



Inventorship of AI-generated Inventions

IP5

June 20, 2024



Background

- ✓ **At the IP5 Heads meeting held in June 2023, the IP5 Heads endorsed** the launch of the project regarding “Inventorship of AI-generated Inventions”.
- ✓ The objective of the project is to **provide an overview of the IP5 Offices’ examination practices and case law on AI-generated inventions** to help users understand the examination practices regarding inventorship of AI-generated inventions.
- ✓ The scope of the project is **to compile relevant legal texts and resources of the IP5 Offices, including laws, examination guidelines, practice manuals, case law, etc.**, and then to publish them on the IP5 website.

Results of collection of existing materials

- ✓ By listing materials in the form of hyperlinks to webpages, obsolescence of the output will be avoided. Users could access the latest materials by clicking the links even in the future.
- ✓ Overview table of answers from the IP5 Offices is shown from the next page.

Disclaimer

While the content aims at promoting transparency in practices of the IP5 Offices on Inventorship of AI-generated inventions at the time of the data collection, it may not be considered or construed as legally binding in any way. The IP5 Offices cannot guarantee the completeness, accuracy, or fitness for specific purposes of the data presented.



	EPO	JPO	KIPO	CNIPA	USPTO
1.Laws related to the inventorship of an invention or designation of the inventor	<p>The European Patent Convention (EPC), Article 60 Right to a European patent [English] [German] [French]</p> <p>EPC, Article 81 Designation of the inventor [English] [German] [French]</p> <p>EPC, Rule 19 Designation of the inventor [English] [German] [French]</p>	<p>Patent Act, Article 29</p> <p>Patent Act, Article 36(1)</p> <p>Patent Act, Article 184-5 [English] [Japanese]</p>	<p>Patent Act, Article 33 Persons entitled to patent</p> <p>Patent Act, Article 42 Patent applications</p> <p>Patent Act, Article 203 Submission of documents [English] [Korean]</p>	<p>Patent Law of the People's Republic of China, Article 6, 16, 26 [Chinese]</p> <p>Rules for the Implementation of the Patent Law of the People's Republic of China, Rule 14 [Chinese]</p>	<p>35. U.S. Code 100 Definitions [English]</p> <p>35. U.S. Code 101 Inventions patentable [English]</p> <p>35. U.S. Code 115 Inventor's oath or declaration [English]</p> <p>35. U.S. Code 116 Inventors [English]</p>



	EPO	JPO	KIPO	CNIPA	USPTO
<p>2. Examination results, case law related to the inventorship of an AI-generated invention, including inventions generated by DABUS listed as an inventor in Stephen Thaler's patent application</p>	<p>① Decision of the Receiving Section dated 25.11.2019 concerning applications EP 18 275 163 and E P 18 275 174</p> <p>Abstract: The applications are refused in accordance with Article 90(5) EPC since the designations of inventor filed for each of the applications do not meet the requirements of Article 81 and Rule 19 EPC. Grounds:</p> <p>a) a designation indicating a machine as an inventor did not meet the requirements of Article 81 and Rule 19(1) EPC, because an inventor within the meaning of the EPC had to be a natural person.</p> <p>b) the "statement indicating that the applicant acquired the right to the European patent from DABUS as employer", and "the correction of this statement to indicate succession in title" did not meet the requirements of Articles 60(1) and 81 EPC, because a machine had no legal personality. Therefore, it could neither be an employee of the applicant nor transfer any right to him.</p>	<p>① Decision of the Tokyo District Court; Reiwa 5 (Gyo-U) Case No. 5001. [Japanese]</p>	<p>① Examination results of Stephen Thaler's patent application (press released) [English] [Korean]</p> <p>Abstract: A natural person only is accepted as a valid inventor under the Korean Patent Act and a relevant precedent, so it is not permitted to name AI as an inventor in a specification. Such an application is invalidated, and therefore the application is deemed not to have been filed.</p> <p>② Case law of the Seoul Administrative court (press released); decision rendered on case No. 2022GuHap89524 [English] [Korean]</p> <p>Abstract: Under Article 33(1) of the Korean Patent Act (KPA), a person who makes an invention or his or her successor shall be entitled to a patent. In other words, 'an inventor' according to the KPA refers to 'a natural person' who makes an invention. At present, under the Korean Patent Act, it is not permitted to designate 'Artificial Intelligence (AI)' only as an inventor in a patent application because AI is not a natural person.</p>	<p>① Reexamination result of Stephen Thaler's patent application (press released) [Chinese]</p> <p>Abstract: The CNIPA's decision on the reexamination of the patent application for the invention entitled "Food container and device and method for attracting enhanced attention" was to uphold the decision of rejection. The reexamination decision was based on the basic principles of civil law and an interpretation of the legislative purpose of the patent inventor system. It made it clear that an artificial intelligence could not be recognized as an inventor in patent administrative procedures.</p>	<p>① Case law of the US Court of Appeals for the Federal Circuit, CAFC, <i>Thaler v. Vidal</i>, 43 F.4th 1207 (Fed. Cir. 2022) [English]</p> <p>② USPTO Petition decision on an application listing AI ("DABUS") as the sole inventor [English]</p>



	EPO	JPO	KIPO	CNIPA	USPTO
<p>2. Examination results, case law related to the inventorship of an AI-generated invention, including inventions generated by DABUS listed as an inventor in Stephen Thaler’s patent application</p>	<p>②Case law of the EPO Board of Appeal J 0008/20 (Designation of inventor/DABUS) (21/12/2021) [English]</p> <p>Abstract: The main request is not allowable because the designation of the inventor does not comply with Article 81, first sentence, EPC. Under the EPC the designated inventor has to be a person with legal capacity. This is not merely an assumption on which the EPC was drafted. It is the ordinary meaning of the term inventor (see, for instance, Oxford Dictionary of English: "a person who invented a particular process or device or who invents things as an occupation" There is no reason to assume that the EPC uses the term in a special way departing from its ordinary meaning (J 0008/20 point 4.3.1 of the Reasons)</p> <p>The auxiliary request does not comply with Article 81, second sentence, EPC in conjunction with Article 60(1) EPC, and is not allowable. Article 81, second sentence EPC requires that where the applicant is not the inventor, they must file a statement on the origin of the right to the European patent. A statement that the applicant is the owner and creator of the machine does not bring the applicant within the scope of Article 60(1) EPC because it does not refer to a legal transaction which would have made him a successor in title within the meaning of EPC. (J 0008/20 points 4.4.1 – 4.4.2 of the Reasons).</p>		<p>③Case law of the Seoul High court (press released); decision rendered on case No. 2023Nu5 2088 [English] [Korean]</p> <p>Abstract: In view of interpretations of Articles 33 and 42 of the Patent Act, it is obvious that an inventor refers to a natural person. It is beyond the limitations of legitimate legal interpretation to incorporate AI into the inventor, under the regulations set forth in the Act, in view of AI’s emergence and development, the current AI level, social perception of AI, etc. If there exists a certain subject matter sufficient to be protected as an AI invention in the future, its legal protection needs to be guaranteed, in a supplemented manner, by legislation to be processed through social discussion.</p>		



	EPO	JPO	KIPO	CNIPA	USPTO
<p>3. Any materials including examination guidelines, manuals, reports, webpages regarding AI-generated invention</p> <p>Please specify where this information can be searched</p>	<p>① Guidelines for Examination in the European Patent Office (2024) on designation of inventor (not limited to AI) A-III, 5.1</p> <p>② Dedicated EPO website on Artificial Intelligence [English]</p>	<p>① Indication of Inventor in Patent Applications(not limited to AI-generated inventions) (JPO webpage) [Japanese]</p>	<p>① Inventorship of AI-generated inventions (KIPO webpage) [English] [Korean]</p> <p>② White Paper on Artificial Intelligence and Intellectual Property [Korean]</p>	<p>① Guidelines for Patent Examination (2023), Part 1, Chapter 1, Section 4.1.2, Part 2, Chapter 9, Section 6 [Chinese]</p>	<p>① USPTO guidance and examples on inventorship for AI-assisted inventions [English]</p>

Summary

- ✓ At this point, **designating or listing AI as inventor doesn't meet the IP5 Offices' requirements** because an inventor has to be a natural person within the meaning of IP5 Offices' legal systems.
- ✓ EPO, JPO, KIPO and USPTO have case law regarding AI-generated inventions.

Feedback from the IP5 Industry

- ✓ IP5 Industry underlined the importance of this project at the IP5 ICG meeting held in March 2024.
- ✓ IP5 Industry suggested that the IP5 Offices should consider similar work in the area of ‘sufficiency of disclosure’.

Domestically

(Aug. '21) Discussion of protection measure of AI-generated inventions by organizing **AI experts body** (Technology, industry and legislative body)

(Mar. '22) Publication of AI white paper compiling domestic and foreign discussions on AI inventor

(Jul. '23) Creation of "AI and Invention" feature at KIPO webpage, Public survey on AI inventors conducted (~Sep. '23)

+

Internationally

(Dec. '21) To initiate 7 major patent offices discussion for harmonized international approach to AI generated inventions

(Oct. '22) Participating at int'l meetings and theme presentation (WIPO AI seminars)

(Jun. '23) "Sharing of legislations and legal cases regarding AI inventor" **approved at IP5 Heads of Offices meeting**

(Oct. '23) Participation and presentation at **WIPO SCP**

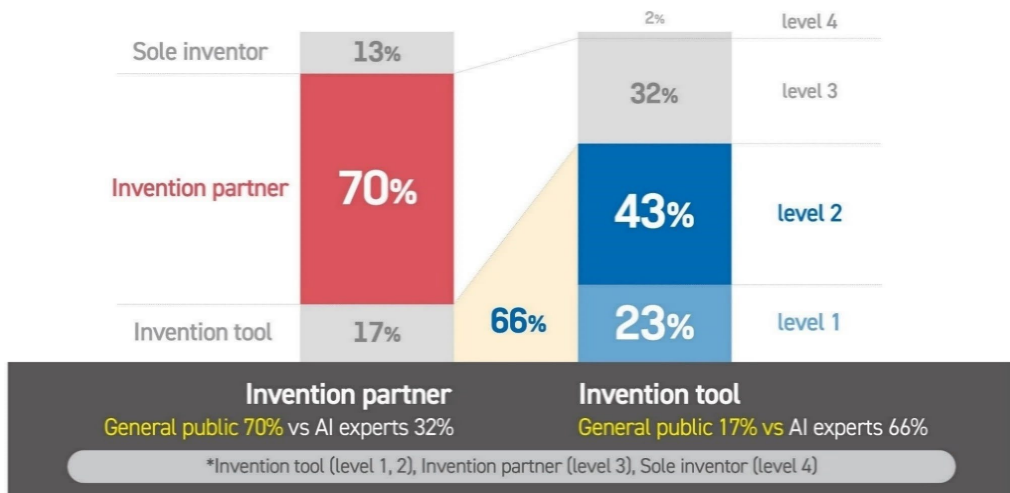
Sharper and continued increase of AI inventions is anticipated, and the level of technologies will be enhanced accordingly
Improvement of the patent system and international cooperation are needed to respond to fast developments of AI technologies

Public survey on AI inventorship

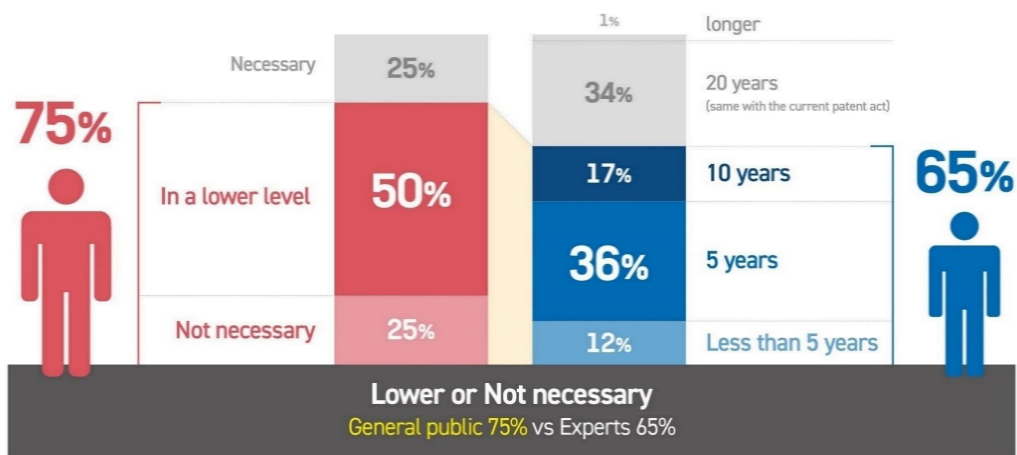
- ❖ Period: July - September 2023 (about 2 months)
- ❖ Method: Public and experts surveys (separately) – **Almost 1,500 participants**
 - Public survey: 1,204 participated for a total of 5 questions regarding AI experience, assessment of AI technology level, etc.
 - Experts(patent attorneys, researchers) survey: 292 participated for a total of 14 questions regarding experience of AI technology development, assessment of AI technology level, AI inventorship, patent right attribution, etc.

Public Survey Outcomes

Difference between general public and AI experts in recognition for 'AI technology'



"Patent protection" of AI inventions

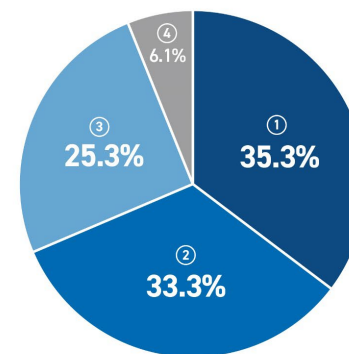


Experts Whether allow AI as an inventor and a patent right holder

AI as an inventor



Description of AI When AI is allowed as an inventor

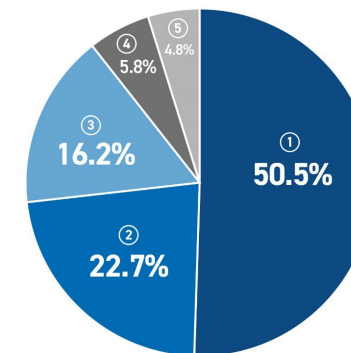


- 1 Describe inventive processes by AI in a specification **35.3%**
- 2 [Inventor] 000, AI (in parallel with a natural person) **33.3%**
- 3 [Inventor] 000 who prompt AI to create an invention **25.3%**
- 4 Others **6.1%**

AI as a patent right holder



Legitimate patent right holder When AI is allowed to be granted with a patent



- 1 AI user **50.5%**
(Ex: Inventor utilizing Google platform)
- 2 AI developer **22.7%**
(Ex: AI platform developer of Google)
- 3 AI owner **16.2%**
(Ex: Google)
- 4 Data provider **5.8%**
- 5 Others **4.8%**



Thank you!

