

# How to Patent AI Inventions

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## How to Patent AI Inventions

- Background trends
- Patentability before the EPO
  - Worked example
- Contrast with the US
  - Follow-up on example

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# Background Trends

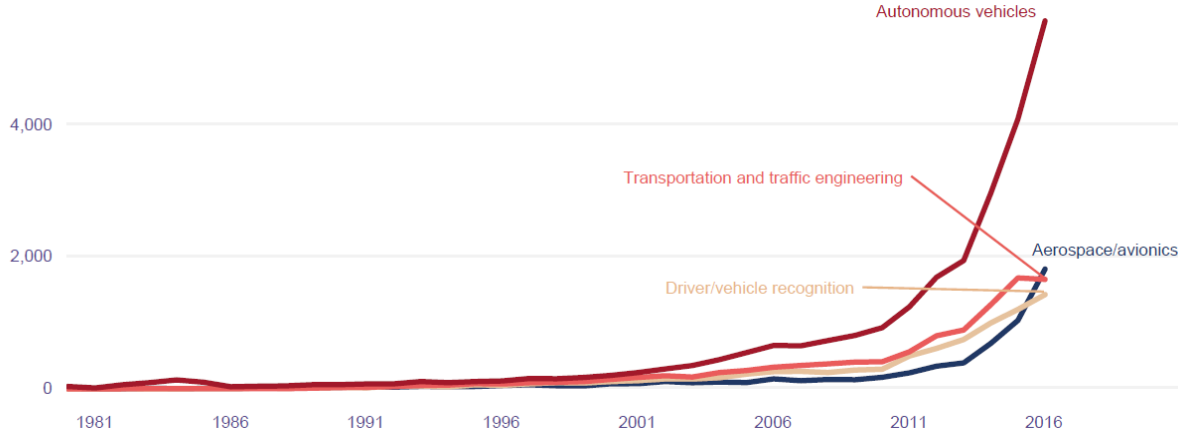
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# Trends in Patenting – WIPO Report

Covers patents & scientific publications - 1950s to 2016

- 340,000 AI-related patents - 50% filed since 2013
- 1.6 million scientific publications identified

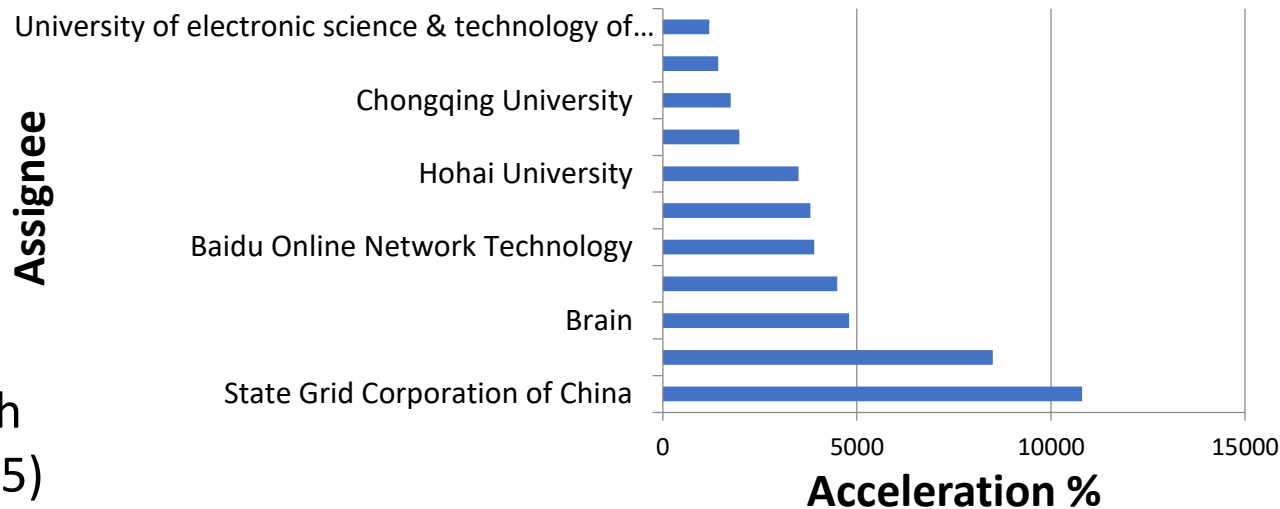


Note: A patent may refer to more than one sub-category

## Who is filing?

### Top filers from WIPO report

- IBM (over 8000), Microsoft, Toshiba, Samsung (over 5000),
- Top University – Chinese Academy of Sciences (over 2500)



Our Research  
(valid to 2015)



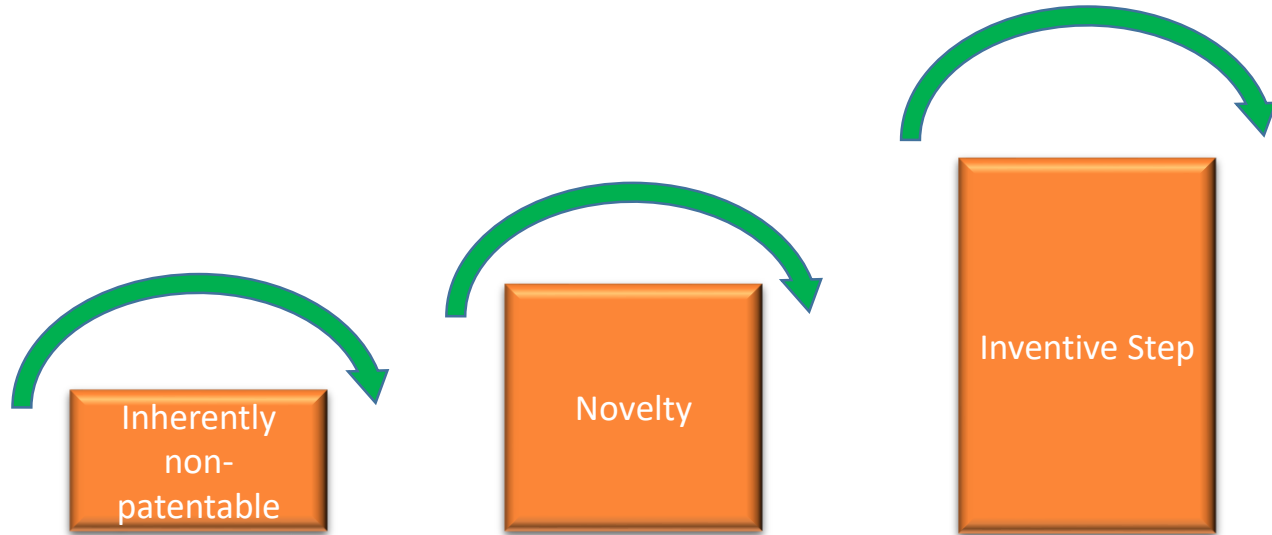
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# Patentability at the EPO

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# Hurdles when Patenting AI inventions





## Inventive step – three step test







## Inventive step – Outcomes

No differences



Novelty objection

Non-technical differences only



Inventive step objection\*

Mix of technical & non-technical

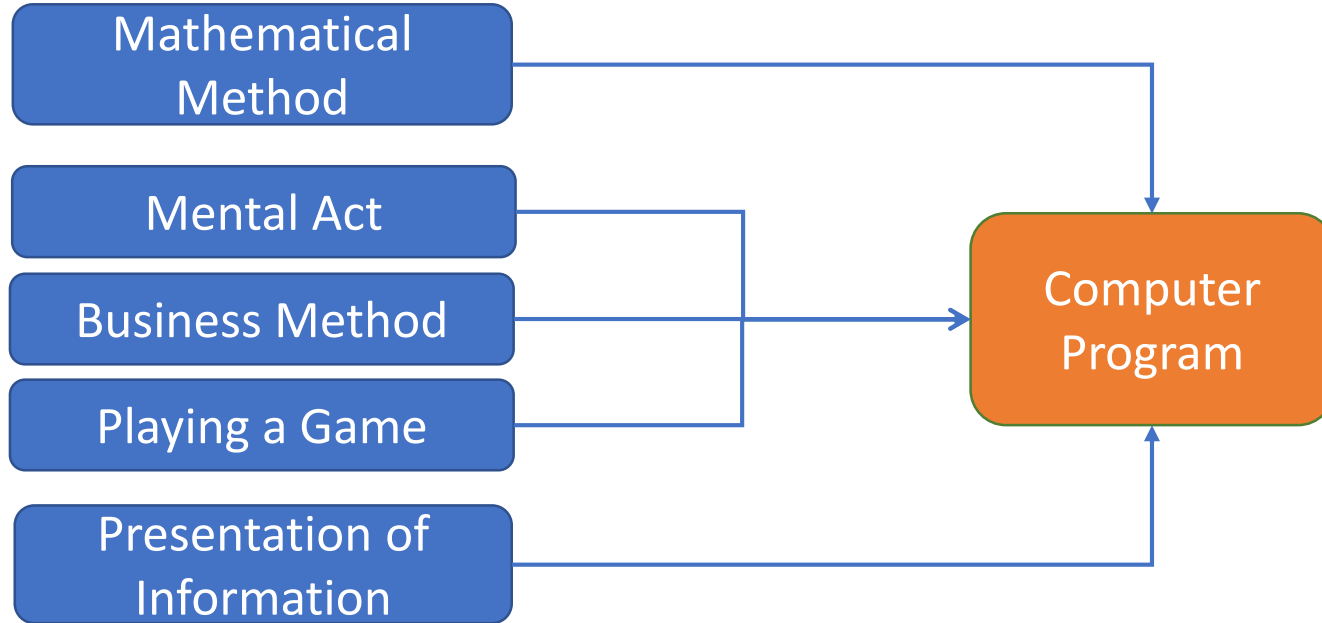


Formulate problem & assess

\* a claim cannot be inventive if there is no technical contribution



## Exclusions – non-technical features





## Impact on AI inventions

Step one - AI is mathematical method so non-technical

Step three – AI can contribute to the inventive solution if



**it interacts with the technical subject-matter**

**for solving a technical problem** and thereby

**contribute to the technical character** of the claimed subject-matter

## A Patentable EP Example – Rare Appeal Case

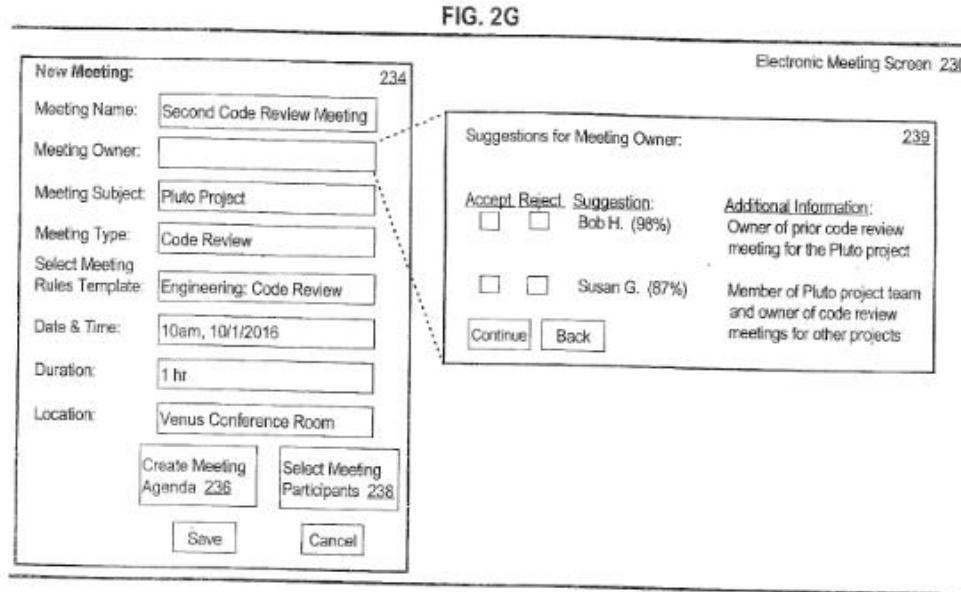
A method for diagnosing and recommending treatment

- (i) Collecting hybridization information of an array of peptide nucleic acid probes comprising ...  Inventive feature
- (ii) Transmitting hybridization information ...
- (iii) Analyzing said hybridization information to generate a hybridization profile
- (iv) Determining the most likely pathological conditions suggested by the comparative analysis of hybridization profiles, using **artificial intelligence routines** ...
- (v) Recommending methods of treatment  Known AI – so not inventive





# Example – EP 3309730 – Agenda Creation





## Example - EP 3309730 Claim

Is the invention defined in the claim patentable?

Work through three step inventive test

- Which are the technical & non-technical features?
- What prior art is likely to be selected based on any technical features
- Are there any differences?
  
- Is there an invention?



## Example – EP 3309730 – Agenda Creation

A computer-implemented method comprising an electronic meeting process executing on an apparatus receiving over a network from an AI service:

a notification of a request for a new agenda item for an electronic meeting, wherein the AI service generated the notification in response to analysis of AV data for the electronic meeting;

missing information for the new agenda item, wherein the AI service determined the missing info by analysing similar agenda items; and displaying on a GUI the new agenda item and missing information



## Example – EP 3309730 – Agenda Creation

Technical aspects:

- Implementation on a computing system with display means and connected to a network
- Using AI to perform various administrative tasks
- NOT INVENTIVE
- Withdrawn March 2019

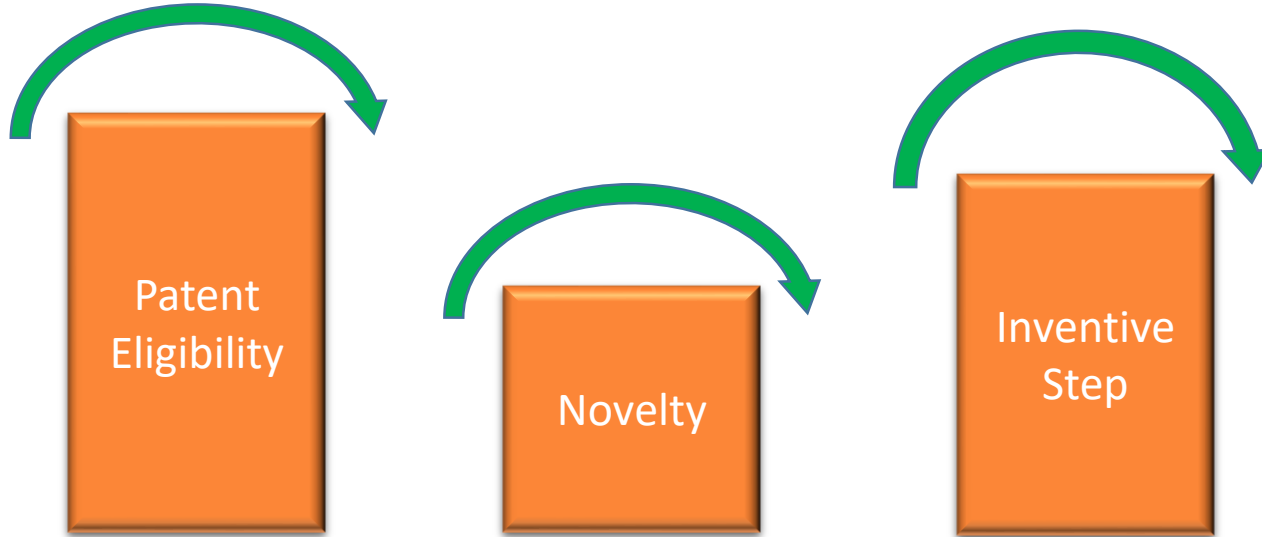


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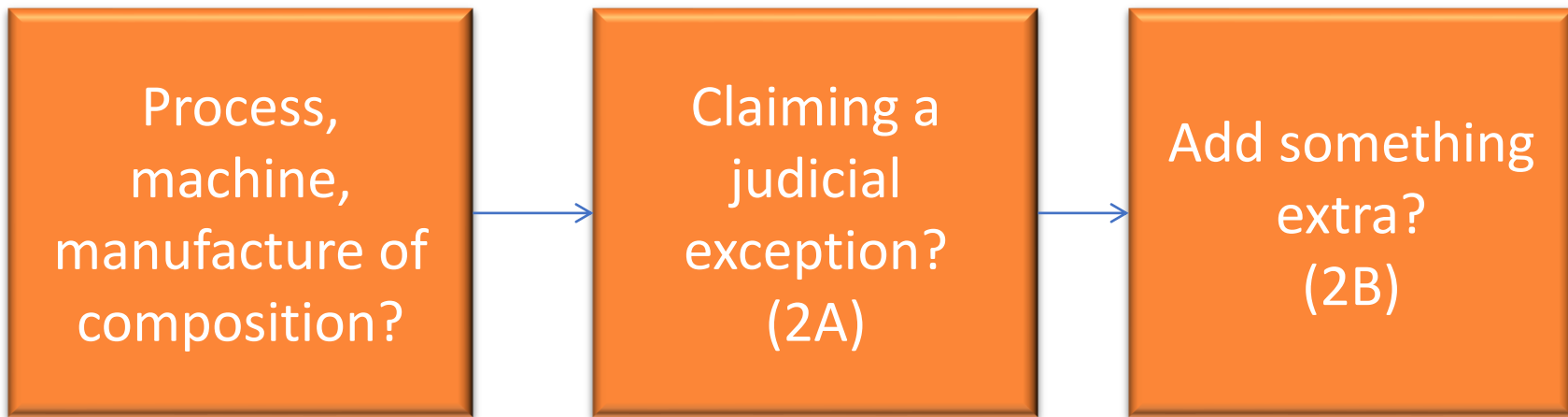
# Contrast with the US

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## Contrast with US



## Eligibility – three step test



# EP 3309730 filed in US

Is it patent eligible?



## US2018/101281 – Agenda Creation

Abstract idea = collecting a request for an agenda item, analysing collected request & displaying information

Analogous to abstract ideas of

- tracking or organising information (Electric Power Group)
- comparison of known information (Classen)

Additional elements are just conventional computer elements

Not patent eligible



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# Getting over the Hurdles

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## Practical drafting tips

US says **'something extra'**

EPO says **'technical effect'**

Explain **what** happens

Claim those features

Explain **why** that happens

Technical effect



## Example – US2018/101281 – Agenda Creation

Amendment:

“the one or more suggested agenda items ... are based upon one or more action items from a prior electronic meeting”

Applicant successfully argued that this took them outside the judicial exceptions BUT

Claim still considered obvious over prior art combination so further amendment may still be needed



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Questions?

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