Webinar + Q&A

Inventorship and AI: Defining the Human Role in Patent Law

Speakers: Prof. Noam Shemtov and Heli Pihlajamaa

Host: Axel Ferrazzini

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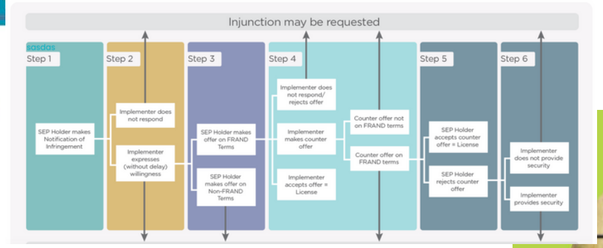
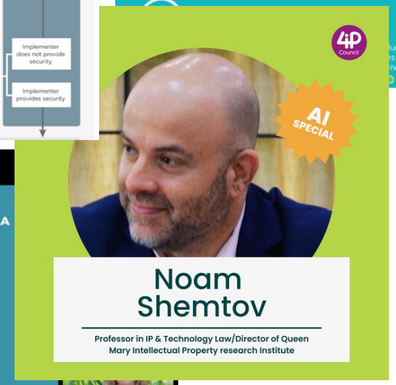


Essentiality Checks and Standards Essential Patents

- Why automated patent analysis can be wrong, even when it's right by Axel Contreras-Alvarez
- Patent Landscaping Studies And Essentiality Checks: Rigorous (And Less Rigorous) Approaches by Haris Tsilikas
- Estimating 5G Patent Leadership: The Importance of Credible Reports by Igor Nikolic

Why automated patent analysis can be wrong, even when it's right by Axel Contreras-Alvarez

Axel Contreras-Alvarez, former IPR Commercialization Manager at Ericsson, evaluates the reliability of software and automated analysis for patent valuation, considering the factors used by algorithms, and with an action plan for those wishing to use such platforms.



Explore IoT and Cellular Standards

- **What are IoT and Cellular Standards?**
- Benefits of cellular standards
- IoT sectors enhanced by cellular standards
- FRAND: Cycle of Innovation
- How are cellular standards developed?

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Inventorship and AI: Defining the Human Role in Patent Law

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4iP Council Webinar

INVENTORSHIP AND AI: DEFINING THE HUMAN ROLE IN PATENT LAW

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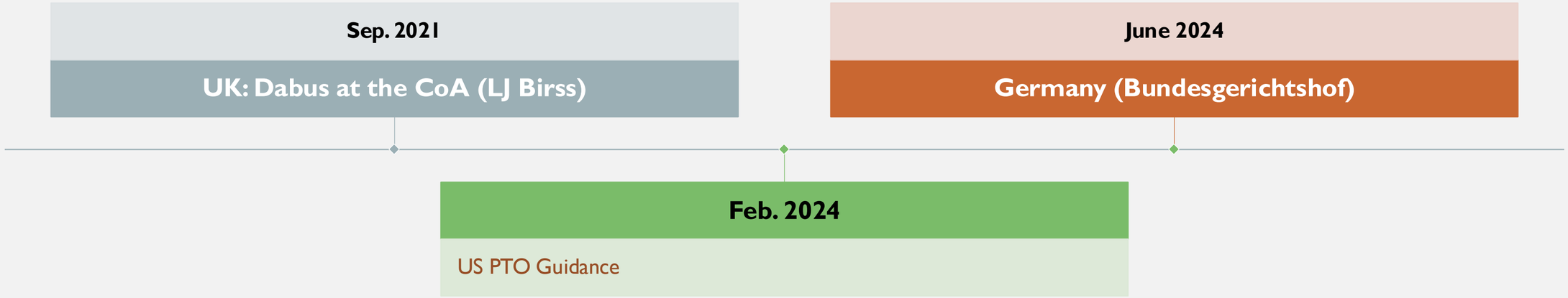
THE REQUIREMENT FOR DESIGNATING INVENTORS

- **Section 37** of the **German Patent Act (Patentgesetz)** - The applicant is required to **designate the inventor** when filing a patent application.
- **Section115** of the **U.S. Patent Act - Identification of Inventor(s)**: The inventor or inventors must be identified in the patent application.
- **Section 13** of the UK **Patents Act 1977 -** The patent application must include a statement identifying the inventor or inventors of the invention.
- **Article 81 EPC** and **Rule 19(1) EPC** - obligatory designation of inventor.

POST *DABUS*

- A designated inventor must be a natural person
  - US
  - UK
  - Australia
  - Germany

WHICH TYPE OF HUMAN CONTRIBUTION IS NECESSARY TO QUALIFY AS AN INVENTOR?



USPTO'S 'SIGNIFICANT CONTRIBUTION' REQUIREMENT

- AI-assisted inventions can be patented if a natural person has made a "***significant contribution***" to each claim in the application.
- The concept of "significant contribution" can be linked to the Federal Circuit's 1998 ruling in ***Pannu v. Iolab Corp***

USPTO'S "GUIDING PRINCIPLES"

1. A natural person's use of an AI system in creating an AI-assisted invention does not negate the person's contributions as an inventor.

2. Merely recognizing a problem or having a general goal or research plan to pursue does not rise to the level of conception.
   - A natural person who only presents a problem to an AI system may not be a proper inventor or joint inventor of an invention identified from the output of the AI system.
   - However, a significant contribution could be shown in how the person constructs the prompt in view of a specific problem to elicit a particular solution from the AI system.

3. Reducing an invention to practice alone is not a significant contribution that rises to the level of inventorship.
   - A natural person who merely **recognizes and appreciates** the output of an AI system as an invention, particularly when the properties and utility of the output are apparent to those of ordinary skill, is not necessarily an inventor.
   - However, a person who takes the output of an AI system and makes a significant contribution to the output to create an invention may be a proper inventor.

USPTO'S "GUIDING PRINCIPLES" (CONT')

4. A natural person who develops an essential building block from which the claimed invention is derived may be considered to have provided a significant contribution to the conception of the claimed invention even though the person was not present for or a participant in each activity that led to the conception of the claimed invention.
   - In some situations, the natural person(s) who designs, builds, or trains an AI system in view of a specific problem to elicit a particular solution could be an inventor, where the designing, building, or training of the AI system is a significant contribution to the invention created with the AI system

5. Maintaining "**intellectual domination**" over an AI system does not, on its own, make a person an inventor of any inventions created through the use of the AI system.
   - A person simply owning or overseeing an AI system that is used in the creation of an invention, without providing a significant contribution to the conception of the invention, does not make that person an inventor.

IMPLICATIONS

Cases of AI-assisted inventions, where:

- Worthy innovation with societal benefit is created
- A natural person that maintains **Intellectual domination** over a process, BUT
- The AI generates output highly relevant for the invention, and the person overseeing the process recognises and appreciates the significance and utility of the output, however this may be apparent or 'obvious' to the skilled person. Alternatively, where the inputs that prompt the AI may be an exercise of normal skill expected of the skilled person.

- No inventor may be identified under the Guiding Principles. In such cases, NO PATENT GRANT.

CRITIQUE

- Conflation of the concept of obviousness with inventorship.
- Potentially denies protection to worthy innovations that merit patent protection in light of the public policy objectives underlying patent law.
- Encourage validity challenges

GERMAN FCJ - DECISION OF JUNE 11, 2024, FILE NO. X ZB 5/22

- Inventor – the natural person who significantly **influenced** the AI system.
  - A human contribution must play a significant role in guiding or shaping the AI system.
  - Essentially, this is probably even a lower threshold than the former US **intellectual domination** criterion.

- This will always be the case, since: "*there is no such thing as a system that searches for technical teachings without any human preparation or influence*".

UNITED KINGDOM

- Section 7(3) UK Patent Act -’” the inventor' in relation to an invention means the actual **deviser** of the invention".
- According to the Oxford English Dictionary a ‘**deviser**’ is "a person who devises; a contriver, a planner, an inventor.”
- Note: according to S. 13 the only thing required from an applicant to identify the person who he believes in good faith to be the inventor; nothing more.
  - Unlike the US, challenge to this designation can only come from a person who claims to be himself entitled to the patent.

FINAL THOUGHTS

- The assessment at the inventive step/obviousness stage provides effective filters and mechanisms so that worthy innovations, which merit encouragement and reward, successfully progress to a patent grant. In contrast, the inventorship assessment, despite the guiding principles set by the USPTO, does not offer the same level of robustness.

- The approach in Germany, and to a lesser extent in the UK, aligns more closely with the objectives of patent law, as the level of inventive effort by the inventor does not play a significant role in determining eligibility.

"The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations." (TRIPS, Art. 7)

Europäisches Patentamt
European Patent Office
Office européen des brevets

AI IN THE PATENT SYSTEM

PATENTABILITY, INVENTORSHIP, AI-GENERATED SUBMISSIONS

HELI PIHLAJAMAA | PRINCIPAL DIRECTOR PATENT LAW AND PROCEDURES | 16 JANUARY 2025

AI AND INVENTORSHIP

- Legal Board of Appeal decisions **J 8/20** and **J 9/20**
- The EPC requires the designated inventor to be a human being.
- Since AI systems have no rights, they may not be designated as inventors in patent applications.
- The EPO is competent to examine the statement indicating the origin of the right to the invention. This statement must indicate the inventor's successor in title.
- Any disputes on inventorship belong to the competence of national courts.
- In proceedings at the EPO, the applicant is deemed to be entitled to exercise the right to European patent.

AI-RELATED INVENTIONS AND PATENTABLE SUBJECT-MATTER

Art. 52 (1) EPC – PATENTABLE

- Inventions in all fields of technology
- New
- Inventive

Art. 52 (2), (3) EPC – EXCLUDED

- Mathematical methods, schemes, rules and methods for performing mental acts etc. and programs for computer are not regarded as inventions
- if claimed as such in the application

Art. 54, 56 EPC – ASSESSMENT

- All features contributing to the technical character are taken into account for assessment of inventive step of an invention in the field of CII and AI

Patentability of CII and AI-related inventions
see also EPO Enlarged Board of Appeal Decision G 1/19 "Pedestrian simulation"

EXAMPLE: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Technical applications

- ✓ Determine cardiac output from arterial blood pressure
- ✓ Control of technical system or process (inside or outside computer)

Specific technical implementation

- ✓ Distributing calculations using a specific parallel computer architecture
- ✓ Designing the activation function of a neural network based on word shifts in the computer

All mathematical features serving a technical purpose in the context of the invention are taken into account for assessing inventive step.

Note: G-II, 3.3.1

AI-RELATED INVENTIONS AND OTHER PATENTABILITY REQUIREMENTS

Not obvious to the person skilled in the art

Description sufficiently clear and concise for the person skilled in the art to carry out the invention

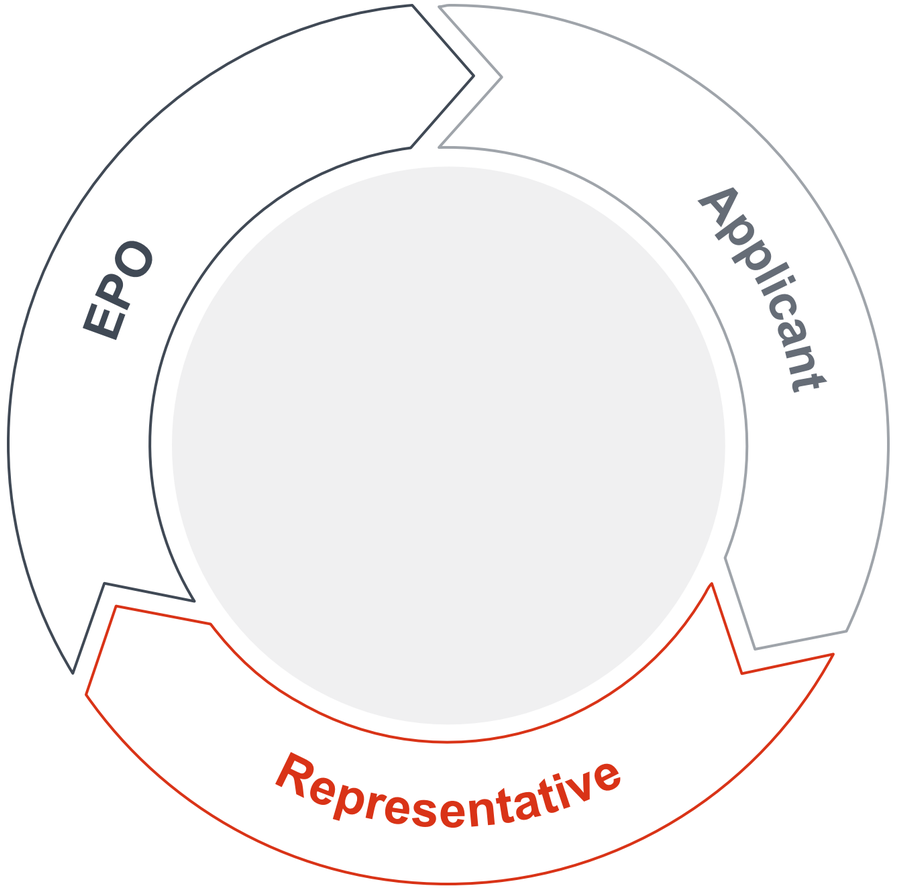
Other requirements (procedural, formal)

AI AS A TOOL

AI can be used as a tool:

- enhance the efficiency of the patent grant process, e.g. in classification and search
- human-centric approach
- all final decisions are made by human beings
- the EPO remains fully accountable for its decisions

AI tools offer opportunities to increase efficiency and quality, for example when drafting submissions in the patent grant proceedings.

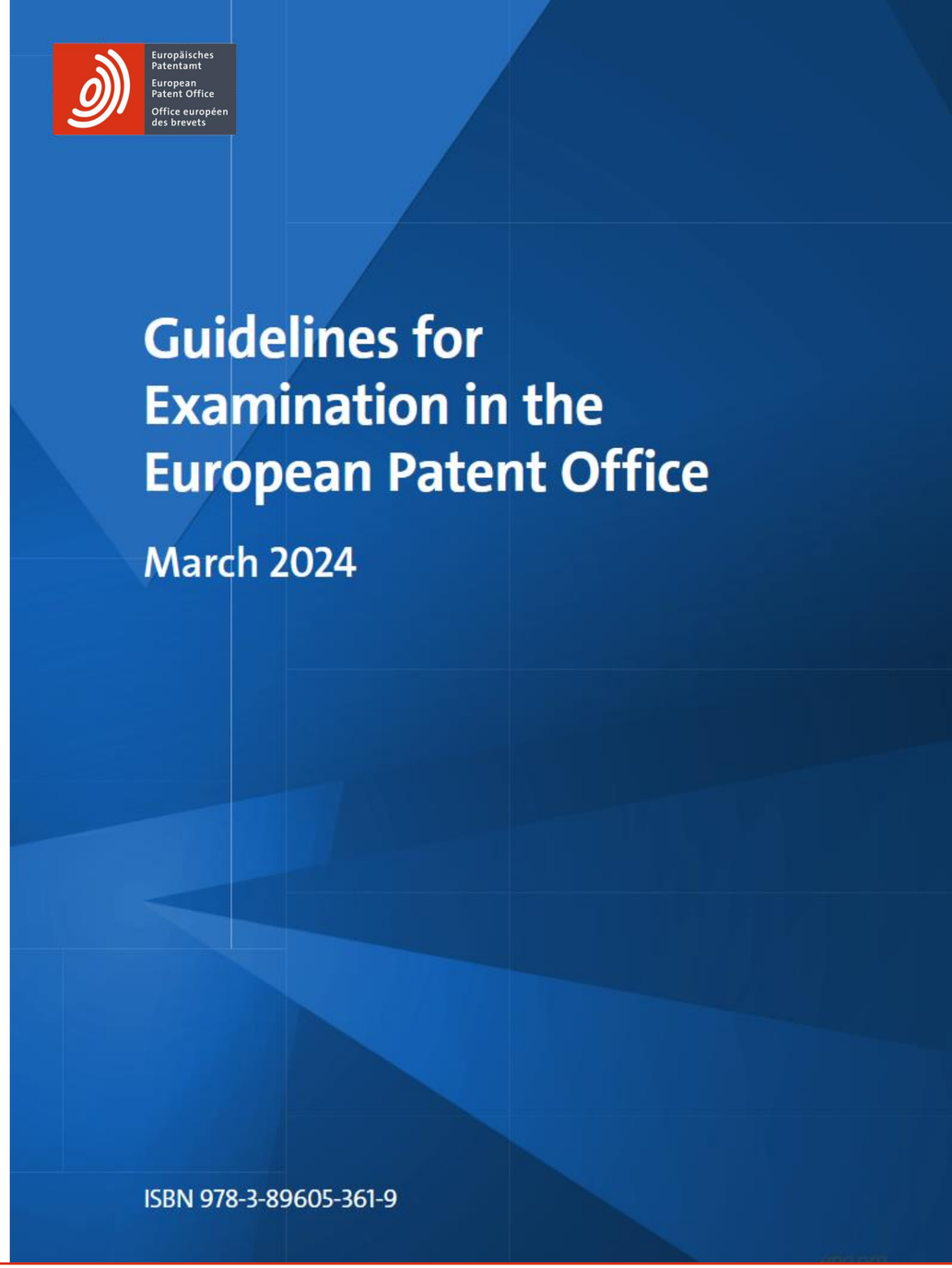


- Under the EPC, the content and its merits, not the origin, of a submission matters.
- It is the task of the parties/ their representatives to ensure that the submissions are accurate.
- Rules of professional conduct
- Duty of care and to cooperate in the proceedings

GUIDELINES ON EXAMINATION

The Guidelines for Examination in the EPO are the main source of information on the EPO's practice.

- Dedicated section on AI (G-II, 3.3.1) since 2018.
- Guidance on drafting submissions.
- Revised yearly to reflect legal and practical developments.



Q&A

Open floor for questions and discussion.

THANK YOU!

Register now for our upcoming webinar:

The ETSI IPR Policy: Origins, Intent, and Misinterpretations (Explained by Insiders)

Date: February 13 at 4 pm CET

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