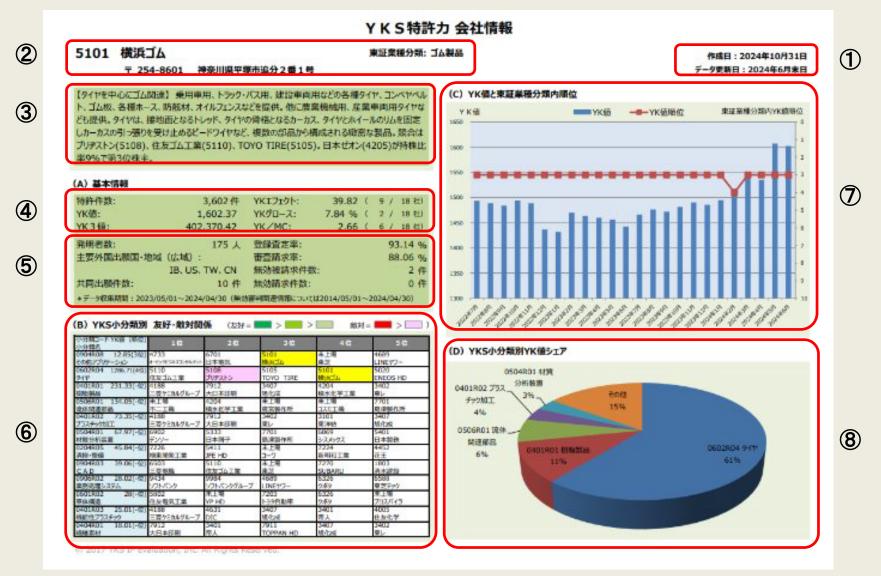
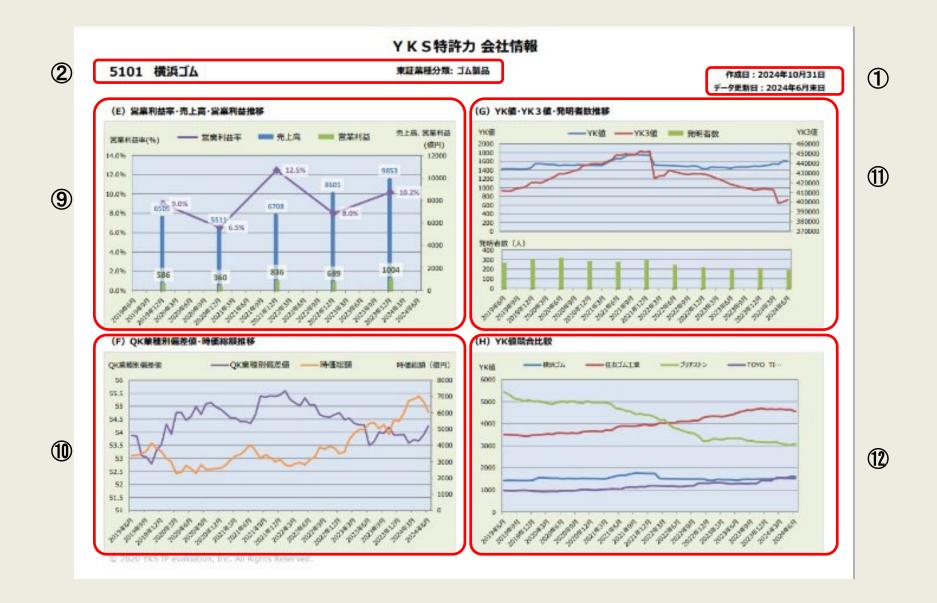
October 31th,2024 YKS IP evaluation, inc.

**YKS Patent Power Company Information** provides an overview of each company's technological competitiveness based on its patents.





- ① 作成日(Creation Date of This Content) and データ更新日(Date of Data Used for Creation).
- ② Securities Code, Company Name, Company Address, and TSE Industry Classification.
- ③ This includes a summary of the company's business from a technological perspective. The sales figures (sales revenue) may include internal sales (sales revenue) within and between segments.
- 4 Basic Information "Upper Section" includes the following:
  - 特許件数(Number of Patents) → The number of patents held.
  - YK値(YK Value) → The total YK value of all patents held. A higher value indicates a higher absolute level of technological competitiveness.
  - YK3値(YK3 Value) → The total YK3 value of all patents held. A higher value indicates higher costs incurred for obtaining the company's patents.
  - YKエフェクト(YK Effect) → YK Value / YK3 Value. This metric shows how effectively the costs incurred for obtaining patents have contributed to the company's technological competitiveness (expressed on a scale of 10,000). The number in parentheses indicates the company's rank within its TSE industry classification.
  - $YKJ\Box X(YK Growth) \rightarrow An indicator of the increase or decrease in the YK value over the six-month period ending on the data update date. A larger increase indicates significant growth in technological competitiveness, while a larger decrease indicates a decline. The number in parentheses indicates the company's rank within its TSE industry classification.$
  - YK/MC → YK Value / Market Capitalization (unit: ¥1 billion). This indicator expresses the size of the company's technological competitiveness regardless of its scale, by excluding the company size factor from the YK value. A larger YK/MC value suggests a higher potential for future growth and stock price appreciation. The number in parentheses indicates the company's rank within its TSE industry classification.

- ⑤ Basic Information "Lower Section" includes the following:
  - 発明者数(Number of Inventors) → An indicator of the company's investment in research and development.

    Generally, the larger the company, the higher this number tends to be. When compared to the YK Effect, YK Growth, and YK/MC in the "Upper Section," certain trends may be observed.
  - 主要外国出願国·地域(広域)Major Foreign Filing Countries/Regions → The names of the main foreign countries where the company has filed patents. Since foreign filings generally cost more than domestic filings, they are made cautiously. Thus, the major foreign filing countries provide insight into the regions where the company considers its business most important (refer to the "List of Country/Region Codes").
  - 共同出願件数(Number of Joint Filings)  $\rightarrow$  The number of patent filings made jointly with other companies or organizations in Japan. This is an indicator of how actively the company engages in joint research. Joint filings can also indicate the company's openness to incorporating external technology.
  - 登録査定率(Registration Grant Rate) → Number of patents granted / (Number of patents granted + Number of rejections).

This ratio indicates the proportion of patent applications that resulted in granted patents. While a higher registration grant rate can suggest a company's careful approach to securing patent rights, a lower rate may imply a more challenging or aggressive approach.

審查請求率(Examination Request Rate) → Number of examination requests / Number of applications eligible for examination Request. This ratio shows the proportion of inventions for which the company actively seeks patent protection. A high examination request rate indicates a company that aims to enforce its rights and exclude competitors, whereas a low rate may suggest a company more focused on preventing others from obtaining patents.

- Number of Invalidity Requests Filed Against the Company → The number of times, within the past 10 years, that competitors have attempted to invalidate the company's patents. A high number indicates that the company holds patents that are inconvenient or detrimental to competitors, which may imply well- targeted patent filings.
- Number of Invalidity Requests Filed by the Company → The number of attempts made by the company, within the past 10 years, to invalidate competitors' patents. A high number suggests that the company's business frequently conflicts with competitors' patents and that it prefers to invalidate patents rather than circumvent them to operate its business.
- © Cooperative and Adversarial Relationships in YKS Technical Subclassifications This shows the strength of the company's YK value (a measure of technological competitiveness) within its primary subclassification, as well as its relationships-friendly or adversarial-with top-ranking companies in the same subclassification.
- Monthly Changes in "YK Value" and "TSE Industry Classification Rank" Over the Past Two Years This chart allows you to observe the macro trend of how the YK value (a measure of technological competitiveness) has changed over the past two years, providing insights into the company's future growth potential.
- Share of YK Value by Subclassification Within the Company This section shows the distribution of the YK value (a measure of technological competitiveness) within the company by subclassification.
- ① Line Graph of QK Deviation Score and Market Capitalization
  This graph shows the trends of the QK deviation score and market capitalization by displaying the QK value (a leading indicator of corporate growth and stock price: QK = YK value / Market Capitalization) deviation score within the 33 TSE industry classifications alongside market capitalization.
  The data used are: Monthly QK values and market capitalization over the past 5 years.

- ① Line Graphs of Monthly YK Value and Semi-Annual YK3 Value Over the Past 5 Years, and Bar Graph of the Total Number of Inventors Every Six Months Over the Past 5 Years: These graphs display the relationship between the competitiveness of patents held by the company (YK value), the costs incurred for obtaining patents (YK3 value), and the number of inventors engaged by the company. Note that the total number of inventors is based on the number of inventors listed in published patent gazettes from the past year at each data collection point. However, no data is available for the number of inventors in 2016.

  The data used are: Monthly YK values over the past 5 years, semi-annual YK3 values, and the total number of
- Graph Comparing the Monthly YK Value of the Company with Competitors Over the Past 5 Years: This graph compares the patent strength (YK value) trends between the target company and its competitors.

inventors every six months.

The data used are: Monthly YK values over the past 5 years.

### (A) Basic Information

#### **Number of Patents**

The total number of existing patents held by the target company and its consolidated subsidiaries.

(This is based on information disclosed up to two months before the data update. The same applies to other basic information aggregates.)

#### YK Value

This quantifies the costs incurred by competitors in attacking a patent (e.g., invalidation trials, procedures to prevent or nullify the patent). Patents that have survived despite significant costs likely possess the potential to exclude competitors. The higher the value, the greater the exclusionary effect of the patent on competitor operations. The YK value for each patent is calculated by extracting attack-related information from the Japan Patent Office's data, analyzing the scale and nature of the attack, and converting it into points. The value in this report represents the total YK value of patents held by the target company (including its consolidated subsidiaries).

#### YK3 Value

This quantifies the costs incurred by the patent holder for overseas expansion or defending the patent against competitor attacks. Patents with high costs suggest the patent holder perceives them as significantly important. A higher value indicates a greater expectation for increased future revenue by the patent holder. Like the YK value, the YK3 value is calculated for each patent. The value in this report represents the total YK3 value of patents held by the target company (including its consolidated subsidiaries).

#### YK Effect

YK value / YK3 value. If the YK3 value is considered an investment for securing revenue through technological competition, and the YK value is considered potential revenue, this metric represents the "revenue/investment" ratio concerning technology (displayed as 10,000 times the standardized value).

#### YK Growth

The growth rate of the YK value compared to the previous period (6 months ago). It represents the growth rate of technological competitiveness.

#### YK/MC

To enable the comparison of technological competitiveness between companies of different sizes, the YK value is divided by the market capitalization (in units of ¥1 billion) to express technological competitiveness per unit of market capitalization.

#### **Number of Inventors**

The number of inventors listed in patent applications disclosed within the data collection period (past year). This is one indicator of a company's research and development investment.

#### Major Foreign Filing Countries/Regions

The top 8 major foreign filing countries/regions. The country codes comply with the WIPO country codes. "WO" and "IB" represent international applications.

# **Number of Joint Applications**

The number of joint applications disclosed within the data collection period (past year). This is an indicator of the degree of collaboration with other companies.

# **Registration Decision Rate**

The ratio of registration decisions to the total number of registration and rejection decisions during the data collection period (past year).

# **Examination Request Rate**

The ratio of examination requests to the total number of applications eligible for examination requests that expired during the data collection period (past year).

# **Number of Invalidity Requests Received**

The number of invalidation trials or opposition proceedings received by the target company during the data collection period (past 10 years).

# **Number of Invalidity Requests Filed**

The number of invalidation trials or opposition proceedings filed by the target company during the data collection period (past 10 years).

### (B) Cooperative and Adversarial Relationships by YKS Subcategory

A list of the technical fields in which the target company excels and the prominent companies in those fields.

### YKS Subcategory Code and Name, YKS Subcategory YK Value (Rank)

Displays the YKS subcategory code and name, as well as the YK value of the target company in that YKS subcategory.

The rank refers to the target company's position in the YKS MAP of that subcategory.

(Ranks are displayed up to 10th place; below that, a "-" is indicated.)

#### **Companies Highlighted in Yellow**

Represents the target company.

### Companies Highlighted in Green

Indicates friendly relationships. These companies share patents with YK values in the YKS technical category with the target company. The level of sharing is indicated by three different shades of green, with darker shades representing higher YK values of shared patents.

#### Companies Highlighted in Red

Indicates adversarial relationships. These companies have engaged in adversarial procedures such as patent invalidation trials with the target company in the YKS technical category. Two levels are displayed: dark red indicates two or more occurrences, and light red indicates only one occurrence.

# (C) YK Value and Ranking within Tokyo Stock Exchange Industry Classification

### **Bar Graph**

The target company's monthly YK value for the past two years.

### **Line Graph**

The target company's monthly ranking within the Tokyo Stock Exchange industry classification for the past two years.

# (D) YK Value Share by YKS Subcategory

#### Pie Chart

Displays the share of YK values in each YKS technical industry subcategory for the target company.

### (E) The QK deviation values by industry, Revenue, and Operating Profit Trends

#### Bar Graph (Blue)

The target company's annual revenue over the past five years.

# Bar Graph (Green)

The target company's annual operating profit over the past five years.

# Line Graph

The QK deviation values by industry for the target company over the past five years.

# (F) The QK deviation values by industry and Market Capitalization Trends

# Line Graph (Purple)

The QK deviation values by industry for the target company over the past five years.

# Line Graph (Orange)

The target company's market capitalization over the past five years.

# 【 Glossary of Terms 】

### (G) Trends in YK Value, YK3 Value, and Number of Inventors

### Line Graph (Blue)

The target company's YK values over the past five years.

#### Line Graph (Red)

The target company's YK3 values over the past five years.

#### **Bar Graph**

The number of inventors for the target company over the past five years.

# (H) YK Value Comparison with Competitors

#### Line Graph

The trends in YK values for the target company and its competitors over the past five years.

#### Note 1: About the Data Used for Patent-Related Information

The data is based on the Japan Patent Office's (JPO) "Standardized Data for Processing" of examination history. Applications that were withdrawn before publication or those for which examination history information could not be obtained are excluded from the aggregate data.

- Note 2: Overlapping Points for YK Value and YK3 Value in YKS Technical Industry Classifications
  A single patent may belong to multiple YKS technical industry classifications (subcategories), such as both the
  "Dam, Canals, Water and Sewage" field and the "Hydroelectric Power" field. In such cases, the YK value and YK3
  value are allocated to each subcategory.
- Note 3: Distribution of YK Value and YK3 Value for Joint Applications

  For joint applications, YK value and YK3 value are evenly distributed among the companies involved.
- Note 4: Ranking in (B) YKS Subcategory: Friendly and Adversarial Relationships

  The ranking includes companies that exceed a certain threshold for YK3 value, focusing on the top companies in YK value. Therefore, the ranking may differ from the "Patent Competitiveness Ranking," which is created with all companies as the population. Please be aware of this difference.

Code	Name of State	Code	Name of State	Code	Name of State	Code	Name of State
AE	United Arab Emirates	EC	Ecuador	LA	Lao People's Democratic Republic	RO	Romania
AG	Antigua and Barbuda	EE	Estonia	LC	Saint Lucia	RS	Serbia
AL	Albania	EG	Egypt	LI	Liechtenstein	RU	Russian Federation
AM	Armenia	ES	Spain	LK	Sri Lanka	RW	Rwanda
AO	Angola	FI	Finland	LR	Liberia	SA	Saudi Arabia
AT	Austria	FR	France	LS	Lesotho	SC	Seychelles
AU	Australia	GA	Gabon	LT	Lithuania	SD	Sudan
AZ	Azerbaijan	GB	United Kingdom	LU	Luxembourg	SE	Sweden
BA	Bosnia and Herzegovina	GD	Grenada	LV	Latvia	SG	Singapore
BB	Barbados	GE	Georgia	LY	Libya	SI	Slovenia
BE	Belgium	GH	Ghana	MA	Morocco	SK	Slovakia
BF	Burkina Faso	GM	Gambia	MC	Monaco	SL	Sierra Leone
BG	Bulgaria	GN	Guinea	MD	Republic of Moldova	SM	San Marino
ВН	Bahrain	GQ	Equatorial Guinea	ME	Montenegro	SN	Senegal
BJ	Benin	GR	Greece	MG	Madagascar	ST	Sao Tome and Principe
BN	Brunei Darussalam	GT	Guatemala	MK	North Macedonia	SV	El Salvador
BR	Brazil	GW	Guinea-Bissau	ML	Mali	SY	Syrian Arab Republic
BW	Botswana	HN	Honduras	MN	Mongolia	SZ	Eswatini
BY	Belarus	HR	Croatia	MR	Mauritania	TD	Chad
BZ	Belize	HU	Hungary	MT	Malta	TG	Togo
CA	Canada	ID	Indonesia	MU	Mauritius	TH	Thailand
CF	Central African Republic	IE	Ireland	MW	Malawi	TJ	Tajikistan
CG	Congo	IL	Israel	MX	Mexico	TM	Turkmenistan
CH	Switzerland	IN	India	MY	Malaysia	TN	Tunisia
CI	Côte d'Ivoire	IQ	Iraq	MZ	Mozambique	TR	Türkiye
CL	Chile	IR	Iran (Islamic Republic of)	NA	Namibia	TT	Trinidad and Tobago
CM	Cameroon	IS	Iceland	NE	Niger	TZ	United Republic of Tanzania
CN	China	IT	Italy	NG	Nigeria	UA	Ukraine
CO	Colombia	JM	Jamaica	NI	Nicaragua	UG	Uganda
CR	Costa Rica	JO	Jordan	NL	Netherlands	US	United States of America
CU	Cuba	JP	Japan	NO	Norway	UY	Uruguay
CV	Cabo Verde	KE	Kenya	NZ	New Zealand	UZ	Uzbekistan
CY	Cyprus	KG	Kyrgyzstan	OM	Oman	VC	Saint Vincent and the Grenadines
CZ	Czechia	KH	Cambodia	PA	Panama	VN	Viet Nam
DE	Germany	KM	Comoros	PE	Peru	WS	Samoa
DJ	Diibouti	KN	Saint Kitts and Nevis	PG	Papua New Guinea	ZA	South Africa
DK	Denmark	KP		PH	Philippines	ZM	Zambia
DM	Dominica	KR	Republic of Korea	PL	Poland	ZW	Zimbabwe
DO	Dominican Republic	KW	Kuwait	PT	Portugal		
DZ	Algeria	KZ	Kazakhstan	QA	Qatar		
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