



Intellectual
Property



How can photonics businesses use
intellectual property to build a
more successful future?



“The more a business understands its IP and how it fits within its business plan the greater the likelihood of commercial success”

Introduction

Photonics may not enjoy the headlines that tech or telecoms sectors generate but there is no doubt that the photonics sector in all its many forms remains a primary contributor to the world's industrial growth.

Underpinned by increasingly complex innovation and unparalleled improvements to the processes involved, photonics businesses need to take the best possible advice if they are to successfully develop, protect and exploit their intellectual property portfolio and avoid the risks that are likely to occur if IP is neglected.

Why IP should be a priority

The photonics sector's awareness of intellectual property has never been higher but this has not necessarily led to a better understanding of how to generate IP and how to exploit it.

Similarly, while most modern photonics-based businesses understand the term 'risk management', many businesses could benefit from developing a greater awareness of the risks associated with IP and making their strategies for dealing with these risks more robust.

If there is one thing that we have learned from working alongside a growing number of photonics businesses of all shapes and sizes, it is that the more a business understands its IP and how it fits within its business plan the greater the likelihood of commercial success.

Moreover, the greater the understanding a company has of its IP the less likely it will be troubled by any potential IP-related risks. These risks are largely hidden but adopting a more systematic approach to identifying them and then actively managing them will pay significant dividends in the future.

In order to help you start to facilitate the process, in this white paper we will:

- highlight the IP-related risks frequently faced by photonics businesses
- look at how you can reveal those risks
- suggest how you can avoid, mitigate and resolve those risks before they hamper your commercial success

The Four IP Risks

Generally speaking the IP risks an photonics-based business faces can be split into four distinct areas:

1. IP Acquisition
2. IP Exploitation
3. IP Monitoring
4. IP Enforcement

1. IP Acquisition

To protect all the commercial aspects of your products you will need to acquire one type of or a range of IP rights. These IP rights include patents, confidential information (know-how), registered trade marks, registered designs and copyright.

To help you decide which option is best you need to be aware of what these different IP rights are, how they are created, what protection they offer and how much they cost. Creating an effective IP portfolio is complex and represents a serious investment of both time and money, especially when patents are involved.

You also need to be aware of the lifetimes of the different IP rights. These can vary considerably, as does the time taken to acquire them. For example, it may take several years to obtain a granted patent. This means that if you think the associated technology or the market will have moved on by then the protection you have paid handsomely for will be redundant and offer your company little if any value.

Other issues around IP acquisition you may want to consider are:

- a formal patent application requires a full written disclosure of your invention that will become available to the public (and your competitors) when the application is published, so it could be worth discussing an alternative strategy.
- sometimes you may either want or need to acquire IP rights from other parties but you need to be sure what you are buying is valid and enforceable and that it is being sold for the price it is worth.

Before you acquire any IP rights, seek specialist advice to help you assess all of the costs, benefits and outcomes associated with your acquisition, then regularly review your decisions to ensure they remain valid.

2. IP Exploitation

How can you gain the best commercial advantage from your IP? Your fundamental right is the right to “exclude” others from operating commercially – sometimes rather cynically referred to as the “right to litigate”.

To achieve this you could use IP to maintain your exclusivity in a particular market or for a particular product and your IP would act as a deterrent to undermine your competitors’ commercial position. However this is an approach that requires significant funding and the resolve to litigate, since litigation can be expensive and beyond the financial reach of many companies.

Alternatively you could license your IP to others in return for a royalty. This would provide you with an income stream but how much should you charge and what should your terms be? How do you negotiate the royalties and what happens if the licensee doesn’t perform sufficiently well to justify the licence?

There are many complexities when it comes to licensing IP.

Similarly, much of the IP acquired by photonics businesses is via dedicated R&D with a view to selling it to a third party, but how do you ensure your IP is valued at the right price? What steps can you take to maximise the valuation on sale?

From the outset you need to consider how best to exploit your IP from both a national and international perspective. You also need to be mindful that others will try and use IP to weaken your commercial position, and have the right strategies and advisers in place if that were to happen.

3. IP Monitoring

There is a wealth of information about IP online. It is possible to search for and download copies of published patent applications and granted patents, check the status of a particular case and view details of the documents held by a patent office (the “file wrapper”).

You can obtain the details of all the cases owned by one or more competitors and watches can be put in place to help you identify new patent publications in your area of photonics expertise.

You can even set up real time alerts telling you about your competitors’ latest activities.



Professional patent database searchers can conduct searches to assess the novelty of a particular invention before a patent application is even filed. Similarly, professional searchers can conduct a freedom-to-operate (FTO) search to identify any patents that might represent an infringement risk if you launch a new product. This can save you a great deal of time and money down the line.

Search results can be a time and cost-effective way to reveal the activities of those likely to infringe on your patents. It is also a highly effective way of policing your IP portfolio and generating the insight required to formulate a commercially successful IP licensing strategy.

Whether you are monitoring your competitors' patents or trade marks, make sure you take specialist advice on how to monitor and search, how regularly you should be monitoring and searching and which are the best sources to use to manage risk.

4. IP Enforcement

Litigation – and patent litigation in particular – is generally very expensive. However, it is not always necessary to litigate in order to achieve your desired result and mediation or arbitration can often provide workable alternatives.

You need to decide what your company's attitude to litigation is. Is it part of your strategy for maintaining your market position? Are you willing to cover the cost of litigation? Would it be more cost-effective to take out IP litigation insurance?

Before considering litigation you need to carry out a comprehensive cost-benefit analysis. What are the likely costs if you win? What could you lose? What are you likely to be awarded in damages? How much management time will it take up? In short, will it pay for itself?

Also, because of the potentially high costs involved in IP disputes, you need to formalise a clear policy on how you will enforce your IP, there will be very little value in your IP if you are not prepared to enforce your rights.

13 steps that will help you generate a better commercial return from your IP

The key to good management of IP risks starts with your business plan. Every business plan should contain an explicit IP strategy which deals with all of the issues detailed above.

The absence of an explicit IP strategy is not peculiar to the photonics sector or to the size of a business; a recent study reported that fewer than half of the major European businesses surveyed had a documented IP strategy.

More worryingly, studies have revealed that far too many companies still do not give IP strategy the attention or focus it deserves. Consequently they often end up spending large sums of money unnecessarily just to buy IP for the sake of it.

Your IP can add enormous value to your business if it is properly integrated into your business plan. Your IP strategy should correlate directly with your commercial objectives including, if relevant, your exit strategy. Your overriding aim has to be to ensure your company gets the highest possible financial return from your R&D and that you have a framework in place that will make the management of your IP risks as easy and efficient as possible.

The following 13 steps are designed to give you a framework that will help you create an IP strategy that delivers commercially.

1. Establish a clear understanding of how your IP will support your company. How are you going to exploit your IP so that it adds value? If appropriate, consider how your exit strategy will affect this and vice versa.

2. Establish clearly defined procedures for formally identifying innovation at an early stage so you can decide exactly what registered protection you need. We will look at the identification and capture of innovation in more detail later in this white paper.

3. Develop and maintain an internal register of your company's IP and keep it totally up to date; it is all too easy to overlook the protection of innovation in the rush to get new products to market. We will also look at the audit process in more detail later in this white paper.

4. Develop a formal patent, design and registered trade mark filing strategy. On what basis will you

decide to file a new patent or apply for a new trade mark? What factors will dictate your filing strategy – where, when and how will you file?

5. Develop an IP awareness programme for your staff. Consider introducing an employee reward scheme as an incentive to innovate, report and assist in the identification, exploitation and protection processes.

6. Produce all of the required support documentation, including invention proposal documents, inventor acknowledgements, standard agreements and assignments, patent status reports and bibliographic summaries. These will support your internal procedures and provide written materials which can be used when responding to requests for information from board members and investors.

7. Put a system in place to monitor your competitors' patent applications and granted patents. Use the insight to identify potential IP infringement risks and commercial opportunities. A state of blissful ignorance is not a policy to be admired! Consider general third party IP issues, e.g. contracts with suppliers and joint developers.

8. Make sure your employment contracts are reviewed to meet your key IP requirements, e.g. the ongoing duty of confidentiality.

9. Discuss the reality of potential commercial risks; just because a commercial product technically infringes a third party's IP does not necessarily mean that its owner will assert their rights.

10. Actively police your IP portfolio. IP is a tool which can be used to prevent your competitors exploiting your technology, brands, copyright and know-how. If you do not maintain its exclusivity by enforcing your IP you will squander any investment you've made.

11. Set up an IP steering committee that not only reviews but develops and improves the management of your IP. Later in this white paper we will come back to how to structure and implement an IP steering committee so that it delivers real value to your business.

12. Agree an IP budget for your company that clearly shows what funds you will commit to acquire and protect your IP and the impact this expenditure will have on your revenues and cash flow.

13. Formalise your IP strategy by committing it to paper. Then review it regularly to make sure it is always consistent with your business plan.



“It is best practice to regularly review and assess all your IP so that it continues to make the maximum contribution to your business”

Why is it vital to regularly audit your IP?

Over time a photonics business is likely to accumulate a high volume of valuable intellectual property, so it is best practice to regularly review and assess all your IP so that it continues to make the maximum contribution to your business.

An IP audit will also help you to evaluate (or even re-evaluate) your intellectual assets in the context of your current or even future commercial objectives – analysis that will underpin your continued success.

However, the benefits of a review are much wider spread. In the recent past we have found an IP audit will also identify:

- new or alternative channels to market
- new licensing opportunities
- new opportunities for collaboration and joint ventures
- the elements within your portfolio that you need to prioritise
- where you may be able to reduce your portfolio and save unnecessary legal spend

How does an IP audit work?

Our specialist photonics team has developed a structured approach that not only makes the whole audit process easier but also ensures the company being audited receives the maximum value from the results.

Although every audit is different, we typically apply the following 7-step process.

1. Together we list out all of your commercial products.
2. We then map out all the existing IP rights linked to those products.
3. We identify any IP that is not mapped to a current commercial product so we can ask you whether it still serves a purpose or is actually redundant.
4. We identify any gaps in your protection and work out if you need to file any new applications.
5. We work with you to develop a filing strategy for those new applications.
6. We set out that strategy as an action plan, including all of the expected costs and timelines so it is as easy as possible for you to implement.
7. We leave you with an explicit IP strategy that will properly protect all of your current assets and allow you to realise your business plan.

Aside from setting your IP strategy, what else will an IP audit do for you?

1. It will get your thoughts in better order.

For many photonics businesses, conducting a formal audit is often the first time in a while that they have had an opportunity to look objectively at their IP as a commercial asset rather than an expensive compliance exercise.

This provides the perfect opportunity for you to start thinking about how you can make your patents, trade marks, designs and business know-how work harder for you.

2. It will better explain your IP.

Regardless of what you find during the audit, you will finish the process knowing exactly what IP you have and being able to clearly articulate what that IP does for your business.

The majority of the photonics businesses we've worked with in the past have said that the immediate benefit of the exercise is that it makes it so much easier for them to answer the often asked question:

"So, you say you have patents: so what?"

As the answer to that question is pivotal to your business plan, or to any potential plans to partner, license or even sell your business, not having a ready answer could well hamper your negotiating position and successful commercial development in the future.

3. It will leave you better organised with a clearly defined strategy.

The audit process will also leave you much better organised in the way your IP is managed. Not only will you have an IP strategy that is mapped directly to your current assets and a budget you can work to, you could also very well cut out the cost of maintaining IP rights that no longer have a bearing on or relevance to your business today.

All about the IP steering committee

Why does a photonics company need an intellectual property steering committee?

An IP steering committee is crucial to a photonics business as it will:

- determine your business' IP policy at corporate level
- help you develop and implement your IP strategy
- make sure your IP strategy maps exactly onto your commercial objectives (up to and including your exit if applicable)

What two initial steps does an effective IP steering committee need to take?

As a starting point your committee needs to do the following.

1. Conduct an initial IP audit.

- Identify all existing intellectual property rights (IPR) within your business so you can create a central IPR register (that will have to be kept completely up to date at all times) of 'secret know-how', patents, designs, trade marks and copyrights.
- Review the current commercial value of all of your existing IPR.
- Review and list all existing patent filing and prosecution issues.
- Assess whether you need any additional registered protection (patents, trade marks and/or designs) for existing IPR not yet in the public domain.

2. Develop a clear and explicit IP strategy.

- Build an understanding of how IPR can support the company and each of your business groups (the approach for each may differ).
- Establish clearly defined procedures for formally identifying innovation at an early stage, so it can be reviewed at the appropriate level and decisions can be made on the registered protection required (and the central IPR register updated accordingly).
- Develop a formal patent, design and registered trade mark filing strategy.
- Establish internal procedures for dealing with general patent and trade mark prosecution matters.
- Develop an IP awareness programme for key staff and a roll-out plan to ensure the programme is put into action.

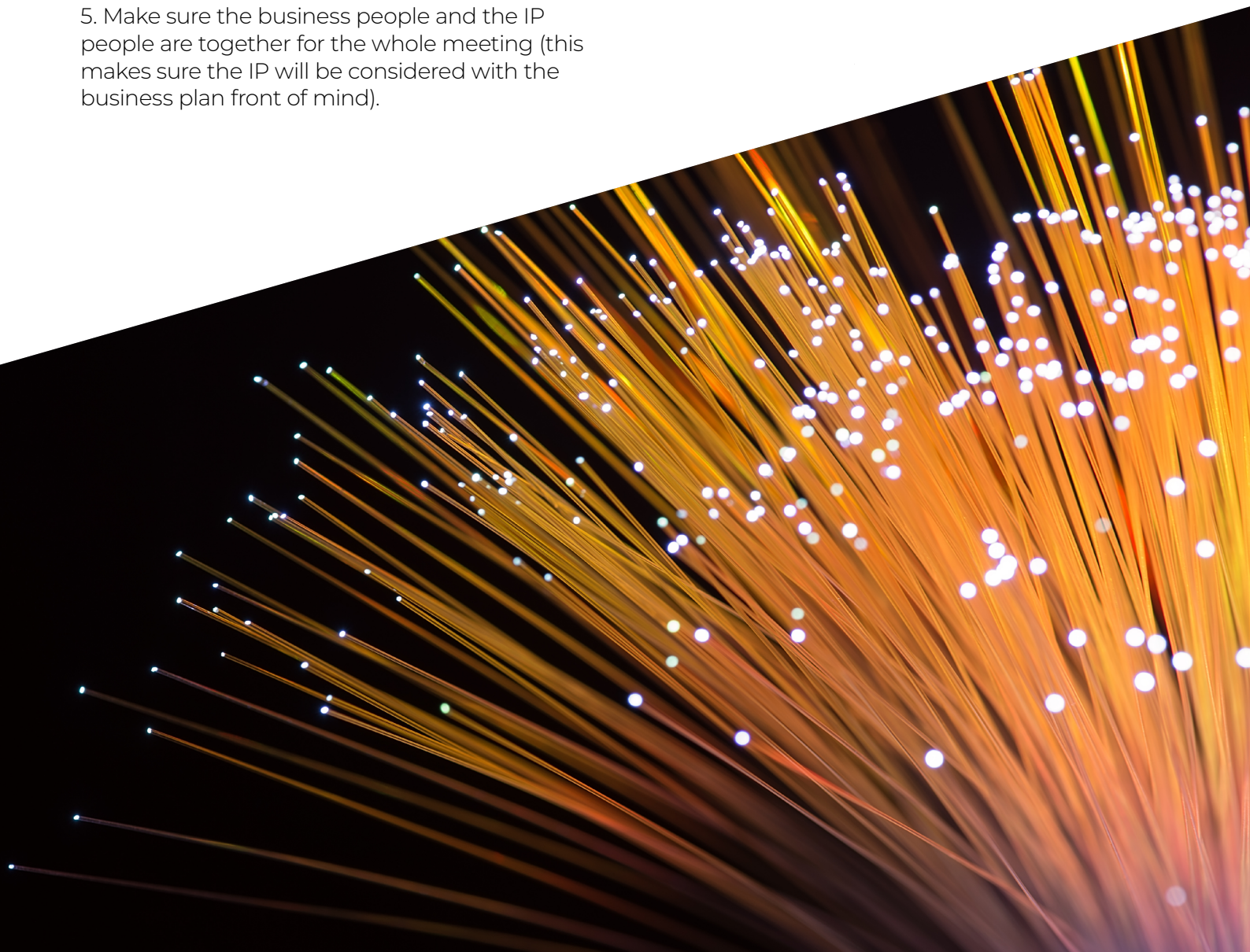
Five golden rules for running an effective IP steering committee

In our experience there are five key points to bear in mind if you are looking to set up or improve your IP steering committee.

1. Always have a clear remit (and have a chair strong enough to keep discussions within that remit).
2. Set up regular meetings and have a standing agenda for those meetings (and stick to that agenda).
3. Be diligent – write up the meeting notes and make sure that things are documented and that actions are completed on time (even if it means resending the actions at a specific point between meetings).
4. Start every IP meeting with an update of the commercial position and talk about each of the commercial products (and put a time limit on that update so it doesn't subsume your meeting).
5. Make sure the business people and the IP people are together for the whole meeting (this makes sure the IP will be considered with the business plan front of mind).

Three potential pitfalls IP steering committees can fall into ... and how to avoid them!

1. Never delegate the responsibility for your IP down to the most junior person available. This can cause a photonics business to end up with a commercially useless patent. Instead, make sure your IP is led by someone with the required experience, skills and drive.
2. Never leave the responsibility for your IP to your legal people alone. Their perspective will be very one dimensional. Instead make sure your committee includes representatives from your R&D, business development and commercial teams.
3. Never use your steering committee meetings to discuss the minutiae of your patents. Make sure they are structured to provide the members with an overview of the current situation, of recent progress and of future plans. Always maintain a commercial focus.



How can you work out exactly what innovation you have?

So far in this white paper we have looked at how to minimise the risk associated with your intellectual property rights and how to audit and manage your intellectual property. However, there may be areas in your business where you think there is innovation to exploit but you're not quite sure what that innovation is.

What do you need to know?

If you do think there is additional innovation within your business you need to find out three things.

1. The innovation you have – what do you actually have? What is patentable? What other intellectual property rights could you use to protect your innovation?
2. The funding you need to develop that innovation – what type of investment do you want? What level of investment do you need? What IP budget will you need? What timeline should you be working to?
3. Any additional support you need – what other professional advice will you need to take this additional innovation to market?

Once you have the answers to all three you will be in a position to take your business forward.

What is the easiest way to find out what you need to know?

We have developed our proprietary Innovation Capture Session (ICS) to help our photonics clients highlight and ring-fence all of the innovation they have. The ICS will:

- clearly identify the innovation you have
- ensure your innovation is properly protected
- your innovation is supported by the structure required for commercial success

“Knowing what IP you have will make it easier to show your investors how they'll recoup the return they wanted - making them more likely to invest further”

1. We start by identifying the innovation you have.

2. We then provide an intellectual property overview that includes any potentially patentable material and showcases any other form of IP protection you may need, e.g. trade marks and designs.

3. We talk tactics, suggesting the searching, drafting and filing strategy you could implement and the timing and costs linked to those recommendations.

We also look at any wider business considerations such as structure, funding and tax efficiency. If more detailed advice is required we'll introduce you to specialists we trust.

We then summarise all of our findings and all of our recommendations in a detailed report you can use to take the next step, safe in the knowledge you are doing the right things for the right reasons and ensuring you do not spend time or money seeking unnecessary or irrelevant advice.

Our report will provide clear guidance on how to take your business forward, as follows.

Your IP strategy

We will help you decide the best type of protection and also how to proceed tactically in terms of choosing the right licensing, enforcement and filing strategies, so that you avoid unnecessary fees and have all the right protection in place – legally, commercially and geographically – for your specific objectives.

The right structure and funding for your business

You will be forewarned should you need to make any changes to your structure or make efforts to find any funding you may require. Knowing exactly what you have will also make it easier to show your investors how they'll recoup the level of return they wanted, which will make them more likely to invest.

An accurate definition of your market

Once you know exactly what you have, you will be able to define your market. This will allow you to implement more productive and cost-effective marketing that could save you considerable unnecessary expense and make more accurate future revenue projections.

Every Innovation Capture Session is delivered for a fixed fee, irrespective of how long it takes us to write the report and recommendations.

This white paper was collated by [Graham Crofts](#),
a Partner in GJE's specialist photonics team.

If you would like more information on:

- the way our specialist photonics team can add value to your business
- how to build an effective IP steering committee
- our unique Innovation Capture Sessions

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