



European IP Helpdesk

Stay ahead of the innovation game.

Intellectual Property and Artificial
Intelligence

Dr. Robert Harrison

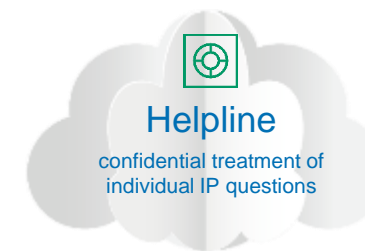
07 12 2021





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: 47 ambassadors from 28 EU countries





Helpline



- Free-of-charge, first-line IP support
- Personal and “to the point”
- Answer within 3 working days
- Email, phone and web
- In: English, Spanish, French, German, Italian and Polish
- Confidential





Communication Formats & Outreach Tools



Website



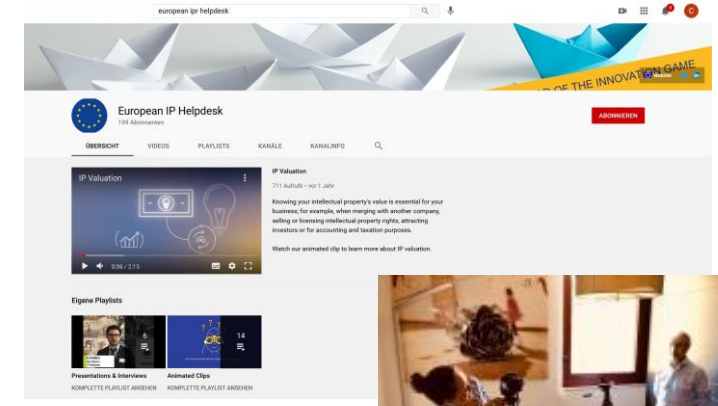
Training

Importance of IP for SMEs

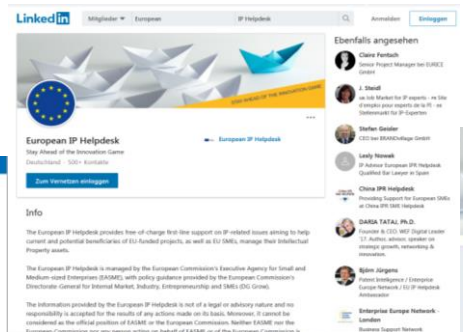
30 April 2021



Publications



Audio-visual Content



Social Media

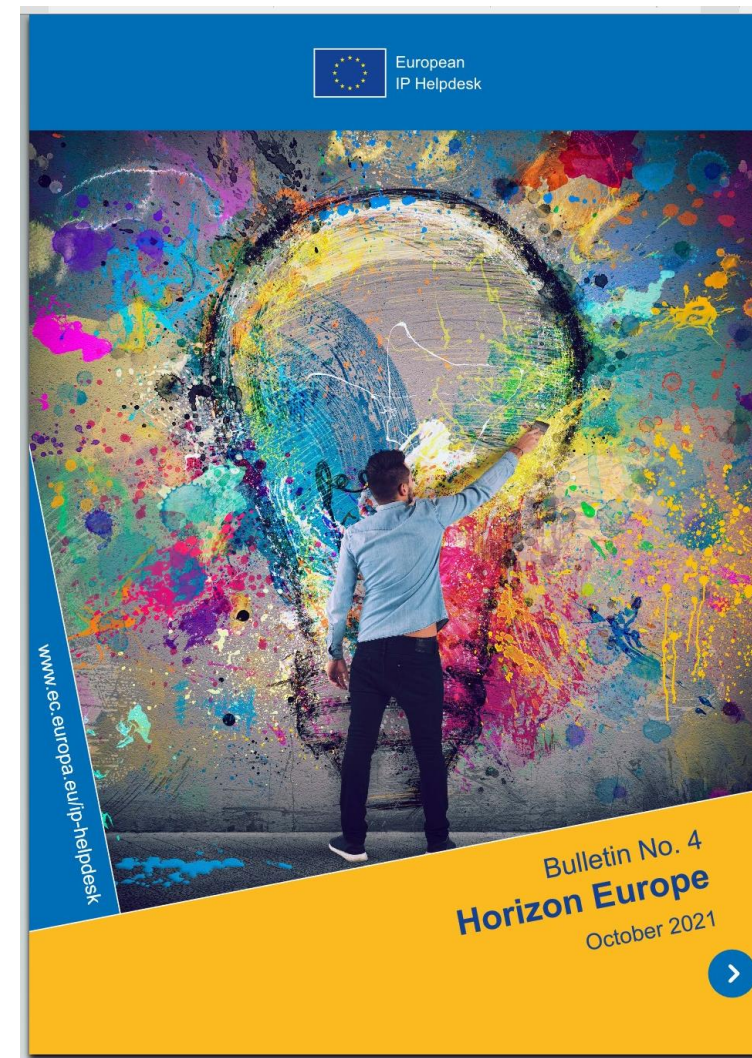




New Bulletin! Horizon Europe

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EU - Webinar: Effective IP and Outreach Strategies Help Increase the Impact of Research and Innovation
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EU - Webinar: IP in EU funded projects with a special focus on MSCA
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Recording

Please note that the whole presentation, including the Q&A session, is recorded. The presentation will be sent to you after the webinar.





Robert Harrison

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Munich/Paris/Vienna/Zürich/London



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, Sonnenberg Harrison mbB
- Advisory Board Member
- IP Strategy



Artificial Intelligence

What do we mean?

Technology for future



Databases



Learning



Analysis

Input

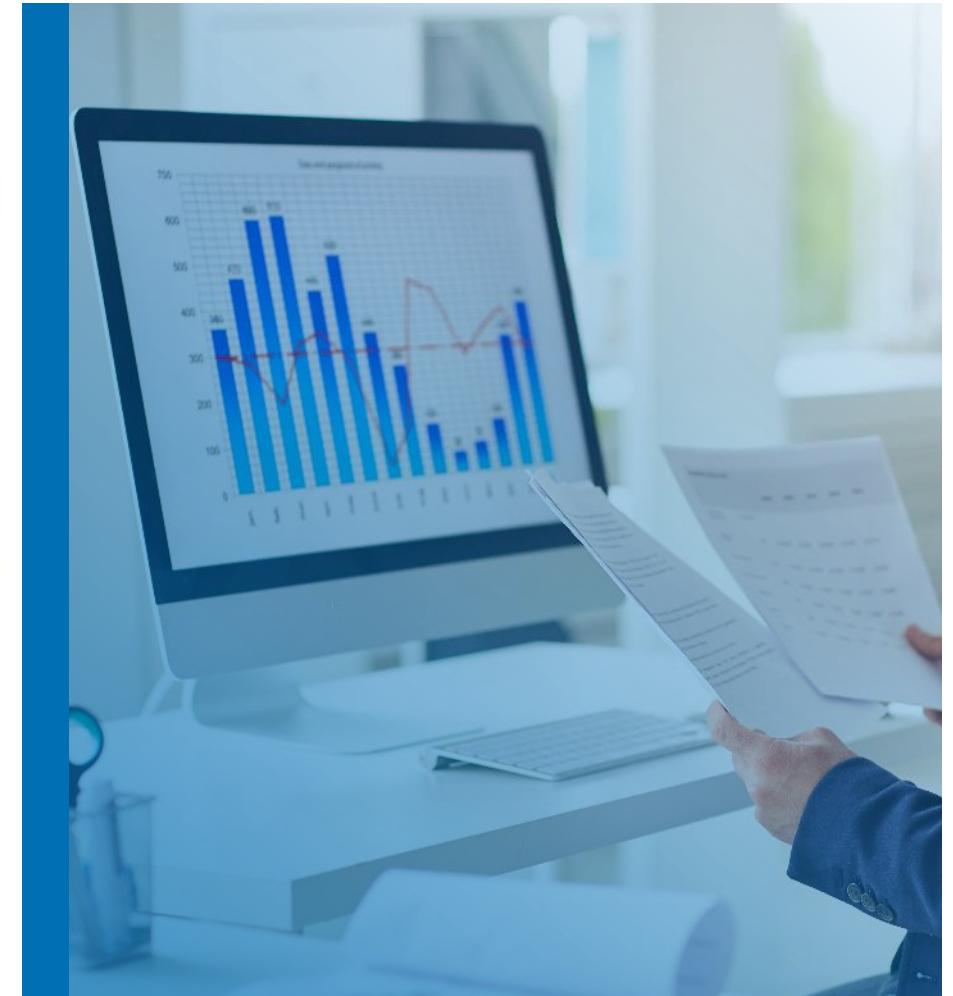
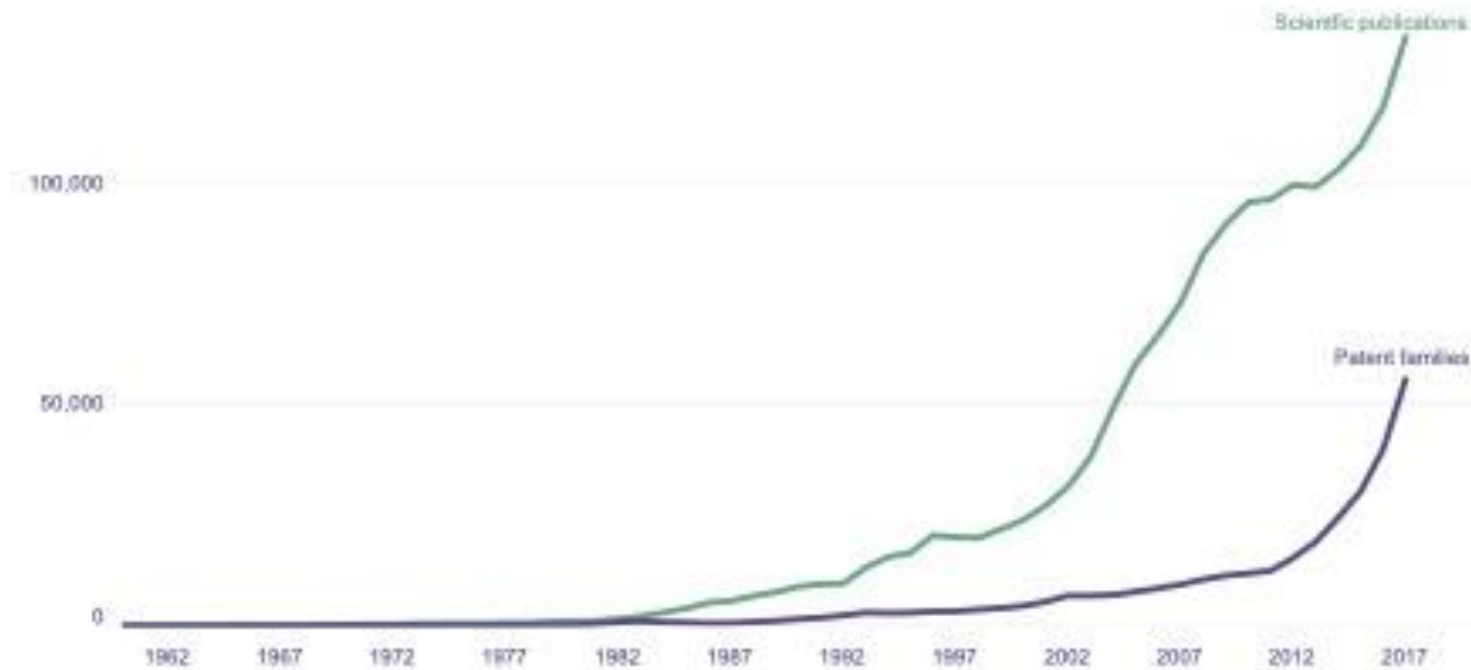


Result





Increase in Patent Applications





IP and Artificial Intelligence



Data ownership



Database Rights



Copyright



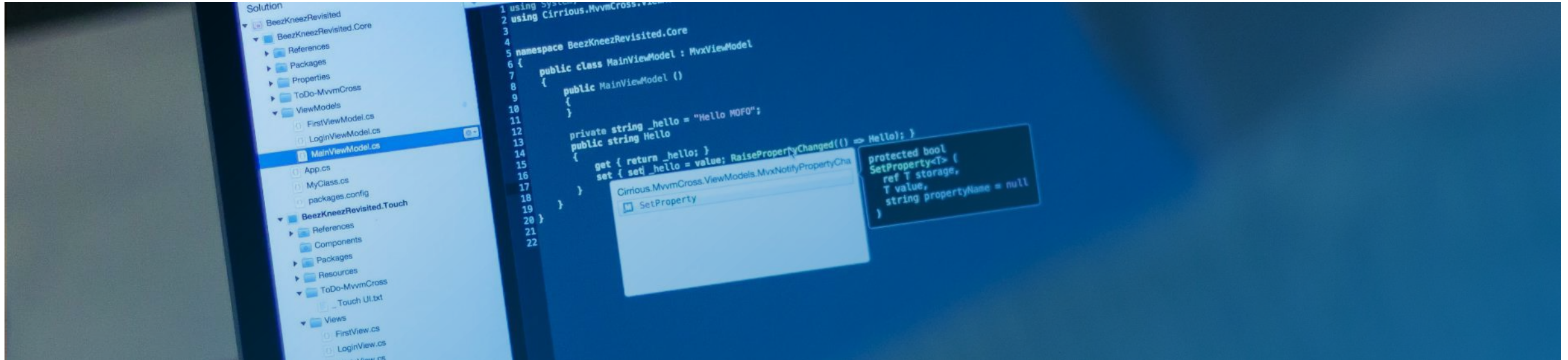
Patents



Data Rights and Ownership



Who owns data?



**Can we really talk
about “ownership”?**

Different countries have different legal concepts

European Commission has given up proposal to regulate data ownership.

Contracts seen as being sufficient.



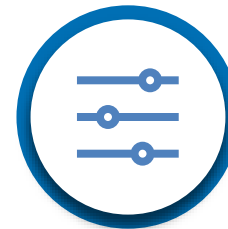
Copyright



Copyright Ownership



Level of Creativity Required for
Copyright Protection



Data per se will not have this level
Generated works?



Software is protected – under
Berne Convention



Copyright of Generated Works



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?



Database Rights (Europe)



Protects collation
of data



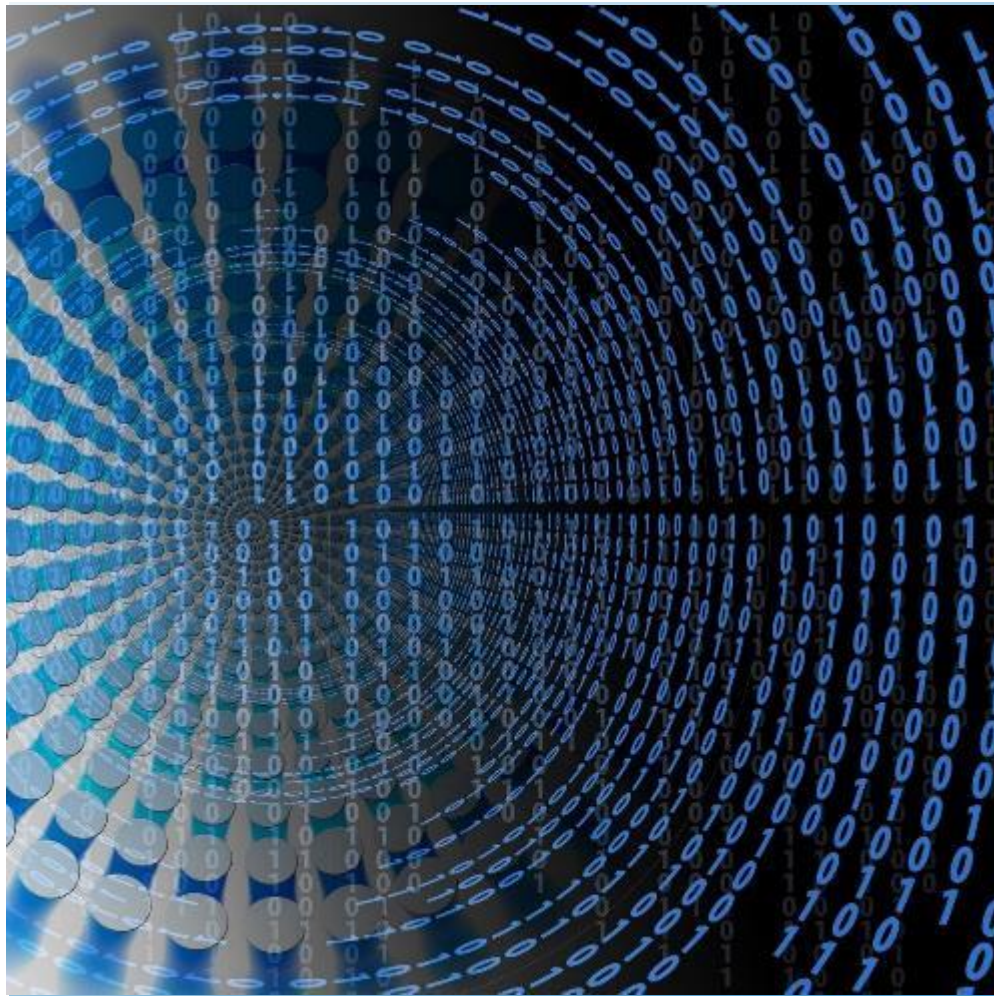
Significant
Investment



Not individual
data items



Database Rights for AI



European Commission has recognized issue



Discussion 2021 about expansion of rights



Databases are valuable assets for Digital Economy



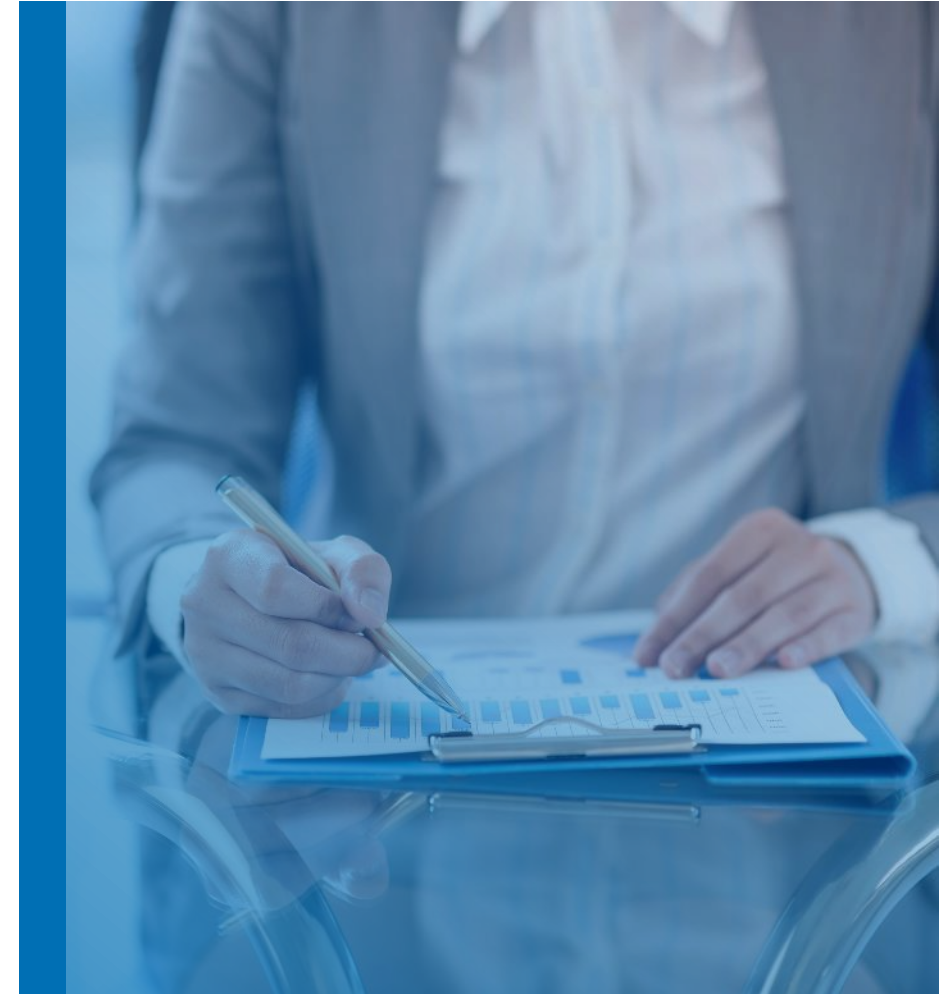
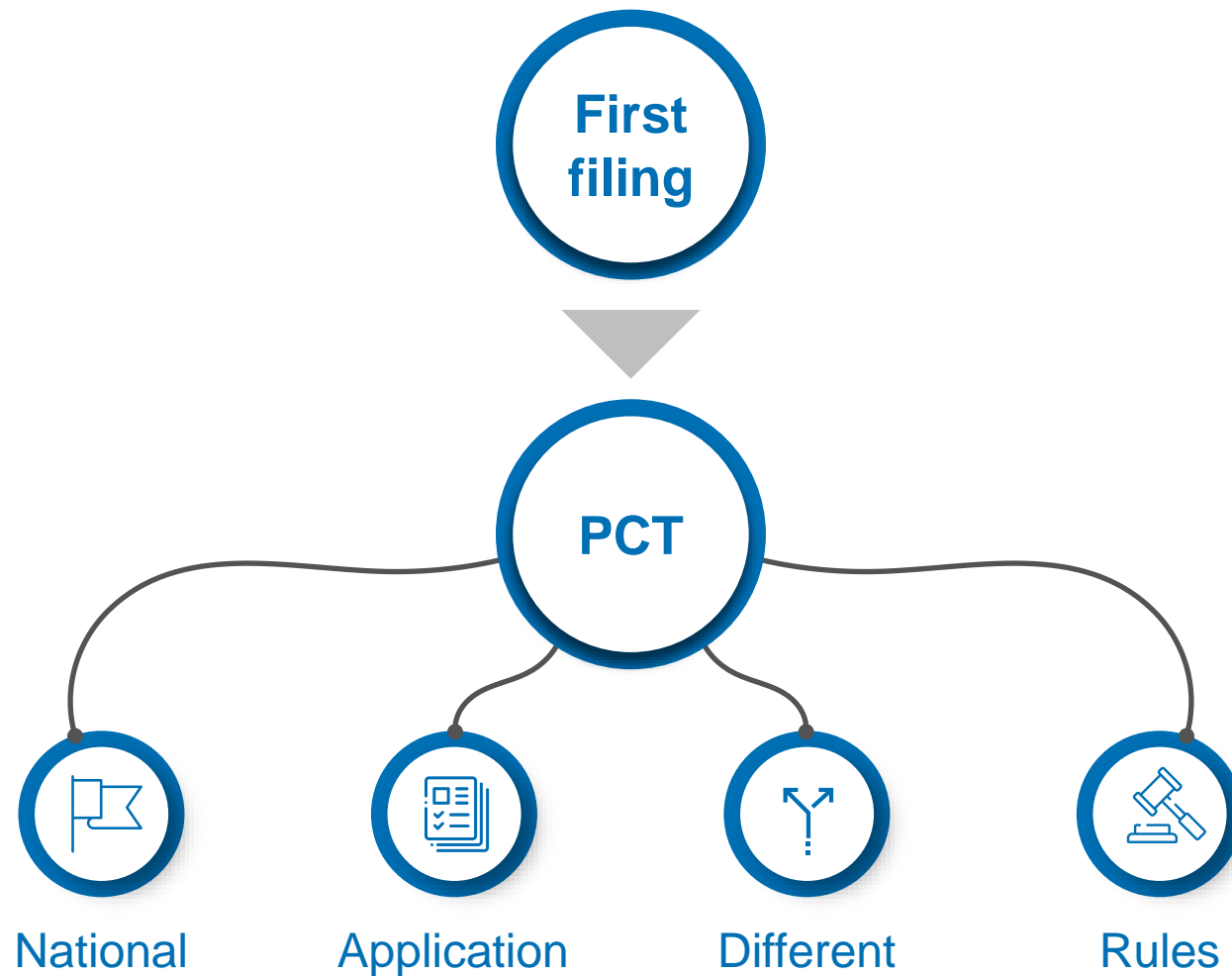
Uncertainty about outcome of consultation



Patentability



Filing a Patent Application





National Rights



Different countries treat AI differently



AI is often seen as software-based



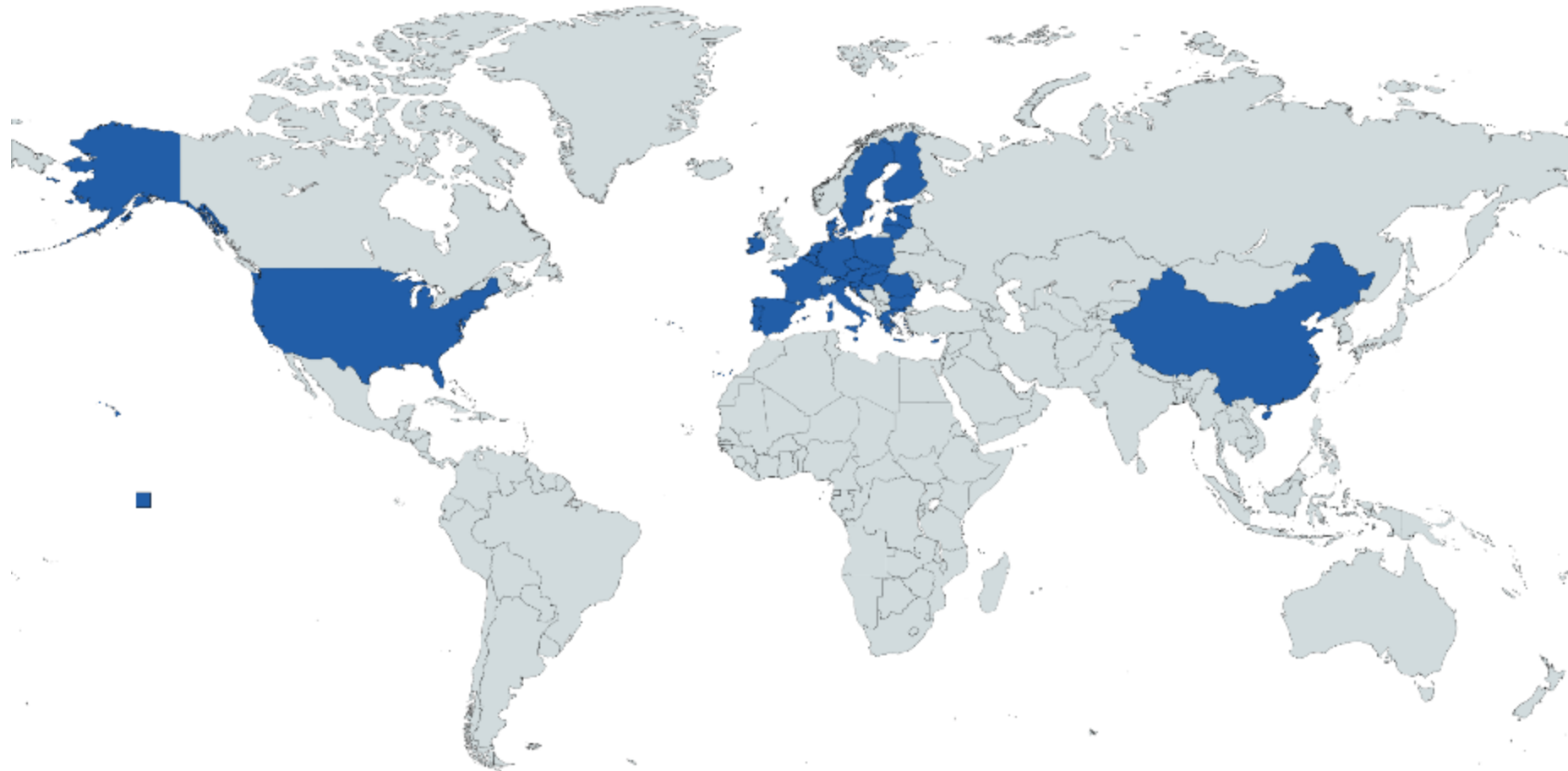
US – rejects “abstract idea”
§101 rejections



EU – “software excluded from patents per se”



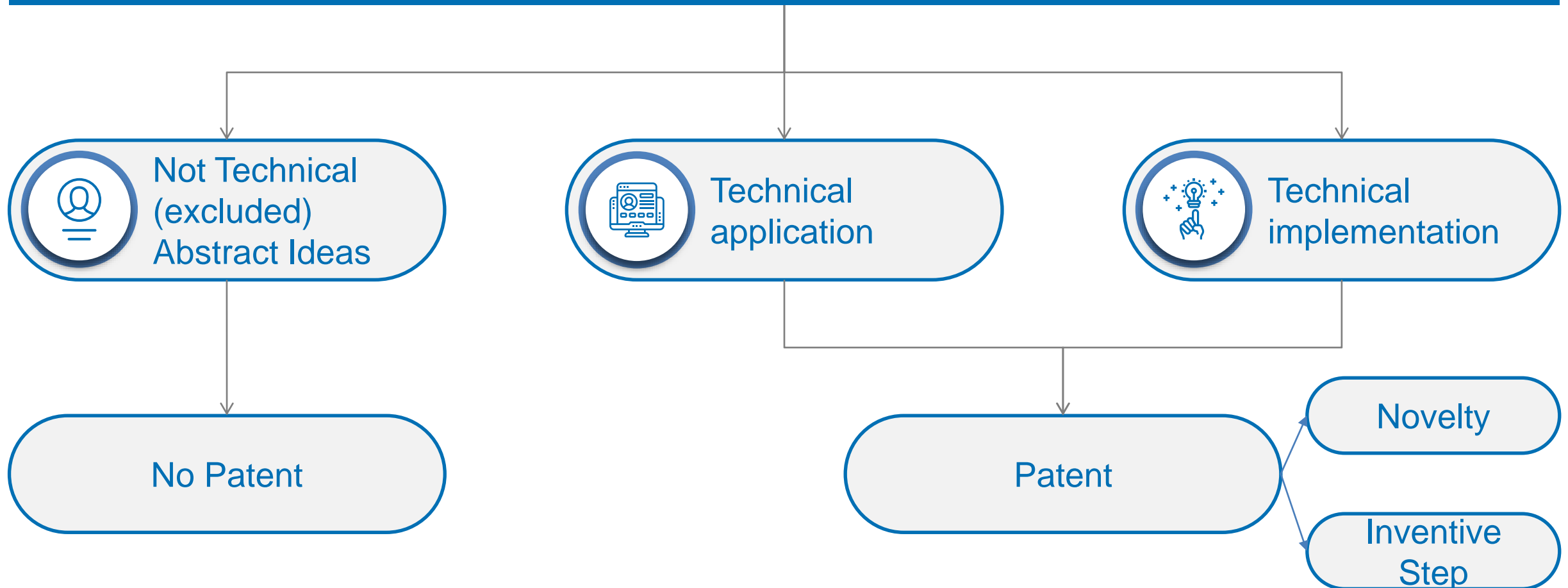
Focus on US, China and Europe





EPO Test for Patentability

Generalised Approach (“Two-Hurdle” Approach)





Overcoming non-technical / abstract objection



Language of claims is
relevant



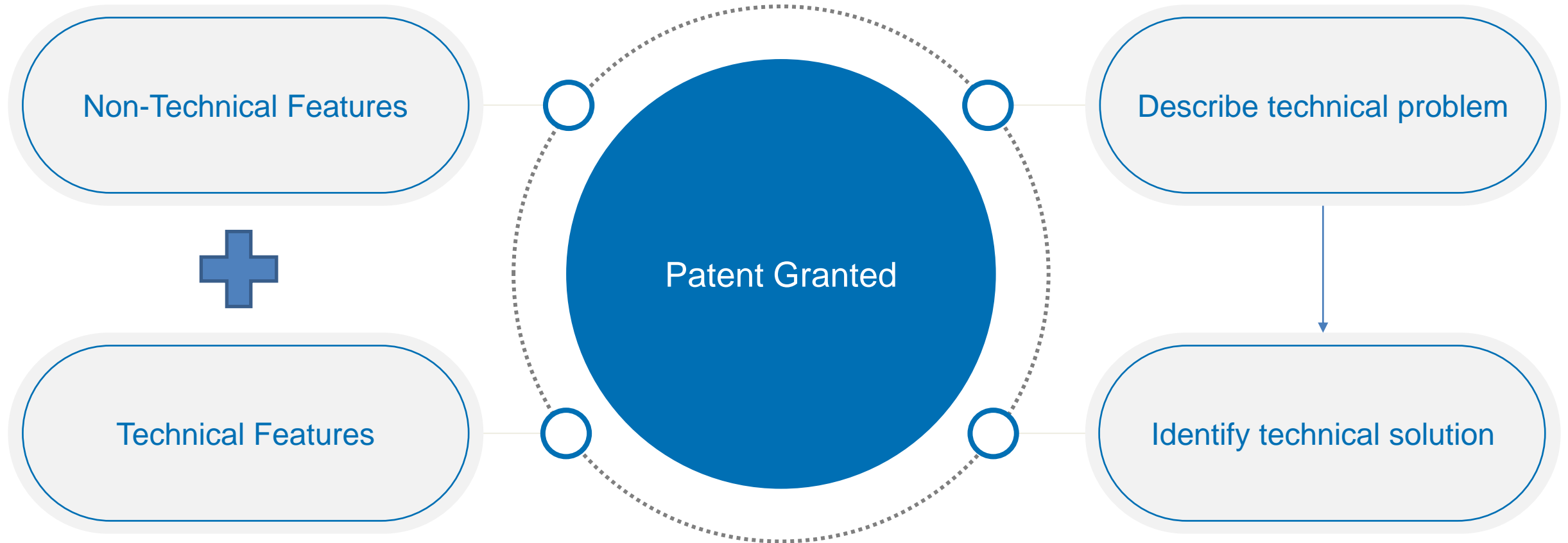
Computer-
Implemented
Method



Emphasizing
hardware element(s)



Inventive Step





Modified EPO Approach – G1/19 - Bentley



Exclusions

Feature contribute to
technical character?

Inventive step



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

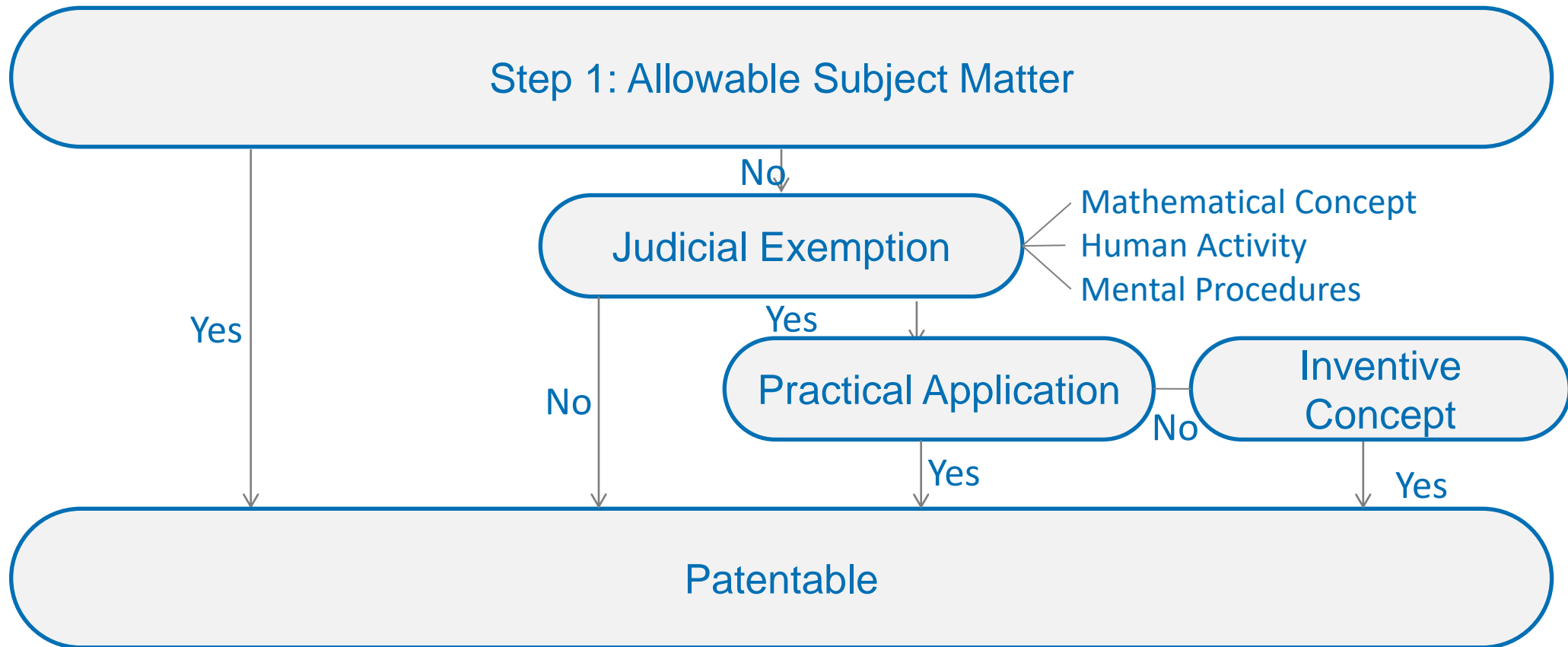


Algorithm contributes to technical solution



USPTO Test for Patentability

Alice / Mayo Approach





Application to Artificial Intelligence

How do we apply the principles of *Leland Stanford* to AI?



Algorithms are
mathematical concepts



Different
mathematical
calculation does
not make
patentable



Mere references to
drugs and diagnostic
does not make it
relevant



Chinese Test for Patentability

New Guidelines since 2020

- Previous requirement for technical means abolished
- Step/Mean performed by computer is now sufficient.



Speed Up
Hardware



Reduction of
Data Storage



User
experience



Reduction of
Data Transfer



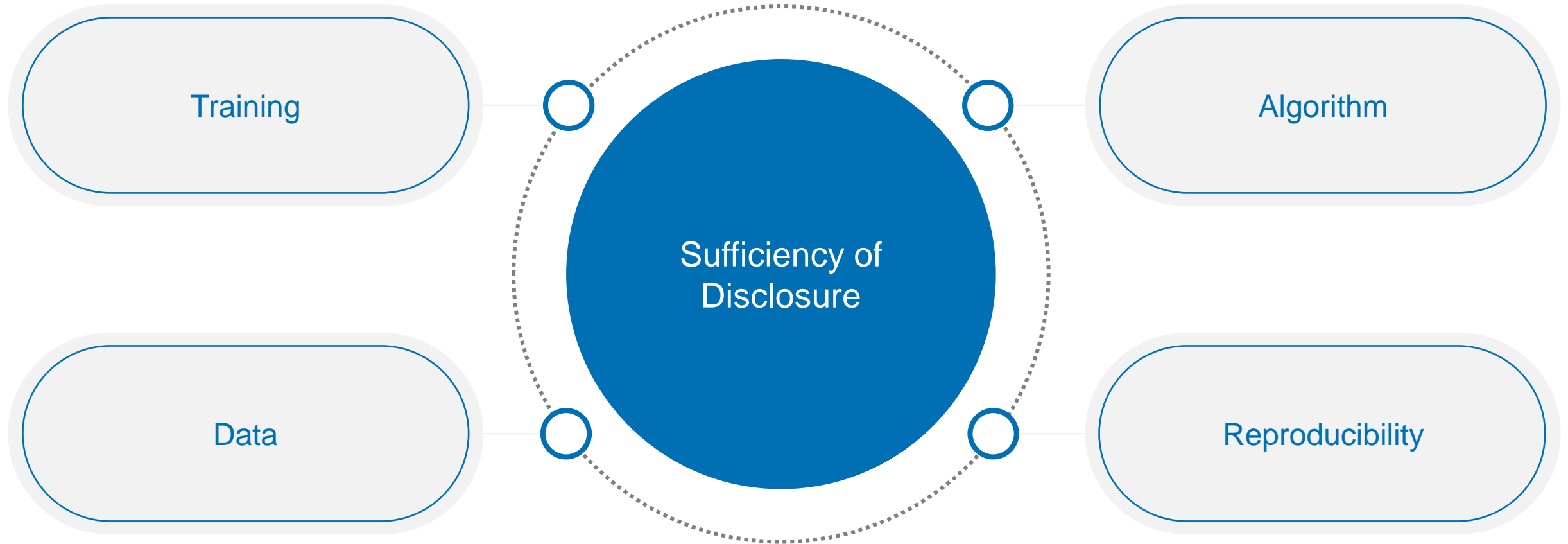
Disclosure of Invention

Art 83 EPC:

“...disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.”



IP5 ROUND TABLE ON ARTIFICIAL INTELLIGENCE OCT 2018





Decision T0161/18 ARC Siebersdorf

- 1 • Determining blood pressure using neural network
- 2 • Novelty lay in neural network
- 3 • No training data given in application
- 4 • Application rejected because of lack of disclosure



Data & Disclosure

Gigo: Garbage in; Garbage out

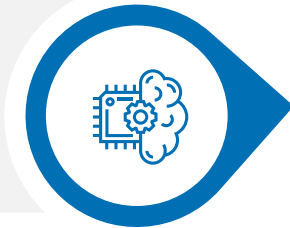
Training method



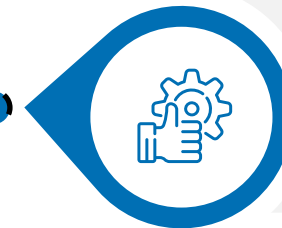
Variable Names



Algorithm used
incl. architecture and
metaparameters



Sample Data



Data Sources



Collection methods
- add pre-processing of data



**Training
Data**



Claiming the Invention

Art 84 EPC:

“The claims shall define the matter for which protection is sought.”

35 USC 100 (j):

“claimed invention means the subject matter defined by a claim in a patent or an application for a patent.”



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;



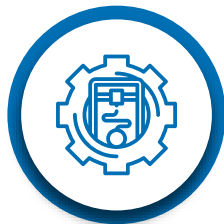
Training the model using the training data (machine learning); and



Using the trained model to analyze new data

Each of these aspects should have separate independent claims





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





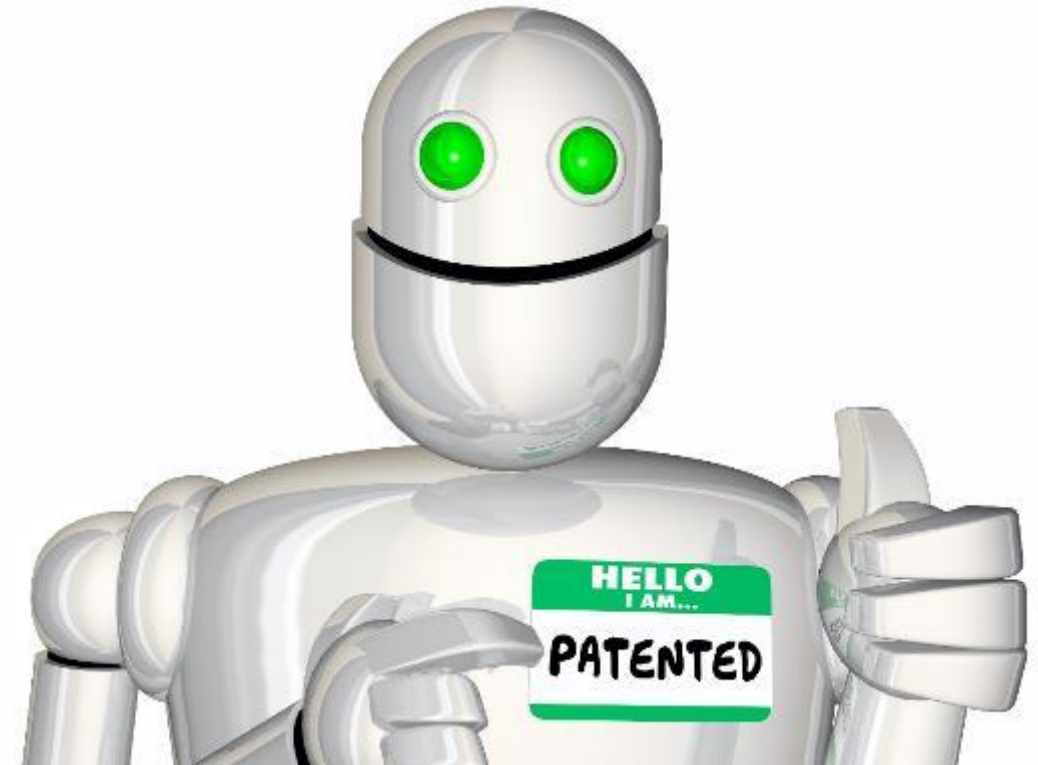
Can an AI program be an
“inventor”



EPO US UK: No
Australia South Africa: Yes
Germany: No, but can be listed

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.”





Contact



Thanks!

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Thank You!

DISCLAIMER

The European IP Helpdesk provides free-of-charge first-line support on IP-related issues aiming to help current and potential beneficiaries of EU-funded projects, as well as EU SMEs, manage their Intellectual Property assets.

The European IP Helpdesk is managed by the European Innovation Council and SMEs Executive Agency (EISMEA), with policy guidance provided by the European Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG Grow).

The information provided by the European IP Helpdesk is not of a legal or advisory nature and no responsibility is accepted for the results of any actions made on its basis. Moreover, it cannot be considered as the official position of EISMEA or the European Commission. Neither EISMEA nor the European Commission nor any person acting on behalf of EISMEA or of the European Commission is responsible for the use which might be made of this information.

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