

QMIPRI Annual Conference 2024: AI Frontiers in Intellectual Property Law: Navigating the Future

27th - 28th June

The Ashworth Centre,
The Honourable Society of Lincoln's Inn, London

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QMIPRI

**Artificial
Intelligence**

Whats next?

Florian Koempel

The quality of AI generated music is continuing to increase; it is more and more undistinguishable from commercial human created music – for better or for worse. It has moved from the realm of gimmicks (e.g. dear AI: sing a Bach cantata with the voice of Kurt Cobain) to a competitive offer in a very short time. And things will only get better with new engines around the corner. The impact on the market is yet to be felt, from UGC uploading influencers posting on social media platforms to professional film producers. Moreover, listeners who according to a variety of polls prefer human created music, will find it difficult to make an informed choice. In the real future AI generated and assisted music will co-exist with human created music. To ensure the success of the music market and the protection of the listener we require a level playing field, a fair market to navigate the future.

Compliance with law where the market is accessed

Transparency (record keeping and labelling)

Express protection of personality rights against misappropriation

-
- I. **Compliance with law of the land where market is accessed not only refers to copyright but also to data protection and contractual obligations, e.g. the Ts and Cs of the websites scraped. It has been established that during the machine learning process a variety of reproductions take place which are unlikely to qualify for any exceptions.**
- **Given the permanence of the reproduction described in some of the complaints the copying is not temporary, e.g. New Times v Open Ai and Concord Music v Anthropic exemplifying permanent reproductions.**
 - **In the UK, the TDM exception as worded in 2014, if relevant at all, is limited to non-commercial research. In the EU, Articles 3 and 4 DSM Directive have not been drafted with AI in mind and should thus not be applied to machine learning at all. But even if they were applied, Article 3 will not apply in case a commercial business is involved. Even if a research organisation carries out the mining but sells on the datasets to a commercial business, such activities are expressly outside the scope of Article 3. Further questions relate to Art 4 (3): is it applicable at all, and how can rights holders ensure that the opt outs are respected (transparency!). Many rights holders have already declared their opt out in a machine readable format.**
 - **The wording of the TDM exception in Japan is more restricted than asserted at political level; certainly the wording of normative provisions should not be interpreted by the executive; separation of power.**
 - **It remains to be seen how US courts interpret fair use; in particular given recent academic and jurisdictional initiatives which are moving away from the focus on the transformative nature of the use.**
 - **Only Singapore provides a potentially relevant exception for computational analysis. However, Singapore is a different market to the UK and other European countries. And, forum shopping should be avoided (e.g. training the AI in Singapore and bringing it into the UK circumventing the laws of the land). Either through secondary infringement provisions (CDPA) or through market access restrictions as provided in the EU AI Act.**

II. Transparency should not be controversial, i.e. record keeping and labelling to enable the accurate evaluation of the music used in the ingestion process and the protection of the consumer to make an informed choice between human created or AI generated music respectively. CF the various initiatives surrounding Art 53 of the EU AI Act.

I. III. In the era of deepfakes we need to protect the personality of the artist from misappropriation of their voice or their likeness through existing and future laws.

Coda. The copyright status of AI generated works has been widely analysed by courts and academia (see my previous posts); it remains relevant in particular regarding the potential dilution of the market for music. The key question relates to the degree of human creative input within the parameters set specifically by the US Copyright Office (Zarya and Thaler) and related cases in the Czech Republic and China.

Human created music is copyright protected; purely AI generated (probably including very short prompts) are not copyright protected. If the human contribution can be distinguished from the AI generated contribution only the former seems protected; e.g. human created lyrics and AI generated music, or human created storylines and AI generated images). If the relevant contributions are not distinguishable there is probably copyright protection for the human's own intellectual creation expressing their personality with the assistance of AI (at least in the EU and the UK even post withdrawal). The questions on the actual splits of the contributions is interesting in the absence of a contractual negotiation between the human and the AI application; for the copyright status as such they seems irrelevant. The actual splits might come down to the declarations of the artists, which could be true or not. They might not matter anyway; if there is a human name under the musical or literal work, the legally specified presumption of copyright protection will be difficult to disprove. Arguing co creatorship in jurisdictions around the world seems to be a hobby for some academics and lawyers (dogmatically it is indeed interesting to establish the boundaries of copyright protection but it seems that most music at this stage would qualify as human created with or without the assistance of AI). This could change soon; but I leave the betting to politicians.

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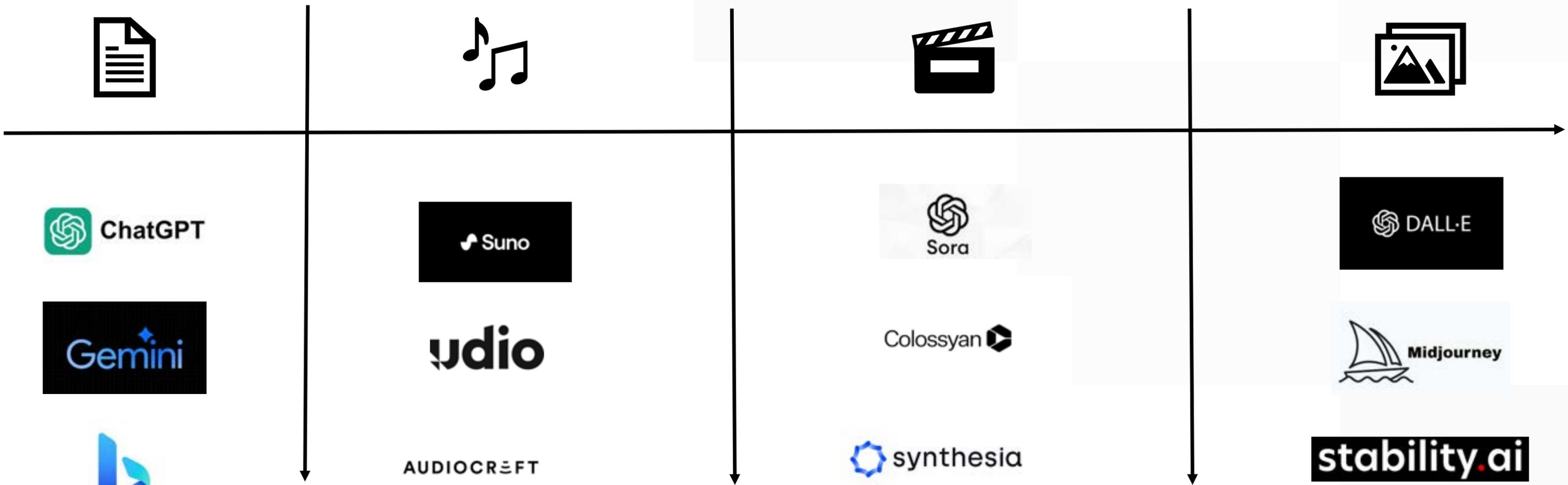
AI in the Creative Industries

QMIPRI Conference 2024

Constance Herreman Follain, Director of Legal and Public affairs



AI services active on the market



AI Open Letter

7 principles as basis for human-centered AI regulation that fosters creativity

PROTECTION OF
HUMAN CREATIVITY

1
CONSENT

6
ACCOUNTABILITY

HUMAN
CREATOR
FIRST

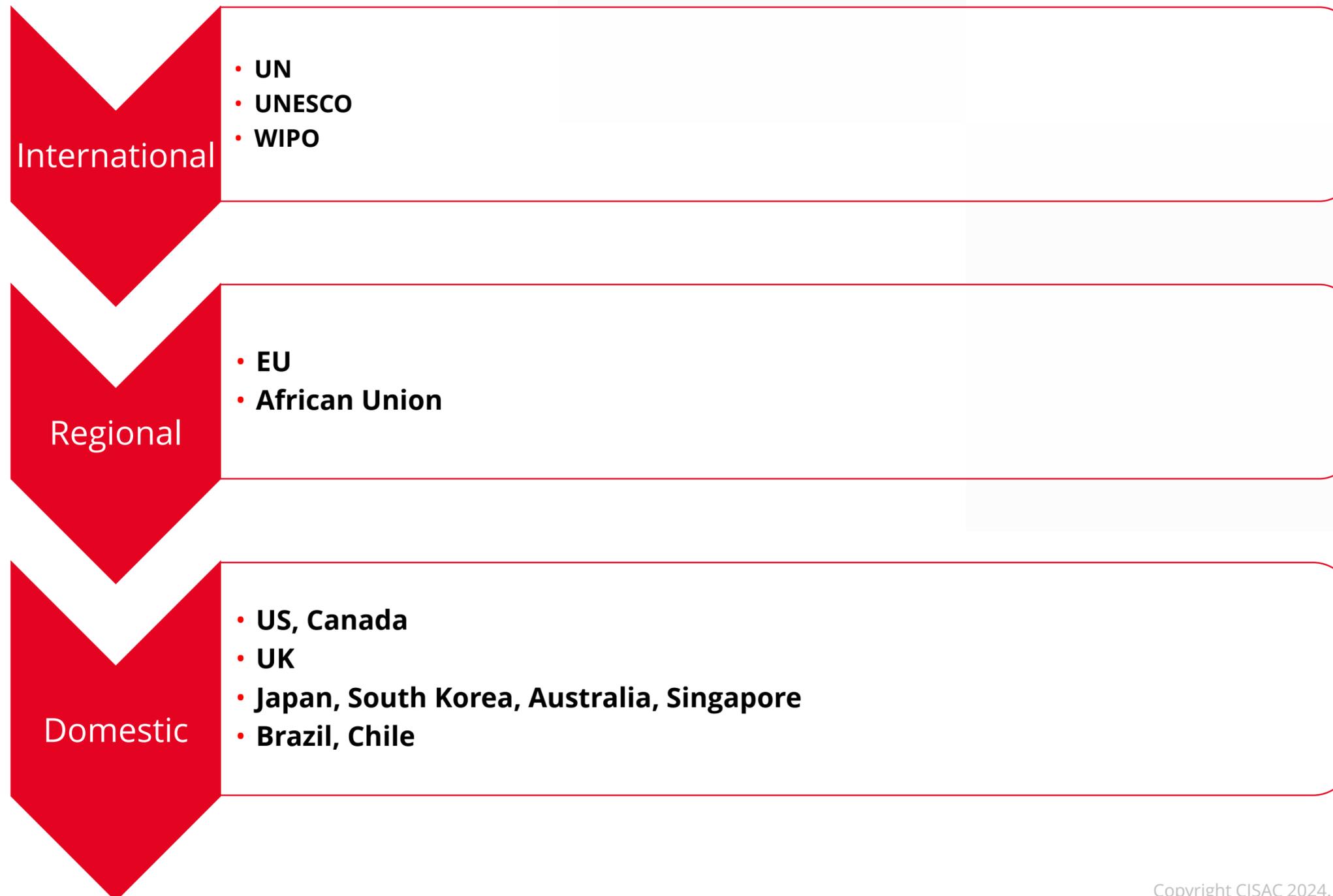
2
LICENSING

5
CREDITS

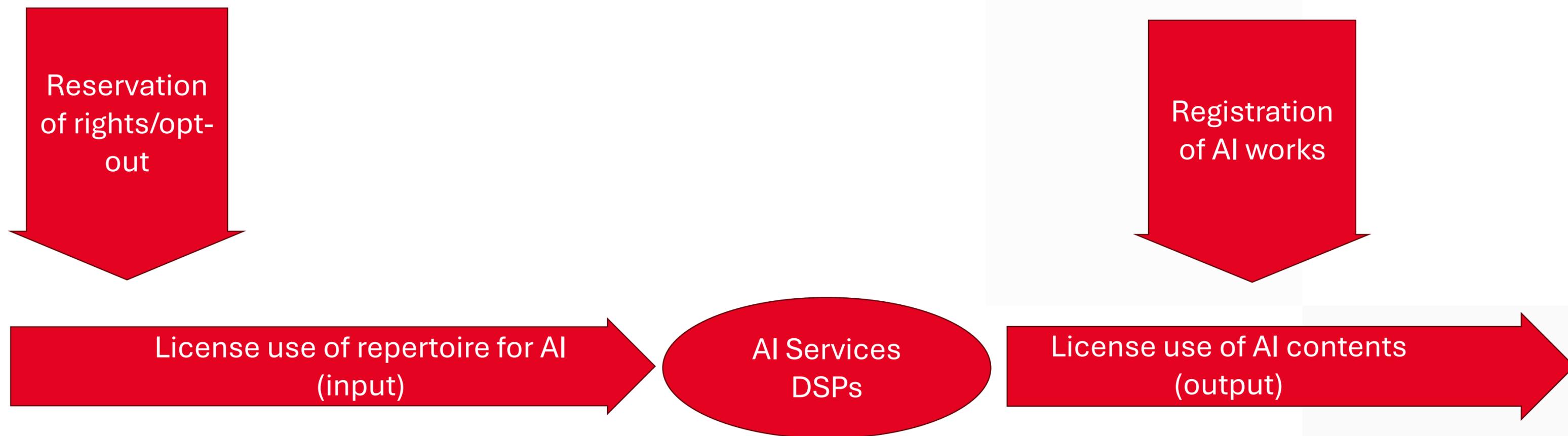
3
REMUNERATION

4
TRANSPARENCY

Lobbying overview



What are the issues at stake for authors' societies?



AI Licensing approaches

Voluntary collective management

- + Rightsholders free to negotiate and decide how to license their rights
- + Can be done via CMOs or individually
- + Revenue share
- + More flexibility in adapting licenses to the way technology develops

Extended collective licensing

- + Appointed CMO responsible for licensing all repertoire including non-members (Opt-out possible)
- + Ensure collections take place

Statutory license

- + Remuneration scheme (e.g. private copying levies)
- + Administered by CMOs
- + Clear legal obligations to pay
- + Tariff fixed by government

THANK YOU!



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AI RIGHTS AND WRONGS: TRAINING MODELS WITH COPYRIGHTED WORKS

Professor Noam Shemtov

Chair in Intellectual Property Law & Technology

Director – Queen Mary Intellectual property Research Institute

Centre for Commercial Law Studies - Queen Mary, University of London

Key question

Is authorisation required for AI model training (where training datasets include copyright-protected content) ?

Does training involve the making of unauthorized copies?

- If yes, does it fall under copyright exceptions?

Post training, does the model 'as trained' contain unauthorized copies?

- If yes, does it fall under copyright exceptions?

Training AI models involves the creation of copies at the data input training stage

Are copies of copyrighted works being made in the process of training?

Gathering data is likely to necessitate the making of a copy of the data. Technically, it is likely to require access, storing and analysis of the data, often recurrently, so as to extract information, and generate statistical patterns.

So the training itself is likely to involve copying.

Creating copies when training AI models: infringement?

- Does the transient or “imperfect” nature of these copies alter the conclusion regarding infringement?
- In the EU – Art. 2 of the EU’s InfoSoc Directive, subject to Art. 5(1)
- In the US - The US Copyright Office: “*Congress intended the copyright owner’s exclusive right to extend to all reproductions from which economic value can be derived.*”

Creating copies when training AI models: applicable exceptions

- In the EU – DSM Directive :
 - Article 3: yes, if non-commercial organization (as defined in Art. 2) AND lawful access to the works and keeping any reproductions or extractions for no more than the duration necessary to achieve the objectives of the TDM being conducted.
 - Article 4 : extend the exception to commercial entities, if no ‘opt out’.
- In the US
 - Fair use: Transformative use? *Google Books?*

Model 'as trained': memorisation = embedded copies?

- An important step in processing of a text is splitting textual input into special “words” that the AI system can comprehend. These are called “tokens.”
- Once an AI model mapped input text into ‘tokens’, it encodes those into numbers, and converts the sequence that it processed in the input text as vectors, which are often referred to as ‘**word embeddings**’.
- Embeddings are used in literally all tasks performed by a generative AI system (e.g., text generation, text summarization, image generation, etc’). Word embeddings are usually stored in vector databases.
- Those vectors (word embeddings) are essentially representations of tokens that still keep their original natural language representations as was in the input text.

What can
output teach
us on input?

60

ONE HUNDRED EXAMPLES OF GPT-4 MEMORIZING CONTENT FROM THE NEW YORK TIMES

EXAMPLE 48: POPE IN BREAK FROM DOCTRINE BACKS SAMESEX CIVIL UNIONS

<https://www.nytimes.com/2020/10/21/world/europe/pope-francis-same-sex-civil-unions.html>

Copyright number: TX 8-926-133 Effective Date: 2020-12-14

Prompt (taken from article):

ROME — Pope Francis expressed support for same-sex civil unions in remarks revealed in a

Output from GPT-4:

documentary film that premiered on Wednesday, a significant break from his predecessors that staked out new ground for the church in its recognition of gay people.

The remarks, coming from the leader of the Roman Catholic Church, had the potential to shift debates about the legal status of same-sex couples in nations around the globe and unsettle bishops worried that the unions threaten what the church considers traditional marriage — between one man and one woman.

“What we have to create is a civil union law. That way they are legally covered,” Francis said in the documentary, “Francesco,” which premiered at the Rome Film Festival, reiterating his view that gay people are children of God. “I stood up for

Actual text from NYTimes:

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“What we have to create is a civil union law. That way they are legally covered,” Francis said in the documentary, “Francesco,” which debuted at the Rome Film Festival, reiterating his view that gay people are children of God. “I stood up for

Retention of copies while training (diffusion)

The original Mario



Prompt: "video game Italian plumber"



If copies are embedded/retained, how do the TDM exceptions fare?

- The exemptions provided under the TDM provisions primarily apply to the right of reproduction and do not extend to the right of communication to the public, which includes the right of making available.
- Does the offering of foundation models such as Chat GPT constitutes “making available” within the context of the communication to the public right under Article 3 of the Information Society Directive?
- *Filmspeler* and *Pirate Bay* suggest that the answer may be affirmative.

The shape of things to come?

LICENSING!

THANK YOU FOR JOINING ME!

Professor Noam Shemtov

n.shemtov@qmul.ac.uk

See, N. Shemtov, D. Gervais,, C. Zaller-Rowland, B. Marmanis, THE HEART OF THE MATTER: COPYRIGHT, AI TRAINING, AND LLMS, Journal of the Copyright Society (forthcoming)

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**The Future of Copyright in the AI Era:
The concept of authorship
in the era of AI assisted works**
Surveying the Battlefield

James St.Ville KC

27 June 2024

**Queen Mary Intellectual Property Research Institute
Conference 2024**

A cataphract warrior stands atop a hill surveying the battlefield with a strategic eye.



ROYALTY-FREE AI GENERATED



DOWNLOAD PREVIEW



Copyright, Designs and Patents Act 1988

1. — Copyright and copyright works.

(1) Copyright is a property right which subsists in accordance with this Part in the following descriptions of work —

(a) **original** literary, dramatic, musical or artistic works,

..

..

..

Copyright, Designs and Patents Act 1988

9. — Authorship of work.

(1) In this Part “author”, in relation to a work, means the **person who creates it.**

..

..

..

(3) In the case of a literary, dramatic, musical or artistic work which is computer-generated, the **author** shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.

Copyright, Designs and Patents Act 1988

178. Minor definitions.

In this Part —

..

..

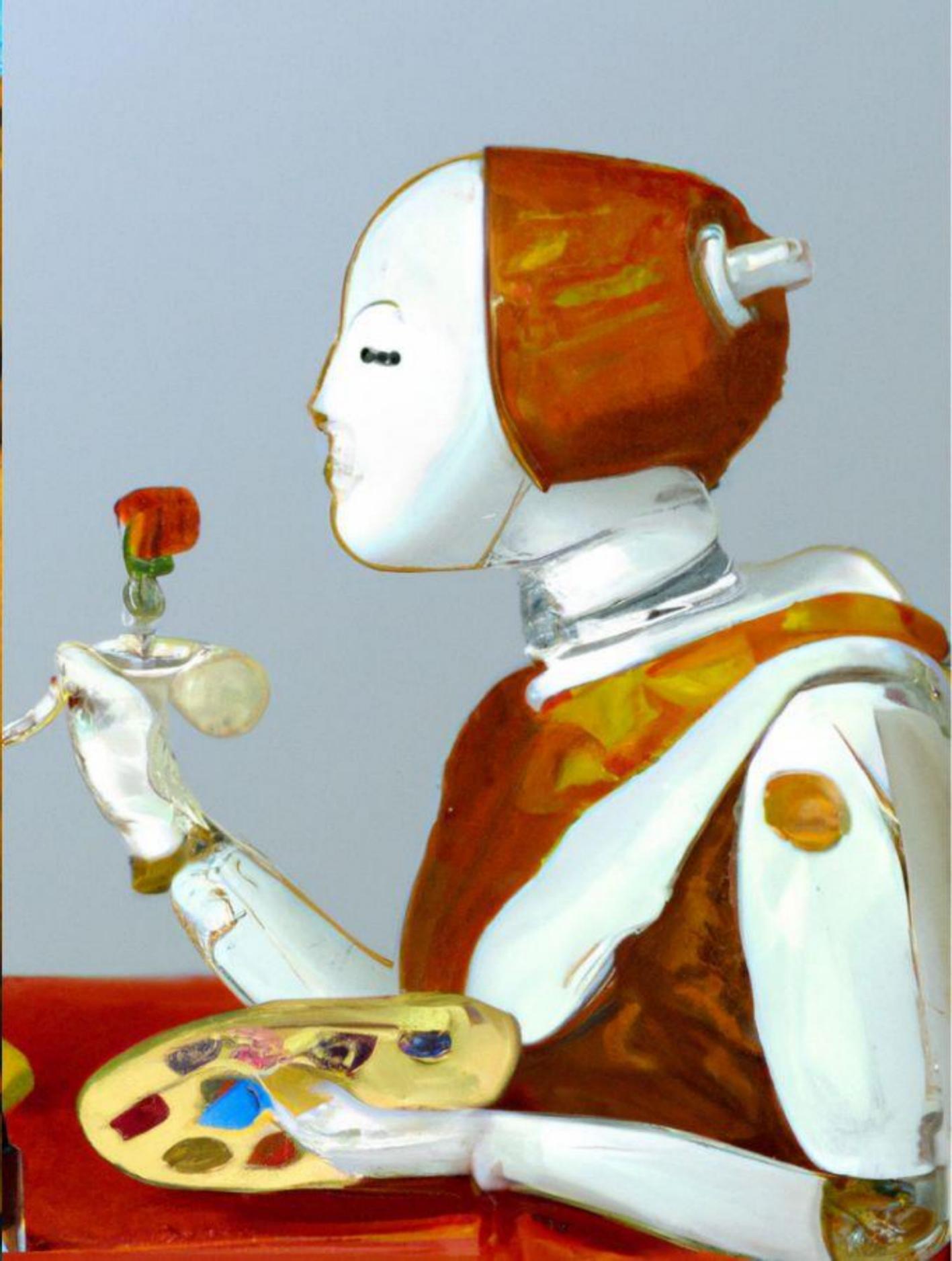
..

“*computer-generated*”, in relation to a work, means that the work is **generated by computer** in circumstances such that there is no human author of the work;

..

..

..





“AI Inputs and Outputs”
by Creative Commons

made from details from two images generated by the DALL-E 2 AI platform with the text prompts

“A Hieronymus Bosch triptych showing inputs to artificial intelligence as a Rube Goldberg machine; oil painting” and

“a robot painting its own self portrait in the style of Artemisia Gentileschi.”

CC dedicates any rights it holds to the image to the public domain via [CC0](https://creativecommons.org/licenses/by/4.0/).

Copyright, Designs and Patents Act 1988

12. — Duration of copyright in literary, dramatic, musical or artistic works.

..

..

..

(7) If the work is **computer-generated** the above provisions do not apply and copyright expires at the end of the period of **50 years** from the end of the calendar year in which the work was made.

Copyright, Designs and Patents Act 1988

77. — Right to be identified as author or director.

(1) The **author** of a copyright literary, dramatic, musical or artistic work, and the director of a copyright film, has the **right to be identified as the author or director** of the work in the circumstances mentioned in this section;

..

..

..

Copyright, Designs and Patents Act 1988

79. — Exceptions to right.

- (1) The right conferred by section 77 (**right to be identified as author or director**) is subject to the following exceptions.
- (2) The right does not apply in relation to the following descriptions of work —
 - (a) a computer program;
 - (b) the design of a typeface;
 - (c) **any computer-generated work.**

..

..

..

Express Newspapers v Liverpool Daily Post & Echo

[1985] 1 WLR 1089 (Whitford J)



Express Newspapers v Liverpool Daily Post & Echo

[1985] 1 WLR 1089 (Whitford J) at 1093 E-G

- A point was taken by Mr. Jeffs on the question of the employment of a computer, the suggestion of Mr. Jeffs being that, whatever might be the position of anything that was done before the computer was employed, although he was prepared to accept that computer programmes might well be copyright works, the result produced as a consequence of running those programmes was not a work of which it could truly be said that Mr. Ertel was the author.
- I reject this submission. The **computer was no more than the tool** by which the varying grids of five-letter sequences were produced to the instructions, via the computer programmes, of Mr. Ertel. It is as unrealistic as it would be to suggest that, if you write your work with a pen, **it is the pen which is the author of the work rather than the person who drives the pen.**

Nova Productions Ltd v Mazooma Games Ltd

[2006] RPC 14 (Kitchin J) [2007] Bus LR 1032 (CA)

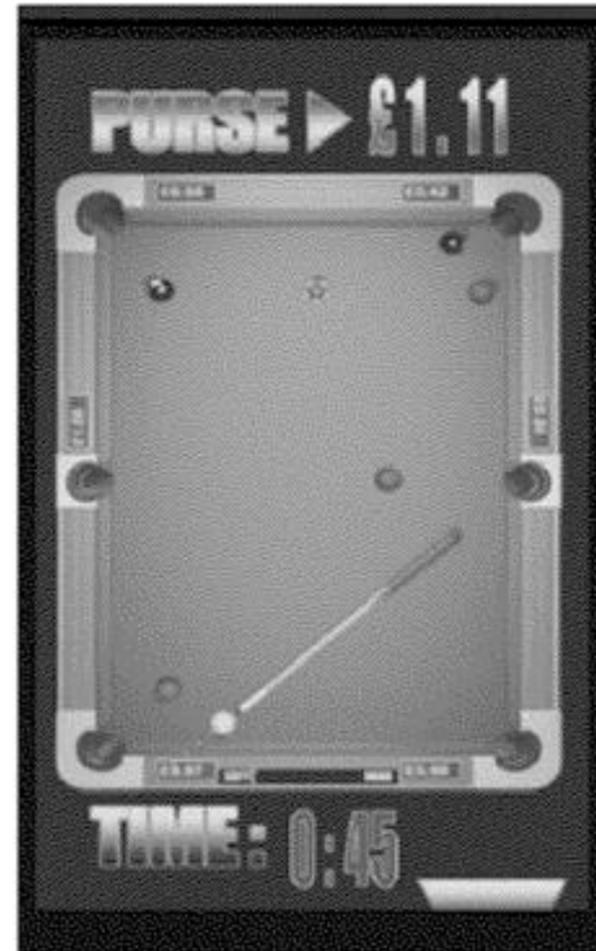


TABLE IN 2D PLAN VIEW
TABLE PLAYFIELD RATIO NOT STANDARD POOL 2:1

Nova Productions Ltd v Mazooma Games Ltd

[2006] RPC 14 (Kitchin J)

at [104]

In my judgment these composite frames are artistic works. They were created by Mr Jones or by the computer program which he wrote.

Nova Productions Ltd v Mazooma Games Ltd

[2006] RPC 14 (Kitchin J)

at [105]

In so far as each composite frame is a computer generated work then the arrangements necessary for the creation of the work were undertaken by Mr Jones because he devised the appearance of the various elements of the game and the rules and logic by which each frame is generated and he wrote the relevant computer program.

Nova Productions Ltd v Mazooma Games Ltd

[2006] RPC 14 (Kitchin J)

at [105]

I am satisfied that Mr Jones is the person by whom the arrangements necessary for the creation of the works were undertaken and therefore is deemed to be the author by virtue of s. 9(3).

Nova Productions Ltd v Mazooma Games Ltd

[2006] RPC 14 (Kitchin J)

at [106]

The player is not, however, an author of any of the artistic works created in the successive frame images. His input is not artistic in nature and he has contributed no skill or labour of an artistic kind. Nor has he undertaken any of the arrangements necessary for the creation of the frame images. All he has done is to play the game.

Intellectual Creation

- *SAS Institute v World Programming* [2014] RPC 8 (CA) at [38]
- *Wright v BTC Core* [2023] FSR 21 (CA) at [20]-[39], [53]-[55]
- *THJ Systems Ltd v Sheridan* [2024] ECDR 4 (CA) at [14]-[16]
- *Lidl Great Britain Ltd v Tesco Stores Ltd* [2024] FSR 17 (CA) at [38]-[44]

SAS Institute Inc v World Programming Ltd

[2014] RPC 8 (CA)

at [38] Lewison LJ

Our domestic legislation confines the doing of a restricted act (e.g. copying) to doing that act in relation to the work as a whole or any “substantial part of it” ...

It has long been the position in domestic law that what is substantial is a question to be answered qualitatively rather than quantitatively.

SAS Institute Inc v World Programming Ltd

[2014] RPC 8 (CA)

at [38] Lewison LJ

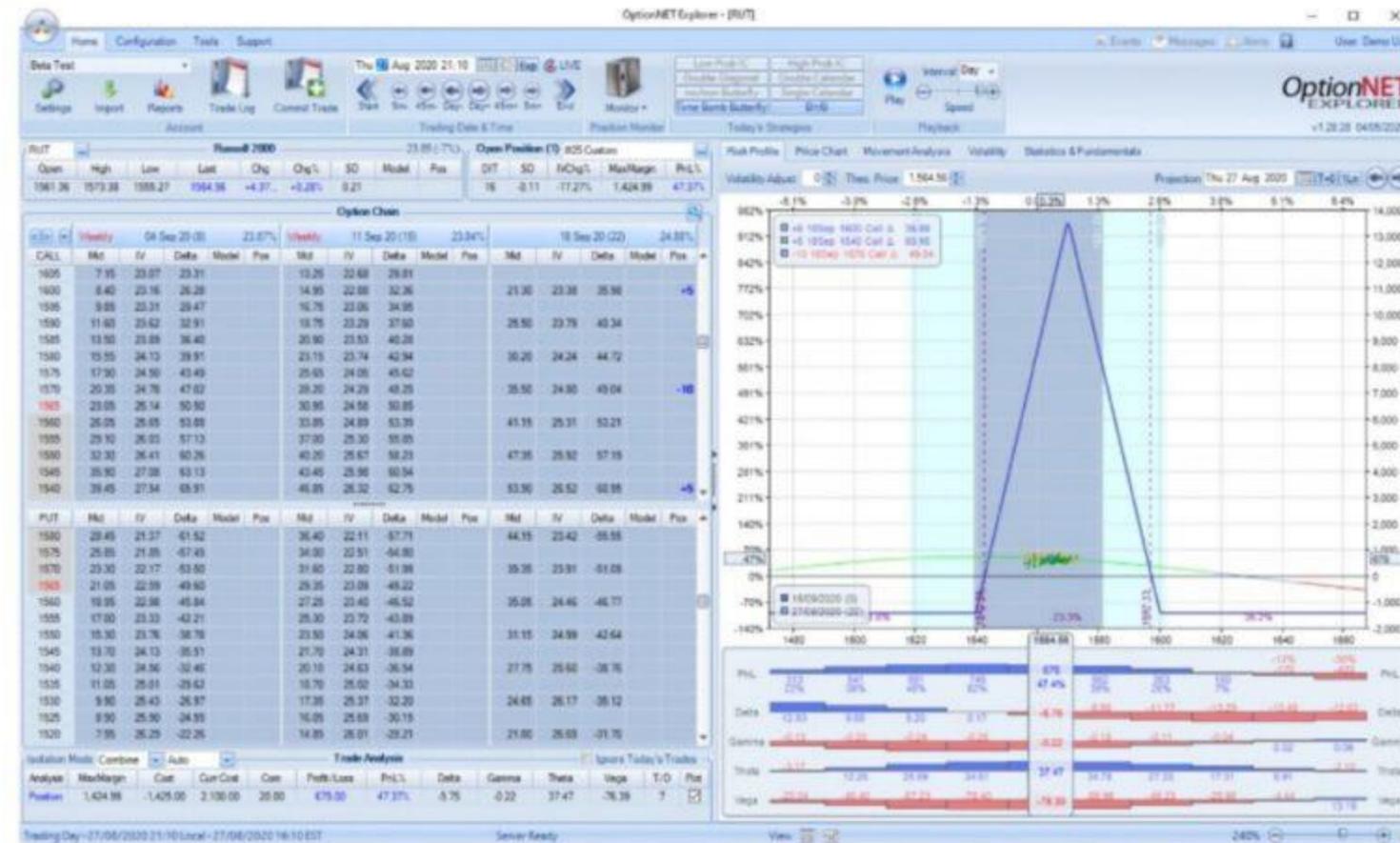
In Infopaq the court said that parts of a work are entitled to the same protection as the work as a whole. But the parts in question must “*contain elements which are the expression of the intellectual creation of the author of the work*”: [39].

This is now the test for determining whether a restricted act has been done in relation to a substantial part of a work.

THJ Systems Ltd v Sheridan

[2023] EWHC 927, [2024] ECDR 4 (CA) at [12]

OPTION NET Explorer software
Graphical Unser Interface ('GUI') of risk and price charts ('R & P Charts')



THJ Systems Ltd v Sheridan

[2023] EWHC 927 at [214] – John Kimbell KC

‘I am satisfied that the work of creating the look and functionality of interface including the arrangements of the tables and graphs did involve the exercise of **sufficient skill and labour** for the result to amount to an artistic work.

The analogy with the GUI screens in issue in *Navitaire Inc v Easy Jet* [2006] RPC 3 Ch at [98] is in my judgment apposite.’

THJ Systems Ltd v Sheridan

[2024] ECDR 4 (CA)

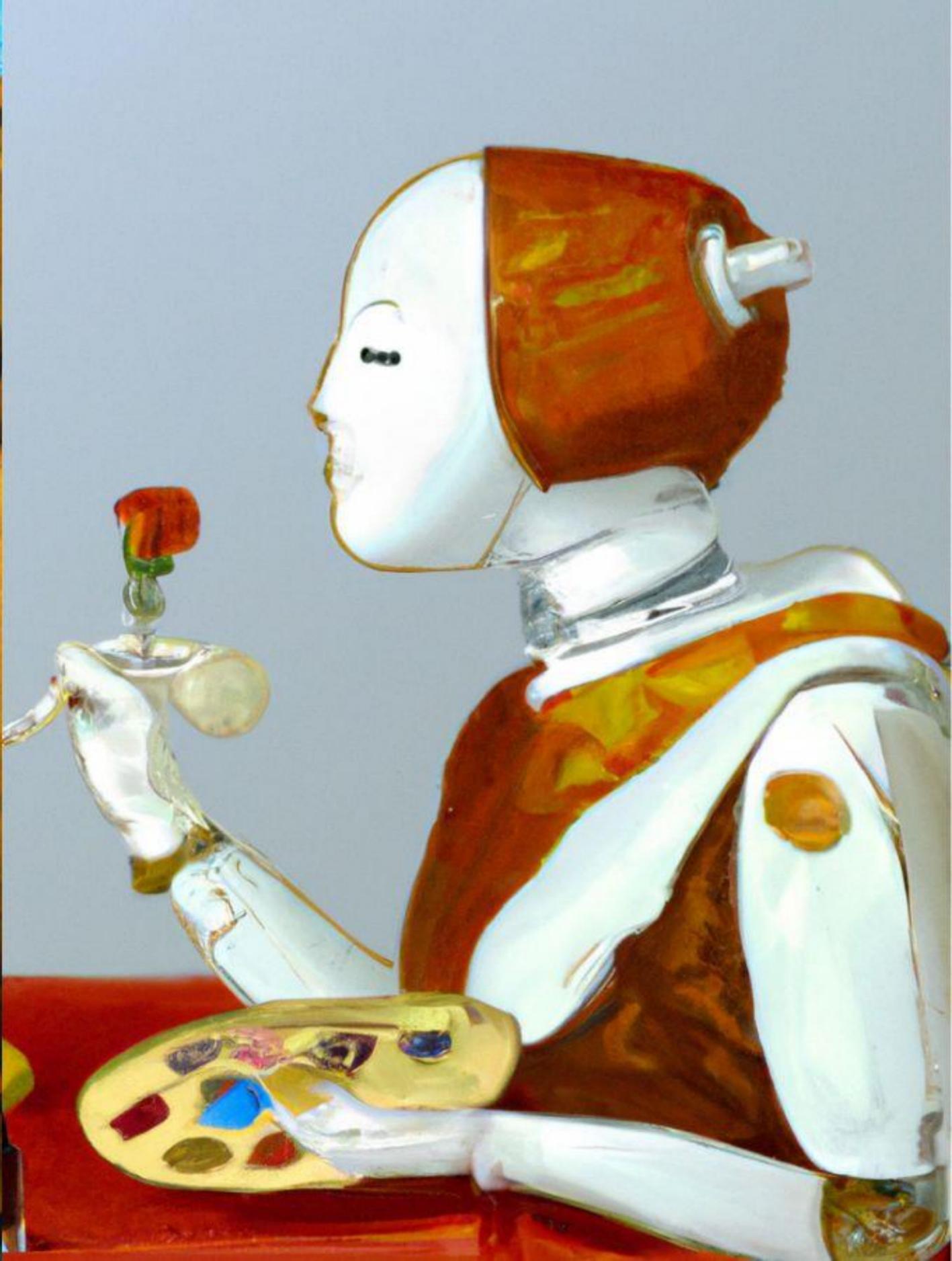
The Defendants denied the allegations of copyright infringement:

- (a) Charts not intellectual creation of THJ's director, Andrew Mitchell
- (b) Charts were simple graphs which plot third party data, selected by the user, against time and data originates outside Software
- (c) to the extent that there was any intellectual creation in the images generated by the Software, it was provided by the user selecting which option to depict and the time period over which to display it: thus, this is a computer generated image, where the user is the 'person by whom the arrangement necessary for the creation of the [artistic] work are undertaken' - s.9(3) CDPA.

THJ Systems Ltd v Sheridan

[2024] ECDR 4 (CA)
at [14]-[16] Arnold LJ

- original in the sense that it is its author's own intellectual creation
- What is required is that
 - the author was able to express their creative abilities in the production of the work
 - by making free and creative choices
 - so as to stamp the work created with their personal touch
- criterion is not satisfied where the content of the work is dictated by technical considerations, rules or other constraints which leave no room for creative freedom



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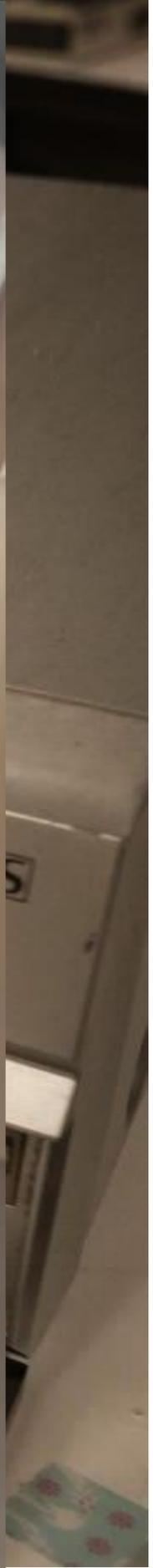


GENERATED BY A.I.

Eleonora Rosati

27 June 2024

An international, EU and comparative perspective on
AI-generated outputs and authorship



AI and copyright (in general)

- Input
- Output
 - Protectability
 - Liability for use of AI tools

Output protectability

- The (useless) question: who is an author?
- The real question: what makes one an author?
 - Pending CJEU referrals on originality (*Mio*, *USM Haller*, *Institutul G. Călinescu*),
 - US case law (eg, *Thaler v Perlmutter*) and guidance of US Copyright Office

Agenda

- What makes one an author? What makes something original?
- Issues for another time ... or not?

What makes one an author? What makes something original?

By an ‘author’

- Berne Convention: ??
- Only human beings (?)
 - US Copyright Office Compendium (p 17)
- No EU definition of ‘author’
 - But see SatCab Directive (art 1(5)), Software Directive (Art 2(1)), Database Directive (Art 4(1)), DSM Directive (recitals 72 and 74 with reference to authors’ and performers’ contracts)
- Legal fictions of authorship/ownership: eg, s 9(3) UK CDPA

Works That Lack Human Authorship

As discussed in Section 306, the Copyright Act protects “original works of *authorship*.” [17 U.S.C. § 102\(a\)](#) (emphasis added). To qualify as a work of “authorship” a work must be created by a human being. See *Burrow-Giles Lithographic Co.*, 111 U.S. at 58. Works that do not satisfy this requirement are not [copyrightable](#).

The U.S. Copyright Office will not register works produced by nature, animals, or plants. Likewise, the Office cannot register a work purportedly created by divine or supernatural beings, although the Office may register a work where the application or the [deposit copy\(ies\)](#) state that the work was inspired by a divine spirit.

Examples:

- A photograph taken by a monkey.
- A mural painted by an elephant.
- A claim based on the appearance of actual animal skin.
- A claim based on driftwood that has been shaped and smoothed by the ocean.
- A claim based on cut marks, defects, and other qualities found in natural stone.
- An application for a song naming the Holy Spirit as the author of the work.

Similarly, the Office will not register works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or

01/28/2021

COMPENDIUM OF THE U.S. COPYRIGHT OFFICE PRACTICES, Third Edition

intervention from a human author. [The crucial question is “whether the ‘work’ is basically one of human authorship, with the computer \[or other device\] merely being an assisting instrument, or whether the traditional elements of authorship in the work \(literary, artistic, or musical expression or elements of selection, arrangement, etc.\) were actually conceived and executed not by man but by a machine.” U.S. COPYRIGHT OFFICE, REPORT TO THE LIBRARIAN OF CONGRESS BY THE REGISTER OF COPYRIGHTS 5 \(1966\).](#)

‘Original’

- Difficulties

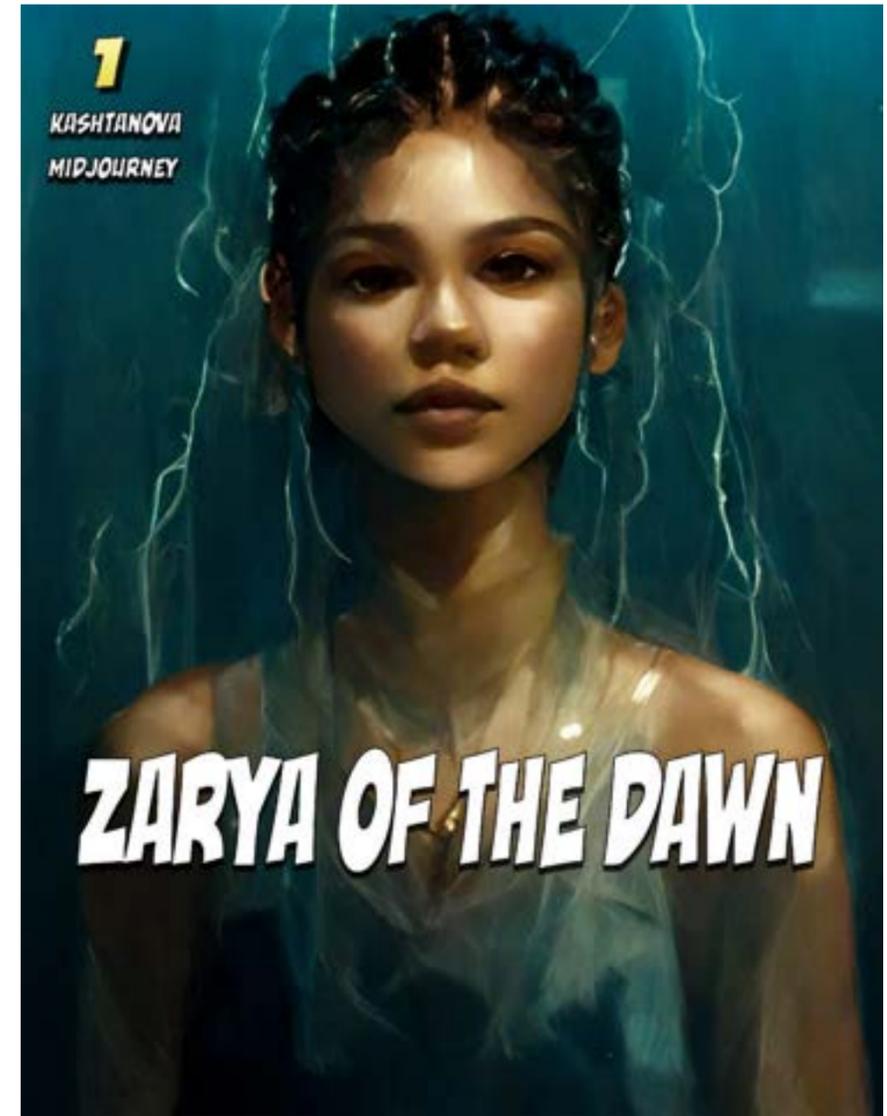
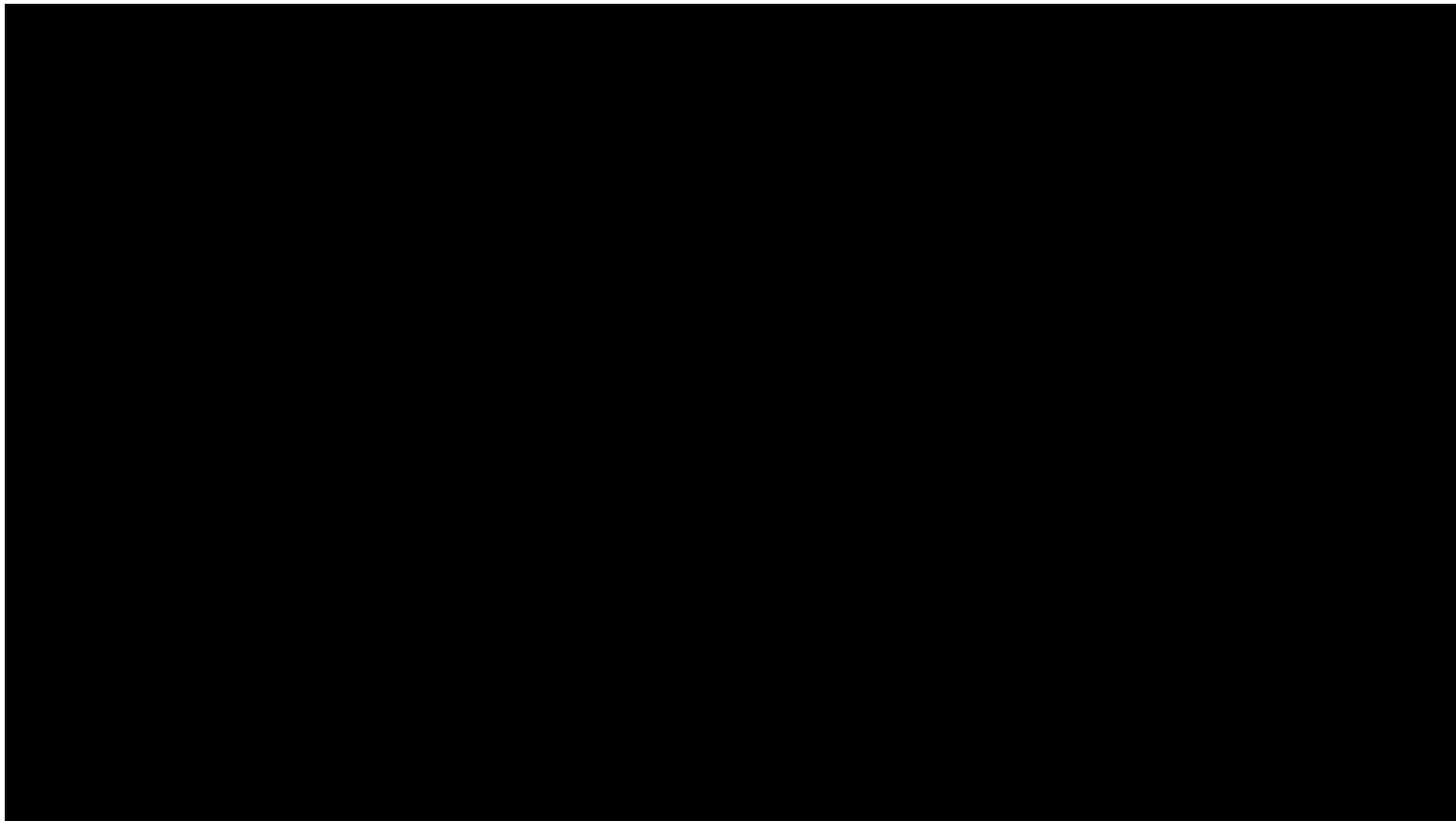
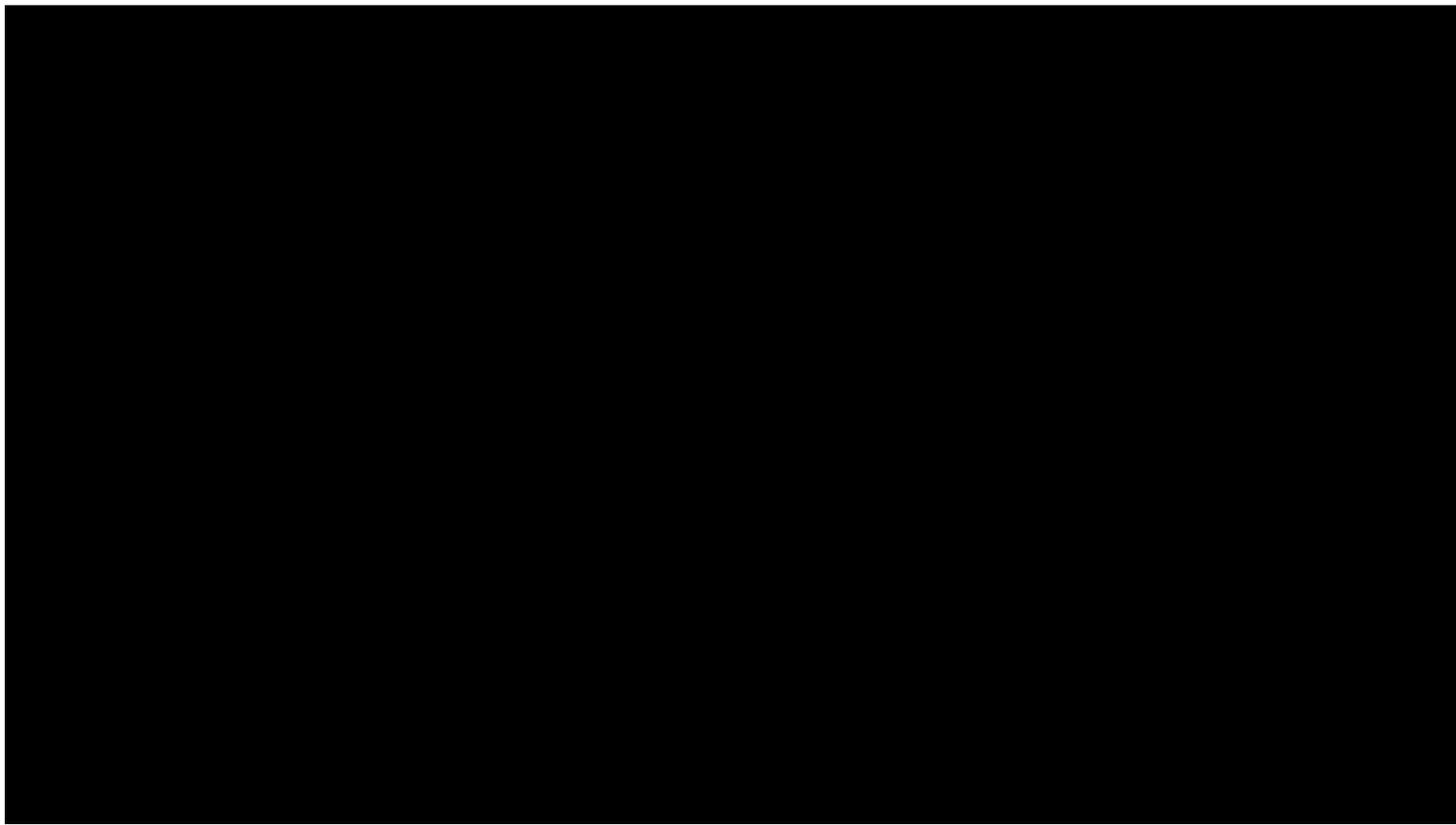
- Concept is vague *per se*
- Differs between works of imagination and those of industrious collection

- US

- Minimum degree of creativity (US Supreme Court in *Feist* rejected ‘sweat of the brow’)

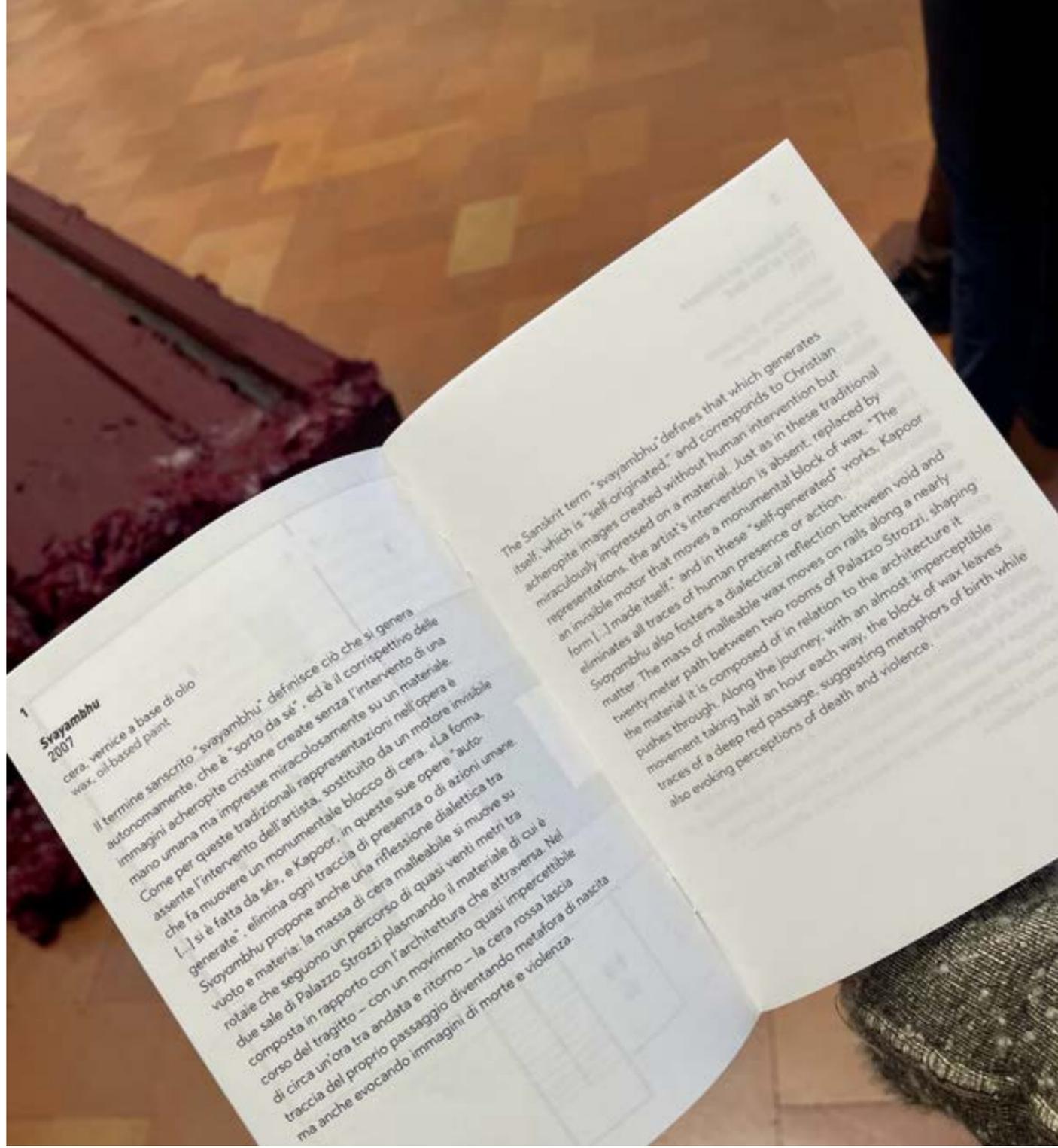
- EU

- ‘Author’s own intellectual creation’ for software, databases and photographs
- Now general EU standard (after *Infopaq*, C-5/08)











Issues for another time ... or not?

GENERATED BY A.I.







Create an image of Dua Lipa





Thanks for your attention!

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JUDICIARY OF
ENGLAND AND WALES

**Artificial Intelligence and Intellectual Property:
The Need for Legislative Reform**

(Lord Justice) Richard Arnold

**QMIPRI Annual Conference
AI Frontiers in Intellectual Property Law: Navigating the Future**

28 June 2024

Introduction

On 7 September 2020 the United Kingdom Intellectual Property Office issued a *Call for Views on Artificial Intelligence and Intellectual Property*, asking questions about patents, copyright and related rights, designs, trade marks and trade secrets, which ran until 30 November 2020 and received 92 responses.

On 23 March 2021 the UKIPO published the Government's response indicating that it would consult on possible changes to copyright law and patent law.

On 29 October 2021 the UKIPO launched a consultation on *Artificial Intelligence and Intellectual Property: Copyright and Patents* inviting responses by 7 January 2022 to questions concerning: (1) copyright protection for computer-generated works (CGWs), (2) exceptions to copyright and database right for text and data mining (TDM) and (3) patent protection for AI-devised inventions.

On 28 June 2022 the UKIPO published the Government's response following 88 written submissions and six roundtables. On topics (1) and (3) the Government proposed no change to the law. On topic (2) the Government proposed to introduce a new copyright and database right exception to allow TDM for any purpose.

Introduction

On 17 January 2023 the House of Lords Communications and Digital Committee issued a report entitled *At Risk: Our Creative Future* in which it recommended that the UKIPO should pause its proposed changes to the existing TDM regime immediately. On 1 February 2023 George Freeman MP, the Minister for Science, Research and Innovation, stated in a debate on AI in the House of Commons that the proposal to introduce a general TDM exception would not be proceeded with. (This is not mentioned on the UKIPO website.)

Thus there are no current proposals for any legislative response to the impact of artificial intelligence on intellectual property law.

Two years on from the Government's response to the UKIPO, the need for legislative intervention has become more apparent.

(The same is true in the EU, since the EU AI Act barely addresses IP issues.)

Overview

- 1. The UKIPO consultation revisited, focussing on topics (1) and (3).**
- 2. The Government's response.**
- 3. Copyright and CGWs.**
- 4. Computer-generated designs.**
- 5. Performers' rights.**
- 6. Patenting AI-generated inventions.**
- 7. The need for legislative reform.**

The UKIPO Consultation revisited: (1) copyright and CGWs

Section 9(3) Copyright, Designs and Patents Act 1988: “In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.”

Section 12(7): “If the work is computer-generated ... copyright expires at the end of the period of 50 years from the end of the calendar year in which the work was made.”

Section 178: “‘computer-generated’, in relation to a work, means that the work is generated by computer in circumstances such that there is no human author of the work”.

The UKIPO Consultation revisited: (1) copyright and CGWs

Having noted criticisms of these provisions, the Consultation sought views on three policy options:

Option 0: make no change to the law.

Option 1: remove protection for CGWs.

Option 2: replace current copyright protection with a new right of reduced duration and possibly scope, but retaining the authorship provision in section 9(3).

No option to clarify the existing law was offered.

The Consultation also noted that a parallel provision to section 9(3) applied to designs. It said that the UKIPO was not proposing any amendments to designs law, but would welcome views on the implications of the policy options for CGWs on the design system.

The UKIPO Consultation revisited: (3) patents and inventorship

Section 130(1) Patents Act 1977: “‘inventor’ has the meaning assigned to it by section 7 above”.

Section 7(3): “‘inventor’ in relation to an invention means the actual deviser of the invention”.

Section 7(2) provides that a patent may be granted (a) “primarily to the inventor or joint inventors”, (b) “to any person or persons who ...” or (c) “the successor or successors in title of any person or persons mentioned in paragraph (a) or (b) above”, but “to no other person”.

Section 7(4) creates a presumption that “a person who makes an application for a patent shall be taken to be the person who is entitled under subsection (2) above to be granted a patent”.

The UKIPO Consultation revisited: (3) patents and inventorship

On 21 September 2021 the Court of Appeal dismissed a second appeal by Dr Stephen Thaler against a decision of the Comptroller that two patent applications filed by him naming DABUS as inventor were deemed to have been withdrawn: *Thaler v Comptroller-General of Patents, Trade Marks and Designs* [2021] EWCA Civ 1374, [2022] Bus LR 375. The Court of Appeal held:

- 1. (Unanimously) DABUS did not qualify as an “inventor” within the meaning of the 1977 Act given that it was accepted by Dr Thaler that DABUS was not a person (whether natural or legal).**
- 2. (Arnold and Elisabeth Laing LJJ, Birss LJ expressing no view): Dr Thaler was not entitled to apply for patents in respect of the inventions given that they were made by DABUS.**
- 3. (Arnold and Elisabeth Laing LJJ, Birss LJ dissenting): The hearing officer had been correct to hold that, given the statements made by Dr Thaler regarding inventorship and his derivation of title in the Form 7s he filed in respect of the applications, the applications were deemed to have been withdrawn by virtue of section 13(2).**

The UKIPO Consultation revisited: (3) patents and inventorship

Having noted the Court of Appeal decision, the Consultation sought views on four policy options:

Option 0: make no change to the law, and continue to require a human inventor. Patents would remain available where AI tools are used by humans to invent.

Option 1: expand the understanding of “inventor” to include humans responsible for AI systems which devise inventions e.g. by defining “inventor” to include “the person by whom the arrangements necessary for the devising of the invention are undertaken” (cf. the definition of “computer-generated work” in section 9(3) CDPA 1988). This would mean that such a person would also be entitled to apply.

Option 2: allowing applications with AI systems as inventors, either by allowing AI to be named as the inventor or by removing the requirement to name an inventor if the invention is devised by AI. The rule on entitlement could be the same as for option 1, or could allow for legal persons to be entitled on a similar basis.

The UKIPO Consultation revised: (3) patents and inventorship

Option 3: protecting AI-devised inventions through a new type of protection (cf. utility models and petty patents). Such protection could e.g. have a stricter inventive step requirement or not include such a requirement at all. It could arise automatically (as with copyright) rather than requiring examination. It could be shorter in duration.

The Government's response: (1) copyright and CGWs

“19. Computer-generated works (CGWs) are copyright works without a human author. They are currently protected in UK copyright law. As part of our consultation, we asked if they should continue to be protected, and if so, how. ...

20. 61 written responses expressed a view on one or more of these issues. The majority favoured no change to the law (Option 0). Fewer respondents supported either of the other two options. Many, on all sides, said that there is little evidence of protection for CGWs having significant impacts at present.

21. We have decided to adopt Option 0: make no changes to the law. There is no evidence at present that protection for CGWs is harmful, and the use of AI is still in its early stages. As such, a proper evaluation of the options is not possible, and any changes could have unintended consequences. But we will keep the law under review and could amend, replace or remove protection in future if the evidence supports it.”

The Government's response: (1) copyright and CGWs

“27. We also asked about the implications of AI and our policy on CGWs on protection for designs. No significant concerns were raised about the implications of protecting AI-generated material on the designs system.”

The Government's response: (3) patents and inventorship

“63. We received 48 written responses that expressed a view on patents and AI inventorship. ... Respondents had mixed views on the options proposed in the consultation. The majority preferred no unilateral change in UK law for now (Option 0). ... The majority of respondents consider AI is an assistive tool. Many stated that inventions developed using AI are protected enough by the current law.

65. We have decided to adopt Option 0: make no changes to the law. There is no evidence that UK patent law is currently inappropriate to protect inventions being made using AI. We are also sensitive to concerns that unilateral change now, risks being counterproductive. So, we will advance international discussion so that inventions devised by AI are appropriately protected in the future.”

The Government's response: other issues raised by respondents

“82. Some respondents raised concerns about the impact of AI on performers. This includes concerns that computer-generated performances might replace human performers. ... There are also concerns that computer-generated performances provide greater opportunities for using performers’ images, voices or likenesses without permission. For example, in ‘deepfakes’. Some stakeholders called for an expansion of performers’ rights ion the Copyright, Designs and Patents Act 1988 to address these issues.

83. We take these views seriously. But, at this stage, the impacts of AI technologies on performers remain unclear. It is also unclear whether and how existing law (both in the IP framework and beyond it) is insufficient to address any issues. If intervention is necessary, the IP framework may not be the best vehicle for this. We will keep these issues under review from an IP perspective.”

Copyright and CGWs

Section 1(1) CDPA 1988: “Copyright is a property right which subsists in accordance with this Part in the following descriptions of work: (a) original literary, dramatic, musical or artistic works ...”.

The Court of Appeal confirmed in *THJ Systems Ltd v Sheridan* [2023] EWCA Civ 1354, [2024] ECDR 4 that “original” means that the work is its author's own intellectual creation. What is required is that the author was able to express their creative abilities in the production of the work by making free and creative choices so as to stamp the work created with their personal touch. This criterion is not satisfied where the content of the work is dictated by technical considerations, rules or other constraints which leave no room for creative freedom.

The problem is that section 9(3) CDPA 1988 is not expressed to be an exception to the requirement of originality in section 1(1)(a). There are two possibilities:

- 1. It is not an exception. This means that the work must be its author's own intellectual creation. But a CGW by definition has no human author. In those circumstances it is hard to see how the requirement for originality can be satisfied.**

Copyright and CGWs

- 2. It is (impliedly) an exception. This means that the work need not be original at all. Indeed, it could be entirely copied from one or more antecedent works. In those circumstances copyright would be conferred on a work that, if had been produced by a human author, would not attract copyright.**

The Government's response to the Consultation appears to assume that the correct answer is 2, which is not clear.

It also appears to assume that this answer is unproblematic, which is not clear either. Why should an unoriginal work attract protection at all? Why should a CGW produced at essentially zero cost be entitled to the same protection as a work produced by a human author for 50 years?

Computer-generated designs

Unregistered design right

Section 214(2) CDPA 1988: “In the case of a computer-generated design the person by whom the arrangements necessary for the creation of the design are undertaken shall be taken to be the designer.”

Section 263(1): “‘computer-generated’ , in relation to a design, means that the design is generated by computer in circumstances such that there is no human designer”.

Section 214(2) is not expressed to be an exception to section 213 which provides that design right subsists in an “original design”.

Current case law says that “original” in Part III of CDPA 1998 has same meaning as in Part I, but no case has tested whether the author’s own intellectual creation test applies given that that test derives from CJEU interpretation of the InfoSoc Directive and Part III is wholly domestic legislation. If it does, then the problem with section 214(2) is the same as with section 9(3). Even if it is the old “skill and labour” test, the problem is not much easier.

Computer-generated designs

Registered designs

Section 2(4) of the Registered Designs Act 1949: “In the case of a design generated by computer in circumstances such that there is no human author, the person by whom the arrangements necessary for the creation of the design are undertaken shall be taken to be the author.”

There is no requirement that designs be “original” in RDA 1949, but they must be “new” and have “individual character”. Novelty is no problem for CGDs since it is essentially a mechanical test.

Section 1B(4): “In determining the extent to which a design has individual character, the degree of freedom of the author in creating the design shall be taken into consideration.”

Section 2(4) is not expressed to be an exception to section 1B(4). If it is not, how is section 1B(4) to be applied if there is no human author? If it is an exception, how is the individual character of a CGD to be assessed?

Computer-generated designs

The Government's response to the Consultation appears to be assume that CGDs can be protected by unregistered design right and registered designs, but this is not clear, particularly for unregistered design right.

It also appears to assume that this is unproblematic, which is not clear either.

Performers' rights

Digital manipulation of audio/visual recordings has been possible for a long time, but AI has made the production of “deepfakes” increasingly easy.

Performers may have a remedy for infringement of performers' economic rights where a deepfake reproduces a substantial part of one or more existing recordings of their performances and there is no applicable exception (such as parody). In addition, distortion may infringe moral rights.

The advent of AI has enabled “performance synthetisation” which does not necessarily involve reproducing a substantial part of recording of any performance. For example, visual elements may be based on still photographs, which are not “films” and hence not recordings for the purposes of Part II CDPA 1988: sections 5B(1), 180(2), 211(1).

Imitation of a performance is not an infringement of performers' rights.

Performers' rights

This is of concern from many perspectives, but particularly to performers (e.g. it was one factor in the Screen Actors' Guild – American Federation of Television and Radio Artists strike in 2023).

Both the House of Lords Communications and Digital report and a Culture Media and Sport Select Committee report published on 30 August 2023 recommended improved protection for creatives, and at minimum bringing forward ratification of the Beijing Treaty on Audiovisual Performances.

On 14 September 2023 the UKIPO launched a *Consultation on the Options for Implementing the Beijing Treaty on Audiovisual Performances* with responses due by 9 November 2023. The Government's response is still awaited.

Since the United Kingdom largely complies with the Beijing Treaty already, ratification will make little, if any, difference to the problem posed by performance synthetisation.

Patenting AI-generated inventions

The Supreme Court recently confirmed the decision of the Court of Appeal in *Thaler v Comptroller-General of Patents, Trade Marks and Designs* [2023] UKSC 49, [2024] Bus LR 47.

The result is to deny patent protection for AI-generated inventions even if CGWs attract copyright and CGDs attract design protection.

The Government's response to the Consultation appears to assume that this is unproblematic, but does not really explain why patents should be different to copyright and designs in this respect.

The need for legislative reform

It is becoming increasingly clear that the issues posed by AI cannot all be solved by the courts using the existing out-dated legislative framework.

Policy choices are required which must then be expressed in new or amended legislation.

There are two main dimensions to the problem. The first is protecting human creators against AI. This is exemplified by the threat to performers by performance synthetisation.

The second dimension is to decide what protection, if any, should be afforded to AI-generated works, designs and inventions.

The first dimension is probably easier to solve than the second.

The need for legislative reform

In tackling the second dimension, we need to think about what we are trying to achieve and then how best to achieve it.

For example, the patent system has two main objectives: first, to incentivise technical innovation by applicants; and secondly, to encourage public disclosure of inventions so as to stimulate innovation by others.

Do AI systems need incentives? Do operators of AI systems? Is it innovation that needs incentivisation or is it e.g. safety testing?

How does the requirement of public disclosure work if an invention is made by machine learning, especially using non-public data, and how important is it?

If we try to fit AI-generated inventions into the existing patent system, how well will they fit e.g. how will the requirements of inventive step and sufficiency be applied?

If we create a new right, what limitations, exceptions and other safeguards are required? Should we avoid overlaps, and if so how?

QMIPRI Annual Conference 2024: AI Frontiers in Intellectual Property Law: Navigating the Future

27th - 28th June

The Ashworth Centre,
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Patenting inventions that use AI and those made with AI

- Patenting without strategy is the noise before defeat - patent strategy considerations for AI
- Why patenting AI is hard (or is it?) - how to get patents on AI technology in the UK and Europe
- Inventors inventing *with* AI - why nobody talks about the inventive contribution of microscopes or goats.

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AI Inventorship: Lessons from DABUS

28th June 2024

Duncan Matthews

Professor of Intellectual Property Law and Director
Queen Mary Intellectual Property Research Institute

Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)

DABUS (Device for
the **A**utonomous **B**ootstrapping
of **U**nified **S**entience)

GB18116909.4 “Food container”

GB181816.0 “Devices and Methods of
Attracting Enhanced Attention”



Creator of DABUS
Dr Stephen Thaler

Statement of inventorship and the right to grant of a patent in the United Kingdom

SCHEDULE 1
GENERAL FORMS

For official use

Your reference

Notes
Please type, or write in dark ink using CAPITAL letters. A prescribed fee is payable for a request for grant of a patent. For details, please contact the Patent Office.

Rule 16 of the Patents Rules 1990 is the main rule governing the completion and filing of this form.

Do not give trading styles, for example, "Trading as XYZ company", nationality or former names, for example, "formerly known as ABC Ltd" as these are not required.

Warning
After an application for a Patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977 and will inform the applicant if such prohibition or restriction is necessary. Applicants resident in the United Kingdom are also reminded that under Section 23, applications may not be filed abroad without written permission unless an application has been filed not less than 6 weeks previously in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction revoked.

The Patent Office
Request for grant of a Patent
Form 1/77 Patents Act 1977

1 Title of invention
1 Please give the title of the invention

2 Applicant's details
 First or only applicant
2a If you are applying as a corporate body please give:
Corporate name

Country and State of incorporation, if appropriate

2b If you are applying as an individual or one of a partnership please give in full:
Surnames
Forenames

2c **In all cases, please give the following details:**
Address

UK postcode if available
Country
ADP number if known

3 Inventorship
7 Are you (the applicant or applicants) the sole inventor or the joint inventors?
Please mark correct box
Yes No **A Statement of Inventorship on Patents Form 7/77 will need to be filed (see Rule 15).**

4 Checklist
8a Please fill in the number of sheets for each of the following types of document contained in this application.
Continuation sheets for this Patents Form 1/77
Claims Description
Abstract Drawings

8b Which of the following documents also accompanies the application?
Priority documents (please state how many)
Translation(s) of Priority documents (please state how many)
Patents Form 7/77 – Statement of Inventorship and Right to Grant (please state how many)
Patents Form 9/77 – Preliminary Examination/Search
Patents Form 10/77 – Request for Substantive Examination

5 Request
We request the grant of a patent on the basis of this application.

Signed _____ Date _____ day month year

Please return the completed form, attachments and duplicates where requested, together with the prescribed fee to:
 The Comptroller
The Patent Office

Notes:
The answer must be 'No' if:
• any applicant is not an inventor
• there is an inventor who is not an applicant, or
• any applicant is a corporate body.

Please supply duplicates of claims, abstract, description and drawings!

Please mark correct boxes!

You or your appointed agent (see Rule 90 of the Patents Rules 1990) must sign this request.

Please sign here →

A completed fee sheet should preferably accompany the fee.

Section 7 UK Patents Act

7 Right to apply for and obtain a patent.

- (1) Any person may make an application for a patent either alone or jointly with another.
- (2) A patent for an invention may be granted—
 - (a) primarily to the inventor or joint inventors;
 - (b) in preference to the foregoing, to any person or persons who, by virtue of any enactment or rule of law, or any foreign law or treaty or international convention, or by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it (other than equitable interests) in the United Kingdom;
 - (c) in any event, to the successor or successors in title of any person or persons mentioned in paragraph (a) or (b) above or any person so mentioned and the successor or successors in title of another person so mentioned;and to no other person.
- (3) In this Act “inventor” in relation to an invention means the actual deviser of the invention and “joint inventor” shall be construed accordingly.
- (4) Except so far as the contrary is established, a person who makes an application for a patent shall be taken to be the person who is entitled under subsection (2) above to be granted a patent and two or more persons who make such an application jointly shall be taken to be the persons so entitled.

Section 13 UK Patents Act

13 Mention of inventor.

- (1) The inventor or joint inventors of an invention shall have a right to be mentioned as such in any patent granted for the invention and shall also have a right to be so mentioned if possible in any published application for a patent for the invention and, if not so mentioned, a right to be so mentioned in accordance with rules in a prescribed document.
- (2) Unless he has already given the Patent Office the information hereinafter mentioned, an applicant for a patent shall within the prescribed period file with the Patent Office a statement—
 - (a) identifying the person or persons whom he believes to be the inventor or inventors; and
 - (b) where the applicant is not the sole inventor or the applicants are not the joint inventors, indicating the derivation of his or their right to be granted the patent;and, if he fails to do so, the application shall be taken to be withdrawn.
- (3) Where a person has been mentioned as sole or joint inventor in pursuance of this section, any other person who alleges that the former ought not to have been so mentioned may at any time apply to the comptroller for a certificate to that effect, and the comptroller may issue such a certificate; and if he does so, he shall accordingly rectify any undistributed copies of the patent and of any documents prescribed for the purposes of subsection (1) above.

The Hearing Officer's Decision



BL O/741/19
04 December 2019

PATENTS ACT 1977
(THE PATENTS RULES 2007)

APPLICANT

Stephen L Thaler

ISSUE

Whether the requirements of section 7 and 13 concerning the naming of inventor and the right to apply for a patent have been satisfied in respect of GB1816909.4 and GB1818161.0

HEARING OFFICER

H Jones

DECISION

High Court Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent) 21 September 2020

Mr Justice Smith identified two sets of issues:

1. Who has the right to apply for and obtain a patent under section 7 of the UK Patents Act?
2. Does the inventor have right to be mentioned in a patent granted and in any possible published application?

Decision:

1. DABUS is not a person and cannot make an application for a patent.
2. Whatever the meaning of the the term "inventor", a patent can only be granted to a person because only a person can hold (and transfer) property.

Court of Appeal Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)

21 September 2021

Lord Justices Arnold, Lady Justice Elisabeth Laing & Lord Justice Birss focussed on three questions:

1. Can DABUS be an inventor within the meaning of the Patents Act 1977?
2. Can Dr Thaler apply for patents in respect of the DABUS inventions?
3. Was the IPO right to consider the applications were withdrawn under section 13 of the Patents Act?

Court of Appeal Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)

21 September 2021

Decision:

1. DABUS cannot be an inventor within the meaning of the Patents Act 1977.
2. In making a statement under section 13(2), an applicant need only indicate who they believe to be the inventor and the application for a patent will not be rejected for unknown errors.
3. Lord Justice Birss alone considered that Dr Thaler had submitted a statement to the best of his belief and nothing more was required.

Court of Appeal Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)

21 September 2021

Majority decision:

Lord Justice Arnold and Lady Justice Elisabeth Laing considered that while a substantive review of the accuracy of any submissions of information under section 13(2) is not necessary, that is quite different to allowing a statement to pass which is clearly not accurate in its face.

Since Dr Thaler did not mention any inventor, about the inventor, he did not meet the requirements under section 13(2) and it is a case of looking at the document at face value to decide that the requirements for the grant of a patent had not been met.

Supreme Court Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)

20 December 2023

The outcome of the appeal turned on three issues:

1. The scope and meaning of “inventor” in the 1977 Act.
2. Whether Dr Thaler was nevertheless the owner of any invention in any technical advance made by DABUS and entitled to apply for and obtain a patent in respect of it.
3. Whether the Hearing Officer was entitled to hold that the application would be taken to be withdrawn.

Supreme Court Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)

20 December 2023

Decision:

1. The Comptroller was right to decide that DABUS is not and was not an inventor of any new product or process described in the patent applications.
2. Dr Thaler was not entitled to file applications or obtain the grant of patents for the invention due to his ownership of DABUS.
3. The Hearing Officer was entitled to hold that the application was withdrawn at the expiry of the 16-month period in rule 10(3) of the Rules.

Reflections on the Supreme Court decision in *Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)*

Lord Justice Kitchen stated during the hearing;

1. It is difficult to understand that Dr Thaler, who sent the AI on its inventive process, cannot be named as an inventor. Dr Thaler programmed the machine, put it on its track and the machine came up with these two inventions, just as he thought it would.
2. The Hearing Officer held that the invention was made by a machine so here there is no person who is the inventor within the meaning of section 13(2).
3. If the inventor is not a person, shouldn't the answer be the closest person?

Reflections on the Supreme Court decision in *Thaler (Applicant) v Comptroller General of Patents, Designs and Trademarks (Respondent)*

Counsel for Dr Thaler, Professor Ryan Abbott stated during the hearing;

1. It would be a misrepresentation for Dr Thaler to claim that he is the actual devisor.
2. The IPO's answer is 'just list someone, it doesn't matter, and we won't check it'.
3. Our submission is that when there is no human inventor, then name no-one and that is what we have done.

UK Government consultation on AI & IP

For AI-devised inventions we plan no change to UK patent law for now. Most respondents felt that AI is not yet advanced enough to invent without human intervention. But we will keep this area of law under review to ensure that the UK patent system supports AI innovation and the use of AI in the UK.

We will seek to advance AI inventorship discussions internationally to support UK economic interests.

Source: UK Government consultation outcome on AI and IP, 28 June 2022.

Thank you for your attention

**Professor Duncan Matthews
Queen Mary Intellectual Property Research Institute**

**With thanks to Gertrud Metsa
Doctoral Associate
Queen Mary Intellectual Property Research Institute
for research assistance**

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AI AND INVENTORSHIP

QMIPRI Conference - Dr Francesca Mazzi

Francesca.mazzi@brunel.ac.uk

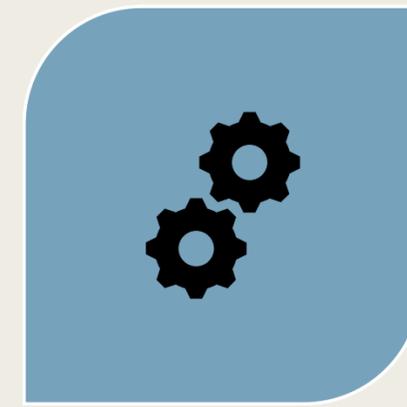
Artificial Intelligence and Inventorship



AI AND INVENTORSHIP:
OVERVIEW



THE USPTO GUIDELINES



DISCUSSION

AI AND INVENTORSHIP: OVERVIEW



AI DEFINITION

1) A suggested unified definition frames AI as “an engineered system that can, for a given set of human-defined objectives, generate outputs – such as content, predictions, recommendations, or decisions – learn from historical data, improve its own behaviour, and influence people and environments”.

- Floridi, Luciano, On the Brussels-Washington Consensus About the Legal Definition of Artificial Intelligence (December 3, 2023). Philosophy & Technology, 2023,

2) “The art of creating machines that perform functions that require intelligence when performed by people.”

- (Kurzweil, 1990)



INVENTORSHIP

Who is the inventor?

- European Patent Convention - National Discretion
- Interpretation of countries – different jurisdictional approaches

Why is it relevant?

- Link with ownership
- Moral rights & IP theories
- Invalidation of patent in the US



ONGOING DEBATE



Lack of Consensus on AI as Inventors: The USPTO, along with other patent offices like the European Patent Office and the UK Intellectual Property Office, have rejected the notion of AI systems being named as inventors ([Engel, 2020](#)).



Proposals for Modernising Patent Law: call for Congress to modernise the Patent Act to address AI-assisted or AI-created inventions. (e.g. identification system requiring the disclosure of AI involvement in invention) ([Wicklund, 2023](#)).



International Perspectives and Precedents: In 2021, South Africa and Australia recognised AI as inventors (temporary decision) - harmonisation in patent laws ([Thaldar & Naidoo, 2021](#)).



Legal and Policy Implications: Allowing AI inventorship does not necessarily grant AI legal personhood but rather suggests that the ownership of patents could be attributed to the entities operating the AI. ([Matulionyte & Lee, 2022](#)).

AI LIFECYCLE

AI: umbrella term, multiple approaches and categories. Common stages of the AI lifecycle:

Problem Definition

Data Collection

Data Pre processing

Model Selection

Model Training

Model Evaluation

Model Deployment

Monitoring and Maintenance

Retire or Iterate



THE HUMAN CONTRIBUTION

In every stage of the AI lifecycle there are different levels of human contribution involved

Examples:

- **Problem Definition:** the identification of the purpose of the AI comes from the human behind the AI, i.e. programmer, owner, investor, etc.
- **Model Selection:** Data scientists and machine learning engineers choose the appropriate algorithm or model architecture.



AI-ASSISTED INVENTIONS

Not
autonomously
created by AI

Level of human
contributions:
qualitative
evaluation?

Margin for co-
inventorship?



THE USPTO GUIDELINES



THE USPTO GUIDELINES

Background

The USPTO's AI/ET Partnership was formed to address issues at the intersection of AI and patent law.

Engagements include various events and listening sessions to gather input from stakeholders regarding AI and inventorship.

The Federal Circuit's decision in *Thaler v. Vidal* affirmed that only natural persons can be named as inventors.

The Executive Order mandates the USPTO to publish guidance on AI-assisted inventorship.



THE USPTO GUIDELINES

■ Inventorship Guidance:

AI-assisted inventions are not unpatentable if the significant contributions are made by natural persons.

The focus is on human contributions, evaluated through the Pannu factors.

A natural person is an inventor of an AI-assisted invention if that natural person would qualify as a joint inventor had he/she/they developed the invention with another natural person instead of the AI.

Only natural persons can be listed as inventors.

■ Pannu Factors:

First Factor: Significant contribution to the conception or reduction to practice.

Second Factor: Contribution must be significant in quality relative to the full invention.

Third Factor: The contribution should be more than just explaining well-known concepts or the current state of the art.



The Pannu Factor – example 1

- **Facts:** Engineers Ruth and Morgan prompted an AI system (Puerto5) to create a preliminary design for a transaxle. The AI system provided a design, which Ruth and Morgan reviewed and agreed would work for their RC car.
- **Analysis:**
 - **Recognized a Problem:** Identifying the need for a transaxle does not rise to the level of conception (Guiding Principle 2).
 - **Prompting the AI System:** Merely restating the problem in the prompt without inventive input is not a significant contribution.
 - **Reviewing AI Output:** Simply recognizing and appreciating the AI's output without further contribution does not qualify as inventorship (Guiding Principle 3).
- **Outcome:** Ruth and Morgan were not considered joint inventors because their contributions did not satisfy the Pannu factors.



The Pannu Factor – example 3

- **Facts:** Ruth and Morgan prompted the AI system for alternative designs and then experimented to create a new design. Morgan designed a clip fastener for the new design.
- **Analysis:**
 - *Use of AI System:* A natural person's use of an AI system does not negate their contributions as an inventor (Guiding Principle 1).
 - *Significant Contributions:*
 - The new design and clip fastener were significant contributions to the invention (First Pannu Factor).
 - Experimentation led to a specific arrangement and design, integral to the claimed invention (Second Pannu Factor).
 - Contributions were not just explanations of the current state of the art (Third Pannu Factor).
- **Outcome:** Ruth and Morgan were considered the proper inventors as their contributions satisfied all three Pannu factors.



THE USPTO GUIDELINES - TAKEAWAYS

- **Recognition of Problems and Prompts:**

Simply identifying a problem or creating a generic prompt for an AI system is not sufficient for inventorship. There must be a significant inventive contribution beyond recognizing issues and providing basic inputs.

- **Reduction to Practice:**

Building or implementing an invention based on an AI's output does not constitute a significant contribution. Inventorship requires more than just following instructions or selecting common materials.

- **Significant Contributions:**

Inventors must make substantial contributions to the conception or key elements of the invention. This can include designing specific components or developing novel solutions based on AI outputs.



DISCUSSION



CONTEXT: USPTO GUIDELINES AND EXECUTIVE ORDER

The USPTO guidelines align with the legal requirement that only natural persons can be inventors as stipulated in 35 U.S.C. 100(f) and 35 U.S.C. 115. This is consistent with the Executive Order's directive to ensure AI systems are developed and used safely and responsibly, integrating robust oversight mechanisms.

Both documents aim to promote **responsible AI innovation**. The Executive Order: competitive and fair ecosystem for AI development – The USPTO guidelines: human contributions adequately recognised, encouraging responsible innovation and patent practices.

The emphasis on human inventorship aligns with the Executive Order's principle that AI **should augment human capabilities rather than replace them**.

Still, **not a requirement to disclose**. And potential difficulties of applying the *Pannu* factors at a practical level...

REACTIONS

The **U.S. Chamber of Commerce** asked for more examples, especially on the second *Pannu* factor, which requires that inventors make a contribution that is not insignificant when measured against the full invention → see **definition of AI: output that normally would require human intellect.**

Stephen Y. Chow disagrees with using the Pannu factors for ex ante inventorship eligibility reviews, arguing they were developed for post-patenting challenges and are not suitable for pre-patenting processes. **Conception** involves forming a definite and permanent idea of the complete invention, which may not always be clear in collaborative or AI-assisted efforts. AI contributions **disclosed but not listed** as inventors. This includes detailing how AI was used to generate, screen, or refine inventions.

The **Center for Strategic & International Studies (CSIS)** and the **Special Competitive Studies Project (SCSP)**: USPTO must clearly **define what constitutes an AI system** as opposed to other computing tools. The USPTO's application of joint inventorship law to the AI-assisted invention context is troublesome because it **compares the levels of contribution from AI systems and humans**, making it more difficult for a human to qualify as an inventor simply for the type of computing tool chosen to develop an invention.

Pannu Factors applicability to AI-Generated Inventions

Human Contribution Verification

- **Significant Contribution:** For AI-generated inventions, it must be determined whether the human input involved in training or directing the AI significantly contributed to the invention's conception → **What about human-AI collaboration in prompting the problem?**
- **Quality of Contribution:** The human input should be measured against the overall invention to assess its importance → **Isn't the human contribution qualitatively superior by default, because it qualifies for protection as truly "intellectual"?** Coherence with the jurisprudence? *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994) *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998) ("Because '[c]onception is the touchstone of inventorship,' each joint inventor must generally contribute to the conception of the invention.") (quoting *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1227-28 (Fed. Cir. 1994))

Challenges:

- **Defining AI's Role:** Determining the extent of AI's autonomous input versus human oversight can be complex.
- **Transparency:** Clear documentation of human and AI roles in the inventive process is necessary to establish inventorship accurately. **Still – not legally required!**
- **Legal Precedents:** Existing legal frameworks are **designed for human inventors**, and adapting these to include AI contributions without explicit guidelines can lead to inconsistencies.

Pannu Factors applicability to AI-Generated Inventions

Technology considerations:

- **Inconsistency:** The guidance does not justify why the *Pannu* factors should be applied specifically to AI-assisted inventions but not to other tool-assisted inventions.
- **Generative vs. Non-Generative AI:** The guidance does not differentiate between generative AI, which operates similarly to humans, and non-generative AI, which functions like traditional tools, yet applies the *Pannu* factors to all AI-assisted inventions indiscriminately.

Joint Inventorship and Sole Inventorship:

- **Natural Person Requirement:** The guidance emphasises that an inventor must be a natural person because the patent statute refers to an "individual," meaning a human.
- **AI's Inability to Conceive:** AI cannot be considered an inventor as it lacks the capacity for "conception" required for inventorship → see the first stage of AI lifecycle.
- **Sole Inventorship:** When a human invents something with AI assistance, the human is considered the sole inventor, not a joint inventor, because joint inventorship is only applicable among natural persons.

SO WHAT?

- *Human-based parameters for co-inventorship: the appropriate angle to address AI-assisted inventions?*
- *Risk of inventorship issues jeopardising worthy inventions – not aligned with the patent rationale!*
- *Guidelines not binding - Substantive law primacy, i.e., the Patent Act in view of decisions by the U.S. Supreme Court and the Court of Appeals for the Federal Circuit.*
- *A look at the future: what about the next technology, or level of computing power? Would the Pannu factors be adequate? (NO)*
- *Implications: trade-offs and optimal balance?*
- *Risk of substantial international differences – legal uncertainty and impact on global trade.*





THANK YOU!

Dr Francesca Mazzi

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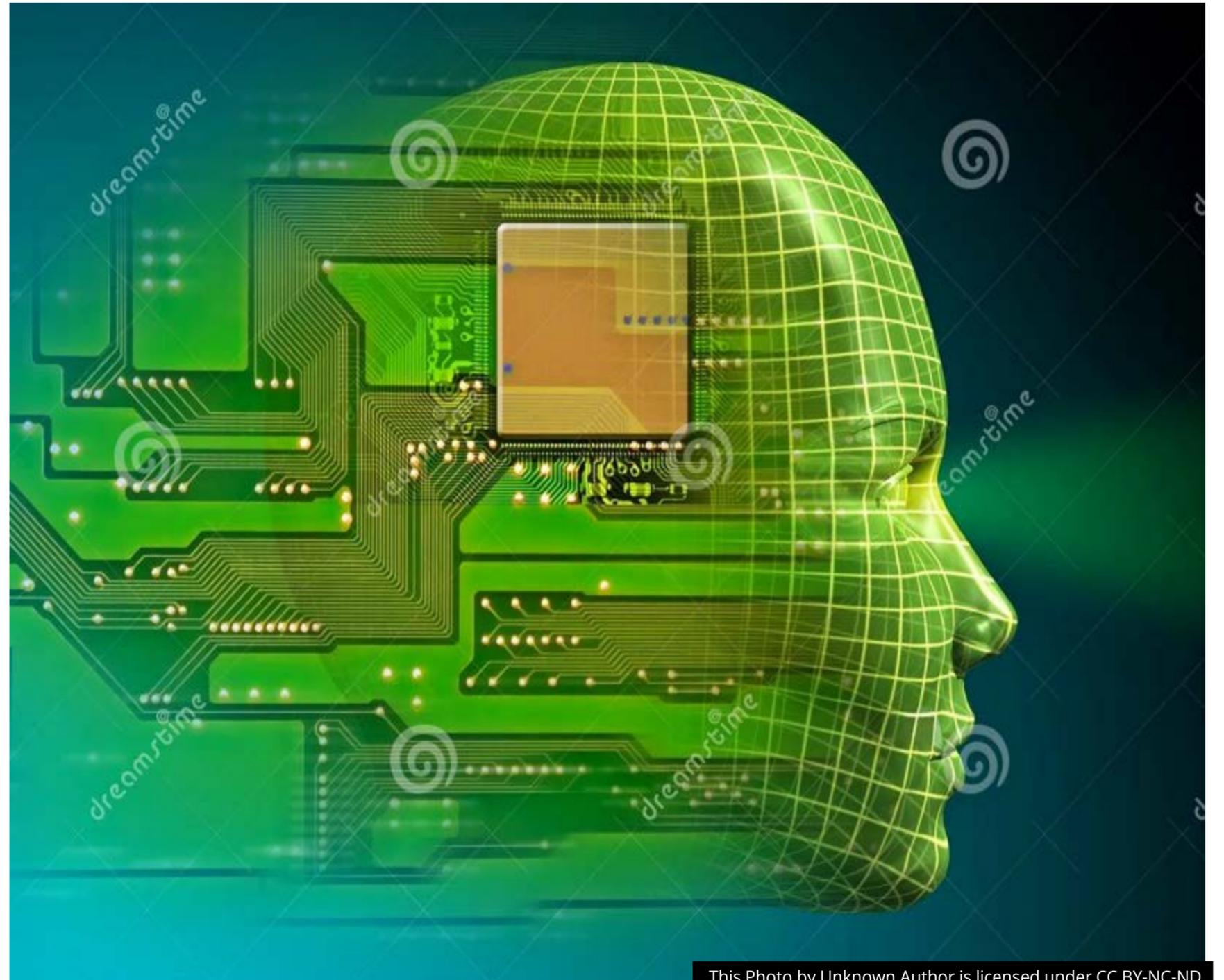


TRANSPARENCY OF AI AND TRADE SECRETS

IN THE CONTEXT OF EU'S ARTIFICIAL INTELLIGENCE ACT

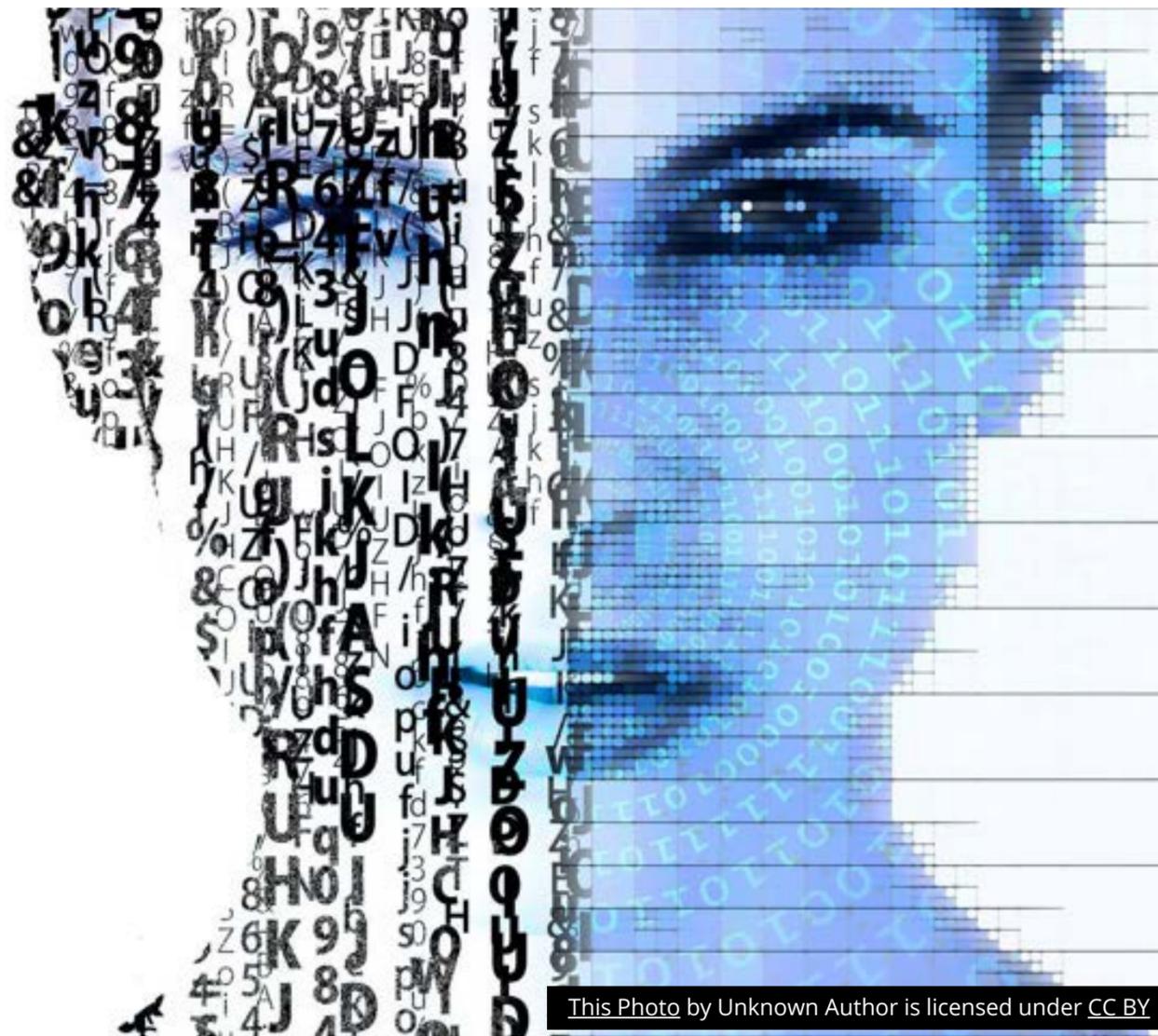
Ulla-Maija Mylly

Academy Research Fellow, Associate
Professor, Hanken School of
Economics



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Objectives for Access to information / Transparency under administrative laws

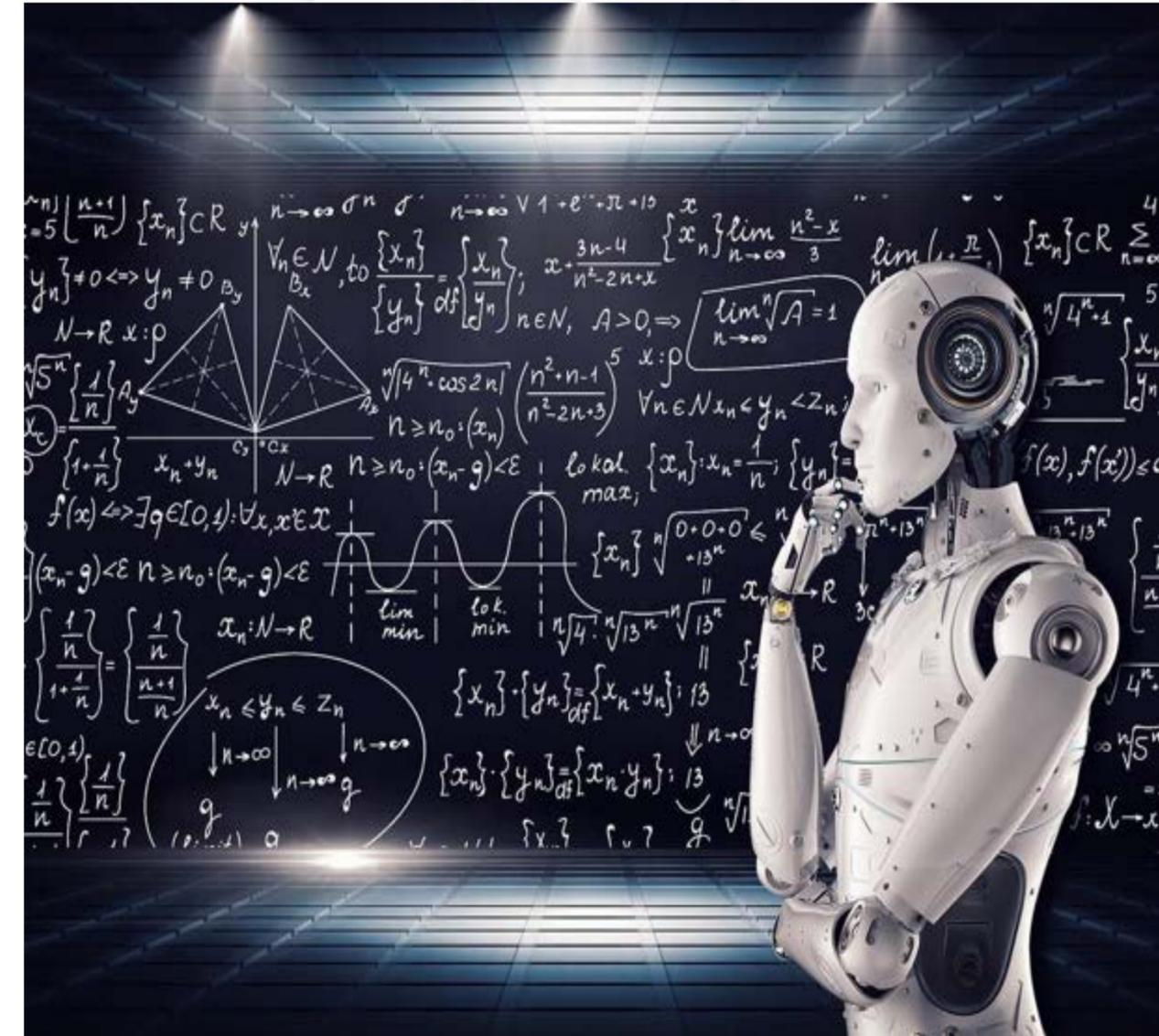


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- + enable participation and influence;
- + carry out control and accountability;
- + support freedom of expression,
- + strengthen the legitimacy of official activities,
- + make use of public information resources.
- + These objectives are important part of democratic societies and supported also by fundamental rights instruments

Objectives in AIA: Development of **human centric**, trustworthy and ethical AI

- + Protection of health, safety and fundamental rights
- + Examples of mandatory requirements for high-risk AI systems
 - Risk management systems
 - the quality of data sets used,
 - technical documentation and record-keeping,
 - transparency and the provision of instructions/ information to deployers of AI systems,
 - human oversight possibilities
 - robustness, accuracy and cybersecurity



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The objectives of mandatory requirements under AIA

+ High **data quality** ensures that AI system does not become a source of **discrimination**

+ Training, validation and testing data should be to the best extent possible free of errors AIA rules

+ also enable **bias monitoring**, detection and correction

+ Protection of fundamental rights!

+ **Human oversight** Individuals remain aware of the possible tendency of automatically relying or over-relying on the output produced by a high-risk AI system (**'automation bias'**)

+ in particular for high-risk AI systems used to provide information or recommendations for decisions to be taken by natural persons

+ Emphasis on AI literacy of the deployer of an AI system

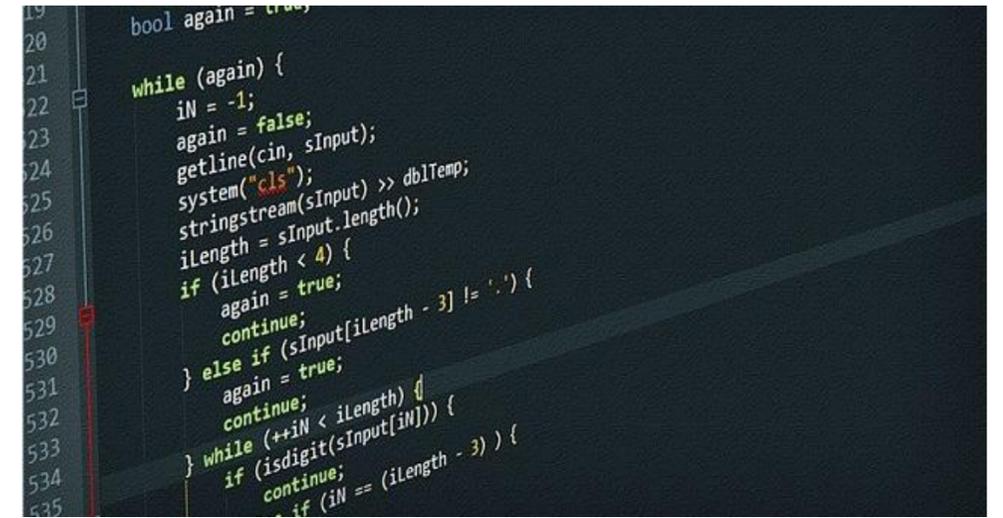
+ providers need to give sufficient instructions for deployers of AI system

- Limitations of a system etc.

- How AI systems have been trained

The requirements for Technological Documentation

- + the design specifications of the system: **the general logic of the AI system and of the algorithms;**
 - AIA later have references to source code
 - + the key design choices including the rationale and **assumptions made,**
 - + the main classification choices; what the system is designed to optimise for and the relevance of the different parameters;
 - + assessment of **the human oversight measures needed**
 - + During the use: record keeping; logs
- *****
- + **FOR GENERAL PURPOSE AI MODELS** (and such models with systemic risks) specific rules on documentation
 - contains also copyright related compliance rules
 - Summary of the **content used for training** shall be publicly available
 - Information on training and testing process
 - Some technical documentation requirements are excused if model is provided as free and open source



To whom the technological information is given

I Ex ante conformity assessment

A. SELF ASSESSMENT: AI PROVIDER

- + In most of the situations AI provider may rely on self-assessment
- + Presumption of conformity **if in compliance with a standard**

*

B. THIRD-PARTY CONFORMITY ASSESSMENT (NOTIFIED BODIES)

- + E.g. when AI is a remote biometric identification system, and it is not in compliance with a standard

- + If already existing conformity assessment requires a third-party assessment (e.g. certain medical devices, machinery, toys)
 - o AI is e.g. safety component in these

II Ex post conformity assessment

C. PUBLIC AUTHORITIES MARKET SURVEILLANCE AUTHORITIES

- + Receive reports of **serious incidents**
- + and when sufficient reasons to consider that an AI system presents risk to health, safety or fundamental rights
- + If necessary: **Access to source code** (limited right)

D. EU COMMISSION

- + National competent authorities inform Commission about serious incidents (and some other cases)

+ E. GENERAL PURPOSE AI MODELS are under the AI Office (EU Commission): specific rules

- + Summary of the content used for training shall be publicly available
- + Technical documentation when requested by AI office

Protection of trade secrets and IPRs

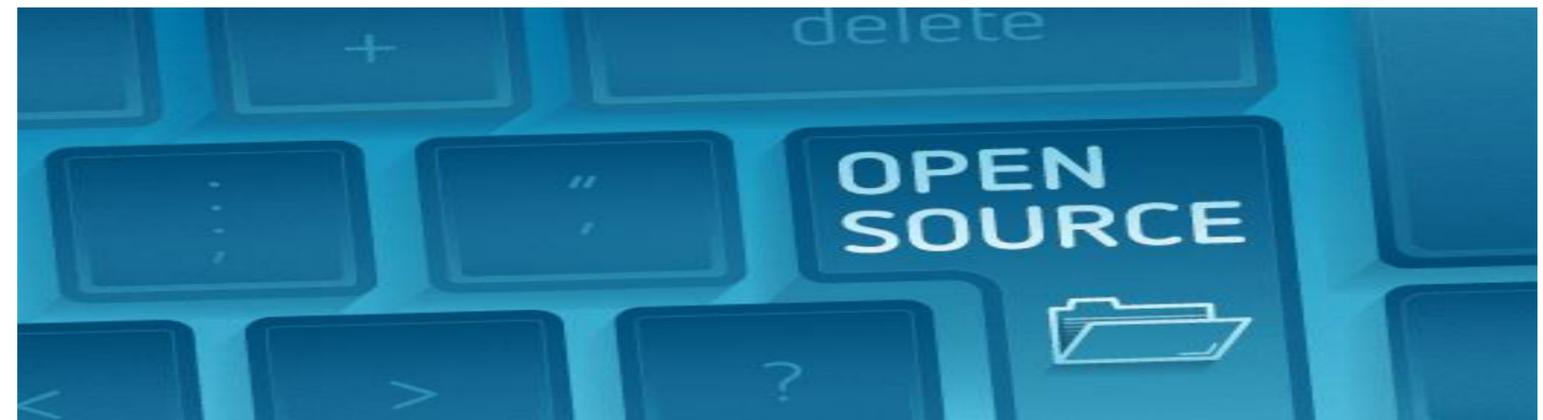
- + AIA Art 78: The Commission, market surveillance authorities and notified bodies and any other natural or legal person...shall respect the confidentiality of information and data obtained in carrying out their tasks
- + They shall protect, in particular:
- + intellectual property rights, and **confidential business information OR trade secrets, including source code,**
- + except in the cases referred to in Article 5 of TSD



Scope of trade secret protection

- + cumulative requirements under the TSD must be met in order to receive protection
 - Secrecy: not generally known (this means in relevant industry circles)
 - Commercial value **due to secrecy**
 - Reasonable steps (for example contracts)
- + Even complex AI systems may contain big amount of information that does not qualify for trade secret protection
 - E.g. AI training data sets may utilize data and information that is gathered from the publicly available sources.
 - Use of pre-existing software modules (or under open source)

- + Specific issue under the AIA is the **importance of standards**
 - Source code does not necessarily qualify for protection (in its entirety)
- Incentives for General purpose AI models to be provided **as free and open source**
- + Transparency to users related to training data



Exceptions for trade secret protection

- + AIA refers in Art 78 to the Trade Secrets Directive Article 5 "exceptions" as applicable
- + Freedom of expression 5(a)
 - to receive and impart information
 - One aspect is media freedom and investigative journalism
- + Whistleblowers 5(b)
 - the protection of trade secrets should not extent to cases in which **disclosure of a trade secret serves the public interest**, insofar as directly relevant misconduct, wrongdoing or illegal activity is revealed
 - Could cover situations where insider informants in AIA's compliance assessment bodies /AI suppliers would reveal information (self assessment not done diligently?)
 - AIA refers also directly to whistleblower directive! (art 87)



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Exception 5(d) under the TSD

- + Article 5(d) allows disclosures “for the purpose of protecting a legitimate interest recognised by Union or national law”
- + Article 1(2) provides that the TSD should not affect the application of Union or national rules that
- + require **the disclosure** of information, including **trade secrets**, to the public or to public authorities **or require any subsequent disclosure by those public authorities** of relevant information to the public
- + Transparency Regulation (EC) No 1049/2001 is referred to in the TSD recitals (Access to documents Regulation)
- + EU institutions, under AIA relevant EU institutions are e.g. Commission and AI office, which is a body under the Commission
- + EU Charter rights “the right to good administration”, and “the access to files”
- + These rules and rights are connected to the freedom of expression

Access information held by public authorities

- + EU Transparency regulation/access to documents; similar type of national level legislations
- + **Threats of the AI** are to be scrutinized by public authorities in cases where High-risk AIs **pose a risk to safety, health or FUNDAMENTAL RIGHTS;**
- + **or there has been a serious incident**
 - Information to the Commission
- + One may assume that **in these cases there is also strong public interest in such information**
- + General public have a possibility to have oversight for public authorities' activities through access to documents (all citizens and legal entities)
- + **GENERAL PURPOSE AI MODELS** are under the AI Office (EU Commission): specific rules



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Public authorities' decisions on access to documents v. confidentiality

- + C-175/18 PPTC Therapeutics International: The CJEU held **IN FAVOR TO ACCESS TO DOCUMENTS,**
- + **SHOULD BE APPLICABLE AS WIDELY AS POSSIBLE**
- + exceptions (relating to commercial interests /confidentiality) to that should be construed narrowly.
- + the risk of the commercial interest being undermined must be reasonably foreseeable and must not be purely hypothetical.
- + A party needs to precisely **identify** which **information, if disclosed, could harm its commercial interests**
- + The power to decide whether commercial interest exception is applicable is on public authorities
- + **If exception applicable,**
 - o **balancing of interest** between public interest for the disclosure v. confidentiality



Comments & Questions

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Adapting for EU AI Act

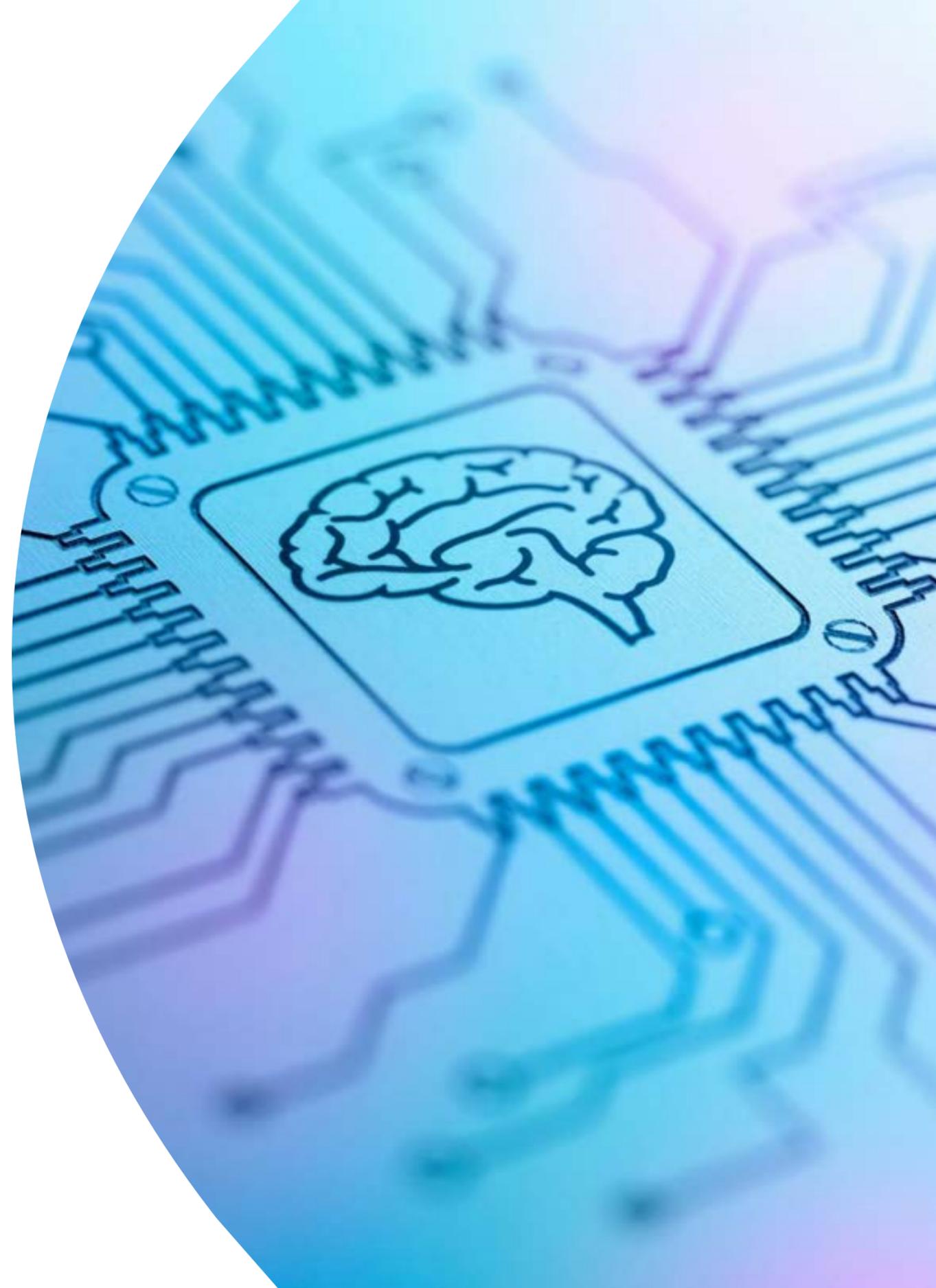


Patenting
hidden AI

Using trade
secrets

Reasons to keep hidden AI as a trade secret

- AI is a “black box”
- No need and no wish to reveal technology that can remain on the cloud/be locally stored for remote use
- Chances of patenting AI lower than average due to exclusion of software and mathematical methods and business methods from patentability in Europe, UK and the States
- Infringement difficult to prove
- Patenting expensive compared to trade secrets, but careful!



Reasons to patent hidden AI – looking to the future

- Trustworthiness and explainable AI
- Increasing detectability over time?
- Increasing standardisation
- Evidencing and attracting investment
- Use of Open-source software



A balance between patents and trade secrets



**Patent
application**

**Trade
secret**



Then along comes the EU AI Act

- Reach outside the EU
- Tiered risk approach
- High Risk = monitoring, transparency, documentation of compliance, impact assessments, conformity assessment
- High Risk = much more difficult to keep innovation secret
- Is my invention high risk?
- Voluntary Code of Conduct?



A balance between patents and trade secrets



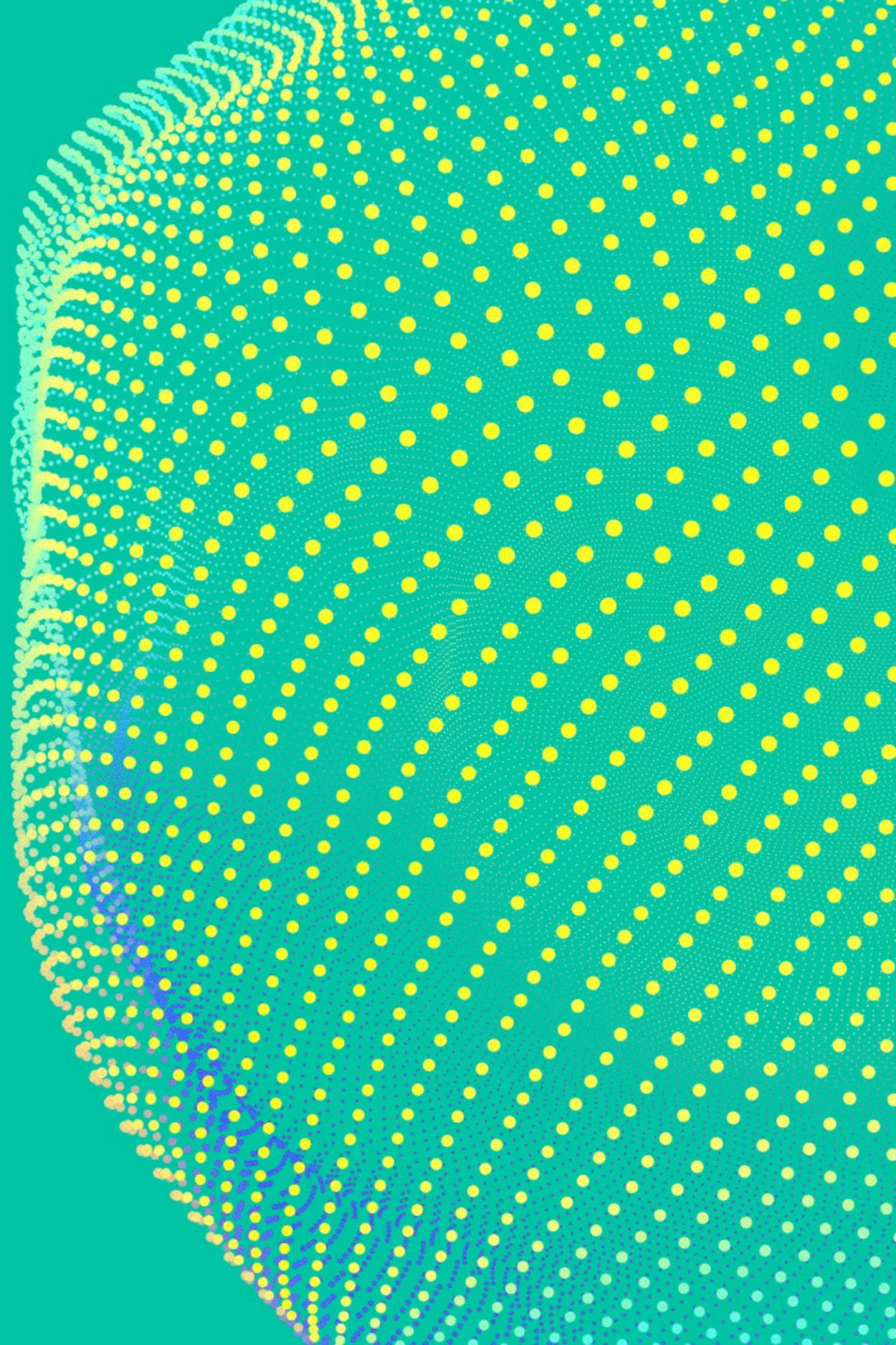
**Patent
application**

**Trade
secret**





Thank you!



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QMIPRI CONFERENCE 24th JUNE 2024

TRADE SECRETS AND ARTIFICIAL INTELLIGENCE

John Hull

AN OUTLINE OF ENGLISH TRADE SECRETS LAW

- The UK now has (potentially) two systems for protecting trade secrets and confidential information:
 - The traditional action for breach of confidence; and
 - The action for unauthorised acquisition, use or disclosure of a trade secret under the Trade Secret (Enforcement etc.) Regulations 2018
- The action for breach of confidence is an equitable action based on fairness or good faith. There is a public interest (based on commercial ethics) in protecting confidential information.
- This action is capable of covering traditional trade secrets (formulae, recipes); commercial secrets (customer details) and personal information;
- Trade secrets are not regarded as property rights.
- There is no offence of trade secret theft (other than specifically in relation to trade secrets stolen for the benefit of a foreign power – S 2 National Security Act 2023).

TRADE SECRET PROTECTION BEFORE THE 2018 REGULATIONS

- Based on case law dating from about mid 19th Century;
- Distilled into three propositions in the leading case – *Coco v A.N. Clark [1969]*
 - The information must have the “*necessary quality of confidence*” – it must be secret
 - It must have been imparted in a “*relationship of confidence*” - contract or equity
 - There must have been use or disclosure of the information without the discloser’s consent
- Capable of protecting a wide spectrum of information from “technical” trade secrets (source code or algorithms) to commercial secrets (customer and supplier databases) and even private information. Most of the case law deals with commercial secrets.
- “*Secret*” is tested by reference to whether the information is sufficiently “*accessible*” in the “*public domain*”.
- The ability to define the information is critical.

DOES THE MEANING OF “TRADE SECRET” DEPEND ON CONTEXT?

“ Under English law prior to the implementation of the Trade Secrets Directive, trade secrets constituted a particular category of confidential information. The principal distinguishing characteristic of trade secrets, as opposed to other forms of confidential information, was that a former employee could be restrained from using or disclosing their former employer's trade secrets after the termination of the employment: see in particular Faccenda Chicken Ltd v Fowler [1987] 1 Ch 117 and Lancashire Fires Ltd v SA Lyons & Co Ltd [1996] FSR 629. Now, trade secrets are also to be distinguished from other confidential information in that they are subject to the Regulations and the Trade Secrets Directive.”

Arnold LJ in Shenzhen Senior Technology v Celgard [2020] EWCA Civ 1293

THE TRADE SECRET (ENFORCEMENT ETC.) REGULATIONS 2018

SI 2018/597

- Introduced to implement the Trade Secrets Directive – (EU) 2016/943
- The Directive’s purpose was to harmonise widely divergent laws in EU countries on trade secret protection; to encourage cross border information sharing and to improve enforcement remedies against misappropriation or misuse of trade secrets;
- Applicable now in all 27 EU countries and the UK (implemented pre-Brexit).
- No new property right was created;
- New definitions of “*Trade Secret*” and “*Trade Secret Holder*” [not “*Owner*”]
- The key obligation - to introduce “*..measures, procedures and remedies..*”
- Notable limitations and exceptions:
 - Independent creation;
 - Reverse engineering;
 - Public Interest;
 - Freedom of expression;
 - Use by employees of their “*skill and experience honestly obtained during their employment.*”

“TRADE SECRET” DEFINED

Trade Secret means information which:

- (a) Is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among, or readily accessible to, persons within the circles that normally deal with the kind of information in question; and*
- (b) Has commercial value because it is secret; and*
- (c) Has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.*

This is a cumulative definition – all three conditions must be met.

(Adopted from Art 39 TRIPS Agreement)

ONE OR TWO LEGAL METHODS OF PROTECTING TRADE SECRETS?

- The traditional English breach of confidence action and the new action for the unlawful acquisition, use or disclosure of a trade secret are linked by:
- Paragraph 3.1 2018 Regulations:

“The acquisition, use or disclosure of a trade secret is unlawful where the acquisition, use or disclosure constitutes a breach of confidence in confidential information.”

- A “curious provision” – *Arnold LJ in Shenzhen Senior Technology v Celgard [2020] EWCA Civ 1293*. [And in: *J C Bamford Excavators v Manitou [2023] EWCA Civ 840*].

IS THE DEFINITION OF “TRADE SECRET” IN THE 2018 REGULATIONS NOW THE PREFERRED DEFINITION OF A TRADE SECRET?

YES

“The best guide to the distinction between information which is confidential and that which is not is now to be found in the definition of “trade secret” in Art 2(1) of Directive 2016/943 (always bearing in mind the broad interpretation of “trade secret” in the Directive.)” – Hacon J in Trailfinders v Travel Counsellors [2020] EWHC 591 (IPEC).

POSSIBLY NOT

“I consider that a little care is needed with the proposition put forward by [Judge Hacon]...the law of breach of confidence as it stood in English law prior to the 2018 Regulations is expressly and deliberately retained..it does not seem to me that the commercial value requirement in limb (b) of the definition is necessary for breach of confidence...Similarly, I do not consider that the requirement in limb (c) [reasonable steps] is a requirement of a breach of confidence.”

Jonathan Hilliard KC (Deputy Judge) in Kieran Corrigan Ltd v One E Group Ltd [2023] EWHC 649 (Ch).

SCOPE OF TRADE SECRET PROTECTION

“While it’s hard to track the exact number of trade secrets related to AI that are being closely held by organisations around the World – as they are by their nature secret - it is likely that most intellectual property generated in the US today related to AI is being protected through the use of trade secrets.”

[Quinn Emmanuel: The Rising Importance of Trade Secret Protection for AI Related IP]

- Trade secrets are potentially (subject to the essential condition of secrecy) able to provide protection for:
 - Training materials;
 - Algorithms;
 - Source code;
 - Datasets;
 - AI outputs;
- The advantages (over patent protection):
 - No disclosure requirement;
 - No registration or maintenance fees;
 - Automatic protection;
 - Potentially lifelong protection;
 - Competitive advantage based on implementation know how;

THE MAIN THREAT TO TRADE SECRET PROTECTION IS PROBABLY NOT AI

“Your trade secrets walk out of the factory gate at end of each day”

Firms need to devise comprehensive confidentiality programmes :

- A system to identify, record and maintain a firm’s trade secrets;
- Education programmes for employees and other insiders;
- Effective employment contracts with enforceable confidentiality provisions and restrictive covenants;
- Internal and external security measures.

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AI, the role of trademarks and their functions

Dr. Viltė Kristina Dessers
28 June 2024

SETTING THE SCENE (I/II)

AI: varied but notable role in intellectual property administration and purchasing decisions

Increasing amount of research on trademark law underway

A few notable research directions:

- ▶ potential of AI applications in facilitating IP administration processes
e.g. in the context of examination of trademark applications, and trademark disputes, and the impact of such applications (see, e.g. Moerland and Freitas 2021, Gangjee 2022)
- ▶ the ways in which AI influences or may influence purchasing decisions, and how all of it interplays with trademark law (see, e.g. Curtis 2017-2023; Dessers (Steponėnaitė) 2019; Onishi 2021; Randakevičiūtė-Alpman 2021; Moerland and Freitas 2021; Janssens and Dessers 2022; Batty 2022; Roy and Arsoof 2024; Farley 2024)

In more detail...

SETTING THE SCENE (II/II)

- ▶ potential of AI applications in facilitating IP administration processes
e.g. in the context of examination of trademark applications, trademark disputes, and the impact of such applications

simple tasks, significant implications
but, several potential drawbacks
- ▶ the ways in which AI influences purchasing decisions, and how all of it interplays with trademark law
e.g. (1) whether the traditional notions such as average consumer need to be revisited;
(2) whether there may be any adverse effects on the role of trademarks as such as well as both on their origin and accessory functions; questions concerning (3) liability in case of purchasing decisions resulting into trademark infringements; considerations (4) whether the specific applications such as AI chatbots have any particular influence on trademark law

Focus: AI, the role of trademarks and their functions $\leftarrow \rightarrow$ it is increasingly argued that the role of trademarks and their functions is diminishing. *Is it indeed the case?*

EMERGING DISCOURSE ON THE INTERPLAY BETWEEN AI AND TRADEMARK FUNCTIONS

- ▶ increasingly argued that the role of trademarks and/or trademark functions may be diminishing

argument mostly relies on the facts that (1) due functioning of certain AI applications some trademarks may have lower visibility (2) and on the fact that certain AI applications are capable of making purchasing decisions

assumptions that humans will no longer participate in purchasing decisions

nuance with regard to origin vs. accessory functions

TWIST: THE BLURRY FUNCTIONS

A wide spectrum of critical comments, ranging from irrelevance of the accessory functions altogether, to the criticism for certain functions, e.g. communication or investment functions (see, e.g. Gangjee 2013, Senftleben 2014, Mora 2021, Moerland and Kafrouni 2021)

E.g.:

functions remain ‘far too underdeveloped to provide the required degree of legal certainty in everyday practice’ (Mora 2021)

‘the other functions are rather vague and ill-defined when divorced from origin function’ (Bailey 2013)

‘given their role in delimiting the scope of liability, there is concern that these brand-inspired functions have not been adequately theorised or delimited’; if we are not sure about the content, how should we determine when they are harmed? (Gangjee 2013)

ADDITIONAL CONSIDERATIONS

Also consider:

- ▶ Capabilities vs. willingness
- ▶ Overestimations
- ▶ Disregarded potential for strengthening (AI, causes)
- ▶ Plurality of behaviours, generations, types of consumers
- ▶ Different engagement with regard to different types of goods and services
- ▶ Different implications depending on the expectations of the consumer?
- ▶ High bar for infringement

Broader questions:

- ▶ If there is an effect, do we need to react?
- ▶ If we need to react, what do we want to achieve? See, e.g. discussions on autonomy (Sevastianova 2021), transparency (Senftleben 2022)
- ▶ Is it trademark law that should react?
- ▶ If yes, is there a need to redefine existing functions, or a need for new functions?

CONCLUDING REMARKS: A CALL FOR NUANCE

► We need more nuance while discussing effects to the role of trademarks and their trademark functions

Step back and revisit the existing trademark functions

Take into account a number of factual and doctrinal nuances currently not yet reflected in the discourse

MORE DETAILS:

▶ Upcoming chapter Dessers, Viltė Kristina in the volume Research Agenda for Trademark Law., to be published in 2025 (eds. by Ilanah Fhima and Anke Moerland).

▶ Related related recent publications include:

Janssens, M.-C., and Dessers, Viltė Kristina; 2022. The Artificially Intelligent Consumer in EU Trademark Law. Gestaltung der Informationsrechtsordnung. Festschrift für Thomas Dreier zum 65. Geburtstag; 2022; pp. 143-160 Publisher: C.H. Beck; München.

Dessers (Steponėnaitė), Viltė Kristina; 2020. WIPO draws attention that AI may have an impact on trademark law. Publisher: KU Leuven Centre for IT & IP Law.

Dessers (Steponėnaitė), Viltė Kristina; 2019. Alexa, are you confused? Unravelling the interplay between AI and (European) trademark law. Publisher: KU Leuven Centre for IT & IP Law.

Thank you.

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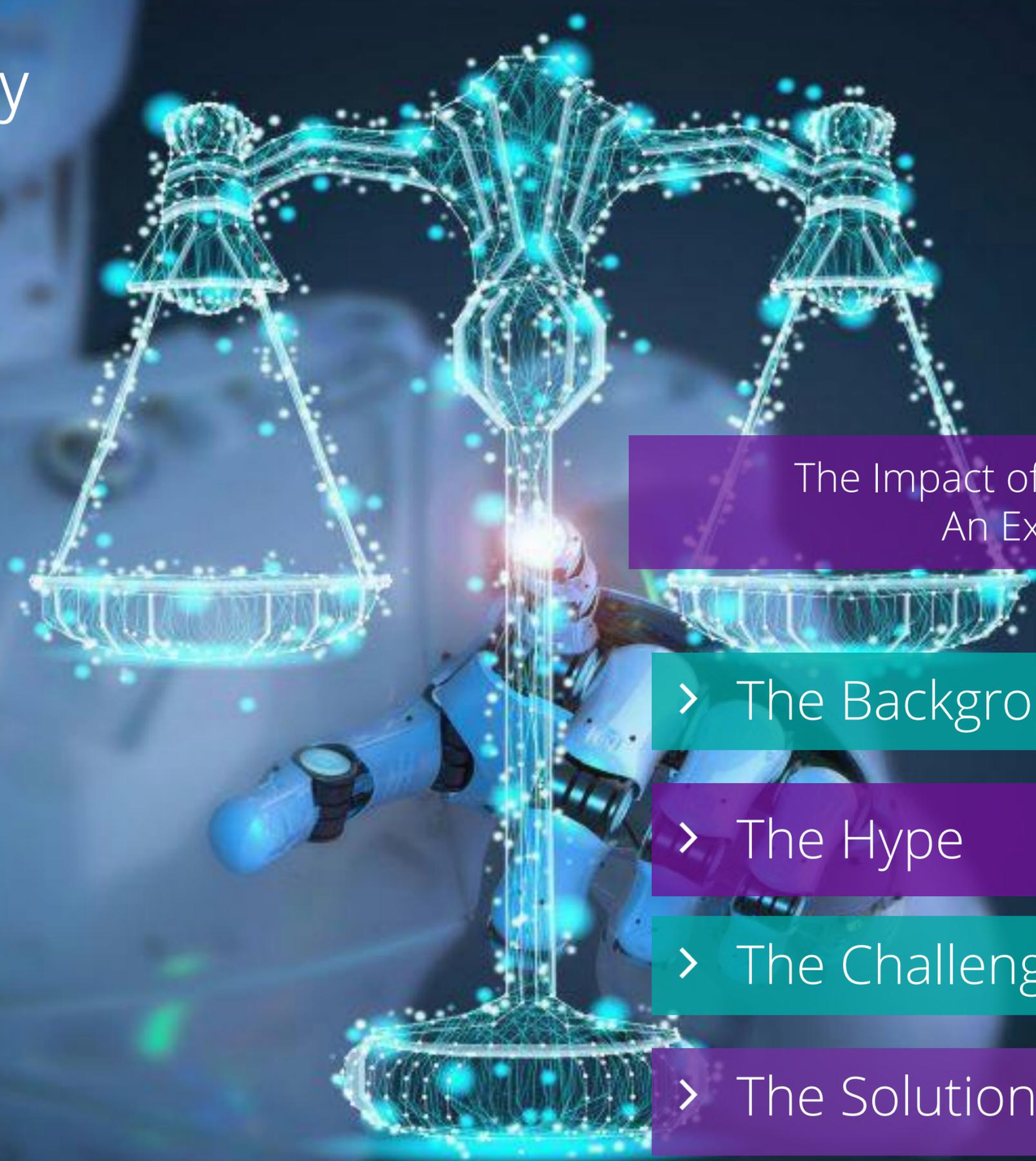


Queen Mary
University of London

The background of the slide features two profiles of a human head facing each other. The head on the left is a realistic human head with a glowing blue brain. The head on the right is a digital wireframe head. The background is a dark blue grid with binary code (0s and 1s) scattered throughout.

Generative Artificial
Intelligence & Trade
Marks :
Challenges
&
Solutions

Dr Jasem
Tarawneh



The Impact of AI Tools on Trade Marks: An Exaggerated Death

- > The Background
- > The Hype
- > The Challenges
- > The Solutions

The Background

The Definition of Generative Artificial Intelligence (GAI) & TM

GAI Relationship with TM: A Challenge to the Orthodoxy

The Creation

The Protection

(A) The Impact on the Essential Function

The search cost conundrum

(B) The Impact on the modern “additional” functions

The Persuasive function Justification



The Incomplete Information Asymmetry Problem

Positive v Negative

The Infallibility Problem

Needs v Preferences

The Challenges

The Passivity Presumption Problem

Autonomy v Hegemony

The “nudge” Effect Problem

Informed Choice V Enforced Choice

Legislative Solution

AI

The Interpretative Solution

Thank you

&

Any Questions?



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The Ashworth Centre,
The Honourable Society of Lincoln's Inn, London

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*Scattered thoughts on
authorship in the ERAs of
artificial intelligence*

QMIPRI Annual Conference
27-28 June 2024
Queen Mary University
London

Prof. Dr. Emanuela Arezzo



EUILAP
Jean Monnet Chair
EU Innovation Law & Policy



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The different eras of AI

«AI is a **fast evolving family of technologies** that contributes to a wide array of economic, environmental and societal benefits across the entire spectrum of industries and social activities». (IA Act, recital n. 4).

First generation of AI



Second generation of AI



**Third generation of AI
(based on foundation models)**



The Sleep of Reason... Produces Monsters?



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