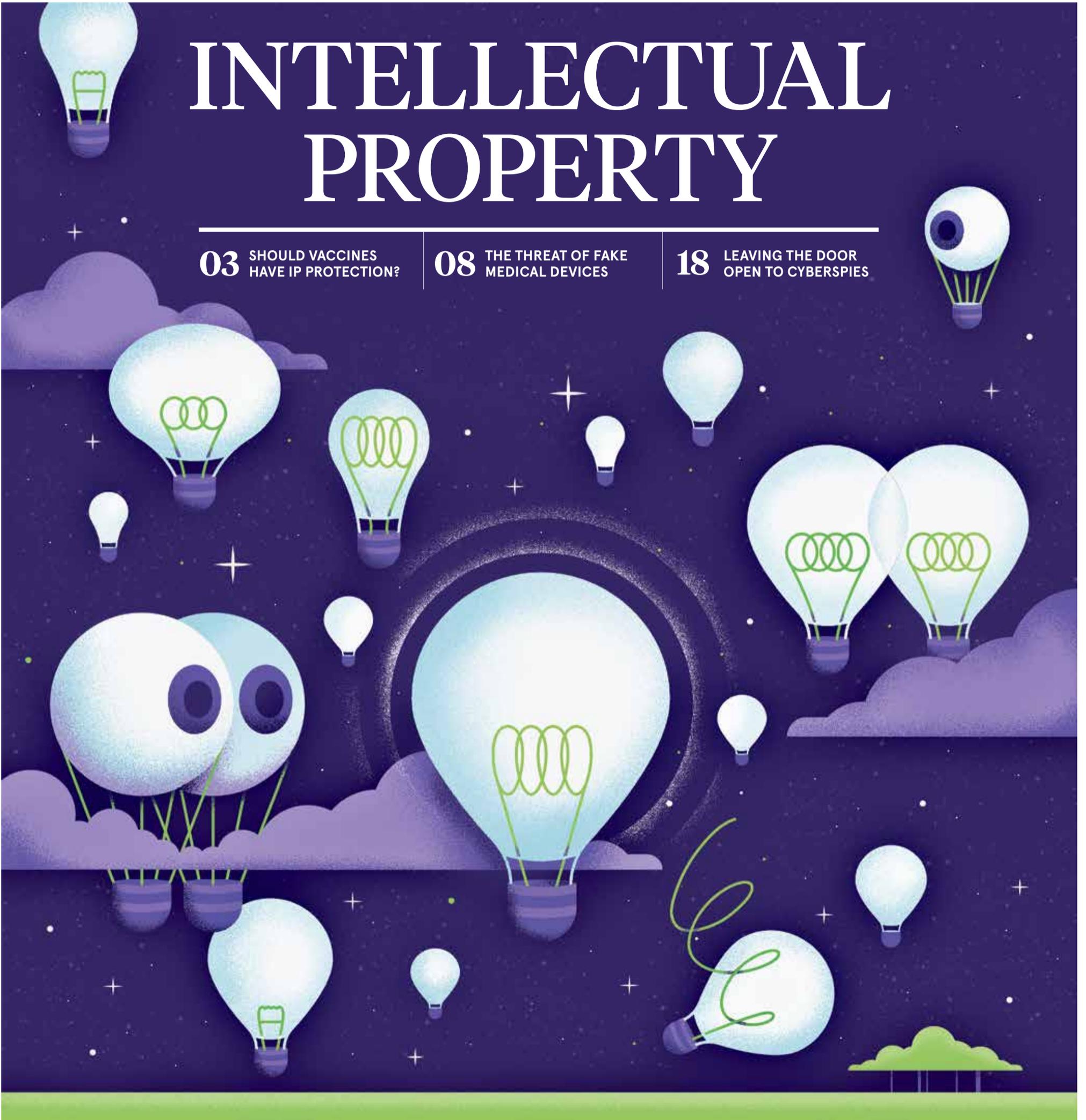


# INTELLECTUAL PROPERTY

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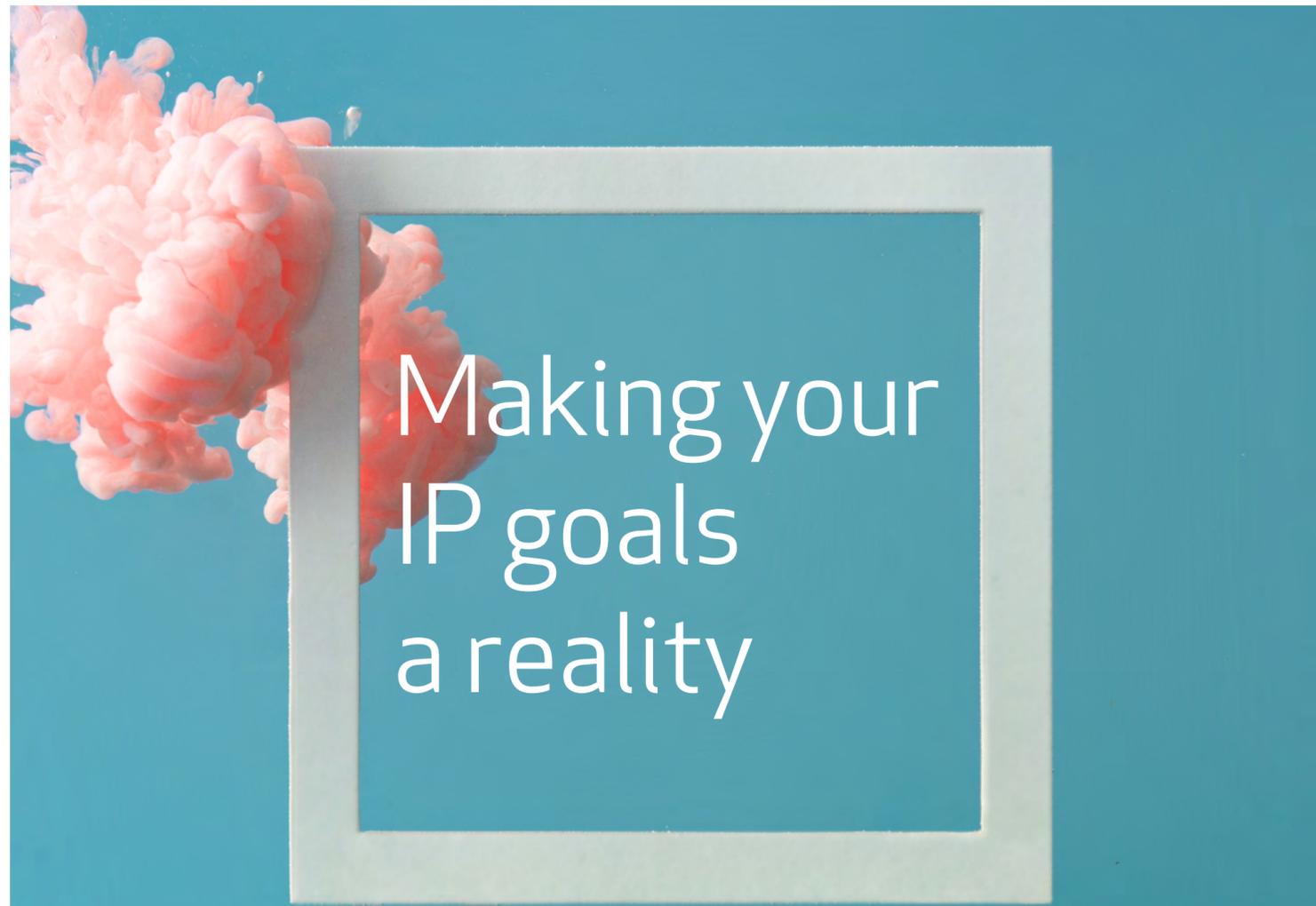
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## INTELLECTUAL PROPERTY

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### VACCINES

# Collaborating for the greater good

As the death toll mounts, drug companies have worked together to find a COVID vaccine, but can this spirit of openness continue?

Chris Stokel-Walker

**T**he coronavirus crisis has left many traditional elements of business by the wayside. Among them is the might of intellectual property (IP) and businesses' willingness to defend their patents and products to the hilt. The supercharged development of workable, effective vaccines against COVID-19 has been a triumph for the pharmaceutical industry and one that has involved a reworking of established norms.

Traditionally, pharmaceutical companies vigorously defend their IP rights and for good reason. "It's foundational. It's fundamental," says Dr Anton Hutter of Venner Shipley, chartered patent attorney, biochemist and geneticist. "Pharmaceutical companies are commercial entities."

Getting a drug to market costs an average of £1 billion and is the product of ten to twelve years of research and development (R&D). "The development of drugs is a risky, expensive business. It takes enormous time and energy to implement. Without patent rights, which give a monopoly for 20 years, vaccines and other drugs wouldn't be developed," says Hutter. "A drug company couldn't recover its R&D costs."

Yet some challenges are more important than a company's rights to recoup its R&D costs and a global pandemic, which has claimed the lives of two million people, is one of those challenges.

The first indications that companies were willing to forgo business as usual in support of the collective goal came in the earliest days of the pandemic. In those first few months, before therapeutic treatments for the impacts of the virus were discovered, too many people were dying because hospitals didn't have enough ventilators. Putting aside competition, a collection of businesses came together to form the VentilatorChallengeUK Consortium, which focused on creating a workable, easy-to-manufacture ventilator.

"In that setting, IP didn't become too much of an issue because the guideline there from the top executives was 'Just make this work and don't worry too much about IP'," says Dr Frank Tietze, head of innovation and IP management at Cambridge University Department of Engineering, who has studied the use of IP during the pandemic.



“

**The development of drugs is a risky, expensive business. Without patent rights, which give a monopoly for 20 years, vaccines and other drugs wouldn't be developed**

"This comes with some risks," says Tietze. "You can get into IP struggles later on, but it was a lot of goodwill. That was remarkable from those companies that worry so much about IP." It also set the tone for the months to come and acknowledged the scale of the problem ahead.

While the death toll from COVID-19 is already too great, one of the triumphs of the last 12 months has been the speed at which the

pharmaceutical industry has developed a range of effective vaccines against the virus. They've done this, in part, by following the lead of the manufacturing companies that worked on ventilators, setting aside considerations of business and looking instead at the global health issue we all face.

"That change is something that is typical when we're in situations like this," says Richard Wilder, general

counsel and director of business development at the Coalition for Epidemic Preparedness Innovations. In the late-1990s, seriously ill people in sub-Saharan Africa struggled to gain access to medicines for the treatment of HIV/AIDS; the costs were too great. Activists lobbied organisations to set aside their IP rights for the good of mankind and the World Trade Organisation implemented a decision that levelled out access to medicines.

"This kind of thinking continues to flow through issues like the one we're dealing with today," says Wilder.

Companies are still registering the rights to patents and other IP around the development of drugs and vaccines for COVID-19. But, as the pandemic ravages the planet, and quick, universal access to treatments is needed now, they're not necessarily exercising them in the way they ordinarily would.

A number of big companies that felt able to support the fight signed up to the Open COVID Pledge, which promised to make their IP available, free of charge, to minimise the impact of the disease. Firms like IBM, Microsoft and Morgan Stanley joined, but big pharma was notable by its absence. That doesn't mean they decided to put profit before saving lives, however. "It's about drawing a distinction between the existence of intellectual property and its exercise," says Wilder.

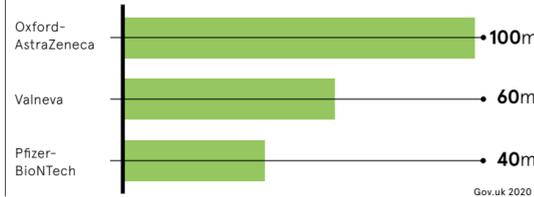
"Pfizer, AstraZeneca and Moderna have all said they wouldn't enforce their patent rights or make a profit on their sales," says Hutter. "They're not purely altruistic. They would never make the drug and make a loss. Oxford has said they'll sell each jab at whatever it costs to make it in the first place. It's harsh to say these big drug companies are in it for the money."

The big question is how long that approach for the greater good will last. "People I've been working with at Imperial College London say 'Today it's COVID-19, but they wouldn't be surprised if it's COVID-21 and 25'," he says. "General scientific consensus is saying you might have to have an annual jab. Who's going to pay for those?"

Patents and IP will still exist, even in the fight against COVID. "I don't think that evolution would lead to a decision taken by governments that they're going to exclude vaccine technology, for example, from patent protection," says Wilder. But the past 30 years has seen an evolution in how IP is treated. "I would never say never," he concludes. ●

### MAJOR PLAYERS IN THE VACCINE RACE

The number of COVID-19 vaccine doses ordered by the UK government, as of 29 November, 2020





STARTUPS

# What new businesses need to know about intellectual property

While IP should be a crucial consideration for any new business it is often overlooked, which can be costly down the line. Here, experts share their advice on how startups can protect themselves and avoid potential pitfalls

Angelica Malin

**W**hat is IP? Sean Jauss, head of legal services at Mewburn Ellis, describes intellectual property (IP) as an intangible asset that exists only on paper because of the effect on our statutory or common law. But it is, nevertheless, a form of property. Like land it can be sold, rented or mortgaged. It has the potential, therefore, to generate revenue for a business - albeit sometimes indirectly - and like land its value depends on its quality. Jauss explains that IP rights exist to protect a business's effort and expenditure, in time and money, in innovating new ideas and creating new works. The IP system allows a company to benefit, usually for a time-limited period, from its innovations and creations to the wider benefit of the public.

**1 Know what you have** Any business's starting point with IP is understanding what, exactly, they

have. Paul Berwin, head of digital and commercial law at Berwins Solicitors, says startups all need a basic understanding of what they may have created that is valuable or new, how to protect it and whether it's infringing on someone else's IP. If a business is feeling overwhelmed by IP, Jauss says, as a rule of thumb new technical inventions for products or methods can be protected by patents; the new shape of objects can be protected by designs; trademarks protect brands used to distinguish goods and services; copyright is used to protect literary, artistic and musical works, but not the ideas they express; database rights protect databases; and trade secrets protect confidential information.

It's important to remember that all these types of IP have limited life spans, except for trademarks, provided the renewal fees are paid and the trademarks are used. Goods and services can be protected by more than one type of IP right and a

bundle of IP protections is stronger than any one individual element.

**2 Create an IP strategy** IP isn't simply a case of filling in a form. Fiona Law, partner at European IP law firm Potter Clarkson, says IP is more than a tick-box exercise of filing a patent, design or trademark. What is important, at the outset, is to determine how IP can support a company's commercial goals and devise a clear IP strategy built around the business plan.

A new business should ask what do we need to protect, when and where, and how will those rights help us to achieve commercial goals? Review an IP strategy regularly, always returning to the business plan. As a company grows, its IP strategy is likely to evolve.

**3 Be investor ready** IP is important not only for a business, but also for its potential revenue and

sales in the future. Law at Potter Clarkson explains that it is important to be ready for investor-led due diligence at all times, as this will enable a business to take advantage of funding opportunities as they arise.

Her advice for startups is to create a virtual IP data room where they write down their IP strategy and supporting procedures. Some important questions to consider are who manages the IP, how does the business capture and assess new innovation, and what is the IP budget?

Beyond this, Law also advises having a clear freedom to operate (FTO) strategy. Investors will ask what FTO searching has been done, although extensive searches and legal opinions are usually not appropriate for early-stage companies. Instead, consider what can be done to mitigate future risk, for example maintaining a watch for the publication of competitors' patents.

**4 Avoid potential pitfalls** With startups, there are some common mistakes with IP that can be avoided if research is done properly. Sophie Goossens, partner at Reed Smith, and Gregor Pryor, co-chair of the entertainment and media group at the law firm, are experts in both European and UK IP law, often working with startups.

Both stress the importance of choosing a company name carefully, which is a big factor in IP when it comes to domains, social media and product. Pryor advises checking the IP is industry specific, as each industry will have its own processes and documents of importance. He also explains the importance of getting the portfolio size right, ensuring a

territorial and geographically protected portfolio, with IP covered in the countries that matter most to the business.

**5 Get savvy with IP** Jauss cautions against publicly disclosing new inventions and designs, as if you do so they will not be protectable. He also says to take heed of Brexit, which means European Union unitary rights, including most common trademarks and designs but also supplementary protection certifications and plant variety rights, no longer cover the UK. Businesses now need to protect in the UK and the EU separately.

**6 Get the timing right** Law says timing is everything with IP. Patent applications must be filed before the invention is disclosed to third parties unless effective confidentiality agreements are in place. However, filing an application too early, without adequate technical disclosure, could undermine the IP position.

Another issue is around collaboration: a common growth strategy for startups may involve working with other parties. At the outset, it is important to set clear boundaries dealing with ownership and exploitation of IP. A formal agreement is essential.

**7 Do the research and set a budget** Goossens advises keeping an eye on the budget, especially with patents as protecting IP can be costly - each new IP protection should be judged on its merits - and be wary of patent trolls who will try to claim against IP. A new business also needs to know how much it is willing to spend for any IP strategy and not to let the budget get out of hand.

Pryor advises consulting with a lawyer before embarking on any IP for a startup. Get referrals from trusted friends or colleagues and speak to more than one law firm.

He suggests startups think about coverage before hiring a law firm to make sure it represents the territories that matter most to the business and is industry specific. Choose a lawyer who is knowledgeable in the relevant industry. Remember, never pay for the first meeting with a lawyer; that's a warning sign.

One final tip comes from Katherine Zangana, senior associate at Lawrence Stephens, who says the Intellectual Property Office website should be a friend. It is full of free information, including a "health check" tool to determine a startup's needs and a search function for patents, trademarks and more.

And don't forget, if you have employees or, perhaps more commonly in the case of startups, consultants working with you, do you have contracts in place that ensure any IP created by them passes to the business? Make sure you know who actually owns the IP, to overcome any problems in the future. ●

## Time for brands to rethink their IP strategy

The first nine months of 2021 represent one of the most significant periods of change for UK intellectual property rights

**P**ost-Brexit independence of UK courts from European Union jurisdiction comes at a time when coronavirus still looms large. The pandemic has led to a surge in counterfeits as ecommerce has boomed. All these factors mean brands must rethink their intellectual property (IP) strategy. "Certain EU rights no longer apply in the UK. Right now, businesses have to be proactive and strategic, particularly when it comes to pending trademark and design registrations. This is a golden opportunity for brands to review their protection. Action on intangible assets should be prioritised," says Tania Clark, partner for the trademarks group at Withers & Rogers, one of Europe's largest IP attorney firms.

On January 1, British authorities granted automatic protection in the UK for all businesses with existing EU trademark and design registrations. Those pending however have until September 30 to reapply. Failing to act could result in lapsed protection. For technological innovations protected by European patents, the picture is more straightforward, as protection will remain largely unaffected.

"Going forward, it's possible UK courts could reach different conclusions to their European counterparts. Therefore, it may become necessary to ensure patent coverage across both territories. Regional settlements could include separate litigation in the UK and one or more EU jurisdictions. For this reason, protecting your patents in both territories may become the new norm," says Clark, whose firm has offices across the UK, as well as in Paris and Munich.

Divergence in IP and the challenges this brings comes as brands face other pressures. The pandemic has led to a spike in online shopping. At the height of the first lockdown, ecommerce accounted for more than 32 per cent of retail sales, while pre-COVID it was below 20 per cent, according to the Office for National Statistics.

This was accompanied by a surge in fake goods in 2020, as consumers shopped more online. IP crime is believed to cost the UK economy more than £9 billion in lost revenue every year, equating to £4 billion in unpaid taxes. It also leads to the loss of around 60,000 jobs, according to the Organisation for Economic Co-operation and Development.

"Businesses in the UK need to be vigilant and agile to ensure goodwill associated with their brand isn't eroded and revenue streams are protected. They can't rely on EU customs to flag issues concerning counterfeit products under the EU customs notice system as it no longer applies to goods coming into the UK. Companies need to know exactly what their UK IP rights are and take out a UK application for action," says Clark.

"Knowing what IP rights you own, and where, is fundamental to protecting brand value, particularly during times of legislative and structural change. Managing IP rights on a jurisdictional basis is crucial if you're going to get ecommerce sites to take down products that infringe trademarks or registered designs before they damage your business. The potential for counterfeits globally, or competition via the web, has never been greater. Getting as much IP protection, in as many territories as possible, is therefore vital."



Commercial feature

Brands need a more strategic and 360-degree view of IP issues, how these work for portfolios globally and in each territory, whether it be Japan, the United States, EU, UK or other jurisdictions. The protection of IP is nuanced in different languages and markets. Businesses need guidance on local IP matters and conflicts that may occur, but also advice on opportunities.

For instance, the Japan-UK trade deal is leading to a flourish of new IP rights surrounding protected geographical indications, or PGIs, for iconic British food and drink products. Think Melton Mowbray pork pies or Scottish whisky. The number of UK PGIs is increasing from seven under the outgoing EU-Japan deal to roughly seventy under the new UK-Japan agreement. A similar proliferation of

PGIs could occur with other international trade agreements. "The deal signed with Japan highlights how important PGIs could be for Britain's food and drink industry. There could be a significant commercial benefit for UK producers that own protected food names. However, brands will need to maintain their IP assets if they're to capitalise on the commercial opportunities unlocked by these trade deals in the future," says Clark.

The UK now has distinct registers for PGIs and protected designations of origin (PDOs). All existing PGIs and PDOs have been automatically transferred to the new UK equivalent registers. However, brand owners must now apply to the EU registers to maintain protection in the EU, similar to the situation with trademarks.

"Any new UK PGIs will also have to be registered with the EU from this January. There will be nothing automatic about the process when seeking this type of IP protection," says Clark, who is the immediate past-president of the Chartered Institute of Trade Mark Attorneys.

Certainly, the changes in 2021 are seismic, representing a rare opportunity for businesses to review IP strategies more widely. Trademark and design portfolios will increase in size. Many licences with Europe will

need to be renewed and distribution agreements reviewed. "Businesses will need to appreciate where they are going in the future. They will need a holistic and global approach. At the same time, they will have to understand how all these specific changes will affect them," Clark concludes.

"Brands will need to redouble their efforts if they want to continue to trade at home in the UK and in Europe. There is also potential in new markets. The commercial value of IP cannot be overstressed and should be a real driver of business decisions. Getting the best advice and finding the right IP partner with a foothold in multiple markets is crucial."

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**If you have further queries or would like to talk to a specialist about protecting your IP in Europe, please contact Tania Clark** [www.withersrogers.com/our-people/tania-clark/](http://www.withersrogers.com/our-people/tania-clark/)

“The potential for counterfeits globally, or competition via the web, has never been greater

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# Staying on the right side of copyright law on social media

TikTok's meteoric rise has gone hand in hand with an increase in copyright strikes and takedown notices. So what should online content creators be doing to educate themselves?

Rich McEachran

**L**ocked down and working from home, many people have turned to TikTok, Twitch and YouTube while away from the time. It has even become a side hustle for some.

TikTok user numbers increased by an estimated 85.3 per cent in the United States in 2020, according to eMarketer, with almost a fifth of adults (65.9 million) accessing the app at least once a month.

In the UK, a survey by Ofcom revealed that, in April, a third of adults were consuming more video content online than terrestrial TV. Not only that, two in five were either broadcasting or uploading their own content, while 17 per cent said they were earning revenue via vlogging.

In pursuit of viral fame, TikTok users are able to avoid copyright infringement by selecting songs from the app's library of music as the ByteDance-owned platform has been signing licensing agreements with some of the major music labels. If users choose from the library, they should never be subject to a takedown request. Nonetheless, TikTok still had to issue 10,625 takedown notices in the first half of last year and 86 per cent led to removal, according to its latest transparency report published in September.

Copyright infringement on YouTube is a bit more of a minefield. The platform uses an automatic copyright filter, Content ID, that scans videos and compares their contents to a database of material submitted by copyright holders, primarily record labels, and film and TV production studios. Just showing a few seconds of copyrighted material could result in a user being automatically issued with a penalty.

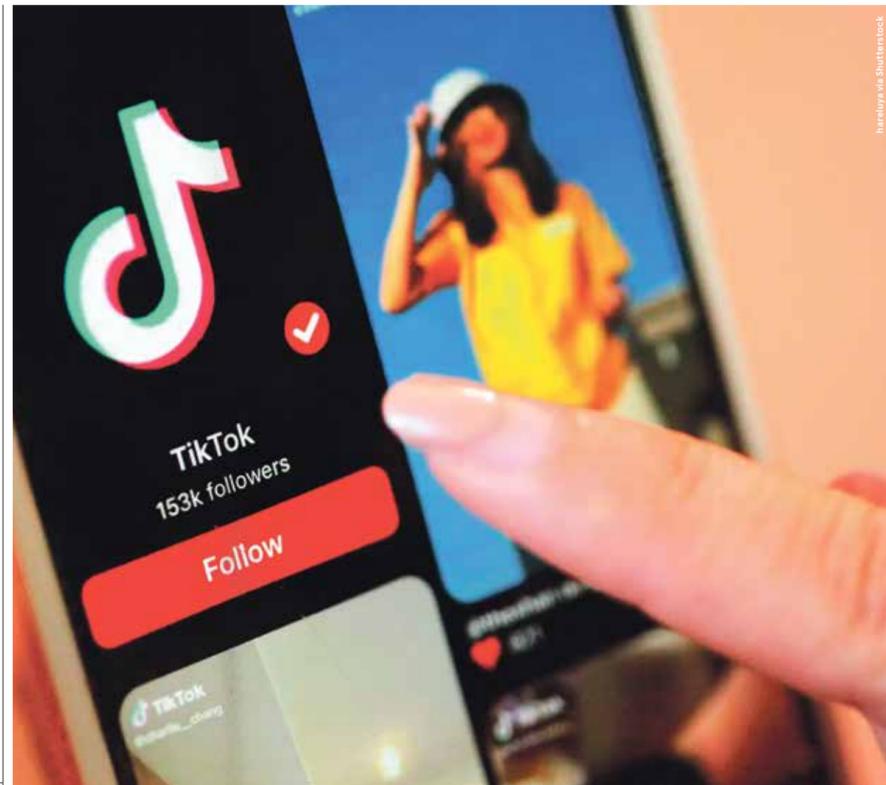
**A fair reaction to IP problems?** However, there are issues with copyright filtering. Tools such as Content ID can hamper some forms of creativity; the reaction video is an example. This involves watching other people listen to an old song or watch a classic TV comedy for the first time and has become increasingly popular over the last year of lockdowns.

While including a full song, TV episode or clip in a reaction video without a licence is an obvious infringement, YouTube's Content ID tool can discourage fair use.

The platform's fair use policy states that copyrighted material can be added to if the content created is "transformative". When it comes to reaction videos, simply describing a song or what's happening in a clip would probably not be considered fair use. But as the 2017 case of Matt Hosseinzadeh versus Ethan and Hila Klein showed, if a reaction video includes a critique or commentary, then it might be deemed fair use.

The case saw Hosseinzadeh sue the Kleins for a video they created critiquing his original video, arguing it was copyright infringement. But the Kleins contended fair use and the judge sided with them, although added this wasn't a "blanket defence". How much of an original work can be shown to justify fair use is likely to depend on how much of a song, video or clip is needed to put the critique or commentary into context for viewers.

Clearly, deciding what constitutes fair use on a case-by-case basis, rather than relying on an algorithm to flag copyright infringements, would be an arduous process. Still, YouTube could arguably be doing more to prevent copyright infringement from occurring in the first place.



Haroldo via Shutterstock

"There's a commercial balance that needs to be struck between [platforms] functioning as a valuable method of content discovery and the monetisation and control of that content. But there's no reason why [platforms] can't work to better educate users over how third-party content can and can't be used," says Steve Kuncewicz, partner and head of creative, digital and marketing at commercial law specialist BLM.

"Policies are one thing, but ensuring they're adhered to should go beyond a vague threat of enforcement and account suspension."

Kuncewicz suggests that platforms should be building awareness of the legal risks around infringing copyright into user experience and as part of the sign-up process.

"We've seen plenty of work done to educate users on when to take action in the event of a privacy or harassment issue, yet there's very little attention being paid to the fundamental issues around the sharing of third-party content," he says.

### Confusing copyright law

A big problem around education is current policies are often vaguely worded and can be confusing because copyright laws differ between jurisdictions. For this reason, it would be "unrealistic" to

expect platforms to provide detailed information on whether copyright exists and what constitutes an infringement, argues Emma Ward, partner at IP solicitors firm Nelsons.

"In the UK, copyright will only be infringed if a substantial part of a work has been reproduced. This becomes a particularly thorny issue when considering how that applies to the use of GIFs and memes," says Ward.

Video reactions to meme compilations have racked up hundreds of thousands of views in recent months. In America last January, two YouTubers were each threatened with a \$3,000 fine by Jukin Media for the use of a single meme in a reaction video, before coming to an agreement with the entertainment licensing group. Under the US Digital Millennium Copyright Act, platforms are shielded from liability.

Members of the European Union have until June to implement a divisive copyright directive that will require platforms to take more responsibility and not simply filter or remove copyrighted material when requested to do so by copyright holders. Opponents of the directive argue it could lead to a meme ban.

"The procedures that are currently in place to address copyright issues are very much reactive, dealing with complaints as and when received," says Ward.

### Who should be responsible for IP?

Timothy Watkins, IP expert at Harbottle & Lewis, believes the differing nature of copyright laws is why content creators also need to be taking more responsibility for what they post.

"In reality, the average user isn't going to spend time reading and becoming familiar with every country's copyright laws. Some

platforms have tried to demystify the laws by creating plain language articles, guidelines and, in the case of YouTube, an online Copyright School. These can be helpful, but they still require users to actually read them. There's a limit to what platforms can do to educate their users and some of the responsibility has to lie with content creators themselves," argues Watkins.

Navigating the world of IP can be frightening for any content creator, but especially teenagers and young adults who are only using platforms for fun and to entertain viewers.

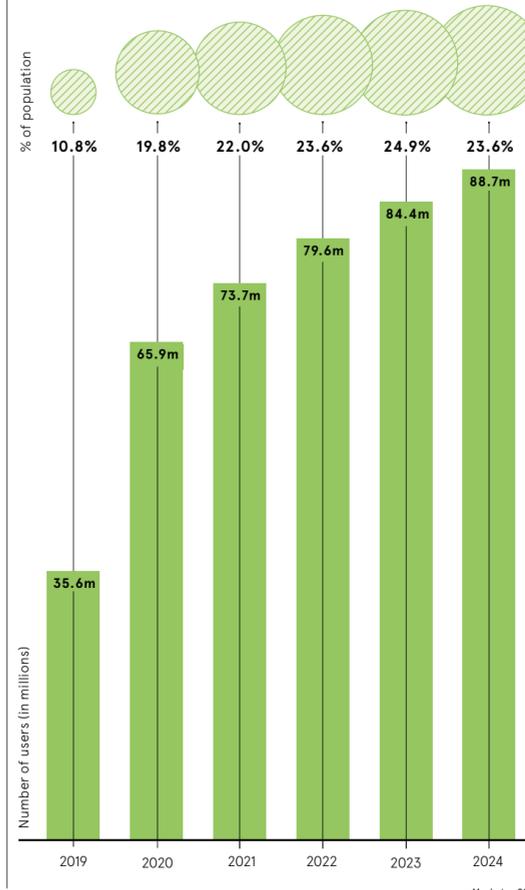
Ward says content creators should ideally seek legal advice before starting out, though of course this isn't always feasible. She adds that the least they can do is be familiar with each platform's terms and conditions, as well as community guidelines, before posting content. That way they can avoid inadvertently infringing copyright.

"Unlicensed use of third-party content can be an expensive and stressful error if that third party then decides to sue," she warns. "Users should remember that infringing copyright isn't just about having a post taken down."

Striking the right balance between platforms empowering their users to be creative and entertain viewers, and respecting IP rights is "going to take a lot more work on all sides", Kuncewicz concludes. ●

### TIKTOK'S UNSTOPPABLE RISE

Projected growth of monthly US TikTok users



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- Review of terms & conditions



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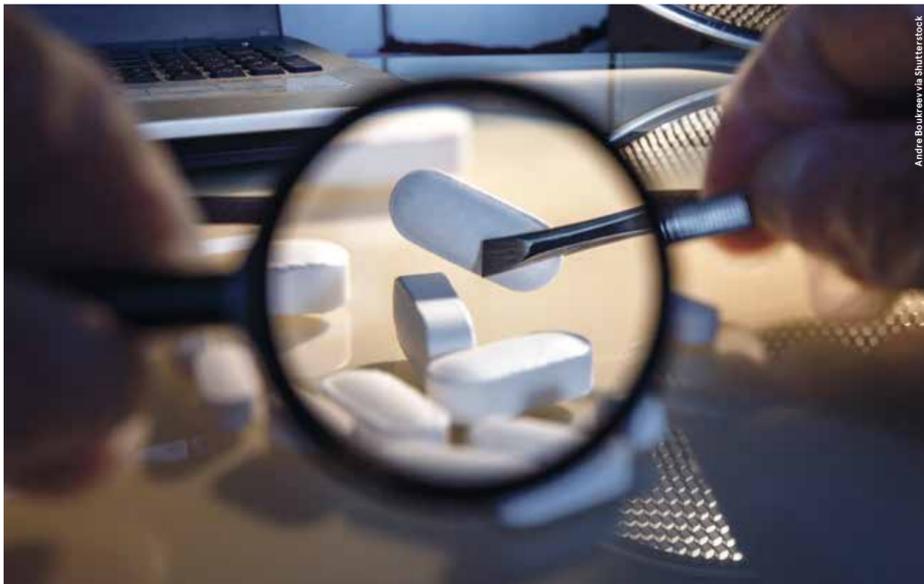
# The deadly risk of counterfeiting

It is a major problem for many industries, but in healthcare counterfeiting can all too often be a matter of life and death. While fraudsters might be nimble, the industry is also finding new ways to tackle the issue

Diana Bentley

For holders of intellectual property (IP), counterfeiting presents an insidious problem. The manufacture and sale of falsified products erodes revenue and profits, damages brand confidence and reputation, and burdens consumers with substandard goods. In the case of healthcare products, the results can be even more dangerous. Counterfeited healthcare can pose serious health risks that, in the most serious of cases, could prove to be life threatening. For the producers of healthcare products, IP is an especially critical means of protecting scientific innovation and supporting business strategies. Yet according to the World Health Organization (WHO), two billion people worldwide lack access to necessary healthcare products, presenting significant opportunities for counterfeiters. Growth of e-commerce has only exacerbated the problem. Trade in counterfeit medicines, which have had their identity, source or composition misrepresented, reached \$4.4

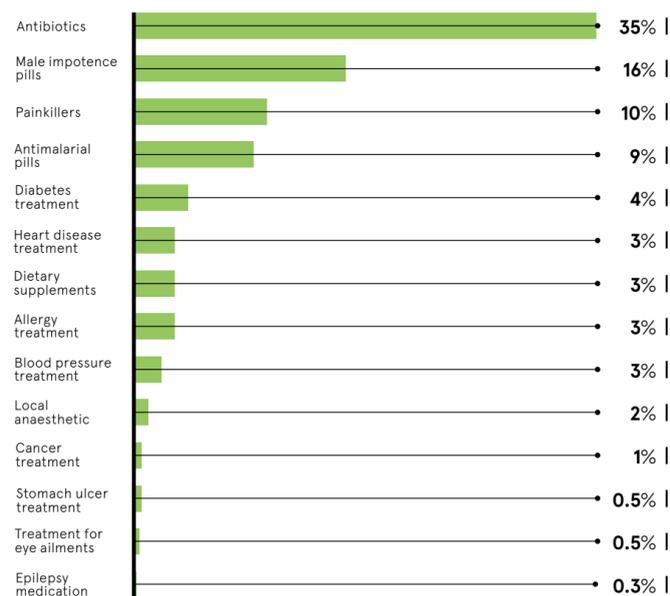
billion in 2016, the Organisation for Economic Co-operation and Development-European Union Intellectual Property Office *Trade in Counterfeit Pharmaceutical Products* report revealed in March 2020. Criminality in the field covers a wide variety of activities including theft, tampering and illegal diversion, with counterfeiting producing the highest volumes of incidents. The scope of trade in counterfeit medical devices, which covers a wide field from tweezers to advanced surgical instruments, is less well understood. "Unlike information on counterfeit medicines, medical device counterfeiting is still often regarded as classified in the healthcare world and as a result we don't have consistent data on it," says Phil Lewis, director general of the UK-based Anti-Counterfeiting Group. "The figures produced by WHO ten years ago revealed 8 per cent of medical devices at the time were known to be fake. The numbers are now likely to be much higher."



Andre Boukreev via Shutterstock

## THE WORLD'S MOST COUNTERFEITED DRUGS

Share of the global value of seizures of fake pharmaceuticals. (Numbers may not add to 100 due to rounding)



OECD 2020

Criminal activity in healthcare has intensified with the coronavirus pandemic. Under Interpol's Operation Pangea XIII, conducted last March, police, customs and health authorities in 90 countries seized counterfeit face masks, self-testing kits, anti-viral medication and other products worth more than \$14 million, leading to 121 arrests and the closure of 2,500 weblinks and websites.

National and regional regulation, and the work of healthcare producers and law enforcement agencies including the police and customs officials, all provide the front-line defence against healthcare counterfeiting. Healthcare producers use a plethora of measures to combat the problem, notably barcodes, holograms and anti-tampering devices, as well as a range of fieldwork.

In addition to mandatory features required by regulators for packaging, including serialisation, pharmaceuticals giant Novartis uses overt and covert security features so country verifiers can identify falsified products. Mobile laboratories are used by its forensic teams to analyse suspected samples in the field. A new cloud-based, mobile-enabled solution, which will accelerate the testing, detecting and reporting of false medicines to national authorities and WHO, is now being piloted.

Technology is a critical enabler in the fight against pharmaceutical crime, says Stanislas Barro, Novartis global head of anti-counterfeiting. "Detecting falsified medicines requires state-of-the-art technology to test packaging and products in the field. We use online monitoring, like web crawlers with customised parameters, to monitor the internet 24/7 to detect illicit sales of suspected falsified medicines using our brands," he says.

The company has also built a data analytics and visualisation dashboard to support its risk-analysis effort, he adds.

Although counterfeiters are prosecuted by law enforcement agencies, the actions of IP holders remain vital. "We file trademarks to clearly identify our products and record our IP rights with customs authorities globally to empower them to identify suspected falsified goods," says Myrtha Hurtado Rivas, Novartis global head of legal brand protection.

**Collective action is the cornerstone of our strategy to combat falsified medicines**

"But companies like ours cannot fully shift responsibility to reduce patient risk to national law enforcers. Taking action based on IP rights is necessary, for instance to ensure rogue online pharmacies are taken down swiftly. In the majority of legal actions, having an IP right increases the chances of success against counterfeiters."

Legitimate pharmaceutical companies also have a duty to report confirmed incidents of falsified versions of their products to local health authorities, Novartis points out, and it has voluntarily committed to reporting these to WHO within seven days of discovery following WHO's recommendations.

Ewan Grist, partner in the IP practice of international law firm Bird & Bird, concurs that IP remains the bedrock on which actions against counterfeiters are based.

"The two IP rights most likely to be infringed in healthcare cases are patents and trademarks," he says. "On the basis of IP infringements, IP owners can file take-down notifications with e-commerce platforms and they can take direct civil action against counterfeiters where it is possible and practical. Often the IP infringement enables the intervention of law enforcement agencies and supports prosecutions."

While organisations such as hospitals are diligent in ensuring the authenticity of their medical supplies, smaller organisations and private consumers can be more susceptible to counterfeiting.

"Developing countries are particularly vulnerable as counterfeiters target areas where corruption is more rife and law enforcement weaker," says Lewis at the Anti-Counterfeiting Group

Some 90 per cent of fake products originate in China, according to Bob Barchiesi, president of the International Anti-Counterfeiting Coalition.

"In the last decade, the Chinese government has made marked improvements in addressing the issue, but more could be done. One particular problem is the propensity of Chinese authorities to seize counterfeit goods, but not prosecute producers. A significant issue remains the number of people employed in production of counterfeit goods," he explains.

But counterfeiters are nimble too and the fight against them requires the continued and concerted efforts of all stakeholders. "Collective action is the cornerstone of our strategy to combat falsified medicines," says Barro.

# How Siemens transformed its approach to IP for the digital age

Following a strategic change from quantity-driven intellectual property to measuring quality improvement, Siemens is harvesting more valuable inventions and increasing its patent portfolio strength

As a world leader in industrial research and development, technology and engineering conglomerate Siemens consistently ranks number one or two in the quantity of patents filed in Europe, currently holding more than 100,000. But a changing intellectual property (IP) landscape has caused it to shift from a quantity-based approach to a highly value-driven strategy.

Historically, large technology companies like Siemens have used patents to establish IP rights and block competitors from benefiting from basic innovations. When Beat Weibel joined the company as chief of IP counsel and group senior vice president, however, he recognised that the digital age was triggering an urgent need to divert from this reliance on simply accumulating patents as quickly as they can be acquired.

"In a digital world, patents are more often used to document a company's contribution to a digital ecosystem in which businesses create solutions through partnerships and licensing," says Weibel. Companies can only share and license what they own, so IP rights allow them to protect their competitive advantage and ability to monetise their contributions. "We needed a different approach and understanding of how to create these IP rights," he adds.

Siemens prior focus on quantity over quality meant inventors would invent first and then call on their IP colleagues to prepare and file patent applications. By not evaluating the quality of the inventions before filing patent applications, the company's IP group was in reactive mode, with limited knowledge of whether they represented value for the business.

Weibel and his team set out to change this, starting by integrating IP activities in the company's innovation process. Rather than waiting for inventors to bring good ideas to their patent attorneys, the lawyers were instead sent to talk to the researchers and developers to understand how the innovations they were working on might contribute

value to Siemens' businesses. It took time, but the patent attorneys rose to the challenge.

"It required our patents attorneys to understand our businesses and business models so they could recognise the inventions with the most potential to add value and actively place IP rights on these sweet spots," says Weibel. The new strategy was successfully implemented, with Siemens' innovation and IP activities fully aligned behind a value-driven IP strategy and the IP group proactively involved in the organisation's innovation process.

That was just the beginning, however, as Siemens still required proof that the quality of its patents was improving over time. To determine whether the shift from quantity-based patenting to a more value-driven strategy was ultimately successful, it needed a metric.

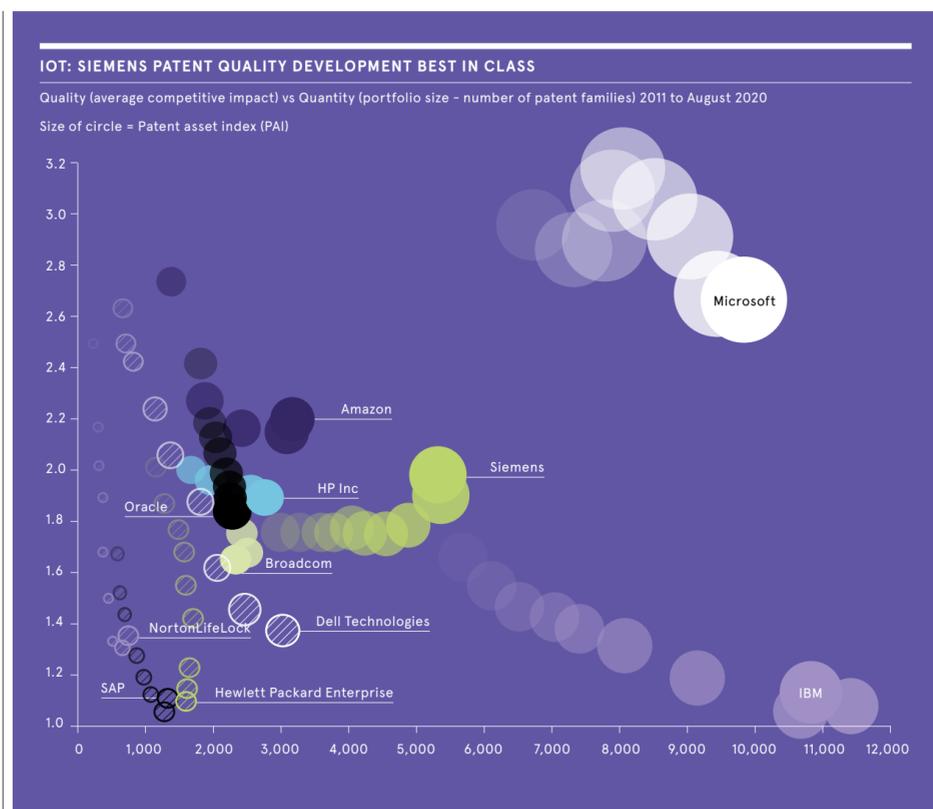
"You can only improve what you can measure," says Weibel. "The best measure of the quality of a patent is going to court, but just 5 per cent of patents ever go. We needed an indirect measure and a tool that would help us measure the quality of each patent and our entire patent portfolio, and track quality changes over time compared to our competitors."

For this, Siemens turned to PatentSight®, a LexisNexis® company that provides business intelligence software, analytics tools and insights into the strength, quality and value of patent portfolios.

PatentSight is known for its Patent Asset Index™, an objective measure of global technological strength and innovation. The measure takes into account both the number of patent-protected inventions and their quality, enabling businesses to identify and profile the patent gems that can be leveraged to create value from their innovations.

The Patent Asset Index can calculate the total competitive impact of all patents in a portfolio, patents related to a certain technology or any other group of patents based on selected criteria. Its data quality, recognised as world leading, is powered by a proprietary global patent database, which PatentSight populates with patent data from more than 95 authorities worldwide, including more than 100 million patent documents, 700 million drawings and illustrations, and 100 million PDFs, which can be quickly searched and downloaded.

"PatentSight is quite a good match for Siemens," says Weibel. "The tool came out of a university and has an academic objective, not just a commercial one. It allows us to track patent quality over time compared to our competition, taking changes such as acquisitions



and divestitures into account. And the indices used to measure quality take into consideration differences in markets such as the United States, Germany and China."

Siemens' new IP strategy has supported its ascent in the highly lucrative and competitive internet of things (IoT) market, which analyst firm Gartner valued at \$14.7 billion last year. Between 2016 and 2020, Siemens increased its

IoT patent portfolio strength in this burgeoning field by 47.2 per cent, the only player in the market that showed a clear average patent quality improvement, as objectively measured by the Patent Asset Index.

Supported by PatentSight and its new value-driven IP strategy, Siemens now realises a better return on investment for its patent portfolios, which are of a higher quality and continually improving. Moreover, patents now play a much larger role in the strategic development of the business. The IP team can now make recommendations on where the company should invest more in research and development to create new opportunities, such as acquiring new customers or joint-venture partners or improving competitive advantage in key regions.

The transformation of IP strategy from a necessary cost to a strategic tool for creating business value and competitive advantage has also caught the attention of the Siemens managing board. After he reported initial results of the change in approach to patents,

Weibel is now invited back to present to them once or twice a year.

"It is easy to go into the boardroom and say we're number one in the number of patents we have," he says, "but I would rather report on how we can better protect our competitive advantage even in places like China. That makes a bigger difference to the business. I was lucky that the managing board trusted me and the PatentSight tool when I told them we could harvest more valuable inventions and create broader and more important patents by changing our strategy and measuring quality improvement compared to our competitors. Of course, now the board expects to see quality improvement every time."

For more information on how PatentSight can support your IP strategy, please visit [patentsight.com](https://patentsight.com)

**47.2%**

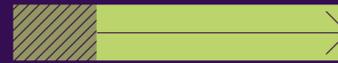
increased patent portfolio strength in IoT technologies since 2016; the only player showing a clear upwards quality development

**"...The managing board trusted me and the PatentSight tool when I told them we could harvest more valuable inventions and create broader and more important patents..."**

# GLOBAL IP

Traditionally, the global IP landscape was dominated by a few key players and led by the United States of America. But as technological progress continues at speed, there are an increasing number of countries innovating, wanting to protect their new ideas and charging other countries for their use. Savvy competitors would be wise to keep their eye on the IP map

## +300%



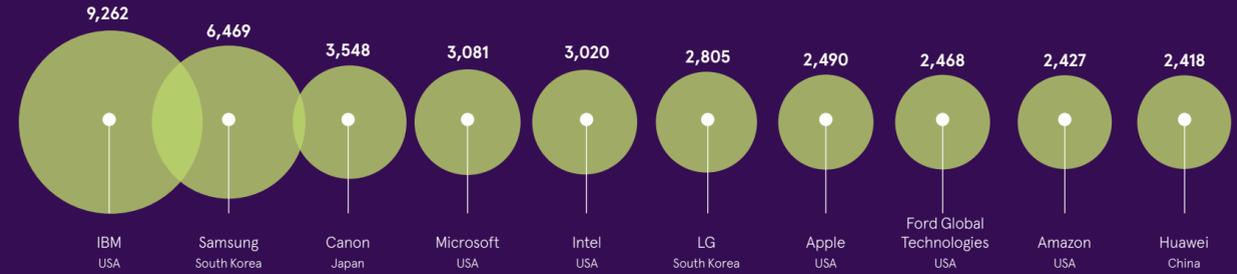
more patent applications in China's high-tech industry in 2018 than there were in 2008, as the country takes on former IP leader, the USA

National Bureau of Statistics of China 2019

### WHERE THE TOP INNOVATORS COME FROM

IFI CLAIMS Patent Services 2020

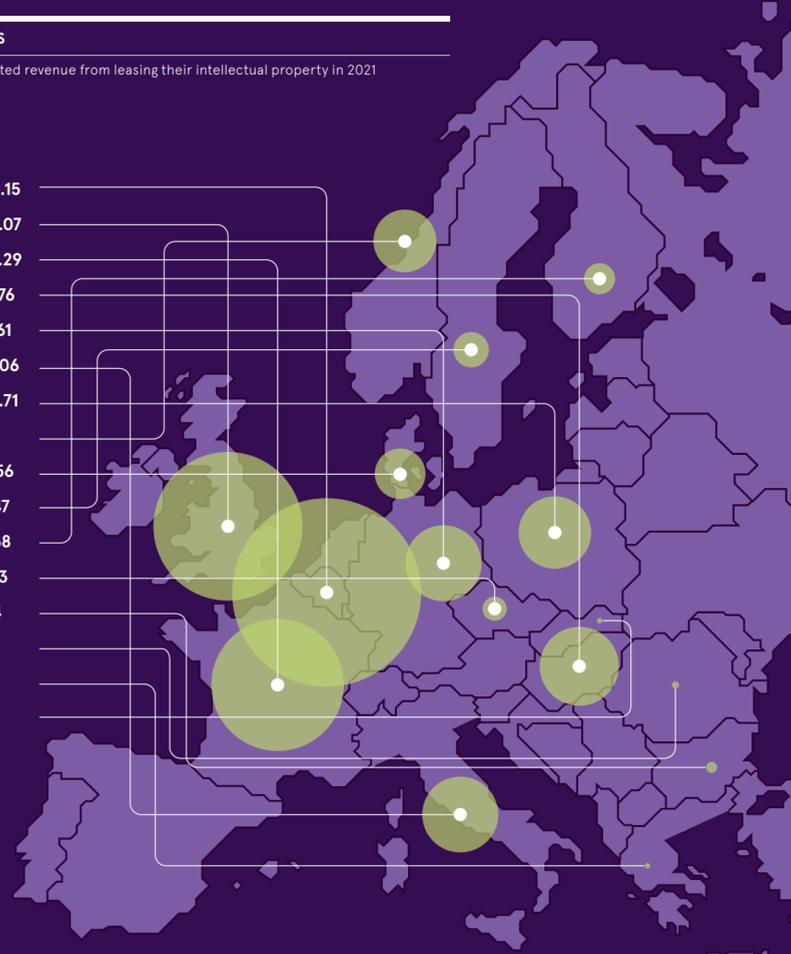
Most innovative companies in the world, by number of patent grants claimed in the US in 2019



### EUROPE'S IP LEADERS

European countries' projected revenue from leasing their intellectual property in 2021 (in million US dollars)

Belgium	6830.15
United Kingdom	4249.07
France	3359.29
Hungary	1198.76
Germany	1110.61
Italy	1106.06
Poland	1008.71
Norway	757.2
Denmark	493.56
Sweden	241.47
Finland	185.68
Czech Republic	112.83
Bulgaria	23.74
Romania	9.97
Greece	5.85
Slovakia	5.75



Statista, Eurostat and Statistisches Bundesamt 2019

### TOP TRADEMARK REGIONS

Percentage of trademark applications in 2019 by geographical region



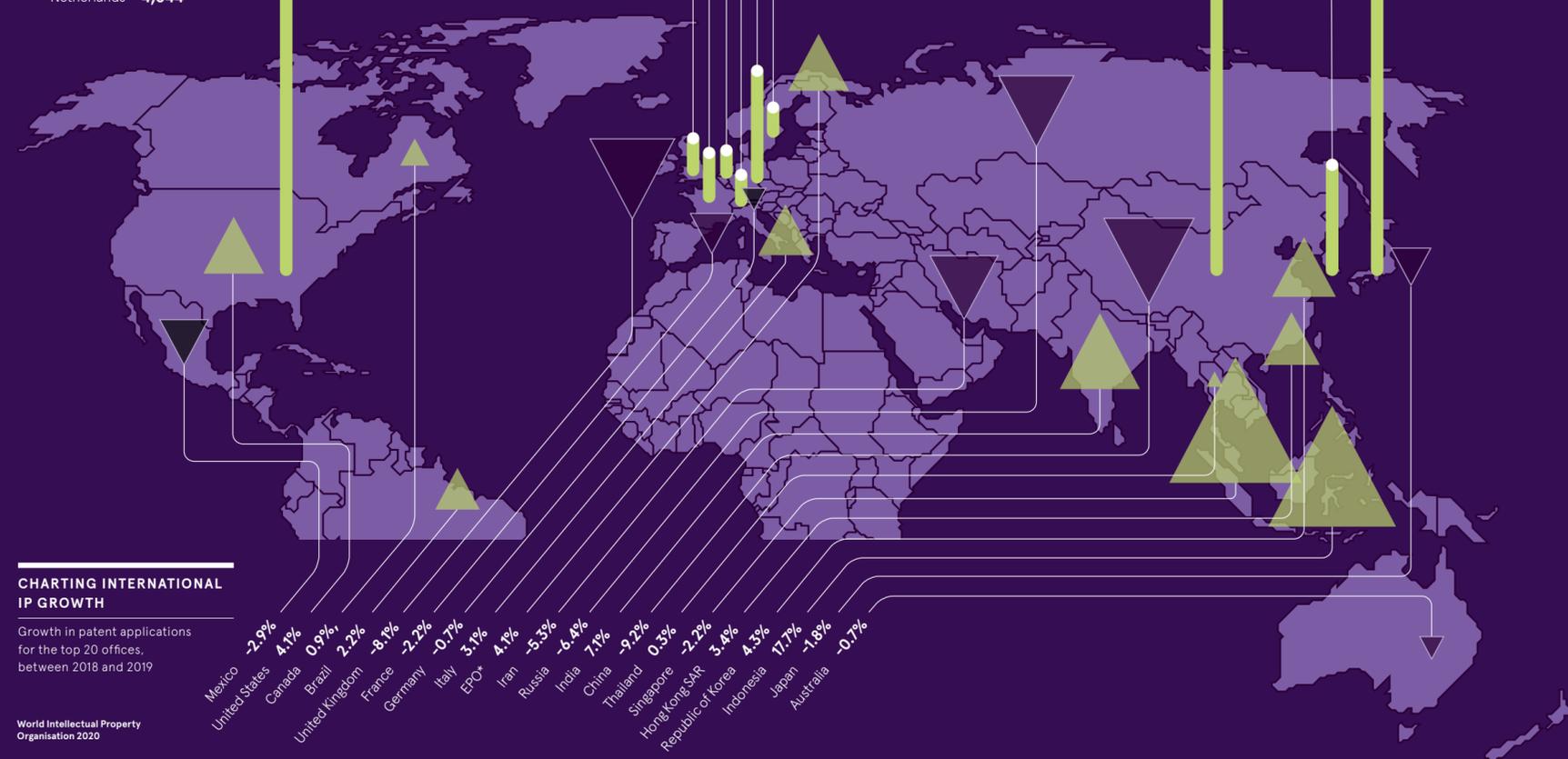
World Intellectual Property Organisation 2020

### MAKING A MARK ON INTERNATIONAL IP

World Intellectual Property Organisation 2020

The ten countries that filed the most international patent applications in 2019

China	59,045
USA	57,705
Japan	52,683
Germany	19,337
Republic of Korea	19,076
France	7,936
United Kingdom	5,768
Switzerland	4,620
Sweden	4,196
Netherlands	4,044



### CHARTING INTERNATIONAL IP GROWTH

Growth in patent applications for the top 20 offices, between 2018 and 2019

World Intellectual Property Organisation 2020

GREEN IP

# Growing value of green ideas

As the economic and social value of green technology rises, efforts to protect the intellectual property of these innovations are increasing

Olivia Gagan



Tom Whitfield via Shutterstock

Evidence of green technology shifting from an alternative investment to a mainstay of the economy is all around us. Around 40% of UK homes and businesses had a smart meter installed by the end of September 2020; on Boxing Day 2020, wind turbines provided the majority (50.7 per cent) of the nation's electricity.

"Companies exposed to the energy transition are likely to deliver unprecedented growth over the coming decades," Goldman Sachs analysts told investors at the start of January.

However, it seems creators of emerging low-carbon technologies hoping to take a slice of this growth are often unaware of the protection intellectual property (IP) rights can afford them. The International Energy Agency reports that "while the initial value of many energy technology startups lies in the patents they hold, fewer patents have been filed for low-carbon energy technologies each year since 2011".

This means green tech developers could be losing out on opportunities to attract investment, protect, license and sell their work.

The European Commission wants to change this. In November, it released its *Action Plan on IP*, upgrading its IP offer for European Union businesses hoping to capitalise on their low-carbon ideas.

According to the Commission, the goal is to boost green IP uptake, especially in the field of publicly funded research, with 35 per cent of the EU's Horizon research and development (R&D) budget now set aside for green projects. For the clean technology developed through the programme, the Commission will support matchmaking opportunities with investors to commercialise it.

But what about green IP development in the UK? One thing seems clear: post-Brexit, there will be more paperwork. Mark Marfé and Anna

Harley, who specialise in patent litigation and IP issues at law firm Pinsent Masons, say Brexit does present a challenge in respect of IP rights.

"For example, new trademarks or designs are no longer reciprocal. Both UK and EU applications will now be required, rather than a single application applicable across Europe. Conversely, the patent system was largely unaffected by Brexit," they point out.

But Marfé and Harley believe the UK is well aware of the valuable nature of homegrown IP and is taking it as seriously as its Continental counterparts. "The government is clearly prioritising both artificial intelligence (AI) and clean technologies, so we anticipate substantial growth and investment. The private sector, research institutions and the public sector are all focusing on clean technology, which includes the development of green IP as a consequence," they say.

Private capital is often vital for a green startup to move towards

commercial viability with its IP. Green Angel Syndicate's portfolio, dedicated to angel investments in companies whose products or services help mitigate climate change, includes Power Roll, maker of a flexible, recyclable solar film said to be 20 times cheaper than traditional solar panels, and Smile Plastics, which uses waste plastic to manufacture products for the design and architecture industries.

Chief executive Nick Lyth says the driving force behind forming Green Angel Syndicate in 2013 was "the quality and quantity of energy, water, transport and recycling technology and process innovation emerging from transnational research and applied research projects supported by the EU".

Post-Brexit, this support has now splintered from the UK. "British R&D has become isolated from both European funding and the even more essential partnerships

**“It is far more important for companies and governments throughout the world to act rapidly to slow, and ultimately reverse, greenhouse gas pollution**

throughout leading research establishments across Europe," he says.

While the UK is rich in its own research institutions and private capital, "high-quality, rapid grassroots innovation in the fight against climate change has become that little bit harder in the UK", says Lyth. "Europe's *Action Plan on IP* is supported by millions of euros in incentives, from which UK research

establishments are excluded. It is a shame for them, but more importantly a failure of communal action against a communal problem."

The question of whether a more collaborative approach to commercialising green technology is needed is a pressing one. Is it fair to keep inventions that could dramatically improve living conditions under the lock and key of IP? What if a protected product, shared internationally, could dramatically curb carbon emissions? Should an AI algorithm that cuts utility bills, thereby alleviating energy poverty, be made accessible to all?

Marfé and Harley say the pandemic is creating a shift in perspective on the social role and purpose of IP. They point to the creation of the Open COVID Pledge, a commitment made by IP owners to share some or all of their IP for the purposes of ending and mitigating COVID-19. This spirit of shared purpose can be applied to another global health crisis, climate change.

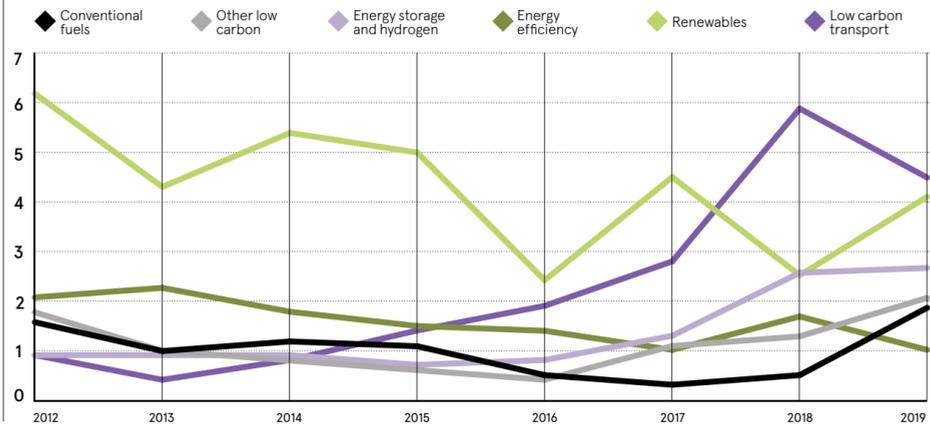
"Over the last year we saw universities and businesses recognising that their research and expertise are critical to the efforts of overcoming the global pandemic. This sort of collaboration is equally applicable to climate change, global carbon reduction and sustainability-enhancing technologies," they say.

Lyth agrees and suggests IP isn't really what is holding back green technology creators from achieving their full potential. He says green innovation "is not constrained by IP policy, but by the slowness with which governments around the world are tackling climate change".

"The atmosphere surrounds us all, regardless of where borders and IP treaties are drawn on a map. It is far more important for companies and governments throughout the entire world to act rapidly to slow, and ultimately reverse, greenhouse gas pollution," he concludes. ●

VC INVESTMENT IN CLEAN ENERGY REBOUNDS PRE-COVID (\$BN)

IEA, 2020



OPINION

## 'The UK must retain its position as a global IP powerhouse for the benefit of business and consumers'

More than 1.5 million new trademarks have just been created in the UK, cementing Britain's position as a global powerhouse for intellectual property (IP).

Whether businesses planned to or not, many companies now own more UK trademarks than they did just a few weeks ago, providing continuity and certainty that protects their IP interests.

Every owner of an European Union trademark registered by 11pm London time on December 31, 2020 now has an exact copy trademark that is fully protected and enforceable in the UK. These new rights were created at no cost and without the need for action by the owners, minimising disruption to business and avoiding inadvertent loss of rights.

Trademarks are valuable business assets that protect ideas and innovation. They allow consumers to identify the origin of products and services easily.

The UK is recognised as a world leader in IP, a position it must retain for the benefit of business and consumers. It is ranked by the US Chamber of Commerce as second in the world for IP environment, according to the 2020 US Chamber International IP Index, behind only America itself.

IP courts in the UK are highly regarded and are key venues for resolving worldwide disputes. Around the world, huge numbers of IP agreements are governed by English law, with disputes subject to the jurisdiction of English courts.

The UK can be justifiably proud of innovations such as the fast track of the Intellectual Property Enterprise Court, which provides a cost-effective means of resolving smaller disputes, but it must continue to innovate and invest to ensure businesses of all sizes have access to robust and timely judgments in disputes.

While the UK was a member of the EU, its trademark law was harmonised with other EU states. We are no longer bound by those constraints and there is now scope for the law to diverge from the EU, particularly via UK court decisions.

However, businesses need stability and too much change could be damaging, threatening the UK's position.

There are many benefits to having a harmonised IP system with the

EU and strong treaty-based links with many other key jurisdictions via the World Intellectual Property Organization.

Anything that threatens this collaboration would be detrimental not only to the UK's world-leading position, but the businesses which operate within its economy.

One area it must get on top of is the exhaustion of IP rights, the limits on how rights can be used to prevent the resale of genuine products, including those entering the country from elsewhere, so-called parallel imports.

Currently there is a mismatch between the UK and EU positions, and the government intends to consult on possible changes to the UK stance.

The impact of changes in this area could be far-reaching for brand owners and the government must act to provide certainty so businesses can plan.

A strong IP environment is important, but businesses can only benefit if they are properly advised. To maximise the value of their IP, businesses should ensure they have a regulated IP adviser who is an expert in the UK on hand. They will always be best placed to advise and work with businesses to develop strategies that add value.

Businesses with a commercial presence in the UK deserve to have the certainty that the value of their IP is protected. This will help the UK remain a world leader. It is up to the government to ensure this happens. ●



**Richard Goddard**  
President  
Chartered Institute of Trade Mark Attorneys



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# Why the future of news is making IP headlines

News is now one of the biggest global intellectual property (IP) battlegrounds, as media giants, social media platforms and technology behemoths square up over IP rights, payment for content and advertising revenue share

Jonathan Weinberg

In a clash that echoes the struggle between the music industry and online streaming services, publishers now want greater levels of remuneration for their journalism from websites, aggregators and apps displaying their stories or linking to them.

Journalism has traditionally been financed through advertising, but this has been eroded by Facebook and Google's dominance in digital advertising. Publishers argue that because their own content, as headlines, snippets or pictures, is served up to social media and search users, they deserve a fairer share of these revenues.

The situation is now so tricky that government intervention is being considered. In Australia, the News Media Bargaining Code was drafted and introduced in parliament with Google Australia and New Zealand vice president Melanie Silva concerned it would "significantly impact the Google services Australians use every day".

Writing on Google's blog, she says: "An overwhelming majority have concerns about key aspects of the code or are downright opposed to it. Even a number of news publishers have voiced concerns about key aspects of the draft law, such as the arbitration process and minimum standards provisions, and its impact on media diversity."

In France, Google is paying some media outlets for content appearing in searches, while late last year it announced a \$1 billion global investment in partnerships with news publishers to include its forthcoming Google News Showcase.

**“A break-up of big tech is critical to allow the media and technology market the breathing space to innovate**

According to Google and Alphabet chief executive Sundar Pichai: "This financial commitment, our biggest to date, will pay publishers to create and curate high-quality content for a different kind of online news experience."

Facebook too has agreed to pay UK publishers for "content that is not already on the platform" amid the launch of Facebook News. Media companies including Hearst, Condé Nast and Reach have all signed up, Facebook says.

## The UK's view on media IP intervention

To tackle the growing issue, the UK government announced in November 2020 that a new Digital Markets Unit, created through the Department for Digital, Culture, Media and Sport and the Department for Business, is to launch.

Its job will be to introduce and enforce a new code that, among other things, will "support the sustainability of the news publishing industry, helping to rebalance the relationship between publishers and online platforms".

Korieh Duodu, senior partner of Equality Law, a UK firm specialising in media and IP law, says: "It is encouraging to see the UK Competition and Markets Authority dedicate a team to addressing Facebook and Google's market dominance."

"While the details of the team's new code are yet to be published, we understand it will help publishers monetise their content. Certain larger publishers are already in talks with Facebook over licensing deals. "Effective regulation in this area should come as welcome news for publishers and, in turn, facilitate the protection of quality journalism in this country."

Duodu says it is important the code gives "due regard" to freelance and employed journalists who originate such material, adding: "Freelancers in particular have borne the brunt of a failed regime that doesn't pay them onward royalties for their syndicated content."

However, marketing and PR specialist Stephen Waddington, of Wadds



Inc., sees state intervention to redress the balance as "a sticking plaster". "Facebook and Google account for more than 60 per cent of digital advertising spending worldwide. No other platform can offer the audience scale or granularity of targeting," he says.

"A break-up of big tech is critical to allow the media and technology market the breathing space to innovate."

## The changing value of news IP

Such innovation will be critical to monetising the IP of news publishing. One way of protecting it has been the idea of a "Spotify" for editorial content with a subscription service to a range of publishers, or introducing a micro-transactions system so IP can be paid for on an article-by-article basis.

But while Oliver Feldwick, head of innovation at marketing agency network The&Partnership, believes such ideas are possible on paper, he

argues people's appetite for paying for news has been eroded by years of free content.

Alongside this, a key challenge has been the coronavirus pandemic. According to Andy Barr, chief executive of 10 Yetis Digital, it has forced many publishers into greater use of affiliate marketing platforms because traditional advertising revenues and print circulations have dropped. Feldwick, though, believes we are set to see an even greater shift in attitudes when it comes to the value of news IP. "Chasing eyeballs led to a boom in clickbait, in outrage, in fake news; whatever gets clicked gets paid," he says.

"Now the dust has settled, there is a shift to focus on true, valuable and quality attention. This means quality content and IP is more important than ever. Attention studies show people read ads better on quality publisher sites."

Highlighting how a mix of payment models, part advertising, part subscription, part bundle, was the likeliest way forward, he adds: "The free content publishers have struggled, while quality publishers who have defended their IP, while pivoting to digital, are seeing a thriving light at the end of the tunnel."

One further answer to the news IP challenge, says Peo Persson, co-founder of DanAds, is greater transparency, with publishers moving away from intermediaries that eat up much of the ad spend to direct booking.

"News publishers have long been under financial pressure, but we are starting to see clear and positive signs journalists and publishers can be rewarded for quality content by harnessing technology to their advantage," Persson concludes. ●

## HOW COVID HIT THE DIGITAL DUOPOLY'S AD SPEND SHARE

The pre- and post-pandemic forecasts of Facebook and Google's combined UK digital ad spending (% of digital ad spending)



eMarketer 2020

# Supporting IP strategy in the semiconductor industry

Growing complexity of the chip market has made it harder than ever for intellectual property owners to monitor developments, making reverse engineering a crucial process

The breadth of reverse engineering required to innovate, protect and monetise intellectual property (IP) in the semiconductor industry has exploded as the internet of things has rapidly expanded the chip market. There are an estimated 50 billion connected devices globally, according to Ericsson. Chips are no longer the preserve of mobile phones, but can also be found in cars, appliances, medical equipment and more.

This has made it extremely difficult for semiconductor and electronics companies to understand whether their IP is being used without their knowledge. Reverse engineering, the practice of deconstructing a device to understand what it is doing and how it was built, has had to advance in line with multiple use-cases, particularly in areas such as advanced processors, memory, radio connectivity, power management and image sensors.

To understand IP within a chip, it can be reverse engineered in a number of ways, for example starting with process or structural analysis, which is becoming increasingly complex as manufacturers seek to fit more functionality into smaller chips. The latest iPhone includes Apple's most advanced chip yet, using 5 nanometer process technology.

Next could be understanding the circuit design, through examining both the physical, or schematic, design as well as the actual functionality and performance of the chip internals during operation. Systems reverse engineering is another approach, showing how multiple chips interact during operation depending on hardware, firmware and software.

"Semiconductors are becoming ubiquitous," says Gavin Carter, chief executive of TechInsights, the leading information platform providing advanced technology analysis and IP services to the world's largest technology companies. "The speed of innovation isn't slowing down and the complexity of reverse engineering has to keep pace with that. It's very difficult to get a broad view of what's going on in the industry and to monitor competitors that may or may not even be in the same application space but use the same technology."

"In a fair marketplace, semiconductor intellectual property can be both created and monetised. The creation part is the ongoing innovation of semiconductors and monetisation

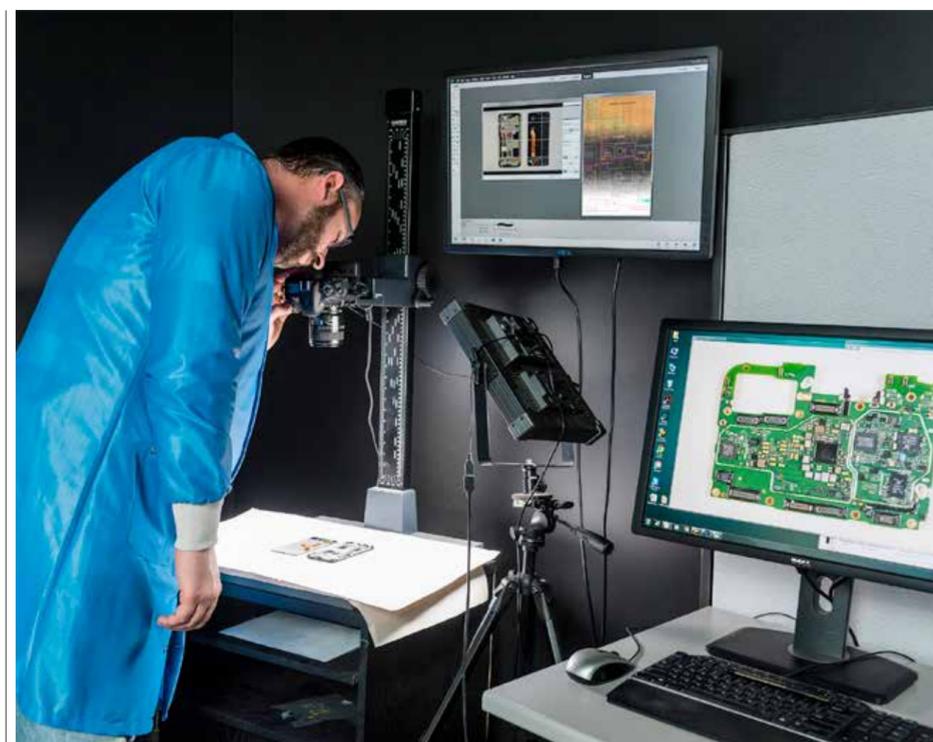
is then having the chip ultimately appear in a product, the manufacturer deriving revenue directly from that, or the owner of the IP licensing its use in a chip. There is a lot of IP wrapped around the semiconductor. Our platform provides a central repository of our analysis, images, schematics and costing data so it can be easily leveraged to protect and monetise IP or for competitive intelligence purposes."

TechInsights has led reverse engineering in the semiconductor industry for more than 30 years, supporting a fair marketplace where IP can be innovated and monetised. By revealing the innovation others cannot inside the broadest range of advanced technology products, the company enables business leaders to make the best technology investment decisions and prove patent value with fact-based information.

With TechInsights' broad but also deep look into how semiconductors are built, organisations can gain a cost-effective view into whether or not their IP is being used in the market. When they find it is being used, they require documentation that can support straightforward licensing negotiations all of the way up to litigation. This is where the forensics come in and the sophisticated analytical techniques used by TechInsights allow IP owners to document exactly what they need, whether it's the manufacturing process, the functionality in a chip or the circuit design.

With more than 200 engineers highly skilled specifically in reverse engineering, TechInsights is able to analyse and reveal innovation in products in ways other companies simply can't match. The company's embedded knowledge is bolstered by its learnings from patenting some of its own technology, including its delayering process when reverse engineering a chip. This expertise is supported by significant capital equipment including multi-million-dollar machinery that is normally used in manufacturing semiconductors, but has been reconfigured to support reverse engineering.

"Those three elements combined, along with our incredible passion to reverse engineer the latest innovation, clearly differentiate our services," says Carter. "The top ten semiconductor companies globally all leverage the TechInsights platform. They've engineered a chip, they may also have some of the capabilities



required to reverse engineer it, however they work with us because of our broad coverage across a wide range of devices, speed and depth of analysis, and the neutrality we bring. That third-party neutrality is incredibly valuable in a licensing negotiation or a dispute. Ultimately, we document facts and that's very well respected in the industry."

TechInsights has evolved its strategy to create even more value for IP owners by building a broader content platform for the semiconductor industry. This includes increasing

**“Ultimately, we document facts and that's very well respected in the industry**

the use of artificial intelligence and machine-learning for a range of applications, from shortening the time taken to analyse circuits, to the current short-term goal of bringing in relevant third-party content.

Through the platform, TechInsights gives companies a complete view of the IP landscape and allows them to benchmark products against competitors. Meanwhile, with Moore's law, the doubling of complexity on a computer chip every two years, the need for sophisticated reverse engineering is only going to increase even further in the future.

"It might not be as linear as we've seen over the last 50 years, but the complexity will continue to get more challenging to reverse engineer," says Jason Abt, chief technology officer at TechInsights. "We're going to see fewer organisations able to do that reverse engineering on their own, even a small part of it, and relying more heavily on TechInsights to provide it."

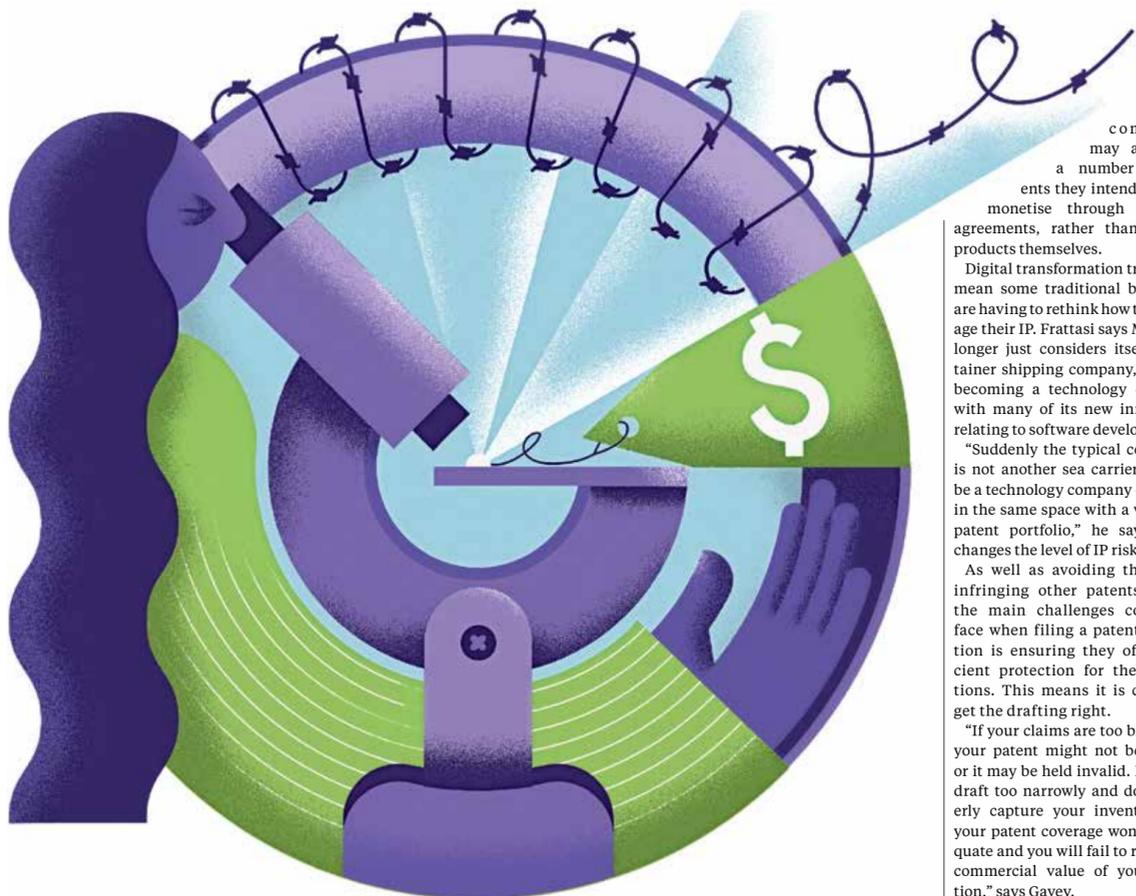
"It's also going to be more difficult to monitor what's going on in

the industry. It's not at all unusual to see an inventive concept originally intended for, say, a mobile phone suddenly appearing in a tyre pressure monitor in a car.

"That cross-pollination of technology against different applications is going to continue to grow, making it even harder for individual organisations to monitor exactly what's going on in the industry and the potential use of their intellectual property. The use of the kind of content that TechInsights brings to bear will become increasingly important to not only maintain a competitive advantage but to protect their IP."

For more information please visit [techinsights.com](https://www.techinsights.com)

**Tech Insights**



PATENTS

# Exploring the full power of patents

Traditionally seen only as a way to protect a company's assets, patents are increasingly being valued as critical strategic tools for business growth and market dominance

Ben Edwards

In early December, just weeks before AstraZeneca's coronavirus vaccine began receiving regulatory approval around the world, the Cambridge-headquartered drugmaker agreed a \$39 billion deal to buy US biotech firm Alexion.

The size of the transaction was driven, in part, by Alexion's pipeline of rare blood disease treatments and its blockbuster drug Soliris. Such medicines are often the driver of bumper mergers and acquisitions in the pharmaceutical industry because of the power of patents, a type of intellectual

property (IP) protection that prevents others from copying a product and selling their own version of it for a set number of years, typically two decades.

"Patents are very common in the pharmaceutical industry," says Michael Gavey, head of the London IP group at Simmons & Simmons. "Drugs require a lot of skill and effort to develop, and take years to get through pre-clinical and clinical trials before they can receive marketing approval, costing many hundreds of millions of pounds, so companies rely on patents to protect their investment."

The telecommunications industry is also dependent on patents to protect their products from copycats. Apple, for instance, spent seven years locked in a patent dispute with Samsung, accusing its South Korean rival of "slavishly" copying the design of the iPhone.

"Increasingly, the value of a business is locked up in its technology. To protect the business and also have the opportunity to extract value from any technical advances it may have invented, it's vital to protect inventions with patents," says Simon Ayrton, partner at IP specialists Powell Gilbert.

While many companies apply for patents to protect their products, there are other ways businesses can leverage the value of those patents, says Simone Frattasi, head of global IP at transport and logistics company A.P. Moller-Maersk.

For technology companies, patents can be a form of risk mitigation. For example, if a third party makes a claim for patent infringement, then there may be an opportunity for cross-licensing if that third party is also infringing one of the alleged infringer's patents. Some

companies may also have a number of patents they intend to sell or monetise through licensing agreements, rather than develop products themselves.

Digital transformation trends also mean some traditional businesses are having to rethink how they manage their IP. Frattasi says Maersk no longer just considers itself a container shipping company, it is also becoming a technology company, with many of its new innovations relating to software development.

"Suddenly the typical competitor is not another sea carrier, it could be a technology company operating in the same space with a very large patent portfolio," he says. "That changes the level of IP risk."

As well as avoiding the risk of infringing other patents, one of the main challenges companies face when filing a patent application is ensuring they offer sufficient protection for their inventions. This means it is crucial to get the drafting right.

"If your claims are too broad then your patent might not be granted or it may be held invalid. But if you draft too narrowly and don't properly capture your invention then your patent coverage won't be adequate and you will fail to realise the commercial value of your invention," says Gavey.

Companies that are filing patents also need to be wary of non-practising entities, someone who owns a patent but doesn't produce any products, sometimes referred to as "patent trolls".

Ayrton says while the term "troll" often implies somebody who is trying to game the patent system, non-practising entities include a wide-range of patent holders, such as universities that have invested in research and now own valuable patent rights they want to license.

"That's not to say there aren't unscrupulous trolls out there who know their rights may not be valid if they are ever challenged," he says.

"They typically threaten infringement proceedings against lots of people, but generally accept modest royalty payments on the basis that they don't want to make it economically viable for someone to contest the validity of the patent in court."

Given that most patents expire after 20 years, businesses also need to think about how to continue protecting their products once a patent runs out.

"One way is to look to file more patents for newer features that are related to the product, but it also relates to other IP. You have to invest in developing a brand and associating the brand with your successful product so ultimately that can carry the market share you've built up forward, then you don't have such a cliff-edge effect when the patent expires," says Chris de Mauny, senior associate at Bird & Bird.

Take Dyson as an example. While its bagless vacuum cleaner concept is no longer protected by a patent, its brand reputation built on the success of that innovation means it still has a competitive advantage in the bagless vacuum cleaner market, says de Mauny.

This underscores the importance of having a diversified IP portfolio that doesn't rely only on patents.

"As powerful as patents are, they should not be considered in isolation," says Andrew Pitts, patent attorney at Mewburn Ellis. "Patents can be effectively supplemented by other intellectual property rights that are usually cheaper to obtain or arise automatically. For example, while a patent protects the way a product works, design rights can sometimes also be used to protect the appearance of the same product."

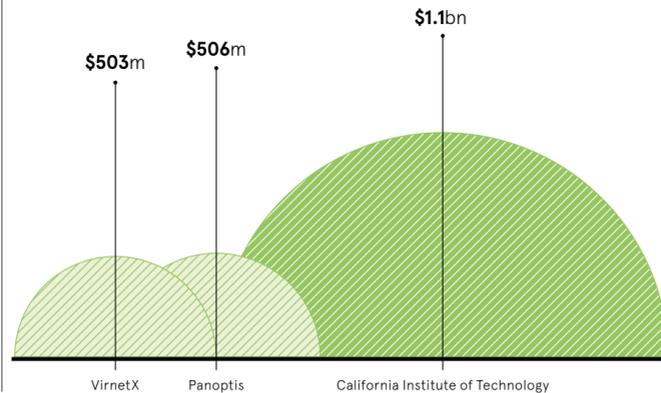
Some companies are also starting to develop more trade secrets rather than mechanically filing patent applications for their inventions, says Frattasi.

"If you think about inventions that are undetectable, maybe an algorithm in a piece of software, keeping it a secret may be a better option than disclosing that information," he says.

## MAMMOTH PATENT FIGHTS TAKE A BITE OUT OF APPLE

Law360, LexisNexis 2021

In 2020, tech giant Apple took a financial hit after losing a series of high-profile patent disputes.



# Innovation game: leaders from 2020 and ones to watch in 2021

Knowledge is power. Everyone knows that, but not everyone knows where to find it

We're awash with information, from Facebook and Twitter to wall-to-wall news coverage, but much of this is clutter. Knowledge has substance, coherence, meaning and value. The leading companies of 2020 knew that, which is why they invested time and resources in studying and understanding their markets. The innovators of 2021 will do the same.

"It is impossible to stay on top of the innovation in your market without patent analytics," says Matt Troyer, director of patent analytics at Anaqua, which serves more than 50 per cent of the top 20 US patent filers and top 20 global brands.

In 2020, there were more than four million patents issued globally, according to the patent statistics as analysed by Anaqua's AcclaimIP platform. China was responsible for 2.7 million of these, which suggests it dominates the innovation game. "Look a bit more closely, though, and this is not a true picture of what's going on," says Troyer.

Companies use our patent analytics for a competitive edge. They can see if an idea has been patented before. Without novelty, a patent application will fail

## AcclaimIP analytics

### What does it do?

AcclaimIP is a patent search and analytics software platform designed for IP professionals who need to perform detailed searches, refine results and visualise the output for business audiences. It enables users to make fast searches of patent data so they are able to make better decisions with more confidence in the relevance of the results looking at numerous factors. These include citations, classes, patent scores, data visualisation and custom fields.

### How does it empower you?

**IP risk management:** identifies, analyses and responds to potential perils of patents to minimise risks.  
**Research prior art for your own innovation:** inventions need to be useful, novel and non-obvious to be patentable.  
**Map patent landscapes:** patents filtered based on patent owner, inventors, technology, date and filing country.  
**Monitor your competitor's activity:** this will be disclosed in each patented invention.  
**Monitor technology:** for competitive monitoring, companies watch patents for specific technologies.

As of January, only 139,000 of the Chinese patents were issued outside China, which indicates the rest do not have wide commercial or social value. "If the patents had commercial value, their owners would have registered them elsewhere as well," he says.

"There has been a steady increase in the numbers of patents issued over the past 20 years and China's share of this increase has remained fairly constant." There were nearly 720,000 patents issued globally in 2001 and just over 1.3 million in 2020, excluding those registered only in China with no counterpart elsewhere.

"Companies use our patent analytics software for a competitive edge," says Troyer. "They can see if an idea has been patented before and make sure their own innovation is as new as they think. Without novelty, a patent application will fail."

In the lead of companies on the innovation list is Samsung Electronics, with 17,955 patents. It is followed by Huawei Tech (12,099), then IBM (9,931), Canon KK (9,278), and LG Electronics (9,221).

Innovation is booming. Global patent filings rose 2.3 per cent, the highest rate for some years, according to figures for the most recent 12-month period, published in the World Intellectual Property Indicators 2020 report from the World Intellectual Property Organization (WIPO).

But this does not include China. The figures, which cover 2019, show a 3 per cent fall in global patent applications, the first decline in a decade, with the inclusion of China.

Nevertheless, WIPO's report is optimistic. The decline "was driven by a drop in filings by Chinese residents amid an overall shift in regulations there aimed at optimising application structures", it says. There was a 5.9 per cent increase

Commercial feature

GLOBAL TOP 20 PATENTEES OF 2020	
Number of patents in 2020. Chart excludes CN grants with no foreign counterparts	
SAMSUNG ELECTRONICS	17,955
HUAWEI TECH CO	12,099
IBM	9,931
CANON KK	9,278
LG ELECTRONICS INC	9,221
MITSUBISHI ELECTRIC CORP	7,992
TOYOTA MOTOR	7,830
QUALCOMM INC	7,727
ROBERT BOSCH GMBH	6,101
INTEL CORP	5,784
LG CHEM LTD	5,685
GENERAL ELECTRIC CO	5,578
PANASONIC IP MANAGEMENT CORP	5,324
MICROSOFT TECH LICENSING LLC	5,116
APPLE INC	5,009
PHILIPS ELECTRONICS NV	4,641
SONY CORP	4,566
SAMSUNG DISPLAY CO	4,502
ERICSSON	4,418
GOOGLE INC	4,278

The data for this analysis was pulled by Anaqua's AcclaimIP system, a patent search and analytics software tool leveraging public patent information from Global Patent Offices. The metric used to determine innovative organizations is granted patents in 2020.

in trademark filings and a 1.3 per cent increase in industrial design filing activity.

Even though the statistics predate the coronavirus pandemic, WIPO is convinced there is a "strong foundation of IP activity that will serve as a base for new advancements as the pandemic subsides". Taking account of the time needed for research and development (R&D), COVID-19's impact on patents would not be expected for a number of years.

With this in mind, a further AcclaimIP patent data search by Anaqua reveals how quickly innovative companies have adapted. The first patent mention of COVID-19 appears in March 2020, before many people outside China had heard of the virus.

Patents offer businesses the economically critical ability to protect their knowledge from competitors, but they also offer a function as close as you're likely to get to picking the

lock on a rival's R&D department. "They offer a trade-off for businesses," says Troyer. "Patent owners get the right to exclude others from using their inventions, usually for 20 years, in exchange for full disclosure to the public, including rivals. Nowhere else do you have such a wealth of technical information and documented details of your competitors' innovation. It is the most comprehensive corpus of data on your competitor's innovation activity and roadmap."

Patent applications can also alert managers to disruptors or new players and show how competitors are positioning themselves. Large corporations use patent data to monitor start-ups entering their space or universities that may have developed licensable innovations.

"Mapping a patent landscape, for example, identifies the patents in a technology and divides them up by patent owner, inventors, technology, date and countries where

filed," Troyer explains. "Patent landscapes help business managers evaluate their competitive position and navigate the patent thicket prior to introducing new product features or entering new markets."

"Fortunately, in this increasingly competitive and inventive world, patent analytics give businesses the power to sift real knowledge from the clutter to make informed decisions."

"It doesn't make sense for a business to waste time and money losing the right to exploit its own innovation or filing patents on something that's already been invented."

See for yourself the performance of AcclaimIP. Start your free trial here





CYBERESPIONAGE

# Leaving the door open for cyberspies

COVID has left companies particularly vulnerable to cyberthreats, meaning adequate training for staff has never been more important

Marina Gerner

Cyberespionage conjures up nightmare scenarios for private and public organisations alike. While its true extent is hard to calculate as intellectual property (IP) cybertheft has largely remained in the shadows, with those affected preferring not to report losses publicly, its devastating impact is undeniable. A former head of the National Security Administration has described cyberespionage as “the greatest transfer of wealth in history”. According to

the *CNBC Global CFO Council Survey*, one in five US-based companies said Chinese companies stole their intellectual property in 2018, an ongoing issue that has been at the heart of trade tensions between China and America. Covid and a new risk environment for cyber threats At the end of last year, the European Court of Auditors (ECA) warned that the coronavirus pandemic is likely to exacerbate cyber threats because many businesses and public services

have moved from physical offices to remote working. “The COVID-19 crisis has been testing the economic and social fabric of our societies. Given our dependence on information technology, a ‘cyber crisis’ could well turn out to be the next pandemic,” says Klaus-Heiner Lehne, president of the ECA. It is not only businesses, but governments and public institutions, that are at risk. At the end of last year, London local authority

Hackney Council was hit by a cyber-attack. Elsewhere, documents and data related to the Pfizer-BioNTech coronavirus vaccine have been stolen in a cyberattack on the European Medicines Agency in Amsterdam. Since the outbreak of the pandemic, China and Russia-backed hackers have been accused of targeting research institutions. But as perpetrators of cybertheft evolve their techniques, so do companies when it comes to protecting their data.

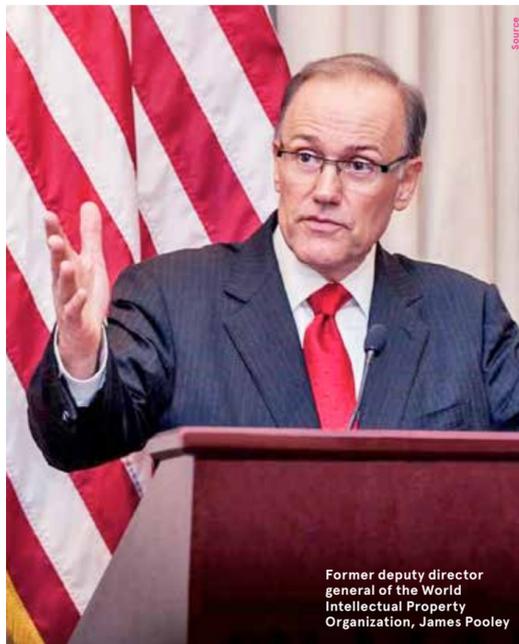
**Changing the playing field**

James Pooley, member of the Center for Intellectual Property Understanding and former deputy director general of the World Intellectual Property Organization, understands the full seriousness of cyberespionage. Pooley agrees that COVID has created a riskier environment because employees are away from their usual offices. But the problem is not entirely current, he notes, explaining that a new risk environment emerged in the last 15 to 20 years, as we moved into an information-based economy, where the asset base shifted from tangibles to intangibles.

In addition, “the imperatives for sharing information and trusting other people went up like crazy because of globalisation”, he says. Supply chains have become longer and more complex, as companies shifted to vendors abroad and therefore have to manage their operations at a distance. During the early-1970s, “all that a company needed to do to protect its information assets was to guard the photocopier and watch who went in and out the front door, because there were no networks, no internet and records were stored on paper”, says Pooley. But, over the last decades, digitalisation coupled with globalisation has changed the playing field. Some of the most valuable assets have become intangible, opening up a whole new world to hackers. So how does sensitive data end up in the wrong hands? Pooley argues that swathes of valuable information is lost because of employee inadvertence. In rough numbers, he says, “some 80 to 85 per cent of information loss occurs through employees, as opposed to hackers worming their way in from outside”. While organisations can spend effort and money on secure IT infrastructure, they neglect employee behaviour at their peril.

**The need to train employees to protect company IP**

“I see it over and over again,” says Pooley. “I get hired as an expert to critique the protection systems for companies in litigation over trade secrets, because they have to prove they took reasonable steps to prevent the things from happening.” What he sees is companies neglect to train their employees on how to identify and handle confidential data. Meanwhile, hackers look for the weakest link in a company’s information chain, for instance when employees use the public wifi of a restaurant near their office for work purposes. He mentions the 2014 hack of Target, when the company’s heating and air



Former deputy director general of the World Intellectual Property Organization, James Pooley

“80 to 85 per cent of information loss occurs through employees, as opposed to hackers worming their way in

conditioning contractor was used as an entry point by hackers, who exploited the vendor’s weaker system to gain access to the Target system. “It’s just astonishing to me that more companies don’t pay better attention to these issues, but there we are,” says Pooley. “Maybe I’m a Cassandra, but remember, Cassandra was right.” How can companies train their employees to be more vigilant? “Preventing bad behaviour is usually about awareness, because people want to do the right thing and they want their jobs to be preserved,” he says. When Pooley advises companies, he begins with a high-level strategic examination of what the company’s most important information assets are, what risks or vulnerabilities they face and what mechanisms there are to reduce these risks. “Being really attentive to where the risk points are will alert you to pay special attention to areas that are likely to be used as points of entry,” he says. Companies need to set up policies and procedures to ensure their IP is protected and training employees is a big part of that. “I worked with one company that built a consumer product primarily manufactured in China, so there were obvious leakage risks connected to that.” As they went through the process of developing a comprehensive system to protect their IP, Pooley asked

for all the senior managers of the company to get together in one room to discuss the matter. Even though this was not easy to arrange, he insisted.

**Overcoming silos to reduce IP vulnerabilities**

Once all senior managers came together, including the supply chain managers who talked about issues they experienced directly, sharing information triggered insights for managers across the board. “Wait a minute, I don’t think I’ve ever really looked at the non-disclosure agreement that we have with company x and when it expires.” All of a sudden, they’re seeing vulnerabilities, where they hadn’t really thought about them before,” says Pooley. “No one expected the specialty arm of the organisation that dealt with all these companies in China would have something to say to the other business units, but vulnerabilities can overlap.” Are silos and inefficient communication partly to blame for companies’ vulnerability when it comes to countering cyberthreats? Pooley argues organisations need to confront the fact that separate units within their business may have set up unnecessary walls. In reality, information flows and risks are usually shared across the business. Part of the solution could be found through automation, he says, because automation includes behavioural analytics and insight tools that help companies monitor what exactly it is employees do on their platforms. However, using these tools always has to be balanced with individuals’ expectations of privacy. Pooley concludes: “The message that I often give is cyberespionage is scary and ugly, and we need to do everything we can to prevent it and deal with it. But if we’re not managing our employees in a smart way, it’s almost like we’ve left a couple of doors open.”



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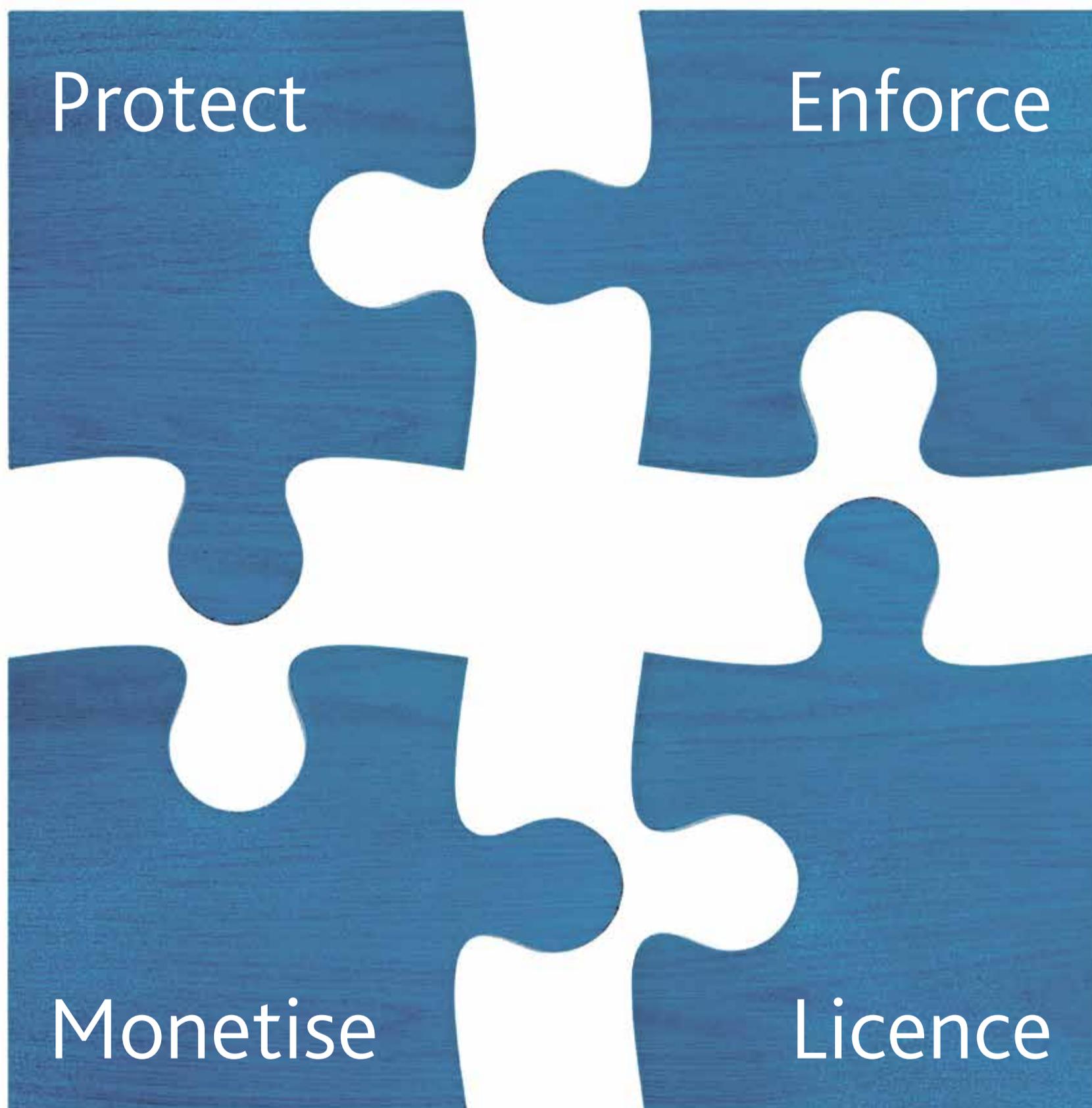
**WHY PEOPLE ARE KEY TO CYBERTHREAT PROTECTION**

12 of the top factors that can boost or lessen the total cost of a data breach (change in US\$)

IBM Security 2020



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