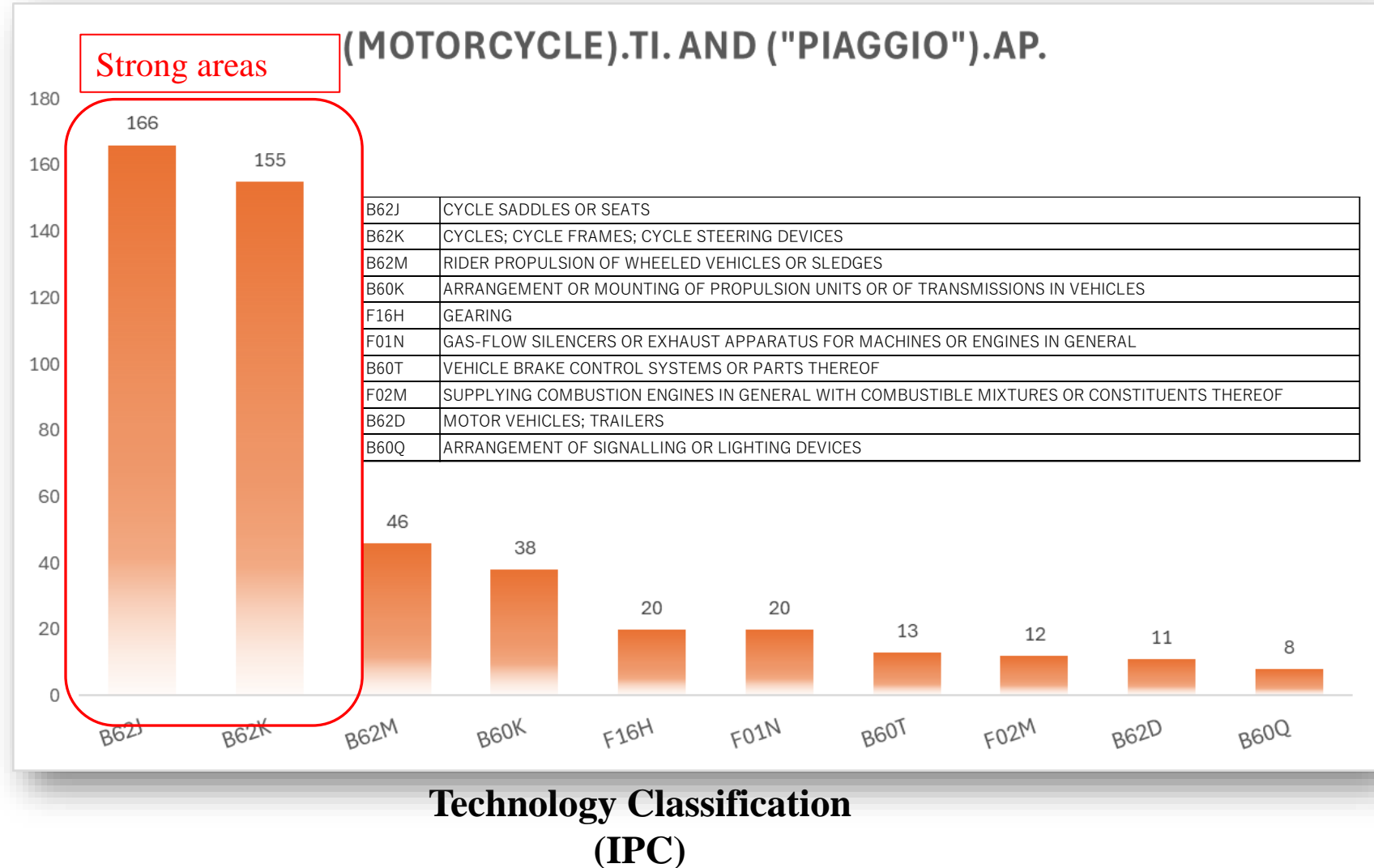
03

04

05

- Capture the moves of the competitorl business - applicant (Competitor) × Technology classification

Number of applications





01

02

03

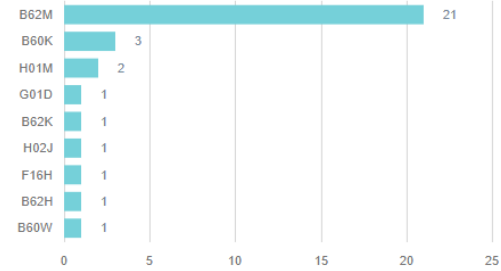
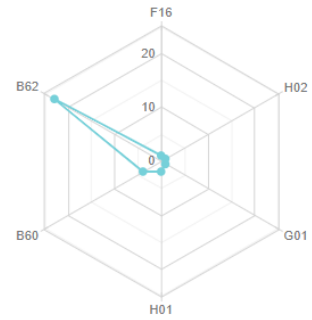
04

05

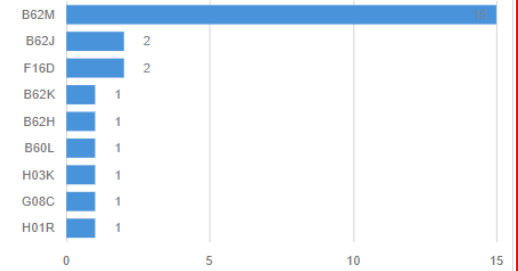
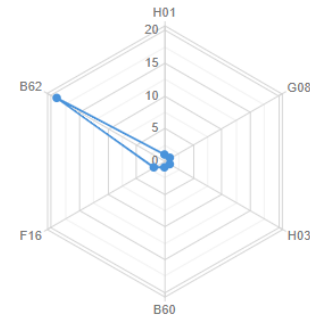
❑ Understand the moves of your competitors - Radar charts comparing businesses

Compare businessé

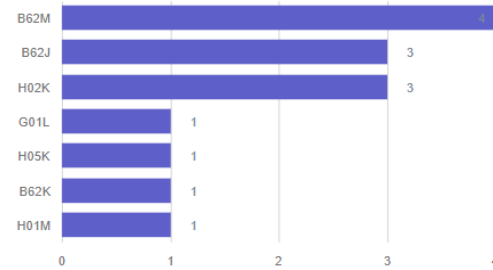
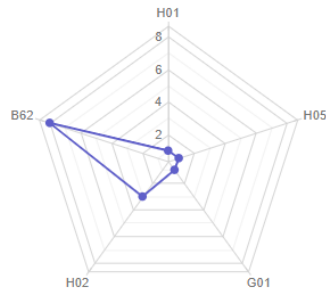
・ GM GLOBAL TECHNOLOGY OPERATIONS LLC



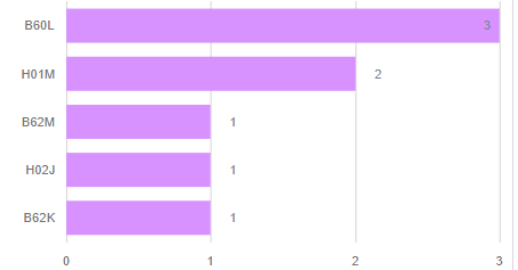
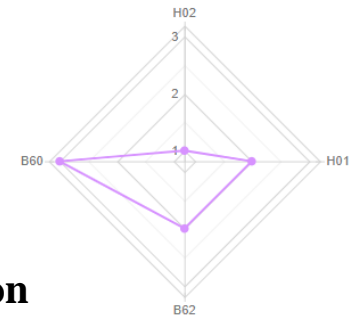
・ ROBERT BOSCH



・ PANASONIC IP MANAGEMENT CORP



・ SAMSUNG SDI CO.,LTD.



Technology Classification
(IPC)



01

02

03

04

05

Application in governance

□ Develop product usage purposes

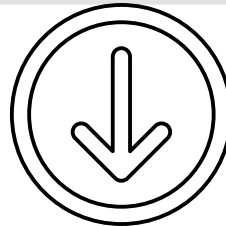
● Set the map axes from the collected data

- Collect data by searching with keywords specific to the technology your business is developing or with IPC classification across all technology areas. Refine with keywords about usage purposes or IPC classification from the collected data and develop a map.



● Information captured

- Identify reference information when proposing a business plan or future development strategy.



05

(Thin NEAR3 (durable or strength*) NEAR3 plastic*).ab.



01

02

03

04

05

Application from the perspective of intellectual property rights

□ Understand the possibility of patenting, avoid the risk of patent infringement

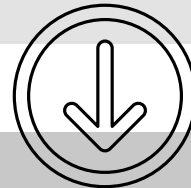
● Set the map axes from the collected data

- Analyze the data sets of a certain technology field, refine the constituent signs, edit them into keywords (collecting synonymous concepts), systematize them and then build them into a map.



● Information captured

- It is possible to anticipate to some extent whether the technology developed will be patented if an application is filed.
- The risk of infringing on the patent rights of a patented business can be avoided in the case of developing new products to enter the market. It is possible to buy a license or use this information to research raw materials to change the design.





01

02

03

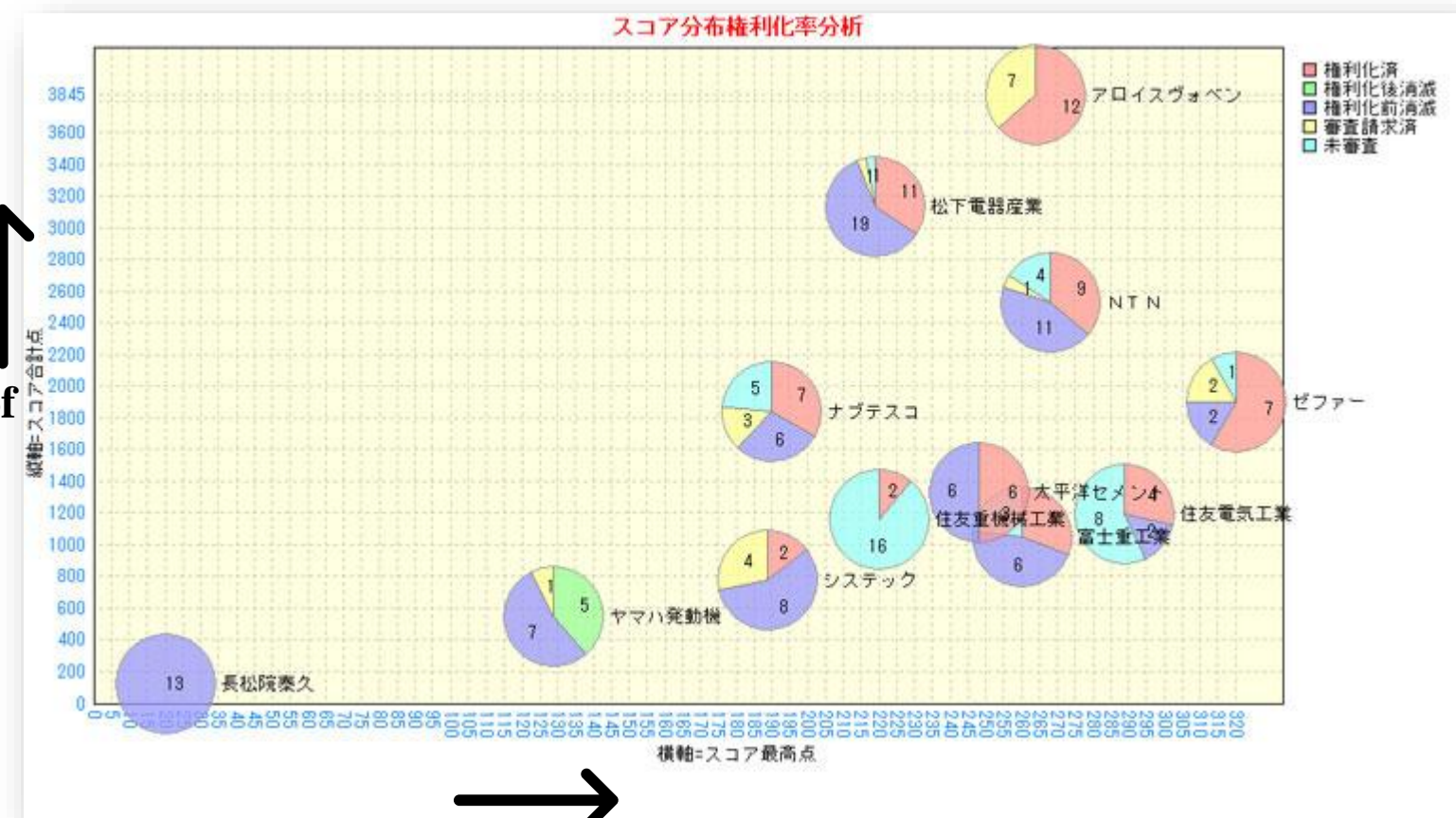
04

05

- Understand the patent status of competitors - Patent grant rate of the applicant

Total score of invention

The highest point of the invention



Source: JPDS_Score Distribution Analysis of the patenting rate

01

02

03

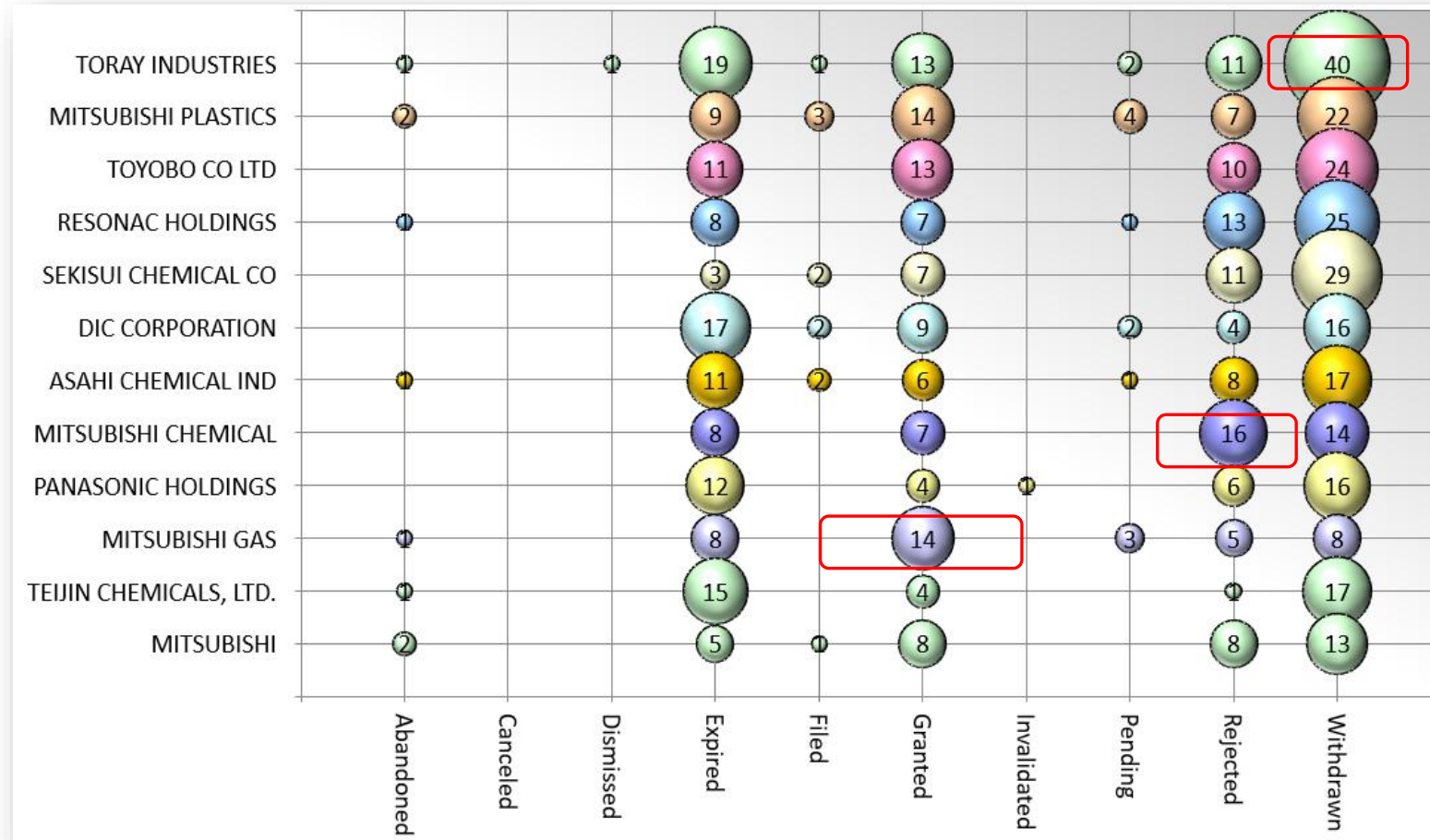
04

05

Understanding the patent strategy of competitors - Applicant × Grant status

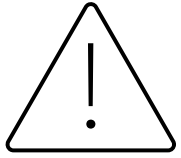
(resin NEAR3 viscosity).ab.

Applicant ↓



Patenting status

The size of the bubble is proportional to the application volume.



▷ Confirm the source of information and reliability of data

- ▷ Especially with free databases (J - PlatPat, Espacenet, Google Patents, USPTO, WIPO, P ATENTSCOPE, etc.), it is necessary to check whether the information is updated periodically.
- ▷ Commercial databases (WIPS Global, Derwent Innovation, Orbit Intelligence, Patsnap, etc.) can provide more detailed analysis but will incur usage fees so this should be considered.
- ▷ Each database has different sources of patents and documents, and sometimes data updates in some countries will be delayed, so you need to confirm whether it is the latest information or not.

▷ Set up the appropriate lookup command

- ▷ Noise information (irrelevant patents) can be avoided by using the Boolean operation or search command with the appropriate patent classification (IPC, CPC).
- ▷ Set the search scope (Abstract, Claims, Full Text) that best suits the proposed purpose.

▷ Data Reconciliation (Unification)

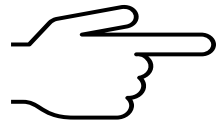
- ▷ Eliminate duplication in patent status (publication, granted)
- ▷ Unify the date of use (Application date, publication date, etc.)



Summary of presentation content

In this section, we have learned the basics of data analysis using patent maps. We also learned about visualizing the environment of competitiveness, from which we can build strategic recommendations.

To improve the accuracy of the analysis, choosing the right indicator is extremely important.



- **Next Steps**

Use commercial databases and practice with real-world examples




Contact Us



Property Co., LTD.

Intellectual Property Information Division

 : +81-3-5990-6540



: <https://www.property.ne.jp/>

MR. MIZUNO MORIHITO(Director)



: mizuno@property.ne.jp

MR. NUNOKAWA TAKURO



: nunokawa@property.ne.jp

For inquiries regarding our services, collaboration opportunities, or project consultations, please feel free to get in touch.