European IP Helpdesk

Stay ahead of the innovation game.

IP and Artifical Intelligence

11 October 2023

Robert Harrison

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

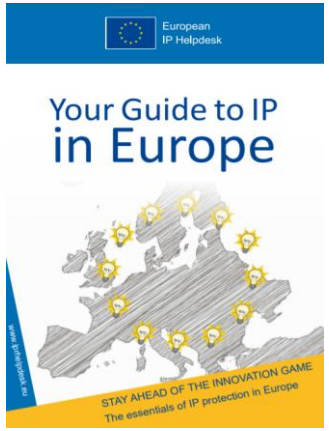
Publications
practical IP knowledge through high-level publications

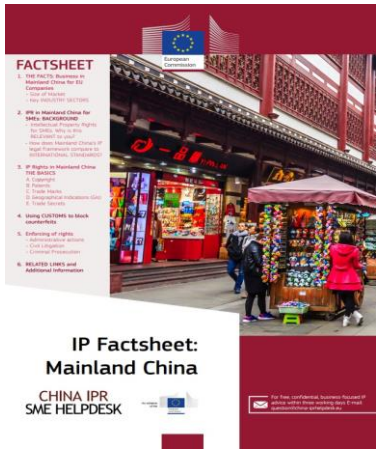
Ambassadors
local IP support throughout Europe

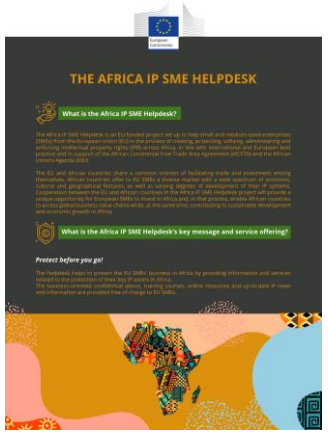
Events
info point at key networking events and conferences

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

European
IP Helpdesk

ec.europa.eu/ip-helpdesk

European IP Helpdesk Training Calendar

Europa - Upcoming events

20 SEP 2023
Training and workshops
EU - Webinar: IP in Horizon Projects (H2020/HEurope)
Live streaming available

21 SEP 2023
Training and workshops
EU - Webinar: Technology Transfer
Live streaming available

26 SEP 2023
Training and workshops
EU - Webinar: IP Commercialisation and Licensing
Live streaming available

27 SEP 2023
Training and workshops
EU - Webinar: Copyright in collaborative projects
Live streaming available

03 OCT 2023
Training and workshops
PVR application procedure and basic information on the technical examination
Live streaming available

10 OCT 2023
Training and workshops
EU - Webinar & CPVO coop: Denomination examination and procedure at the CPVO
Live streaming available

11 OCT 2023
Training and workshops
EU - Webinar: IP and Artificial Intelligence
Live streaming available

19 OCT 2023
Training and workshops
EU - Webinar: IP for Future and Emerging Technologies
Live streaming available

24 OCT 2023
Training and workshops
EU - Webinar EPO Coop: Patent protection for EU funding beneficiaries - Digital communication
Live streaming available

25 OCT 2023
Training and workshops
EU - Webinar: IP in Biotechnology
Live streaming available

26-27 OCT 2023
Info days
Chem-Match: Corporates Meet Startups 2023 "Green & Digital"
Frankfurt am Main, Germany

02 NOV 2023
Training and workshops
EU - Webinar: IPR and Software
Live streaming available

2023

Registration: www.ec.europa.eu/ip-helpdesk

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**

Thank you!

- www.ec.europa.eu/ip-helpdesk

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Robert Harrison

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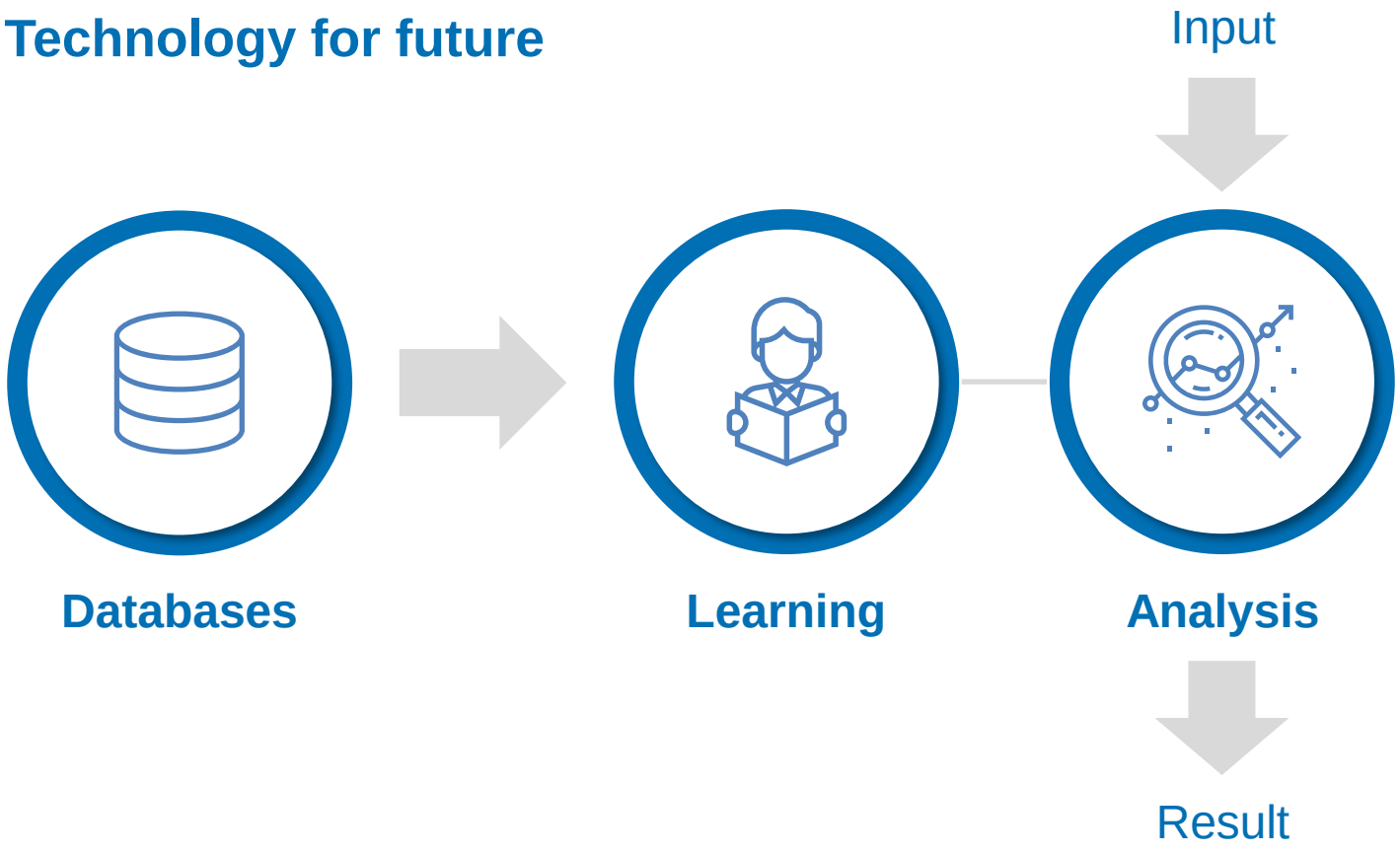
About me

- 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
- Sonnenberg Harrison Partnership
- Advisory Board Member
- IP Strategy

Artificial Intelligence

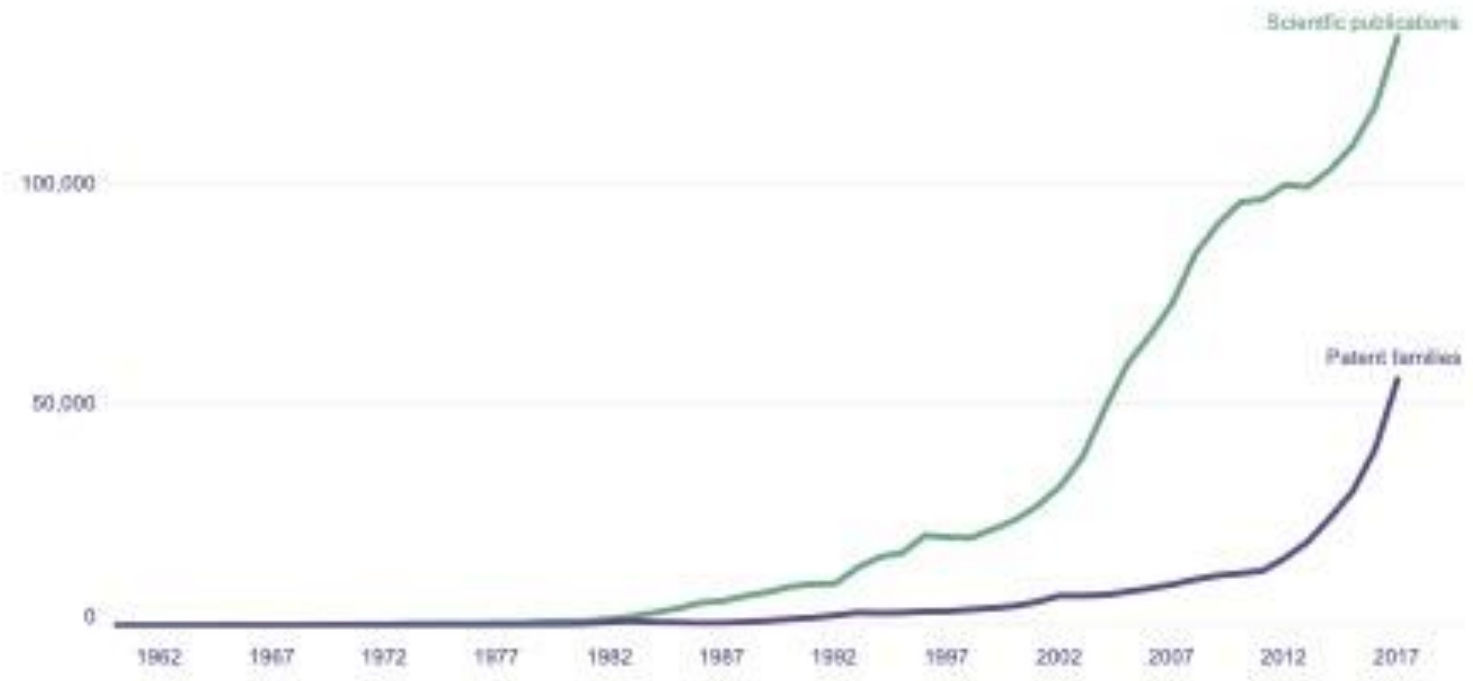
What do we mean?

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 Digital Innovations

Data ownership

Database Rights

Contractual Rights

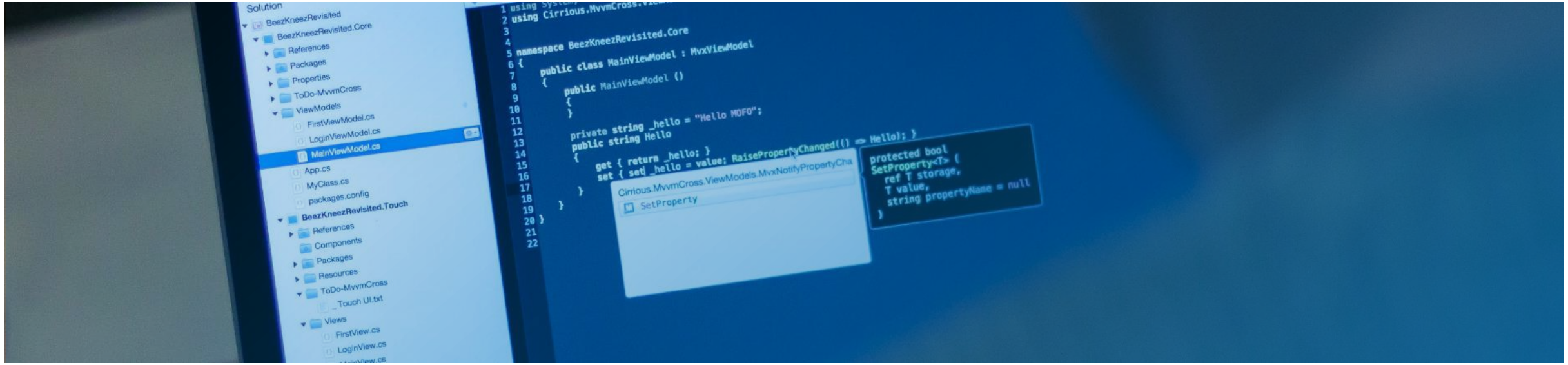
Patents

Picture source: Pixabay.com

Data Rights and Ownership

Picture source: Freepik.com

Who owns data?



Can we really talk about “ownership”?

Different countries have different legal concepts

European Commission has passed data rights laws including a Data Governance Act – applicable since September 2023 – and Data Act (from 2025)

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

Software is protected – under Berne Convention

Picture source: Freepik.com

Database Rights (Europe)

Picture source: Freepik.com

Protects collection of data

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Significant Investment

Not individual data items or (from 2025) machine-generated data

Picture source: Freepik.com

Contracts

Picture source: Freepik.com

Contractual Arrangements

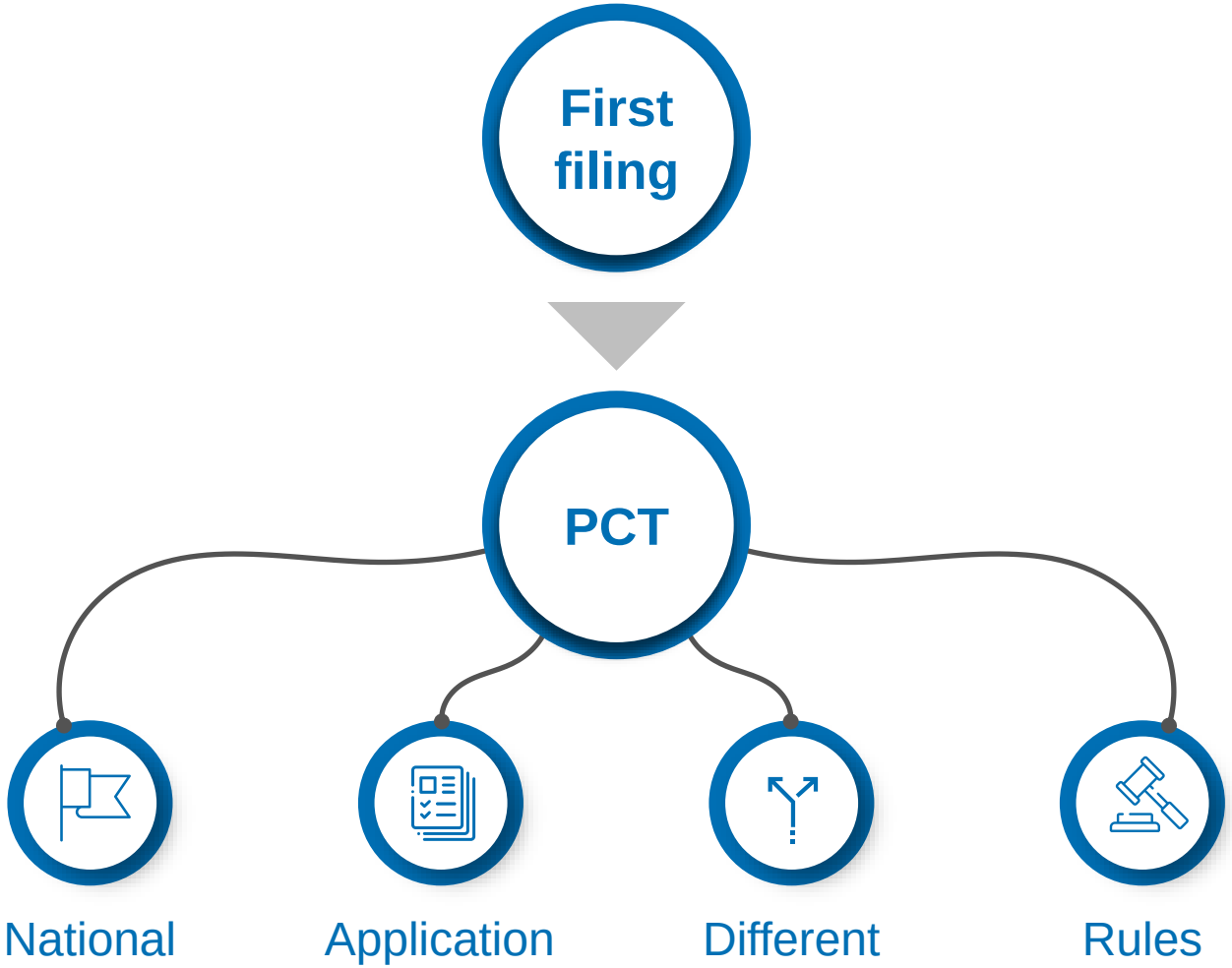
- Use of input data
- Curation of data
- Exploitation of data
- Exploitation of results

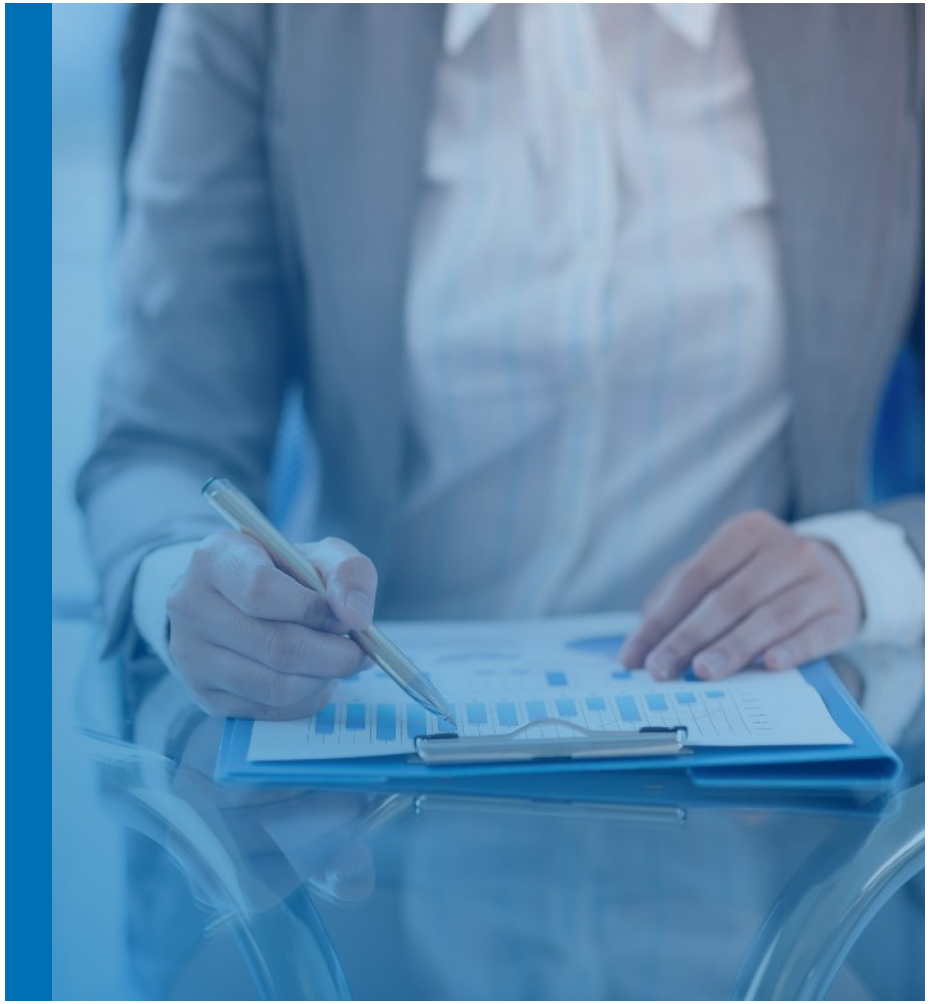
Picture source: Freepik.com

Patent Rights

Picture source: Freepik.com

Filing a Patent Application





Picture source: Freepik.com

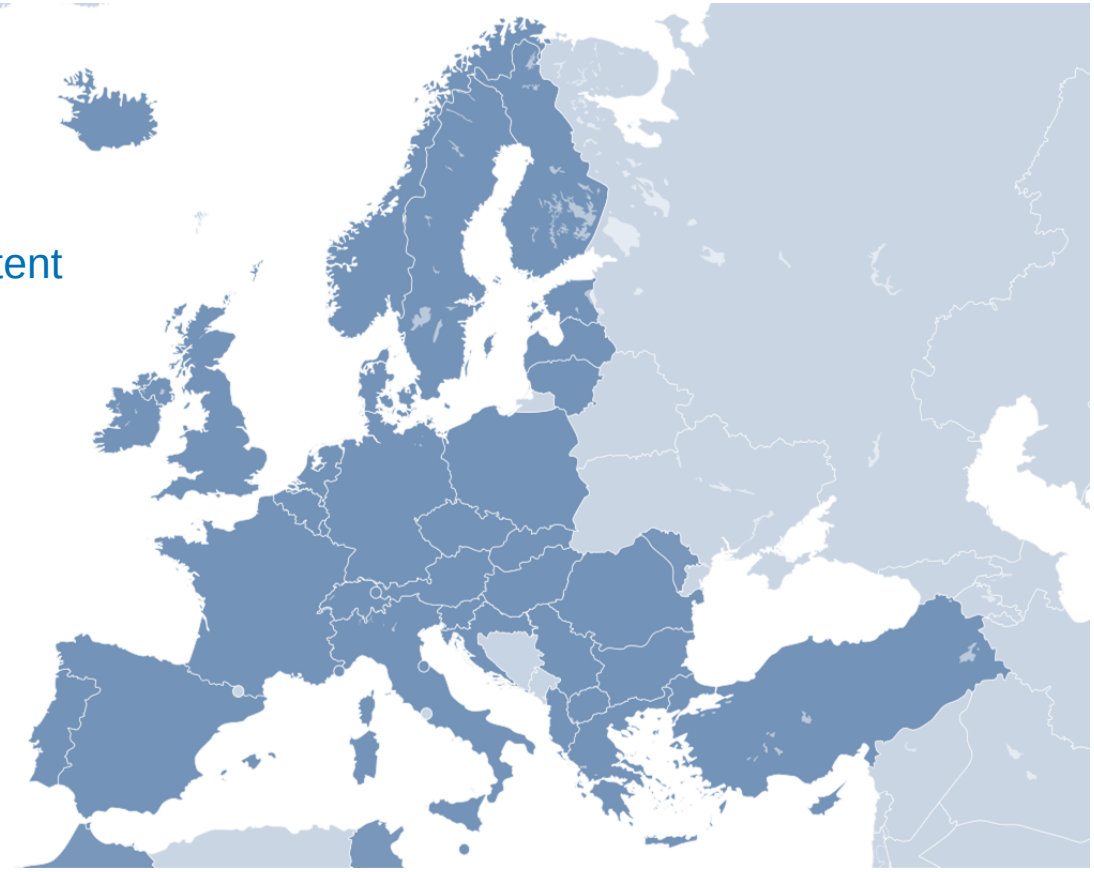
National Rights

- 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 Europe

European Patent Countries

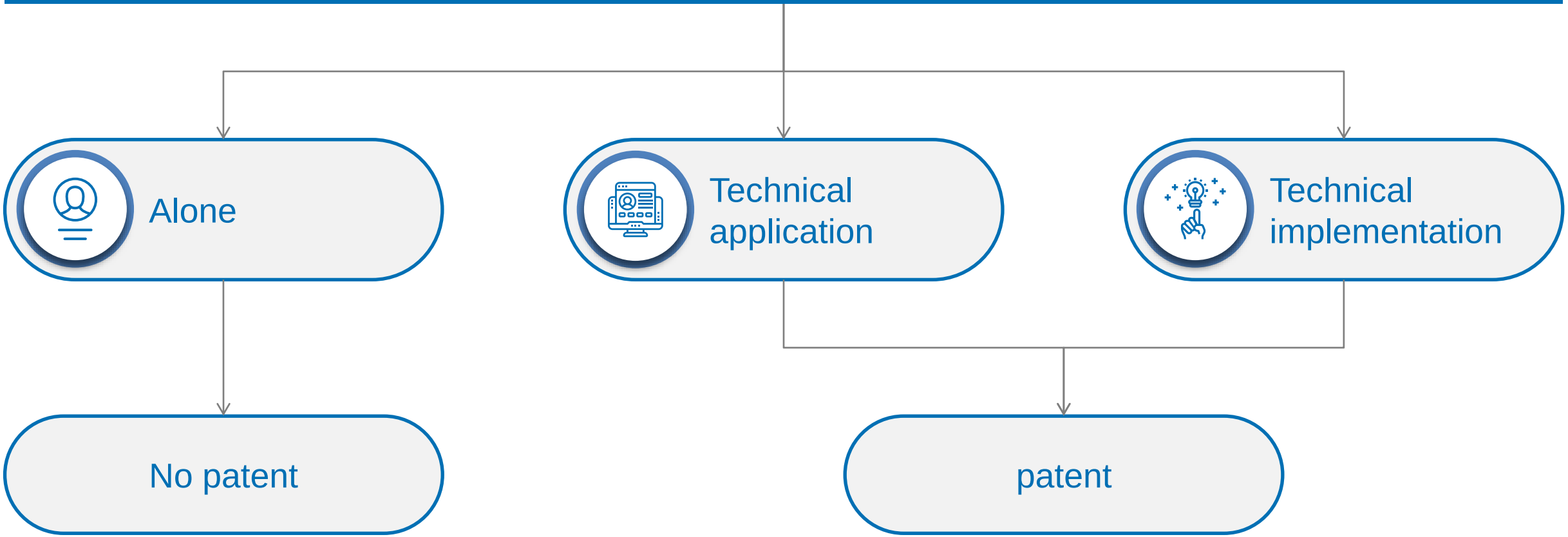


Picture source: European Patent Office

Picture source: google.com/maps

II. Guidelines for Examination of AI in the EPO (Nov 2019 & March 2021)

Examined as inventions involving **mathematical methods**



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

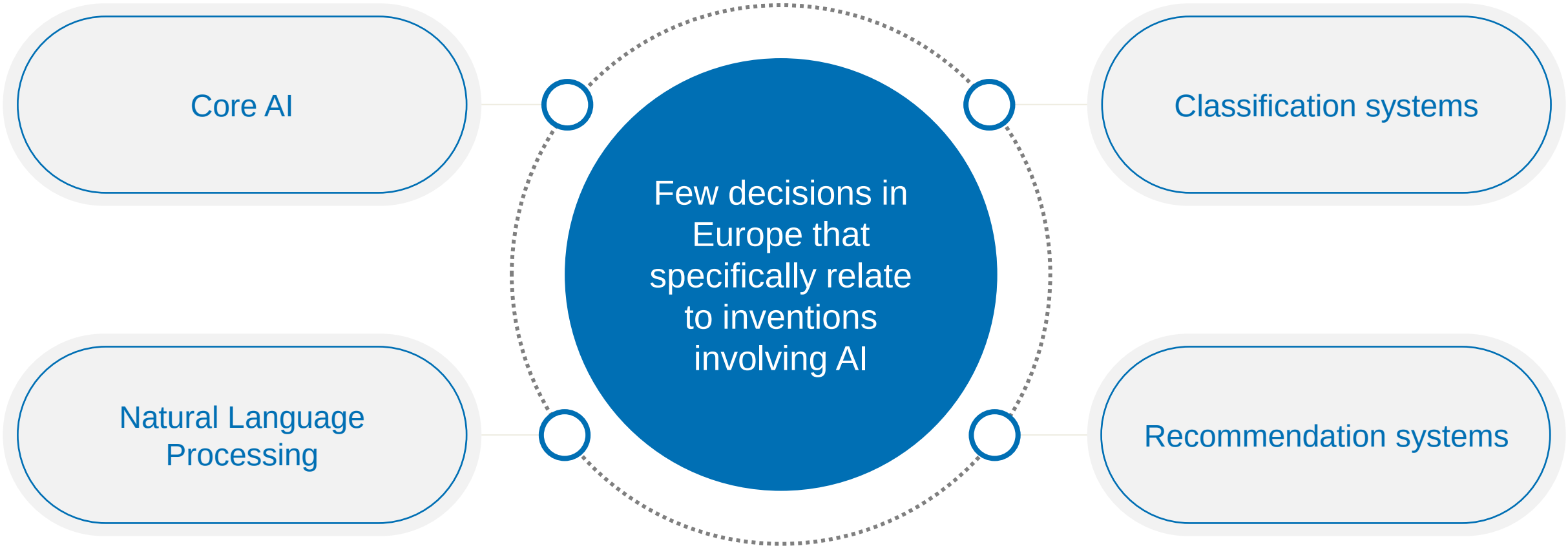
Mathematical method is **particularly adapted** for that implementation.

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” and/or known (see T1803/19 about clustering analysis).

Overcome by specifying in detail

- Implementation of the system
- Application of the algorithm (see T0702/20)

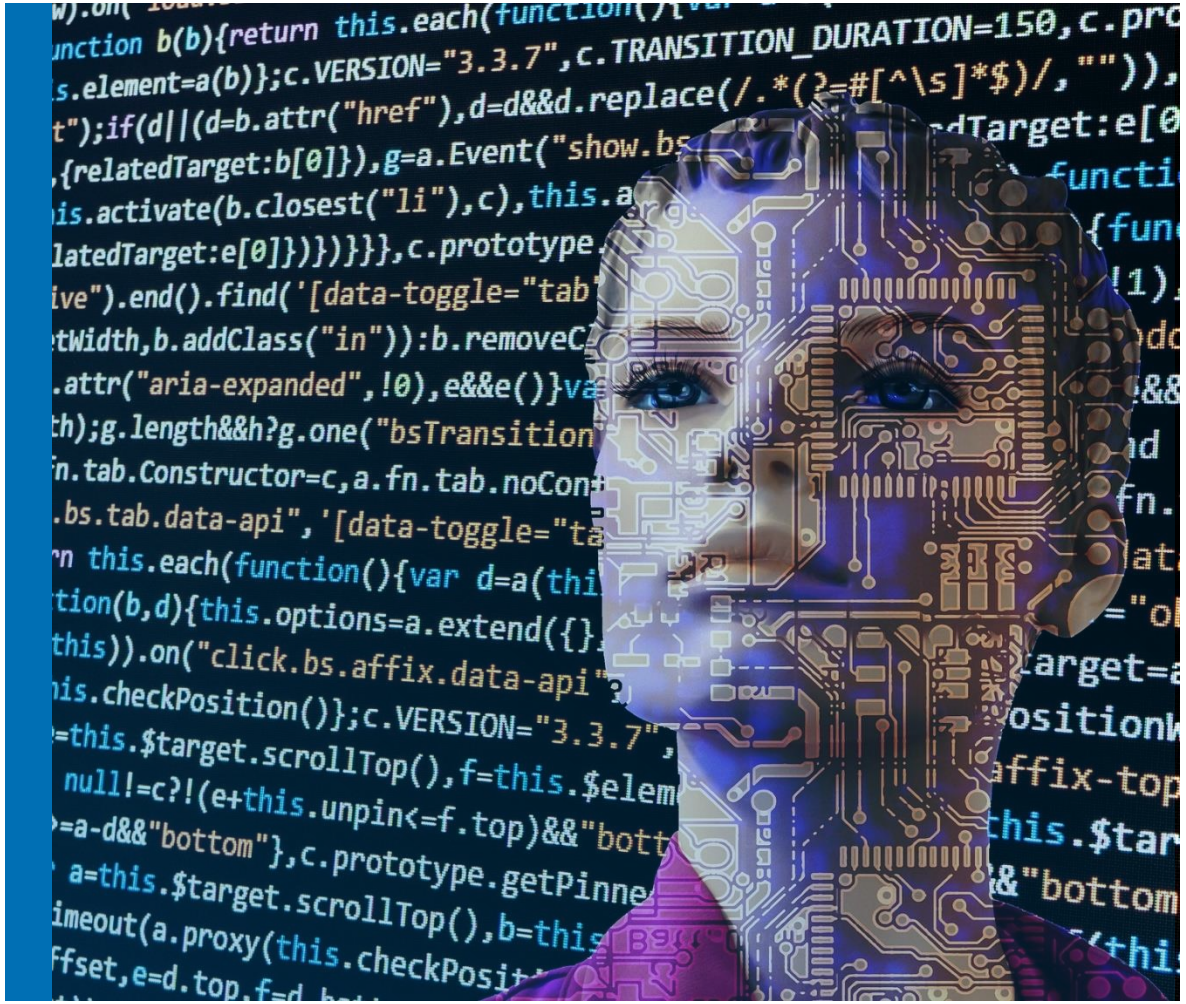
Picture source: Pixabay.com

Natural Language Processing

Allows a computer to interpret inputs, and to generate outputs, in languages such as English, German or Japanese.
Example – Amazon's Alexa System

These virtual assistants use a range of NLP techniques, such as

- Speech recognition to transcribe a user's speech into text
- Natural language understanding;
- Natural language generation to produce a response.



Picture source: Pixabay.com

EPO considers some NLP techniques to be more patentable than others

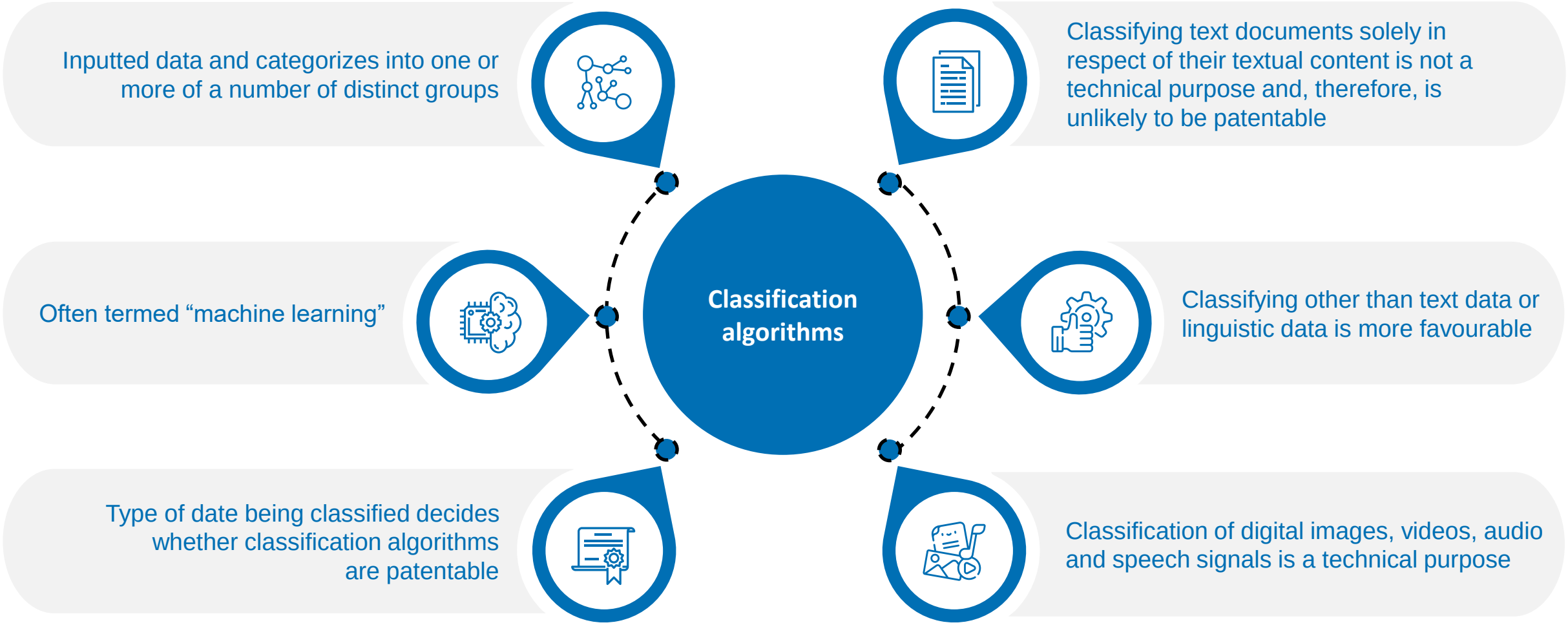
Speech recognition, which the Guidelines expressly recognize as a “technical purpose” is readily patentable

Natural language understanding or comprehension, is considered more difficult to patent

NLP is not a recent technology and the difficulties in patenting NLP, and other technologies involving linguistics, are longstanding

Picture source: Istock.com

Classification Algorithms



Recommendation Systems

Recommendation systems provide suggestions for content that is likely to be of interest to a particular user

For example, book selling websites often employ a recommendation system to suggest new books that a reader might enjoy

They are of great commercial significance but extremely difficult to patent
See T0874/19

Picture source: Freepik.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

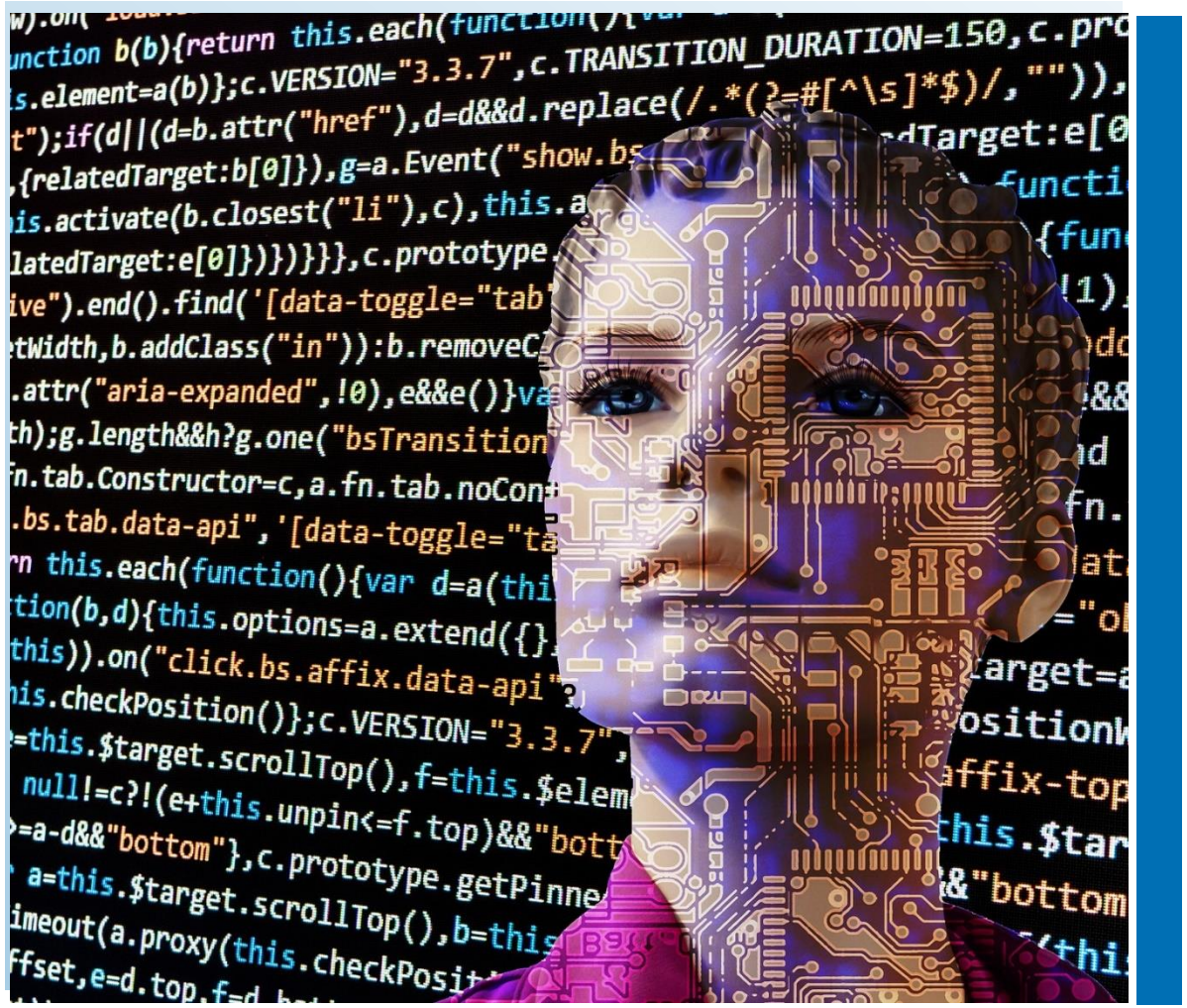
Trained model may be difficult to define in concrete technical terms

“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
- Human selection of training parameters
- Details required in the patent application

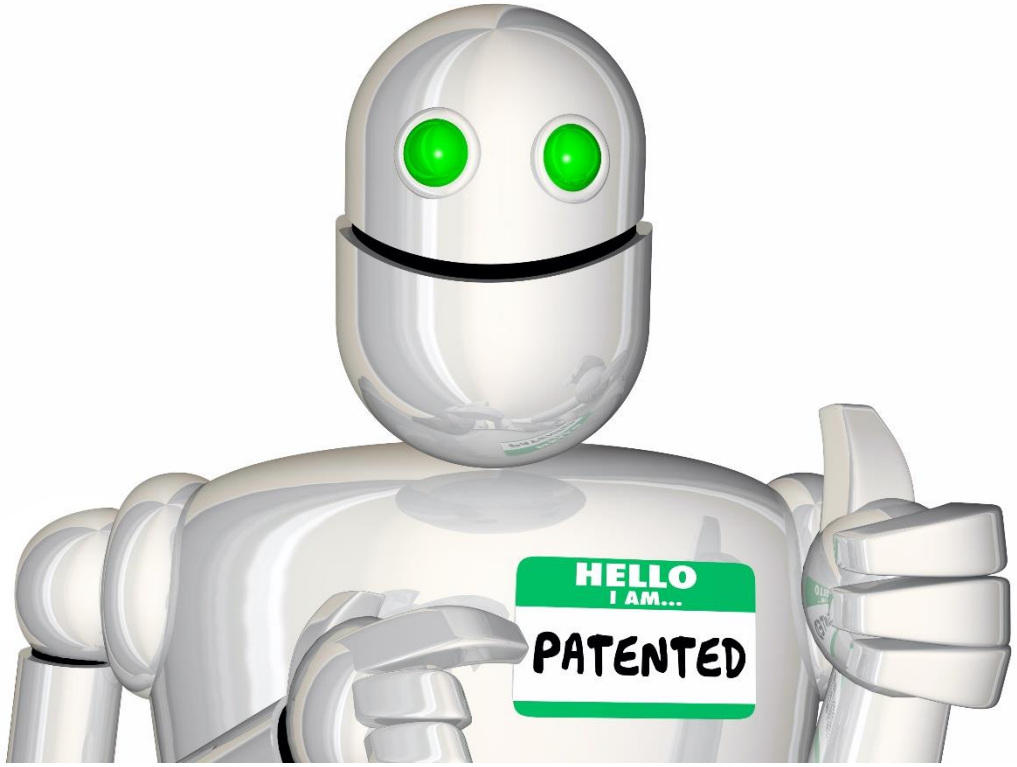
Problem-Solution approach is required
Solution must be in the technical sphere
See G1/19

Picture source: Freepik.com

Can an AI program be an “inventor"

EPO USPTO UK Australia : NO
South Africa: YES (?)

“…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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Picture source: Freepik.com