

Working with our quantum team

About Mathys & Squire

Dedicated to protecting and defending your future.

Mathys & Squire is an intellectual property (IP) powerhouse that puts its specialist knowledge to work for clients, to strengthen and secure what most modern businesses today treat as one of their most valuable strategic assets - intellectual property.

The firm's agile teams of attorneys, scientists and strategists are steeped in experience, working with IP-rich and high-growth industries to leverage complex technologies and sophisticated commercial models across a broad range of industry sectors.

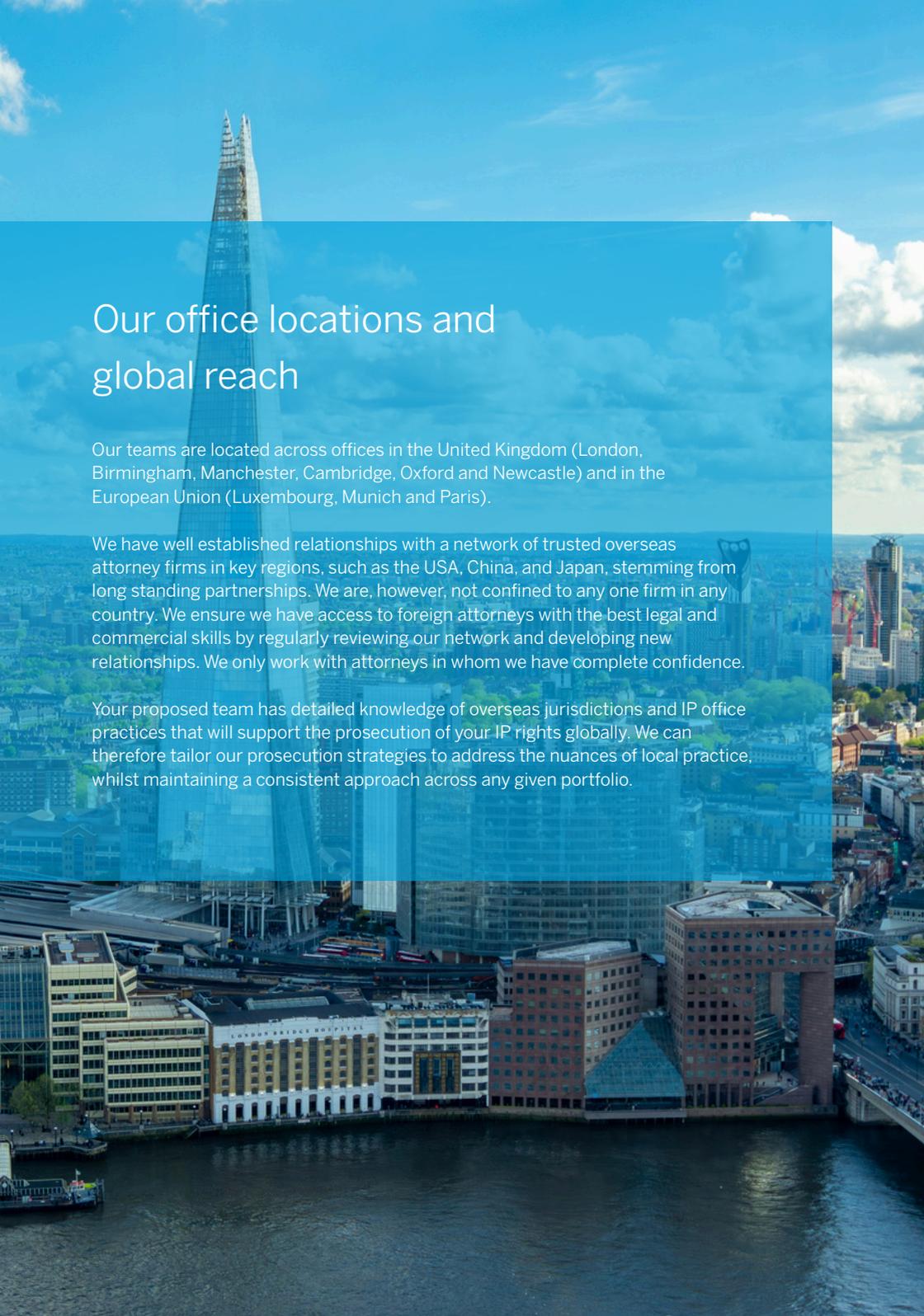
A full-service IP firm, Mathys & Squire has unrivalled expertise in patents, trade marks, design protection and litigation. Highly ranked in leading legal and IP directories, and leading the field with insight, innovation and quality, Mathys & Squire celebrated its 115th Anniversary in 2025, testament to its proven track record in the protection and commercialisation of IP rights.

The firm has a broad spread of clients, ranging from start-ups to major UK and global corporations, many of which are household names. Clients of the firm value its commitment to professional excellence and technical expertise.

Mathys & Squire has over 100 attorneys (both training and qualified) and a dedicated IP consulting team across offices in the United Kingdom and Europe. The firm's attorneys and trainees have a mix of scientific degrees extending from chemistry, biochemistry, pharmacology, genetics, microbiology, plant sciences and zoology through to physics, electronics, telecommunications and engineering.

We are passionate about creating and delivering innovative, high-quality, client-focused services and building close and longstanding relationships with clients in order to establish defensive and offensive IP portfolios that generate commercial value. We are proactive when working with clients and valued for our integrity, honesty and collegiate approach.

We protect, so that you can invent the future.

An aerial photograph of London, England, featuring the River Thames in the foreground. The skyline is dominated by The Shard skyscraper, which rises sharply into a blue sky with scattered white clouds. Other buildings, including the London Bridge Hospital, are visible along the riverbank. A semi-transparent blue rectangular box is overlaid on the image, containing white text.

Our office locations and global reach

Our teams are located across offices in the United Kingdom (London, Birmingham, Manchester, Cambridge, Oxford and Newcastle) and in the European Union (Luxembourg, Munich and Paris).

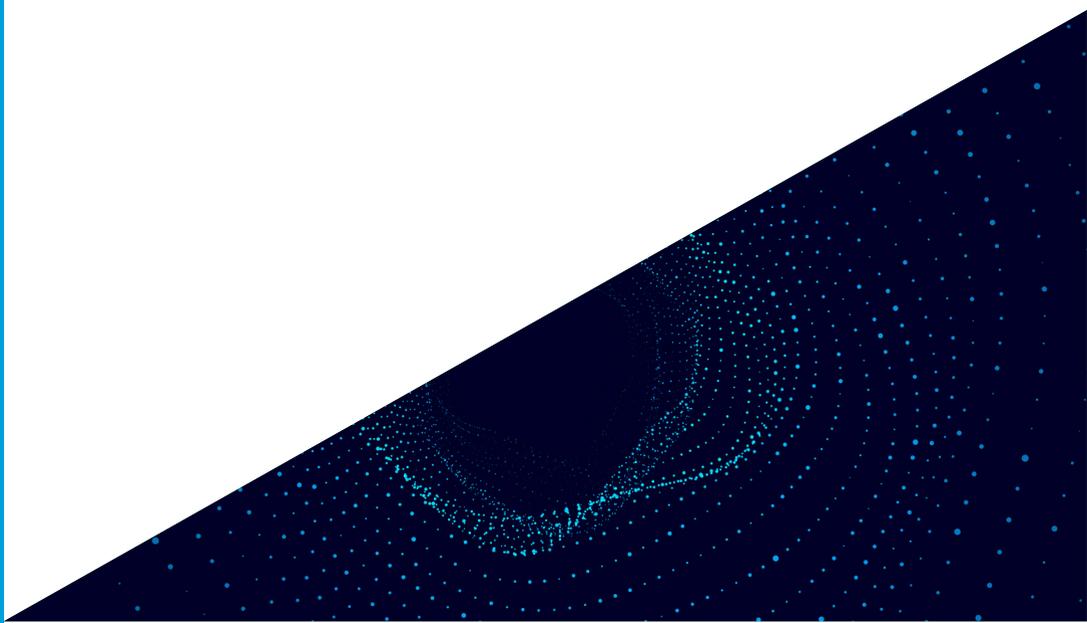
We have well established relationships with a network of trusted overseas attorney firms in key regions, such as the USA, China, and Japan, stemming from long standing partnerships. We are, however, not confined to any one firm in any country. We ensure we have access to foreign attorneys with the best legal and commercial skills by regularly reviewing our network and developing new relationships. We only work with attorneys in whom we have complete confidence.

Your proposed team has detailed knowledge of overseas jurisdictions and IP office practices that will support the prosecution of your IP rights globally. We can therefore tailor our prosecution strategies to address the nuances of local practice, whilst maintaining a consistent approach across any given portfolio.

Our quantum expertise

Amid the rapid scientific and legal developments in this field, our team of quantum patent and trade mark attorneys are well-equipped to handle comprehensive IP protection in all areas of quantum technology.

Our team combines fresh quantum talent with recent research experience on the PhD- and postdoctoral level with the longstanding experience of senior patent attorneys in prosecution, litigation and portfolio management in quantum and adjacent deep-tech sectors. As such, we are uniquely positioned to provide an extensive IP-strategy allowing long-term commercial growth for the full spectrum of enterprises from start-ups to major market-leading commercial entities.



Our technical expertise includes:

Quantum protocols

- signal processing and phase estimation techniques;
- decoherence modelling and coherence enhancement;
- noise reduction, optimisation algorithms and benchmarking techniques for circuit performance;
- material simulation and other applications;
- control algorithms for photonic integrated circuits and protocols for resource state generation; and
- quantum communication, cryptography and security protocols, key distribution.

Quantum hardware and systems

- quantum hardware manufacturing techniques, semiconductor device fabrication;
- rare-earth systems, neutral atom systems, repeaters and memory;
- quantum sensors, optical clocks;
- photonic integrated circuits and their components, interferometers, phase shifters and modulators;
- optical cavities, micro-resonators, nano-photonics, photonic crystal devices, single photon sources, optically addressable spins, quantum dots; and
- non-linear optics, frequency conversion, down-conversion sources.

Quantum-enabling technology

- optical systems, fibre-optics, telecoms;
- laser stabilization, frequency combs;
- physical instrumentation, signal processing, RF- and microwave electronics; and
- low temperature physics, superconducting systems, cryogenics.



39 Partners
2 Of Counsels
47 Associates
30 Technical Assistants
125 Business Support

Our patent expertise

Technical expertise

Our team of patent attorneys hold advanced academic degrees in relevant technical areas, and many have PhDs. As well as scientists and engineers with valuable research experience, our team also includes attorneys with practical industry/research experience who understand the challenges and pressures that many clients face, and have a depth of understanding and know-how to talk to engineers in order to draw out key details of inventions for patent drafting and prosecution. We are experienced at prosecuting a broad range of subject matters, including acting on complex cases in front of the UKIPO and EPO.

Intellectual property expertise

Our IT & engineering team has expertise in all areas of IP, encompassing patent procurement (including invention mining, patent drafting and prosecution), licensing, contentious proceedings (including infringement, opposition and appeal cases), freedom-to-operate and due diligence exercises, transactional matters, and IP portfolio management.

With expertise in handling oral proceedings before examining and opposition divisions, as well as appeal boards, we leverage our experience to advance challenging applications. Recognising the substantial costs and uncertainties associated with oral proceedings, we have a commendable track record of engaging with examiners informally. This proactive approach aims to pre-empt oral proceedings and secure more cost-effective allowances.

Our trade mark expertise

Our trade mark team has a wealth of experience dealing with all aspects of trade mark work from cradle to grave.

We have attorneys at all levels of qualification and experience ensuring that advice given is both cost sensitive and of the highest quality. Our trade mark team are technically excellent whilst being commercially focused and our trade mark partners have an excellent reputation in the trade mark industry in both the UK and worldwide. We work closely as a team to ensure knowledge and expertise is shared, providing our clients with a seamless service. This and our ability to act as an extension of your in-house team distinguishes us from our competitors.

Our main services include clearance searches, filing and prosecution of trade marks, international portfolio management, infringement and opposition / cancellation proceedings in front of national and international courts, dispute management and alternative dispute resolution that aligns with our clients' commercial goals. We also handle domain and company name disputes, social media takedowns, anti-counterfeiting actions, acquisitions and investigations as well as transactional trade mark matters including assignments and other recordals.

With our expertise, as well as a thorough understanding of the nuances of international trade mark laws, Mathys & Squire is confident that we have the necessary skills and competencies required to deliver the work.

Our design expertise

We have a large and well established designs practice assisting numerous entities - from startups to established household names - secure strategic protection for their designs internationally.

As a European firm, with offices in both the UK and EU, we can handle both UK and EU registered designs. We have built up a number of significant international design portfolios covering a wide range of jurisdictions, and have therefore acquired an intimate knowledge of the unique variations in local practice. Owing to our expertise in international design protection, we are often instructed by large multinational companies specifically to handle large overseas design filing programmes. With our familiarity of international design practice, we can act as point contact for an entire design portfolio. We also have significant experience in directly handling international Hague design filings.

“Mathys & Squire are innovative about what they do. They are not just ticking boxes; they are always trying to come up with better ways of doing things, and are always open to suggestions from our side. We work very closely. Most importantly, with Mathys & Squire, I know I will be working with a stable team who know me and my business, and can deliver the technical and commercial advice I need to protect our IP.”

Kenwood

Our services

Comprehensive IP expertise

Ability to advise on a full range of IP matters, including patents, designs, trade marks and copyright, including drafting/filing, prosecution, oppositions and appeals, as well as contentious matters.

Streamlined IP access

Our client portal, designed by our team in conjunction with an external consultancy specialising in software for the legal profession, that provides instant access to your IP records.

Trusted IP authority

Our well-established presence and reputation within the IP industry, offering additional security and confidence for investors and shareholders.

Tailored billing solutions

Flexible billing arrangements tailored to your specific needs, which include fixed fee arrangements or subscription option, as well as clear itemisation of costs and charges.

Comprehensive IP solutions

Mathys & Squire Consulting team can provide full IP audits, landscaping, advice on commercialisation of IP and IP valuation services.

Global IP advocacy

Representation before the UKIPO, EPO, EUIPO, WIPO, UK and German courts and Unitary Patent Court.

Comprehensive technological expertise

Ability to handle a wide range of technologies and large workload.

United portfolio management

Ability to handle the UK and EU parts of your trade mark and designs portfolio under the same roof via our European (Munich) office.

Due to the size of our firm, as well as the excellence and variety of skills and technical expertise our attorneys possess, we have the capacity and capability to handle all your patent, designs and trade mark matters ourselves.

Added value



Client focus

Mathys & Squire has a substantial focus on direct client work, advising clients of various sizes as they expand – and in many cases build from scratch – their Intellectual Property (IP) portfolios.

We pride ourselves on offering a bespoke service and building strong relationships with our clients. Ultimately, we believe that a trusting relationship between our attorneys and our clients is fundamental to providing valuable advice. We like to see ourselves as ‘an extension of your team.’

We regularly obtain feedback from our clients, on performance including service levels, responsiveness, and case work to ensure we are aware of any areas we can improve.



Commercial focus

We pride ourselves on our commercial perspective and our ability to consider patent filings, designs and trademarks from this point of view.

For all our clients, we offer bespoke commercially valuable advice, that is both technically incisive and legally astute so as to effectively support our clients and maximise the value of their IP.

We take a proactive approach when working with our clients, advising them on a course of action that is best aligned with their business needs. Understanding the commercial value of a new invention or brand is as important as understanding the technology and marketing behind it.



Mathys & Squire Consulting

As part of this commercial focus – and unique to our firm – we have an integrated consulting division that focuses on the commercial aspects of IP.

For example, the consulting division are experienced with searching both from a prior art perspective and a landscaping perspective, and this landscaping experience can enable the identification of gaps in the market where there is a commercial desire for products but little patent coverage (so that we are able to file applications targeting these commercial gaps).

The consulting division are also skilled in IP valuation, brokerage and would be well placed to determine and justify values for various types of IP (for example, to determine appropriate licensing fees for patent filings).



Litigation

In a world of ever-changing technology, there is a perception that defending and enforcing IP is more difficult than ever.

We provide expert IP litigation support for our clients so that they secure their portfolio. Our IP litigation team is made up of patent and trade mark attorneys and solicitors who understand both the complexities of the law and the practical intricacies of the technologies in IP litigation disputes.

We have rights to represent clients at the new Unified Patent Court (UPC) and our core UPC litigation team is currently pursuing a test case before the UPC seeking to clarify the court rules relating to access to court documents.



A closer look at Mathys & Squire



Recent success rate

Attorneys at Mathys & Squire were involved in 396 opposition and appeal matters in the last year, and achieved a positive outcome for our client in 82% of those cases.



4,371 new patent applications worldwide.



630 new trade mark applications worldwide.



939 new design applications worldwide.



15 attorneys recommended by The Legal 500.



13 attorneys recommended by IAM Patent 1000.



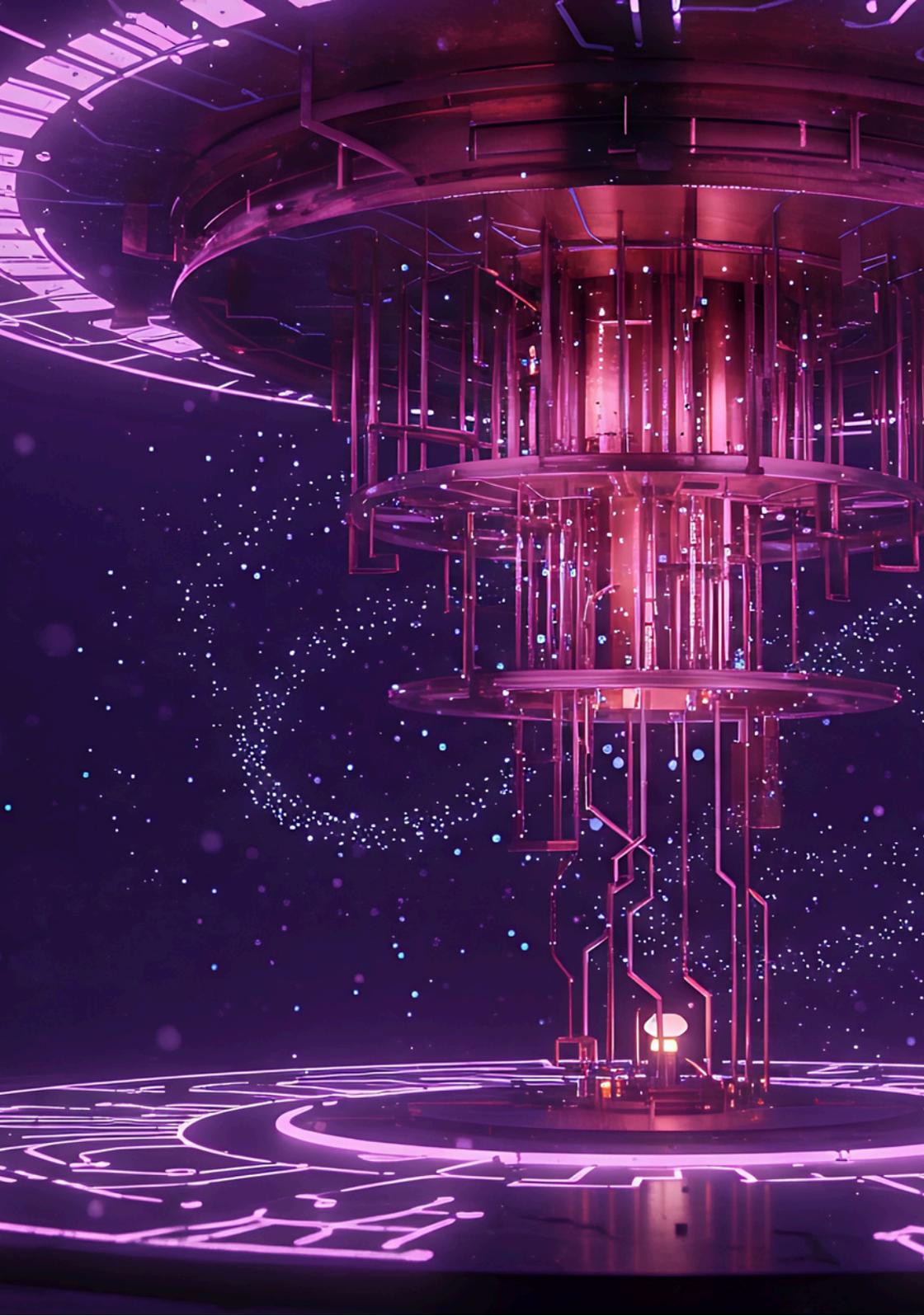
14 attorneys recommended by Managing IP.



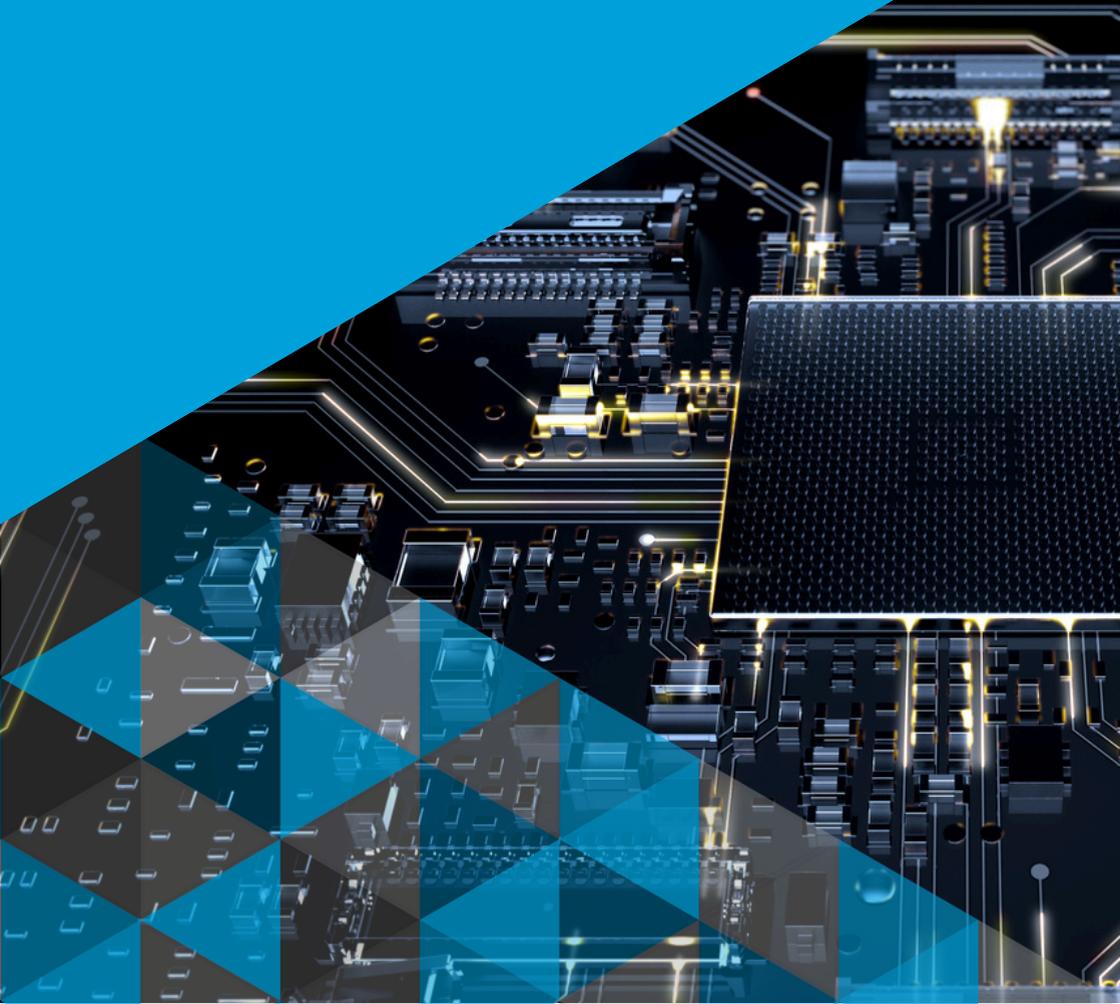
We manage 57,848 patents/patent applications.



In the last year, we had 12 litigation proceedings.



Meet our
quantum team
London office





Sean Leach

Partner

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Sean specialises in drafting patent applications for international practice and prosecuting those applications to grant in key jurisdictions including the EPO, the USA, and the UK. In addition, his practice also includes: portfolio management; advice on product clearance, infringement and validity; and EPO oppositions and appeals.

Sean's technical expertise includes electronics, including RF and analogue electronics and display and sensor design; integrated circuit architecture and manufacture, including photonics for classical and quantum optical processing; optical data processing methods; interferometers and photonic integrated circuits; signal processing; network communications; quantum computing including photon source designs and protocols for generating photonic resource states; technologies; computer implemented inventions including machine learning.

In addition to patent drafting and IP strategy, Sean also advises on negotiation of IP licences and IP agreements, and has successfully represented SME clients in licence negotiations with Tier 1 automotive manufacturers and Original Equipment Manufacturers (OEMs).



Edd Cavanna

Partner

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Edd has extensive experience in drafting technologically complex applications and prosecuting them to grant in the quantum computing, software, and mathematical fields. At the forefront of his approach is not just getting to grips with the technology, but also understanding the needs of his clients to ensure robust and useful protection. He also has extensive experience with electronic devices, particularly from a materials perspective, including semiconductor devices and applied superconductivity. In addition, he also has experience in applied cryogenics; software and networking; quantum information and computation systems; and automotive systems including electric vehicles.

Edd holds an MPhys degree from the University of Leeds including a dissertation in quantum information, and a PhD from the University of Cambridge, studying the thermal properties of cuprate superconductors.

Edd has recently been assisting in the drafting and prosecution of applications for a startup company in the quantum computing space. Much of his work over the years has involved working with large and small clients to advise on all aspect of IP protection, and to maximise portfolio value.



Oliver Parish
Managing Associate
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Oliver works with a wide range of clients including large corporations and SMEs as well as universities, startups and individual inventors, primarily drafting and prosecuting UK and European patent applications and managing international patent portfolios. Oliver also has experience in wider strategic and contentious matters, having advised clients in respect of disputes regarding the infringement and validity of patents and registered designs, as well as patent licensing, IP due diligence, and freedom to operate. Oliver has been recommended in the 2026 edition of The Legal 500 for his 'excellent technical knowledge'.

Oliver's experience covers a range of technologies in the field of physics, including various optical quantum computing technologies such as photonic integrated circuits and single photon sources, quantum key distribution and optical communication, resource state preparation, and boson sampling, as well as related engineering and manufacturing technologies such as semiconductor fabrication, charge doping, and microelectronics.

Oliver graduated from the University of Warwick with a first class master's degree in physics. His degree covered a broad range of topics including quantum mechanics and electrodynamics, optoelectronics, lasers, and semiconductor devices as well as a research project investigating the effect of substitutional doping on the crystal structure and intrinsic magnetic properties of rare earth transition metal magnets.



Daniel Speed
Trainee Patent Attorney
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Daniel's legal experience primarily covers patent drafting and prosecution of complex technologies such as quantum computing, adapted for various legal jurisdictions such as the UK, US and Europe. His expertise also includes navigating patent exclusion provisions such as mathematical methods, abstract ideas and computer programs in these areas.

Some recent technological areas include: signal processing, noise reduction and phase estimation techniques in quantum algorithms, optimisation and benchmarking techniques for circuit performance, quantum material simulation, quantum state generation protocols, photonic integrated circuit architectures, amongst others.

For his Masters project at Cardiff University, he investigated the equivalence of quantisation procedures in the transition between the quantum and classical regimes.

He received a PhD from The University of Bristol, where his research utilised techniques and ideas from abstract geometry to better describe generalised dynamics of interacting quantum systems.

Meet our
quantum team
Munich office





Matthias Brittinger

Partner

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Matthias is a German Patent and Trade Mark Attorney and a European Patent, Trade Mark and Design Attorney, with over 20 years of experience in intellectual property (IP). Matthias has earned recognition as one of the most reputable Patent Attorneys in Germany in *Wirtschaftswoche*.

Matthias's technical expertise lies in standard essential patents (SEPs) related to telecommunications. Matthias also has experience working on cases related to CMOS sensors, wireless power transfer, robotics, biosensors, semiconductor power devices and second quantum revolution technology. Aside from prosecution, Matthias has profound expertise in litigation in various fields such as welding robotics, LED lighting, processor technology, and telecommunications.

Matthias's broad technological background is based on a degree in physics (German Dipl.-Phys.) from the Technical University of Munich in 2001 with a specialisation in semiconductor and advanced quantum physics. His diploma thesis at the Walter Schottky Institute of TUM, conducted in the group of Prof. Abstreiter, focused on optical studies of two-dimensional electron gases in the quantum Hall regime. Additionally, he was research associate at the Max Planck Institute for Biochemistry where he received his doctorate in 2004. Matthias's Ph. D. thesis was concerned with investigations on electrical and chemical coupling of biological cells with electrolyte-oxide-silicon field effect transistors.



Florian Saas

Associate

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Florian has been a qualified German patent attorney since 2011. He has expertise in the technical fields of semiconductor technology, short pulse generation and in the field of quantum physics generally. His main focus is patents, in particular filing German, European and international (PCT) patent applications as well as conducting the granting procedure before the German Patent and Trademark Office, the European Patent Office, the World Intellectual Property Organization and worldwide. Additionally, he has expertise in defending and enforcing national, European and international patents.

Florian graduated with a diploma in Physics from the Ludwig Maximilians University in Munich with a focus on semiconductor technology, optoelectronics and especially quantum dots. He received his PhD from the Humboldt University in Berlin on his research at the Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy on semiconductor lasers. In particular, his research was focused on the short pulse generation with a system based purely on semiconductors.



Adrian Holzäpfel
Trainee Patent Attorney
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Adrian Holzäpfel joined the IT and Engineering team at Mathys & Squire in 2025. He supports the team with his expertise in quantum and other high-tech topics.

With a background in quantum communication, Adrian is well-versed in the topics of telecommunication, optics, high frequency electronics and signal processing, as well as solid-state and semiconductor physics. His specialization allows him to weigh in on emerging technologies such as quantum computing, quantum cryptography and quantum metrology applications.

Adrian completed his undergrad studies at Ludwig-Maximilian-University (LMU) and Stockholm University (SU) and received his degree from the former in 2017. During his doctoral studies, he investigated quantum memories at the University of Geneva, where he was awarded his degree in 2022. He then returned to Germany where he performed research activities at Technical University Munich (TUM) and the Max Planck Institute for Quantum Optics (MPQ).



Harald Schubart
Technical Assistant
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Harald is experienced in patent prosecution at the German Patent Office (DPMA) and European Patent Office (EPO) in a variety of technical fields involving mechanics, electrical engineering, process and control engineering as well as computer-related inventions.

Harald has experience in drafting applications and all matters of patent research for prior art and freedom to operate evaluation. His main technical background is based on hybrid and fuel cell driven vehicles, including thermo management and controls. Harald also has experience of working on numerous international prosecution proceedings across a diverse range of industries including air transportation, pump and hydraulics, IoT and semiconductors for significant IP portfolios, as well as startup innovation businesses. Harald boasts further academical background on specific technical fields of physics including nano electronics and nano optics for semiconductors, nano magnetism and nuclear spin, as well as quantum mechanics.

Harald holds a diploma as a patent engineer from the Technical University of Applied Sciences (OTH) Amberg-Weiden. He later attended the Technical University of Kaiserslautern for gaining knowledge in specific fields of nanotechnologies.

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