Updates from JPO

New features of the J-PlatPat database

April 2019
Japan Patent Office
1. New Patent Classification for IoT

2. Examination case examples of AI-related inventions

3. JPO’s Activities for Making Use of AI

4. New features of the J-PlatPat
New Patent Classification for IoT-related Technologies

- ZIT
- Supply of electricity, gas and water
- Subdivision
- Home & building; home electronics
- Manufacturing
- Information and communication
- Industries
- Finance
- Construction
- Agriculture, forestry and mining
- Logistics
- Healthcare
- Transportation
- Amusements, sports and games
- Services
Symbol: ZIT
Applicable technical fields: All
Main purpose: To identify a new patent application regarding IoT and enable a comprehensive search
Title: Internet of Things [IoT]

Technology to be included:
In this facet, IoT is defined as the technique of creating new values and services through utilization of information collected by connecting things with network.

Furthermore, “creating new values and services” means generating new information by use of the collected information and then providing or utilizing the newly-generated information.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Title</th>
<th>Supplementary explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZIT</td>
<td>Internet of Things[IoT]</td>
<td></td>
</tr>
<tr>
<td>ZJA</td>
<td>for agriculture; for fishing; for mining</td>
<td>Primary industries such as agriculture, fishing, forestry and mining</td>
</tr>
<tr>
<td>ZJC</td>
<td>for manufacturing</td>
<td>Manufacturing industries</td>
</tr>
<tr>
<td>ZJE</td>
<td>for supplying electricity, gas or water</td>
<td>Supplying consumers with electricity, gas or water</td>
</tr>
<tr>
<td>ZJG</td>
<td>for home and building; for home electric appliances</td>
<td>Home, Office building, equipment in buildings and home electric appliances</td>
</tr>
<tr>
<td>ZJI</td>
<td>for construction</td>
<td>Construction and repairing for buildings, roads and bridges</td>
</tr>
<tr>
<td>ZJK</td>
<td>for finance</td>
<td>Finance such as payments and transactions</td>
</tr>
<tr>
<td>ZJM</td>
<td>for services</td>
<td>Service industries such as hotel, restaurant, travel agency, property management, education, government and public works</td>
</tr>
<tr>
<td>ZJP</td>
<td>for health care, e.g. hospitals, medical treatments or diagnosis; for social work</td>
<td>Health care such as hospital, medical treatment and diagnosis and social welfare service</td>
</tr>
<tr>
<td>ZJR</td>
<td>for logistics, e.g. warehousing, loading, distribution or shipping</td>
<td>Logistics</td>
</tr>
<tr>
<td>ZJT</td>
<td>for transportation</td>
<td>Transportation such as vehicles, trains, airplanes and ships</td>
</tr>
<tr>
<td>ZJV</td>
<td>for communication</td>
<td>Provided with Information and Communication Technology</td>
</tr>
<tr>
<td>ZJX</td>
<td>for amusements; for sports; for games</td>
<td>Amusements, Sports and Games</td>
</tr>
</tbody>
</table>
The JPO has allocated ZIT codes to about 2,000 applications as of January 2019. The following graph shows IPC sections to which the ZIT-allocated applications belong.

**Proportion of IPC Sections with ZIT Allocated**

- **A** Human Necessities: 11%
- **B** Performing Operations; Transporting: 11%
- **C** Chemistry; Metallurgy: 0.2%
- **D** Textiles; Paper: 1%
- **E** Fixed Constructions: 1%
- **F** Mechanical Engineering; Lighting; Heating; Weapons; Blasting: 4%
- **G** Physics: 55%
- **H** Electricity: 17%
Our goal is to establish new IPC for IoT at the earliest possible time. The project to establish new IPC for IoT has been discussed in the IPC Revision Working Group.

ZIT*

*Classification for cross-sectional search of technologies which have many candidate places in IPC classes.

<Title>
Internet of Things [IoT]

<Technology to be included>
Techniques of creating new values and services through utilizing information that is collected, by connecting things with networks.
Agenda

1. New Patent Classification for IoT

2. Examination case examples of AI-related inventions

3. JPO’s Activities for Making Use of AI

4. New features of the J-PlatPat
AI-related measures by JPO

- Added case examples of IoT/AI-related inventions (Sep. 2016, Mar. 2017)
- Clarification of Examination Guidelines for computer software-related inventions (Apr. 2018)
- Added more case examples of AI-related inventions (30 Jan. 2019)
Plans for addition of new AI case examples

- Add 10 AI-related case examples as to the **description requirement** and **inventive step**
- Select cases from **various field of technologies and industries**
- Keep cases **simple and easy to understand** even for non-AI experts, yet make the points of the Examination Guidelines at issue clear
- Give both **eligible and ineligible cases** to help a clear understanding of the key points in determining patentability of AI-related inventions
Case Examples for Description/Support Requirement

Relationship should be supported by experimental evaluation of trained AI model.

- In case that correlation between input and output data is NOT evident from the common technical knowledge at the time of filing.

**Sugar content estimation system**
- Face image of grower
- Sugar amount in vegetables

**Anaerobic adhesive composition**
- Composition of Adhesive agent
  - Compound A: ○%
  - Compound B: ○%
- Curing strength
Case Examples for Description/Support Requirement

No need to support relationship by experimental results of trained AI model.

- In case that relationship between input and output data is evident from the common technical knowledge at the time of filing.

Business plan design apparatus
- advertisement /comments on the web
- sales

Autonomous vehicle
- Captured images of driver’s attitudes
- Readiness for driving
Known procedures or methods

Mere application of known procedures or methods does not involve inventive step

Cancer risk calculation apparatus

Cancer risk calculation

X Marker
Y Marker

Cancer risk diagnosis

X Marker
Y Marker

AI
Advantageous effects are accomplished by the selection of input data

Input data → AI

- Rainfall amount
- River flow rate
- Temperature

Estimation of hydroelectric generating capacity
### Overview of case examples (Description Requirement)

<table>
<thead>
<tr>
<th>Inventions relating to AI application in various field</th>
<th>Case Example 1</th>
<th>Description requirement NOT satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Examples 2 and 3</td>
<td>Yes</td>
<td>SUGAR CONTENT ESTIMATION SYSTEM BASED ON FACE IMAGE OF FARMER</td>
</tr>
<tr>
<td>Case Example 4: Claim 2</td>
<td>Yes</td>
<td>BODY WEIGHT ESTIMATION SYSTEM BASED ON FACE-OVERSE ANGLE</td>
</tr>
<tr>
<td>Case Example 5: Claim 2</td>
<td>Yes</td>
<td>METHOD FOR ESTIMATING ALLERGY INCIDENCE RATE IN VITRO BASED ON SHAPE CHANGE REPRESENTED IN COMBINATION OF ELLIPTICITY, RUGOSITY, AND OBLATENESS OF CELLS CONTACTED BY TEST CHEMICALS</td>
</tr>
<tr>
<td>Case Example 6: Claim 2</td>
<td></td>
<td>ANAEROBIC ADHESIVE COMPOSITION</td>
</tr>
</tbody>
</table>

- **Case Example 1**
  - SUGAR CONTENT ESTIMATION SYSTEM BASED ON FACE IMAGE OF FARMER
  - neither common technical knowledge, statistical information nor evaluation result of an actual AI model, is shown to prove the correlation

- **Case Example 4: Claim 2**
  - BODY WEIGHT ESTIMATION SYSTEM BASED ON FACE-OVERSE ANGLE

- **Case Example 5: Claim 2**
  - METHOD FOR ESTIMATING ALLERGY INCIDENCE RATE IN VITRO BASED ON SHAPE CHANGE REPRESENTED IN COMBINATION OF ELLIPTICITY, RUGOSITY, AND OBLATENESS OF CELLS CONTACTED BY TEST CHEMICALS

- **Case Example 6: Claim 2**
  - ANAEROBIC ADHESIVE COMPOSITION
  - only an estimation result by AI is disclosed without an actual experimental result on each substance
    - (Suppose it is not a common technical knowledge at the time of filing that AI inference can be a substitute for experiment using actual product)
### Overview of case examples (Inventive Step)

<table>
<thead>
<tr>
<th>Case Example 1</th>
<th>Mere application of AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Example 2: Claim 1</td>
<td>Choice of training data</td>
</tr>
<tr>
<td>Case Example 2: Claim 2</td>
<td>Preprocessing of training data</td>
</tr>
<tr>
<td>Case Example 3</td>
<td>Inventive step</td>
</tr>
<tr>
<td>Case Example 4</td>
<td>Mere combination of known data</td>
</tr>
</tbody>
</table>

- **Case Example 1**
  - Cancer Risk Calculation Apparatus Using Markers in Blood

- **Case Example 2: Claim 1**
  - Estimation System of Hydroelectric Generating Capacity Based on Precipitation Amount and Water Flow Rate

- **Case Example 2: Claim 2**
  - Estimation System of Hydroelectric Generating Capacity Using Temperature Additionally for Input Data
  - (significant effect by adding new training data)

- **Case Example 3**
  - Screw Clamping Quality Estimation Apparatus Based on Rotation Speed of Screwdriver etc.
  - (mere combination of known data)

- **Case Example 4**
  - Dementia Stage Estimation Apparatus Based on Information on Conversation by Extracting Question Topic and Response Thereto
How to access Case Examples

Click here!
Agenda

1. New Patent Classification for IoT

2. Examination case examples of AI-related inventions

3. JPO’s Activities for Making Use of AI

4. New features of the J-PlatPat
Use of AI technology

Purpose for use of AI technology

Change of JPO’s work
- Advancement of technologies
- Expanding search target
- Increase in trademark applications
- Retirement of experienced officials

Progress of AI technology
- Machine Learning
- Natural Language Processing
- Deep Learning

Use of AI technology

Goal!
- Sophisticated and efficient operations
- Improve user services
✓ JPO has made activities for making use of AI technology based on **Action plan** since 2017.

✓ Action plan was revised in 2018 based on the result of activities in 2017.

(*) The above actions are based on rough estimates and progress may vary depending on the development of demonstrations, advancement of the relevant technologies and other circumstances.
Proof of Concept in FY2018

Proof of concept for 5 operations are conducted now.

(Continued for preparation)

- Response to inquiries (After call work support)
- Trademark image searches
- Classifications of goods or services (Trademarks)

(Started)

- Patent image searches (patent drawings)
- Design image searches (2D designs)
1. New Patent Classification for IoT

2. Examination case examples of AI-related inventions

3. JPO’s Activities for Making Use of AI

4. New features of the J-PlatPat
**J-PlatPat** (Japan Platform for Patent Information) is one of the largest, internet-based, free-of-charge, patent information databases in Japan.

- 130,000,000 gazettes of domestic and foreign patent, utility model, design and trademark can be searched by numbers, keywords, etc.
- It can be used easily by beginners through simple and user-friendly interface.
- It is used over 100,000,000 times per year, and very popular as free patent information service in Japan.
✓ J-PlatPat will enhance the database functions and its English UI will improve to the same level as Japanese one, thereby permitting users to access easily Japanese patent information.

Upgraded Functions of J-PlatPat

1. More Timely Provision of Status Information of Examination/Trial and Appeal
2. Expansion of Document Coverage
3. Expansion of Publication Coverage
4. Improvement of Machine Translation Quality
Now
Each status information of Examination/Trials and Appeals is reflected on J-PlatPat in about 3 weeks

After May, 2019～
Each status information will be reflected on J-PlatPat in 1 day
2. Addition of a Variety of Documents

**Now**
Available documents to check on J-PlatPat are limited to **Patent and Utility Model** related documents during the stages of Examination/Trial and Appeal; **Design and Trademark** related documents are not available.

**After May, 2019~**
See below for many more additional documents to be available on J-PlatPat

<table>
<thead>
<tr>
<th></th>
<th>Examination</th>
<th></th>
<th>Trial &amp; Appeal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patent</td>
<td>Utility Model</td>
<td>Patent</td>
</tr>
<tr>
<td>Now</td>
<td>○</td>
<td>○</td>
<td>△※1</td>
</tr>
<tr>
<td>May, 2019</td>
<td>○</td>
<td>○</td>
<td>△※1</td>
</tr>
<tr>
<td></td>
<td>Patent</td>
<td>Design</td>
<td>Patent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>×</td>
<td>方※1</td>
</tr>
<tr>
<td></td>
<td>Trademark</td>
<td>Design</td>
<td>Patent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>×</td>
<td>方※1</td>
</tr>
<tr>
<td></td>
<td>Trademark</td>
<td>Trademark</td>
<td>Patent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>方※1</td>
</tr>
<tr>
<td></td>
<td>Design</td>
<td>Trademark</td>
<td>Patent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>方※1</td>
</tr>
<tr>
<td></td>
<td>Trademark</td>
<td>Trademark</td>
<td>Patent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>方※1</td>
</tr>
<tr>
<td></td>
<td>Design</td>
<td>Trademark</td>
<td>Patent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>方※1</td>
</tr>
<tr>
<td></td>
<td>Trademark</td>
<td>Trademark</td>
<td>Patent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>方※1</td>
</tr>
</tbody>
</table>

※1  Trial & Appeal Decision
※2  The documents issued after January, 2019 will be available
※3  Only registered items are to be available regarding the Design related documents
※4  “Notice of Reasons for Refusal”, “Written Opinion”, “Written Amendment”, “Written Record of Interview” and “Written Record of Communication” will be newly available
Now

After May, 2019
Chinese and Korean Publications translated into Japanese will be available on J-PlatPat

Only valid Trademarks are available for search

Expired or Refused Trademarks are to be included for search; status information is displayed on search result screen
4. Improvement of Machine Translation Quality

Now
- JPO translates Japanese Gazette and Japanese examination related documents into English using rule based machine translation system and provides the translation through J-PlatPat
- Also, Chinese and Korean Publications are translated into Japanese using rule based machine translation system by JPO

After May, 2019～
- JPO will renew its machine translation engine and provide English translation with improved translation quality by using neural machine translation system, etc.

After April, 2020～
- Chinese and Korean Publications are to be translated into Japanese using neural machine translation system
### Preliminary Programme

<table>
<thead>
<tr>
<th>Time</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 10:00</td>
<td>Registration and opening of poster session</td>
</tr>
<tr>
<td>10:00 - 10:15</td>
<td>Welcome and keynote speech</td>
</tr>
<tr>
<td>10:15 - 11:30</td>
<td>News from Asia</td>
</tr>
<tr>
<td></td>
<td>- China: Update from CNIPA (formerly SIPO)</td>
</tr>
<tr>
<td></td>
<td>(Peng Zhang, CNIPA)</td>
</tr>
<tr>
<td></td>
<td>- Japan: New features of the JPO’s J-PlatPat database</td>
</tr>
<tr>
<td></td>
<td>(Yoshiyuki Osabe, JPO)</td>
</tr>
<tr>
<td></td>
<td>- Korea: Historic Development of KIPO’s Patent Gazette</td>
</tr>
<tr>
<td></td>
<td>(Zheng Yong Chen, KIPO)</td>
</tr>
<tr>
<td>11:30 - 11:45</td>
<td>Workshop round 1</td>
</tr>
<tr>
<td></td>
<td>Experts on selected topics will share useful insights, tips and tricks</td>
</tr>
<tr>
<td></td>
<td>with a smaller audience. This is your opportunity to learn, ask</td>
</tr>
<tr>
<td></td>
<td>questions and participate in the discussion. Some workshops will</td>
</tr>
<tr>
<td></td>
<td>include practical hands-on exercises and live demos.</td>
</tr>
<tr>
<td>14:00 - 15:30</td>
<td>- 1: Using Chinese sources efficiently</td>
</tr>
<tr>
<td></td>
<td>- 2: Experiencing the new J-PlatPat</td>
</tr>
<tr>
<td></td>
<td>- 3: Retrieving legal event data from Rospatent</td>
</tr>
<tr>
<td></td>
<td>- 4: InPASS database walk-through</td>
</tr>
<tr>
<td></td>
<td>- 5: Exploring the GCC’s online sources</td>
</tr>
<tr>
<td></td>
<td>- 6: Patent information discovery zone:</td>
</tr>
<tr>
<td></td>
<td>North Korea/Kazakhstan</td>
</tr>
<tr>
<td></td>
<td>- 7: Validation states - Cambodia/Moldova/Morocco/Tunisia</td>
</tr>
</tbody>
</table>
Thank you for your attention