European
IP Helpdesk

ec.europa.eu/ip-helpdesk

European IP Helpdesk

Stay ahead of the innovation game.

IP and Artificial Intelligence
Advanced Webinar + Update

European IP Helpdesk

- Service initiative of the European Commission
- Addressing **current and potential beneficiaries of EU-funded projects, researchers and EU SMEs**
- Free-of-charge first-line support on intellectual property (IP)
- Hands-on IP and innovation management support
- International pool of IP experts from various thematic fields
- Unique cooperation scheme with the Enterprise Europe Network: 44 ambassadors from 27 EU countries

Training
free online and on-site sessions

Website
frequent updates from the world of IP and innovation

Helpline
confidential treatment of individual IP questions

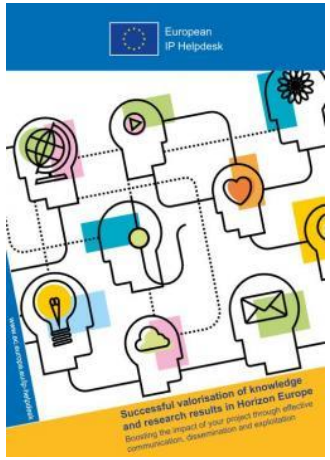
Publications
practical IP knowledge through high-level publications

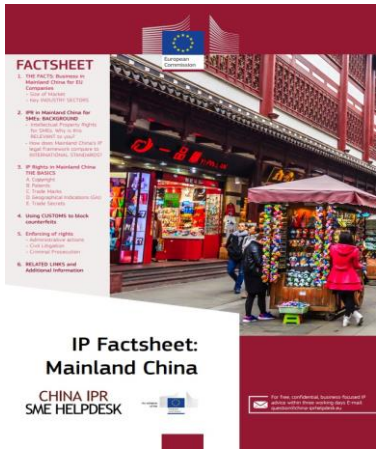
Ambassadors
local IP support throughout Europe

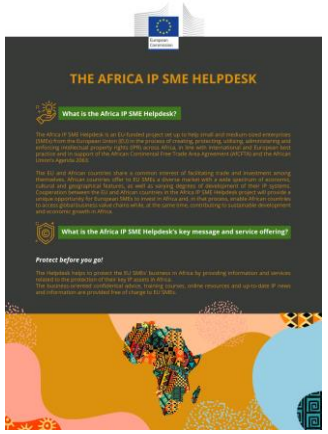
Events
info point at key networking events and conferences

The EC IP Helpdesks

EC IP (SME) Helpdesk Hub – Gateway to Information

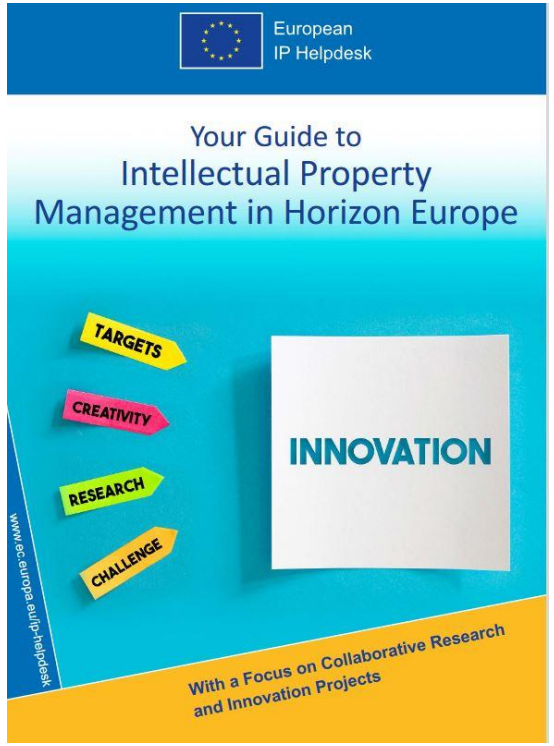






- E-learning modules & more
- Guides / Topic, country, sector-specific factsheets / Infographics
- Case studies

Your Guide to Intellectual Property management in Horizon Europe



https://op.europa.eu/en/publication-detail/-/publication/43e0204c-6ed3-11ed-9887-01aa75ed71a1/language-en/format-PDF/source-276235204

Training cooperation with the Community Plant Variety Office and CIOPORA

CPVO
Community Plant Variety Office

CIOPORA

17 FEB 2022	TRAINING AND WORKSHOPS **EU - Webinar & CPVO coop: The essential role of Quality Auditing examination offices for EU Plant Variety Rights** Live streaming available	
12 APR 2022	TRAINING AND WORKSHOPS **EU - Webinar CPVO Coop: Constraints and opportunities for edited varieties. Is the GMO legal framework impacting the creation of new plants?** Live streaming available
21 JUN 2022	TRAINING AND WORKSHOPS **EU Webinar - CPVO Coop Webinar: Introduction to Community plant variety rights: creation of new plants and their protection in the EU** Live streaming available
08 SEP 2022	TRAINING AND WORKSHOPS **EU - Webinar CPVO Coop: The interface between plant variety rights and patents** Live streaming available
28 SEP 2022	TRAINING AND WORKSHOPS **EU - Webinar & CIOPORA coop: Growers' Guide to Intellectual Property Protection for Plants** Live streaming available
10 OCT 2022	TRAINING AND WORKSHOPS **EU - Webinar CPVO Coop: What's in a name: plant variety denominations and their interface with trademarks and geographical indications** Live streaming available
02 NOV 2022	TRAINING AND WORKSHOPS **EU - Webinar CIOPORA coop: Enforcement practices for Plant Variety Rights in the EU** Live streaming available
06 DEC 2022	TRAINING AND WORKSHOPS **EU - Webinar CPVO Coop: The impact of protected new plant varieties in the European Union market.** Live streaming available

Ambassador Scheme

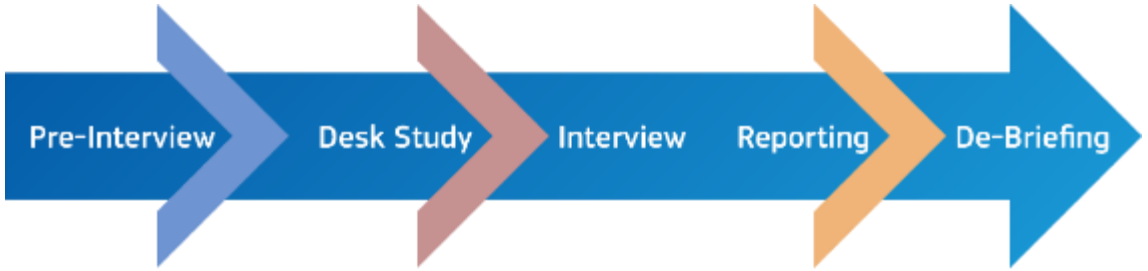
- **Cooperation scheme** with the Enterprise Europe Network (EEN): 44 ambassadors – 27 countries
- **Building IP capacities** among European SMEs
- **Overcoming language barriers**
- Making the topic **more accessible**
- Exchange and feedback from ambassadors on **needs of SMEs**
- Local **awareness** and **training events**

Further learning opportunities:

1. European IP Helpdesk Ambassadors and EEN
2. EUIPO learning portal
3. EUIPO – Ideas Powered for business website
4. WIPO Academy / Diagnostics
5. The Ideas Powered for business SME Fund
6. IPA4SME
7. Horizon IP Scan
8. (IP Booster)
9. Horizon Results Booster
10. LeadershIP4SMEs
11. EPO Academy
12. 4IPCouncil

Horizon IP Scan

IP Support Service for SMEs in Collaborative EU-funded Research Projects



14 JUL 2022	INFO DAYS Horizon IP Scan - Info Session Live streaming available	17 AUG 2022	INFO DAYS Horizon IP Scan - Info Session Live streaming available
14 SEP 2022	INFO DAYS Horizon IP Scan - Info Session Live streaming available	11 OCT 2022	INFO DAYS Horizon IP Scan - Info Session Live streaming available
14 NOV 2022	INFO DAYS Horizon IP Scan - Info Session Live streaming available	14 DEC 2022	INFO DAYS Horizon IP Scan - Info Session Live streaming available

www.horizon-ipscan.eu

Horizon IP Scan

European Commission

Thank you!

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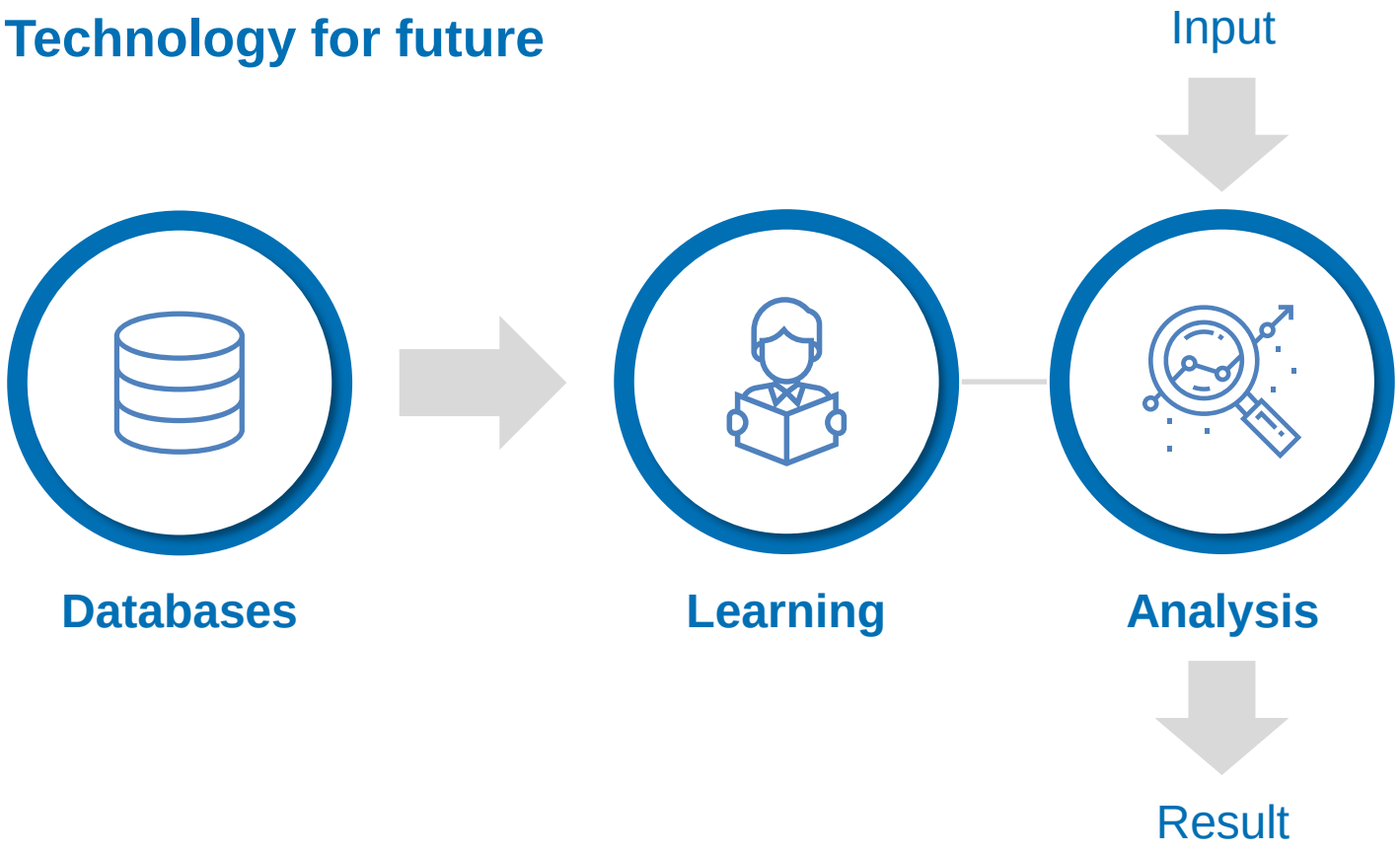
About me

- BA Physics, Oxford University
- MSc Physics, Sheffield University
- PhD Semiconductors Sheffield University
- EPO Examiner – the Hague
- IBM Germany – Patent Engineer
- W.L.Gore & Associates – European IP Counsel
- Partner, 24IP Law Group
- Advisory Board Member
- IP Strategy

Artificial Intelligence

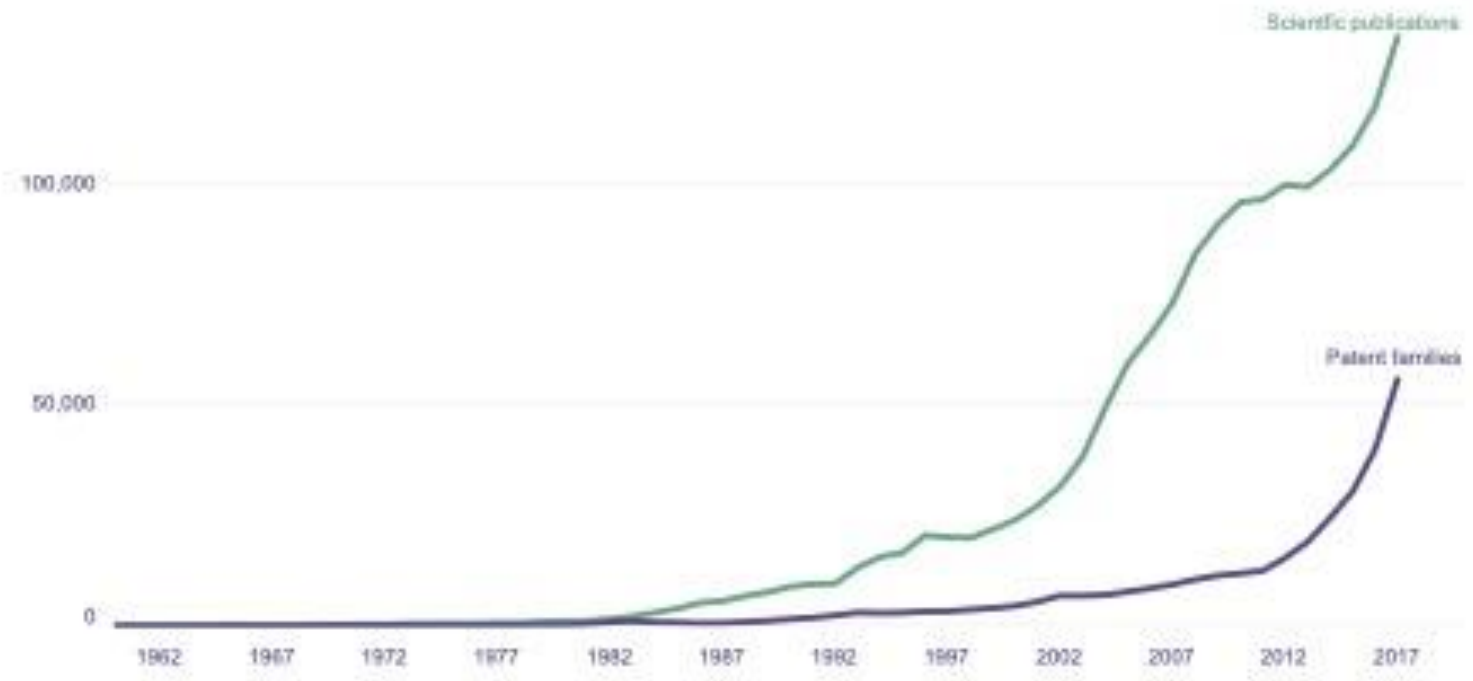
What do we mean?

Technology for future



Picture source: Istock.com

Increase in Patent Applications



Picture source: Freepik.com

Source: WIPO 2019 https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf

IP and Artificial Intelligence

Data ownership

Database Rights

Contractual Rights

Patents

Picture source: Pixabay.com

European Parliament Resolution 20 October 2020

- Importance of IPR Protection
- Economic incentives
- Emphasizes need for technical innovation
- Comprehensive description and notes that this may be a challenge
- No legal personality to AI creations

Picture Source: European Parliament Website
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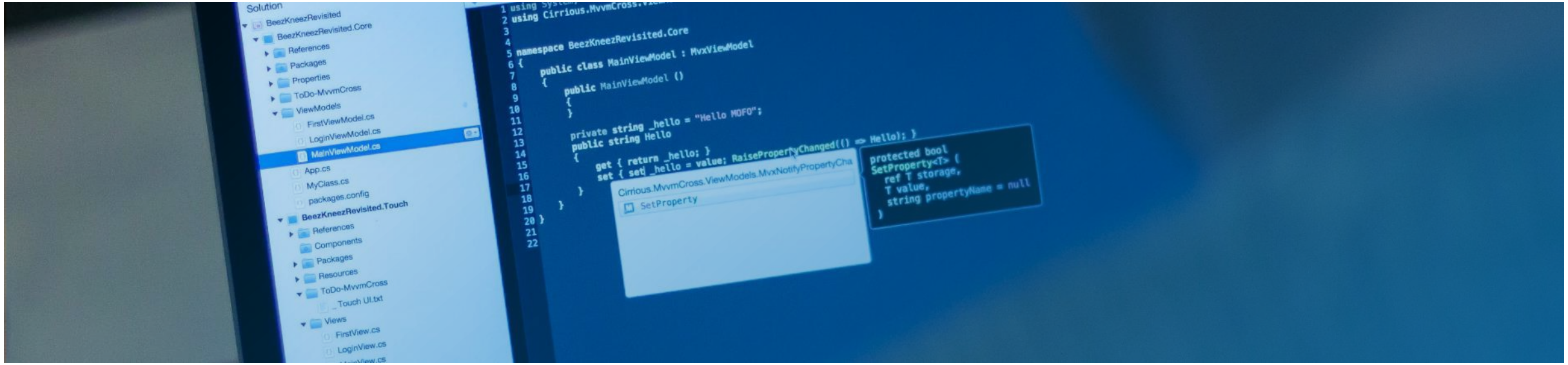
Data Rights and Ownership

Picture source: Freepik.com

Who owns data?



Can we really talk about “ownership”?

Different countries have different legal concepts

EU Data Governance Act will regulate governance of data -> principles of open data.

Contractual relationships most important.

Picture source: Freepik.com

Copyright

Picture source: Freepik.com

Copyright Ownership

Level of Creativity Required for Copyright Protection

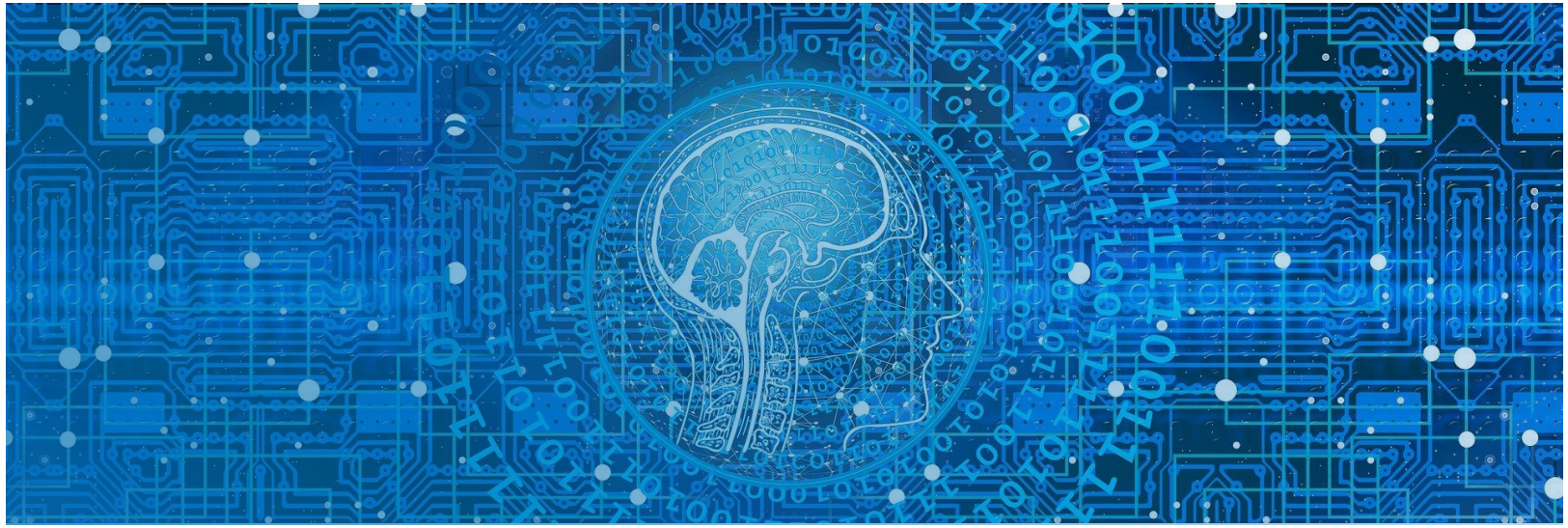
Data per se will not have this level

Compilations of data may enjoy copyright protection

Software is protected – under Berne Convention

Picture source: Freepik.com

Copyright of Generated Works



US: Author of copyright cannot be a computer

UK: Copyright Patent and Design Act 1988

- Computer- generated works
- Owned by Person who made "Arrangements"
- Only one court decision

Europe / Japan Dialogue

- Is copyright possible?
- Who owns the product?

Picture source: Freepik.com
Map: WIkipedia

Database Rights (Europe)

Picture source: Freepik.com

Protects collation of data

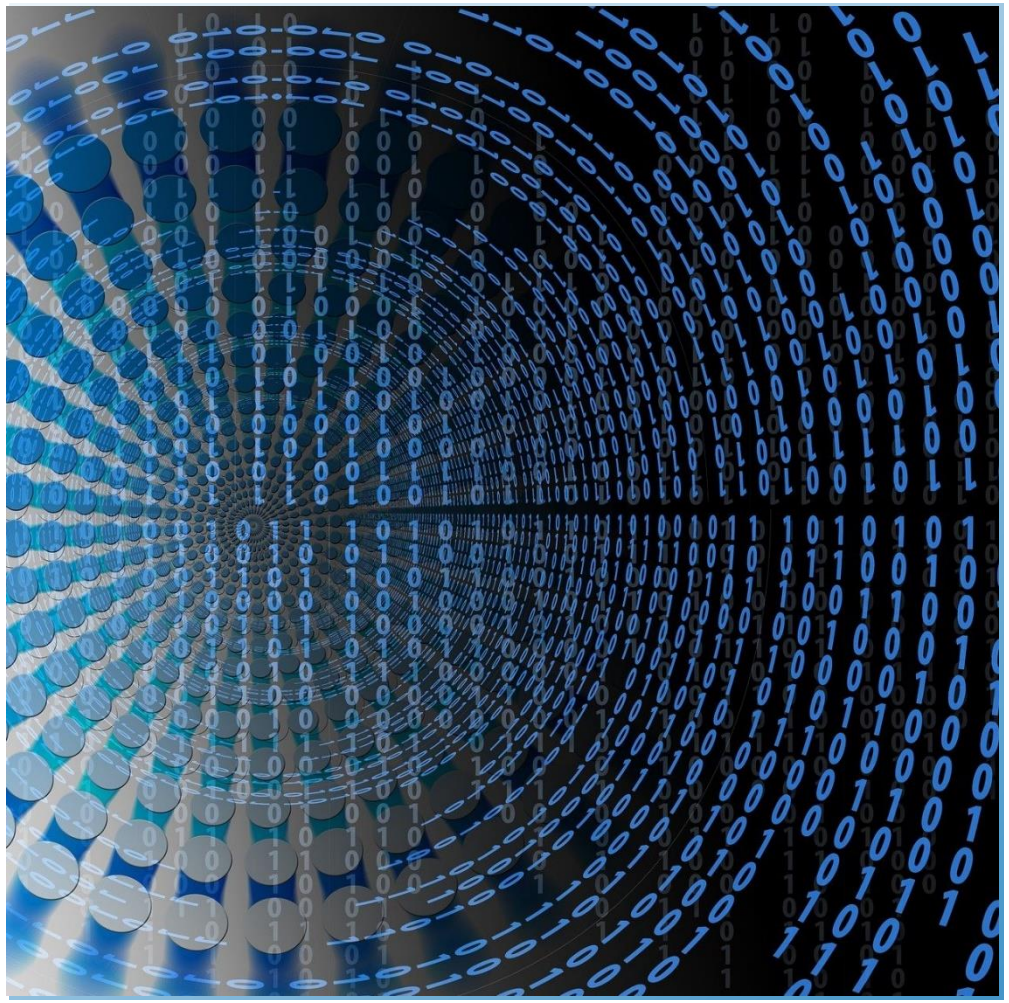
€

Significant Investment

Not individual data items

Picture source: Freepik.com

Database Rights for AI



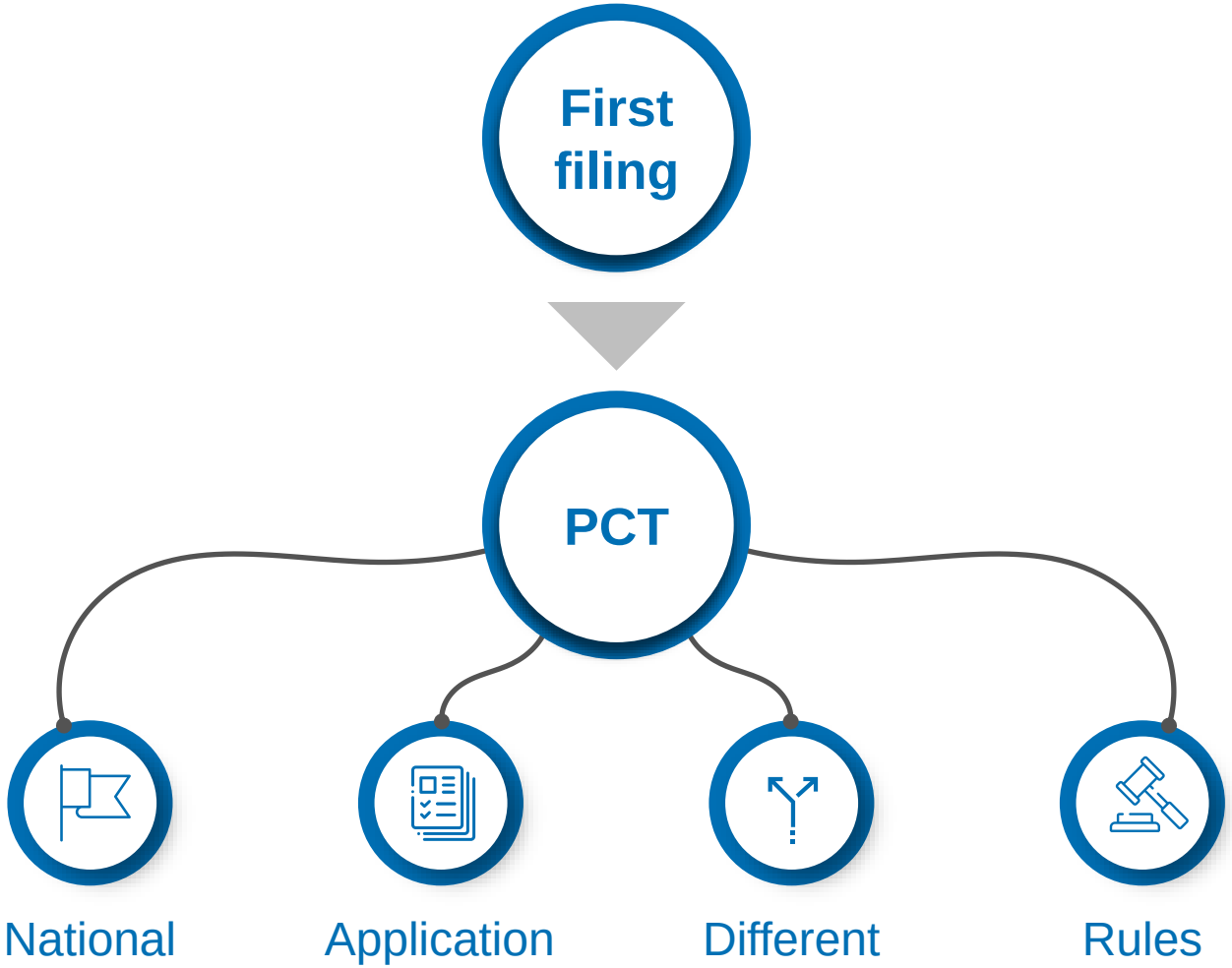
- European Commission has recognized issue
- Data Governance Act will remove protection for device-generated data
- Databases are valuable assets for Digital Economy
- Principles of Open Data apply to data generated by public authorities

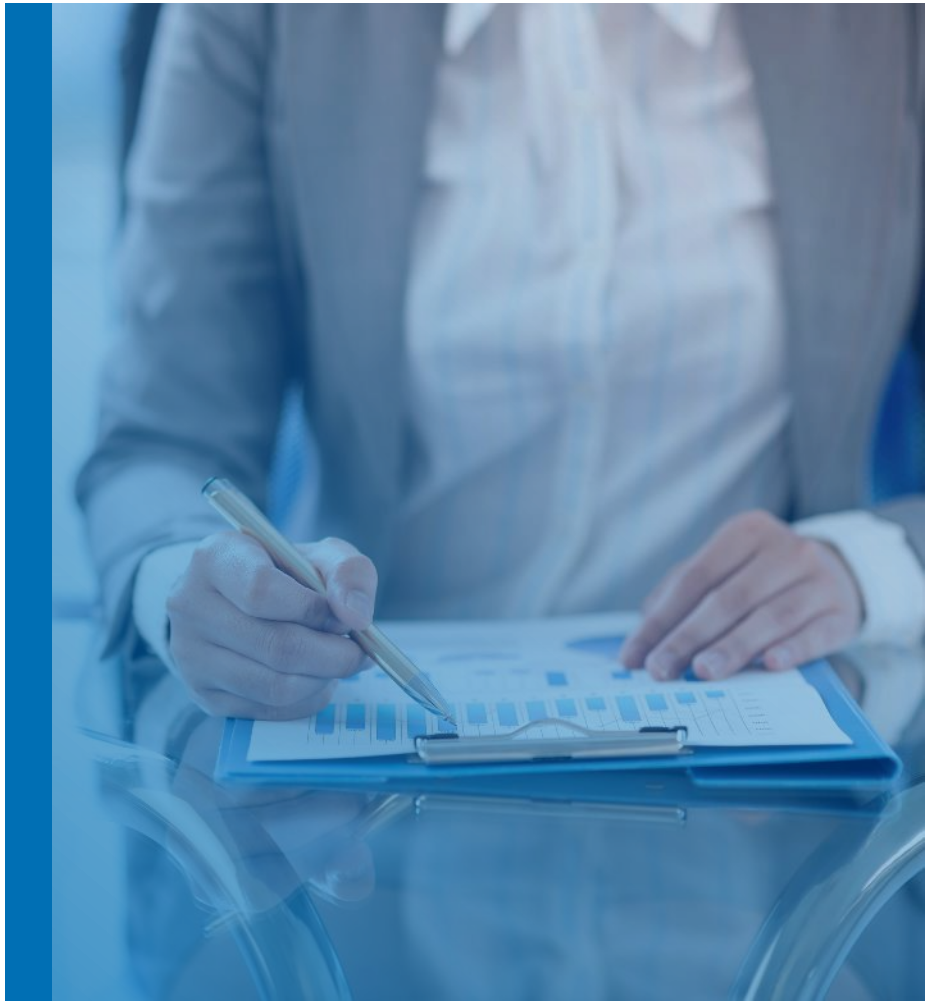
Picture source: Freepik.com

Patent Rights

Picture source: Freepik.com

Filing a Patent Application





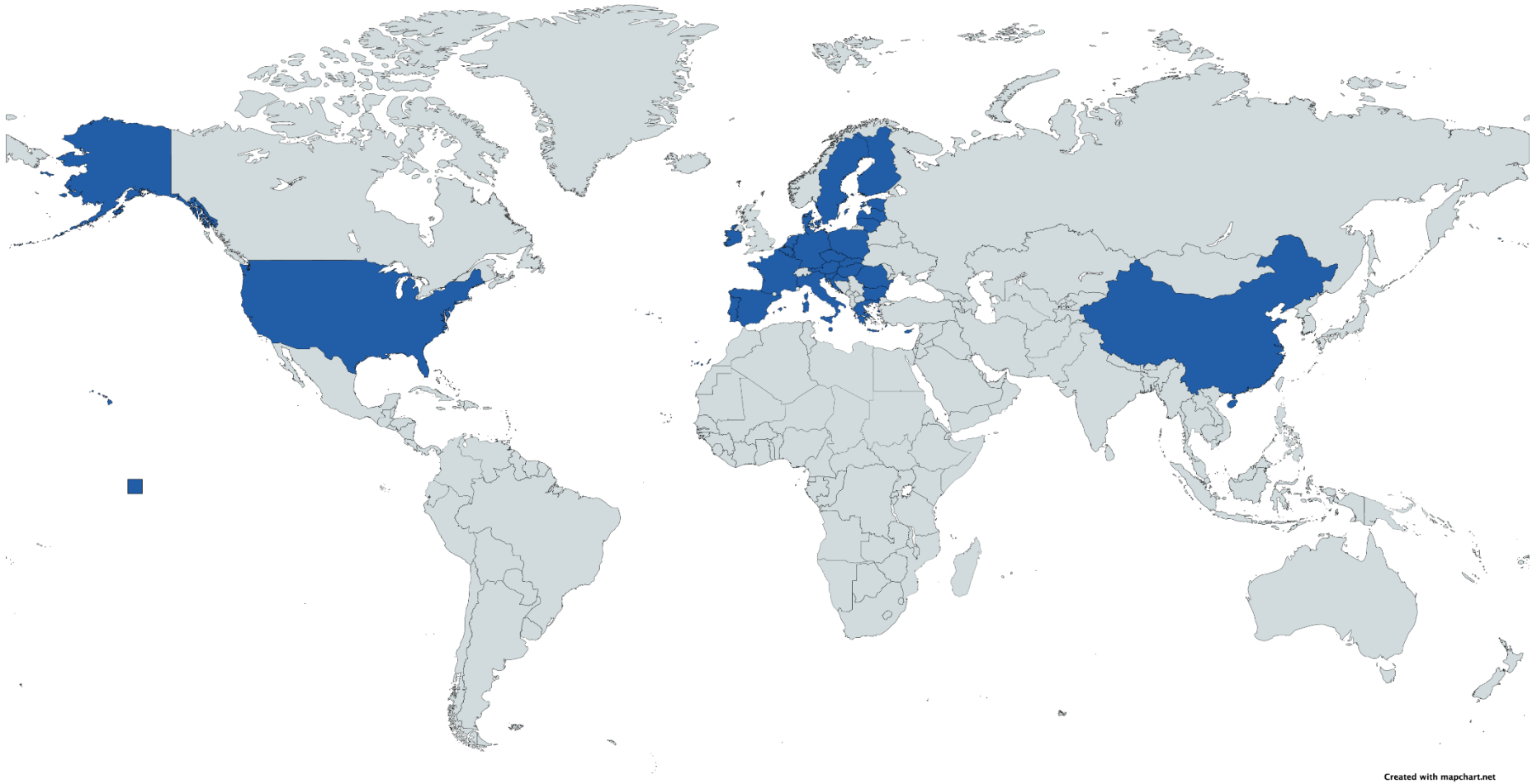
Picture source: Freepik.com

National Rights

- Different countries treat AI differently
- AI is often seen as software-based
- US – rejects “abstract idea” §101 rejections
- EU – “software excluded form patents per se”

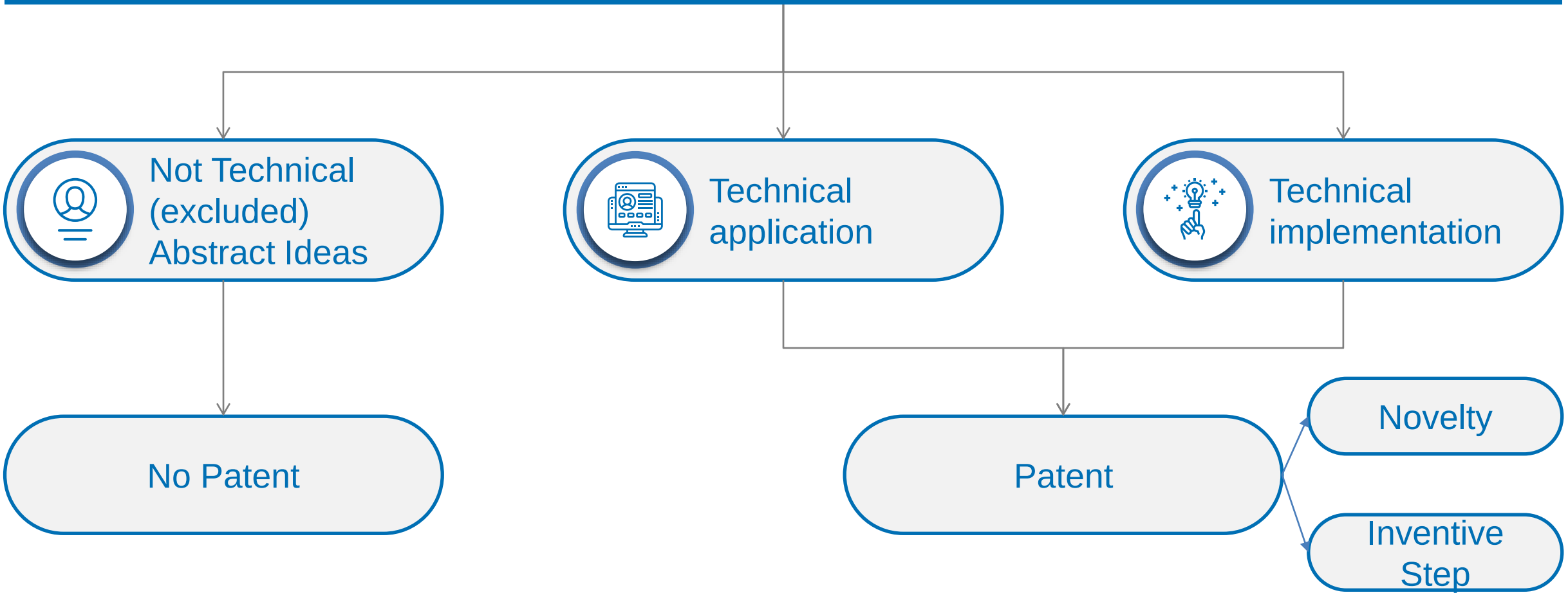
Picture source: Freepik.com

Focus on US and Europe



EPO Test for Patentability

Generalised Approach (“Two-Hurdle” Approach)



Overcoming non-technical / abstract objection

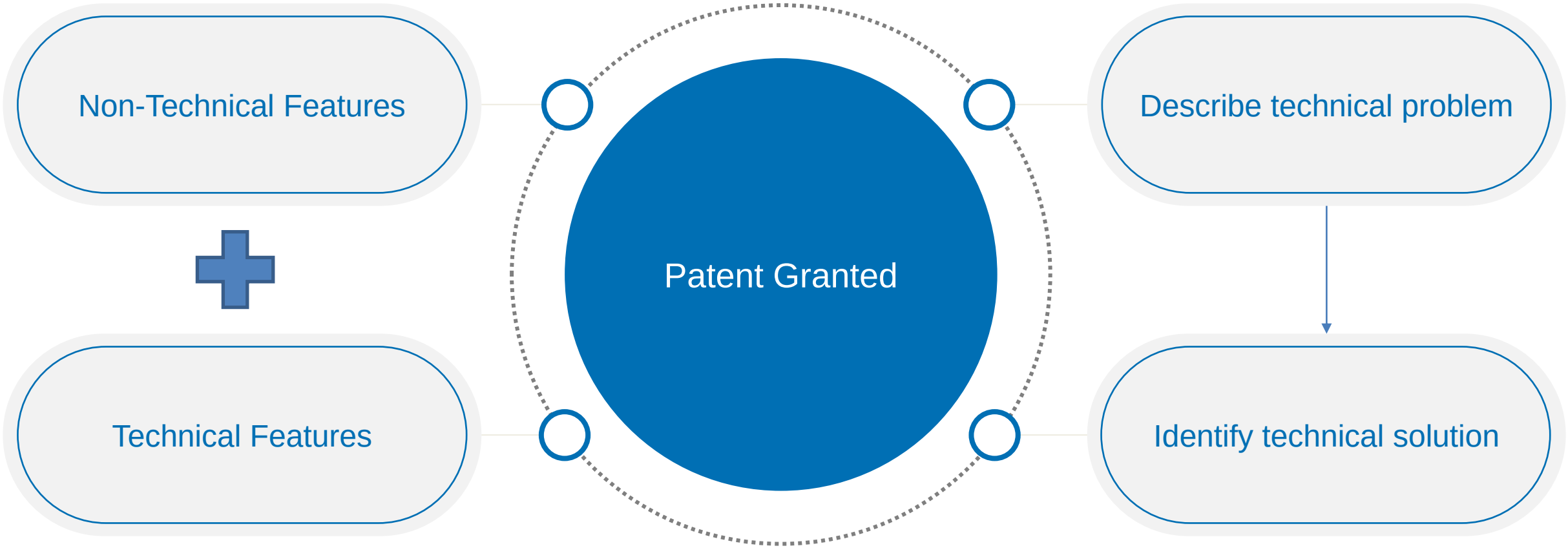
Language of claims is relevant

Computer-Implemented Method

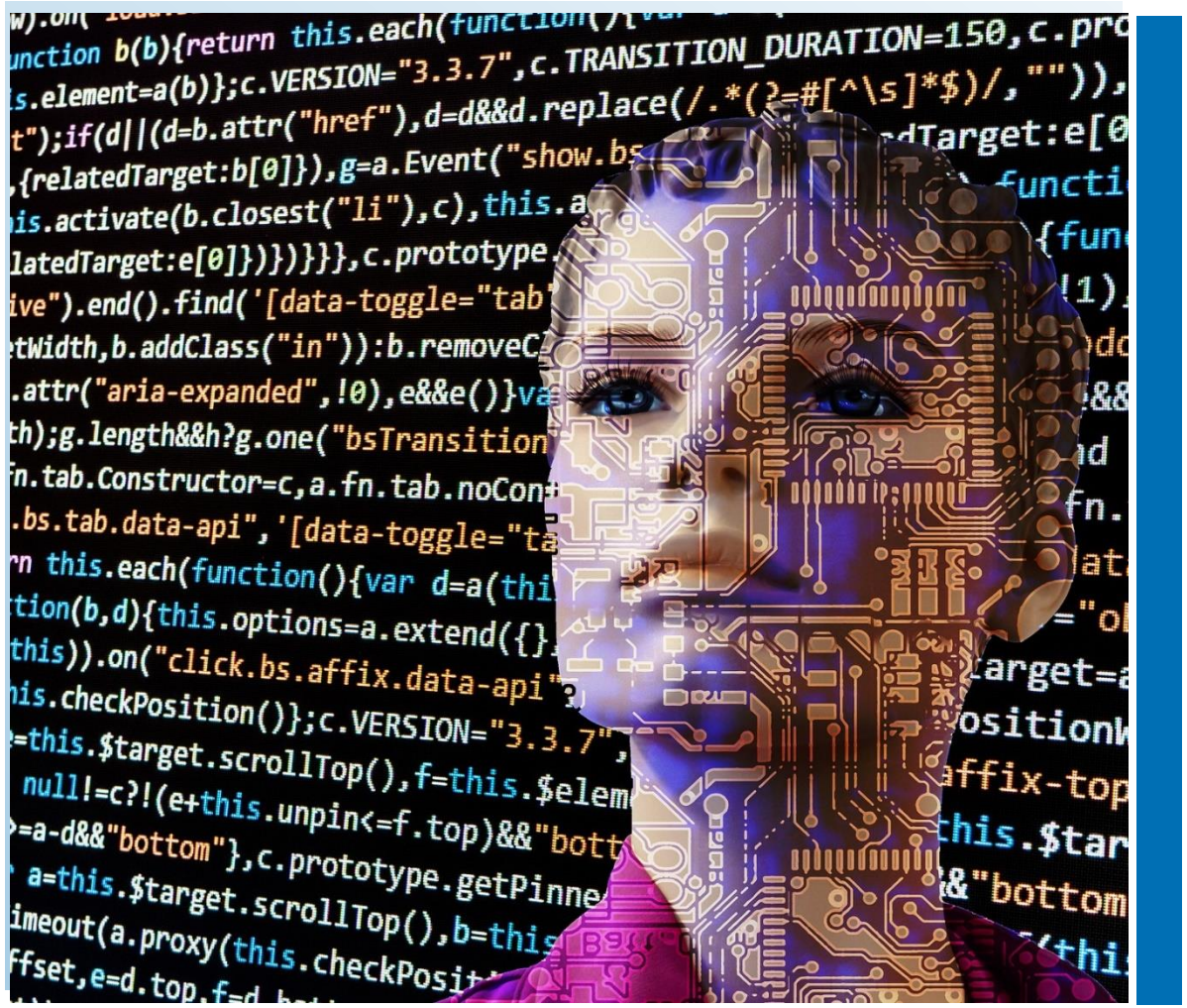
Emphasising interaction with hardware elements

Picture source: Istock.com

Inventive Step



Modified EPO Approach – G1/19



Exclusions

Feature contribute to technical character?

Inventive step

Picture source: Freepik.com

Application to Artificial Intelligence

How do we apply the principles of G1/19 “Bentley” to AI?

Algorithms do not necessarily contribute to technical character of invention

Algorithm must solve a technical purpose

Algorithm contributes to technical solution

Picture source: Istock.com

US PTO Test for Patentability

Statuory Subject Matter

- Process
- Machine
- Manufacture
- Composition of Matter

Judicial Exemptions

- Law of Nature
- Natural Phenomenon
- Abstract Ideas

- Organising Human Activity
- Economic Practices
- Standalone Ideas
- Mathematical Relationships

Additonal Elements

- Improve technology
- Improve functioning of computer
- Application of idea
- Transformation or reduction of article

Technical Application

First Case – Technical Application of a mathematical model

Use in monitoring equipment, such as a heart monitoring device for identifying irregular heartbeats;

Controlling a specific technical system or process, e.g. an X-ray apparatus or a steel cooling process;

Digital audio, image or video enhancement or analysis, e.g. classifying, de-noising, detecting persons in a digital image, estimating the quality of a transmitted digital audio signal;

Separation of sources in speech signals; speech recognition, e.g. mapping a speech input to a text output; or

Providing a medical diagnosis by an automated system processing physiological measurement.

This technical purpose must be specific

Technical Implementation

Second Case - Technical Implementation of a mathematical model

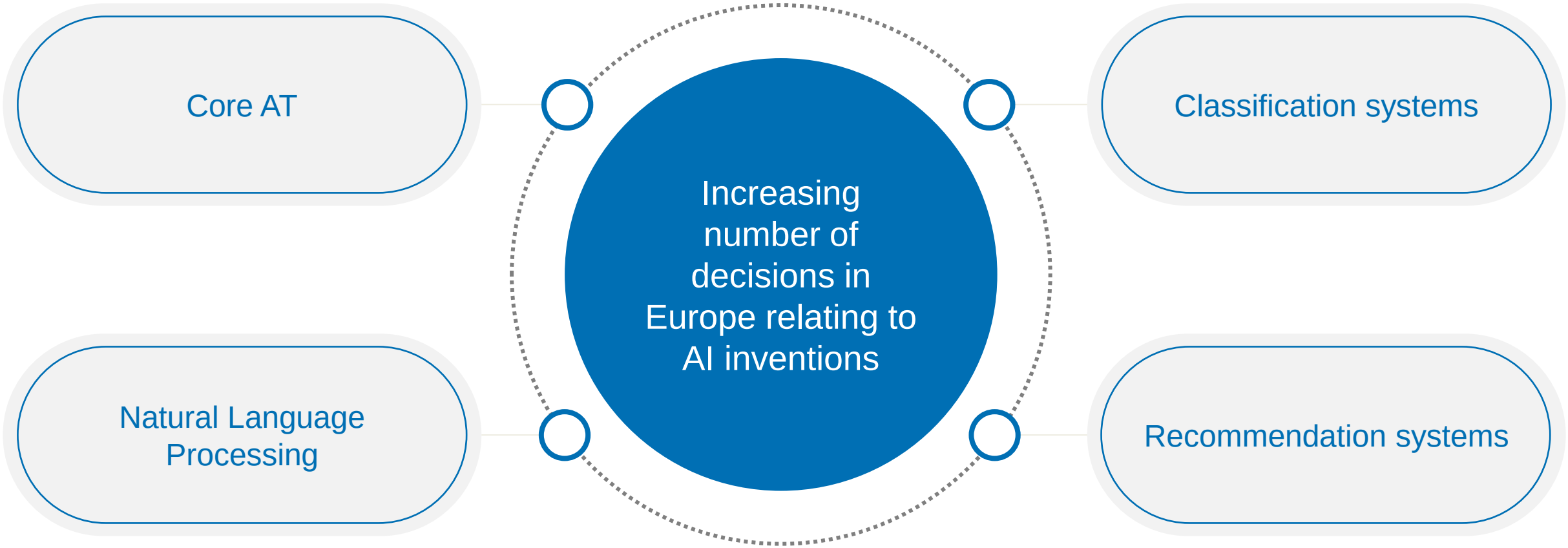
Mathematical method is **particularly adapted** for that implementation.

Data collection

Interaction between hardware elements to collect the data

Picture source: Istock.com

Patentability of Some AI Technologies



Core AI

Fundamental building blocks of AI and machine learning, as opposed to the applications of AI

Difficult to file patent applications on innovations in this “Core AI”. EPO considers it not to be “technical”.

Overcome by specifying in detail

- Implementation of the system
- Working of System in new ways
- New physical combination of hardware
- Application of algorithm to technical operation

Picture source: Pixabay.com

Claiming AI-Related Inventions

AI-related inventions may have three potentially patentable, aspects

Generating training data for use in training a model, such as an artificial neural network;

Training the model using the training data (machine learning); and

Using the trained model to analyze new data

Each of these aspects should have separate independent claims

Picture source: Istock.com

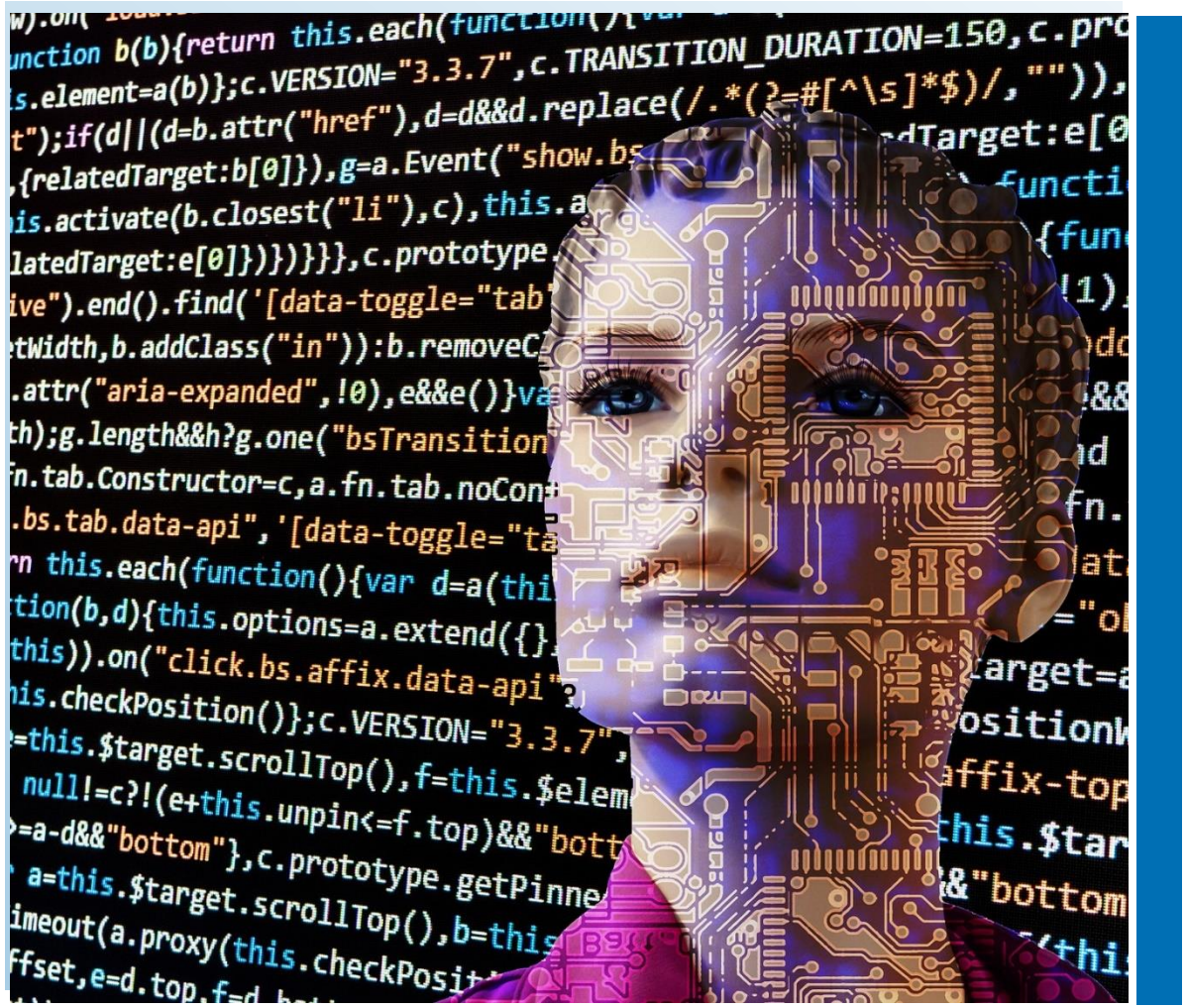
Trained model may be difficult to define in concrete technical terms

“product-by-process” claim

Even if a product-by-process claim is not allowable, a well-drafted claim to a method of training a model will confer protection on the model itself under Article 64(2) EPC

Picture source: Freepik.com

Inventive Step



Not “could” the skilled person arrive at the invention but “would” they do so?

- Large number of parameters
- Non-convexity
- Human selection of training parameters

Problem-Solution approach is required
Solution must be in the technical sphere

Picture source: Freepik.com

Disclosure / Enablement

Comprehensive Disclosure
Mere reference to an AI network is not sufficient (T0161/18)

- Disclosure of Training Set of Input Data
- Disclosure of Training Method
- Human selection of training parameters

But is the invention really reproducible?

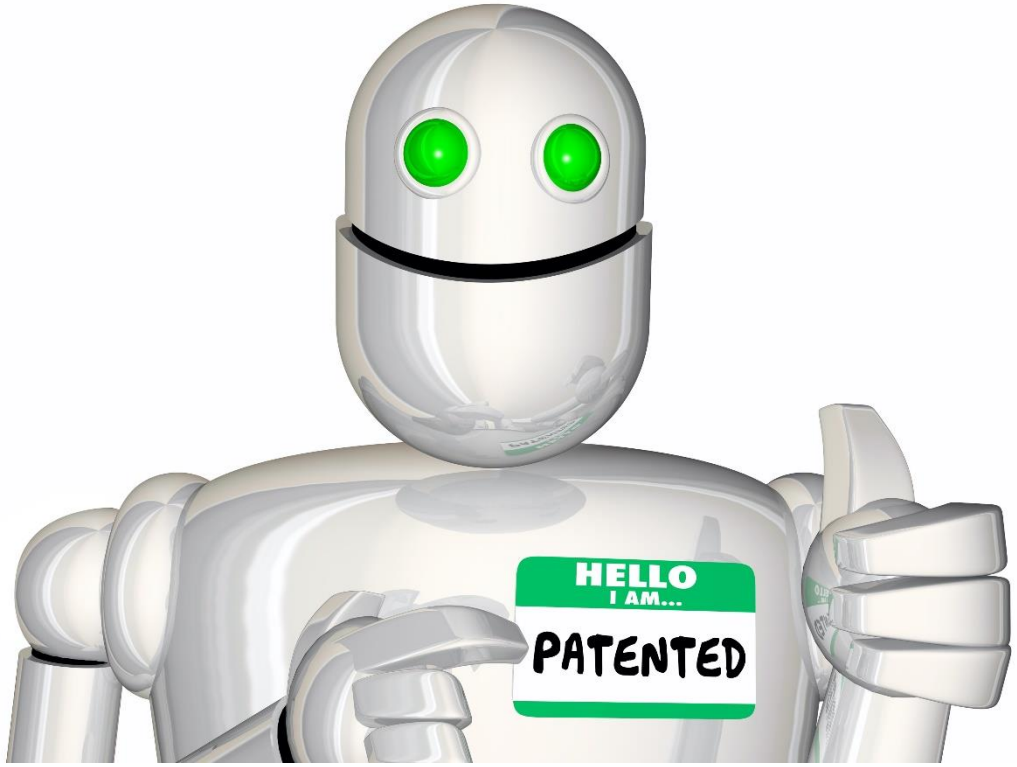
Picture source: Freepik.com

Can an AI program be an “inventor"

EPO USPTO UK-IPO
IP Australia: NO

But who is then the “inventor”?

“…the inventor designated in a European patent must be a natural person … the understanding of the term inventor as referring to a natural person appears to be an internationally applicable standard, and that various national courts have issued decisions to this effect.”



Picture source: Adobe

Contact

Thanks!

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