

# JPO's recent initiatives on the examination of AI-related inventions

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December 2025

Japan Patent Office

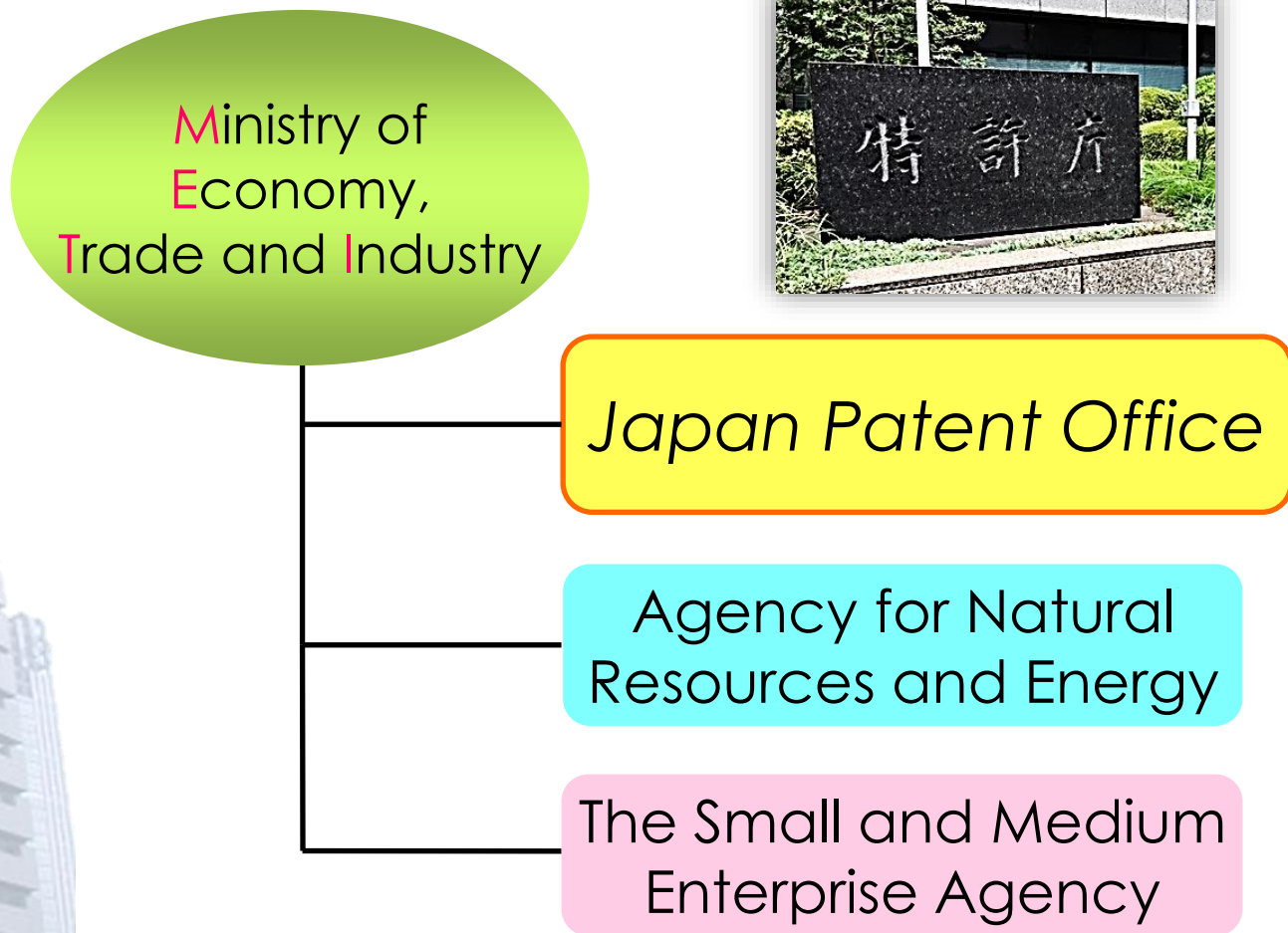


- 1 Introduction to the JPO
- 2 Case examples pertinent to AI /IoT -related technologies
- 3 AI Examination Support Team
- 4 Manga Patent Examination Guidelines – AI/IoT fields –
- 5 International Cooperation on AI-related Inventions
- 6 AI tool utilization in the Prosecution and Administration of Patent Systems

# 1. Introduction to the JPO

# Organization of the JPO (1)

## Organization structure of the METI



## Intellectual Property-related laws in Japan

- Patent Act (Invention)
- Utility Model Act (Device)
- Design Act (Industrial Design)
- Trademark Act (Trademark, Service mark)
- Copyright Act (Copyright)
- Unfair Competition Prevention Act  
(Well-known Marks, Indication of Origin, Trade Secrets)
- Act on the Circuit Layout of Semiconductor Integrated Circuits (Layout-design of semiconductor integrated circuits)
- Plant Variety Protection and Seed Act (New plant varieties)
- Act on Protecting the Names of Specific Agricultural, Forestry and Fishery Products (Names of specific agricultural, forestry and fishery products, etc.)

# Organization of the JPO (2)

## Japan Patent Office

National Center for Industrial Property Information and Training (INPIT)

Policy Planning and Coordination Dept.

Trademark and Customer Relations Dept.

1<sup>st</sup> Examination Dept. (Patent and Design)  
-Physics, Optics, Social Infrastructure, Industrial Design-

Examination Division

2<sup>nd</sup> Examination Dept. (Patent)  
-Mechanical Technology-

Examination Division

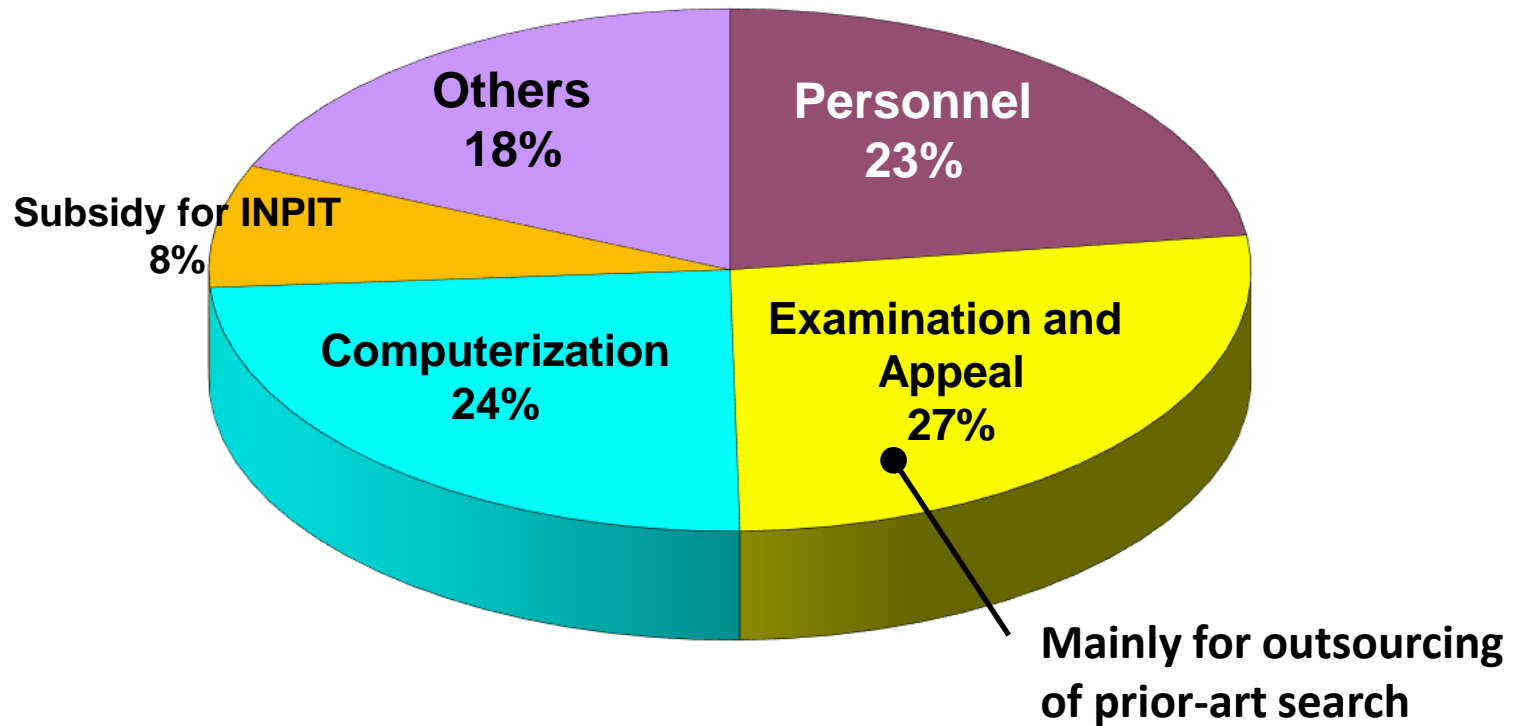
3<sup>rd</sup> Examination Dept. (Patent)  
-Chemistry, Life Science, Material Science-

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4<sup>th</sup> Examination Dept. (Patent)  
-Electronic Technology-

Trial and Appeal Dept.

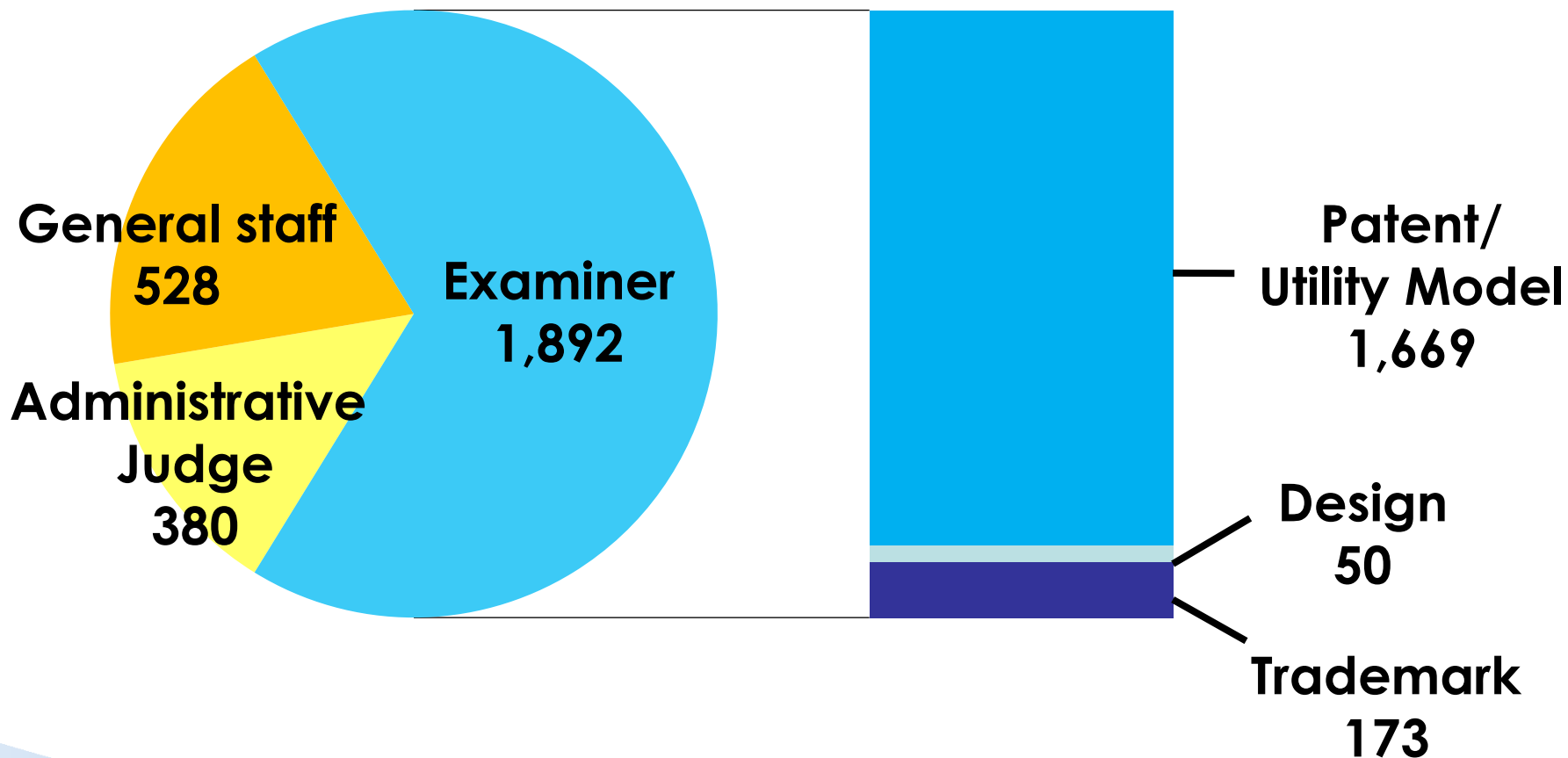
# Budget of the JPO



**FY2024 Total: JPY 152 billion (about USD 1 billion)**

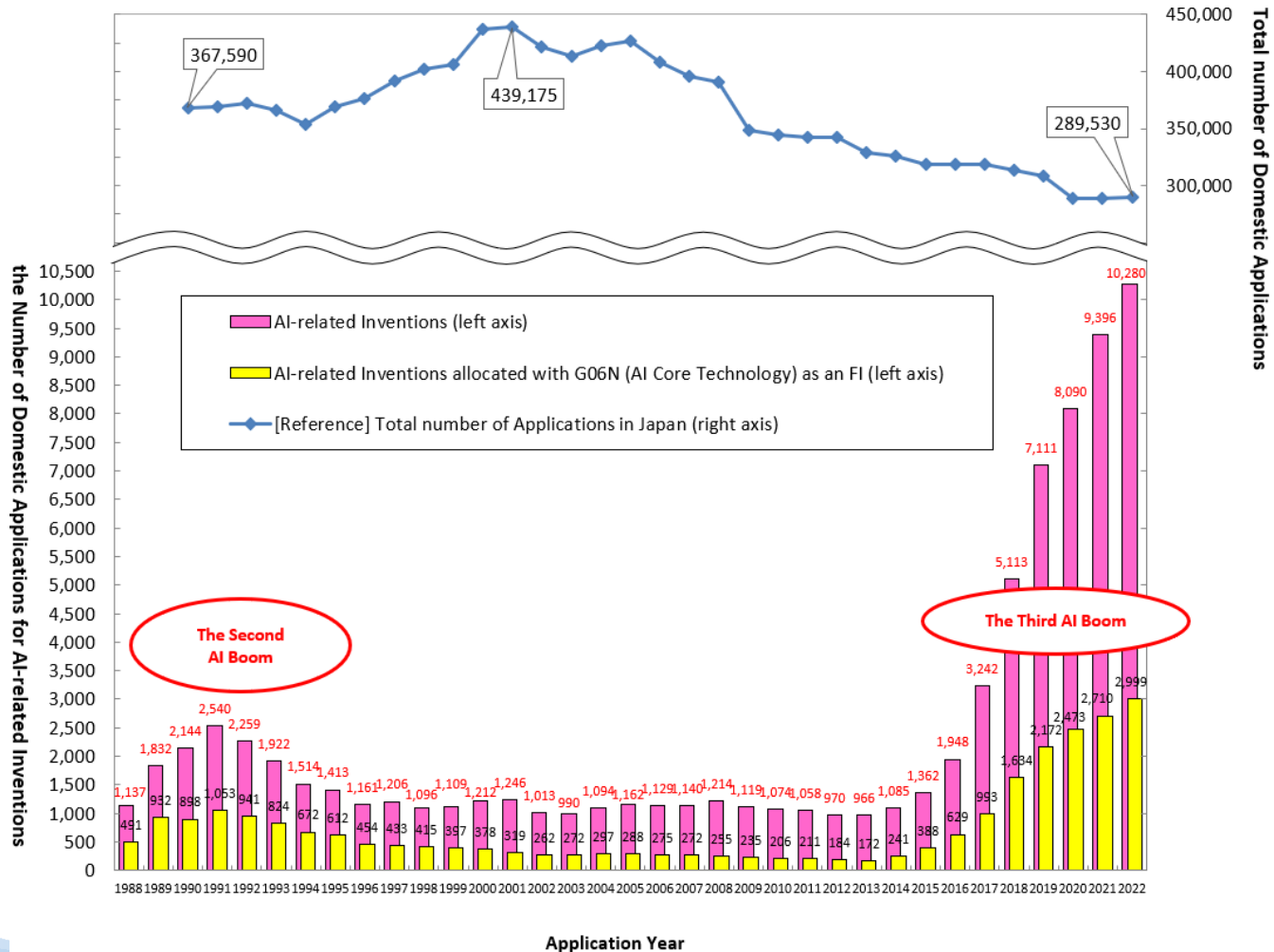
# Personnel Organization of the JPO

**Total: 2,800 (FY2024)**



# Overall Trends in AI-related Applications

AI-related Inventions (the pink bar) have increased sharply since 2014, with about 10,300 in 2022. AI-related Inventions to which G06N is allocated (the yellow bar) have also increased steadily with about 3,000 in 2021, and is still on the rise, although the growth has slowed somewhat.



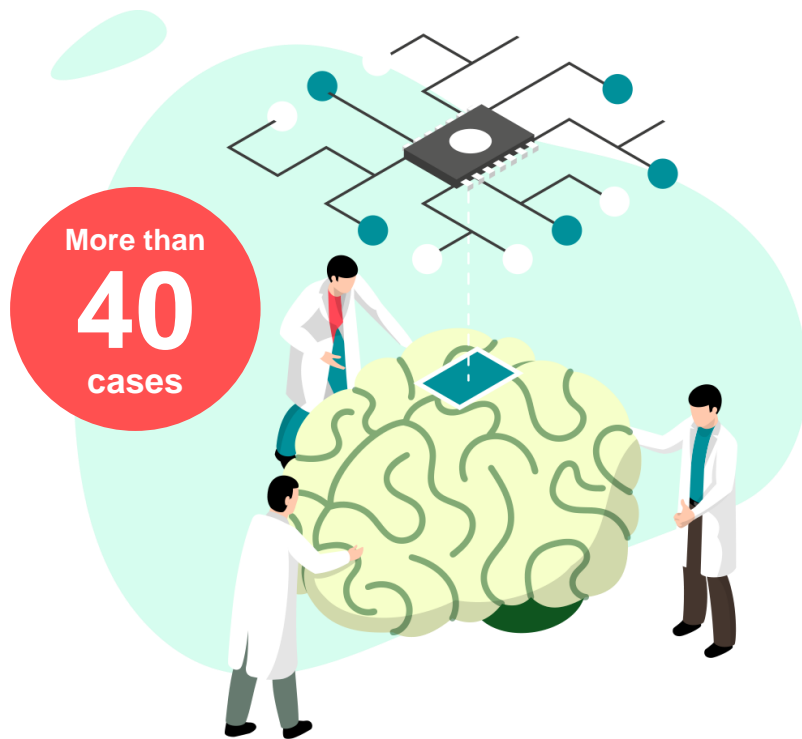
The number of domestic applications for AI-related Inventions

## **2. Case examples pertinent to AI/IoT-related technologies**

# Examination Case Examples on AI/IoT related technologies

The first publication in the world

## Patent Examination Case Examples on AI and IoT-related inventions



Clear understanding of examination practices

Patent eligibility, Inventive step,  
Description requirements...



- ◆ Patent Examination Case Examples pertinent to **AI**-related technologies  
[https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/ai\\_jirei\\_e.html](https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/ai_jirei_e.html)
- ◆ Examination Guidelines pertinent to **IoT**-related technologies  
[https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/iot\\_shinsa.html](https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/iot_shinsa.html)

# Overview of the Additional Case Enrichment in 2024

Case	Patent Requirement	Name	Remark	Place of publication in Examination Handbook
1	Inventive Step	Automatic Response Generator for Customer Service Centers	Case of simple systematization of human tasks using <b>generative AI (large language models)</b>	Annex A 5. Case 37
2	Inventive Step	Method for Generating Texts for Prompt for Input into Large Language Models	Case of features (prompt generation) in the application of <b>generative AI (large language models)</b>	Annex A 5. Case 38
3	Inventive Step	Method for Learning Trained Models for Radiographic Image Brightness Adjustment	Case of a method for learning trained models to estimate output data from input data	Annex A 5. Case 39
4	Inventive Step	Laser Beam Processing Device	Case of simple systematization of human tasks	Annex A 5. Case 40
5	Enablement Requirement, Support Requirement	Fluorescent Compound	Case of an invention of a product that is presumed to have a certain function by AI ( <b>Materials Informatics</b> )	Annex A 1. Case 52
6	Support Requirement	Method for Generating Images for Training Data	Case of training data generation	Annex A 1. Case 53
7	Support Requirement	Machine Learning Apparatus for Screw Clamping Quality	Case where the input-output relationship between multiple types of data included in the training data is unclear/clear	Annex A 1. Case 54
8	Eligibility for Patent	Training Data and Method for Generating Images for Training Data	Case of training data	Annex A 3. Case 55
9	Eligibility for Patent	Trained Model for Analyzing Reputations of Accommodations	Case of a trained model configured as a parameter set	Annex B 3.2 Case 2-14'
10	Clarity Requirement	Trained Model to Output Content of Work to be Performed in Response to Malfunction	Case of a trained model where it is unclear whether it is a "program"	Annex A 1. Case 55

- Ten new cases are created to strengthen the existing case set based on the knowledge accumulated by the AI Examination Support Team. 11

# Inventive Step: Additional Case 1

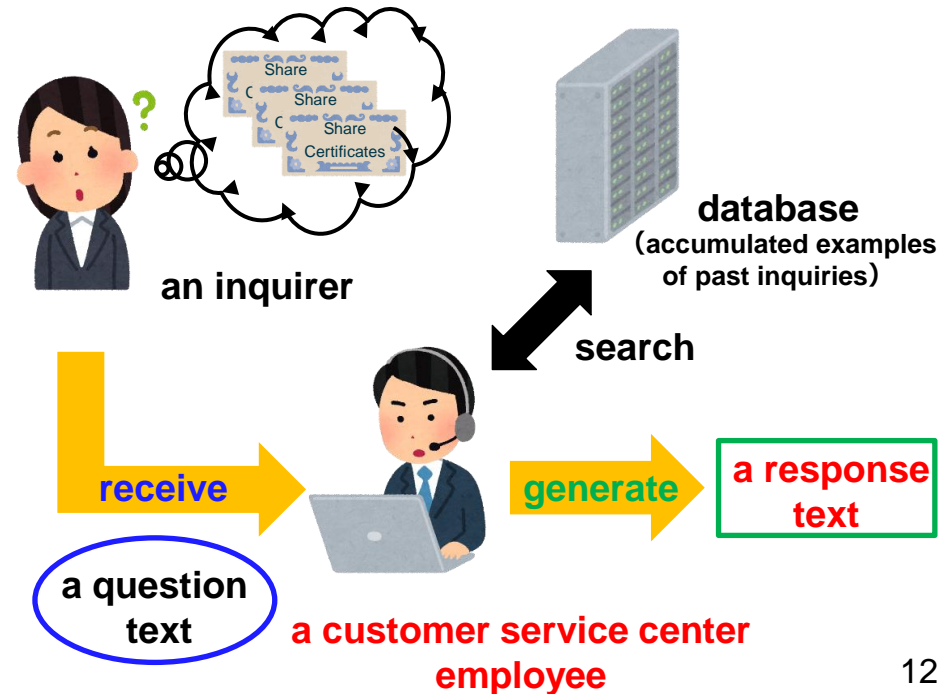
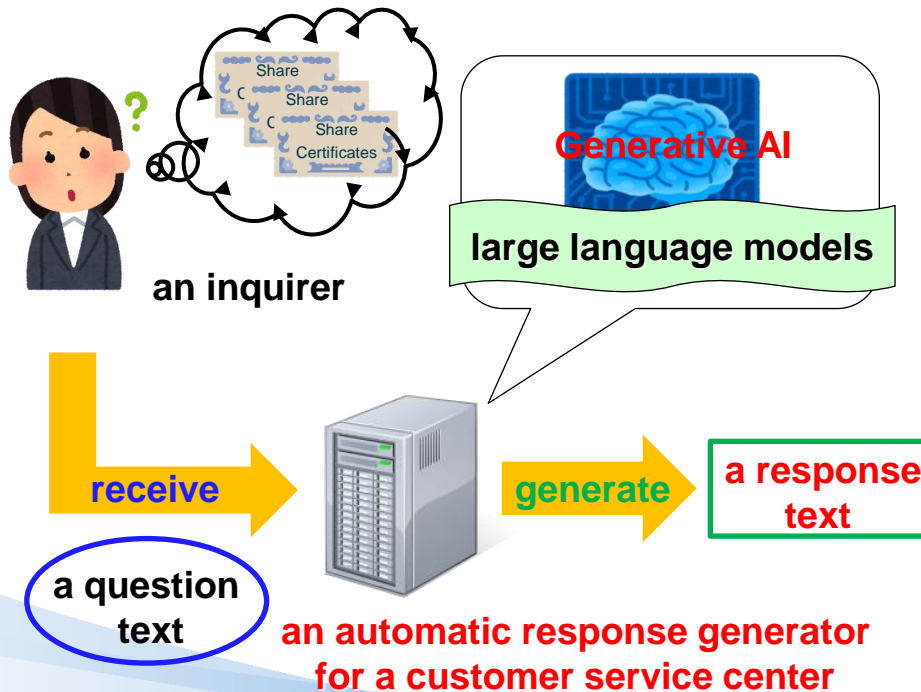
Claim 1: Inventive step is **denied** because it is **a simple systematization of human tasks using generative AI**

[Claim 1]

An automatic response generator for a customer service center for receiving a question text of an inquiry about a financial product from an inquirer and automatically generating a response text to the question text;  
wherein a response text is generated by inputting the question text into large language models.

[Cited invention 1]

A method of preparing a response text for receiving a question text of an inquiry about a financial product from an inquirer and preparing a response text to the question text by a customer service center employee;  
wherein a response text is prepared by searching a database of accumulated examples of past inquiries and referring to examples matching the question text.



# Inventive Step: Additional Case 1

## [Commonly Used Art]

In the technical field of information processing, the process of inputting question texts into large language models to obtain response texts is commonly used to improve the efficiency of human tasks.

**X** The invention of claim 1 lacks an inventive step.

## [Overview of Reason for Refusal]

The invention of claim 1 differs from the cited invention 1 in the following aspects.

### (Difference)

While the invention of claim 1 is **an automatic response generator for a customer service center that receives a question text of an inquiry about a financial product from an inquirer and automatically generates a response text by inputting the question text into large language models**, the cited invention 1 is **a method for preparing a response text, in which a customer service center employee receives an inquiry about a financial product from an inquirer, searches a database of accumulated examples of past inquiries, and refers to examples that match the question text to prepare a response text.**

The above difference will be examined.

**In many business fields, including customer service, it is a self-evident problem that a person skilled in the art normally takes into consideration to improve efficiency by automating human tasks with computers**, and it would also be taken into consideration in the cited invention 1.

In addition, in the technical field of information processing, the process of inputting question texts into large language models to obtain response texts is commonly used to improve the efficiency of human tasks.

Therefore, it has been easily conceivable for a person skilled in the art to provide an “automatic response generator for a customer service center for automatically generating a response text to a question text by inputting the question text into large language models” **by applying the commonly used art of “inputting question texts into large language models to obtain response texts,” which is the solution for this problem, to the cited invention 1 in order to solve the problem of improving efficiency by automating human tasks with a computer for automatically generating response texts in the cited invention 1.**

In addition, with respect to the task of an automatic response generator receiving inquiries about a financial product from an inquirer, automating such a task by using the automatic response generator is an ordinary creative activity of a person skilled in the art and it could have been appropriately performed by a person skilled in the art.

# Inventive Step: Additional Case 2

## Method for Generating Texts for Prompt for Input into Large Language Models

Claim 1: Case where inventive step is denied for the application of generative AI

Claim 2: Case where inventive step is affirmed based on features in the application of generative AI

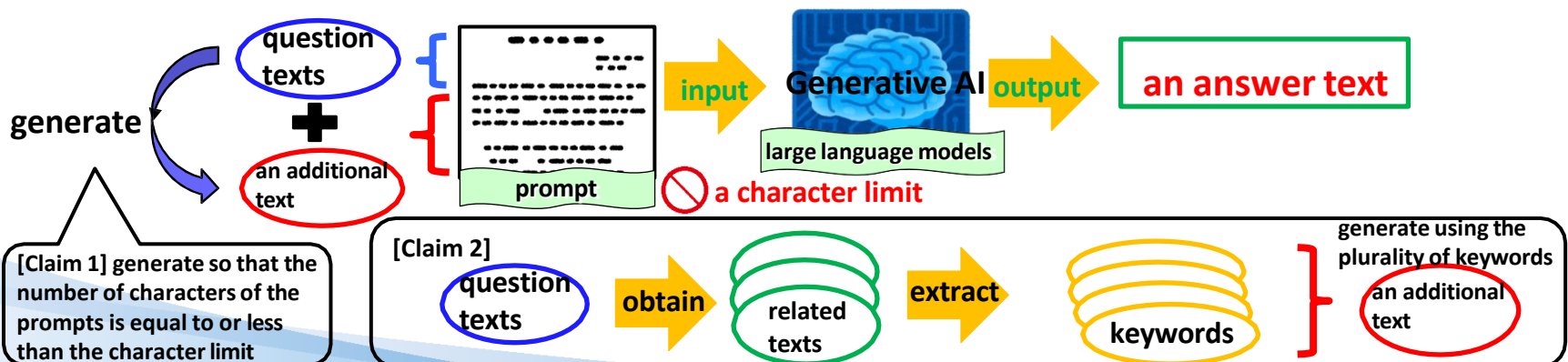
[Claim 1]

A method for generating texts for prompts, which are generated by a computer for input into large language models by adding reference information to an input question texts, wherein the large language models have a character limit, which is the maximum number of characters in a prompt that can be input, and when a prompt containing a question text is input, the large language models output an answer text relating to the question text, and wherein the method for generating texts for prompts executes an additional text generation step of generating an additional text related to the question text based on the input question text so that the total number of characters including the number of characters of the question text is equal to or less than the character limit, and a prompt generation step of generating the prompt by adding the additional texts generated by the additional text generation step to the input question text as reference information.

[Claim 2]

The method for generating texts for prompts according to claim 1, wherein the additional text generation step is a step of obtaining a plurality of related texts related to the question text based on the input question text, extracting a plurality of keywords suitable as reference information from the obtained related sentences, and generating the additional text in which the total number of characters does not exceed the character limit using the plurality of keywords.

(Supplementary Explanation) As for the additional text generation step of the invention of claim 2, ...and those skilled in the art can understand from the detailed description of the invention the effect of the methods by which prompts with additional texts that are highly relevant to the question text and suitable as reference information can be generated within a predetermined character limit, thereby obtaining more reliable and appropriate answer texts.



# Inventive Step: Additional Case 2

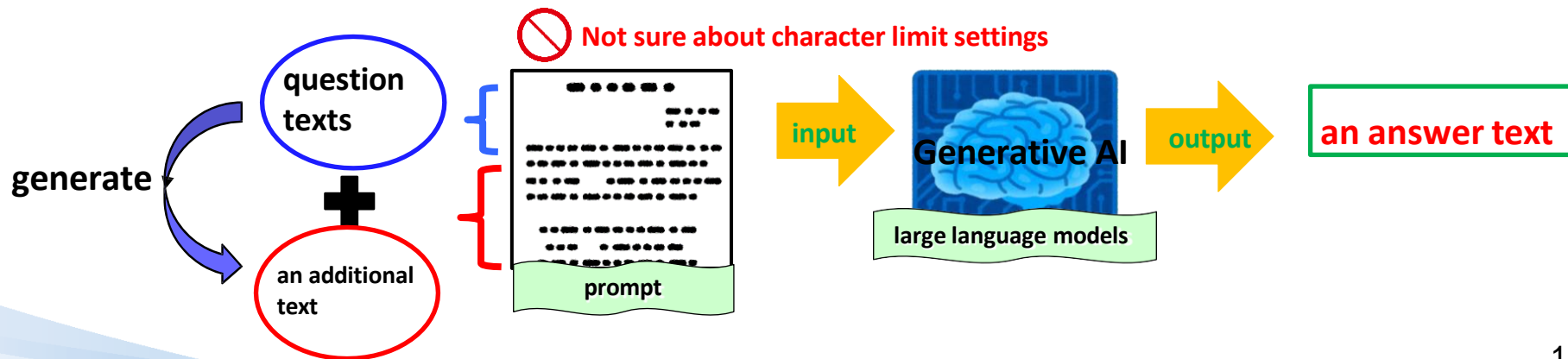
## Method for Generating Texts for Prompt for Input into Large Language Models

[Cited invention 1]

A method for generating texts for prompts which are generated by a computer for input to large language models by adding reference information to the input question texts, wherein the large language models, upon input of a prompt containing a question text, output an answer text related to the question text; and the computer executes an additional text generation step of generating additional texts related to the question text based on the input question text, and a prompt generation step of generating the prompt by adding the additional texts generated by the additional text generation step to the input question text as the reference information.

[Common general knowledge]

In the technical field of language processing, it is a self-evident problem that a person skilled in the art normally takes into consideration to reduce the volume of information processing, and it is well-known art at the time of filing to set a character limit, which is the maximum number of characters that can be input, and if a text exceeds the character limit, the part of the text that exceeds the character limit is discarded so that the actual text input is less than or equal to the character limit as a solution for the problem.



# Inventive Step: Additional Case 2

## Method for Generating Texts for Prompt for Input into Large Language Models

- ✗ The invention of claim 1 lacks an inventive step.
- The invention of claim 2 involves an inventive step.

[Overview of Reason for Refusal]

When the invention of claim 1 is compared with the cited invention 1, they differ in the following aspects.

(Difference)

In the large language models of the invention of claim 1, a character limit, which is the maximum number of characters of a prompt that can be input, is set, and additional texts related to the question text are generated such that the total number of characters including the number of characters of the question text is equal to or less than the character limit in the additional text generation step, whereas it is unclear whether or not a character limit, which is the maximum number of characters in a prompt that can be input, is set in the large language models of the cited invention 1, and it is unclear whether or not additional texts are generated in the additional text generation step as described above.

The above difference will be examined.

In the technical field of language processing, it is a self-evident problem that a person skilled in the art normally takes into consideration to reduce the volume of information processing, and it is well-known art at the time of filing to set a character limit, which is the maximum number of characters that can be input, and if a text exceeds the character limit, the part of the text that exceeds the character limit is discarded so that the actual text input is less than or equal to the character limit as a solution for the problem.

Therefore, a person skilled in the art could have easily arrived at the invention in which a character limit, which is the maximum number of characters of a prompt that can be input, is set, and in the additional text generation step, when the number of characters of the prompt exceeds the character limit, the part of the text that exceeds the character limit is discarded, and additional texts related to the question text are generated such that the total number of characters, including the number of characters of the question text is equal to or less than the character limit, and the actual prompt input is generated such that the number of characters is less than or equal to the character limit, in implementing the large language models of the cited invention 1 by applying the well-known art to the cited invention 1.

(Explanation for no reason for refusal in Claim 2)

When the invention of claim 2 is compared with the cited invention 1, they also differ in the following aspects.

(Difference)

In the additional text generation step of the invention of claim 2, a plurality of related texts related to the question text are obtained based on the input question text, a plurality of keywords suitable as reference information are extracted from the plurality of related texts obtained, and additional texts in which the total number of characters does not exceed the character limit are generated using the plurality of keywords, whereas, the additional text generation step of the cited invention 1 does not specify any of the above.

The above difference will be examined.

In the invention of claim 2, ... (composition related to the above differences) ...no prior art is found disclosing such a configuration, or it is not common general technical knowledge at the time of filing. The invention of claim 2 can generate prompts with additional texts that are highly relevant to the question text and suitable as reference information within a predetermined character limit, thereby obtaining more reliable and appropriate answer texts due to the configuration, which provides an advantageous effect over the cited invention 1, and the above-mentioned configuration cannot be said to be a design variation, etc., which may be performed when the well-known art is applied to the cited invention 1. Therefore, the invention of claim 2 involves an inventive step.

# Enablement Requirement and Support Requirement: Additional Case 5

## Fluorescent Compound

Claims 1, 3: violation of support requirements/violation of enablement requirements

Case in which a product is claimed which is presumed to have a certain function by AI, but the description requirement is not satisfied because it does not apply to any of the following: (1) the evaluation of the product actually manufactured is stated in the description, etc., (2) the estimation accuracy of the predicted value indicated by AI is verified in the description, etc., (3) the common general technical knowledge that the AI estimation result can replace the evaluation of the product actually manufactured was available at the time of filing.

Claims 2: no reason for refusal

Case showing an example of satisfying the description requirements by “(1) the evaluation of the product actually manufactured is stated in the description, etc.”

[Claim 1]

A fluorescent compound having luminescence properties with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5  $\mu$ s and equal to or less than 20  $\mu$ s.

[Claim 2]

The fluorescent compound according to claim 1, wherein the compound is compound A.

[Claim 3]

The fluorescent compound according to claim 1, wherein the compound is compound B.

[Overview of the description]

Fluorescent compounds are used for light emitting materials of organic EL elements or the like, and various compounds having different chemical structures are known, **but one having luminescence properties with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5  $\mu$ s and equal to or less than 20  $\mu$ s is not known.** The present invention is intended to provide fluorescent compounds with the luminescence properties using machine learning techniques.

The following example 1 describes machine learning.

Example 1: Machine learning was performed using data on the chemical structures of known fluorescent compounds and their luminescence properties as learning data to create a trained model capable of predicting chemical structures from luminescence properties. **The above trained model was used to predict the chemical structures of fluorescent compounds having luminescence properties with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5  $\mu$ s and equal to or less than 20  $\mu$ s, and then compounds A and B with novel chemical structures were predicted.**

The following Example 2 describes compounds predicted by machine learning.

Example 2: **A method for producing compound A was provided and compound A was produced according to the method.**

**The luminescence properties of compound A were measured and the emission peak wavelength was 545 nm and the fluorescence lifetime was 12  $\mu$ s.**

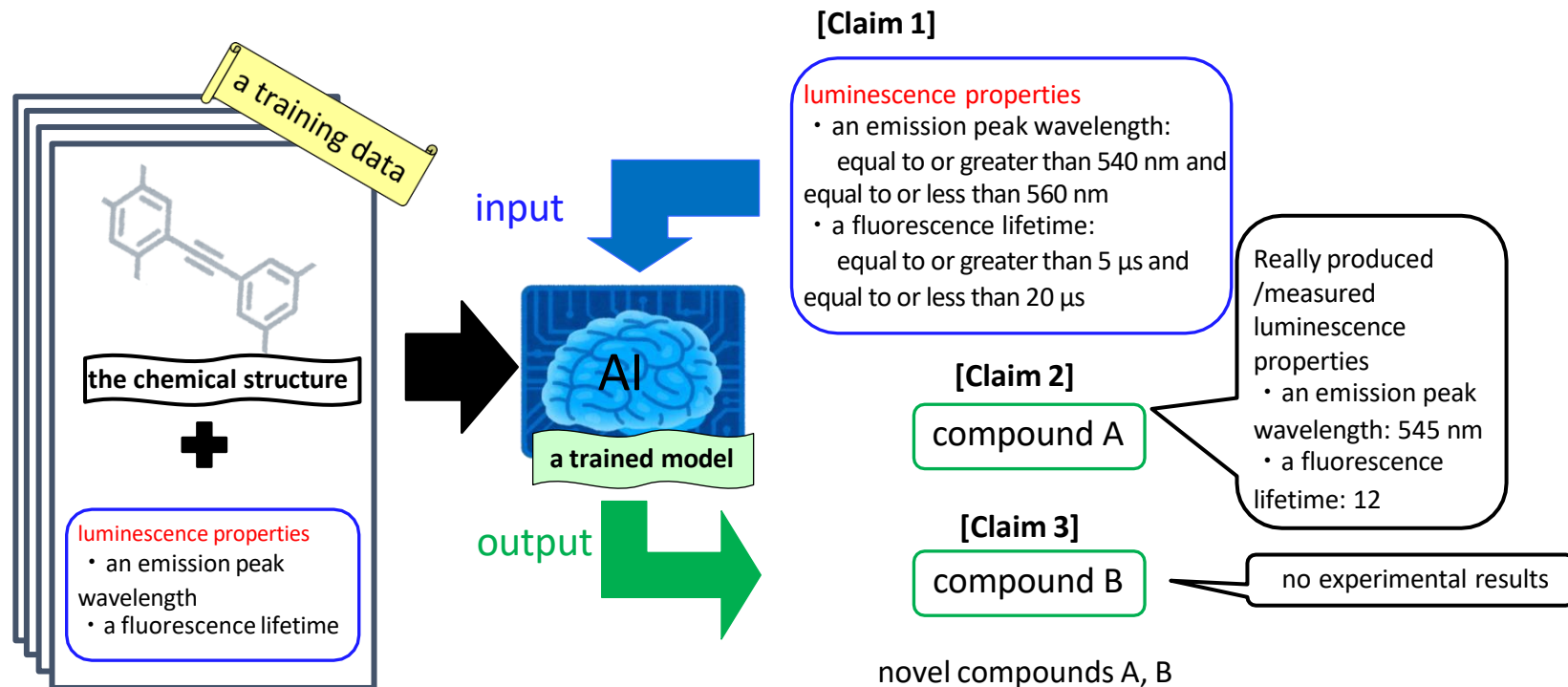
# Enablement Requirement and Support Requirement: Additional Case 5

## Fluorescent Compound

[Note]

For compound inventions, in general, it is common general technical knowledge as of the filing that it is relatively difficult to understand how a compound is produced and what kind of activity it has from information about the chemical structural formula. In addition, in the technical field of compounds, it is not common general technical knowledge at the time of filing that an estimation result by a trained model can be a substitution for an actual experimental result.

Then, the chemical structure of compound B is not similar to the chemical structures of compound A and other known compounds, and it is difficult to infer the production method and luminescence properties of compound B from the production methods and luminescence properties of these compounds.



### [Overview of Reason for Refusal]

- Claims 1 and 3: Article 36(4)(i) (Enablement Requirement) / Article 36(6)(i) (Support Requirement)
- Claim 2: There is no reason for refusal found.

In Example 2 of the present application, the chemical structure of compound A is shown as a fluorescent compound having luminescence properties (hereinafter, the target luminescence properties) with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5  $\mu$ s and equal to or less than 20  $\mu$ s, and a specific example is stated in which the compound was actually produced and confirmed to have the above target luminescence properties.

In addition, Example 1 of the present application states that the chemical structure of compounds with the above target luminescence properties can be predicted using the trained model, not limited to compound A.

However, for compound inventions in general, it is common general technical knowledge at the time of filing that it is relatively difficult to understand what kind of activity a compound has from information about the chemical structural formula, and there was no such common technical knowledge at the time of filing that an estimation result by a trained model can be a substitution for an actual experimental result, and the detailed description of the invention does not verify that the trained model of the present application can predict luminescence properties with high accuracy for compounds other than compound A. Ultimately, the luminescence properties of any compound are unknown unless the luminescence properties are actually measured, and even a person skilled in the art cannot understand whether or not the above predicted compounds other than compound A have the above target luminescence properties, and therefore, with respect to other than compound A, the statement of the description of the invention cannot be deemed to be informative enough to implement the invention of compounds having the above target luminescence properties.

Even if the predicted compounds other than compound A have the target luminescence properties, the methods for producing the compounds with the target luminescence properties other than compound A are not stated in the description, and compound inventions generally belong to the technical field where it is relatively difficult to produce a compound from information about the chemical structural formula. Therefore, it is not considered that a person skilled in the art can produce the compound even if the production method is not indicated in the description; even a person skilled in the art cannot understand the production method of the compound having the above target luminescence property other than compound A, and the production of the compound would require trials and errors and/or complicated and sophisticated experimentation beyond an extent to which a person skilled in the art should be reasonably expected to make.

Therefore, with respect to the inventions of claims 1 and 3, the detailed description of the invention is not clearly and sufficiently stated so as to enable a person skilled in the art to carry out the invention.

As discussed above, even if the common general technical knowledge is taken into consideration, the detailed description of the invention does not state that a person skilled in the art can recognize that the problem of providing a fluorescent compound having the above target fluorescence properties can be solved for the entire fluorescent compound having luminescence properties with an emission peak wavelength of 540 nm or more and 560 nm or less and a fluorescence lifetime of 5  $\mu$ s or more and 20  $\mu$ s or less, and thus the content disclosed in the detailed explanation of the invention cannot be expanded or generalized to the inventions of claims 1 and 3.

Therefore, the inventions of claims 1 and 3 are not stated in the detailed description of the invention.

### [Remarks]

- Claim 2

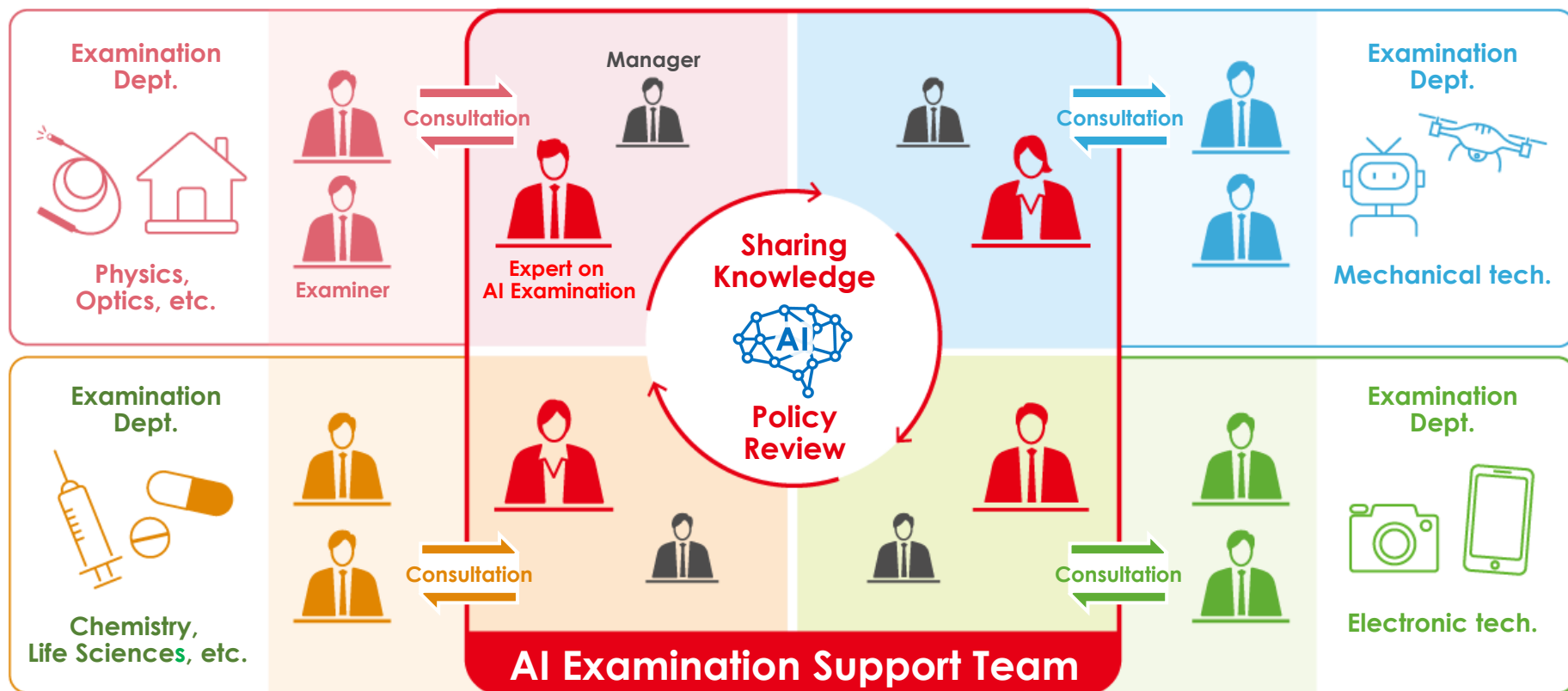
The detailed description of the invention shows the method for producing compound A, and states that compound A was produced according to the method, and the luminescence properties of compound A were measured: the emission peak wavelength was 545 nm and the fluorescence lifetime was 12  $\mu$ s (Example 2).

Thus, the detailed description of the invention clearly and sufficiently states the invention of claim 2 so as to enable a person skilled in the art to carry out the invention of claim 2, and the detailed description of the invention satisfies the enablement requirement with respect to claim 2.

In addition, the invention of claim 2 is stated in the detailed description of the invention, and claim 2 satisfies the support requirement.

### **3. AI Examination Support Team**

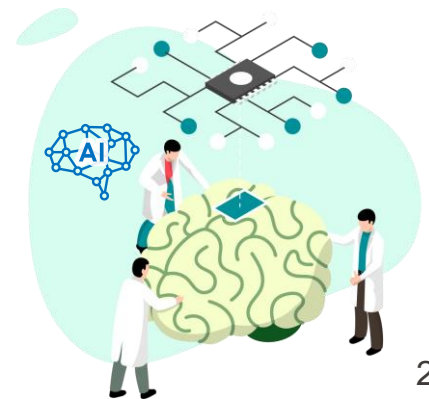
# AI Examination Support Team



- ◆ On October 1, 2023, **JPO increased the number of experts on AI examination from 13 to 39**, and assigned at least one expert on AI examination to all examination offices.
- ◆ On April 1, 2024, **JPO established a new position for external experts called AI advisors** who provide support (e.g., technological training and responses to inquiries) to patent examiners, including experts on AI examination, in accessing expert knowledge on AI-related technology.

# Enhancing a system for the team

- ◆ On October 1, 2023, **JPO increased the number of experts on AI examination from 13 to 39**, and assigned at least one expert on AI examination to all examination offices.  
⇒The team appropriately supports examinations of AI-related inventions even in fields where AI technology has not been frequently used.
- ◆ On April 1, 2024, **JPO established a new position for external experts called AI advisors** who provide support (e.g., technological training and responses to inquiries) to patent examiners, including experts on AI examination, in accessing expert knowledge on AI-related technology.



## **4. Manga Patent Examination Guidelines**

**– AI/IoT fields –**

# Manga Patent Examination Guidelines – AI/IoT fields –

## English “Manga”

Easy to understand for everyone

### Examination Guidelines in Manga AI/IoT Edition



**Ai**  
President of a venture company that develops artificial intelligence software.  
Very energetic and maverick.



**Ota**  
Young staff member working at Ai's company with law degree.  
Gentle character, always having trouble because of Ai's constant demands.

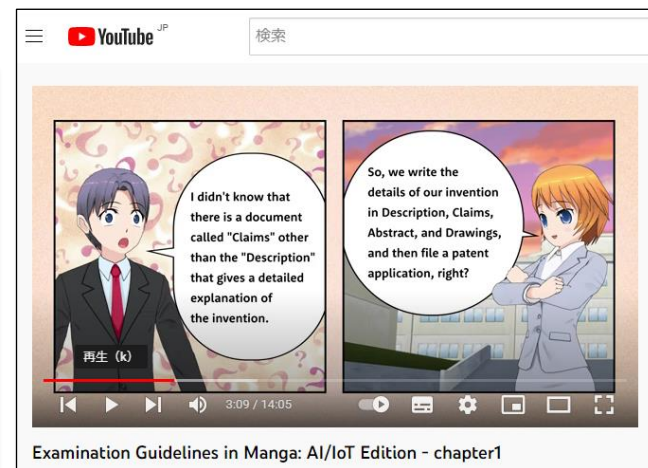


**Shinsaki Jun**

Patent examiner at the Japan Patent Office.  
Ota's reliable senior at university and gives Ai and Ota useful advice on how to protect their AI software.

- ◆ Patent Eligibility
- ◆ Novelty
- ◆ Inventive Step  
(Multi-Factor Reasoning(MFR))
- ◆ Description Requirements

HP: [https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/comic\\_ai\\_iot\\_e.html](https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/comic_ai_iot_e.html)  
YouTube: <https://youtube.com/playlist?list=PLGv4h5a07975wBc8QpwOIV5h6bQsx5wLF>



Manga



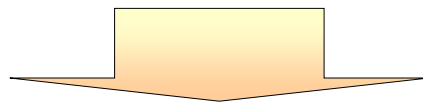
YouTube

## **5. International Cooperation on AI-related Inventions**

# Examiner Exchange Program (EEP)

## ➤ Purposes

1. Mutual understanding of the examination practices of other offices
2. Learning useful tools for the examiners themselves
3. Fostering mutual confidence in the “work results” of other offices



Maximize mutual exploitation of search/examination results among the offices

# JPO-CNIPA Examiner Exchange Program



Held at CNIPA in July 2023  
Held at JPO in Nov. 2023



# JPO-DPMA Examiner Exchange Program



Held online in March 2023

# JPO-EPO Examiner Exchange Program



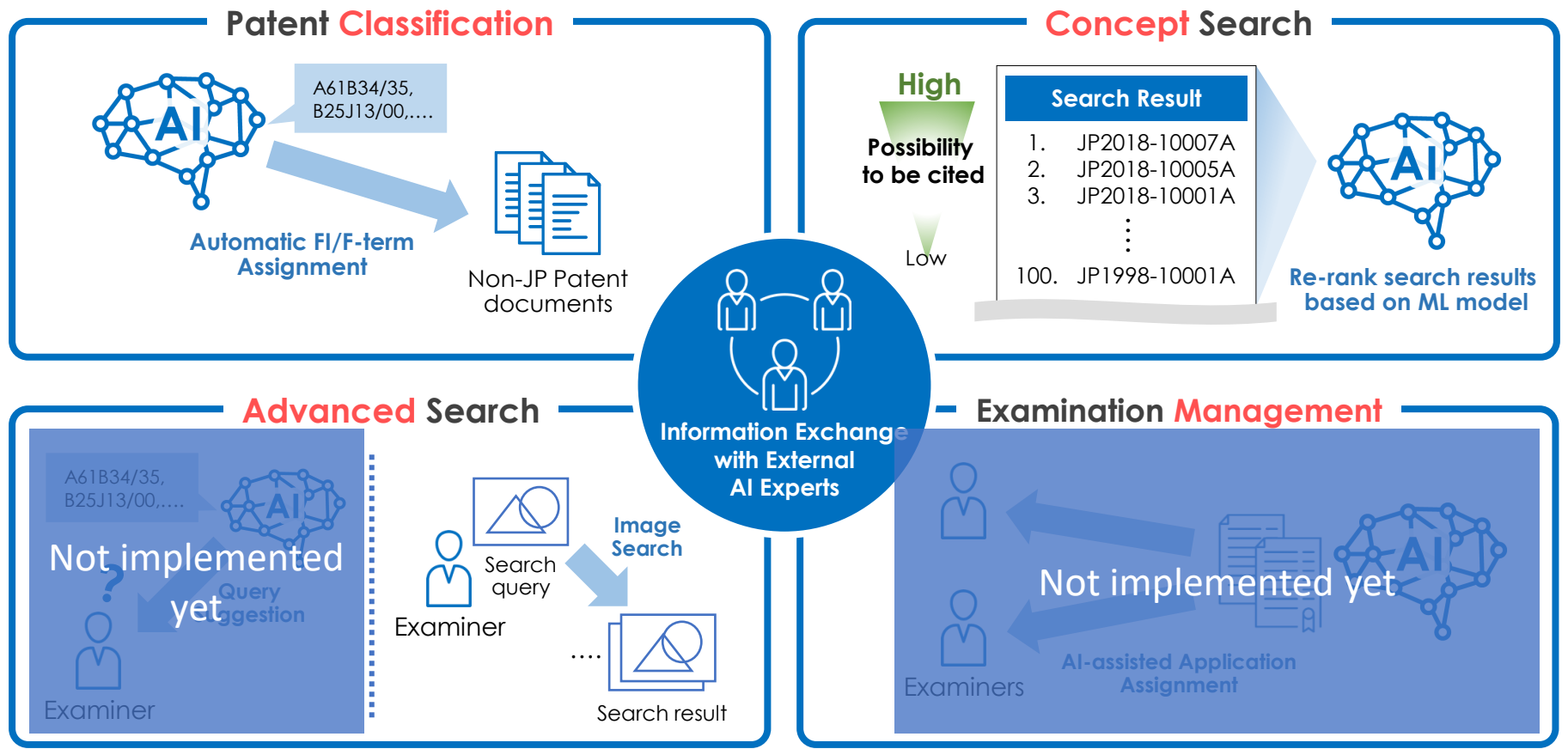
Held at EPO in Sep. 2023



## **6. AI utilization in the Prosecution and Administration of Patent Systems**

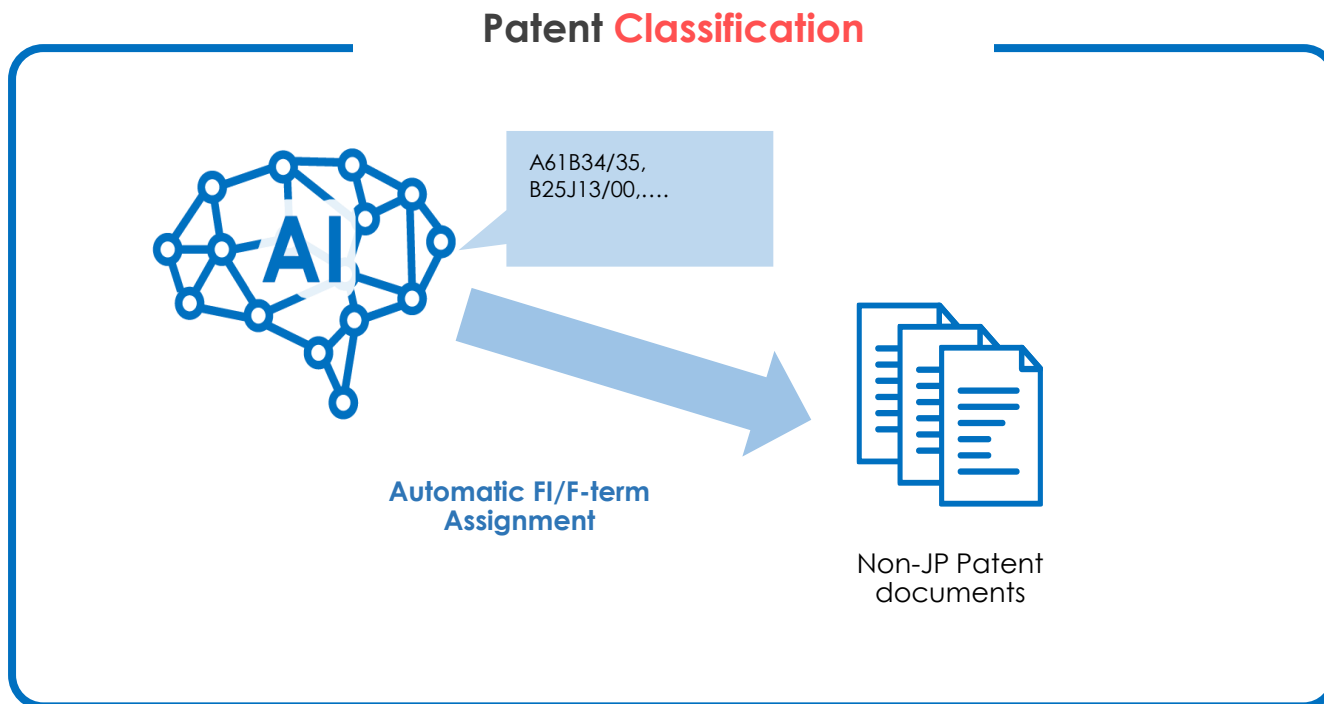
# AI utilization in the Prosecution and Administration of Patent Systems

## In-house development of patent examination support system using AI



# AI utilization in the Prosecution and Administration of Patent Systems

## In-house development of patent examination support system using AI

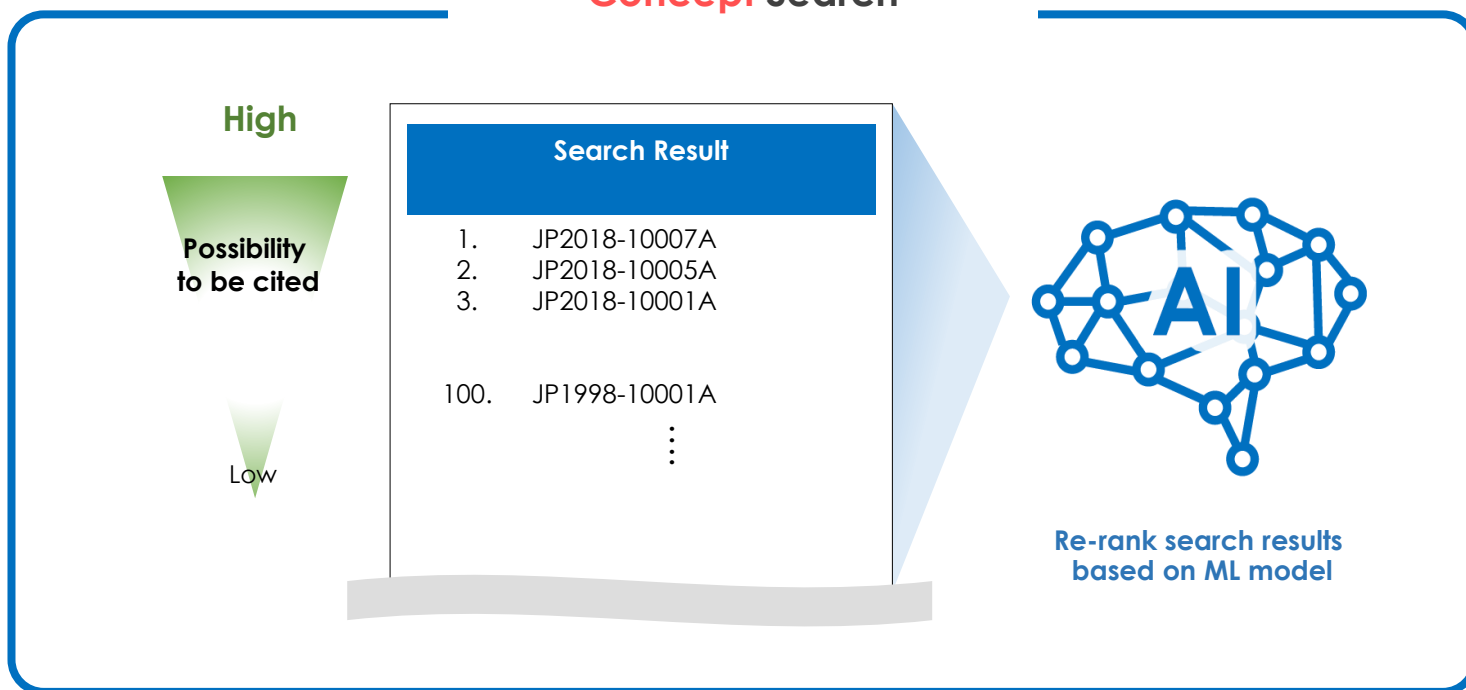


# AI utilization in the Prosecution and Administration of Patent Systems



## In-house development of patent examination support system using AI

### Concept Search





Utilization of generative AI services

Microsoft copilot

etc

**Thank you very much!**

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