IP Trends and JPO Initiatives

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Japan Patent Office Commissioner

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4 Initiatives for SEP Licensing Negotiations

Recent Patent Filing Trends and JPO Initiatives

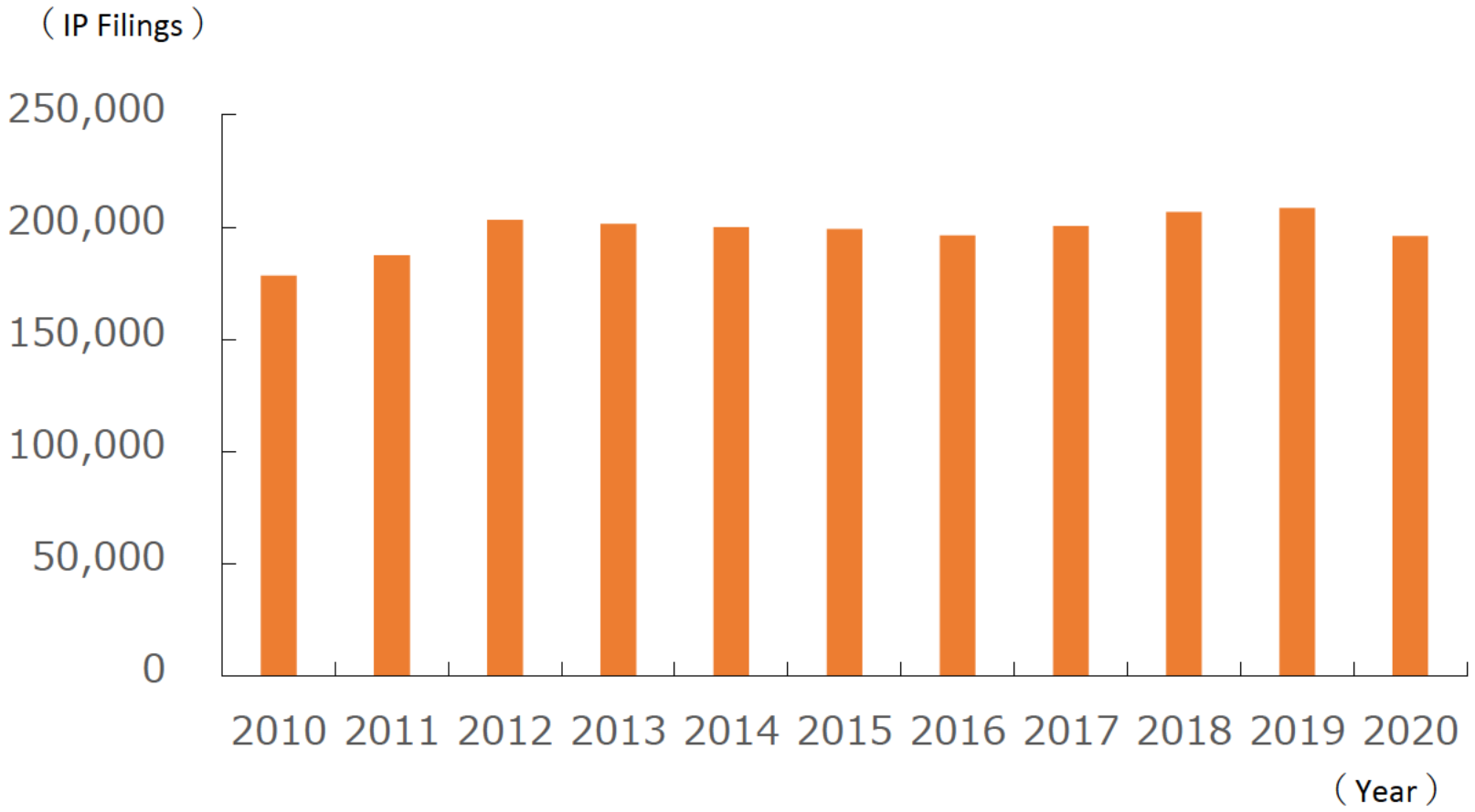
Recent Patent Filing Trends

【Patent Applications】 【Requests for Examination】

	Total	Jan - Sep		Total	Jan - Sep	
2018	313,567	234,337		234,309	174,991	
			-1.2%			1.8%
2019	307,969	231,436		235,182	178,146	
			-6.1%			-2.8%
2020	288,472	217,409		232,215	173,185	
			-1.7%			3.7%
2021	—	213,621		—	179,641	

Recent Trends on Outgoing Patents Filed from Japan

● The number of outgoing patent applications from Japan to overseas has stayed almost flat since 2012.



The number is based on WIPO Intellectual Property Statistics.

Recent Design Filing Trends

【Design Applications】

	Total	Jan - Sep
2018	31,406	23,228
2019	31,489	23,466
2020	31,752	23,482
2021	—	23,701

1.02%

0.07%

0.93%

Recent Trademark Filing Trends

【Trademark Applications】

	Total	Jan - Sep	
2018	184,483	137,519	
2019	190,773	143,655	4.5%
2020	181,072	135,741	-5.5%
2021	—	137,466	1.3%

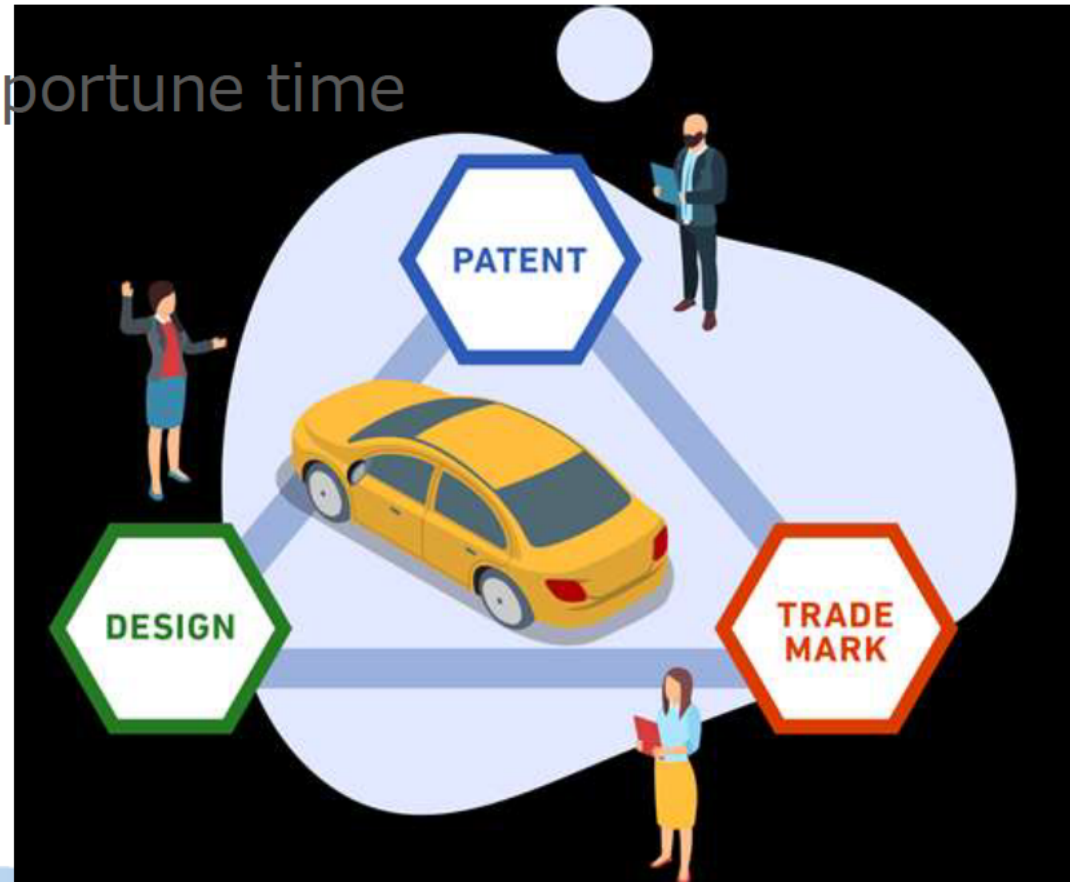
Measures to Address Changes in Socioeconomic Activities

- **Digitalization of procedures**
  - Expansion of online procedures
- **Elimination of seals and signatures**
- **Secure telework environment for examiners**
  - Introduction of telework support system
  - Development of method for teleworking examiners to call users
- **Online oral proceedings in trials/appeals**
  - Enabling of oral proceedings via video conference system
  - Proceedings held for six cases since the launch (as of 30th Nov)
- **AI-based examination support system**
  - Patent classifications, prior art searches
  - AI search competition for figure trademarks

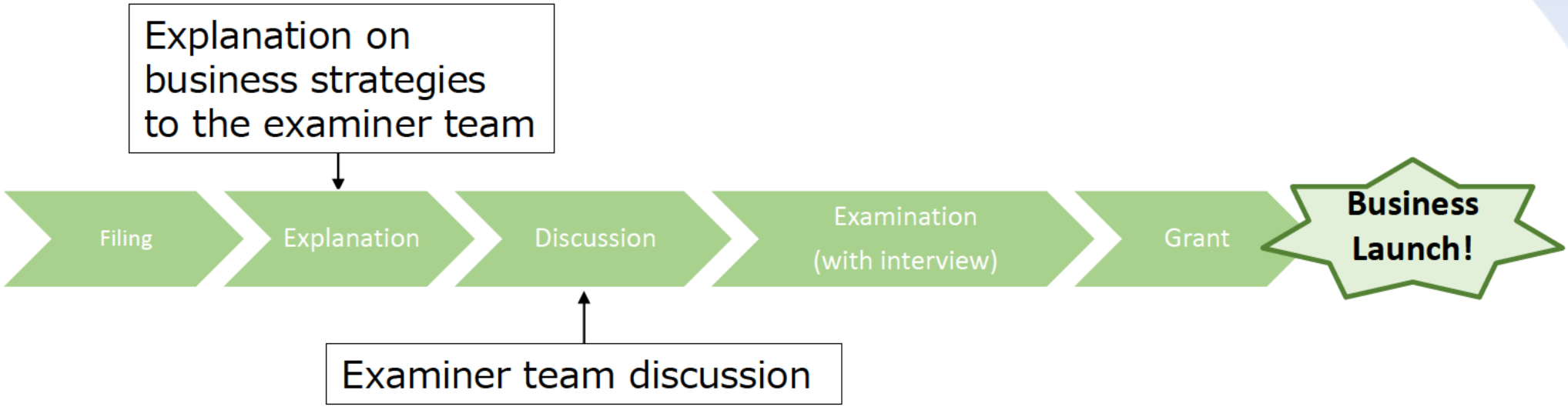
Initiatives to Support Business Development Through Examinations

Collective Examinations for IP Portfolio (CEIP) ①

- Package examination for an entire product/service.
- Cross-sectional examination of multiple IP applications
- Grant rights at the most opportune time



Collective Examination for IP Portfolio (CEIP) ②

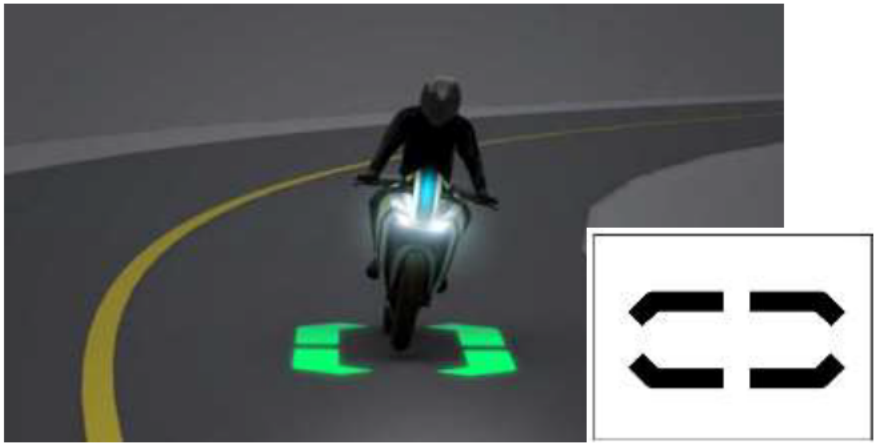


User Feedback

- Pre-examination presentation helped examiners to better understand the background of our business strategy and target market.
- We were able to build an IP portfolio prior to the market launch.
- CEIP increased the value of starting a new business and effectively prevented other companies from entering the market.

Expanded Protection Under Revised Design Act

First Registered Cases



"Graphic Image for Displaying Information on Situation of Vehicle" (Applicant: Koito Manufacturing Co., Ltd.)

"Commercial Building" (Applicant: Fast Retailing Co., Ltd.)

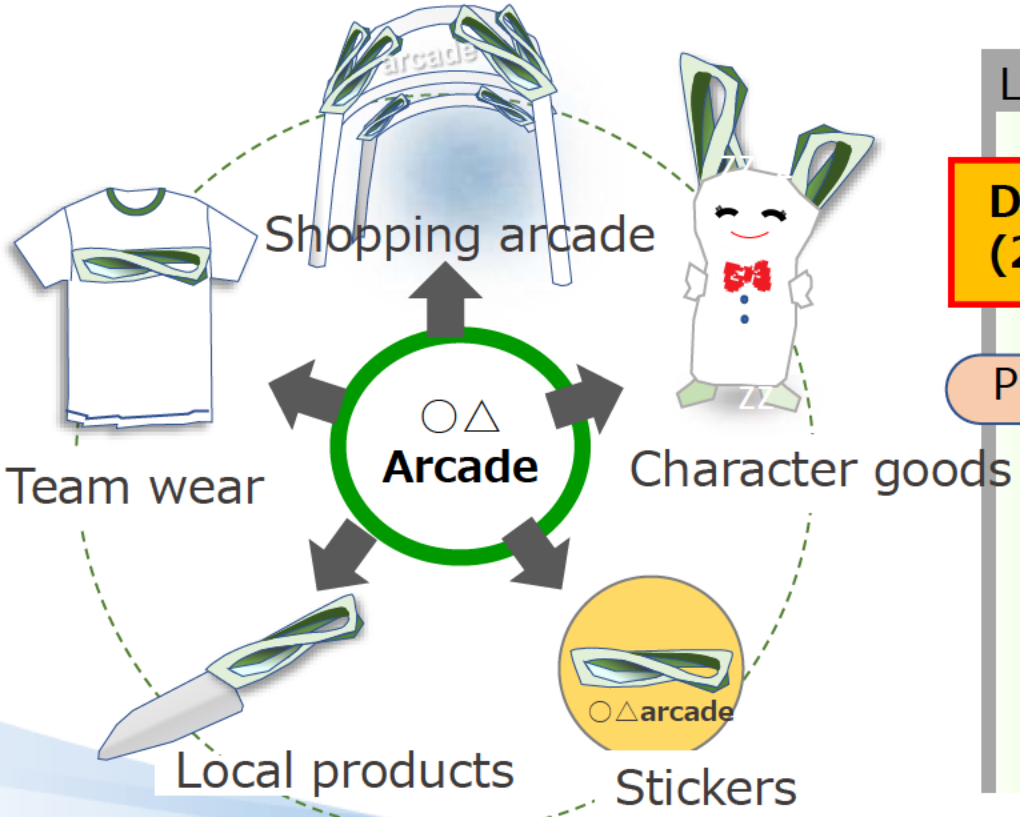
"Book Store Interior" (Applicant: Culture Convenience Club Co., Ltd.)

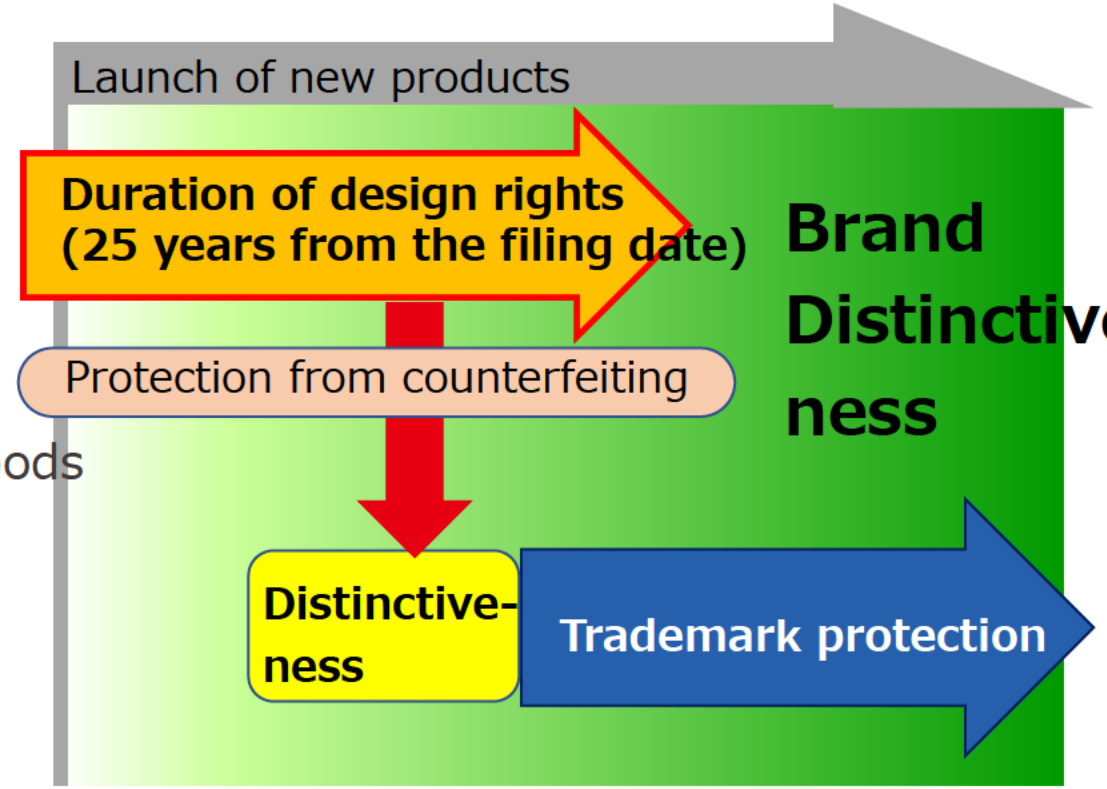
Use of Trademark/Design for Regional Brand Strategy

- Design rights for new products, packages, stores, and other designs
- Trademark rights for product names and logos

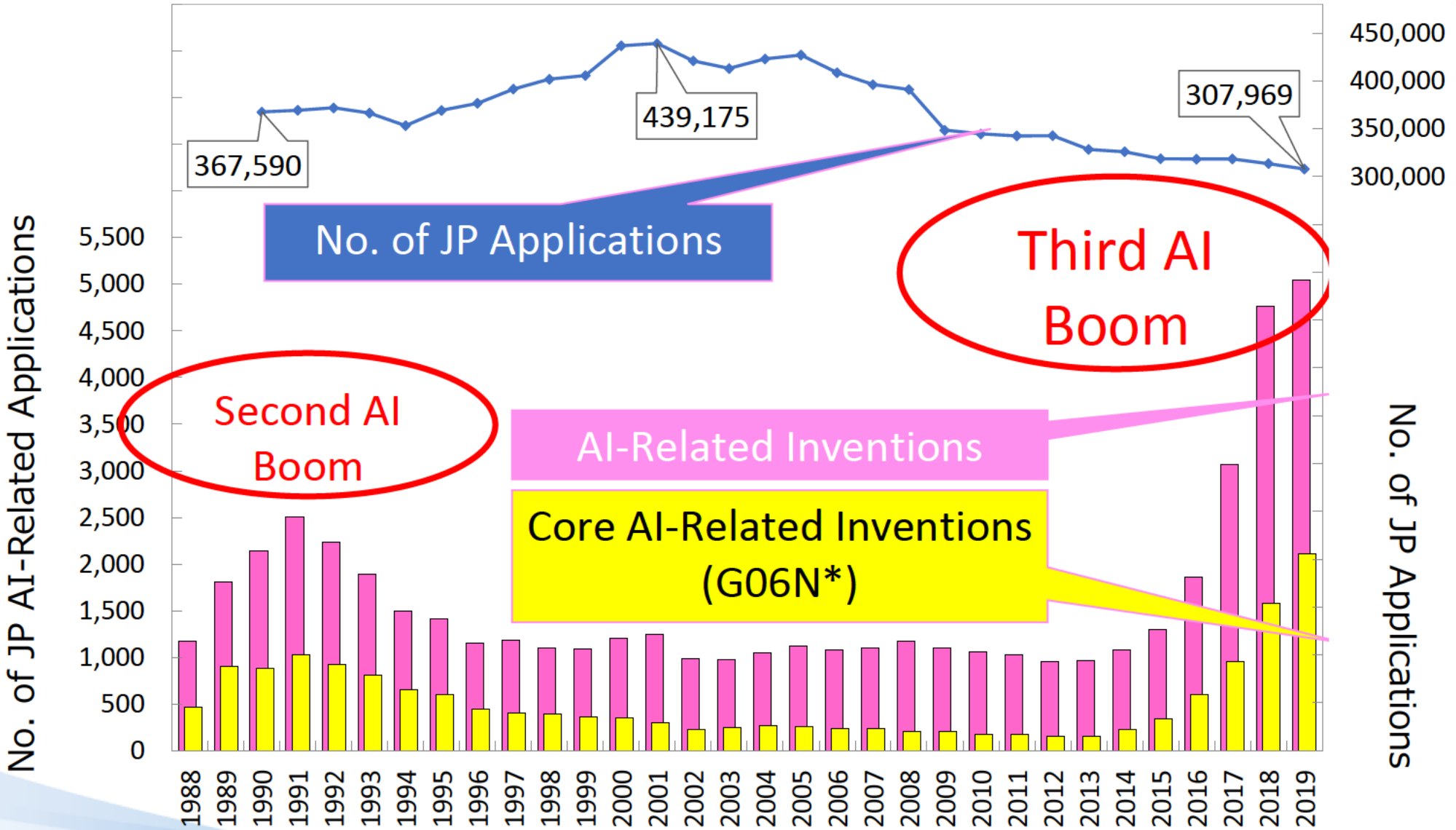
} Overall Brand Image Protection

- Exclusive use of product designs through design rights
  → Gain distinctiveness as a trademark
  → Protection for 3D trademarks even after the expiration of the design right





AI-related Core Technologies ①



*G06N: COMPUTER SYSTEMS BASED ON SPECIFIC COMPUTATIONAL MODELS

AI-related Core Technologies ②

- AI Examination Support Team (Since Jan 2021)
  - Collaboration across technical fields
  - Consultation services provided to examiners

- Examination case examples on AI/IoT-related inventions (Since 2017)
  - More than 30 cases
  - Clear understanding of examination practices

AI-related Core Technologies ③

Comic-version examination standard on AI and IoT-related inventions (Since Oct. 2021)

JPO MANGA

Assessment of Technology Development Trends Based on Patent Analysis

WIPO IPC Green Inventory ①

■ Table of International Patent Classification for patents relating to Environmentally Sound Technologies (ESTs), as listed by the United Nations Framework Convention on Climate Change (UNFCCC)

* Prepared by the JPO with some excerpts from IPC Green Inventory (Vehicles (General)/Transportation)

VEHICLES (GENERAL)	IPC
HYBRID VEHICLES, E.G. HYBRID ELECTRIC VEHICLES (HEVS)	B60K 6/00, 6/20
CONTROL SYSTEMS	B60W 20/00
GEARINGS THEREFOR	F16H 3/00-3/78, 48/00-48/30
BRUSHLESS MOTORS	H02K 29/08
ELECTROMAGNETIC CLUTCHES	H02K 49/10
REGENERATIVE BRAKING SYSTEMS	B60L 7/10-7/22
ELECTRIC PROPULSION WITH POWER SUPPLY FROM FORCE OF NATURE, e.g., SUN, WIND	B60L 8/00
ELECTRIC PROPULSION WITH POWER SUPPLY EXTERNAL TO VEHICLE	B60L 9/00
WITH POWER SUPPLY FROM FUEL CELLS, E.G. FOR HYDROGEN VEHICLES	B60L 50/50-58/40
COMBUSTION ENGINES OPERATING ON GASEOUS FUELS, e.g. HYDROGEN	F02B 43/00 F02M 21/02, 27/02
POWER SUPPLY FROM FORCE OF NATURE, e.g., SUN, WIND	B60K 16/00
CHARGING STATIONS FOR ELECTRIC VEHICLES	H02J 7/00

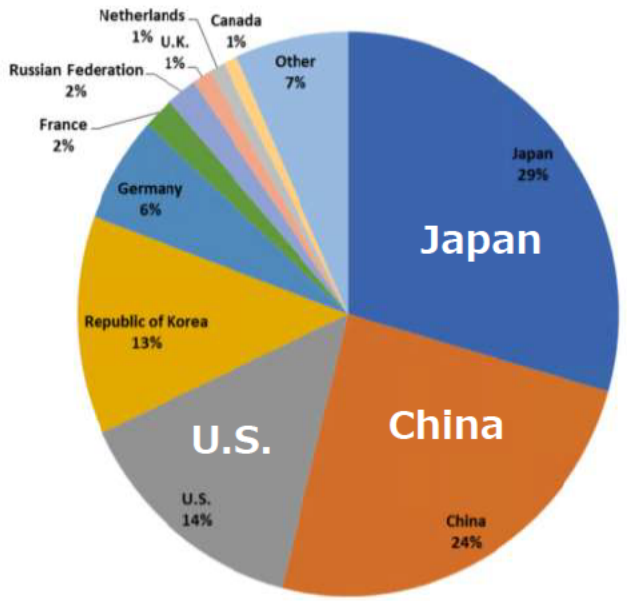
https://www.wipo.int/classifications/ipc/green-inventory/home

WIPO IPC Green Inventory ②

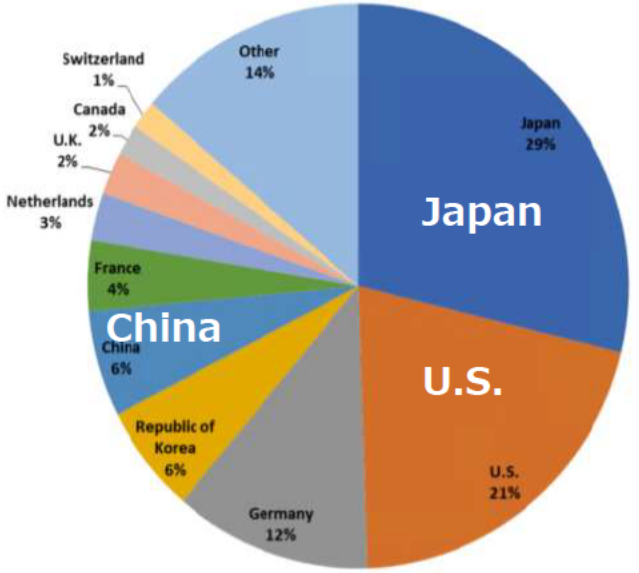
■ Based on the WIPO IPC Green Inventory, an analysis of trends in green patents suggests that applicants of Japanese nationality have accumulated a significant number of green energy technologies.

Figure 5: Green energy patent filings by origin

Patent families in green energy technologies by origin, 2005–15



PCT international patent applications in green energy technologies by origin, 2007–17



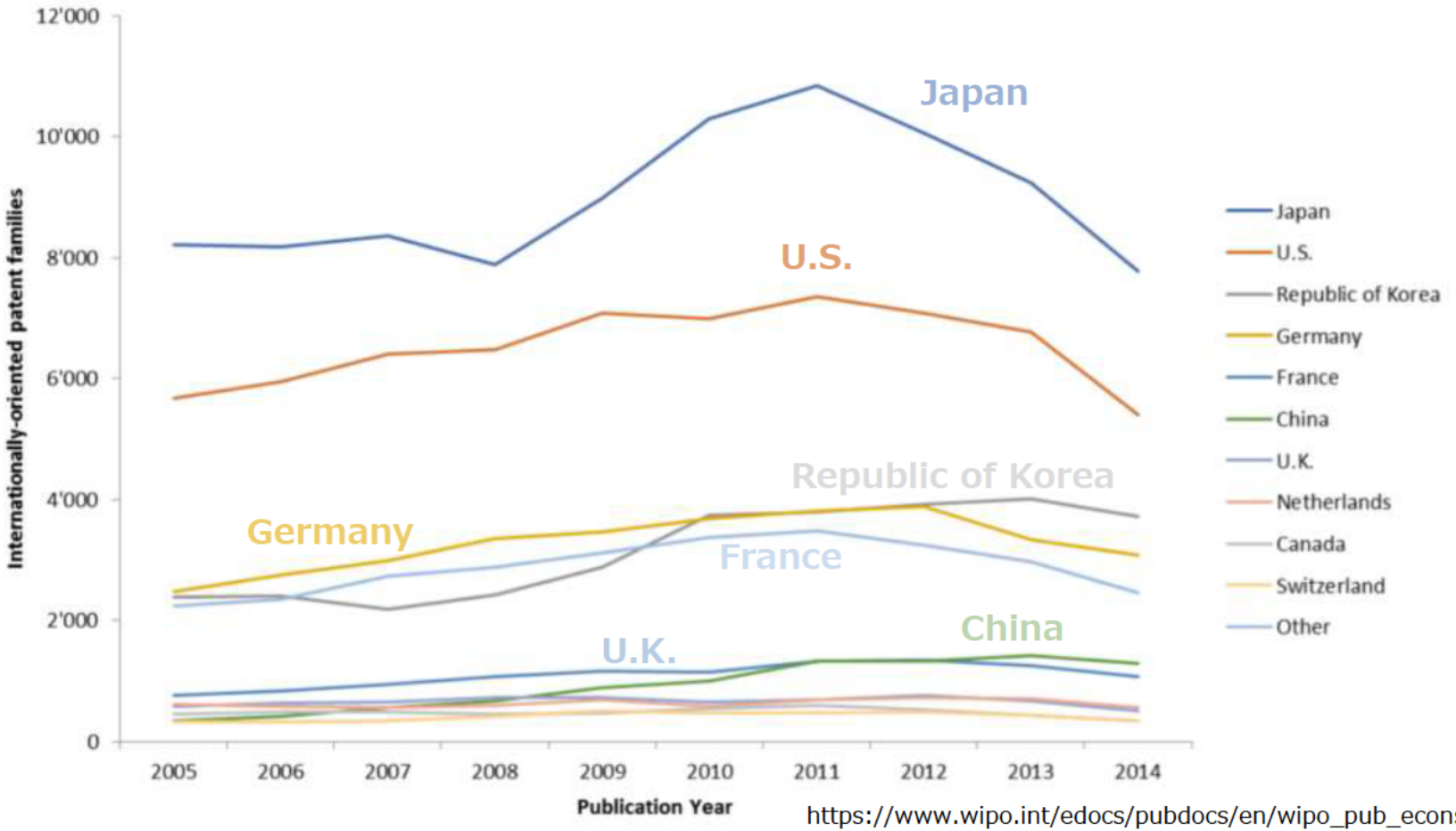
* In this paper, Patent Family is defined as a set of interrelated patent applications filed in one or more countries or jurisdictions to protect the same invention.

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_econstat_wp_44.pdf

WIPO IPC Green Inventory ③

■ Applicants of Japanese nationality have maintained the top position in the number of internationally-oriented patent families in green energy technologies. (as of 2018)

Figure 6: Internationally-oriented patent families in green energy technologies by origin, 2005-2014



https://www.wipo.int/edocs/pubdocs/en/wipo_pub_econstat_wp_44.pdf

Carbon Neutral Technology ① (Japan's Energy White Paper 2021 by METI)

■ **Japan possesses a high level of IP competitiveness, ranking first in four fields (hydrogen; automobiles and storage batteries; semiconductors and telecommunications; and food, agriculture, forestry, and fisheries), and second/third in six other fields.**

Area	Country/ Region	1. Floating offshore wind	2. Ammonia fuel cells	3. Hydrogen	4. Nuclear power	5. Automobiles and storage batteries	6. Semiconductors, telecommunications	7. Vessels
North America	US	111,695	188,071	4,446,582	339,254	17,888,117	8,126,236	231,415
Asia	Japan	117,766	110,725	10,408,492	66,092	41,031,435	8,374,314	207,923
	China	395,799	132,596	7,189,022	220,847	19,664,237	7,798,931	205,020
	Korea	72,335	11,248	4,084,474	27,257	16,487,746	2,238,312	331,374
	Taiwan	7,645	882	198,865	3,165	748,283	1,953,732	7,337
Europe	Germany	96,045	103,181	1,850,588	15,001	7,398,661	1,898,786	196,053
	France	62,831	8,393	1,133,446	28,364	2,998,717	730,967	32,060
	UK	35,046	21,324	770,201	66,596	493,248	243,32	51,966

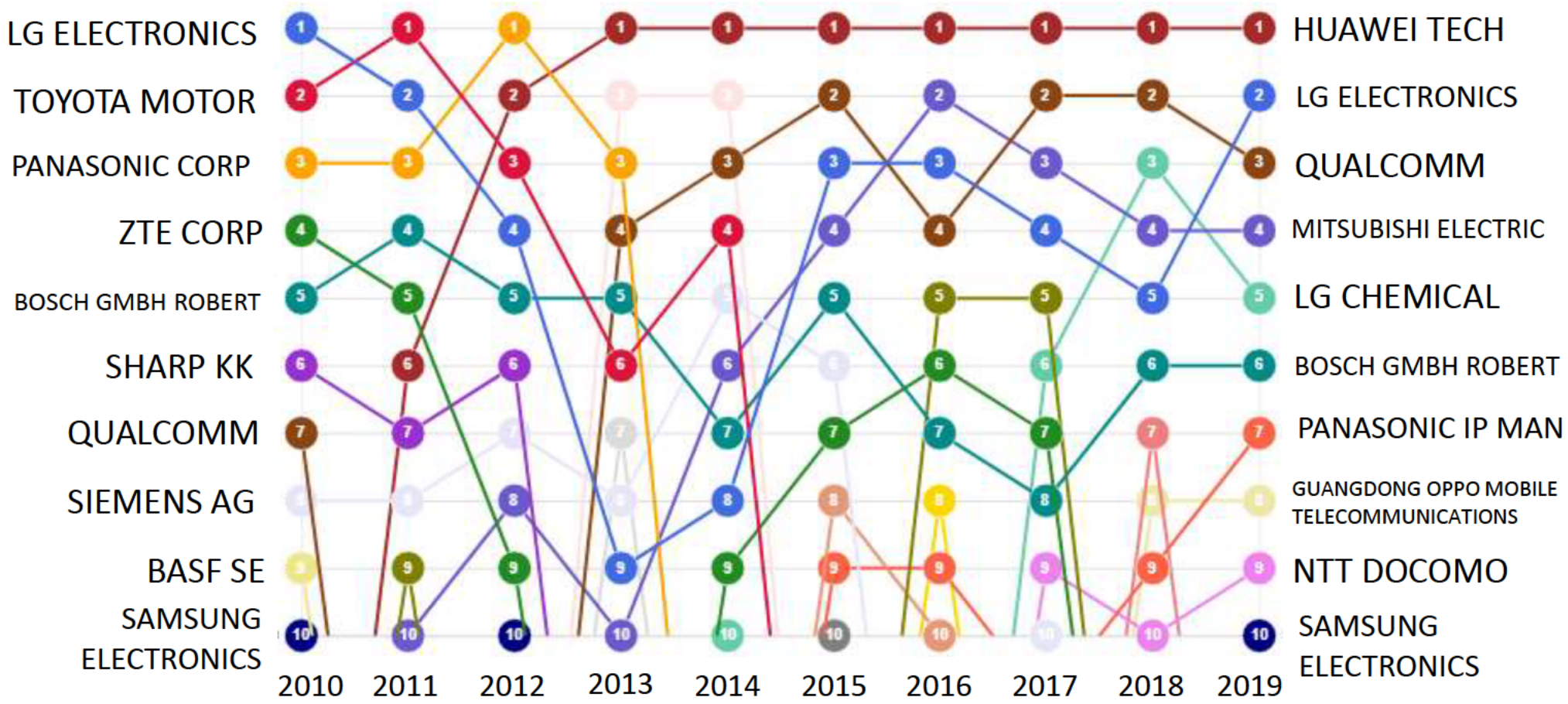
Area	Country/ Region	8. Logistics, mobility, civil engineering infrastructure	9. Food, agriculture, forestry, fisheries	10. Aircrafts	11. Carbon capture, usage and storage	12. Homes, buildings, solar panels	13. Renewable energy	14. Life style
North America	US	1,771,988	140,671	155,096	1,727,312	401,992	1,636,011	167,744
Asia	Japan	645,048	252,610	23,981	1,136,507	487,430	441,670	38,253
	China	4,146,451	108,493	36,852	1,729,685	1,418,341	3,563,366	254,570
	Korea	922,864	129,503	5,427	489,824	301,729	456,702	23,241
	Taiwan	61,268	4,889	0	35,739	9,081	21,847	2,807
Europe	Germany	354,831	11,656	5,642	333,691	69,882	158,333	29,821
	France	170,935	19,903	68,515	387,132	16,217	173,150	35,548
	UK	65,059	13,239	8,940	68,923	5,404	69,784	8,563

Japan's Energy White Paper 2021 by METI Figure 123-2-4
https://www.enecho.meti.go.jp/about/whitepaper/2021/html/1-2-3.html

- Index used: Geographically Arranged Total Patent Asset index evaluated using patent impact*1 and technical threat*2 to others multiplied by the remaining time of rights.

*1 The number of patents requested for inspection of documents, the number of information submissions against patent applications of others, etc.
*2 The number of examiners' citations as reasons for rejection, number of patents requested for invalidation trial, etc.

Carbon Neutral Technology ②（JAPIO）



Japio: Top PCT Filers in Carbon Neutral Technology
https://transtool.japio.or.jp/work/data/bump_chart_wo_sougou.html

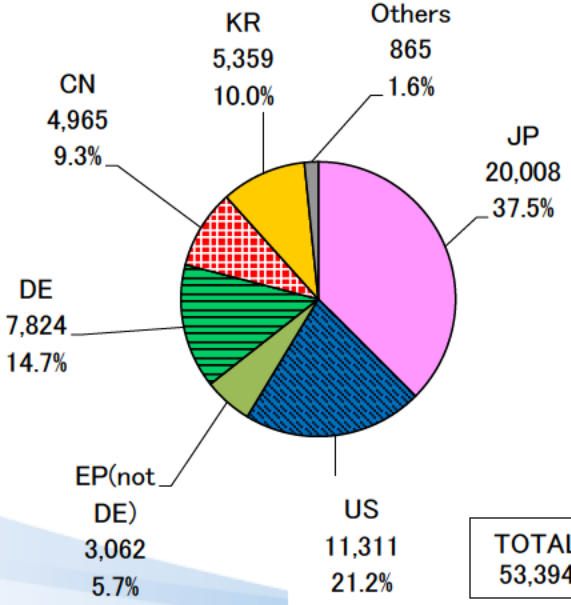
Technology Trend Research by JPO

- Research on patent filing trends for hot topics in technology
- Involvement of JPO examiners in the creation of search formulas for quality results
- Noise elimination and technology categorization made possible by thorough reading
  - High level of accuracy in analysis
- Analysis of key technological strengths in Japan based on the advice of the expert committee

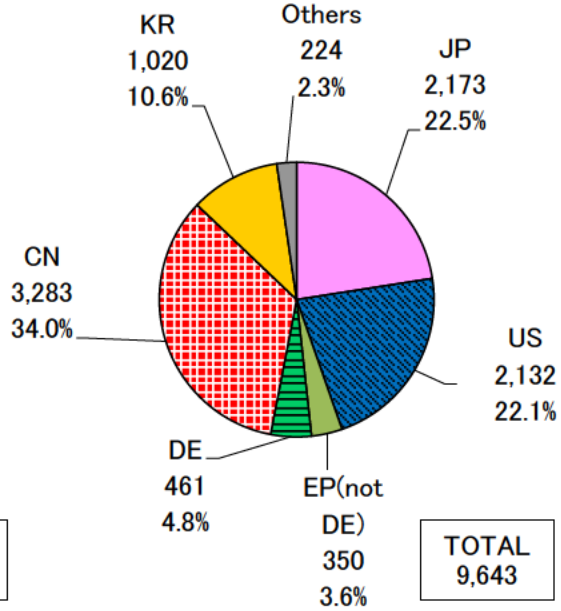
Research Results 2020 by JPO ① MaaS: Mobility as a Service

- Japan occupies the biggest proportion of applications (37.5%) related to self-driving automobiles, while China holds the largest number of applications (34.0%) for MaaS-related technologies.
- The report provides proposals and insights on MaaS technology through in-depth analysis of trends by technology category, surveys of the market environment/policy trends, and discussions by experts.
- Future challenges pointed out in the report include building multimodal cooperation, creating a data collection and sharing platform commonly accessed by transportation providers, and integrating individual technologies.

Applicants' nationality/origin for self-driving technologies



Applicants' nationality/origin for MaaS-related technologies



Offices: JP, US, EP, DE, CN, KR 2014－2018

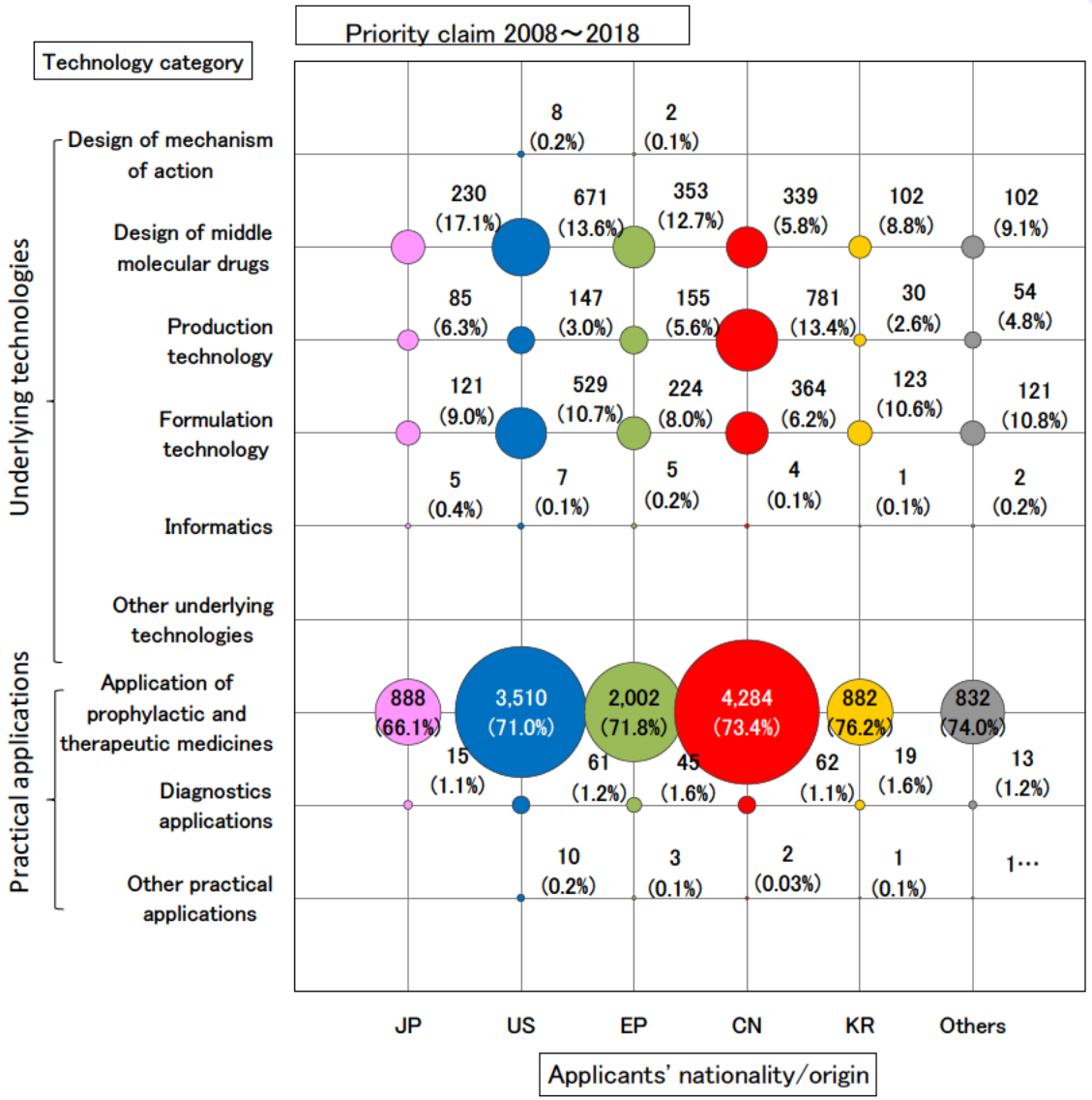
Top 10 filers of MaaS-related technologies

Rank	Applicants	No.
1	TOYOTA MOTOR （JP）	647
2	DIDI CHINA TECHNOLOGY （CN）	436
3	FORD GLOBAL TECHNOLOGIES （US）	290
4	UBER TECHNOLOGIES （US）	289
5	GM GLOBAL TECHNOLOGY OPERATIONS （US）	173
6	HITACHI （JP）	160
7	HONDA MOTOR （JP）	143
8	IBM （US）	127
9	MITSUBISHI ELECTRIC （JP）	99
10	HYUNDAI MOTOR （KR）	92

※Cited in Nihon Keizai Shimbun on Sep. 3,2021

Research Results 2020 by JPO ② Middle molecular drugs

- The report provides proposals and insights through in-depth analysis of trends by technology category, surveys of the market environment/policy trends, and discussions by experts.
- 33% of applications from Japan consist of "underlying technology," higher percentage than those from other countries/regions. According to the report, however, Japan's strengths may not be fully utilized in corporate drug discovery activities. The report suggests that the underlying technology of academia such as molecular design, manufacturing technologies, and formulation technologies, should be linked to practical applications.



※Cited in Nihon Keizai Shimbun on Oct. 21,2021

Research Themes for 2021

- Use of ICT (Information and Communication Technology) in education
- Surgical robots
- Countermeasures against viral infections
- GaN power devices

Initiatives for SEP Licensing Negotiations

The spread of the IoT (Internet of Things)

SEP licensing negotiations may now involve end-product manufacturers (including suppliers) in addition to telecommunications companies.

Cross-licensing becoming more difficult

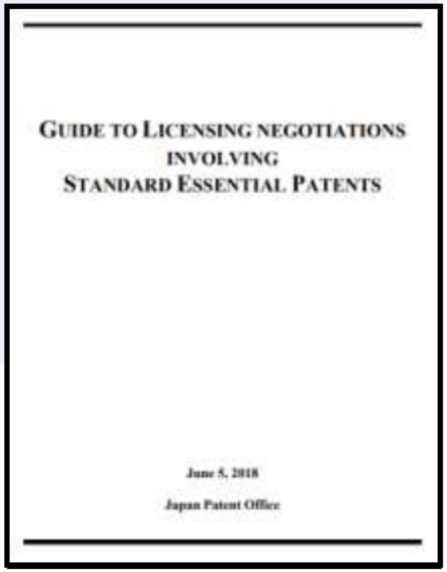
Difficult to evaluate perspectives on essentiality and licensing rates

Guide to Licensing Negotiations involving SEPs

Main Issues:

- ◆"Good Faith" in Licensing Negotiations
- ◆Parties to Negotiation in Supply Chain
- ◆Royalty Base (e.g., SSPPU v EMV)
- ◆Royalties for Different Uses

NOT legally binding, NOT prescriptive


GUIDE TO LICENSING NEGOTIATIONS
INVOLVING
STANDARD ESSENTIAL PATENTS

June 5, 2018

Japan Patent Office

Available in JP/EN

Published Through Open Dialogue with Global Stakeholders

29 Sep 2017-10 Nov 2017	**Proposals (50 submissions from inside/outside Japan)**
9 Mar 2018 - 10 Apr 2018	Public comments
13 Mar 2018	International symposium
5 Jun 2018	Publication of the guide

Comments from users:
Well-balanced between patent proprietor and implementer
- Comprehensive and easy-to-understand
- Best SEP-related document!

Open and transparent process

2022	**Revised edition to be published**

Hantei (Advisory Opinion) for Essentiality Check

- ✓ The *Hantei* system determines whether a specific patented invention qualifies as an SEP.

- ✓ The amendment of July 2019 prohibits inspection of any trade secrets in documents pertaining to a *Hantei* if a party to the case has given notice.

Thank you very much.