CITMA The Chartered Institute of Trade Mark Attorneys

Artificial intelligence and intellectual property

CITMA AI Task Force report 2025

Contents

1. Introduction

I am delighted to introduce this report on artificial intelligence and the impact and opportunities that it might present for the intellectual property legal profession.

Artificial intelligence is not just an emerging trend but has the power to be a fundamental force, reshaping how we practice, serve our clients and protect intellectual property rights. This report sets out some of what we might expect and can be used as a starting point for discussions among practitioners to maximise those opportunities.

Originally commissioned as a strategic briefing for CITMA Council, the depth and breadth of insights gathered are too valuable to remain within Council alone, and so we share them with you, our entire membership and the broader IP profession.

Artificial intelligence is already starting to change traditional IP practice, and this will only become more prevalent – from automating routine searches and portfolio management to enabling sophisticated new forms of IP crime.

There are threats and risk. This document sets out the important role that we all will play in this development, and the value and expertise our members will continue to provide – something that AI alone cannot replicate.

As a profession, if we understand and adapt to these technologies – the opportunities, challenges and threats – our industry will continue to thrive and provide solutions that add genuine value for clients.

I am particularly proud to acknowledge the exceptional work of our AI Task Force, which has produced this comprehensive analysis, led by Azhar Sadique. Their expertise spans the full spectrum of our profession – from in-house professionals and paralegals to IP consultants and attorneys – ensuring that this report reflects the diverse perspectives and real-world experiences of our community.

The task force's work has already been valuable, which is why CITMA Council has recently created the AI and Technology Committee. This committee will continue building on the excellent foundation established by the task force, providing ongoing strategic leadership as our profession navigates what lies ahead.

This transition from task force to permanent committee reflects our long-term commitment to keeping our members informed and at the forefront of technological advancement.

The findings in this report are both thought provoking and compelling around the use of AI. We learn that whilst AI can enhance efficiency and accuracy in many areas of IP practice, it also introduces new risks around data bias, hallucinations, and sophisticated forms of counterfeiting. The regulatory landscape is evolving rapidly across jurisdictions, creating both challenges and opportunities for UK practitioners operating in a post-Brexit environment. In the most recent decisions we have seen before the court, issued only in June 2025, they even considered whether contempt of court findings might be appropriate for practitioners that rely too heavily on misinformation from AI.

CITMA is committed to helping guide our profession through this transformation. We will not simply react to technological change - we want to help shape it.

I encourage you to engage with this report's findings and consider how AI might enhance your own practice whilst maintaining professional standards and service excellence that define our profession.

The future of IP practice belongs to those who embrace change whilst preserving what makes our profession indispensable: strategic thinking, ethical practice, and unwavering commitment to client success.

Kelly Saliger

President,
The Chartered Institute of Trade Mark Attorneys

2. Executive summary

Artificial intelligence presents both significant opportunities and challenges for the intellectual property profession in the UK. This report, by the AI Task Force, outlines the key findings from a comprehensive analysis of AI's impact across the trade mark sector.

The AI Task Force has identified significant transformations already underway in the intellectual property profession due to artificial intelligence.

AI has the power to fundamentally reshape trade mark practice through automation of routine tasks, enhanced decision-making capabilities, and new forms of IP crime.

Practitioners who adapt proactively will thrive by focusing on strategic advisory work, whilst those who resist change risk professional obsolescence.

Technological impact

AI is transforming IP practice with significant efficiency gains, though limitations remain. One of the key themes is the importance of human oversight - AI tools can provide valuable assistance, but their output should always be subject to human judgement and feedback.

The role of trade mark professionals will evolve to include quality control over AI-generated work and providing feedback to help improve AI systems.

The technology enhances trade mark searching and watching by scanning millions of data points almost instantaneously, enabling more comprehensive results than manual methods.

However, despite these advancements, the technology is still subject to certain limitations, including data accuracy and complex contextual interpretations that human professionals can better handle.

In enforcement, AI can improve automated identification systems by providing nuanced understanding of content, though accountability requires human oversight.

Portfolio management benefits from AI-driven analysis of competitor activities and identification of potential opportunities, though effectiveness depends on data input quality.

Generative AI can help prepare submissions and summarise cases but it carries risks of accuracy - particularly due to the issue of hallucinations – where AI fabricates information in its attempt to provide a definitive answer.

AI can be used in various ways throughout the trade mark registration process, including assisting trade mark offices with their procedures. The UK IPO and other registries are already deploying some AI tools.

In all applications, human expertise remains essential, with AI serving as a tool that augments rather than replaces professional judgement.

Evolution of IP tools and services

Despite significant investments in the IP technology space, the impact on day-to-day practice has been minimal until recently.

With the rise of generative AI, the next five years will be transformative, as threats and opportunities arise that will redefine how IP is managed, administered, examined and advised upon.

Traditional service providers face challenges from new models that deliver services at lower costs through automation.

Search and watch services can be conducted in seconds rather than days.

Trade mark prosecution will be challenged by automation – the contentious side of IP work will become more valuable, enhanced by AI.

The future for IP practitioners lies not in competing with AI but in providing strategic, holistic commercial advice that machines cannot replicate.

2. Executive summary *ctd*

Generative AI in trade mark practice

AI should be used to augment, not replace, human decision-making. Attorneys must review AI-generated output, particularly in high-stakes legal matters, to ensure it meets legal and ethical standards.

Firms must be clear with clients about the role AI plays in their casework. Clients should understand how AI contributes to their case and the benefits it brings in terms of cost and efficiency.

Attorneys and staff must be trained not only in how to use AI but also in understanding its limitations. Continuous education in AI literacy will be critical as the technology evolves.

Firms must implement robust data protection measures to ensure client data processed by AI systems complies with data protection regulations.

Firms should begin with small-scale AI implementations to test the technology's effectiveness in specific workflows. Once results are proven, they can scale up use with greater confidence.

AI-driven IP crime

AI is enabling sophisticated new forms of IP crime.

'Starjacking' uses AI to artificially inflate GitHub repository stars, making fake or malicious projects appear credible, whilst AI-generated counterfeits combine reverse engineering with 3D printing technology to produce high-quality replicas indistinguishable from originals.

The metaverse introduces further challenges as AI produces hyper-realistic counterfeit virtual goods and environments that infringe trade marks at unprecedented scale and speed.

These developments demand advanced monitoring systems, stronger web security, collaboration with technology platforms, and defensive AI technologies to detect and prevent infringements before they spread.

Role transformation

The integration of AI into the IP profession is inevitable, and with it comes significant disruption and vast potential.

AI is automating many routine tasks, but it is also opening up new opportunities for strategic work and high-level decision-making. The future of the IP profession lies not in competing with AI, but in working alongside it, leveraging AI tools to focus on more valuable and impactful areas of practice.

Practitioners must embrace continuous learning to transition from routine tasks to strategic advisory roles, requiring both technical understanding of AI and the ability to apply ethical frameworks to its use.

Regulation, trust and market adoption

Regulatory approaches to AI vary globally.

The EU AI Act takes a risk-based approach with strict transparency requirements, whilst the UK is developing a principle-based framework built around safety, transparency, fairness, accountability, and contestability.

To build trust in AI adoption, IP practitioners must ensure transparency with clients about AI usage, maintain data quality, incorporate human oversight, and implement robust ethics frameworks.

This includes recognising potential bias in AI systems, guarding against 'hallucinations' that present as factual but are inaccurate, and ensuring compliance with evolving regulatory standards across jurisdictions.

2. Executive summary *ctd*

Ethical and regulatory considerations

Ethical principles should be embedded into AI software.

Key ethical rules to incorporate include fairness, transparency, accountability, confidentiality, safety and explainability. These principles help ensure AI systems operate responsibly and in compliance with professional and legal standards.

For responsible AI adoption, companies should implement internal measures including responsible AI use policies, cross-functional AI task forces, staff training, and clear contractual provisions regarding IP ownership.

External measures should include alignment with global regulatory standards and consideration of voluntary certification programmes to demonstrate ethical AI usage.

Managing dynamic AI risks

Practitioners must recognise that AI implementation requires continuous, active management. Unlike traditional software deployments, AI systems constantly evolve through machine learning, meaning their outputs may change over time, even with identical inputs.

This dynamic nature demands new approaches to risk management and governance

Effective governance demands real-time evaluation systems, regular accuracy assessments, clear accountability structures, and incident response plans.

The UK's post-Brexit position creates both challenges and opportunities in AI regulation; practitioners should support risk-based approaches aligned with EU standards to ensure cross-border operational efficiency whilst advocating for frameworks that promote innovation.

Strategic implementation requires establishing working groups focused on AI risk management, developing best practice guidelines, and fostering dialogue between practitioners, regulators and technology providers.

3. AI Task Force

AI and emerging tech report

3.1 Introduction

The AI Task Force was initiated to provide strategic oversight on the implications of artificial intelligence (AI) and emerging technologies for the profession from a UK perspective (mix of in-house professionals, paralegals, IP consultants and attorneys).

Tasked with identifying risks, exploring opportunities and offering actionable recommendations, the AI Task Force is set to serve as a guiding body and temperature gauge of the scope of AI and emerging technology, while ensuring the profession navigates these changes effectively and responsibly.

The following list outlines the key objectives of the AI Task Force and the steps we are undertaking to meet the challenges posed by AI and new technologies, while positioning the profession to thrive in the UK. The opportunity should not be underestimated but carefully considered.

1. To determine the threats and risks that AI and new technology present to the profession.

2. To recommend to Council actions which should be taken to mitigate any of the risks identified and minimise the threats.

3. To consider and understand the opportunities AI and technology present to the profession.

4. To recommend to Council actions which should be taken to ensure the profession is aware of, and can benefit from, the opportunities identified.

5. To assist Council with the implementation of any agreed actions, as directed by Council.

6. To assist the CITMA communications team in producing relevant information and materials to be published on the CITMA website or shared with members of CITMA via various communication channels.

7. To review and prepare a response to any relevant consultations published by relevant organisations (e.g. IPReg, LSB and UK IPO).

8. To liaise and share knowledge and information as necessary with other organisations (e.g. CIPA, IPReg and UK IPO).

The AI Task Force Chair is Azhar Sadique.

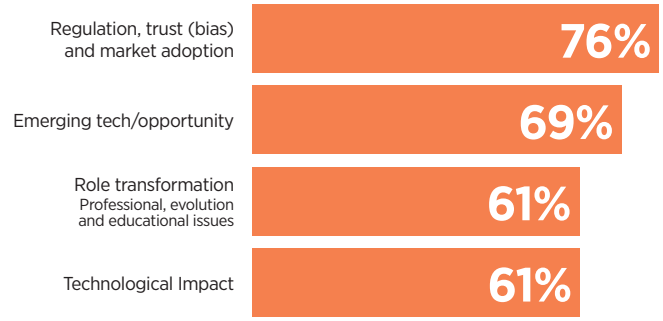
3.2 Survey check-in

As part of this process, an internal survey was conducted to identify the most relevant themes and concerns that would guide the principles of our AI and Emerging Tech Report.

The survey results clearly highlighted that the key concerns are around regulation, trust and market adoption. These have shaped the focus of our recommendations.

Additionally, the opportunities these technologies present and the ways in which professional roles may be impacted, were noted as significant areas of interest.

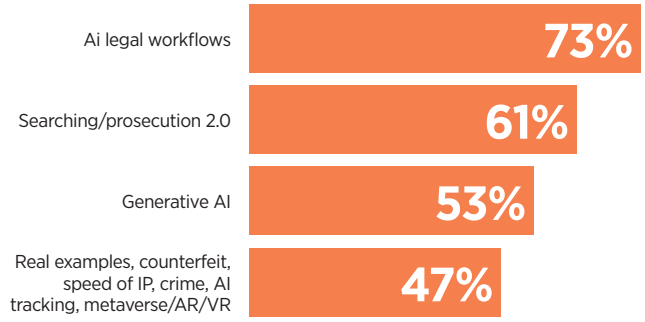
Top voted themes



To ensure the AI Task Force's approach aligned with the needs of the profession, the survey was a means of capturing the insights of a segment group representing the industry. The results were further supported by several "open meetings" which corroborated the survey and clearly outlined that **regulation, trust and market adoption** are the top concerns among the segment group. These themes have become central guiding principles in the development of the onward reporting structure of the AI Task Force.

From an emerging tech point of view, the results indicated quite an evenly shared spread of interest areas. The clear stand-out was how the inefficiencies of workflow and time-restrictive areas of the IP sector could be improved, while ensuring quality of decision. The overall feeling, in very simple terms, is that AI should allow for more considered and strategic insight at lower costs.

Emerging tech: top voted themes



3.3 AI Task Force operational structure

Following the survey results and initial open discussions, the AI Task Force was divided into four special interest groups (SIGS) and provided with areas of concern to address.

Overlaps were highlighted in each group, as there was a need to provide multiple perspectives and contexts on certain areas of interest, i.e. how regulation and education can be adopted at pace.

A summary of the SIGs is provided below, outlining the intended reporting objectives.

4. Technological Impact Group

Special interest group (SIG) 1

The **Technological Impact Group** was established to explore the current capabilities and limitations of AI in the legal profession, particularly in the field of intellectual property (IP) management. The group's mandate is to raise interest points in these technological advancements with existing professional standards and identify areas where AI could significantly disrupt traditional practices. This will enable the profession to stay ahead of technological trends while mitigating potential risks.

4.1 Objectives

The primary objective of SIG 1 is to **understand and assess current AI capabilities and limitations** within the profession. The group aims to provide guidance on the following:

- Identify areas where AI is likely to disrupt existing workflows and standards.
- Assess how AI can be integrated in a way that enhances, rather than diminishes, the role of professionals.
- Ensure alignment between AI developments and current legal and operational standards to maintain the integrity of the profession.

4.2 Tasks and responsibilities

SIG 1 has undertaken several key tasks to fulfil its objectives:

- **Research** The group has compiled comprehensive data on AI integration within the legal profession. This includes reviewing existing research papers and consider use cases and technologies that have already been deployed in the field, such as AI-powered trade mark search engines and IP portfolio management tools. The research will highlight areas of opportunity and disruption.
- **Engagement** A major focus of SIG 1 is developing strategies to increase awareness and adoption of AI among legal professionals. This involves creating outreach initiatives to ensure members of the profession understand the benefits of AI, while also addressing concerns about its impact on traditional roles.
- **Leadership and innovation** The group is working to identify pathways for the profession to position itself as a leader in the adoption of AI. This includes exploring how AI can drive operational efficiency, reduce costs and improve service delivery to clients, thus allowing professionals to focus on high-value tasks

4.3 Members

The group is composed of the following CITMA members:

- **Matthew Quigley (lead)**
- **Richard Burton**
- **Sonia Amrar**
- **Nayna Chunilal**
- **Owain Willis**

5. Emerging Tech and Opportunity Group

Special interest group 2

The **Emerging Tech and Opportunity Group** was established to explore and assess the latest advancements in AI and the application of new technologies within the industry. SIG 2 was designed to align with SIG 1 but provide the context of opportunity and practical implications from a policy and guidelines perspective when conserving new technologies.

The group's focus is on evaluating both current and emerging technologies, with a particular emphasis on their potential to enhance efficiency and innovation within the legal profession. The objective is to identify and explain the most promising AI tools, assess their risks and benefits, and provide strategic recommendations for their adoption.

5.1 Objectives

The primary objective of SIG 2 is to **explore new AI technologies** and explain their potential applications within the legal tech space. The group aims to:

- Evaluate the latest AI-driven tools and technologies that are reshaping the legal industry, particularly in the area of intellectual property (IP) management.
- Provide insights into how emerging technologies, such as generative AI (GenAI) and AI-driven content creation, can be leveraged to improve legal practice.
- Assess the potential misuse of AI by IP opportunists and how this could increase "IP crime" on a scale we have not seen since the domain boom.

5.2 Tasks and responsibilities

SIG 2 has been tasked with investigating several key areas to achieve its objectives:

- **Trade mark technology** The group is conducting a thorough evaluation of AI tools designed to improve trade mark search, filing and navigation processes. This includes assessing the role of "real" AI in enhancing legal tech solutions for IP professionals. We had unique insight provided by a member operating in the evaluation of new technologies, and the founder and creator of an IP-specific AI platform.
- **Investigate AI-driven solutions** A core responsibility of the group is to explore AI-driven solutions that are tailored to the specific needs of the legal industry. This involves evaluating AI's potential to automate complex legal workflows while maintaining high levels of accuracy and compliance.
- **Generative AI** SIG 2 is closely examining the opportunities and risks associated with the adoption of generative AI for content creation. The group is assessing how tools like AI-generated reports, briefs and other legal documents can enhance efficiency while mitigating concerns around bias, transparency and intellectual property rights. Unique insight was provided by an AI product development founder.
- **Real-life applications** The group is also focused on analysing real-life applications of AI in managing IP-related misuse, such as the role of deepfakes in IP fraud and other counterfeit approaches, and how AI technologies can be deployed to detect and prevent such violations. The "race" of safe and good practice vs hyper-speed infringement and opportunist action was also considered.

5.3 Members

SIG 2 is led by two co-leads, supported by the following CITMA members:

- **Alex Rushent (co-lead)**
- **Lucy Pope (co-lead)**
- **Darren Meale**
- **Azhar Sadique**

6. Role Transformation Group

Special interest group 3

The **Role Transformation Group** was established to focus on the likely profound changes (and opportunities) that AI integration is bringing to professional roles within the legal and intellectual property (IP) sectors.

With the rapid development and adoption of AI, the traditional functions and responsibilities of professionals are being redefined. This SIG's objective is to outline the transformation of these roles, understand the skills required to adapt to this new landscape and provide guidelines for ensuring professionals remain relevant as AI continues to reshape the profession.

The SIG also plans to consider a wider perspective of the profession.

6.1 Objectives

The primary objective of SIG 3 is to **define how professional roles are transforming** due to AI integration. Specifically, the group aims to:

- Identify the skills and knowledge professionals need to develop to adapt to AI-driven changes in their roles, such as prompt drafting or prompt control.
- Document how traditional roles in IP and legal practice are evolving as AI technologies become more widely adopted.
- Understand the broader impact of AI on the structure of various professional roles, including changes in responsibilities, workflows and industry expectations.
- Prepare a member-wide survey into concerns (overlapping with a call for input on educational measures that CITMA could take to balance the current membership opinion variance).

6.2 Tasks and responsibilities

SIG 3 has been tasked with several key activities to fulfil its objectives:

- **Preparation** The group is outlining the essential skills, competencies and knowledge that professionals will need to successfully adapt to the changing landscape. This includes understanding AI technologies, data analytics and ethical considerations in AI deployment.
- **Role evolution** The group is documenting the ways traditional legal and IP roles are being transformed by AI. This involves assessing how tasks that were once predominantly manual and prone to user error, such as traditional trade mark searches and IP management, are now being supported or replaced by AI systems, and how professionals have a chance to allow their roles to evolve to focus on higher-level strategic activities.
- **Landscape change** SIG 3 is also analysing the broader implications of AI on the structure of multiple roles across the profession. This includes exploring how new roles might emerge as AI adoption increases, and how existing roles may shift to accommodate the new technological capabilities available.

6.3 Members

SIG 3 is formed of the following CITMA members:

- **Chloe Kirby-Raso (lead)**
- **Reem El-Khalil**
- **Olivia Vanstone**
- **Jerry Bridge Butler**

7. Regulation, Trust (Data Bias) and Market Adoption Group

Special interest group 4

The **Regulation, Trust (Data Bias) and Market Adoption Group** was established to focus on the regulatory challenges, data management issues, trust concerns, bias and market adoption of AI within the legal profession. The group's primary objective is to address the pitfalls related to data clearance, ethical AI use and the integration of AI into professional practice. Additionally, SIG 4 will consider how UK members can lead the profession in shaping and advocating for proactive legislative changes, rather than merely adhering to existing regulations like the EU AI Act.

7.1 Objectives

The key objective of SIG 4 is to **tackle the regulatory, trust and adoption barriers** in the profession. The group's goals include:

- Providing the profession with essential guidance on navigating regulatory frameworks and ethical considerations surrounding AI.
- Developing best practices for data management, ensuring that AI systems are transparent, unbiased and ethically sound.
- Advocating for legislative changes that place the legal profession at the forefront of AI regulation, surpassing the standards set by global frameworks such as the AI Act.

7.2 Tasks and responsibilities

SIG 4 has been tasked with addressing several core challenges to fulfil its objectives:

- **Education and upskilling** The group is focused on providing essential information and training that will help legal professionals upskill immediately. This includes creating educational resources that enhance the understanding of AI and its ethical implications.
- **Data and ethics** A major focus of the group is developing standards and best practices for managing data and ensuring ethical AI use. This includes preventing misuse, addressing data bias and promoting transparent AI systems that maintain client trust.
- **Regulation and legislative advocacy** Rather than simply following existing regulations, SIG 4 also considered how there may be an opportunity to provide well-considered regulations to promote and encourage considered growth. The group is advocating for proactive changes in law that consider the evolving capabilities and risks associated with AI, making sure the profession is prepared for future developments.

7.3 Members

SIG 4 is co-led by two experienced professionals, supported by a diverse team:

- **Alain Godement (co-lead)**
- **Ece Sarica (co-lead)**
- **Ben Britter**
- **Ese Akpogheneta**
- **Warren Stephen**
- **Olivia Hamilton**

8. Technological impact

8.1 Introduction

As the profession continues to adopt new technologies, there is a growing challenge of fully understanding their capabilities to develop effective frameworks. The same applies to the use of AI in the trade mark profession. It has become apparent that AI presents significant opportunities in day-to-day practice but also brings limitations that must be well understood.

A recent survey conducted across the profession indicated that 82% of lawyers[1] within law firms believe AI can be effectively applied to legal work.[2] However, there is a need for a better understanding of both the capabilities and limitations of AI, especially within the context of trade mark practice. AI is already being deployed in several areas:

- Traditional trade mark searching and watching
- Automation of enforcement
- Portfolio management and analysis
- Legal research and analysis
- Trade mark registration

This report will explore how AI is being integrated into these areas and highlight the implications for the profession.

8.2 Trade mark searching and watching

The *Research Handbook on Intellectual Property and AI* (Edward Elgar Publishing, 2022) provides a comprehensive review of the current and potential applications of AI. This research highlights how AI is transforming the trade mark registration process and facilitating more efficient trade mark searches. AI-powered tools are being used to enhance the accuracy and speed of traditional clearance searches,[3] which is particularly valuable for managing large volumes of data. However, despite these advancements, the technology is still subject to certain limitations, including data accuracy and the complexity of contextual interpretations that human professionals can better handle.

AI is transforming the trade mark registration process and facilitating more efficient trade mark searches. AI-powered tools are being used to enhance the accuracy and speed of searches, which is particularly valuable for managing large volumes of data. However, despite these advancements, the technology is still subject to certain limitations, including data accuracy and complex contextual interpretations that human professionals can better handle.

AI offers lawyers the opportunity to streamline and enhance offerings around trade mark searching and watching. User interfaces for these products are usually user-friendly and intuitive, making them accessible to brand owners and trade mark professionals.

Numerous products are commercially available that can search millions of data points at registries around the world to produce a near-instantaneous list of results for consideration. The use of AI in searching forms part of a wider move towards the digitisation of trade mark data around the world, which has made this information more accessible. However, the real capability and utility of AI in this area is the ability to undertake a task that would previously have taken a person many hours or even days to complete. Not only is the data produced collated into a single report, but additional analysis is often provided with the raw data.

In terms of watching, the same AI-powered or enhanced algorithms work in the background to search publication data, which is then indexed and sent to users to consider in the context of their enforcement strategy. The additional benefit of AI integration with watching is the access to additional information (as with searching) on the applicants and their wider portfolios.

Footnotes

1 www.worldtrademarkreview.com/article/trademark-professionals-optimistic-ai-can-be-ally-provided- people-remain-the-decisive- factor?utm_source=INTA%2Bpostpones%2BDubai%2BAnnual%2BMeeting%253B%2BGoogle%2Bai%2Bcase%2Bdismissed%253B%2B7NOW%2Bwebsite%2Bbanner%2Bruling&utm_medium=email&utm_campaign=WTR%2BDaily
2 www.anaqua.com/resource/three-ai-trends-in-intellectual-property/
3 Dev Gangjee, A Quotidian Revolution: Artificial Intelligence and Trade Mark Law published in the Research Handbook on Intellectual Property and Artificial Intelligence (Edward Elgar, 2022)

8.3 AI and enforcement

AI in enforcement mechanisms, particularly in the form of automated content identification (content ID) systems, has a long history of application within online platforms.[4] These systems use algorithms to detect intellectual property infringements, often resulting in "false positives"[5] due to the limitations of the technology. The primary issues with automated enforcement include a lack of transparency and over-reliance on algorithms, which can mistakenly flag legitimate content as infringing.

AI offers the potential to improve these systems by providing a more nuanced understanding of content and products, enabling better detection of trade mark infringements. However, the removal of trade mark professionals from the enforcement process poses risks, particularly when dealing with appeals. Platforms may utilise AI in handling appeals, potentially issuing decisions without adequate human oversight or reasoning. The professional's role may shift to preparing appeals in cases where a client's product has been incorrectly flagged, or defending decisions against appeals.

Transparency in how AI processes enforcement decisions will be critical as this technology becomes more integrated. The profession will need to engage with AI technologies to ensure enforcement decisions remain fair and consistent, and to guard against unintended consequences from automated systems.

8.4 Portfolio management and analysis

AI is showing promise in the realm of IP portfolio management, offering the ability to automate time-consuming tasks while delivering insights that can enhance strategic decision-making. For example, AI tools can monitor competitor activities, identify potential opportunities for expanding protection, and assess the risk of infringement. These tools help professionals optimise the value of portfolios[6] by providing analysis that would traditionally require considerable time and resources.

However, the effectiveness of AI in portfolio management is contingent upon the quality of data that is fed into these systems. Without accurate and comprehensive data, AI tools may provide misleading insights. There is also a noted improvement in contract lifecycle management (CLM) systems, which can now leverage AI to draw out key clauses from contracts and agreements tied to intellectual property. This enables trade mark professionals to assess licensing positions more efficiently.

The main limitation in this area lies in the lack of integration between CLM systems and portfolio management systems, which hampers the consolidation of data into one place. This lack of integration affects the potential for AI tools to offer seamless analysis across various aspects of IP management.

8.5 The use of generative AI

Generative AI, especially large language models (LLMs) like ChatGPT, are being applied in two core areas within trade mark practice:

Legal research and litigation. This includes drafting arguments and preparing documents required for legal proceedings.

Trade mark registration. AI is assisting in drafting specifications and reviewing opposition claims.

Footnotes

4 Urban, Karaganis & Schofield, Notice and Takedown in everyday practice (2017), UC Berkley Research Paper No.2755628
5 False Positives, as defined in the literature, is where the algorithm or AI falsely identifies something as infringement whether it be content or a product, due to inherent biases built into the system or its failure to understand the nuances that exist.
6 www.cimphony.ai/insights/10-ai-tools-to-streamline-ip-portfolio-management

8. Technological impact *ctd*

8.6 Generative AI in legal research and litigation

As outlined above, generative AI utilises large language models to carry out research and prepare drafts for the various documents required in litigation.

Identifiable benefits include increased efficiency for preparing submissions and summarising case law, but on both counts, it should be noted that accuracy and consistency can be a problem.[7] This, however, may be due to the current use of tools that draw down the vast amount of information available online, as opposed to using tailored data sets that would suit the profession's needs. Further to this, through persistent use it can recognise a person's style and mimic it, supporting the efficiency in preparing various submissions.

Data shows that 75% of solicitor firms in the UK are already making use of AI in this fashion, and there have been limited negative stories so far.

Another application in this field is leveraging case data to compare against the facts of a current case to predict potential outcomes. Some tools on the market already offer this functionality. However, given the various limitations of AI, these predictions should be used as a reference rather than relied upon as definitive legal conclusions. AI may also be useful as a tool to compile preprepared documents, and assist with document management processes within litigation and potentially the broader aspects of trade mark practice.

As previously mentioned, the accuracy and reliability of generative AI remain a concern, particularly due to the issue of hallucinations – where AI fabricates information in its attempt to provide a definitive answer. This problem has already surfaced in litigation, with two notable cases highlighting its risks. The first occurred when a US lawyer used ChatGPT to generate their entire argument, which led to them being sanctioned.[8] Then, in the UK, there was the issue of a layperson using AI to draft submissions, which led to delays in the hearing.

While these two incidents are not cases that involve IP, they highlight how AI hallucinations can limit the effectiveness of AI when relying on it to produce information. The broad data sets used in these tools is likely partly to blame for such hallucinations, as data is pulled from various sources, some of which may not be relevant.

8.7 The use of AI in trade mark registration

AI can be used in various ways throughout the trade mark registration process, including assisting trade mark offices with their procedures. The UK IPO has already begun to make use of the technology with trade mark pre-apply, which has been designed to use AI to check for relative and absolute grounds and guidance on the correct classification of goods and services,[9] among additional functionalities to support the applicant. This front-end analysis is a useful way to help determine the potential weaknesses of an application ahead of time. It avoids promoting over-reliance on the technology by emphasising its best use as a tool for guidance. Combined with other available tools, this approach may enable the automation of most of the drafting stage.

There are other tools already being deployed by various intellectual property offices to assist with aspects of the application process. WIPO has launched the Vienna Classification Assistant,[10] an AI-powered tool designed to help users identify the Vienna Classification that may be applicable to a figurative mark. One noted limitation is the lack of widespread adoption of the Vienna Classification system,[11] which limits the available data for analysing marks and determining the appropriate class.

The limited functionality of generative AI, as outlined in the previous section, presents an opportunity for standard applications. However, tasks requiring more complex drafting to help pre-empt potential grounds for refusal or opposition are likely beyond AI's current capabilities in this area.

Footnotes

7 www.webtms.com/ai-in-ip-everybodys-talking-about-chatgpt
8 www.courthousenews.com/sanctions-ordered-for-lawyers-who-relied-on-chatgpt-artificial-intelligence-to-prepare-court-brief
9 www.gov.uk/government/news/ipos-first-ai-powered-tool-improves-quality-of-tm-applications
10 www.wipo.int/reference/en/branddb/news/2020/news_0006.html
11 Dev Gangjee, A Quotidian Revolution: Artificial Intelligence and Trade Mark Law published in the *Research Handbook on Intellectual Property and Artificial Intelligence* (Edward Elgar, 2022)

8. Technological impact *ctd*

8.8 Conclusion

Across the various applications of AI in the trade mark profession, a common theme emerges: the importance of human oversight. AI tools can provide valuable assistance, but their output should always be subject to human judgement and feedback.

As the technology develops, the role of trade mark professionals will evolve to include quality control over AI-generated work and providing feedback to help improve AI systems.

Ensuring data quality is critical, especially where AI is used for analysis. The technology's effectiveness depends on its ability to draw from accurate and relevant sources. This is particularly true for large language models (LLMs) and general-purpose AI tools, which often pull from broad data sets that may not be tailored to the legal profession's needs.

Ultimately, AI presents significant opportunities for the trade mark profession, particularly in portfolio management and in streamlining preliminary tasks for trade mark applications. However, the profession must approach these tools with caution, supported by professional training and the development of guidelines to ensure responsible use.

Collaboration with vendors and platforms using AI in the IP space will be critical to ensuring that these tools continue to improve and serve the profession's needs.

9. The evolution of IP tools and services

The impact of generative AI

On the surface, the tools used by IP professionals and brand owners – whether through law firms, IP attorneys or brand management platforms – appear to have evolved relatively little over the last decade. While significant investments have been made in the IP space, the impact on day-to-day practice has been minimal.

In recent years, private equity has entered the market, forming conglomerates of firms across Australia and New Zealand. The UK has seen firms evolve from traditional models. Many have emerged as powerhouses in brand management, with new custom-built platforms utilising AI features.

Meanwhile, the supplier market has undergone tremendous consolidation. Many service providers divested their IP assets to private equity firms. Relatively new alternatives to the key providers for IP services have been actively acquiring tech solutions and legal advisers under a one-stop-shop and/or alternative models.

With the rise of generative AI, the next five years will be transformative, as threats and opportunities arise that will redefine how IP is managed, administered, examined and advised upon.

9.1 AI: hype vs reality

AI has been widely discussed, but confusion around its true capabilities remains rampant due to marketing buzzwords and misrepresentations. Many solutions marketed as "AI" are little more than traditional algorithms rebranded. This "toxic combination" of technical debt and the drive for short-term financial gain has stifled true innovation among leading solution providers.

However, the advent of GenAI has the potential to break this stalemate. In 2022, the focus was on Web3, NFTs and the Metaverse – themes that promised to reshape the IP space but fizzled out almost as quickly as they emerged. While cryptocurrencies continue to face a turbulent existence, the underlying technologies of blockchain and decentralisation still hold untapped potential in the IP world.

The real disruption began in 2023 with the release of ChatGPT by OpenAI, which showcased the far-reaching potential of GenAI across multiple industries. GenAI is already enabling new forms of content creation, natural language processing and creative assistance, transforming industries in ways not previously imagined. According to S&P Global, GenAI startups attracted $21.8bn in investment in 2023, nearly half of which went to OpenAI. This figure is expected to grow even further in 2024.

9.2 GenAI and IP services: what lies ahead?

While chatbots are not new to the market, GenAI has made them easier to create and more sophisticated. Many companies now use these tools for customer service, providing first-line support for frequently asked questions before escalating more complex issues to human agents. A similar dynamic can be expected in the IP space, where lower-level roles – particularly those involving repetitive or predictable tasks – are likely to be automated. This includes administrative and paralegal functions, which could be replaced by GenAI tools in the coming years.

The more advanced and sophisticated the jurisdiction (e.g. UK IPO, EUIPO, USPTO, IPOS and JPO), the greater the disruption will be for self-service corporate brand owners and intermediaries (e.g. attorney/law firms).

Technology capable of automating examination processes with a high degree of accuracy already exists. For example, image tools that can automatically apply Vienna Classification to an image with 98% accuracy are now available. These tools standardise examination processes and could be adopted by jurisdictions worldwide.

9. The evolution of IP tools and services *ctd*

9.3 Potential impact on traditional IP services

1. Search and watch services GenAI tools already exist that can conduct clearance searches with legal opinions in just eight seconds. This technology has far-reaching implications, particularly for service providers that rely heavily on manual search processes.

Traditional offline searches, often positioned as the "gold standard" by human analysts, may no longer be the superior method of trade mark research.

Automated search solutions could become the norm, not just for brand owners but also for government examiners. While the automation of relative grounds examination is relatively straightforward, the automation of absolute grounds is more challenging. Nevertheless, advancing technology at governmental level could offer tremendous value to corporate brand owners and self-service users, reducing the need for intermediaries such as attorneys and law firms.

2. Prosecution services Trade mark prosecution, particularly for word mark applications, constitutes a large portion of the global IP industry. Automation challenges this revenue stream, especially as GenAI tools become more capable of handling standard applications and formalities. However, the contentious side of IP work – such as strategic legal arguments and responses to complex office actions – will become even more valuable, as testing and adoption has shown that the lack of trust and development in all current AI models is not enough to "replicate" but enough to "enhance" a human attorney.

3. Opportunities in strategic advice As routine tasks are increasingly automated, the future of the profession will lie in providing strategic, holistic and commercial advice to clients. Professionals who can navigate complex, high-stakes IP matters will remain indispensable, even as automation reshapes the lower levels of IP work.

Generative AI: threats and opportunities
While GenAI represents a disruptive force in the industry, it is essential to communicate a balanced message to trade mark practitioners. It's not just a case of "watch out because AI is going to take your job", or "service providers are going to build tools you'll have to pay to use". Instead, practitioners should consider both the threats and opportunities GenAI presents.

- **General-purpose GenAI models** The GenAI LLMs we are familiar with today, like ChatGPT, are general in nature and not specifically suited to trade mark tasks. This is largely due to the lack of fine-tuning and access to the relevant data required for IP-specific applications.
- **Data and fine-tuning** It is relatively easy to configure these models. All that is required is to collate the training data and apply some fine-tuning – something service providers and data companies are already doing.
- **Shifting business models** Companies that currently charge for data and watch services may soon offer to do much more of your work, either directly to you or to your clients, and at a cheaper price. This undeniably poses a threat to the current business models of attorney and law firms. However, as with any new technology, it also brings opportunities.
- **Access to GenAI platforms** The big LLMs like ChatGPT already make their technology available to businesses at relatively low prices. These platforms will likely become just as integral to IP work as word processors, docketing systems and email clients.
- **Opportunities for young practitioners** The key question is whether IP professionals will have the drive and skills to use GenAI effectively. Established professionals may prefer to adopt existing service-provider solutions. However, those at the start of their career may see the value in learning these new skills and developing their own solutions.
- **Automation of office actions** It is foreseeable that GenAI could be trained on EUIPO practice and other jurisdictions. These models could be fed enough examples of office actions and responses to generate passable drafts of letters to examiners or advice to clients. If these tools are available to practitioners, there is no reason why they shouldn't be used. With the right training, these tools could bring significant efficiencies to practice.

9. The evolution of IP tools and services *ctd*

9.4 Conclusion: winners and losers in the GenAI era

GenAI will undoubtedly bring change, threat and opportunity to the trade mark profession. As with any technological shift, there will be winners and losers. Some practitioners will sit back and let these changes happen, while others will dive in and become part of the cutting edge.

Ultimately, it is up to individual practitioners to decide whether they will adapt to these changes and seize the opportunities GenAI brings – or whether they will wait for someone else to create the solutions they will eventually have to pay to use. The choice is clear, and the future of the profession will depend on how it responds to the ongoing evolution of technology.

10. Generative AI in trade mark practice

Practical use cases, control and implications, cross-industry comparisons, cost reduction, challenges, best practices and IP crime

10.1 Practical use cases

Generative AI offers numerous opportunities for the work of Trade Mark Attorneys and IP professionals. Here are key practical use cases, summarised throughout the report.

1. **Trade mark searches** AI models can scan databases of existing trade marks to identify potential conflicts. This can assist in producing faster and more comprehensive search results. However, the accuracy of these models may be subject to bias or inconsistencies in analytics, so human review is still critical.
2. **Trade mark monitoring** AI tools continuously monitor online platforms, marketplaces and publications to detect unauthorised use of trade marks. These tools can flag potential infringements, offering speed and cost-efficiency. As with trade mark searches, accuracy and bias remain concerns that require human oversight.
3. **Drafting and filing applications** Generative AI can assist in drafting trade mark application documents, identifying required information and predicting potential objections based on past filings. This helps reduce the burden on attorneys, although accuracy must be verified.
4. **Legal research and case summaries** AI can be used to generate summaries of legal cases, streamlining legal research. While this offers efficiency benefits, the risk of inaccurate results remains a challenge, and human validation is crucial.
5. **Client interaction** AI-driven chatbots and virtual assistants can provide prospective clients with basic trade mark information, answer FAQs and handle some onboarding processes. These tools can enhance customer service and improve efficiency in client interactions.

10.2 Control and implications

The role of generative AI in trade mark and legal practices needs careful management, especially in light of associated risks and ethical considerations.

1. **Quality control** AI outputs in legal drafting, research and analysis must be verified by qualified attorneys to ensure they meet legal standards. Without human oversight, there is a risk of error and misinterpretation of legal precedents.
2. **Data privacy** Processing client data through AI systems raises concerns over data security and compliance with regulations like GDPR. Firms must ensure that AI systems do not compromise client confidentiality or breach data protection laws.
3. **Bias and fairness** AI models can reflect biases in the data they are trained on, which may result in unfair or inaccurate assessments in trade mark searches and infringement outcomes. AI outputs must be reviewed to mitigate these risks.
4. **Ethical use** Transparency is key when using AI in legal services. Firms should inform clients of the extent to which AI is involved in their cases to ensure trust and ethical practices.
5. **Liability and accountability** Firms need clear policies outlining responsibility when AI-generated content contains errors. If AI provides incorrect advice or faulty analysis, firms must have risk management protocols in place to address liability concerns.

10. Generative AI in trade mark practice *ctd*

10.3 Cross-industry comparisons

Generative AI is being adopted across various industries, providing valuable lessons for the IP field.

1. **Healthcare** AI is used in healthcare to predict outcomes based on large datasets. Similarly, AI in trade mark practice can predict the likelihood of approval or rejection for trade mark applications, based on prior precedents.
2. **Financial services** AI is utilised in fraud detection and regulatory compliance in finance. In the IP field, similar models can monitor potential trade mark infringements or detect bad faith filings.
3. **Publishing and media** Content generation, rights management and streamlining of workflows through AI are reshaping the media industry. Similarly, in trade mark law, AI can automate content creation tasks such as cease-and-desist letters or drafting legal opinions.

These examples highlight the importance of human oversight while adopting AI for efficiency improvements in trade mark practice.

10.4 Cost reduction

Generative AI can lower costs for Trade Mark Attorneys and IP firms in several ways.

1. **Automation of repetitive tasks** AI can automate administrative tasks like monitoring, data entry and document drafting. This reduces the number of billable hours spent on low-value tasks, allowing firms to allocate resources more efficiently.
2. **Improved efficiency** AI tools can perform tasks such as trade mark clearance searches and summarising legal research faster, allowing attorneys to process more cases in less time without needing a proportional increase in staff costs.
3. **Reduced research time** AI-driven research tools can rapidly analyse legal texts and case law, saving attorneys time spent on research. This can potentially lower overall costs for clients while increasing firm efficiency.
4. **Predictive analytics** AI can predict the success rates of trade mark applications or litigation outcomes, helping firms steer clients towards the most likely successful outcomes. This can prevent the need for prolonged legal battles or unnecessary filings.

10.5 Challenges

While the benefits of AI are clear, there are several challenges that firms face in its adoption.

1. **Integration with existing systems** Many firms already have established case management and research tools that may not be easily compatible with AI solutions, leading to inefficiencies during implementation. Highly static management systems can restrict companies and firms unless a significant overhaul of their management processes and systems is considered. Such a reliance on outdated platforms will give smaller firms with more versatile systems a chance to compete for clients who require efficiency and good-quality output.
2. **Trust in AI outputs** Attorneys and clients may be sceptical of the accuracy of AI systems, particularly for complex legal matters where human intuition and judgement are paramount. Building trust will require time, proven results and robust AI systems.
3. **Legal compliance** AI use in legal services must align with guidelines from regulators such as IPReg and the Solicitors Regulation Authority (SRA) in the UK. Firms must ensure AI does not contravene practice rules or violate client confidentiality.
4. **Initial costs** While AI can reduce costs over time, the initial investment in technology and training can be significant, particularly for smaller firms. Implementing AI requires both financial commitment and time to see results.

10. Generative AI in trade mark practice *ctd*

10.6 Best practices

To leverage AI effectively, trade mark firms should follow these best practices.

1. **Human oversight** AI should be used to augment, not replace, human decision-making. Attorneys must review AI-generated output, particularly in high-stakes legal matters, to ensure it meets legal and ethical standards.
2. **Client transparency** Firms must be clear with clients about the role AI plays in their casework. Clients should understand how AI contributes to their case and the benefits it brings in terms of cost and efficiency.
3. **Training and upskilling** Attorneys and staff must be trained not only in how to use AI but also in understanding its limitations. Continuous education in AI literacy will be critical as the technology evolves.
4. **Data security** Firms must implement robust data protection measures to ensure client data processed by AI systems complies with GDPR and other data protection regulations.
5. **Pilot programmes** Firms should begin with small-scale AI implementations to test the technology's effectiveness in specific workflows. Once results are proven, they can scale up use with greater confidence.

10.7 IP crime and AI's role in threats

Generative AI also introduces risks in the form of IP crime, where criminals use AI technologies to exploit weaknesses in enforcement mechanisms. The speed with which AI can generate and register domains, craft phishing emails or automate attacks, creates a dangerous environment where counterfeiting operations can thrive.

1. **Phishing and domain attacks** AI can be used to launch phishing attacks that closely mimic legitimate communications, making it difficult for recipients to discern real from fake. These tools can register domains and generate content automatically, allowing criminals to launch large-scale, rolling attacks. The slow response time in taking down infringing pages exacerbates the problem, leaving IP holders vulnerable for longer periods.
2. **Counterfeit goods** AI is making counterfeits more convincing than ever before. Tools that generate high-quality replicas of logos, packaging and branding enable criminals to create convincing counterfeit products. As a result, counterfeit goods are harder to detect and pose a serious threat to brand owners.

To combat these threats, **web security** is more important than ever. A strong **trade mark portfolio** aligned with technological safeguards can help mitigate the risks posed by cybercriminals. Firms and IP owners must embrace the latest AI tools for monitoring and enforcement, adopting a proactive stance to ensure that infringing content is detected and removed swiftly.

11. AI-driven IP crime

Starjacking, phishing and the metaverse threat

11.1 Starjacking and fake code: AI's role in IP fraud

A relatively new and growing area of concern for the IP sector is the use of AI to facilitate "starjacking" – the practice of artificially inflating GitHub repository stars to make fake or malicious projects appear more credible. With advancements in generative AI, criminals can now create sophisticated, yet counterfeit, codebases that are indistinguishable from genuine projects at first glance. From the codebases, they can make digital products or applications that infringe on scale and mass.

AI-powered starjacking enables malicious actors to:

- **Create fake repositories** Generative AI tools can automate the creation of repositories that appear legitimate but serve as fronts for malicious activities, such as distributing infringing content or malware. These repositories often contain highly sophisticated, AI-generated code that mirrors legitimate apps or environments.
- **Automate fake stars and followers** AI can generate hundreds or even thousands of fake accounts to give "stars" and fake endorsements to these repositories. By inflating the popularity of a fake project, criminals can attract developers and IP holders into engaging with these repositories or cloning the code, thereby increasing the reach of the infringement or fraud.
- **Leverage starjacked environments for IP infringements** Once a project gains credibility through starjacking, it can serve as a base for more sophisticated IP infringements. These repositories may hide counterfeiting tools or pirated software within the code. Alternatively, they could promote other forms of IP theft under the guise of open-source collaboration.

For example, a starjacked repository could offer AI-based trade mark search tools that claim to provide automated IP services, but in reality, these tools might siphon off sensitive data or promote counterfeit goods. With the code appearing legitimate due to inflated stars, the risk of users unknowingly falling victim to infringement schemes is significantly heightened.

12. Case study

AI, counterfeiting and 3D printing – infringing trade marks, brands and copyright

Another fast-growing threat posed by AI-powered counterfeiting is combining AI reverse-engineering with advancements in 3D printing technology. AI can replicate the printing codes used in the creation of genuine products, which can then be used by counterfeiters to produce high-quality, mass-produced replicas. This development poses significant risks for trade mark owners, brand integrity and copyright holders.

12.1 How AI and 3D printing enable counterfeiting

1. **AI's role in reverse-engineering genuine products** AI technologies, particularly machine learning, are being used to analyse and deconstruct the designs and specifications of genuine products. AI systems can reverse-engineer products by scanning detailed images, analysing dimensions and extracting the printing instructions or blueprints needed to recreate these products. With these instructions, counterfeiters can easily program 3D printers to produce replicas indistinguishable from the original items.
2. **3D printing technology** 3D printing has evolved significantly over the past decade, allowing for the replication of intricate and high-quality goods, including branded items such as luxury goods, automotive parts and medical devices. Once the AI has decoded the original product's specifications, the blueprint can be fed into a 3D printer, enabling counterfeiters to mass-produce replicas with minimal cost and effort.
3. **Replicating logos and brand elements** AI systems can also copy logos, trade marks and distinctive brand elements directly from genuine products, infringing both trade marks and copyrights. With image recognition tools, AI can accurately capture these elements, making it easy to produce counterfeit goods that look legitimate. This not only undermines brand value but also deceives consumers into purchasing fake goods.

12.2 The scale and speed of the threat

AI-powered counterfeit operations, combined with 3D printing, present a massive scaling threat to IP holders. Traditional counterfeiting operations were often constrained by the need for expensive moulds and manufacturing setups. Now, AI can bypass those barriers, allowing counterfeiters to quickly replicate and distribute products. This technological shift has made it easier to operate covertly, as the infrastructure for mass production is accessible even to small-scale operations.

Counterfeiters can also leverage online marketplaces to sell these goods, increasing the distribution and accessibility of counterfeit products worldwide. With AI, counterfeiters can rapidly adjust their replicas based on any new product releases or brand updates, staying ahead of enforcement efforts and complicating takedown strategies.

12.3 Challenges for enforcement

1. **Detecting counterfeits** The sophistication of AI-generated replicas makes it harder for trade mark owners and law enforcement to identify counterfeit goods. Traditional detection methods may not be sufficient, as 3D-printed counterfeits are often indistinguishable from genuine products in terms of appearance and functionality.
2. **Legal and regulatory challenges** The global nature of counterfeiting, combined with the anonymity of online sales platforms, creates jurisdictional challenges for enforcing IP rights. Counterfeiters often operate across borders, making it difficult to track down and prosecute offenders.
3. **Speed of proliferation** AI's ability to rapidly produce digital blueprints and 3D printers' capacity for high-speed production means that once a counterfeit product is created, it can be duplicated and distributed faster than traditional enforcement mechanisms can act. The proliferation of counterfeit goods can overwhelm IP holders and enforcement agencies, making it a race against time to protect brand integrity.

12.4 Recommendations for counteracting AI-driven counterfeiting

1. **AI-powered detection tools** Just as counterfeiters use AI to replicate genuine products, brand owners must leverage AI to detect counterfeit products online and in marketplaces. AI-powered monitoring tools can scan for trade mark infringements, suspicious product listings and unauthorised uses of logos, enabling faster responses to counterfeiting activity.
2. **Enhanced collaboration with platforms** IP holders should collaborate with online platforms and 3D-printing service providers to identify and remove counterfeit products. Platforms must be encouraged to implement automated detection systems that flag counterfeit products based on design or trade mark recognition, allowing for swift takedowns.
3. **Legal and regulatory action** Governments and IP regulatory bodies must establish clearer guidelines around 3D printing technology and the use of AI in product replication. Stronger laws addressing the replication of design blueprints and the unauthorised use of trade marks in digital files will help close the loopholes that allow counterfeiters to operate unchecked.
4. **Public awareness campaigns** Brand owners can raise awareness among consumers about the risks of purchasing counterfeit products, particularly online. Educating the public on the signs of counterfeiting and encouraging them to purchase only from authorised retailers can reduce the demand for fake goods.
5. **Digital watermarking and authentication** One solution to combat counterfeiting is the use of digital watermarking or authentication technologies that can be embedded into genuine product designs. These digital markers make it easier to distinguish between authentic and counterfeit goods, even if the physical appearance is identical.

12.5 The metaverse: an emerging frontier for IP threats

The metaverse, with its vast, decentralised and immersive digital environments, introduces a new layer of challenges for brand owners and IP professionals. The 2022 hype surrounding Web3, NFTs and the metaverse initially led many brands to refile their trade marks to include Web3 coverage and secure virtual real estate. While the excitement over these technologies has cooled, the risks they present remain substantial.

1. **Counterfeiting and the metaverse** AI can now produce hyper-realistic counterfeit goods for use in metaverse platforms. These counterfeit digital assets, including virtual clothing, branded items and other products, are increasingly difficult to detect, creating a parallel economy of fakes. For example, users can purchase branded virtual goods in these environments, believing they are buying legitimate items when they are, in fact, AI-generated counterfeits.
2. **Trade mark infringement in virtual spaces** As brands move into the metaverse, the potential for trade mark infringement increases. AI can automatically generate virtual environments or virtual goods that infringe upon registered trade marks. In these decentralised, often unregulated, environments, enforcing IP rights becomes exceedingly difficult. Infringing pages and digital spaces can be set up faster than they can be taken down, making the process of protecting trade marks slow and ineffective.
3. **Phishing and domain attacks in the metaverse** AI can facilitate phishing attacks by creating deceptive virtual environments within the metaverse that look identical to legitimate platforms. These environments can steal personal or financial data, or mislead users into believing they are engaging with a legitimate brand. Generative AI tools can also generate entire fake domains or even impersonate brand-controlled metaverse spaces, luring users into counterfeit experiences where fraudulent activities can take place.

In the metaverse, AI-generated content – whether it be fake marketplaces, phishing attempts or infringing digital goods – poses a serious threat to trade mark portfolios. The speed and sophistication with which AI can generate infringing content means that brands and IP holders must embrace advanced technology to stay ahead of the curve.

12. Case study *ctd*

12.6 Combatting AI-powered IP crime: the need for advanced tools and strategies

To effectively combat AI-driven infringements like starjacking and metaverse counterfeiting, Trade Mark Attorneys and IP professionals must adopt technology-driven strategies.

1. **AI-powered monitoring and enforcement** Just as AI is being used by criminals to create infringing content, brand owners must leverage AI tools to monitor digital platforms and virtual spaces for signs of trade mark infringement. Automated search tools that scan for suspicious activity on GitHub, online marketplaces and the metaverse are essential for detecting violations before they spread.
2. **Web security and trade mark portfolios** Strong web security measures must be integrated with trade mark portfolios to protect against AI-enabled domain attacks, phishing schemes and counterfeit virtual goods. Speed is of the essence – automated tools should be used to quickly detect and remove infringing pages or take down fake environments in the metaverse.
3. **Collaboration with tech platforms** Trade mark professionals must work closely with platforms that host AI-generated content, whether it be GitHub, decentralised Web3 platforms or metaverse spaces. By collaborating with these platforms, IP holders can flag infringing content faster and implement standardised measures to prevent further proliferation of counterfeit goods and services.
4. **Leveraging AI for defence** IP firms should also embrace defensive AI technologies to combat AI-generated counterfeits. For example, image recognition tools can be used to detect fake logos or branded goods in virtual environments, while text-based AI tools can automatically scan online spaces for trade mark infringements in real-time.

12.7 Conclusion

AI presents a significant threat to the IP landscape, but it also provides a valuable tool set for countering these risks. Whether in the form of starjacked repositories that promote fake code and fraud, or in the metaverse, where virtual goods and services are increasingly targeted by counterfeiters, IP professionals must stay ahead of the technological curve.

By combining advanced AI monitoring systems with strong web security protocols and strategic collaboration with tech platforms, Trade Mark Attorneys can ensure they are not only defending their clients' IP rights but also embracing the future of IP practice in a world increasingly dominated by AI-driven content.

However, generative AI offers tremendous opportunities for Trade Mark Attorneys and IP professionals. From automating routine tasks to reducing costs and increasing operational efficiency, AI has the potential to transform the trade mark profession. However, its successful integration will depend on addressing challenges such as quality control, data security and legal compliance, while adhering to best practices for ethical use.

At the same time, AI's role in IP crime cannot be overlooked. The ability for AI to generate phishing attacks, automate counterfeit production and launch domain attacks underscores the importance of embracing advanced technology to safeguard IP. In the evolving landscape of trade mark practice, firms must remain vigilant, leveraging AI as a tool for progress and a means to combat the increasing sophistication of criminal activity.

13. Role transformation

Professional evolution and educational issues

13.1 Introduction

As AI continues to integrate into the trade mark and broader IP profession, its impact on the roles of professionals is becoming increasingly evident. This report now provides a detailed analysis of the findings, including insights from an industry-wide survey, and offers recommendations on how the profession can evolve to meet the challenges and opportunities presented by AI.

The rapid growth of generative AI and AI-powered tools presents opportunities and challenges, reshaping tasks traditionally performed by human professionals. Trade mark searches, monitoring, drafting applications and legal research are increasingly being automated, raising questions about the future role of IP professionals, particularly in administrative and paralegal positions. This section outlines the results of SIG 3's work, including a proposal for further measures to gauge the broader industry's sentiments through surveys, and to implement follow-up educational initiatives.

1. Understanding the impact of role transformation and expectations from clients and stakeholders of IP practitioners, incorporating and using AI

To understand the impact of AI and anticipate how it will change the profession, we recommend introducing a short survey to scope how AI use by practitioners will affect different stakeholders. The survey should be aimed at a range of clients/stakeholders, or anyone requiring IP services, to understand their expectations of the potential impact of using AI tools in the profession. We recognise that different firms and clients may want and need different things from AI services, based on their size, sector and goals, which the survey will hopefully address. The proposed survey will focus mostly on the following outlined themes.

- General information (size of the company/client and frequency of the use of IP services).
- Expectations of the use of AI within the profession and as part of the services provided.
- Human oversight of the use of AI and verification of information/tasks performed by AI.
- Communication to clients/stakeholders about using AI and disclosure of the use of AI in their services.
- Open feedback to share concerns and/or expectations for the profession using AI.

We consider the proposed survey essential for comprehending the consequences and implications of AI use among CITMA members and IP practitioners. This will help gauge clients' and stakeholders' expectations within the profession, along with anticipated disclosure needs and service standards. Upon completion and analysis of the survey, it should form the foundation for developing strategies to support members of CITMA in their integration of AI.

We therefore recommend that this should be the first step taken by CITMA and be performed as soon as possible. A first draft of the survey is included in Annex 1.

We would also suggest that a consulting firm is brought on board to configure the questioning for best results.

2. Possible role transformations – challenges and opportunities

It is important to address that there will likely be changes within the profession following the implementation of AI. The use of AI is poised to significantly impact jobs by automating routine tasks, enhancing productivity and reshaping roles. In professions like IP, AI can streamline administrative duties, such as document editing and deadline management, allowing practitioners to focus on more complex and strategic tasks.

However, it is also important to address some challenges, including the potential displacement of certain job functions. In particular, there will be concerns for trade mark formalities management and some paralegal tasks pertaining to administrative IP tasks. Indeed, automated systems, including those powered by AI, can now handle many of the routine tasks paralegals have traditionally performed, such as document review, data entry and deadline management.

While this automation can enhance overall efficiency, it also raises the spectre of job displacement. Paralegals may find their roles diminished as AI tools take over these responsibilities, leading to reduced job security and fewer opportunities for career advancement. Additionally, the shift towards AI-driven processes necessitates continuous professional development, which may be burdensome for those who are unable or unwilling to adapt to new technologies. Therefore, while the potential for improved productivity is significant, the cost to those roles' stability and professional growth cannot be overlooked. Additionally, the reliance on AI for these tasks could lead to a devaluation of the specialised skills and expertise that trade mark professionals bring to their work, potentially diminishing the overall quality of service within the profession.

Furthermore, we also recognise that the integration of AI could lead to a significant reduction in the demand for junior associates and in-house attorneys, who traditionally handle these duties. This displacement not only threatens job security but hinders career progression within the legal field, as entry-level roles often serve as crucial stepping stones for aspiring IP practitioners.

Moreover, by automating tasks that require specialised knowledge and attention to detail, there is a risk of devaluing the nuanced expertise that human practitioners bring to their work. This devaluation could compromise the overall quality of IP services, rendering the profession less robust and potentially diminishing client trust in legal advisories. As a result, the profession could witness a widening gap between those who can leverage AI effectively and those who struggle to keep pace, exacerbating inequalities within the field.

It will therefore be crucial for CITMA to be at the forefront of the development of its members to address these possible challenges with a focus on educating its members on the use of AI, as well as the opportunities AI can bring for the profession. By advancing to more strategic roles and leveraging AI, these professionals can perform more efficiently and handle more complex matters. This education should encompass technical training on specific AI tools and broader insights into how AI can reshape workflows and enhance productivity. By empowering its members with this knowledge, CITMA can help them navigate the evolving landscape of the IP profession, ensuring they remain competitive and capable of delivering high-quality services to their clients. Additionally, this focus on education will enable the profession to transition smoothly from routine tasks to more impactful, strategic responsibilities, thus fostering career growth and innovation within the field.

In conclusion, CITMA will play a crucial role in this transition, by educating its members on the use of AI, providing technical training and guiding them to leverage AI effectively. This support will help IP professionals stay competitive, ensure high-quality service delivery, provide cost-efficient solutions and foster career growth and innovation within the field.

3. Professional and educational support for the possible transformation of the trade mark profession

Overarching idea: how and why AI systems should be aligned with human values and why this is beneficial/important for professionals working in intellectual property

As AI becomes more prevalent and is implemented in various domains of human activity, it poses new challenges and opportunities for legal professionals who offer services that rely on human expertise and are considered professionals with a high level of qualification and practice. As mentioned above, while AI can augment and enhance human capabilities, it can also automate and replace some tasks that were previously performed by humans. This may have implications for the quality, efficiency and ethics of service delivery, as well as the roles, responsibilities and expectations of service providers and clients. As a result of the above, it is anticipated that IP practitioners will have polarising viewpoints in adopting AI, and opinions on the technology's efficacy and accuracy, which may make implementing AI training and best practice challenging.

13. Role transformation *ctd*

Aligning AI systems with human values is essential for ensuring these technologies operate ethically and effectively, particularly for legal professionals in IP who convey polarising viewpoints. The alignment challenge involves making sure AI systems act in ways that are consistent with human values and professional standards, in turn preventing biases, ensuring fairness and maintaining trust in AI technologies. So how do we determine which AI technologies to rely on, and how do we ensure alignment?

The integration of AI is difficult to delimit due to the large volume of AI existing tools. Therefore, understanding which applications can be used in relation to the profession requires an extensive review of what is available. At present, we have identified two main umbrella categories of use.

Productivity work/tasks	IP-specific uses
Everyday administrative tasks and work, email productivity, document creation and editing, task enhancement and ordering	Targeted AI software supporting trade mark clearance, logo clearances, office actions and deadline managements etc.

These two main streams of AI will impact the profession as a whole, and CITMA, in its capacity as professional membership organisation, should address the best ways to support practitioners in ensuring their skills are up to date. In order to achieve this, and ensure members are prepared for the changes AI is likely to bring, several possible themes have been identified.

- **Competitive** Equip IP lawyers with the knowledge and skills to leverage AI in their practice, thereby enhancing productivity and service delivery.
- **Compliant** Familiarise practitioners with the ethical and legal frameworks governing AI, ensuring adherence to professional standards and regulations.
- **Innovative** Enable lawyers to contribute to the development and implementation of AI technologies in a manner that promotes innovation while protecting intellectual property rights.
- **Risk balancing** Prepare practitioners to identify and address potential risks and challenges posed by AI, thereby safeguarding their clients' and stakeholders' interests.
- **Promoting ethical use** Emphasise the importance of aligning AI systems with human values and professional standards to maintain trust and fairness in the use of AI.

We believe that to implement these values, it will be necessary for CITMA to offer training to its members to ensure their skills are up to date and that the profession adapts to the times. We have identified several opportunities for learning for consideration to CITMA.

13. Role transformation *ctd*

Themes	Objective/learning outcome	Delivery method and importance
Fundamentals of AI and machine learning	• Introduction to AI and its key concepts. • Overview of machine learning techniques and algorithms. • Applications of AI in various industries, with a focus on intellectual property.	We would recommend for this topic to be undertaken by IP practitioners in their own time or via other providers, to familiarise themselves with the different types of AI and its day-to-day application and possibilities. To facilitate access, we propose that a repository or dedicated page about the fundamentals of AI should be offered, with various pre-identified verified and legitimate sources to be made available to all members.
Ethical and legal frameworks of AI	• Overview of existing laws and regulations governing AI. • Discussion on ethical considerations and human values in AI. • Introduction to the ethics of AI in the profession • Introduction to the EU Artificial Intelligence Act and its impact on IP law. • Contractual implication with AI providers and risk management.	We believe this learning to be critical and important to members of CITMA. This "module" should be developed and created specifically for the profession, drawing from recent case law and current legislative initiatives focused on the UK and the EU. Ideally, this would be delivered as part of CPD credits and professional development, so it is directly incorporated by members of the profession. One step further and considering the future, CITMA may want to partner with Nottingham Trent University, Bournemouth University and Queen's Mary Institute of London to ensure that AI in IP is covered in future courses for aspiring members of the profession
AI and intellectual property law	• Implications of AI on IP law, including copyright and trade mark issues. • Recent legal developments and court rulings related to AI and IP. • Case studies illustrating the intersection of AI and IP law.	There is existing literature, seminars and guides which touch on the development of AI and its implication with IP. We believe it is important for members to access resources to understand changes in law. For example, the impact of Brexit was covered extensively, and training was offered to members to ensure a smooth transition. We believe a similar strategy and coverage should be offered to members for AI. CITMA could also partner with Nottingham Trent University, Bournemouth University and Queen's Mary Institute of London to ensure AI in IP is covered in future courses for aspiring members of the profession.

13. Role transformation *ctd*

Themes	Objective/learning outcome	Delivery method and importance
Reinforcement learning from human feedback (RLHF)	• Understanding RLHF and its relevance to IP practice. • Benefits and challenges of implementing RLHF in AI systems. • Case studies showcasing successful RLHF applications.	Teaching RLHF effectively requires a balanced approach that combines theoretical knowledge, practical applications and an awareness of legal and ethical considerations. To gain a comprehensive understanding of RLHF and its transformative potential in AI development, demonstrations and guidance must be provided, whether through key speakers, AI providers and/or experts in the field. These resources should be made available by CITMA to its members. As AI continues to evolve, mastering RLHF will be an invaluable skill for future innovators and practitioners.
Constitutional AI	• Defining constitutional • AI and its principles. • How constitutional AI can navigate IP tasks ethically. • Examples of constitutional AI in action within the IP domain.	By blending theoretical instruction with interactive sessions, practical workshops and continuous discussions on emerging legal and ethical challenges, CITMA can effectively prepare students to navigate and contribute to the evolving landscape of AI governance.

One approach to achieving alignment is through reinforcement learning from human feedback (RLHF), where AI systems learn desired behaviours based on human feedback. In this case, the more AI is used, the more it will pick up behavioural patterns and adapt its generated content accordingly. This is particularly relevant to the use of AI for increased productivity, as these technologies are used to manage and analyse vast amounts of IP data, from filings to registrations and renewals.

RLHF was studied and discussed in a Harvard Education course on the Science and Implications of Generative AI. Although a valid alignment method, one cannot ignore the numerous lawsuits being filed against developers of generative AI models like ChatGPT and Stability AI, focusing on copyright infringement and data usage. Ensuring that the data used to train AI models is legally obtained and does not infringe on copyrights or other IP rights is essential. This undoubtedly comes with a need to keep IP professionals up to date with the latest legal developments and court rulings related to AI, as well as informing clients about potential IP risks associated with AI models.

Another alignment method is constitutional AI, which involves setting explicit guidelines and principles that the AI must follow. The IP field is governed by a complex web of laws and regulations which can form the basis of constitutional AI. In turn, this codes AI systems that are better equipped to navigate IP tasks ethically, reducing the risk of disputes and ensuring compliance. Existing laws may cover many AI uses, but some situations might require amendments or new regulations. For example, the EU has introduced the Artificial Intelligence Act, the first comprehensive law designed to manage AI risks. This law categorises AI systems based on their risk levels. The EU's approach is influencing other countries, such as Canada, the US and Australia. While general AI laws are a good start, effective AI regulation will require collaboration between policymakers, industries such as IP and communities to ensure AI's benefits are maximised while minimising its harms.

13. Role transformation *ctd*

The above shows that aligning AI systems with human values, or in this case legal frameworks, is not just a technical challenge but a moral imperative, especially as AI becomes more prevalent. The techniques discussed help create AI systems that are more transparent and accountable. For IP professionals, it ensures AI technologies are fair, transparent and compliant with ethical standards, ultimately fostering innovation and trust in this wave of digitalisation.

4. Implementing the use of AI in a landscape with a strong diversity of opinions

We still believe education will play a critical role for the IP profession, but we must also acknowledge ways in which to support practitioners who may not wish to use AI.

We propose the below strategy to account for these differences in opinions/views. For practitioners who do not use AI, there are still ways to maintain and enhance competitiveness and relevance in the face of the growing AI adoption. These include:

- **Promoting human-based skills and IP expertise** Service providers who do not use AI should identify the core competencies and skills that differentiate them from AI-based services and highlight their value proposition to clients and stakeholders. This may involve emphasising the human aspects of their service, as well as demonstrating their domain knowledge, experience or reputation. IP practitioners should continue to update and improve their skills and competencies as part of their CPD and professional development, as well as to diversify their service offerings and markets, to adapt to the changing needs and expectations of their clients and stakeholders.
- **Staying informed of developments and trends in AI** IP practitioners who do not use AI should not ignore or dismiss the impact and influence of AI on their field and profession. They should stay informed and aware of the latest advances and innovations in AI and how they may affect their service delivery, quality or ethics. They should also evaluate the pros and cons of using or not using AI, as well as the feasibility and suitability of various AI options and alternatives, for their specific service context and goals. This may help them to identify and seize opportunities to leverage AI to enhance their service, or to mitigate or avoid threats or challenges posed by AI to their service. This is also critical for their development, as AI has significant implications on intellectual property. While not necessarily utilising AI directly, IP professionals may soon, if not already, advise on AI-generated content and other areas requiring their expertise.

In light of the above, we believe it is essential that any educational content for IP practitioners remains accessible to ensure skill levels are continuously updated and developed in line with the evolution and impact of AI, helping to maintain a level professional playing field. As a result, all content should be readily accessible, whether as a repository or recorded training sessions, to enhance AI literacy, establish best practices for AI usage, and explore the impact of AI on IP.

Additionally, we acknowledge that AI is likely to play an increasing role in various aspects of IP practice, from data collation to more advanced applications such as trade mark clearances. This will likely require different levels of care and expertise. Nonetheless, we recommend the following proposed standards of practice for consideration, to be incorporated into educational content developed by CITMA.

- Practitioners should research and evaluate the benefits and limitations of various AI tools and applications for IP practice.
- Experiment and test different AI solutions to find the best fit for the specific needs and goals of the service provider, client and stakeholders.
- Implement and integrate AI into the workflow and processes of the IP practice, ensuring compliance with ethical and legal standards.
- Monitor and review the performance and impact of AI on the quality and efficiency of the IP service delivery.
- Build a culture of learning and developing AI literacy.
- Engage in continuous learning and professional development to keep up with the latest advances and trends in AI and IP.

- Share and exchange knowledge and best practices with other IP practitioners and stakeholders on the use and adoption of AI.
- Foster a supportive and collaborative environment that encourages innovation and creativity with AI.
- Recognise and anticipate the changing needs and expectations of clients and society in relation to IP and AI.
- Adapt and adjust to the new roles and responsibilities of IP practitioners in the era of AI, such as providing more strategic and creative advice, overseeing and supervising AI systems, and ensuring accountability and transparency.
- Ethical considerations and recommendations for roles and responsibilities that are likely going to evolve due to AI.
- Embody and promote a positive and proactive attitude towards AI and its potential to transform and improve the IP profession.
- Seek and seize new opportunities and challenges that arise from the use and adoption of AI.

On the other hand, practitioners seeking to implement AI by leveraging CITMA's offerings can stay ahead of legal and technological trends while maintaining adherence to ethical standards.

CITMA's proposed educational programmes, which blend theoretical instruction with interactive sessions, practical workshops and continuous discussions on emerging challenges, provide a comprehensive platform to upskill both users and non-users of AI. For instance, CITMA's curriculum often includes modules on reinforcement learning from human feedback (RLHF) and constitutional AI, equipping participants with the knowledge to align AI systems with legal and ethical frameworks.

In this evolving landscape, CITMA's commitment to keeping IP professionals informed about the latest legal developments, such as copyright infringement and data usage in AI, is crucial. This ensures members can effectively advise clients on potential IP risks associated with AI models. Moreover, CITMA's resources can help practitioners understand the implications of regulations like the EU's Artificial Intelligence Act and how it might influence IP practices globally.

Furthermore, it is important to recognise and promote the importance of maintaining human-based skills alongside AI integration. The proposed CPD programmes and professional development courses should be designed to ensure that IP practitioners not only stay competitive but also highlight their unique value propositions. CITMA's proposed repository of educational content, including recorded training sessions, serves as a valuable resource for practitioners to improve AI literacy and understand the impact of AI on IP.

Implementing AI in a diverse opinion landscape requires balanced support, and CITMA's strategy accounts for practitioners who may be hesitant to adopt AI. Through ongoing education and a robust support system, CITMA ensures that all IP professionals can enhance their competencies and adapt to the dynamic environment of AI in IP law.

13.2 Conclusion: embracing AI for future role development

The integration of AI into the IP profession is inevitable, and with it comes significant disruption and vast potential. The findings from a members-wide survey show the need for proactive measures to ensure professionals can adapt to these changes, rather than be displaced by them.

AI is automating many routine tasks, but it is also opening up new opportunities for strategic work and high-level decision-making. The future of the IP profession lies not in competing with AI, but in working alongside it, leveraging AI tools to focus on more valuable and impactful areas of practice.

By implementing educational workshops, creating certification programmes and maintaining a finger on the pulse of the industry's evolving relationship with AI through regular surveys, the IP profession can transition smoothly into this new era. While AI will undoubtedly transform roles within the industry, its potential to enhance the expertise and strategic value of IP professionals is clear – if firms invest in the right training and adopt the best practices for its integration.

14. Regulation and trust

Data bias and market adoption

14.1 Introduction: the transformative potential of AI in IP practice

The integration of AI into intellectual property practice offers transformative potential for enhancing efficiency, improving decision-making accuracy and enabling more strategic management of intellectual property assets. AI-driven solutions can reduce costs, accelerate processes and improve service quality. However, there are critical challenges, including concerns over privacy, bias and regulatory compliance. Despite these hurdles, adopting AI tools means IP practitioners can protect and leverage intellectual property more effectively in an increasingly technology-driven landscape.

The core focus is on regulation, trust, data bias and market adoption of AI within the IP profession. This section explores the current regulatory landscape in the UK, EU and beyond, along with the ethical and technical implications of adopting AI. It also considers the opportunities AI presents to IP practitioners.

14.2 Current problems and introduction to new areas

1. Lack of clear AI regulations in IP

The rapid deployment of AI across various sectors has raised several legal challenges, particularly in IP law. Despite AI's promise, the absence of clear regulations surrounding its use in IP practice creates uncertainty and potential legal risk.

- **Copyright ownership** Current copyright laws lack clarity on whether AI-generated works can be copyrighted, and if so, who holds the copyright. Many legal experts argue that copyright requires a human creator, which means AI-generated works may not be eligible. Others believe the person who created or operates the AI should hold the copyright. There is a third group advocating for another type of IP to be granted to AI-generated work. This debate remains unresolved, and the legal framework might be updated or case law must be formed to address AI-generated content ownership. The interpretation of copyright legislation in the UK is much debated and yet to be tested before the courts.
- **Trade mark and copyright infringement** There are significant concerns about AI models using copyrighted or trade-marked material in their training data without appropriate permissions. This issue has led to high-profile lawsuits, particularly in the US, where the legality of using publicly available but copyrighted content to train AI models is being questioned.
- **Patentability** Similarly, the question of whether AI-generated inventions can be patented remains unresolved. Current laws generally require a human inventor, and debates continue about recognising AI as an inventor. The most recent UK Supreme Court decision confirmed that AI on its own could not be an inventor under Patent Law.[12] A case-by-case basis approach is needed to determine whether the human in the loop would be regarded as the inventor.
- **Ownership and licensing** In cases where AI generates new intellectual property, ownership disputes arise. The unclear ownership structure also affects licensing agreements, which must now consider the role of AI in the creation and management of IP.
- **Enforcement** Enforcing IP rights on AI-generated content is complex. Ownership uncertainty makes enforcing rights difficult, and this is further complicated by the global nature of AI development and deployment.

2. Potential for bias and inaccurate AI outputs

AI's effectiveness is directly linked to the quality of the data it uses. If the training data is biased or inaccurate, AI outputs will reflect these flaws, leading to incorrect recommendations, legal decisions or risk assessments. AI models are prone to algorithmic bias, which occurs when human biases are unintentionally programmed into systems through the selection and weighting of data.

AI's large language models also tend to hallucinate, generating information that appears credible but is not factually accurate. Studies suggest AI hallucinations occur between 5% and 29% of the time. This poses a significant risk for the legal profession, where accuracy and reliability are paramount.

Footnotes

12 www.supremecourt.uk/cases/docs/uksc-2021-0201-press-summary.pdf

14.3 Potential use cases in IP

- Document drafting and automation – AI can generate legal documents, such as contracts and agreements, based on user inputs, which can be tailored to individual needs by assessing the context and specific requirements of the user. AI can provide outputs based on predefined templates/formats and suggest relevant content, including clauses and terms.
- As well as contracts/agreements, AI can be used to create legal submissions, and educational and marketing material.
- Predictive analytics and case strategy – AI can analyse historical case data to predict case outcomes, as well as highlight potential risks and opportunities based on case data and historical patterns. It can assist attorneys in developing more effective strategies by evaluating various approaches and their likely success rates.
- Contract/agreement review – AI can review and analyse contracts and agreements to ensure they comply with legal requirements and best practices. AI can also highlight key sections within such documents, as well as identify potential problems/opportunities with their content.
- Automated classification – AI can automatically classify goods and services.
- Trade mark searches and watching – AI can generate reports to assess whether trade marks are clear for adoption and monitor third-party applications for potential conflicts.
    - Infringement monitoring can monitor marketplaces to identify unauthorised usage and potential infringements.
    - Counterfeit take-downs – listings can be searched for markers of counterfeiting and infringement, and take-down requests filed automatically.
    - Legal research and analysis – by analysing large amounts of legal text, AI can summarise and suggest relevant case law, statutes and legal opinions, making it easier and quicker for the user to understand.
    - Discovery and evidence-gathering – AI can review large volumes of documents during discovery, identifying and categorising their nature, and identifying which are likely to be most pertinent.
- Due diligence in mergers and acquisitions – can analyse relevant documents such as financial statements and contracts, create associated reports and manage data rooms.
    - Legal advice – AI can provide legal advice and information based on user queries. Some tools are specifically developed for legal professionals to get legal advice. These are developed by attorneys and professors at law faculties to advise on highly regulated fields such as immigration.
    - Client interaction – AI can generate and personalise communications with clients, such as letters, emails and reports, based on the context and needs of the case.
    - Chatbots and virtual assistants – these can be used to provide legal information, request information/documentation, answer queries and guide users through legal processes. Virtual assistants can be used to manage client interactions, such as adding diary dates and scheduling appointments.
    - Automated docketing – AI can automate the management of deadlines, such as examination response and renewals.
    - Assistance in drafting or dealing with day-to-day work – AI can be deployed enterprise-wide and be embedded in all documents and emails to smartly understand what is being drafted or how the tasks should be automated, to offer recommendations or drafts. Hence increasing efficiency of associates.
    - Compliance and risk management – AI can monitor and identify changes in laws and regulations and provide recommendations for actions.
    - Client onboarding – it is possible to automate client onboarding by creating requests for, and obtaining, relevant information, as well as generating subsequent workflows.

14. Regulation and trust *ctd*

14.4 Research and case studies

Studies have highlighted the growing adoption of AI in IP practice, with tools like Darts-IP, CompuMark and Corsearch incorporating AI to improve efficiency and accuracy. These tools use AI to automate legal research, conduct trade mark searches and monitor online platforms for counterfeit products.

However, there have been instances where AI has failed. In one well-known US case, a lawyer used ChatGPT for legal research, only to discover that the AI had fabricated case references. This highlights the need for human oversight in AI-assisted legal tasks. When the lawyer asked if these were real, the AI replied that these were genuine case references that could be found on LexisNexis and Westlaw. It was subsequently reported that six of the submitted cases appeared to be bogus judicial decisions with bogus quotes and bogus internal citations.[13]

14.5 Amazon's biased recruitment tool

Algorithmic bias: Amazon relied on an early form of AI software to recruit tech/IT candidates. The software would ingest a large number of CVs and then highlight the top five candidates, who would usually get hired. The problem is that the software had been trained on historical candidate data, which has (and continues to be) dominated by men.

In effect, Amazon's system taught itself that male candidates were preferable. It penalised resumes that included the word "women's", as in "women's chess club captain". And it downgraded graduates of two all-women's colleges, according to people familiar with the matter.

Amazon edited the programs to make them neutral to these particular terms. But that was no guarantee that the machines would not devise other ways of sorting candidates that could prove discriminatory.[14]

14.6 Solutions, strategies and take-aways

Ensuring clients and stakeholders are fully informed when a particular task or service has been assisted by AI-enabled software is essential for maintaining transparency and trust within the profession. It is crucial that clients understand the capabilities and limitations of AI technology, allowing them to make informed decisions that best align with their commercial needs.

Transparency in this respect helps ensure clients and stakeholders are aware of the role AI has played in delivering a service. Additionally, this should open up discussions about professional fees, highlighting where human expertise adds value to the process. The involvement of AI should not obscure the contribution of practitioners, but rather, it should clarify where human judgement and oversight remain essential.

Transparency raises important considerations regarding legal privilege. How are law firms ensuring that advice, which would typically be protected under legal privilege, is not exposed in open AI environments without proper safeguards for the client? Do we have an obligation to assist in addressing this risk?

We should make it clear, as legal representatives, what our policies and use cover, and how onward advice will and should be used. However, this would also need the support of bodies like PAMIA and IPReg to ensure attorneys are protected for good practice.

A key aspect of responsible AI use is ensuring that the training data fed into these systems is accurate and up to date. The principle of "rubbish in, rubbish out" applies strongly here: the quality of AI's output is entirely dependent on the quality of its input. For AI to be useful and reliable, the ingested data must be current, accurate and legally valid. This is particularly important for professionals such as UK Trade Mark Attorneys, where continuing professional development ensures that practitioners remain knowledgeable, and that their AI tools are fed with correct and up-to-date information.

Footnotes

13 www.bbc.co.uk/news/world-us-canada-65735769
14 www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G/

14. Regulation and trust *ctd*

Incorporating human oversight also brings a level of accountability. There should never be a scenario in which Trade Mark Attorneys or other legal professionals abdicate their responsibilities simply because they used AI software. Practitioners must retain full control over the final output, ensuring they maintain their professional standards. This can be achieved in various ways, such as through manual review of AI-generated content or through other methods that ensure human judgement plays a key role in the final decision-making process.

In essence, AI should be seen as a tool that augments, not replaces, human intelligence. It can enhance the speed and accuracy of legal work, but it is the practitioner's responsibility to ensure the technology is used appropriately and ethically. By maintaining transparency with clients, ensuring data quality and conducting human oversight, professionals can manage the risks associated with AI while maximising its benefits.

14.7 Ethical by design

Ensuring that AI software is "ethical by design" involves embedding ethical principles directly into its code, such as those outlined in the IPReg Code of Conduct. Key ethical rules to incorporate include Fairness, Transparency, Accountability, Confidentiality, Safety and Explainability. These principles help ensure AI systems operate responsibly and in compliance with professional and legal standards. Some considerations of SIG 4 are provided below.

- **Fairness** Users of AI must understand that although software is designed to be, by definition, neutral, its programming and training data may not be. This is because its programming is done by humans and its training data may simply be the reflection of longstanding human bias. It is fundamental that users are cognisant of the fact bias or inaccuracy can make its way into the output of AI.
- **Transparency** Clients or stakeholders should be made aware of the use of AI for a specific task and informed of its capabilities, but also of its limitations. Users of AI should not assume that a client or stakeholder has consented to having services rendered with the assistance of AI. Consent from stakeholders or clients should be provided on an informed basis and not an assumed one.
- **Accountability** It is important to avoid a situation where no one is responsible for output. Output must be manually reviewed by a qualified human practitioner who should be able to take ownership and explain how the output has been obtained. There cannot be a situation in which there is a gap in accountability, as this would prevent stakeholders/clients from having legal recourse should the output cause harm or damage.
- **Confidentiality** Strict safeguards should be put in place by developers of AI and practitioners to ensure information being input or reviewed by the AI remains strictly ringfenced. It is important that sensitive and confidential client or user information is not ingested by the AI as training data, as this could inadvertently be put into the public domain to other third-party users.
- **Safety** AI should only be used where the software has been designed to be safe in a digital world where third-party malicious attacks are frequent. These attacks can take the form of adversarial attacks which modify input data; data poisoning to compromise data sources at the point of collection and processing; and injection prompts with hidden commands visible only to the software, among many others.
- **Explainability** Users of AI should ensure the output can be reverse-engineered and explainable to the client or stakeholder. There should be a degree to which the user can explain how the AI has generated a particular output, to ensure the method by which it has come to a conclusion can be articulated. This may be a complicated endeavour given that the source code underpinning the AI-powered software generally operates as a "black box", where the output can be very challenging to explain.

As the pace of progress with AI accelerates, so too will the number of competing solutions. It is reasonable to believe that, in the short to medium term, IP practitioners will be given a wide range of options to choose from.

14. Regulation and trust *ctd*

Most IP practitioners will not be involved in the design and development of AI. That said, as users, and to ensure they foster trust from stakeholders/clients in the growing use of AI, they should choose software from providers that have taken action to ensure their product is "ethical by design". This means ethical rules have been hardwired into its functioning.

Similarly, there are a small number of IP firms in the UK who are developing their own in-house AI solutions, either for their own use or with the intent to commercialise it more broadly within the profession and further afield. These firms should take great care in the development and maintenance of their software to ensure compliance with the highest ethical standards related to AI.

Ensuring practitioners are fully educated about the capabilities and limitations of AI-enabled software and can effectively communicate these aspects to clients with varying levels of sophistication, is critical. Practitioners must not only understand the technology but also be able to explain it in a way that resonates with clients, regardless of their technical knowledge.

15. Developments around the world

15.1 Europe: EU AI Act

The EU AI Act, which entered into force in July 2024, takes a risk-based approach to AI regulation, focusing on potential risks that AI systems may pose to health, safety, fundamental rights or the environment. This act imposes stricter rules for high-risk AI systems, requiring more rigorous compliance measures to mitigate potential harm.

One of the core principles introduced by the Act is transparency. For general-purpose AI systems, there are transparency requirements, including compliance with EU copyright law and the need to disclose detailed summaries of the data used to train AI systems. This ensures regulators are involved in overseeing the compliance of AI tools.

The Act also introduces a transition period of two to three years, during which companies must become compliant with the new regulations. In the interim, the EU Commission encourages companies to voluntarily adhere to these rules under an initiative known as the AI Pact. However, the regulatory framework is complex and will require companies to undertake significant administrative tasks to achieve compliance.

To support the implementation of these rules at national level, a new EU AI Office, consisting of five units, was launched in June 2024. This Office helps foster standards and oversees the enforcement of the new rules on general-purpose AI models across EU Member States. Additionally, other frameworks, such as the EU AI Liability Directive and technical AI governance procedures are proposed, indicating this is a space that will continue to evolve.

An important consideration is the synergy between the AI Act and existing data protection schemes, such as the GDPR. The European Data Protection Supervisor (EDPS) will expand its role to supervise the AI Act's implementation and issue a strategy for EU institutions. It remains to be seen how the EDPS will interact with the new EU AI Office in practice, but alignment between these authorities will be crucial for effective AI regulation.

15.2 United States: Executive Order on AI

In the US, the focus on AI regulation was outlined in the President's Executive Order on the Safe, Secure and Trustworthy Development and Use of Artificial Intelligence. This set out eight guiding principles for AI, emphasising safety, security and transparency. While these principles offer a foundation, more detailed guidance and reporting requirements are expected from the new government, which will likely shape the regulatory landscape moving forward.

15.3 Asia and international collaboration

In Asia, AI regulation is more voluntary, focusing on international collaboration to identify safety risks and establish appropriate guidelines, standards and risk-based policies.

Countries in the region are recognising the importance of coordinated efforts to mitigate the risks associated with AI, while fostering innovation.

15.4 UK: evolving AI regulation

The UK has yet to finalise its approach to AI regulation, but has so far adopted a principle-based, light-touch framework. The general election in July 2024 and the change in government delayed some legislative developments, but further regulatory action is expected in the near future.

The AI White Paper, published by the UK Government in March 2023, outlined five key principles for AI regulation, which have been utilised in this review.

- **Safety, security and robustness**
- **Appropriate transparency and explainability**
- **Fairness**
- **Accountability and governance**
- **Contestability and redress**

A follow-up response published in February 2024 added more detail, particularly for regulators. The UK has tasked the Digital Regulation Cooperation Forum (DRCF) – a collaboration between the Information Commissioner's Office (ICO), Ofcom, the Competition and Markets Authority (CMA), and the Financial Conduct Authority (FCA) – with taking the lead on AI regulation, including advising on AI compliance through its AI and Digital Hub.

From a legislative perspective, the Private Members' Artificial Intelligence (Regulation) Bill was introduced to the House of Lords in November 2023. The bill does not propose an overarching AI regulator but advocates for a statutory duty for existing regulators to consider AI-specific requirements.

The Labour government is likely to signal whether the UK will align its AI regulatory framework with EU standards, a sensible approach given the importance of harmonised regulations for businesses operating across borders.

15.5 Educational resources and best practices

To support the adoption of AI within the IP profession, it is crucial to develop educational resources on AI best practices. These resources should focus on the following.

- **AI literacy** Ensuring IP professionals understand how AI works, its capabilities and limitations.
- **Data quality and accuracy** Highlighting the importance of feeding AI systems with accurate, up-to-date data to minimise risks such as bias or hallucinations.
- **Ethical and transparent AI use** Emphasising the need for transparency with clients about AI's role in service delivery, while maintaining accountability for the final output.
- **Regulatory compliance** Educating professionals on the evolving AI regulatory landscape, ensuring compliance with GDPR, EU AI Act and other applicable regulations.

By keeping IP professionals informed and educated on AI developments, firms can ensure they remain at the forefront of innovation while managing the legal and ethical risks posed by emerging technologies. It can be envisaged that AI officers are appointed for good governance of models and products.

16. AI and its impact on IP practice

Ethical and regulatory considerations

AI has the potential to revolutionise IP practice, but it is critical that companies and regulators consider the ethical, legal, safety and regulatory aspects involved. Decisions regarding the use of AI must be made with a full understanding of all relevant factors, and both internal and external measures should be implemented to ensure safe and responsible use of AI.

16.1 Internal measures for companies

To effectively manage the adoption of AI, many companies are implementing internal measures aimed at ensuring the safe and responsible use of AI across their operations. Four key measures that companies may adopt include:

1. **Responsible AI use policies and AI safety policies**
   Many companies are developing internal responsible AI use policies or AI safety policies. These policies establish company-wide rules and standards for using AI, ensuring that AI tools are employed in a safe and responsible manner. Such policies include disclosures about the use of AI, as well as limitations and risks associated with those tools. These policies help set clear expectations and ensure that AI use is transparent throughout the company.
2. **Cross-functional AI task forces**
   Companies using AI extensively are forming cross-functional AI task forces or work streams to monitor developments in the AI field and ensure the company stays protected. These task forces typically consist of employees from various departments (legal, IT, compliance, etc) and are responsible for overseeing the integration and management of AI technologies within the company.
3. **Training sessions for associates**
   To ensure employees are well-versed in the ethical use and capabilities of AI, it is crucial to roll out training sessions for associates. These sessions educate employees on the benefits and risks associated with AI tools, as well as best practices for using AI within their specific roles. This helps ensure AI is used effectively and in a compliant manner.
4. **Clear contractual provisions regarding AI and IP ownership**
   Companies should adopt clear terms and conditions in contracts with third parties, such as business partners, agencies and contractors. These contracts should include specific provisions regarding the ownership of intellectual property rights that may arise from the use of AI. By clearly defining who owns IP created with AI tools, companies can avoid disputes and protect their rights.

16.2 External measures and regulatory

In terms of external measures, it would be beneficial for UK regulators to look to global best practices, particularly those in the EU and US, to achieve a certain level of alignment. Having consistent regulations across different regions will ensure seamless compliance for companies that operate internationally or seek to expand into new markets.

Regulatory alignment with global standards will help UK-based companies maintain regulatory consistency and expand their reach, positioning the UK as a hub for AI companies. This alignment will benefit both businesses and the UK's position in the global AI landscape, making the UK an attractive destination for AI-driven companies.

16.3 Voluntary standards and certification

For stakeholders who aim to lead in compliant and ethical AI use, adopting voluntary standards can help set a positive example. CITMA can play a crucial role in guiding the responsible adoption of AI in the IP field. One possible initiative could be the introduction of an "AI awareness certification". This certification would:

- Demonstrate a company or professional's commitment to ethical and responsible AI use.
- Help raise awareness about the importance of transparency and compliance when using AI in IP practice.
- Provide a framework for ensuring companies stay informed and adhere to the highest standards when incorporating AI into their workflows.

By adopting such standards, companies and legal professionals can ensure they remain at the forefront of ethical AI practices, while building trust with clients and regulators.

16.4 UK Copyright Act: unique statutory protection for computer-generated work

As mentioned, legislation worldwide generally does not grant copyrights to AI-generated materials. In most countries, including the US[15], copyright protection is denied due to the requirement for human authorship. The extent of human involvement necessary to satisfy this requirement remains a topic of debate, leading courts to evaluate cases individually on a case-by-case basis.

The UK stands apart from many other countries by offering statutory copyright protection for computer-generated material, granting a 50-year term under the Copyright, Designs and Patents Act 1988 (CDPA), provided there is sufficient human editing. This sui generis protection requires that works be the author's own intellectual creation, but a key question remains: should the originality threshold be modified or clarified for AI-generated works?

In an AI context, the programmer or user may be considered the individual responsible for making the necessary arrangements to create the work. However, the specific level of human involvement required remains unclear, particularly when using generative AI tools. While ambiguities exist in this protection, they could be resolved through new targeted regulations or by evolving case law.

This issue is particularly significant for companies using generative AI tools to create content. Ownership of the AI tool alone does not automatically grant copyright over its outputs – without sufficient human involvement, such content is neither copyrightable nor automatically owned by the company.

While many jurisdictions follow similar principles, the threshold for human authorship varies. The US and most other countries set a higher bar, denying copyright protection for computer-generated works unless there is clear human authorship. In contrast, the UK provides a specific category of copyright for computer-generated works, as long as there is enough human input to render them original. This distinction likely arises because most jurisdictions apply the same copyright rules across all types of works – literary, dramatic, musical, artistic, and computer-generated – whereas the UK has carved out a special, albeit shorter, protection period for AI-generated content.

If the UK is to position itself as an AI hub, it would be beneficial to clarify how this statutory IP protection applies in the context of AI-generated works. Greater legal certainty would help AI tool owners understand their rights and whether they can claim copyright protection for computer-generated content.

On one hand, it is crucial to strike a balance by not granting strong copyright protections to all AI-generated material, ensuring that creativity can thrive without infringing on third-party IP rights. On the other hand, those who invest in new technologies and contribute sufficient human authorship should be afforded legal and IP protection. Without such safeguards, third parties could exploit legal loopholes to profit from AI-generated content without investing in its creation, ultimately hindering competition and technological advancement. This concern led the UK to become the first country to introduce copyright protection for computer-generated works in 1987. To uphold this forward-thinking approach, secondary regulations and case law must evolve to keep pace with rapid technological advancements.

Footnotes

15 As it currently stands, a work must have a human author to be eligible for copyright protection under the US Copyright Office guidelines, text and history of the Copyright Act, as well as Supreme Court and Federal Circuit precedent as cited in the most recent district court decision. These are cited to support the principle that human authorship has always been a "bedrock requirement of copyright".

17. Managing dynamic AI risks and opportunities

As the IP profession moves forward with AI adoption, practitioners must recognise that AI implementation requires continuous, active management, rather than one-time solutions. Unlike traditional software deployments, AI systems constantly evolve through machine learning, meaning their outputs may change over time, even with identical inputs. This dynamic nature demands new approaches to risk management and governance.

Continuous monitoring systems

The evolution of AI systems requires:

- Real-time evaluation of AI outputs
- Regular assessment of accuracy and reliability
- Ongoing alignment with ethical and legal standards
- Documentation of AI system changes and their impacts

Risk management frameworks

To effectively manage AI risks, organisations must implement:

- Comprehensive risk assessment protocols
- Clear accountability structures
- Regular audit procedures
- Incident response plans

Regulatory alignment and harmonisation

The UK's position post-Brexit creates both challenges and opportunities for AI regulation in IP practice. As the EU implements its AI Act (effective July 2024), UK practitioners should focus on two key areas:

1 Framework compatibility

Practitioners should:

- Support risk-based regulation aligned with EU standards
- Promote cross-border harmonisation of AI governance
- Engage with regulatory bodies to shape UK AI policy

2 International Compliance Preparation

Organisations must:

- Develop systems that meet the highest common standards
- Build flexibility into AI implementation strategies
- Maintain awareness of regulatory developments across key jurisdictions

Strategic Implementation

To effectively navigate these challenges, it is important to:

- Establish working groups focused on AI risk management
- Develop best practice guidelines that align with international standards
- Create resources for ongoing professional development in AI governance
- Foster dialogue between practitioners, regulators and technology providers

Through these coordinated efforts, the IP profession can ensure it remains at the forefront of ethical AI adoption while managing risk effectively and maintaining cross-border operational efficiency.

18. Next steps

As the role of AI and emerging technologies in the intellectual property sector continues to grow, it is clear a more structured, long-term approach is required to ensure CITMA remains at the forefront of technological transformation.

To build on the output of the current Task Force and leverage the momentum generated, the Task Force could evolve into the CITMA AI and Emerging Technology Committee.

This Committee would serve as a permanent body within CITMA, focusing on AI integration, emerging technology developments, and guiding the profession through the challenges and opportunities ahead.

Core objectives of the CITMA AI and Emerging Technology Committee

1. Provide strategic leadership. The Committee will guide the profession in navigating AI adoption and emerging technologies, offering strategic advice, resources and support to CITMA members.
2. Enhance education and skills development. By offering educational workshops, AI training and mentoring programmes, the Council will ensure that IP professionals are well-equipped to leverage AI and emerging technologies in their practices.
3. Foster collaboration and regulatory advocacy. The Council will work closely with regulatory bodies such as IPReg and PAMIA, as well as government stakeholders, to advocate for the development of AI regulations and best practices that align with professional standards and ethics.
4. Promote ethical AI use. The Council will develop and maintain ethical guidelines for AI use in IP practice, ensuring transparency, accountability and trust across the profession.
5. Report findings. This report will form the basis of an onward report to the UK profession, outlining the research and evidence found to date, and highlighting the areas practitioners need to be aware of.

19. Immediate actions

Timeline

Immediate actions – timeline

1. Educational workshops and AI literacy training

2. Adopting an AI code of ethics

Short-term initiatives (within 6-12 months)

1. Certification programme for AI proficiency

2. Regular industry sentiment surveys

Long-term goals (12+ months)

1. Guidelines and best practices for AI tool evaluation

2. Fostering cross-sector collaboration

3. Defining new AI-centric roles

19.1 Sub-committee structure

To ensure the Committee can address the diverse challenges posed by AI and emerging technologies, several sub-committees could be established, each focusing on a specific area of interest. These sub-committees can act as hubs for research, data-gathering and the dissemination of insights back to CITMA members.

1. **Regulatory and Legal Frameworks Sub-Committee**
   This group could focus on advocating for clear, risk-based regulations for AI in the UK, collaborating with IPReg and PAMIA to ensure that new policies reflect the needs of IP professionals. The Sub-Committee would also liaise with regulators and the government, advocating for a regulatory approach that mirrors successful international frameworks, such as the EU AI Act.
2. **AI Ethics and Bias Sub-Committee**
   Focusing on issues such as algorithmic bias, data privacy and AI hallucinations, this group would develop ethical guidelines for AI use in IP practice, ensuring that AI systems used by CITMA members are transparent, ethical and compliant with client confidentiality standards. This Sub-Committee would also create and manage ongoing assessments of AI tools to monitor their ethical impacts.
3. **Education and Skills Development Sub-Committee**
   Responsible for developing AI and emerging technology training programmes, this group would organise workshops, webinars, CPD sessions and mentoring opportunities for CITMA members. This Sub-Committee could also explore the introduction of an AI Certification Programme, helping members demonstrate their proficiency with AI tools and techniques.
4. **Emerging Technologies Sub-Committee**
   This group would monitor and analyse the latest developments in AI and other emerging technologies that could impact the IP sector, such as blockchain, virtual reality and Web3. The Sub-Committee would assess how these technologies might be integrated into IP practice and help prepare members for future shifts in the industry.
5. **Market Adoption and Industry Collaboration Sub-Committee**
   Tasked with driving AI adoption in the IP industry, this group would lead efforts to collaborate with law firms, tech companies and stakeholders to encourage the use of AI tools in practice. This Sub-Committee would also conduct surveys and questionnaires to gauge market readiness and gather feedback on AI integration, ensuring that the profession's concerns and aspirations are accurately represented.

19.2 New offerings and initiatives

To ensure that the CITMA AI and Emerging Technology Committee provides tangible benefits to CITMA members, the following initiatives should be introduced.

1. **AI mentoring groups**
   The Committee could offer AI mentoring programmes where experienced members, or designated AI officers, provide one-on-one or group mentoring to firms and individual members who are interested in adopting AI tools. These AI officers would be allocated to specific member companies to guide them through the complexities of integrating AI into their practices.

2. **Workshops and educational sessions**
   Regular workshops and training sessions would be organised to cover topics such as AI tool usage, ethical AI practices and practical applications of AI in IP tasks, like trade mark searches and enforcement. These sessions could be tailored to different experience levels, ensuring that everyone, from junior paralegals to senior attorneys, benefits.
3. **Events and conferences**
   Annual or biannual AI and Emerging Technology Conferences would serve as a platform for CITMA members, AI experts, regulators and tech companies to exchange ideas and discuss the latest developments. These events would include panels on AI adoption, the future of IP in a digital world and hands-on AI tool demonstrations.
4. **Surveys and questionnaires**
   A series of questionnaires could be used to gather data from CITMA members on how AI is affecting their practices. This feedback will be critical for shaping the CITMA Council's recommendations and ensuring that training and resources meet the needs of the profession.
5. **Collaborations with IPReg and PAMIA**
   A formalised collaboration with IPReg and PAMIA would ensure that the Committee initiatives align with regulatory requirements and professional standards. Working with these bodies, the Committee would advocate for a risk-based AI regulatory approach and support the development of AI guidelines that protect both professionals and their clients.

19.3 Regulatory advocacy and professional standards

To ensure AI is adopted responsibly and ethically, the Committee would lead advocacy efforts for comprehensive AI regulations. This includes:

- **Engagement with regulatory bodies**
  The Committee would work directly with IPReg to influence the creation of AI regulations that reflect the specific needs of IP professionals. The Committee would also provide regular reports and recommendations to IPReg, ensuring that emerging technologies are factored into their regulatory updates.
- **Development of AI best practices and certification courses**
  The Committee would be responsible for developing best practices for AI use in IP, particularly around issues like data management, client confidentiality and ethical AI use. These guidelines would be shared with CITMA members, providing a framework for responsible AI adoption.

A certification course will further ensure that users benefit from safeguarding and best practice principles at the forefront of technology.

- **Professional indemnity**
  The Committee would collaborate with PAMIA to ensure that professional indemnity policies reflect the increased use of AI. This may involve developing new guidelines for how AI tools are insured and ensuring that professionals remain covered when using AI systems.

19.4 Conclusion: leading the way in AI and

By transforming the AI and Emerging Technology Task Force into a permanent CITMA AI and Emerging Tech Committee, CITMA will be well-positioned to lead the profession through the rapidly evolving technological landscape. Through targeted sub-committees, AI mentoring programmes, certification courses, collaborative efforts with regulators, and a strong focus on education and skills development, the Committee can empower CITMA members to embrace AI and emerging technologies, while ensuring ethical, responsible adoption.

With a clear structure and well-defined objectives, the Committee would not only enhance the capabilities of IP professionals but also contribute to the development of AI regulations and best practices that will shape the future of the profession. Through this initiative, CITMA will continue to be a leader in innovation, providing its members with the tools and knowledge needed to thrive in the age of AI and emerging technologies.

Generative AI has been used for the creation of some texts within this document. Further use has been made of AI tools for formatting and editing.[16]

Footnotes

16 These include ChatGpt (under closed license), Claude and Gemini.

Annex 1

Proposed survey questions for clients of Intellectual Property Attorneys on AI usage – draft

We are conducting a survey to better understand your expectations regarding the use of artificial intelligence (AI) by intellectual property (IP) attorneys in their practice. Your feedback will help us design educational programmes and improve the quality of services provided by IP professionals. This survey is aimed at clients of varying sizes, from small businesses to multinational companies.

General information

1. Please indicate the size of your business
   - ○ Small (1-50 employees)
   - ○ Medium (51-200 employees)
   - ○ Large (201+ employees)
2. How frequently do you engage with IP attorneys for your business needs?
   - ○ Rarely (less than once a year)
   - ○ Occasionally (1-3 times a year)
   - ○ Frequently (more than 3 times a year)

Expectations on AI usage

3. How important is it for you to know if your IP attorney uses AI in their practice?
   - ○ Very important
   - ○ Somewhat important
   - ○ Not important
4. What aspects of AI usage by IP attorneys are most important to you? (Select all that apply)
   - ○ Transparency about AI usage
   - ○ Understanding the purpose and extent of AI involvement
   - ○ Knowledge of AI's data sources and algorithms
   - ○ Awareness of potential risks and limitations of AI outputs
   - ○ Oversight and control exercised by the attorney over AI
   - ○ Impact of AI on costs of services provided
5. How confident are you about AI's ability to perform the following tasks? (Rate from 1-5, where 1 is not confident and 5 is very confident)
   - ○ Basic legal research
   - ○ Drafting legal documents
   - ○ Trade mark registration and monitoring
   - ○ Providing legal advice and strategy
   - ○ Human Oversight and Verification
6. Do you believe that AI outputs in IP practice should always be reviewed by a human expert?
   - ○ Yes
   - ○ No
   - ○ Not sure
7. How do you expect your IP attorney to verify and validate AI-generated outputs? (Select all that apply)
   - ○ Through their own expertise and judgement
   - ○ By cross-referencing with other sources
   - ○ By consulting with other human experts
   - ○ By seeking feedback from clients
   - ○ Communication and disclosure
8. How should your IP attorney communicate the use of AI in their practice to you?
   - ○ Through initial consultation and agreement
   - ○ In written reports and documents
   - ○ During regular updates and meetings
   - ○ Only upon request
9. How will IPOs and courts utilise AI, and how should they be regulated? Any thoughts on clear ethics and transparency issues?
10. How transparent should your IP attorney be about the limitations and risks associated with AI usage?
    - ○ Very transparent
    - ○ Somewhat transparent
    - ○ Not transparent
    - ○ Open feedback
11. What concerns, if any, do you have about IP attorneys using AI in their practice?
12. What benefits do you foresee from the use of AI by IP attorneys?
13. Do you have any additional comments or suggestions regarding the use of AI in IP legal services?

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