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The end of an emotional journey of the ANNs saga: Emotional Perception, ANNs and the patentability of computer-implemented inventions

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Case Comment

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Cases cited

[Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks](#) [2026] UKSC 3; [2026] 2 All E.R. 905; [2026] 2 WLUK 133 (SC)

[Aerotel Ltd v Telco Holdings Ltd](#) [2006] EWCA Civ 1371; [2007] 1 All E.R. 225; [2006] 10 WLUK 737 (CA (Civ Div))

[Pedestrian Simulation \(G1/19\)](#) [2021] E.P.O.R. 30; [2021] 3 WLUK 839 (EPO (Enlarged Bd App))

Legislation cited

[Patents Act 1977 \(c.37\) s.1](#)

EPC art.52

*E.I.P.R. 469 Abstract

The long-running dispute in Emotional Perception AI Ltd (EPAL) v Comptroller-General of Patents concluded in a landmark judgment on 11 February 2026 from the United Kingdom Supreme Court (UKSC). It took seven months for the unanimous decision by justices, Lord Briggs, Lord Hamblen, Lord Leggatt, Lord Stephens and Lord Kitchin. The ANNs case marked the first time the UKSC had addressed the patentability of computer-implemented inventions. The decision represents a pivotal shift in UK patent law, particularly in relation to artificial intelligence (AI) and software-based technologies, and brings the UK's approach into closer alignment with that of the European Patent Office (EPO). Central to the ruling is the Court's explicit rejection of the long-standing [Aerotel](#) test for assessing patent eligibility of computer-related inventions. In its place, the Court endorsed a framework grounded in the EPO's "any hardware" approach and the [Comvik](#) principle. Under this model, the presence of technical means—such as computer hardware—satisfies the threshold requirement for an "invention", after which only those features contributing to technical character are considered when assessing novelty and inventive step. This doctrinal realignment significantly alters the analytical structure previously applied by the UK Intellectual Property Office (UKIPO) and lower courts. The Court further clarified the legal status of artificial neural networks (ANNs), holding that an ANN is properly characterised as an abstract computational model which, when implemented in hardware, constitutes a set of executable instructions directing a machine to process data in a specified manner. Accordingly, an ANN is to be regarded as a computer program. The UKSC remitted the matter to the UKIPO with instructions to apply the revised framework: first, confirm the presence of an invention under the "any hardware" test; second, identify which claim features

contribute to technical character; and third, assess novelty and inventive step solely by reference to those technical features. While the Court allowed flexibility in determining how technical character should be identified, its decision signals a transformative moment in UK software patent jurisprudence and sets the stage for further doctrinal clarification in future cases.

Background to the appeal

Experts around the world have long debated under what conditions AI inventions can be patented. The subject of this appeal was a patent application from the UKIPO by the innovation AI tech firm, Emotional Perception AI (EPAI)¹, for the use of an ANN, an AI model, inspired by the human brain that can engage in machine learning.

The concept of an ANN dates back in simple form to the 1950s. However, machine learning is a more recent phenomenon, with EPAI claiming its invention lies in the system and method by which an ANN is trained to replicate the subjective or emotional human perception of the degree of similarity or difference between files of the same genre, music for example, by reference to objectively measurable physical properties of the files. The ANN is then trained to discern semantic similarity; for example, whether a piece of music is “happy”, “sad”, “relaxing”, etc., from the physical properties of the music track. EPAI has focused on closing the “semantic gap”, which is the difference between reality and what the ANN suggests is reality. Closing the semantic gap has been described as the “holy grail” in AI technology.

The ANN can be trained to perform a task, and to improve the quality of its performance by an iterative process of adjustment, which involves comparing outputs generated by the ANN with target outputs that have been independently identified. A typical field of use is music streaming services, where a user may be interested in receiving music similar to another track of which they know or already have. **E.I.P.R. 470*

In their original patent application EPAI contended that their ANN enables that service to be provided more quickly and accurately, and to make better recommendations than anything else currently available. The ANN then offers suggestions of similar music in terms of human perception and emotion, irrespective of the genre of music and the apparently similar tastes of other people. Existing streaming services can offer similar pieces in, say, the same category (rock, heavy metal, folk, classical etc.), but the categorisation tends to be limited to types of music, derived from human tagging, i.e. the playlists of others, which tend ultimately to derive from a human classification.²

Round one: the UK High Court

The UKIPO’s Hearing Officer rejected EPAI’s patent application in June 2022 on the basis that it constituted a “program for a computer”, the *exclusion* only under [s.1\(2\)\(c\) of the Patents Act 1977](#), which excludes from patent protection “a program for a computer ... as such”, and thus falls under an exclusion from patentability in accordance with the [1977 Act](#).

In November 2023, EPAI paved the way for AI innovation in the UK by securing a landmark ruling in the High Court Division, which theoretically opened the doors for AI entrepreneurs and investors seeking AI patent protection in the UK.³ Sir Anthony Mann ruled that the [s.1\(2\)\(c\) PA1977](#) exclusion did *not* apply in the *ANNs* case.

Round two: the UK Court of Appeal

Following the High Court ruling, the UKIPO suspended its guidelines on AI patents, and subsequently, the Comptroller General of Patents submitted an appeal. The Court of Appeal then overturned the High Court ruling in July 2024 and reinstated the Hearing Officer’s decision. Lady Justice Nicola Davies, Lord Justice Richard Arnold and presiding Lord Justice Colin Birss held that the ANN-technology—whether implemented as hardware or software—did, in fact, fall under the definition of a computer program and should therefore be treated as such.⁴

Conflicting EU and UK patent legislation

Until the UKSC judgment in the *ANNs* case, the UKIPO and the EPO had taken different approaches to assessing and analysing the patentability of AI. The UK [Patents Act 1977](#) expressly defines “exceptions to patentability”. Whereas art.52(2) of the European Patent Convention (EPC), is not expressed as an exception to patentability, rather, it sets out positive categories of things which are not to be regarded as inventions. Arguably current sections of the [Patents Act 1977](#) are out of date and not fit for the AI-age when computers were not part of everyday life and parliamentarians could not possibly imagine what role AI would play in the 21st century. The EPO’s approach focuses on the question of whether the claim amounts to an “invention” first, ahead of and separately from the other three conditions of novelty, inventive step, and industrial application.

The *ANNs* case concerned both, art.52(2)(c) and (3) EPC and equivalent provisions and exclusion under s.1(2)(c) PA 1977. These conflicting approaches then lead to divergent conclusions when applying guidance on the interpretation and application of art.52 EPC, such as given by the UK Court of Appeal in *Aerotel* (2006).⁵ The *Aerotel* approach had been criticised by the EPO as incompatible with the EPC, but UK courts continued to apply it, pending a definitive ruling.

The (now obsolete) *Aerotel* approach

To determine whether the exclusion to patentability applied, the UK courts had adopted the four-step *Aerotel* -test since 2006, which required:

- (1) construing the claim;
- (2) identifying the actual contribution made by the invention;
- (3) asking whether that contribution fell solely within excluded subject matter; and
- (4) checking whether the contribution was technical in nature.

Round three: the UK Supreme Court judgment
EPAI appeal to the Supreme Court raised three issues:

Issue 1:

Should the *Aerotel* guidance no longer be followed?

Issue 2:

Is an ANN (or does it contain) a “program for a computer”?

Issue 3:

Is the entire subject matter of the claims excluded?

The Supreme Court unanimously allowed the appeal.⁶ Lord Briggs and Lord Leggatt gave the judgment, with which Lord Hamblen, Lord Stephens and Lord Kitchin agreed. The Court held that the *Aerotel* approach should no longer be followed: through focusing on the “contribution” made by the invention, it mixed the question of whether subject matter qualifies as an “invention” with the separate requirements of novelty and inventive step. **E.I.P.R. 471*

Reasons for the UKSC judgment

Issue 1: Should the Aerotel guidance no longer be followed?

The Supreme Court held, that the four-step approach set out by the Court of Appeal in *Aerotel* (2006) should no longer be followed. Although the Court explained the intermediate step conceptually, it declined to give detailed guidance on how it should be applied in practice. In short: ANNs are “programs for computers” The Court rejected the distinction between “hardware ANNs” and “software ANNs”. An ANN is an abstract computational model implemented in hardware or software. In either case, it represents a set of instructions causing a machine to manipulate data in a particular way. Accordingly, an ANN falls within the “programs for computers” exclusion to patentability.

The Enlarged Board of Appeal of the EPO had expressly found the *Aerotel* approach to be incompatible with the EPC, particularly in its interpretation of what constitutes an “invention”. The UKSC held that the approach in the Enlarged Board of Appeal’s decision in *G1/19* (2021)⁷ should be followed in preference to the *Aerotel* approach. The EPO firmly endorsed the “any hardware approach”, thereby impliedly endorsing the criticisms of *Aerotel*.

In *G1/19*, Bentley Systems (UK) Ltd had applied for the patentability of computer-implemented simulations. Patent eligibility, the first hurdle, was assessed under art.52 EPC without considering the prior art, i.e. without regard to whether computers existed at the priority date of the invention. The use of a computer in the claimed subject-matter therefore made it eligible under art.52 EPC. For the second hurdle, the inventive step was based on the difference between the prior art and the claimed subject-matter. The requirement was understood to be a “technical invention”. The Court held that the use of a general-purpose computer always constitutes prior art in this context and the invention to be assessed under this provision needs to be “technical” beyond the use of a general-purpose computer. In any case art.52(2) EPC, on a plain reading, solely concerns the question of whether the subject matter of the claim for a patent is an “invention”.

The UKSC justices held that neither the *Comvik*⁸ nor G1/19 principles suggest that the “problem and solution” approach of the EPO is the only way of assessing an inventive step, or the only way of factoring the exclusions in art.52(2) EPC into the overall appraisal of patentability.⁹ The Court held that the EPO Board rightly criticised the Aerotel approach as misinterpreting “invention” as having to be novel or involving an inventive step, which are separate and independent requirements of patentability within the scheme of the EPC. The justices further held that the G1/19 approach, consistent with the plain reading of art.52(2) EPC, squarely addresses the question of whether the claim amounts to an “invention” first, ahead of and separately from the other three conditions of novelty, inventive step and industrial application.¹⁰

To qualify as an “invention”, all that is required is that the subject matter should have technical character. The UKSC confirmed that whilst the approach to excluded subject matter has changed to follow *G1/19*, the established UK approach for inventive step—the *Pozzoli* test—remains unaffected. The *Pozzoli* test (2007)¹¹ is a method used in patent law to determine whether an invention involves an inventive step. It forms the first step of the well-known Windsurfing test of Oliver LJ.¹² problem-and-solution analysis, which is a key part of assessing the inventive step. The *Pozzoli* test involves the following steps:

- (1) the first step is to identify the inventive concept embodied in the patent in suit;
- (2) thereafter, the court has to assume the mantle of the normally skilled but unimaginative addressee in the art at the priority date and to impute to him what was, at that date, common general knowledge in the art in question i.e. identify the relevant common general knowledge of that person; the notional “person skilled in the art”;
- (3) the third step is to identify what, if any, differences exist between the matter cited as being “known or used” and the alleged invention, i.e. identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim;
- (4) finally, the court has to ask itself whether, viewed without any knowledge of the alleged invention, those differences constitute steps which would have been obvious to the skilled man or whether they require any degree of invention i.e. validity of obviousness. **E.I.P.R.* 472¹³

Issue 2: Is an ANN (or does it contain) a “program for a computer”?

The Supreme Court held that an ANN is a “program for a computer” within the meaning of art.52(2)(c) EPC. The justices stated that an ANN can be implemented in a variety of different types of hardware; the ANN is a set of instructions to manipulate data in a particular way to produce a desired result; an ANN is not itself a type of hardware.¹⁴

The Court endorses the Hearing Officer’s characterisation of an ANN as,

”an abstract model which takes a numerical input, applies a series of mathematical operations (applying weights, biases and an activation function) and outputs a numerical result at successive layers”.¹⁵

The Court further held, to confine the term “computer” in art.52(2)(c) EPC to conventional digital computers, as the applicant argued, would tie the operation of the EPC to a particular technology which happens to be prevalent, and would exclude devices such as old-fashioned analogue computers and quantum computers which are now being developed and which use the principles of quantum physics to process information in a fundamentally different way from conventional computers.¹⁶ The term “program” should be interpreted correspondingly to mean a set of instructions capable of being followed by a computer of any kind, to produce desired manipulations of data.¹⁷

Issue 3: Is the entire subject matter of the claims excluded?

The conclusion on issue 2 makes it necessary to consider whether the entire subject matter of the patent application falls within the scope of the exclusion of “programs for computers... as such”, or whether it includes technical features and so qualifies as an “invention” within the meaning of art.52(1) EPC? Applying the “any hardware” approach, the claims are to an “invention” and not excluded by art.52(2)(c) EPC. Although the claimed method involves an ANN which is a program for a computer, it also involves technical means because the ANN can only be implemented on some form of computer hardware. That is sufficient to show that the subject matter of the claims has technical character and is not a computer program “as such”. The Court held that the UKIPO was wrong to refuse the application for a patent for the reason it did.¹⁸

The UKSC did not make a decision as to the patentability of the ANN in this case, returning the matter to the UKIPO for assessment of novelty and inventive step under the new framework and possible patentability.

It is now up to the UKIPO and to the UK courts to adopt any appropriate method of identifying the technical character of the invention, viewed as a whole, as the necessary first part of carrying out the intermediate step.¹⁹ The Court confined its ruling to the issues mentioned above and referred the case back to the Hearing Officer to apply the intermediate step and the remaining requirements for patentability to the claimed invention.²⁰

Conclusion

The Supreme Court's decision in the *ANNs* case (*Emotional Perception*) signifies a momentous shift in UK patentability analysis. The four-step approach by the Court of Appeal in *Aerotel* (2006) has been rejected and the divergence between UK and EPO approaches to art.52 EPC has now been largely eliminated. Many patent applications which were previously rejected by the UKIPO's Hearing Officer under the *Aerotel* test may now succeed. However, applications will still be scrutinised at the next hurdle when it comes to the inventive step, potentially resulting in more rigorous analysis at that stage.

Where applications have been previously rejected on the basis of the *Aerotel* analysis, applicants might now consider the EPO's—*G1/19*-aligned approach which provides grounds for challenging those decisions.

The harmonisation of the UK approach with that of the EPO is likely to be viewed positively by innovators, particularly in the field of AI inventions, and should be welcomed by software firms which seek to develop and invest in AI-focused development. With the divergence between UK and EPO approaches now largely removed, future applicants may well draft their claims across both jurisdictions, whereby AI model specifications ought to clearly articulate the technical purpose and technical effect. Claims should identify features that contribute to the technical character of the invention. Once the UKIPO has made a decision, it can be expected that a large number of AI-focused patent applications are likely to be successful when applying to the UKIPO.

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Footnotes

1	EPAI conducts extensive development work and research in the fields of AI, machine learning and artificial neural networks (ANNs), https://www.emotionalperception.ai/ .
2	See U. Smartt, "AI and the Law: Assistant or Assassin?" (2025) 47(5) E.I.P.R. 264.
3	<i>Emotional Perception AI Ltd v Comptroller-General of Patents, Designs and Trade Marks</i> [2023] EWHC 2948 (Ch); [2024] Bus. L.R. 14.
4	<i>Emotional Perception AI Ltd v Comptroller-General of Patents, Designs and Trade Marks</i> [2024] EWCA Civ 825; [2024] Bus. L.R. 1589.
5	<i>Aerotel Ltd v Telco Holdings Ltd</i> [2006] EWCA Civ 1371; [2007] R.P.C. 7.
6	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks</i> [2026] UKSC 3; [2026] Bus. L.R. 411 (on appeal from <i>Emotional Perception AI Ltd v Comptroller-General of Patents, Designs and Trade Marks</i> [2024] EWCA Civ 825) ("the ANNs case").
7	<i>Pedestrian Simulation (G1/19)</i> [2021] E.P.O.R. 30. Große Beschwerdekammer (Enlarged Board of Appeal) European Patent Office, Haar, Germany, 10 March 2021.

8	<i>Comvik GSM AB (T-641/00) [2004] E.P.O.R. 10</i> also: <i>COMVIK/Two identities, (T-0641/00) [2004] E.P.O.R. 10</i> (26 September 2002) of Technical Board of Appeal 3.5.01 of 26 September 2002. The invention related to digital mobile telephone systems and in particular to the use of a single-user multi-identity IC card as subscriber identity module in a mobile unit of a GSM-type system (SIM-card). The patent application was granted in 1997. A few months later, oppositions were filed. The patent was revoked in 2000. Shortly after that, the appellant filed an appeal against the decision. The Board of Appeal dismissed the appeal in 2002 and the patent was revoked. Reasons: An invention consisting of a mixture of technical and non-technical features, having technical character as a whole, is to be assessed with respect to the requirement of an inventive step, by taking account of all those features which contribute to the technical character; whereas features making no such contribution cannot support the presence of an inventive step.
9	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [53]–[54].</i>
10	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [59]–[64].</i>
11	<i>Pozzoli v BDMO SA [2007] EWCA Civ 588; [2007] F.S.R. 37.</i>
12	<i>Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd [1985] F.S.R. 59 at 73.</i>
13	Lord Justice Jacob in <i>Pozzoli [2007] EWCA Civ 588 at [14].</i>
14	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [80]–[82], [84]–[87].</i>
15	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [81].</i>
16	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [76]–[77].</i>
17	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [78]–[79].</i>
18	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [97]–[98].</i>
19	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [106].</i>
20	<i>Emotional Perception AI Ltd v Comptroller General of Patents, Designs and Trade Marks [2026] UKSC 3 at [112]–[118].</i>