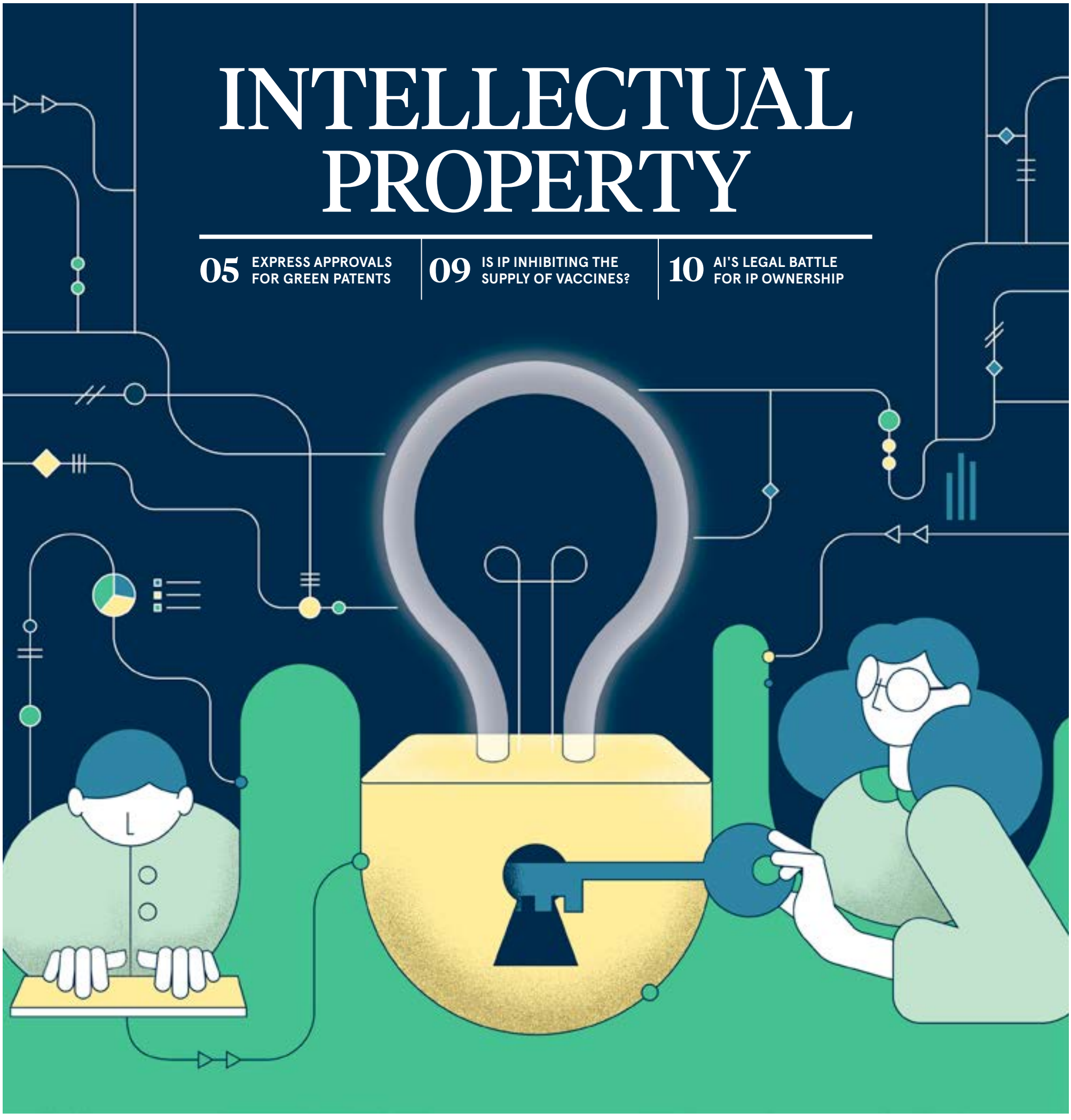
INTELLECTUAL PROPERTY



INTELLECTUAL PROPERTY

Distributed in
THE TIMES

Published in association with
CIPA THE CHARTERED INSTITUTE OF PATENT ATTORNEYS
CITMA The Chartered Institute of Trade Mark Attorneys

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C-SUITE

How general counsel can teach boardrooms the value of IP

Intellectual property poses a range of challenges for businesses today. General counsel must help senior executives maximise their IP's value

Ben Edwards

At a time of rapid digitisation, intellectual property (IP) issues are more complex than ever. General counsel have a vital role to play, avoiding pitfalls and ensuring senior executives make the most of their assets.

There are many potential IP issues that companies must consider. Take 'trademark squatting', for example. This is a particular problem in markets like China, where the likes of children's cartoon Peppa Pig and sportswear brand New Balance have battled trademark squatters who had already registered those marks.

Andrew Cooke is general counsel at esports platform Fnatic, which has been combatting trademark squatters in China. When a company can't sell its products because of trademark squatters, it goes a long way to making everyone "aware of the importance of long-term planning in IP protection," he says.

Cooke points to two key tasks for general counsel. First, help senior executives understand the value of their IP from a legal standpoint: for example, putting in place the correct registrations and rights to operate in their target markets. Second, ensure the board fully understands the full commercial potential of their IP portfolio and how they can bring that to life.

"The value isn't always there to be realised because sometimes commercial heads – and this isn't the case at Fnatic – just don't have the experience in making the most of their IP inventory," Cooke says.

A business-savvy general counsel can add additional value by helping executives identify potential commercial opportunities. The job has moved from a passive approach to a much more proactive function, Cooke says. "If you have a commercial mindset you can spot trends and unlock the value of intellectual property in a way that benefits the business."

Some larger companies have a dedicated IP team that sits outside the legal function, increasingly reporting directly to senior executives. German chemicals company BASF, for instance, has a specialist IP unit that handles all decision-making, strategy and investment related to the business's IP assets.

Senior executives must provide the top-down support necessary. "In the past too often IP functions have been considered a cost centre", says Tilman Breitenstein, lead IP counsel for BASF's nutrition and health business. "IP is expensive, but in order to get away from being a cost centre to a value contributor you have to sell the value of what you're doing to the board."

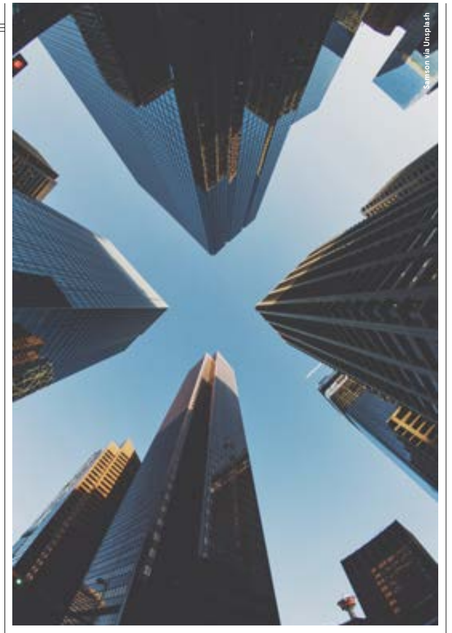


Photo: Unsplash

The extent to which executives understand and appreciate the value of their IP assets can also depend on their industry. "The CEOs of media and entertainment companies are generally going to have IP at the forefront of their minds all the time because that's what they sell. IP is their core DNA, they live and breathe their IP," says Sophie Goossens, a partner specialising in copyright at Reed Smith.

The same is typically true for technology and software companies.

"We've created an original product from scratch, so obviously the IP is very important to us," says Michael Jansen, CEO and founder of Cityzenith, a digital twin technology platform that helps cities reduce their carbon emissions.

But changes in legislation have made it difficult to patent certain types of software, which means that tech firms increasingly rely on trade secrets to protect their IP.

"You do what you can to protect your assets as best as you can," says Jansen. "My advice is don't show anybody anything that you're not comfortable showing, just be very discreet and make sure the agreements you have in place with team members and people who have access to your IP are watertight."

Given the growing complexity of IP issues and the value of those assets, general counsel may also need to do more to help the boardroom understand their IP in the context of increased digitalisation. As an example, companies might need to consider IP issues related to the metaverse.

"Say you're a fashion company and you want your handbag to be available for sale in the metaverse, you're not licensing an actual handbag, you're licensing an image of that handbag and therefore that could potentially attract copyright or other IP rights," says Goossens.

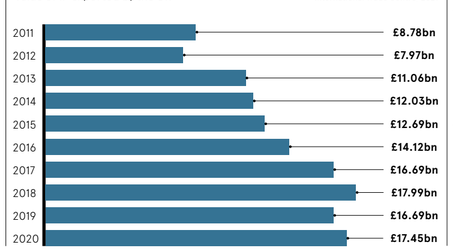
That isn't just a hypothetical scenario; it's already happening in the online gaming community. Gucci, for example, sold a digital version of one of its handbags in the game Roblox for $4,115 (about £3100) in June, roughly $700 more than the original sale price of the real-life version of the handbag.

"If you're a CEO of a non-media company, you should imagine that tomorrow all of your assets are likely to become media assets that are going to be licensed to the people who are running these virtual worlds," says Goossens.

General counsel must not only ensure their boardrooms understand and appreciate the value of their IP today, but scan the horizon for the commercial trends and legal risks that could impact their assets in the future.

PUTTING A PRICE TAG ON INTELLECTUAL PROPERTY

Value of IP exported by the UK — International Trade Centre, 2021



Commercial feature

Key IP trends to monitor in 2022

The world of intellectual property is changing faster than ever before. Your business needs to keep ahead of the curve in order to maximise its value

As one year ends and another begins, businesses across the country are having to grapple with a new set of challenges to accompany the new year. Key among them is ensuring the protection of IP.

"The way the UK is orienting itself as a knowledge, tech and creative economy means that there's a really big emphasis on IP protection," says Nigel Stoate, head of Taylor Wessing's UK patents group. "It all goes hand-in-hand with the direction in which the government wants the UK to head."

But where is the industry heading? And what actions should businesses take now to protect their interests in 2022? Taylor Wessing's experts provide a rundown of what you need to pay attention to as we ring in the new year.

1 The metaverse and beyond – new technologies will present new IP issues

With many businesses struggling to get a grip on IP protection in the physical space, the digital world can open up a Pandora's box of problems. "IP owners are having to deal with a more complex online environment and radically new technologies," says Louise Popple, a senior brands lawyer at Taylor Wessing. "We have already seen IP issues around apps. Next it will be AI, NFTs, AR/VR and the metaverse," she adds.

The UK's Intellectual Property Office is currently consulting on the thorny question of who owns the IP produced by AI. "Most IP laws are predicated on the assumption that there's a human creator," says Popple. "Now we've got to consider what we do where there possibly isn't, or you can't identify the human intellectual input.

"New technology often presents issues that current IP laws weren't drafted to accommodate," she adds. Take the metaverse, for instance – a proposed 3D iteration of the internet, which is expected to attain a billion-strong population by the end of the 2020s. Think of the trainers your metaverse avatar could wear, or the furniture they'll sit on in virtual business meetings. Do they mirror established brands and, if so, can there be infringement if there is no actual 'product'?

These tricky questions will have to be tackled as new digital environments grow – and there are likely to be plenty of IP disputes along the way. Making sure the correct IP rights are in place and prioritising budgets to tackle the increasing demands of policing online abuses will be key, says Popple.

2 Assume your IP dispute could go viral online

If 2021 was the year that Colin the Caterpillar threw the spotlight on IP disputes, then 2022 is the year that IP owners should build even stronger PR into their case strategy. "IP cases aren't always straightforward but even these lookalike cases can be winnable. For brands, winning in cyberspace can now be as important as winning in the courtroom," says Roland Mallinson, head of Taylor Wessing's UK brands group. "It means your legal team needs to be PR savvy, helping to win hearts and minds and ready to defend your business reputation online."

3 Patent strategies across Europe will change

"Patents have come into their own in recent years, because they give exclusivity protection to the commercial exploitation of technology of all forms, which is accelerating," says Dr Paul England, a senior patent lawyer who has been following these developments at Taylor Wessing. "Patents are central to the business models of these companies, large and small." These rights are useless, however, unless their owners are prepared to enforce and defend them against competitors in the courts.

> Twenty years ago, IP wasn't much appreciated. Now, it's the central pole that keeps the whole tent up

And in this respect there is a significant shift that patent holders will need to be aware of in 2022. "It's a new, pan-European form of patent protection and a new, pan-European court," he explains. "Anyone who operates in any innovative industry such as life sciences is going to have to get ready for this entirely new system, which will change the way they need to handle their patent strategies in Europe." Europe's size – rivalling the US – means that companies have to think globally. European economies that are not involved, such as the UK, Switzerland and Poland will also be key. "It's a totally new system to get to grips with and the biggest change in this area for 50 years," says England.

4 Upcycling will become an IP issue

For some IP owners it really matters what happens to their products once they've been sold. For many this is confined to a concern about parallel imports, where traders buy the products in one country and sell them (at a higher price) in another without the IP owner's consent. This was permitted within the EU when the UK was in it and the practice continues, but on a one-way basis: parallel traders can move goods from the EU to the UK, but not vice versa. A UK government consultation could change that, perhaps in 2022, severely impacting imports.

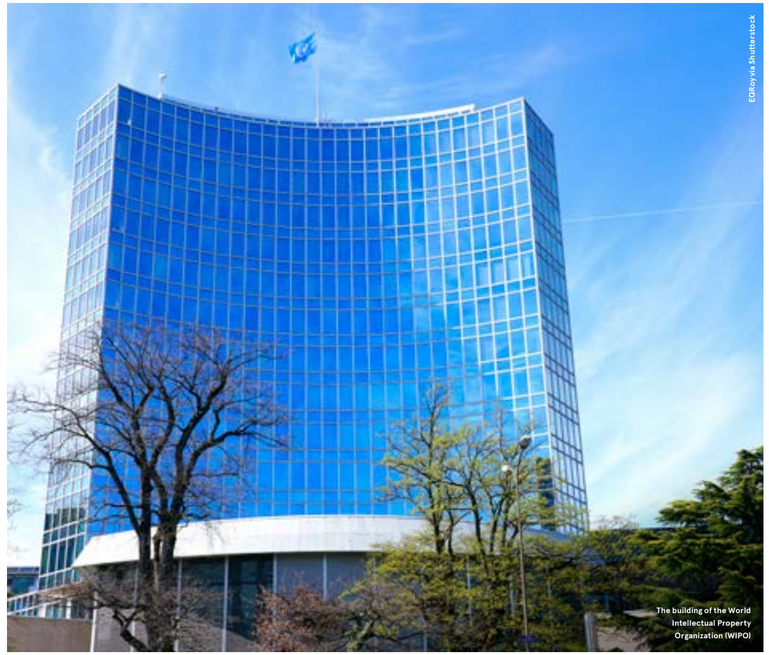
Others are concerned about their products being altered after sale.With a 'green' eye on reducing waste, 2022 will likely see more re-selling of upcycled goods, particularly fashion goods on platforms like Depop and Etsy. This can be a concern for famous brands. "We've seen a range of issues, including overcoats turned into 'luxury' handbags. If the coat's label or inner fabric is prominent consumers can think it's made by the coat maker, which it isn't," says Mallinson.

Popple agrees: "There's a lot of case law on de-branding and repackaging pharmaceuticals to permit parallel trade, but not a lot about other products. However, a recent case held that even taking a trade mark off a product can potentially be stopped by the trade mark owner." While this may allow IP owners to take more action to control post-sale activities, the PR angle may dictate the approach since often these activities may ultimately benefit the environment. "The legal issue also arises in the context of new car 'upgrading', such as souped-up and re-branded Land Rovers and Mercedes on the roads," says Mallinson. IP owners will need to consider what they do and don't want to tackle.

It's an increasingly complicated world to navigate, and one that requires a light touch, careful consideration and a wealth of experience. "Twenty years ago, when I started, IP wasn't much appreciated," says England. "It wasn't a big deal – it was something companies left to the lawyers to worry about. Now, it's not something just stuck on the side. It's the central pole that keeps the whole tent up."

For more information please visit www.taylorwessing.com

TaylorWessing



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The building of the World Intellectual Property Organization (WIPO)

GREEN IP

How patent law supports the fight against climate change

Intellectual property agencies around the world want to back innovation that addresses climate change. Fast-tracking green technology patents is a key approach

Diana Bentley

Green technology will be crucial in the fight against climate change. This gives particular importance to patent law, which ensures innovators can protect and exploit their inventions. So how are intellectual property (IP) agencies supporting sustainability?

Some have already implemented special treatment for patent applications in green technology. In May 2009, the UK Intellectual Property Office (UKIPO) introduced the 'Green Channel', which offers an accelerated review of patents for technology that benefits the environment. Before that year was out, Australia, Israel, Japan, the Republic of Korea, and the US had launched similar fast-track schemes, followed by Canada in 2011, Brazil and China in 2012, and subsequently Taiwan.

Such schemes acknowledge the importance of green innovation. According to figures from the World Intellectual Property Organization (WIPO), there's been a sharp rise in patent applications worldwide for green energy and energy-efficient technologies under the international Patent Cooperation Treaty (PCT). These were up from 7,804 in 2006 to 16,947 in 2020. Japan leads the way for applications by some margin, followed by the US, Germany, the Republic of Korea and China.

The rules governing fast-track processes differ by country. In the UK, they're reasonably straightforward, says Jonathan Higgs, director, patents at Murgitroyd, a law firm that specialises in the area. "Applicants must make a reasonable assertion that their invention has an environmental benefit and request accelerated treatment," Higgs explains. "Sometimes a simple statement, like the invention is for a solar panel or wind turbine, will be sufficient. Other innovations may need more explanation."

Some fast-track systems lead to real-time savings. "The general patent application process in the UK is pretty good," Higgs says. Often the first search and examination report – official feedback on whether a claimed invention is new and inventive – can be produced within six months of filing, though this can be reduced to three months for a green patent application.

Promptly issued UKIPO search and examination reports are a boon. They help applicants decide whether to invest in patent protection in other countries and provide a first indication of the scope of UK patent protection available to them. Green patents can be granted within six to nine months if any objections are dealt with quickly, whereas the normal process could take up to two years or sometimes even longer, says Higgs.

The fast-track process is similarly effective in other countries. Brazil saw 118 requests for accelerated applications for green technologies between January 2020 and March 2021, with a patent for a green invention possible within eight months.

IP offices elsewhere also see steady streams of applications. IP Australia has received 106 requests for expedited treatment for green technologies since 2016, while the Canadian Intellectual Property Office saw 595 since 2011.

Where no dedicated fast-track processing system exists for green technologies, it may still be possible to expedite patent grants through general acceleration programmes. The European Patent Office (EPO) enables enterprises to obtain patent protection in 44 countries. It has an accelerated process for all technology sectors, meaning green inventions will often qualify. And while the US Patent and Trademark Office (USPTO) discontinued its Green Technology Pilot Programme, it offers other avenues for green inventions to receive accelerated treatment.

Aside from the tax relief that enterprises can achieve through a patent, the practical impact of expedited treatment may depend on the size of the applicant. "Large companies can often build the timescale for applications into their commercial programmes," says Higgs. "But for smaller organisations and inventors, a quicker patents process can make a significant difference to gaining investment or in negotiating licence agreements," he adds.

> Fast-track schemes for green patents are good tools to have in the toolbox if it makes sense commercially

However, not all applicants want their patents to be granted rapidly. "There can be sound reasons why organisations want to allow the usual procedure to take its course," says Sullivan Fountain, a partner at IP law firm Keltie. For example, while a grant is pending, the scope of the patent isn't fixed and is less clear to competitors.

"You have to examine each case to determine the best way for the client to proceed," Fountain says. "But fast-track schemes for green patents are good tools to have in the toolbox if it makes sense commercially for a patent applicant to get a patent granted quickly."

IP agencies offer various other measures to foster sustainability innovation. WIPO launched WIPO Green in 2013, an online platform that enables various players in climate change technology to connect and collaborate. In 2020 it relaunched a pro bono programme for legal support for those working in the field.

WIPO Green holds international business seminars, publishes a newsletter and broadcasts IP webinars. It will soon release an IP management checklist to help green enterprises assess their IP strategies.

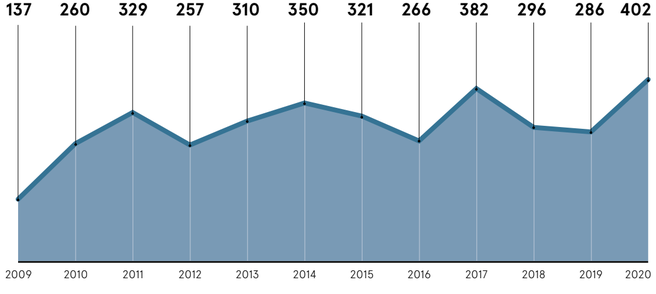
Meanwhile, the EPO has established a dedicated classification scheme for green inventions, making it easier for users to search its vast database and retrieve patent documents that cover these technologies.

While green technology innovation is usually driven by commercial and political factors, IP law plays a crucial role in supporting green entrepreneurs. "Schemes like the UKIPO's Green Channel can encourage innovation and they send the right message," says Higgs.

GREEN CHANNEL PATENT APPLICATIONS IN THE UK

Patent applications filed through the UK IPO's Green Channel fast-track programme

Gov UK, 2020

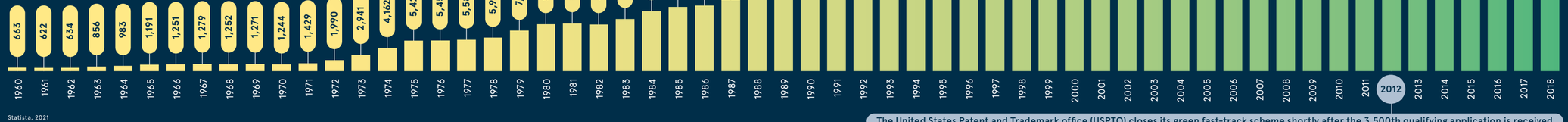


GREEN PATENTS: PROTECTING SUSTAINABLE TECH AND CLIMATE INNOVATION

Innovation is thought by some to be the pathway to a more sustainable future. As rights protection is crucial to driving and maintaining sustainable innovations, some countries have incentivised green patent applications. Moreover, companies across a variety of industries have recognised the value of protecting their green innovations, with little indication that those patent rights are being shelved or abused.

AFTER DECADES OF GROWTH, GREEN PATENT APPLICATIONS HAVE DIPPED SINCE 2012

Number of patents in environmental-related technology, worldwide

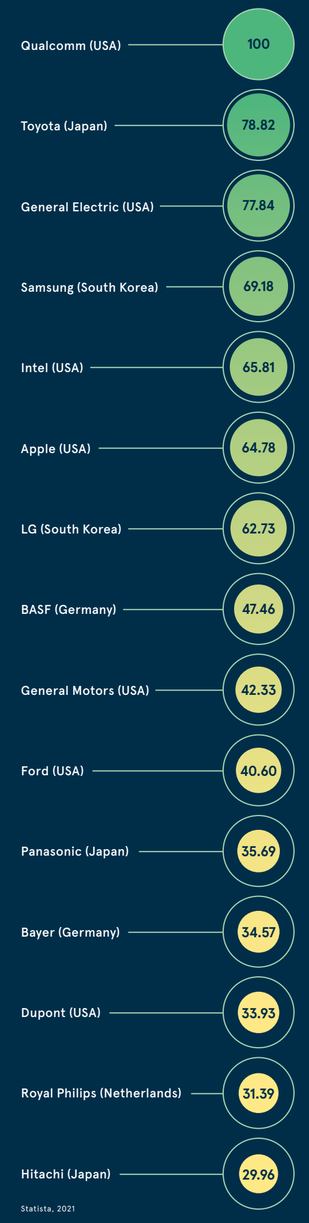


Statista, 2021

The United States Patent and Trademark office (USPTO) closes its green fast-track scheme shortly after the 3,500th qualifying application is received

GREEN PORTFOLIO IMPACT SCORES OF COMPANIES WORLDWIDE

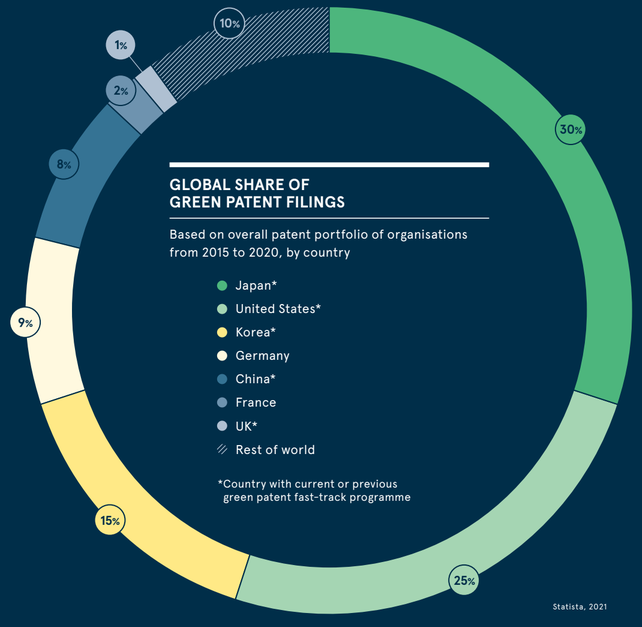
Scores measured by green patent portfolio size and industry impact



Statista, 2021

GLOBAL SHARE OF GREEN PATENT FILINGS

Based on overall patent portfolio of organisations from 2015 to 2020, by country

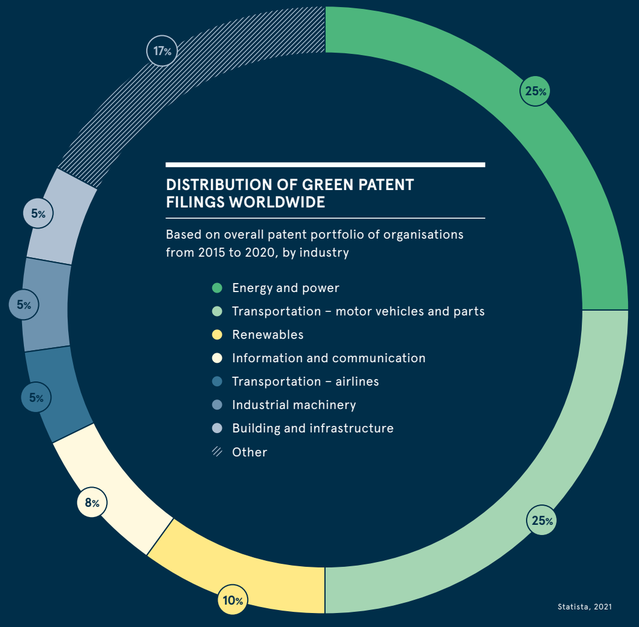


*Country with current or previous green patent fast-track programme

Statista, 2021

DISTRIBUTION OF GREEN PATENT FILINGS WORLDWIDE

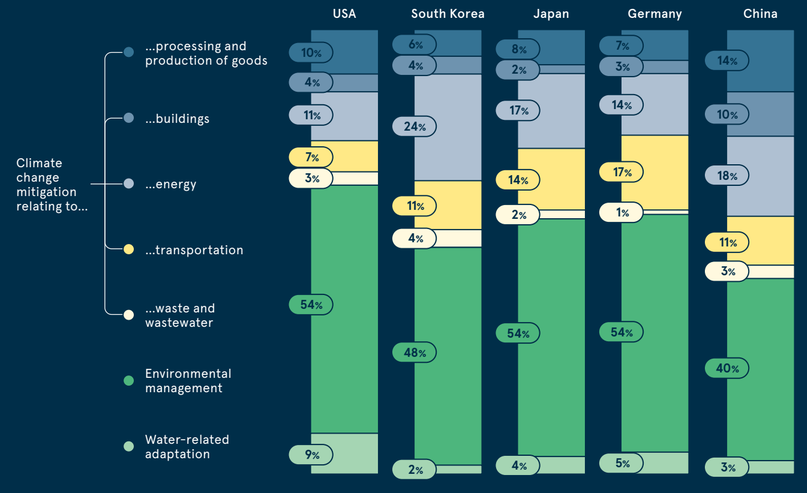
Based on overall patent portfolio of organisations from 2015 to 2020, by industry



Statista, 2021

PROTECTIONS FOR GREEN IP

Distribution of environmental patents, by category, in selected leading countries for cleantech patents



Measurements and Trends in Technological Eco-Innovation, 2021

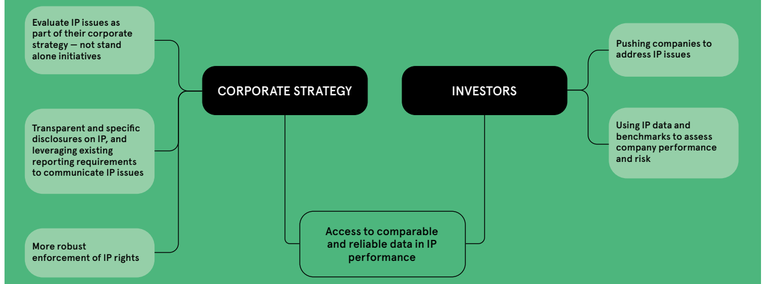
Commercial feature

How IP is the hidden goldmine for investors looking to make data-driven decisions

Alternative data sources can help unlock the secrets of investments

BRINGING THE INVESTOR WORLD AND CORPORATE WORLD CLOSER TOGETHER WHEN IT COMES TO IP PERFORMANCE AND DISCLOSURE

Increased access to the right IP data, greater transparency and disclosure at all levels of the investment chain can help better understand the IP's performance but also its impact on financial performance. This, ultimately, can help define the right pricing and valuation, and feed into asset allocation decisions



Whether you're an armchair investor or part of a giant institution, the drive for data to inform decisions on how much to invest, where and when is ever present.

The commercial data ecosystem has exploded in recent years – and with it, the opportunity for investors to leverage that data to inform and improve their decisions has quickly increased. It's now possible to gain a competitive advantage from data. Investors need no longer rely on just the financial markets, business information and the macro- and micro-economic headwinds to better inform which companies to invest in. There are a range of other data sources – so-called alternative data, used in parallel with financial data – out there that investors can capitalise on to make smarter, better decisions.

Among them is the power of intellectual property (IP) data.

Intellectual property is the lifeblood of a number of companies. It's what they trade on – their key and core strength that keeps them competitive. Yet it's one asset that is often overlooked when it comes to investment decisions, and valuing a company. "There's a current gap with intellectual property and assessing its value," says Vasheharan Kanesarajah, head of strategy, intellectual property at Clarivate. Current accounting standards require that intellectual property is recorded in financial statements at cost and amortised over the remaining useful life of the asset.

But it's a boon. Corporate decision-makers and the businesses they run should be able to publicly disclose the hidden value and structure of their IP portfolios. And from that transparency, investors should be able to quickly identify, assess and benchmark a company's value based on its IP portfolios. Yet that kind of data doesn't easily exist.

The IP data challenge

"There are challenges associated with IP data," explains Kanesarajah. "It's complex, specifically patent data. It's written in a certain way to hide the invention itself." Obfuscation is the norm, designed to ward off copycats who trawl through patent applications to rip off inventions and designs and bring them to market quicker or cheaper than competitors. But that doesn't help investors understand the real value of a business.

Clarivate can fill this gap. "What we do is we clean, we structure, and we make it easier to review, analyse and search the data by abstracting and indexing patent documents. This allows for precise retrieval and easier understanding of key information underlying the patent process," says Kanesarajah. The company harnesses publicly available and proprietary data, including curated IP litigation data and advanced derived metrics to assist decision makers throughout the innovation lifecycle. It's a reputation that has been built up over 50 years.

When the Derwent World Patents Index was launched five decades ago, it was designed to democratise access to information about patents. It acted as a guide to help people navigate the complicated world of patents – and set up a principle that would carry through to the broader business world for decades to come.

Clarivate now oversees and manages the raw bibliographic data from more than 60 patent issuing authorities that comprises the Derwent World Patents Index, correcting errors in the raw data, providing clear titles and abstracts, and helping users search through it. The work is so skilled, and the end result so useful, that a number of the patent offices purchase their own data back from Clarivate.

> "No one's really talking about the granularity, the cleanliness and the structure of the data itself, particularly in the scientific and innovation space. That's why what we do has become much more important today

A wealth of information

What Clarivate does is help tap into that data, allowing investors and the companies they want to support to take advantage of the rich data seams available to them. "Big data isn't a new conversation," says Kanesarajah. "Everyone talks about it. But what we do differently is that we don't just provide data. It's cleaned, structured, and prepared for context, even before it gets into any analytical tool."

That's vital because ease of access to data – and the ability to read it correctly – is one of the biggest challenges for businesses and investors. "No one has time to have deep subject matter expertise in every single data point," explains Kanesarajah. "Data has to be simple and easy enough for everyone to utilise. And that's what we do as the core of our business."

That core business proposition is what separates Clarivate from other data providers. "Everyone's talking about big data. Everyone is talking about using it for corporate decision making and investment decision making," he says. "No one's really talking about the granularity, the cleanliness and the structure of the data itself, particularly in the scientific and innovation space. That's why what we do has become much more important today."

51.9 million

patent families in the Derwent World Patents Index database

Clarivate

More than

80%

of company value is based on intangible assets

Aon

The democratisation of patent information at the heart of Clarivate's approach helps all clients better understand the world around them. The alternative data landscape is fragmented and growing fast. Obtaining the right data – never mind parsing it – takes considerable time and effort. Clarivate aims to bring together clean, interconnected and more predictive datasets to strengthen signals for investment and corporate decision-making for R&D and IP-focused organisations: a legacy built over 50 years.

Seeking alpha

The goal of every investor, no matter their size, is seeking alpha. But seeking alpha is tricky based solely on what corporates publicly disclose about their finances. There's hidden excess and risk around companies. Using other data points to identify potential excess returns can help investors beat the market. And one of the key hidden data points is IP data. "It's hidden, it's not well communicated, and nobody understands it," says Kanesarajah.

Despite that, IP famously drives up to 90% of a company's value. And four in five of the Fortune 500 are based on intangibles. It's also an area ripe for disruption, and Kanesarajah believes there's a ready-built model to follow: that of companies' environmental, social, and governance (ESG) standings.

Investors keen to invest in companies that fully support ESG principles have embraced alternative data. "They're putting pressure on organisations," says Kanesarajah. "That same blueprint can be applied in the world of IP. It's helped link the investment community to the corporate community – and the two have nicely synced together because of ESG." It could be the augur for a new era of responsible investment based on alternative data sources from IP – and Clarivate and their clients are at the forefront.

For more information please visit clarivate.com

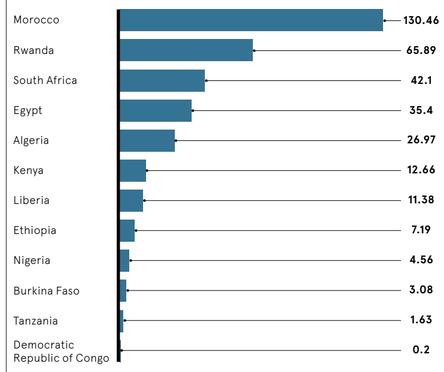
Clarivate™

Tafadzwa Ufumeli / Stringer via Getty Images

ON AVERAGE, AFRICAN COUNTRIES HAVE ADMINISTERED 17.14 COVID DOSES PER 100 PEOPLE

Number of Covid vaccine doses administered in select African countries per 100 people

OWID, 2021



VACCINATIONS

The IP of a needle: patents and pandemic politics

The roll-out of Covid vaccines has, after 12 months, barely reached some countries in the Global South. Is the patent system in any way to blame for this?

Chris Stokel-Walker

Less than two years into the pandemic, there is light at the end of the tunnel – thanks in large part to the rapid development of effective vaccines. Yet access to these jabs has been far from universal around the globe. The World Health Organization (WHO) has warned that Africa's relatively low vaccination coverage, for instance, is likely to make the continent a breeding ground for further Covid variants for the foreseeable future.

What part – if any – has IP law played in impeding the global effort to end the pandemic? For example, Moderna is engaged in a long-running patent wrangle in which the company is challenging the role claimed by the US government's National Institutes for Health in the creation of its highly effective mRNA-1273 vaccine. The dispute could end up restricting output, especially if Moderna secures sole ownership rights, continues to protect crucial technical data and retains control over production and pricing decisions.

Richard Wilder is general counsel and director of business development at the Coalition for Epidemic Preparedness Innovations (CEPI), a multi-sector partnership founded in 2017 by the governments of Norway and India, the Bill & Melinda Gates Foundation, Wellcome and the World Economic Forum "to accelerate the development of vaccines against emerging infectious diseases". It has since secured backing from several other organisations, including the UK government.

"An integral part of our funding is that we address equitable access, right from the get-go," Wilder says. "Any time you fund any kind of research project, IP is one of the elements that's discussed. As long as all the parties agree in the beginning what's going to be done with the output, they can jointly decide how IP can be managed to achieve that."

Contrary to what some headlines have indicated, Wilder's experience of the pharmaceutical industry's approach to vaccine IP so far has been positive. "The entities we work with – companies large and small, the university sector and government labs – have approached the matter along constructive lines," he reports.

They have acknowledged that the CEPI's mission is to get as many shots in arms around the world and have managed their IP rights to achieve that, Wilder adds.

The patent system has actually served as "a facilitator, rather than a bottleneck", according to Neil Thornton, a partner at patent law specialist Reddie & Grose.

He explains that, without patents and the protection they offer, pharmaceutical companies could never be certain that their huge R&D investments would be viable.

"Without the patent system, companies would keep a lot more of their developments as trade secrets," Thornton says.

Anna Gregson, a partner at IP law firm Mathys & Squire, agrees.

> "Without the patent system, companies would keep a lot more of their developments as a trade secret

"The patent system is a motivator to innovators," she says. "I don't think patents have been anywhere near the biggest problem."

Yet there remains a stark disparity between the world's advanced and emerging economies concerning the progress of their vaccination programmes. In late August, researchers at the University of Oxford reported that 32.5% of the world's population had been given at least one jab. In the UK, 50.8 million people – three-quarters of the population – have received at least one dose to date. But in lower-income countries, many of them in the Global South, only 1.4% of citizens had been vaccinated on average.

That's partly because wealthier nations moved faster and spent more to snap up vaccines. An OECD analysis in March found that high-income countries had bought half of the world's supply, despite accounting for only 16% of its population.

"One of the things we have struggled with, from the beginning of Covid-19 and more significantly over the past six months, is so-called vaccine nationalism," Wilder says.

This phenomenon isn't the preserve of the richest nations. For instance, the Indian government has withheld consignments of the AstraZeneca vaccine that had been manufactured for export by the Serum Institute of India, so that more doses could be distributed inside the country.

There are other problems at play too. For example, Africa produces only 1% of all the vaccines used within the continent. The African Union has set a goal of increasing that figure to 60% by 2030. Doing so would enable member states to respond more quickly to outbreaks.

That would be quite an achievement, according to Thornton. It would plug enormous gaps in the distribution of medicines, which could prove vital when it comes to tackling future epidemics.

"These vaccines are highly complex biological products with several components," he says. "The main factors limiting their production are the supply of raw materials required; manufacturing capacity; and the availability of specialist equipment and trained personnel."

A shortage in any of these areas could lead to a sluggish response, notes Thornton, who adds: "There simply aren't companies out there with experience of producing these complex vaccines, sitting around waiting to roll them out."

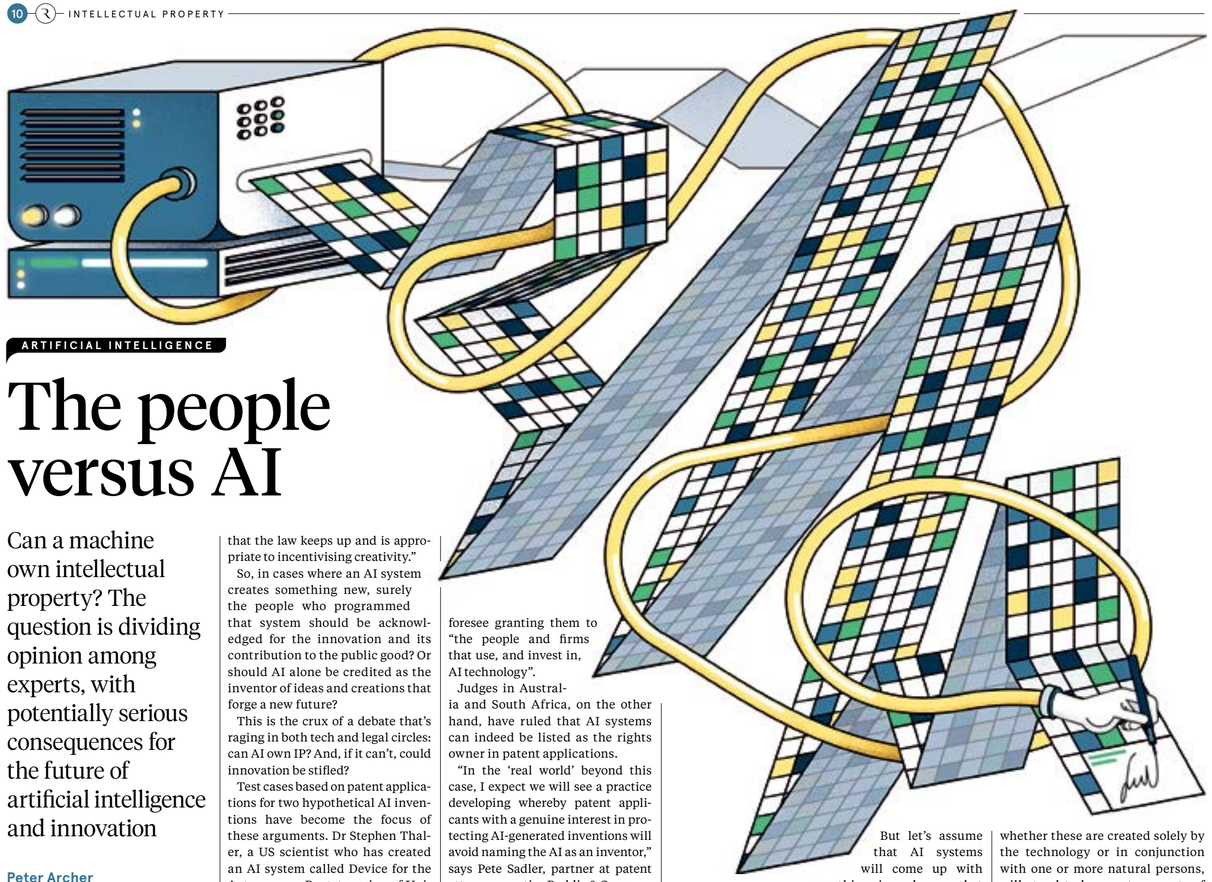
That said, the WHO has appointed a South African startup called Afrigen Biologics and Vaccines to work out how to make a product that is as close as possible to the vaccine created by Moderna, which has confirmed that it will not litigate during the pandemic to enforce its IP rights. Meanwhile, Moderna is planning to invest up to $500m (£375m) in constructing a vaccine factory of its own in Africa.

Gregson believes that big pharma has stepped up in an extraordinary way wherever it has had a reasonable opportunity to do so. "There are numerous examples of where it has appreciated the global crisis and taken unprecedented steps to facilitate access to vaccines and other drugs," she says.

Wilder acknowledges that the patent system has not been perfect and still needs to be refined. "This is one of those topics that are always under discussion," he says.

There are tools that politicians could wield to make all of the information required to produce vaccines more widely accessible, according to Gregson. These include the 'Crown use' provision in the UK, by which the government can order the infringement of a patent in certain situations, and compulsory licensing elsewhere. But they have yet to resort to such measures.

That's partly because this isn't where the problems affecting vaccine roll-outs have arisen. "This is about looking at the bigger picture," Gregson says. "It's about addressing bottlenecks wherever they arise, rather than focusing on IP, where there are already recognised mechanisms in place that perhaps aren't being used."



ARTIFICIAL INTELLIGENCE

The people versus AI

Can a machine own intellectual property? The question is dividing opinion among experts, with potentially serious consequences for the future of artificial intelligence and innovation

Peter Archer

It may be smart, but it's not that clever. Artificial intelligence is nothing without human input. At present, it is a tool that scientists and engineers can use to solve problems.

Yet AI is the fastest-growing deep technology in the world. Facilitating AI innovation has even become a priority for the UK government, as laid out in the *National AI Strategy* it published in September.

The UK Intellectual Property Office (IPO) recognises AI's importance to such an extent that it has started an open consultation seeking views on issues such as whether AI-generated inventions should be protected and, if so, how. The current legal system offers no protection, because it recognises only humans as owners of IP.

The IPO says: "We need to ensure that the law keeps up and is appropriate to incentivising creativity."

So, in cases where an AI system creates something new, surely the people who programmed that system should be acknowledged for the innovation and its contribution to the public good? Or should AI alone be credited as the inventor of ideas and creations that forge a new future?

This is the crux of a debate that's raging in both tech and legal circles: can AI own IP? And, if it can't, could innovation be stifled?

Test cases based on patent applications for two hypothetical AI inventions have become the focus of these arguments. Dr Stephen Thaler, a US scientist who has created an AI system called Device for the Autonomous Bootstrapping of Unified Sentience (Dabus), has been putting the laws of numerous countries to the test with the support of Ryan Abbott, professor of law and health sciences at the University of Surrey. They are advocating not for an AI system to be granted its own patents, but for its owners to be granted a patent on any invention it may generate.

Thaler's patent applications have credited Dabus as the sole inventor of "an improved beverage container and a 'neural flame' device used in search-and-rescue missions". The applications have been rejected in the UK and the US on the basis that only a person can own patent rights. Leave to appeal has been sought in the UK Supreme Court.

The IPO welcomes the clarification provided by this ruling. It says that it doesn't envisage awarding such rights to an AI system, but it does foresee granting them to "the people and firms that use, and invest in, AI technology".

Judges in Australia and South Africa, on the other hand, have ruled that AI systems can indeed be listed as the rights owner in patent applications.

"In the 'real world' beyond this case, I expect we will see a practice developing whereby patent applicants with a genuine interest in protecting AI-generated inventions will avoid naming the AI as an inventor," says Pete Sadler, partner at patent attorney practice Reddie & Grose.

But then the courts may have to decide the link between the people credited with devising the invention and the role played by their tech.

Dr Alexander Korenberg is a partner at patent attorney practice Kilburn & Strode. A former computational neuroscientist, he points out that the debate is based on a hypothetical premise, because it has yet to be established that a machine can actually create inventions autonomously.

"Anyone who's au fait with the technology knows that this would require something like artificial general intelligence [human-like AI]," he says. "It's not even certain that this will ever be a possibility."

The argument that Korenberg and others propound is that AI is still no more than a tool without sentience, lacking the ability to think independently and invent something. But let's assume that AI systems will come up with new things in such a way that makes it impossible to identify the human input in the final invention. In such a case, to ensure the continued development of this valuable economic engine, British IP law would need to be updated to deter inventors from moving to a more sympathetic jurisdiction abroad.

Robert Jehan, partner and patent attorney at Williams Powell, whose clients include Thaler and Abbott with Dabus, believes that patenting AI-generated inventions in the UK is unlikely to be a long-term problem, because the government now seems more inclined to help.

"There appears to be a general willingness to accommodate the patenting of inventions created by AI systems. The potential rewards for doing so and the losses for failing are simply too great to ignore," he says. "Any country that refuses to protect AI-generated inventions, whether these are created solely by the technology or in conjunction with one or more natural persons, will stand to lose vast amounts of investment in their AI industries."

Indeed, the outcomes of Westminster's *National AI Strategy* could directly affect the way AI inventors and rights-holders are viewed and treated in the UK.

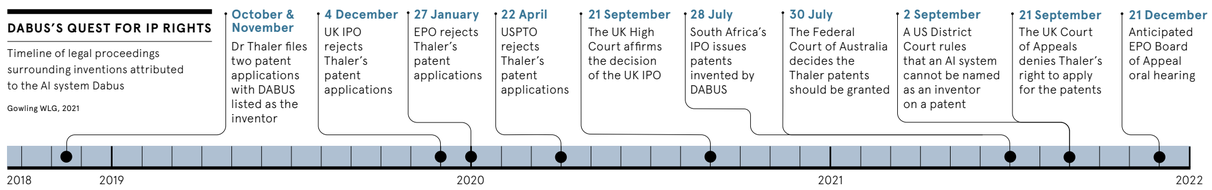
If it does become necessary to reform patent law, could precedents in copyright law offer guidance? Richard Johnson, a patent attorney and partner at Mewburn Ellis, notes that the Chartered Institute of Patent Attorneys has been encouraging experts to seek a solution down this route.

"Copyright law already has provisions recognising that a computer could be involved in the creation of a work that would attract copyright protection," he says. "These provisions give ownership of that copyright to the people who caused the computer to operate to create the relevant work." ●

DABUS'S QUEST FOR IP RIGHTS

Timeline of legal proceedings surrounding inventions attributed to the AI system Dabus

Gowling WLG, 2021



OPINION

'Our greatest resource is intellectual output'

In the wake of its departure from the EU, the UK is looking at how to build an economy of the future. One of the pillars of the 'new normal' is the Government's Innovation Strategy, which sets out a vision of the UK as a science superpower. The strategy has four main pillars: investing in innovative businesses, investing in innovative people, focusing on research and development, and focusing on specific technologies. There are plenty of positives to this approach. But there are also some holes in the proposal that can only be plugged by engaging with experts. Facilitating this engagement will be one of the Government's most important tasks in the next phase of its strategy.

One area that merits more attention is innovation beyond hard technology. Intellectual property (IP) specialists tend to see the innovation and creativity spectrum broadly. Innovative output extends far beyond hard technology. Think 'soft power' – an area where the UK has traditionally excelled. Certain industries are acutely aware of the benefits of their creative products – take for example Hollywood, Bollywood and Britpop. This aspect of innovation is neglected in the Government's report.

It is also notable that there is not a single mention of the UK's world-leading service sector in the strategy report. Innovation doesn't happen in a vacuum. Networks harness connections between businesses and other stakeholders that provide liquidity to transactions. A clear example of a network of this type is the vibrant tech transfer culture in the Silicon Valley.

In the UK, that network is provided by the service sector, which has decades of experience of linking universities and SMEs to investment and collaboration opportunities. The Chartered Institute of Patent Attorneys and the Chartered Institute of Trade Mark attorneys are key members of this network. Our IP experts are active across the life cycle of innovation. They work to create the strongest rights at the outset by obtaining optimum global protection through litigation and licensing. They are discovering new sources of value, but they are also actively creating it. Moreover, our members work with every successful inventor and brand in Britain – a claim that no other organisation can make.

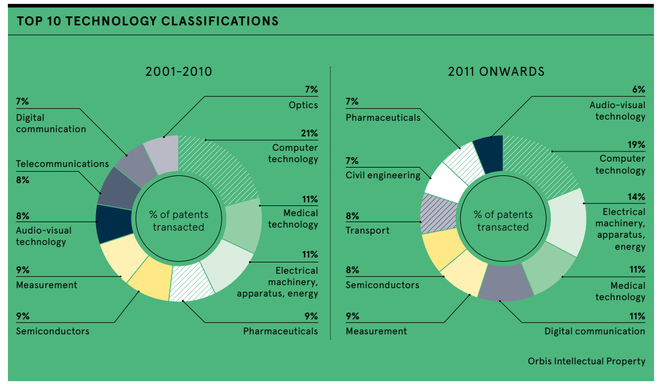
For the Government's vision to be realised, there will need to be cooperation and collaboration among myriad stakeholders. As the Government continues to develop and implement its strategy, it must engage with the Department for Business, Enterprise and Industrial Strategy, the Department for International Trade, and the Intellectual Property Office, among others.

As we draw a roadmap to our goal, government should consider the story of hallyu, or the so-called 'Korean wave'. South Korea realised in 2007/2008 that a financial crash could be catastrophic. Utilising a joined-up approach similar to the one outline here, the country set itself on a carefully targeted journey. Today, South Korea is a technological powerhouse with an Oscar-winning film industry and a style of pop music (K-Pop) that has become a global phenomenon. We need to sow the seeds of success early. Education must be a priority – not just scientific and technical education, but creative arts education as well. These pillars help make up the whole picture of innovation and influence.

The UK genuinely does need to innovate its way to success and the government's strategy recognises that. We are at a stage in our history where our greatest resource is intellectual output, and every major multinational of the last few decades has been based on that premise. The UK can achieve its goal only if government creates fertile ground for innovation by linking up with innovators and experts. With a strong foundation in place, the next step will be to stick to the plan. ●

Gwilym Roberts
Honorary secretary
Chartered Institute of Patent Attorneys

Commercial feature



How hidden signals unlock the world's IP secrets for businesses

Bureau van Dijk analyses the hidden signals that betray big market movements

The pace of innovation is increasing at an ever-faster pace. And with it, the challenge of keeping on top of developments in intellectual property (IP) becomes trickier. The changes are coming from large corporates, which can have hundreds of subsidiaries, and from privately held, smaller firms, many of which file patents every single day. "But even now, after four decades of evolution in IP datasets, we see a gap in identifying which patents belong to which companies," says Santhosh Metri, director of product strategy at Bureau van Dijk – a Moody's Analytics company.

Orbis Intellectual Property harnesses its award-winning Orbis database in parsing company information, financials and ownership structures to offer insights into patent applications and intellectual property claims. By monitoring more than 400 million companies on a daily basis, Orbis Intellectual Property is able to match patent assignees to companies using fuzzy logic solutions. It's an early warning system that identifies the first ripples of innovation before they're known – and even before patent transfers or applications are officially declared.

More than 2.5 million firms out of Orbis' database of over 400 million companies own at least one patent, according to Metri. Less than half of the patents owned worldwide are in the possession of listed companies. "There's a lot happening in the private company space, especially for innovation trend monitoring," says Metri.

Orbis Intellectual Property provides the view from 40,000 feet, tracking the warps and wefts of patent applications, while also zooming into small developments that have the potential to become huge developments in the sector. "You need to be actively monitoring your space with globalisation in mind," says Metri. "You never know the true list of competitors. You might think these are the 10 companies you are competing with, but the next day there's one company that trumps all the others. We've seen this time and again, for example the acquisition of WhatsApp by Facebook and other such transactions."

The data also provides companies with the ability for their IP teams to track events through the IP lifecycle – everything from ideation, capturing innovation, and making a decision on what should or shouldn't be protected, or even when to sell or license a technology. "Patent maintenance is expensive," says Metri. Knowing when to sell is vital, and knowing what other companies in the field have done can help inform your own decisions. "Learning through what's happening and others' strategies or mistakes is quite important," he adds. Using the undercurrent of patent data allows companies to highlight the next new areas of innovation – such as the developments in AI happening in Russia, China, Israel and India, to name a few. "If you have a mature market from where you can get good, high-quality innovation, you can capture the advantage there," says Metri.

Orbis' visibility over data coming from multiple sources, such as press releases from media outlets, is what provides its clients the edge in their decision-making. Orbis Intellectual Property captures and sifts through announced and rumoured transactions – rather than those that have definitively transacted – to ensure the most up-to-date insights into how the market is changing. Most other data sources only record completed transactions, where there's a gap of up to three years. "If you're seeing transactions that are just announced, or could potentially happen over the next six months, you've got the advantage of jumping on some of the good opportunities," he says.

Having that future-facing insight can keep companies competitive in an increasingly vibrant world of patent and IP applications, futureproofing them from being outmoded. It's also an advantage for those trying to eke out an edge in a cut-throat world, allowing you to see where innovation has gone – and where it's going in the months and years to come.

To find out more about how our Orbis and Orbis Intellectual Property solutions facilitate this form of complex entity data analysis, visit bvdinfo.com

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