

# IP OPENS UP PATHS TO SME GROWTH

JOHN P McMANUS

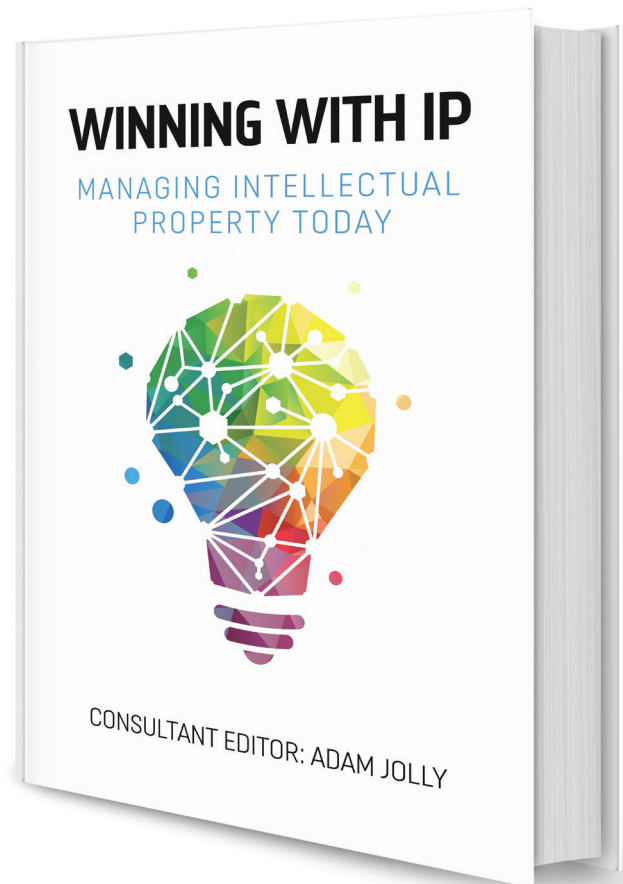
In a book about how today's winners are lining up their IP, John P McManus reviews a series of EPO case studies of SMEs who are finding ways to realise the commercial and financial value in their IP

There is a perception that small and medium-sized enterprises are not so well versed in terms of realising the potential of their IP, and in many cases are not even aware of the IP assets they already possess.

Complexity and associated costs of creating, protecting, managing and defending an IP portfolio can present a daunting challenge for many small businesses. However, the EPO (European Patent Office) has published a series of case studies<sup>1</sup> on a selection of SMEs from across a variety of industry sectors and countries throughout Europe, in which the companies have been forthright in speaking about the commercial and financial benefits their business has derived from intellectual assets that support their business objectives<sup>2</sup>.

These SMEs were founded on highly original and innovative technologies and, while for some, this may have been their first experience of patenting, they soon recognised the importance of developing IP strategies early to determine how IP could best serve their long-term business interests.

For example, the case studies demonstrate that SMEs are aware that the scope of patent protection must be broad enough to protect the company's core technology, yet sufficiently flexible to secure unanticipated future opportunities and allow strategic business model adjustments if new markets, products or services are required at a later stage. Therefore, the formulation of an IP strategy became an integral part of the corporate strategy and both evolved simultaneously, protecting inventions that provided a technological advantage and the best business potential. Maintaining alignment between the corporate and



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Drawing on the knowledge and experience of 24 top-level IP performers, including the innovation team at the European Patent Office, this book reports on how IP is being used to create tech solutions, pick up the latest thinking, take a competitive lead, negotiate the best deal, knock back any challengers and open up a path to breakthrough growth. It gives a series of lessons and insights about how today's winners are lining up their IP to transform early-stage ideas and technologies into assets around which competitive business models can be designed.

IP strategy was important therefore, and this was reviewed at each stage of product or service development. Review and refinement procedures have become an annual task for these companies to help them ensure that their IP strategies align with other key business functions (eg, research and development, manufacturing, business development, sales and finance).

Filing the initial patent with a wide scope of patent claims was an imperative, which would give them flexibility to secure new product opportunities they had not yet envisaged and provide options for strategic adjustments to the business strategy at a later stage should they need to target new markets or offer new products and services. Few of the companies had much in-house IP expertise in the early stages and so it was important for them to build a strong relationship with a patent attorney who understood the potential for the technology to have a diverse range of product applications or services and could ensure the appropriate level of cover in the claim drafting.

Picote, a developer of pipe renovation tools, saw the value in appointing its own in-house patent attorney to implement an advanced IP strategy that included broadening the patent portfolio, policing infringements and defending the patents. Meanwhile, Aerogen, Marinomed and Skeleton, attach great importance to developing inhouse IP competence through regular staff training programmes, which improves the efficient translation of R&D output into patentable inventions.

As these companies matured and their business model evolved to pursue new opportunities, the IP strategy was aligned accordingly to protect the intellectual assets that underpinned the next generation of products and services, creating barriers for competing businesses. Building a patent portfolio with specific aims became a core objective of their IP strategy. Apart from the core patents that were designed to provide a defence of their key technology and products, several companies – including the 3D-printing company Lithoz – have seen merit in protecting incremental advances to their products to ensure that every aspect of their technology is covered, including potential workarounds by competitors. Following a forced withdrawal

of its product from the UK market due to a potentially blocking patent, Micrel, which develops ambulatory drug-delivery infusion pumps, has subsequently consistently analysed its freedom-to-operate status, patenting products, methods and computer-implemented inventions with high market potential, followed by additional patents clustered strategically around its core patents to broaden its stake in the field.

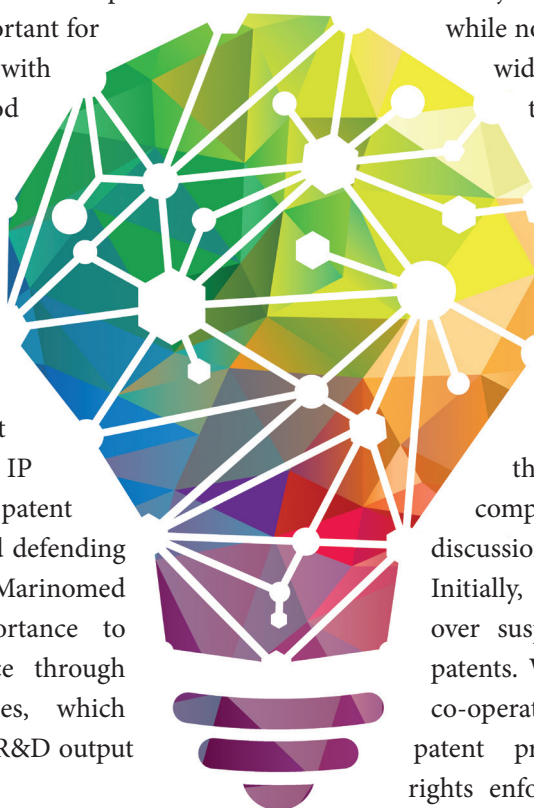
Patenting components of the main product offering became important for the medical device company Cosmed, as these offered a significant post-sale market in high-volume sales of separate consumable and disposable items and maintenance services.

Other objectives included patenting inventions that, while not the immediate focus of the business, widened the patent ring-fence by adding to the prior art and blocking potential competitors from entering the field. Further, this created a valuable pool of patents for the benefit of partnerships and also strengthened bargaining power for a freedom-to-operate licence, should the need arise at any future point.

Webdyn, an internet of things (IoT) hardware and software components supplier, did just that following discussions with a prospective customer. Initially, supplier and customer argued over suspected infringement of each other's patents. Wisely, they settled for the benefits of co-operating on expertise, products and patent protection, avoided contentious patent rights enforcement action and combined their mutual strengths in a cross-licensing arrangement.

However, a settlement between Fractus, a contract engineering service provider designing fractal antennae for mobile devices, and one of its customers was less amicable.

Fractus designed customised antennae for specific devices, but customers replicated them in other smartphone products for which no licences were held. As its revenues plummeted, Fractus faced closure. However, the foresight of a well-considered IP strategy at its inception and the creation of a robust IP portfolio paid dividends in helping the company to reassess its contract engineering business model and adopt a patent monetization model in order to turn the business around.



When Fractus, supported by its investors, began enforcing its patents, its efforts were met with some customer resistance, which left it with no alternative but to run the gauntlet of litigation against the opposing handset manufacturers. Following a successful suit against Samsung in the United States, customers led by Motorola finally settled for royalty-based licence agreements. Today, Fractus is a profitable technology development and licensing company with revenues of over \$100 million.

Technology and product licensing is an important element of the business model for some of the other companies also, and maintaining a strong and diverse patent portfolio is a prerequisite for their licensing and partnership agreements with global industry players in their respective sectors. Aside from the necessity to protect and defend their innovations, patenting is also viewed by most companies as a measure of security when co-operating with external partners for supply and co-development arrangements. The IP boundaries are clearly defined from the outset when ownership of IP is already established and they are more comfortable in sharing their information and more open to co-development arrangements.

In addition to protecting innovations from their own R&D, the companies Aerogen, Marinomed, Cosmed, Micrel and Voltea all developed co-operations with partners outside the company as a strategy to access new technologies and markets and create opportunities to broaden their patent portfolio through patent acquisition, joint ownership or licensing. This open innovation approach allowed them to maintain a competitive edge, provided access to new skills and expertise and ensured freedom to operate using technologies they did not create and patents they did not own.

For the aerosol drug delivery company Aerogen, developing partnerships with leading players in the critical care respiratory sector was a carefully considered strategy to create a new phase of growth in the business. It established entry to global markets, provided access to major customers and opened up opportunities for new business applications.

Similarly, the strong patent portfolio of the water purification company Voltea, was instrumental in developing its commercial co-operations, especially with leading players for mass market applications. Through these partnerships it also gained access to IP rights, thereby achieving and maintaining freedom to operate for its own products.

EKSPLA, a developer of high-performance laser applications, and Orcan, a developer of heat power generators, work closely with manufacturers to investigate and develop new applications, which often result in jointly created inventions. Preferably, these are filed as separate applications with the applicant granting a back-licence to the other partner for specific applications. Where joint ownership arises, conditions for use and applications are clearly defined.

In broadening the patent portfolio, each company's patenting strategy naturally becomes an important element of the overall IP strategy. Some of the companies, including Webdyn and Micrel, show a preference for filing patent applications under the PCT system (Patent Co-operation Treaty). This approach offers several advantages for them – the delayed prosecution timeline under this system provides the companies with additional time to use market feedback to revise patent claims that reflect the most relevant features of the final market-ready product and in selecting the geographic protection most appropriate to the markets identified. It also provides more time to develop the commercial undertakings and gather important information that could influence a decision on whether to continue with the application or abandon it in some jurisdictions and save costs.

While core patents (in most cases) underpin the protection and defence of products and services, many SMEs were quite strategic in building patent portfolios with other specific aims and in deciding what to withhold with regard to know-how and trade secrets and how to combine the patent portfolio with other forms of IP.

For Aerogen and EKSPLA, the retention of secret know-how is often preferred to patent protection for particular inventions where the product is difficult to reverse engineer and the concept behind the invention is not disclosed by the product or process. But systems that manage access levels to secret information need to be formalized and established throughout the company. For trade secret protection, it is important to gather the metadata that is generated by the processes that maintain the secrecy levels, in order to corroborate that the company has a secret and a validated system to guard it.

For example, Skeleton Technologies, which utilises graphene-based materials in energy storage cells, introduced an advanced system to document and manage access levels to its trade secrets on a need-to-know basis, which is used to



transfer knowledge between different positions within the company. This formal approach to managing trade secrets reflects current best practice brought about by the US Defend Trade Secrets Act 2016 and the EU Trade Secrets Directive (2016/943/EC).

However, relying on trade secret protection is not an option for Picote or Orcan. The components of their products are easily susceptible to reverse engineering, which dictates the full scope of patenting as an essential strategy against being copied.

Monitoring patent trends and competitors in their sector using patent landscape and competitor watch tools was an important aspect of the IP strategy that was mirrored in most of the case studies. It was essential to ensure the company was not developing something that had already been invented or for which it did not have freedom to operate. Voltea, Micrel, Skeleton and the biopharmaceutical company Marinomed, all draw additional insight from this form of regular patent information analysis, which helps them to identify ‘white spots’ in the patent landscape, provide inspiration for new technical developments and reveal opportunities for further innovations. For Voltea, this form of competitor monitoring also served as a proactive approach to identifying licensing opportunities and acquiring new clients.

Coupled with the monitoring of competitor patents, the companies also draw on their sales, distributor and customer networks to gather information on competing products. By reverse engineering a potentially infringing product, they can map the product to the patent claims by comparing the features of the product with their patent claims. Then, by building a chart of the claims corresponding to the elements of the product that fall within each claim (claim chart proofs), they can assess possible infringements.

Picote was already forced to prosecute several infringements of its patents in the Finnish courts and expects further enforcement actions against new competitors and imitation products in several European countries to follow. Both Aerogen and Picote rely to a large extent on their network of resellers and customers for information about products that challenge their patents. Aerogen had already initiated an infringement case in Europe.

The preference of those companies affected by infringement of their products was, quite naturally, for a non-adversarial approach to settling disputes by offering licensing terms. Litigation was a last resort to either force

a licence or prevent the company from manufacturing and selling the infringing products.

While litigation is an unwelcome course of action, the advice from Fractus and other companies is that it can be a necessary part of pursuing an IP strategy to protect business interests. Encouragingly, the decision to pursue litigation will be made easier by Europe’s impending unitary patent system. The SMEs indicated that this new regime will remove the necessity for multiple parallel infringement suits in Europe and lessen the financial burden of litigation – only one action will be required to enforce a patent in up to 25 EU member states (the number of EU countries anticipated to ratify the Unified Patent Court Agreement).

Increasingly, patents are playing an important role in establishing standards for new high-tech applications where technologies, eg, for the internet, artificial intelligence and energy storage, are being constantly developed and updated. These are referred to as ‘standard essential patents’, because products must use these technologies (under licence) in order to comply with the required technical standard for the product in question. Access to these patents is obviously important for the main players in these sectors, but active participation in the standard-setting bodies is even more advantageous to those companies involved. Skeleton sees opportunities to influence future regulatory standards for the interoperability and safety of its ultracapacitor systems and the company is focused on strategically expanding its patent portfolio to gain more authority in standard-setting bodies and in actively contributing to the creation of standards.

Webdyn was one of the first movers to provide solutions for integration of ICT and big data processing modules. Early-stage integration of new industry standards is especially critical in this respect. Compliance with these standards is achieved through certification and specially designed agreements and Webdyn takes an active role in the alliances that aim to create these standards.

These EPO case studies provide an insightful analysis of the IP strategies used by SMEs to support their business objectives, create value and commercial advantages for the company and sustain a competitive edge in their market sector.

■ *An abridged version of this article first appeared in IAM, issue 90, published by Globe Business Media Group, IP Division. To view the issue in full, please go to [www.IAM-media.com](http://www.IAM-media.com)*

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The EPO's case studies provide an insight into how SMEs with turnovers between €4m and €40m in different industries are creating value and scaling up internationally through their IP strategies. For further details, see: <http://epo.org/sme>.

#### Notes

<sup>1</sup>. Thomas Bereuter, Yann Ménière, Ilja Rudyk (eds.), *Unlocking untapped value, EPO SME case studies on IP strategy and IP management*, ISBN 978-3-89605-199-8, European Patent Office (2017) 1-76, [epo.org/sme](http://epo.org/sme)

<sup>2</sup>. Thomas Bereuter, Yann Ménière, Ilja Rudyk, 'SME Case Studies on IP strategy and IP management - Releasing untapped value', *les Nouvelles*, The Journal of the Licensing Executives 52/4 (2017) 258-265, also available at Social Science Research Network (SSRN): <https://ssrn.com/abstract=3068763>

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#### Winning with IP: managing intellectual property today

Published November 2019, 202 pages, paperback,  
229mm x 152mm, ISBN 978-1-9998329-6-4

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