The Update on JPO’s Activities on IP Office Digital Transformation Services

November 20, 2023
Japan Patent Office
1. Organization of the IT Division
2. Overview of the JPO System
3. Latest System Development
4. Update of E-filing System
5. Issues Related to Digitization
1. Organization of the IT Division
1-1. JPO Organizational Structure

Japan Patent Office

Policy Planning and Coordination Department

Trademark and Customer Relations Department

Patent and Design Examination Department (Physics, Optics, Social Infrastructure and Design)

Patent Examination Department (Mechanical Technology)

Patent Examination Department (Chemistry, Life Science and Material Science)

Patent Examination Department (Electronic Technology)

Trial and Appeal Department

Small and Medium Enterprise Agency

Agency for Natural Resources and Energy

Ministry of Economy, Trade and Industry

Japan Patent Office

National Center for Industrial Property Information and Training

Agency for Natural Resources and Energy

Ministry of Economy, Trade and Industry

Japan Patent Office

Agency for Natural Resources and Energy
1-2. Organization and Roles of the IT Division

Policy Planning and Coordination Department

Information Technology and Patent Information Management Office

Information Technology Policy Planning Office
- IT-related international measures
- IT-related projects
- IT-related budget
- IT-related procurement

Information Technology System Development Office
- System development, maintenance, and operation according to optimization plan
- Development, maintenance, and operation of current system

Patent Information Policy Planning Office
- Investigation and planning related to patent information
- Multilingual support of patent information
- Management of patent information

Information Technology Innovation Office
- In-house system development
1-3. Reinforcement of the JPO Project Management System

**Project Promotion and Management System**

Ministry of Economy, Trademark and Industry (METI)

- **Minister**
  - Report
  - Instructions

**Japan Patent Office (JPO)**

- **JPO Commissioner**
- **JPO CIO (Deputy Commissioner)**

**Information Technology Promotion Headquarters of the JPO**

- **General Manager**: JPO Commissioner
- **Deputy Manager**: JPO CIO (Deputy Commissioner)

Headquarters meeting will be held from time to time to make decisions on important matters.

**JPO PMO (Secretariat)**

**Individual Project A**

**Individual Project B**

**Individual Project C**

**Individual Project D**

**Electronic Administration Promotion Entity**

- **Director**: Deputy Chief Cabinet Secretary for Information Technology Policy (Government CIO)

**Ministry of Internal Affairs and Communications Administrative Management Bureau**

**Surveillance system by private sector experts etc.**

**Technical Verification Committee on JPO information systems**

**Providing information and improving convenience**

**Grasping needs about building information system**

**Active use of intellectual property rights**

**Outside IT vendors and academic experts, etc.**

**Technical knowledge such as system development in the private sector**

User
1-4. General Information of the IT Division

Scope of work
- Development and management of the information system
- Collaborations with and support for overseas patent offices
- Provision of information to public users

Budget for FY2023
- JPO budget: Approx. 146,000M yen (≒1,000M USD)
- IT-related budget: Approx. 34,100M yen (≒233M USD)

Number of staff
- JPO staff: 2796 (FY2023)
- IT division staff: 119 (as of Jul. 2023)

External resources
- IT vendors help manage the system operations.
2. Overview of the JPO System
2-1. Outline of the JPO System

- In 1990, the JPO launched the world’s first e-filing system.
- The large-scale information system that handles a wide range of operations, such as receiving large numbers of applications (about 500,000 a year) for patents, utility models, designs and trademarks, examinations, registrations, trials and appeals is in operation.
- So far, the JPO has built the system for each operation, which currently consists of about 70 subsystems.
- About 93% of applications are made online (patents/utility models: about 99%, designs: about 94%, trademarks: about 85%). Most of the staff operations are already systematized.

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- Online filing
- Online notification (receiving notifications from the JPO)
- Online requests (e.g. file inspection, issuing of documents stored on the patent registry)
- Data entry for applications on paper
- Prior art search by registered search organizations

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- J-PlatPat search
- Public inspection
- Internet publication
- Data exchange
- Cooperation on examination
- Support for IT infrastructure development

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Japan Patent Office
2-2. Workflow and Related Systems

Applicant
- e-filing

JPO procedures
- Reception
- Formality Examination
- Publication of Applications
- Substantive Examination
- Reasons for refusal
- Decision of refusal
- Decision to grant
- Appeal
- Registration
- Trial
- Publication of granted rights

JPO IT systems
- Receiving System
- Formality Examination System
- Fee System
- Gazette System
- System for Registration
- Search System
- Peripheral System for Patents/Utility Models/Design/Trademark
- One Portal Dossier
- J-PlatPat
- J-PlatPat

Simple formality check by e-filing software
Available to request for inspection
Written opinion/amendment
Decision of refusal
Decision to grant
Publication of granted rights
Applicants are able to submit an application to the JPO either online or on paper.
3. Latest System Development
3-1. Reconsidering the System Structure

- The current system structure is inconsistent, because the JPO has systematized it individually for each operation.
- By integrating all databases (DBs) and simplifying the system structure, the JPO aims to speed up various procedures and information provision, as well as expand online procedures, improve reliability, save system costs, etc.
## 3-2(1). Actions to Be Implemented from FY2018 to FY2024

The schedule for the actions to be implemented from FY2018 to FY2024 in “the Plan for Optimization of JPO Operations and Systems” is as follows:

<table>
<thead>
<tr>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
<th>FY2022</th>
<th>FY2023</th>
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<tr>
<td>Improving user-friendliness for applicants in terms of fee payments</td>
<td>System improvement on patent classification and search keys</td>
<td>Shortening the duration for registering the establishment</td>
<td>Notification system for due date of annual fee</td>
<td>Further digitalization for incoming documents</td>
<td>Further digitalization for outgoing documents</td>
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<td>Expanding of scope of dossier data</td>
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<td>Responding to a framework for electronic exchange of design priority documents</td>
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<td>Renovating the formality and substantive examination systems for Patent and Utility models</td>
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<td>Renovating the appeal/trial system</td>
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<td>Renovating the gazette system</td>
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<td>Renovating the examination systems for Designs and Trademarks</td>
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### Action items of JPO in FY2022

- Improving user-friendliness for applicants in terms of fee payments
  - In order to improve user-friendliness for applicants in terms of fee payments, the JPO renovated systems, and the systems was released in FY2022.
    - Enable advance fee payments in cash instead of stamp
    - Simplify fee payments for Madrid System.

### Action items of JPO in FY2023

- Further digitalization for incoming documents
  - In order to receive almost all types of documents online, the JPO will renovate systems, and the systems will be released in January 2024.
- Further digitalization for outgoing documents
  - In order to send more types of documents online, the JPO will renovate systems, and the systems will be released in March 2024.

### Action items of JPO in future

- Renovating the appeal/trial system
  - Renovating the appeal/trial system for release in January 2025.
- Renovating the examination systems for Designs and Trademarks
  - Renovating the examination systems for Designs and Trademarks for release in September 2026.
4. Update of E-filing System
4-1. E-filing procedures in JPO

To Prepare e-filing circumstances:
- Purchase e-certification
- Download e-filing software

1. E-filing software imports HTML files and converts them into XML files. Applicants can verify the conversion results before filing.

   1) Applicants draft an application with commercially available word processing software such as "MS WORD" and save it as a HTML document.

   2) Applicants import the application into e-filing software. The e-filing software converts the HTML document into XML and conduct formality check roughly.

2. Applicants register e-certification to the JPO.

3. Applicants submit the XML formatted documents to the JPO via e-filing software.

4. Applicants receive XML documents from the JPO via e-filing software.
The JPO digitized patent application in 1990. Currently, about 2.9 million (about 90%) of the total 3.1 million annual applications can be submitted online. The JPO promotes **digitization of all procedures not accepting online application at this moment (about 500 types)**.

The JPO formulated the **“Plan on Promotion of Digital JPO Procedures”** on March 2021.

A system to accommodate the digitalization is currently under development, with the aim of launching in January 2024.

- **Total number of applications**: Approx. 3.1 million
- **Procedures accepting online application (Approx. 300 types)**
  - Examples: Application and right registration procedures (Ex: Application for patent, trademark, etc., written amendment of procedure)
- **Procedures not accepting online application (Approx. 500 types *)**
  - Examples: Procedures for appointment of agent (Ex: Power of attorney), Procedures related to changes in rights (Ex: Deed of transfer (procedure for transfer of rights), written request for trial/appeal procedure)

- **Approx. 200,000**
  - **Decide to digitize all procedures in principle**

- **Approx. 2.75 million (approx. 90%)**
- **Approx. 150,000**
5. Issues Related to Digitization
5-1. Cycle of Hardware Installation and Replacement

➢ The JPO basically installs and operates their hardware by lease contract.
➢ Replace to a new hardware after using 5-6 years because the failure rate increases rapidly after that period.
➢ JPO starts to prepare a new hardware 2-3 years before the end of the current hardware use.

The hardware failure rate is expressed as a bathtub curve. According to this curve, after the early “infant mortality” failure period has passed, the failure rate has once decreased. Then, the failure rate rises rapidly during the wear out failure period due to aging.
➢ When operating the system in a high failure rate period, serious problems such as availability reduction and data loss might occur.
5-2. Maintenance Cost of Hardware

Not only installation but also maintenance is important.
The breakdown of hardware costs is approximately as follows:

- **Software** 10-20%
  - Commercial OS software, database software for business application
  - Mail software, OA software for PC

- **Software maintenance** 10-20%
  Expense for when it becomes necessary to modify commercial software. If continue to use an out-of-support software, this cost may increase.

- **System Operation** about 20%
  Labor costs for stable operation of hardware

- **Hardware itself** 20-40%
  Server, network device, PC, etc.

- **Hardware maintenance** about 10%
  If old hardware continues to be used after the normal operation period of four years expires, costs may increase or maintenance contracts may not be possible.
5-3. Structure of IT Systems Development

- **Planning**
  - Requirement definition for system development

- **Design**
  - Basic design
  - Detail design

- **Test**
  - Various tests

- **Release**
  - Operation/Evaluation

**Vendor**

**IT System Development Office**

**JPO Department/Division**

**Diagram**: Various stages and departments involved in IT systems development.
Thank you!

Japan Patent Office