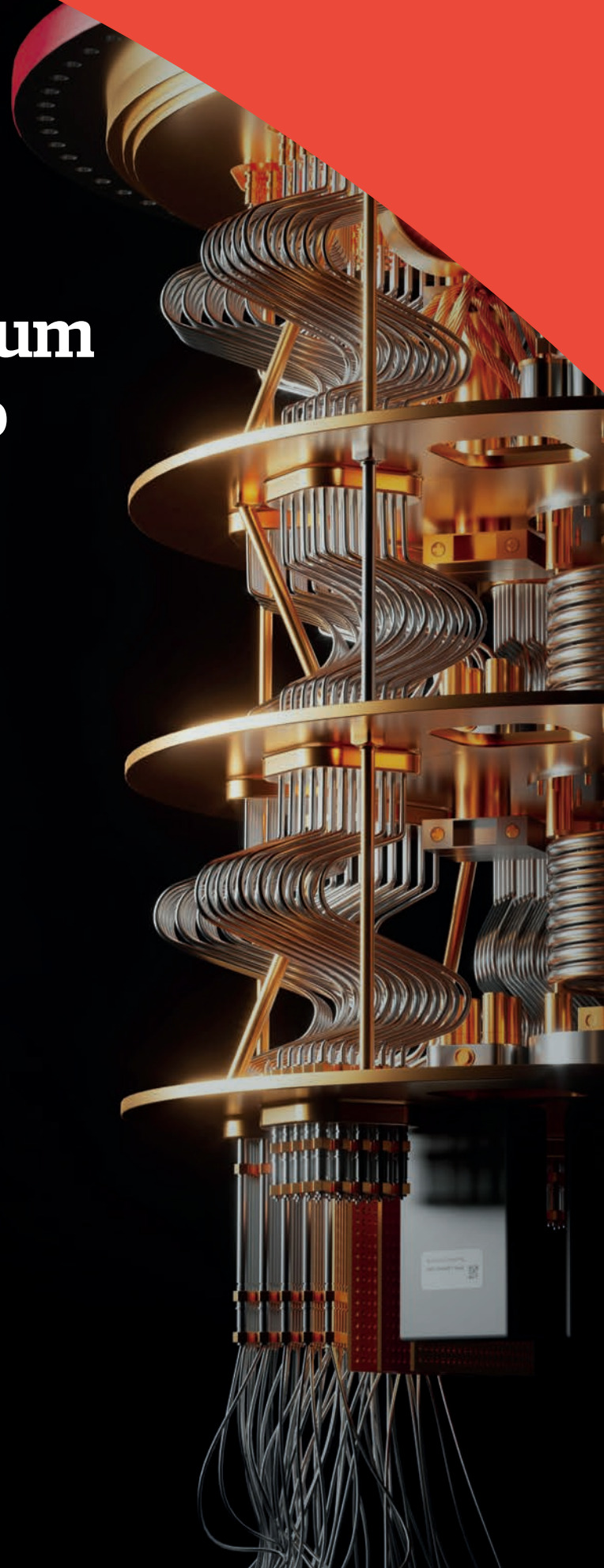


Dehns

An Introduction to
**The Dehns Quantum
Computing Group**



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Quantum Computing and Intellectual Property

For quantum computing companies, intellectual property (IP) is often their most valuable asset, protecting the breakthrough algorithms, hardware architectures, error-correction methods, materials innovations and enabling technologies that underpin their commercial advantage.

Unlike many other technology sectors, the intellectual property landscape is exceptionally complex, sitting at the intersection of quantum physics, computer science, engineering, mathematics and materials science, while evolving rapidly against a backdrop of intense global competition and emerging patent activity.

Enforcing quantum-related intellectual property can also be particularly challenging, as many innovations are highly technical, difficult to reverse engineer, and often implemented within proprietary systems that are not publicly accessible, making infringement harder to identify and evidence.

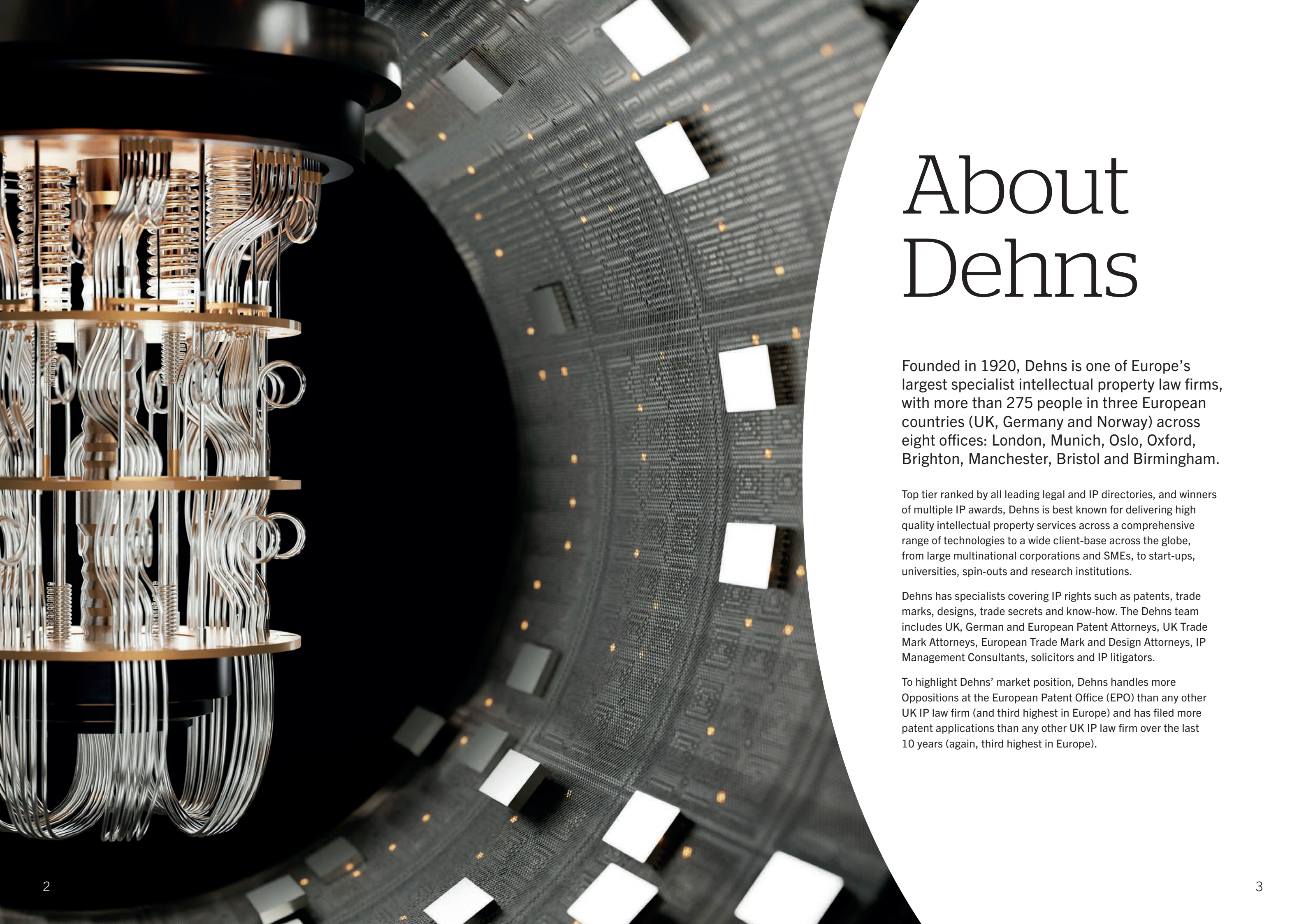
Securing and enforcing meaningful protection therefore requires more than conventional IP expertise. It demands advisers with genuine quantum computing knowledge who can understand the science, anticipate commercial developments, and build IP strategies that create lasting competitive advantage.

Dehns’ Quantum Computing team combines expert technical knowledge with deep commercial insight to help clients protect and leverage innovations across the quantum stack – from hardware and control systems to algorithms, software and applications.

The team, led by partner Dr Mark Bell, has built a reputation for being able to handle the most complex subject matters, and to engage with inventors and academics at their level. In particular, the Dehns Quantum Computing team has over a decade’s experience working with quantum technologies in universities, tech transfer offices, spin-outs and start-ups.

We are routinely trusted by these clients to handle some of their hardest cases. As well as working directly with clients in this area, our team is also sought after by other attorneys, law firms and investors to handle work in this subject area.

We are trusted because we understand the key issues in this rapidly developing field: speed of protection, scalability, investor scrutiny and a highly competitive landscape. We also know how to support and mitigate these situations from an IP perspective. For example, the importance of defensive patenting strategies in competitive and crowded hardware spaces.



About Dehns

Founded in 1920, Dehns is one of Europe's largest specialist intellectual property law firms, with more than 275 people in three European countries (UK, Germany and Norway) across eight offices: London, Munich, Oslo, Oxford, Brighton, Manchester, Bristol and Birmingham.

Top tier ranked by all leading legal and IP directories, and winners of multiple IP awards, Dehns is best known for delivering high quality intellectual property services across a comprehensive range of technologies to a wide client-base across the globe, from large multinational corporations and SMEs, to start-ups, universities, spin-outs and research institutions.

Dehns has specialists covering IP rights such as patents, trade marks, designs, trade secrets and know-how. The Dehns team includes UK, German and European Patent Attorneys, UK Trade Mark Attorneys, European Trade Mark and Design Attorneys, IP Management Consultants, solicitors and IP litigators.

To highlight Dehns' market position, Dehns handles more Oppositions at the European Patent Office (EPO) than any other UK IP law firm (and third highest in Europe) and has filed more patent applications than any other UK IP law firm over the last 10 years (again, third highest in Europe).

The Dehns Quantum Computing Team

Our specialist quantum computing team is made up of genuine quantum experts, both through academia and from professional experience working with clients in highly technical fields relating to quantum computing.

The Dehns Quantum Computing team supports quantum computing clients in different ways:

- **Lab to spin-out:** IP strategy and consulting, priority patent filings, investor-ready IP portfolios
- **Grow and scale:** International strategies and prosecution, IP Audits, portfolio growth and rationalisation, freedom to operate
- **Commercialisation:** Licensing, collaboration, monetisation strategies
- **Risk and Disputes:** Due diligence, oppositions, litigation support

The Dehns Quantum Computing team consists of:

- **Dr Mark Bell:** World-class physicist and partner handling the most complex quantum and deep-tech matters
- **Tom Parry:** Cambridge-educated physicist and leading specialist in handling inventions in the fields of electronics and computer technology
- **Ben Gray:** Versatile patent attorney with expertise across engineering, physics and quantum technologies
- **Emily Dekker:** Qualified patent attorney and former quantum computing researcher with hands-on experience developing quantum technologies
- **Henry Coop:** Oxford-trained quantum physicist with deep theoretical knowledge across the quantum stack

Further details are provided on the following pages.



Dr Mark Bell
Partner

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Mark is a Partner in Dehns' Technology, Software and Engineering (TSE) group, and leads the Quantum Computing team. With an MPhys (First Class) and a DPhil in Particle Physics, both from the University of Oxford, Mark handles a wide variety of high-tech physics and engineering work. He has significant experience in handling cases involving particularly complex subject matter, focussing primarily on quantum computing and nuclear fusion.

Mark's DPhil research involved studying the decay of sub-atomic particles (charm and beauty mesons decaying semi-leptonically to electrons) in the large-scale ZEUS detector on the HERA electron-proton accelerator at the DESY laboratory in Hamburg.

Mark's quantum experience is extensive, having worked with leading university and spin-out clients in the quantum computing field, drafting and prosecuting patent applications for both quantum hardware and software technologies, as well as providing strategic IP advice to quantum technology companies, investors and law firms.

Recent feedback from clients has included the following:

"Mark Bell is a phenomenal patent attorney; a technical expert in physics with a deep understanding of IP matters makes him a unique capability as I would label him as a scientist first who understands the intricacies of the law, rather than an attorney who knows some technical stuff."

Anonymous client testimonial published in the Legal 500 Directory

"Just a note to say I read through the revised draft. I think this is now excellent – well done for fixing up the last few points we had discussed. Actually, it's very impressive how you found a way to work the Doppler cancellation conditions. Neat."

Research Fellow, Physics Dept, Oxford University

"Thank you for your input today. I am impressed with how quickly you understand the technology."

**Technology Transfer Manager,
Oxford University Innovation**



Tom Parry Partner

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Tom is also a Partner in Dehns' TSE group whose practice focuses on some of the most intellectually demanding areas of modern technology. A First-Class Natural Sciences (Physics) graduate from the University of Cambridge, Tom advises clients on inventions spanning software, artificial intelligence, electronics and computing. He is particularly recognised for his ability to engage with highly complex technologies and translate sophisticated technical concepts into commercially valuable intellectual property strategies.

Tom has extensive experience handling patent applications relating to computer and information processing technologies, including microprocessor architectures, neural network processing, data compression and encoding techniques, compiler technologies and advanced software systems. This, combined with his physics background, allows him to work comfortably with inventions across both classical and quantum computing, as well as at the interface between the same (such as orchestration and error-code correction).

In addition to his drafting and prosecution practice, Tom is an accomplished advocate before the European Patent Office, regularly acting as lead counsel in opposition and appeal proceedings. His combination of deep technical understanding, strategic legal expertise and commercial awareness makes him a trusted adviser to clients operating at the forefront of computing and emerging technologies.

Tom is also a member of the Chartered Institute of Patent Attorneys' Computer Technology Committee, and their Quantum Computing Sub-Committee.



Ben Gray UK & European Patent Attorney

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Ben is a UK and European Patent Attorney whose practice spans a diverse range of advanced engineering and physics-based technologies. Holding a Master's degree in Physics from the University of Exeter, and as part of Dehns' Quantum Computing team, he regularly works with cutting-edge inventions and has developed a reputation for quickly understanding complex technical subject matter and communicating advice in a clear, commercially focused manner.

Ben works with multinational corporations, SMEs and universities, handling patent drafting, prosecution, due diligence and opposition matters across multiple jurisdictions. Clients value both his technical versatility and his pragmatic approach, which enables them to navigate challenging intellectual property issues with confidence. With the insight he brings leveraging his broad physics knowledge, active involvement in the quantum technology community, and ability to rapidly master new and complex technologies, Ben is rapidly becoming a trusted adviser in some of the most innovative areas of modern engineering and computing.

"Thank you for the update and congratulations on the outcome! We appreciate your effort in all you did preparing for the arguments."

Sent to Ben by in-house counsel at a multinational aerospace corporation following notification that there had been a successful Opposition outcome

"Thank you for all your work on this. I think this draft application is in a really good place....I am very happy with the way in which you've fleshed out this draft application (I am grateful to you for doing this and appreciate that it will have taken time)."

Sent to Ben by in-house counsel at a multinational FMCG corporation following receipt of a patent application drafted by Ben

"In my opinion, the draft has been prepared in a highly professional and detailed manner, and it accurately reflects the technical aspects of the invention... I'm very happy to support this patent application and truly appreciate your assistance, professionalism, and dedication throughout the process. Thank you again for all your help and support in bringing this patent idea to this stage."

Sent to Ben by an inventor at a multinational FMCG corporation following receipt of a patent application drafted by Ben



Emily Dekker

UK & European Patent Attorney

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Emily is a UK and European Patent Attorney specialising in complex physics-based technologies, with particular expertise in quantum computing, optics and condensed matter physics. Holding a First-Class MPhys degree from the University of Warwick, Emily combines exceptional academic credentials with hands-on research experience gained at the University of Oxford, where she investigated cavity-coupled nitrogen vacancy qubits in diamond for quantum computing applications. Her work spanned quantum simulation, optical microcavity fabrication and the practical implementation of quantum gate operations, providing her with a deep understanding of the technologies shaping the future of quantum information processing.

Emily's combination of advanced quantum research experience and intellectual property expertise allows her to engage confidently with inventors, researchers and commercial organisations operating at the cutting edge of science. She is particularly valued for her ability to understand sophisticated subject matter quickly and translate complex ideas into clear, commercially robust intellectual property strategies.

Her firsthand experience of quantum technologies, combined with a deep grounding in physics and a talent for rapidly mastering complex technical concepts, makes her exceptionally well placed to support innovators working at the forefront of quantum science and engineering.

"I just wanted to say thanks a lot for your hard work in preparing this one so quickly. We appreciate your attention to detail and prioritisation of this."

Sent to Emily (and Mark Bell) by a UK university client following the completion of a patent application drafting and filing project.

"We've taken a detailed look at the second draft, and we think it looks great! We have a few more minor comments / suggestions, but otherwise I think we are very close."

Sent to Emily (and Mark Bell) by a European quantum software start-up following their review of a patent application drafted by Emily



Henry Coop

Trainee Patent Attorney

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Henry is a trainee Patent Attorney with a strong academic foundation in quantum physics and advanced computing technologies. A graduate of the University of Oxford with an MPhys degree, Henry's studies encompassed quantum algorithms, quantum communication, quantum cryptography as well as the physical architectures underpinning large-scale quantum computing platforms. This rigorous technical training has given him an unusually broad understanding of both the theoretical and practical challenges facing the quantum technologies sector.

Henry's research combined quantum physics with cutting-edge materials science, focusing on the enhancement of photoluminescence in semiconductor nanostructures for potential application in photonic quantum computers.

His ability to engage with complex scientific concepts across multiple disciplines, coupled with a natural analytical curiosity, enables him to work effectively with innovators developing next-generation technologies. His combination of technical depth and versatility with a strong enthusiasm for emerging technologies makes him a valuable member of Dehns' quantum computing team.

Henry's deep grounding in quantum theory, combined with experience spanning quantum computing, cryptography, communications and advanced materials, allows him to engage confidently with some of the most challenging technologies emerging from the research community today.

Services

Beyond the traditional remit of patent attorneys, including patentability assessments, strategic advice, drafting, filing and prosecution of patent applications, Dehns provides a broad portfolio of IP consulting services designed to support high-growth technology businesses.

Dehns' dedicated IP Consulting team, led by senior management consultant Benoit Geurts, advises on IP strategy, M&A, valuation, monetisation and litigation support. From guiding companies through funding rounds and due diligence processes, to advising on collaborations, licensing and technology transfer arrangements, we help clients maximise the commercial value of their innovations.

Dehns' IP Consulting team also contains experts on Trade Secrets, providing our clients with services such as documenting and managing trade secrets in our bespoke Trade Secret Management platform, reviewing trade secrets and how they interact with other IP rights, and developing a trade secret strategy. This enables trade secrets to become an integral and valuable part of our clients' IP portfolios.

As can be seen, Dehns' capabilities extend through the entire IP lifecycle. Our highly rated Dispute Resolution team, including experienced IP litigator Graham Burnett-Hall, represents clients in Oppositions and Appeals before the EPO, proceedings before the UPC, and litigation before courts in the UK and Germany, ensuring that valuable intellectual property can be effectively protected and enforced.

Experience

Below is a small selection of our recent experience working with quantum clients.

Quantum chip architecture Oxford University Innovation & Oxford Quantum Circuits

Dehns has worked with Oxford University Innovation and the researchers that founded spin-out company Oxford Quantum Circuits (OQC) for well over 10 years. During this time, Dehns has drafted and filed multiple patent applications for the core technology that underpins OQC's quantum computers. These relate to the geometrical architecture that allow qubits to be scaled for commercially useful systems, and quantum computers to be made more compact and resilient to errors.

Quantum photonics Oxford University Innovation and ORCA Computing

ORCA Computing is a spin-out company that develops photonics-based quantum computers. Dehns has worked with Oxford University Innovation and the researchers that founded ORCA for well over 10 years. During this time, Dehns has drafted and filed several patent applications for the core technology that drives ORCA's quantum computers. These relate to quantum memories and multiplexing for photonics-based quantum computers.

Quantum compilers The University of Chicago

Dehns handles applications for The University of Chicago at the European Patent Office, in the field of quantum computing processing systems and compiler algorithms for quantum computers.

Quantum sensing The University of Sussex

Dehns works closely with the University of Sussex on a range of different physics-based inventions, including advising them on and preparing patent applications for quantum sensing technologies.

Quantum entanglement Advising small IP firm

Recently, Dehns was asked by a small IP firm to assist with some work for one of their clients relating to systems and algorithms for quantum entanglement. The small IP firm did not have the necessary background to fully understand these inventions and needed Dehns' Quantum Computing team's highly valued technical expertise in this complex field of quantum computing. The team reviewed and analysed the inventions, then advised on the chances of obtaining patent protection. Following this, Dehns drafted a new patent application to one of the inventions.

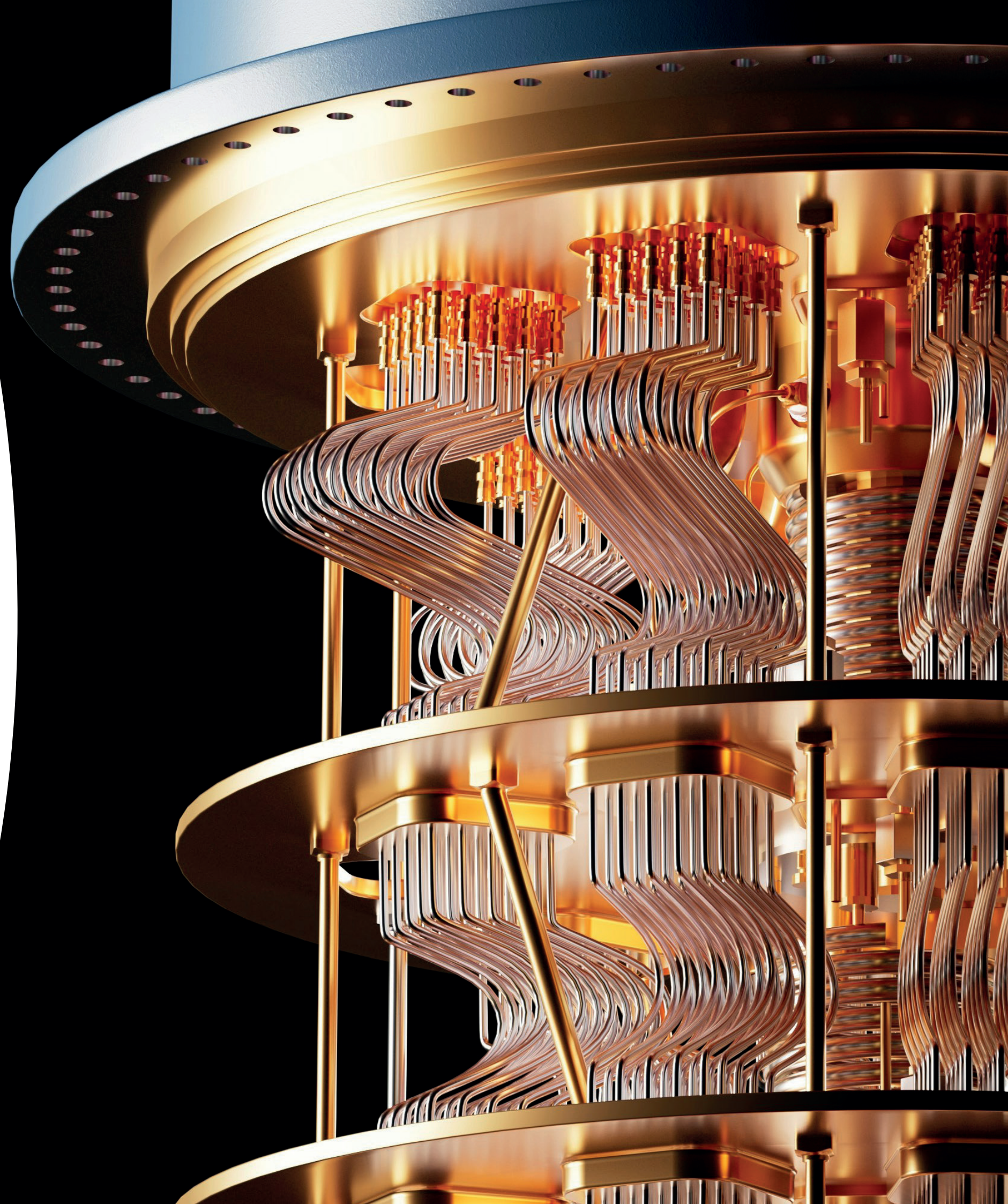
Quantum algorithms Start-up company

Dehns has recently started working with a quantum software start-up, who are developing quantum algorithms for solving non-linear partial differential equations on quantum computers. We have also provided strategic IP advice for this client to help them with their ongoing development.

Summary

Why choose Dehns for your Quantum IP services?

- Deep quantum expertise with market-leading IP strategy to help quantum innovators and their advisers secure, scale and monetise breakthrough technologies globally.
- Genuine one-stop shop for all IP-related needs, from IP strategy, filing and prosecution, through to IP audits, due diligence, and a comprehensive range of IP consulting services, including trade secret management, due diligence, FTO, licensing and collaboration and AI strategy, in addition to dispute resolution.
- Trusted by universities, spin-outs, SMEs, larger corporates, investors and international law firms to handle the most complex quantum inventions across hardware, software and applications.



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