

## Building and Managing a Patent Portfolio

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Emerging companies are often advised to build a patent portfolio. While this is sound advice, portfolios are sometimes built in a haphazard manner, without alignment to business strategy. The resulting patents are frequently too narrow or too hard to enforce and the overall portfolio does not promote the organization's key objectives. In the end, many companies make a significant investment in patents but wind up with disappointing results.

To overcome these challenges, we have developed a repeatable process to build a portfolio that adds value to the business by impacting competitors and providing monetization opportunities. This process reflects the best practices that we have encountered over many years of advising companies in the software and electronics industries.

The key elements of the process are:

1. Understand the Business
2. Strategize
3. Harvest Your Innovation
4. Prioritize Filings Using Strategic Criteria
5. File Smartly
6. Review – and Trim – the Portfolio
7. Buy Third-party Patents to Fill Gaps

Companies adopting this approach should at the outset appoint a “patent team” responsible for developing and implementing the company's patent strategies. Lead members of a robust patent team typically include at least one key business leader, in-house counsel, one or two technology managers, and at least one representative from outside patent counsel.

***“We’ve developed a repeatable process to build a portfolio that adds value to the business.”***

### 1. Understand the Business

Success in building a portfolio is based on patent advisors having a comprehensive understanding of the business, including its competitive threats and opportunities.

This discovery process is front-end-loaded but should recur at least bi-annually to keep strategy aligned with changing business conditions.

Typical steps include:

- Review business plans and pitch decks. Discuss anticipated products and offerings.
- Understand exit strategies, if applicable, including likely buyers and their objectives.
- Review patent activity of competitors and likely acquiring companies (if applicable). This should be handled solely by outside advisors. The output of this review can include a landscape study graphically and quantitatively depicting the competitors' patent focus.
- Inventory and assess existing intellectual property assets, including patents and patent applications, trademarks, copyrights, trade secrets, and related agreements such as license, development, employment, independent contractor, and non-disclosure agreements.
- Interview business and technical managers to fully understand the company's business strategy and technology.
- Assess competitive products and industry trends.

***“Strategy should provide actionable guidance for selecting which inventions to file as patents.”***

## 2. Strategize

With a complete understanding of the business and its technologies and IP assets, the patent team can effectively develop a patent strategy.

A good strategy provides actionable guidance for many if not all of the following issues:

- (a) What specific business objectives will the portfolio serve? Typical answers include: enhance company valuation; thwart competitors; create monetizable assets; strengthen reputation for innovation; facilitate cross-licensing and freedom to operate; and deter patent suits by competitors.
- (b) Where should the company focus its patent harvesting efforts?
- (c) What specific criteria will determine which candidate inventions are filed as patent applications? This is the key deliverable of any strategy.
- (d) How many patents should the company file?
- (e) How does patent activity relate to the company's other IP assets? Patent protection often complements other forms of IP protection.
- (f) What types of claim-drafting tactics should be employed? For example, if the company aspires to license technology outside of its main line of business, patent applications should be purposefully directed to those other opportunities.
- (g) When should the company seek accelerated examination (i.e., Track One filings)? Alternatively, when should the company extend prosecution and/or keep certain applications secret to allow the company to tailor claims to evolving markets?

(h) Should the company acquire patents from third parties, and, if so, which patents and for how much?

(i) In what countries should the company file patent applications?

(j) What performance metrics will be used to evaluate the company's success in cost-effectively generating and monetizing valuable patent assets?

Strategy critically informs these decisions but, as in warfare, should not supplant sound tactics and great judgement, lest the company miss opportunities for obtaining valuable patents. We therefore think of strategy as a set of guidelines, not a rulebook. Factors that determine strategy include:

**Competitive Advantage.** How does the company add value and make money? Which products and features are important to customers?

**Attitudes of Investors and Potential Buyers.** The customer is always right, and, if a goal of the patent program is to make the company more attractive to investors or acquirers, then patent filings should be tuned to the expectations and objectives of these parties.

**Crown Jewel or Gating Technologies.** Companies sometimes have a core technology that competitors must have to field competitive offerings. Obviously, protecting that technology is of paramount importance, and patents covering it are often called “crown jewel” patents. Like real crown jewels, these patents are more often reputed than seen. More commonly, a company may have a series of gating technologies. Competitors would like to but do not necessarily need to enter through each gate; however, a patent strategy that covers some or all of the gates will complicate competitors' efforts to replicate the company's success.

**Consumables.** If a company sells a machine and the consumables used by the machine, patents offer an opportunity to control the consumables, such as

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by covering the interface between the machine and the consumables.

**Competitive Threats.** A useful reciprocal to the identification of crown jewel and gating patents is the inquiry into likely scenarios in which competitors could take market share from the company. Will the company face rote copies flooding in from overseas? Are its competitors canny incumbents that can quickly engineer new and better ideas to overtake the company? Considering ways in which the business could fail may help illuminate the path for building the company's patent portfolio.

**Competitive Patent Activity.** The range, quantity, and quality of competitors' patents may inform the number and type of patents that a company should procure. Also, the company should assume that incumbent competitors with substantial portfolios will retaliate against market share erosion by asserting those patents. The company's portfolio should include patents assertible against such likely future adversaries.

**Customer Needs.** Ultimately, the goal is to sell products to customers. Understanding their needs helps determine which patent applications to file and what claims to include. This is primarily an operational issue that informs what claim coverage would be most valuable (i.e., claims on features that customers value). Customers may also have their own patent strategies that are impacted by the company's product, and your strategy should address those issues as well. As a simple example, a customer may be concerned with freedom to operate when making a substantial investment in your technology. An optimal customer-facing position, in this hypothetical, is that you have anticipated this concern and procured a cross-license of the patents at issue. That fortuitous result would be the product of a well-crafted patent strategy.

**Timing.** If the company is late to market, it will confront a larger body of prior work ("prior art") over which the patent office may reject the company's patent applications as being "obvious." An even more

confounding problem arises if the company failed to file patents on products it launched in prior years. This may cast much of the company's most valuable early work into the public domain.

**Subject Matter.** The patent office will not allow patents on "abstract ideas," which can encompass a range of software- and business-related innovations. This will in some cases affect patent strategies.

**Global Scope.** Patents are granted on a country-by-country basis, so obtaining protection outside of the United States requires that corresponding applications be filed in multiple countries. Due to its significant cost, this is a procedure that should be undertaken with caution. Germany and (surprisingly) China have emerged in recent years as cost-effective venues for litigation, and, thus, patents in those jurisdictions may figure prominently in the patent strategy.

**Budget.** The patent effort must be appropriately designed and scaled to fit within the available budget. Developing a basic strategy and filing a dozen applications costs in excess of \$200,000 and takes from 12 to 36 months. Building a truly formidable global portfolio costs millions.

For early-stage companies with few resources, the dark secret of patent law is that a portfolio of 2–3 patents is often of little value. This is usually the case with software or other complex products. Exceptions include when the company has a clear-cut, breakthrough technology that can be protected (at least from rote copying) by a "crown jewel" patent.

Nevertheless, to avoid the possibility of losing out (or to appease investors), many early-stage companies check the patent box and make a handful of filings. If a company feels compelled to move forward at this scale, it should appropriately tailor its efforts and temper expectations. For example, a day or two of analysis could be executed to make a reasonable determination as to which inventions should be patented. Applications on these inventions should then be filed as expeditiously as possible.

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***“Invention disclosures are the precursors to patents. They are to patent lawyers what deal flow is to investors.”***

**Integrating Other Intellectual Property.** Utility patents are but one of several important types of intellectual property protection. Other types include design patents, trademarks, copyrights, and trade secrets, all of which can be used to garner competitive advantage and create value. Nondisclosure agreements and other contracts can also provide exclusivities and restrictions that complement IP protection. Companies need to consider all of these tools as part of an overarching IP strategy.

**Industry Standards.** Patents that are essential to the practice of a standard can be very valuable. In particular, if the company needs to implement a standard, having some standard essential patents may offset or eliminate patent license fees that it would otherwise owe to other holders of standard essential patents. At the same time, the company’s participation in a standard-setting process may impair its ability to enforce those patents.

**Licensing Opportunities.** While the company may be dedicated to a specific line of business, its technology could implicate other industries and present opportunities for licensing the company’s technologies to non-competitive third parties. Advance planning is necessary to ensure that patent filings cover these licensing opportunities.

## 3. Harvest Your Innovation

There’s probably lots of innovation in your company, but unless you systematically identify and track it, there will be little opportunity to patent it.

The vehicle for identifying potentially patentable innovation is typically the “invention disclosure,” a

formal submission by an inventor of an invention that may be suitable for patenting. Generating disclosures is referred to as “patent harvesting.”

Invention disclosures are to patent lawyers what deal flow is to investors. If an investor does not hear about a potential deal, she cannot invest in it. Similarly, if an invention is not at least submitted for consideration, it often will be put into the product with no opportunity for patenting and ultimately will enter the public domain.

Persuading inventors to divulge their ideas through invention disclosures is the cornerstone of a successful patent program. This, however, is easier said than done. Inventors are often too busy or lack sufficient motivation to bother with disclosures.

A good harvesting program is therefore ongoing, gently persistent, aligned with strategy, and respectful of inventors’ time.

We recommend the following guidelines for patent harvesting:

- **Training.** At the outset and on a periodic basis, inventors should be trained on the mechanics of invention disclosure and how to identify which of their innovations are candidates for patenting. Training should include tactics for preserving patent and trade secret rights when communicating with third parties.
- **Ease of Use.** We recommend a two-step invention disclosure process in which the first submission primarily consists of a short description of the problem solved by the invention and the key aspects of the inventive solution. We encourage inventors to provide documentation and presentations that they have already created relating to the invention in order to reduce the time it takes them to provide this description. The ease of completing this initial, short submission encourages widespread inventor participation. If a submission seems promising, the inventor can be asked to provide additional information. This two-step process enables inventors to submit their innovation ideas to the patent team without investing substantial time on disclosures that

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are never filed as patents, which is wasteful and discourages participation in the patent program.

- **Harvesting Sessions.** In our practice, we run department-wide harvesting sessions with a handful of engineers and product managers to review past, current, and future development efforts and product plans, and brainstorm to identify patent candidates. The sessions can include a 30-minute breakout to permit individuals to prepare short-form submissions (see above) on the spot. The key to a successful harvesting session is using a moderator (typically a patent professional) who understands the technology and the business (see Section 1 above) and thus can productively direct participants in ways that are aligned with the patent strategy. Alternatively, patent counsel can meet one-on-one with inventors to discuss recent inventions and assist the inventor in preparing promising disclosures.
- **Manager Buy-in.** Inventors will likely ignore the patent program if their immediate managers do not value it. To secure manager buy-in, companies should send a message from the executive team letting everyone know that patent harvesting is a priority. In larger organizations, invention disclosure targets can be used to encourage submission from each team that is expected to generate new innovations. The patent team should also meet with managers one-on-one or in small groups to explain the process, solicit their ideas, and hear their concerns.
- **Establish Inventor Incentives.** To encourage inventors to submit invention disclosures, many companies pay modest bonuses (e.g., \$500–\$1000) when applications are filed and/or patents issue. An inventor incentive program needs to be carefully designed, communicated, and executed to avoid strife over the payment of bonuses.
- **Integration into Product Development Cycle.** Most companies undertake product releases in defined cycles, which have a cadence and process unique to the organization. Patent harvesting should be integrated into these cycles. For example, harvesting sessions can be synchronized with team-wide meetings that are already scheduled as part of the development process. In any case, each

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cycle should include an initial patent kick-off meeting during which the product managers can explain the product roadmap and development priorities to the patent team, followed by a mid-cycle harvesting session which extracts invention disclosures as product plans crystalize. As launch approaches, the patent and development teams should have a final interaction to capture last-minute developments before they are released.

- **Tracking of Inventions to Specific Products, Features, and Competitors.** Although this information may not be immediately actionable, it will ultimately be useful in managing a growing portfolio. The invention disclosure is a good place to capture much of this data, which can then be compiled into a centralized spreadsheet or database.
- **Attend to Ownership Issues.** Many start-ups are dismayed to discover that the IP they have developed does not belong to them, a situation that arises, for example, when inventions are made in a university setting, using independent contractors, or in collaboration with business partners.

Invention disclosures should always be flagged for ownership issues when they emerge. The company should also implement appropriate employee-assignment-of-invention and independent contractor agreements. Companies should consistently use non-disclosure agreements when sharing proprietary information with third parties.

## 4. Prioritize Filings Based on Strategic Criteria

Armed with a strategy and having established a steady pipeline of invention disclosures, the patent

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team can select innovations for filing as patent applications.

This selection process should be based at least in part on specific criteria that are determined by the patent strategy. The review process should be somewhat opportunistic and should not so slavishly adhere to the strategy as to ignore the seasoned instincts of a strong patent team. Patenting is highly idiosyncratic to each invention and the prior art, products, and competition to which the invention pertains. What seems like a profound breakthrough may not (for a variety of reasons) yield a valuable patent. What seems like a modest advance may turn into a patent that tortures competitors. The patent team should be alert for (and empowered to act on) unanticipated opportunities.

In addition to company-specific criteria arising out of the patent strategy, common, generally applicable criteria for patent filing include:

- **Alignment with Revenue.** Does the invention relate to products and features that secure revenue? In other words, does the invention drive customer demand?

Part of alignment with revenue entails balancing applications filed so that the portfolio does not bunch up in areas out of proportion to revenue contribution. For example, an important product or feature might represent 20% of a company's revenue. If 70% of the company's patent applications pertain to this product or feature, the patent team should consider shifting its focus.

- **Competitive Targeting.** Inventions that are, or are likely to be, infringed by a competitor should be assigned top priority. These patents are indispensable in fending off patent suits.
- **Use in Product.** Not every invention will find its way into the company's products. Those that do are favored for patent filings. That said, master portfolio builders always look beyond the company's products. Patented inventions, even if not implemented by the company, can be targeted to competitors.

***“To avoid loss of rights, applications should be filed before commercial launch or other public disclosure.”***

- **Ease of Detection.** It may be hard to detect when a competitor is using an invention. Inventions that are easy to detect (such as by use or examination of the product or documentation) are favored for patenting.
- **Customer-Facing.** A customer-facing invention, in addition to being more easily detected, is also more painful for competitors to remove or avoid using.
- **Patentable Subject Matter.** Some inventions are more likely than others to be “abstract ideas” in the eyes of the patent office. Inventions not subject to this risk are preferred filing candidates.
- **Novelty.** No matter how incredible an invention may seem, if it does not meet the legal standards of novelty and non-obviousness, the patent office will not grant a patent on it. Inventions should be favored for patenting if they appear to be more likely to meet these standards.
- **Standards.** Inventions that may be essential to the practice of a standard are highly favored.
- **Longevity.** Technologies that will be deployed for more than five years are more favored as patent candidates.
- **Taxes.** If a company has controlled affiliates in foreign countries, patent filings in those countries can play a role in international tax planning, including transfer pricing optimization and compliance. These considerations should be identified and taken into account in assessing foreign filing decisions. Once patents are scored, they can be prioritized for filing depending on budget constraints. Disclosures that are passed over for a given filing period should be retained for reconsideration (ideally within one year) in case the pipeline of invention disclosures slows down. Alternatively, such inventions can be filed provisionally if additional budget is expected to be available within one year to convert the provisional.

## 5. File Smartly

Each patent application will require thought and planning to optimize its value; however, there are considerations that are common to most applications:

- **Early Filing is Critical.** To avoid loss of rights, especially outside of the United States, applications should be filed before commercial launch or other public disclosure. The ability to meet this deadline depends on a well-executed harvesting effort that collects and evaluates invention disclosures with sufficient lead time (preferably 60–90 days) for patent counsel to prepare and file the application.
- **Search.** Before preparing an application, a patentability search can be conducted to determine the closest prior art. The results of this search may indicate that meaningful patent coverage is unavailable, in which case the application process can be terminated before significant costs are incurred. If the search indicates patentability, the results aid in securing a patent that is more likely to be held valid in litigation.
- **Provisionals.** In many cases, provisional applications can be filed with less effort and at lower cost than regular, “non-provisional” applications. They are useful when time to file is short or when the company is not certain whether it wants to invest in a full-blown patent application. Provisional applications can also delay the expiration of a patent by up to one year, an important consideration for innovations with a long product lifecycle.

Note that a provisional application postpones (by up to one year) but does not eliminate the cost of a non-provisional application. The filing of a provisional followed by conversion to a non-provisional application is usually more expensive than simply filing a non-provisional application at the outset.

- **Continuations.** A continuation application is a new application that claims the filing date of an earlier application. Continuation applications allow companies to update claim strategies as markets evolve, and thus enable more precise targeting of competitive products in subsequent years. As a general rule, any application of significant strategic

value should be “kept alive” by filing a series of continuations.

- **Track One.** The U.S. Patent Office generally will take 2–5 years to examine and issue a patent. A Track One filing can reduce this pendency to 12 months or less. This may be appropriate to address the problem of menacing competitors, prepare for anticipated litigation, or bulk up a portfolio before raising capital. Tactics for accelerating prosecution may be available in other countries.
- **Foreign Filing.** A decision with respect to foreign filing should be made within 9 months after filing, re-applying at least some of the prioritization criteria described above. U.S. filings, especially crown jewel and other important applications, should be prepared with an eye to meeting the requirements of key non-U.S. jurisdictions (especially Europe).
- **Cash Flow Considerations.** There may be times when cash flow is a constraint on the intellectual property filing. There are a number of mechanisms that can be used by skilled patent counsel to adjust use of the various patent processes to slow down the processes to adjust costs to cash flow.
- **Non-Publication Requests.** A non-publication request may be made when making an initial patent filing. Otherwise, the patent application will be published 18 months after filing. The non-publication request must be withdrawn if the company decides to foreign file.
- **Pre-Issuance Checkpoint.** When an application has been allowed, the company should assess whether the claims as allowed still cover the company’s product (which may have evolved) and/or competitors’ products. If there are deficiencies in the patent’s claim coverage or if the patent appears to be particularly valuable, a continuation application should be filed as described above.

## 6. Review – and Trim – the Portfolio

The patent portfolio should be tracked in a database that records for future reference the parameters used to make the initial filing decision and that relates the patent to the company’s products, features, and

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competitors. As the company and its competitive landscape evolve, the patent strategy should be updated, and the portfolio reassessed against the updated strategy using the tracking database. For individual patents, this review should occur prior to issuance and again prior to the payment of each post-issuance maintenance fee.

The efficacy of the tracking process is highly dependent on the quality of the data input during the life of the patent, so the manager of the database should be attentive to data hygiene, including periodic audits.

Maintaining the portfolio (particularly outside of the U.S.) is expensive. Therefore, the company should not hesitate to abandon or (better still) sell or license patents and patent applications that over time are determined to have low strategic value.

## 7. Buy Third-party Patents to Fill Gaps

Despite everyone's best efforts, no portfolio will be perfect. The initial strategy development and the ongoing portfolio review will reveal gaps, either in coverage of key products and features or in defensive patents that can be asserted in response to a third-party patent suit.

These gaps can sometimes be filled by acquisition of patents from third parties. There is a well-developed market for patents, including brokers (e.g., Tangible IP, Iceberg, and Ocean Tomo), marketplaces (e.g., IAM Market), and data providers like Richardson Oliver Insights (an offshoot of the similarly named law firm). Other sources of patents include corporations, including IBM, which have formal programs in place for selling patents. Bankruptcies also offer opportunities to purchase patents in bulk.



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Andrew Basile is the president of Young Basile Hanlon & MacFarlane, P.C. He holds a law degree from the University of Michigan and an undergraduate degree in electrical engineering from Princeton University. With over 30 years' experience, he concentrates his practice on intellectual property litigation and technology transactions relating to software, hardware, electronics, semiconductors, and the Internet. An experienced patent attorney, Mr. Basile manages large patent portfolios and frequently provides clients with opinions and strategic advice in regard to infringement and other contested matters. He also handles a wide variety of technology-related commercial transactions, including alliances and licenses.



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Ryan McCleary is a shareholder in Young Basile. He concentrates his practice on intellectual property, data privacy, and litigation. He regularly handles matters in the fields of video compression and transport, cloud computing, computer hardware and software, networking, industrial controls, and electronics. A large part of his practice focuses on patent-related matters, including patent portfolio management and invention harvesting, opinions relating to infringement and validity, due diligence/portfolio acquisition, and contested matters, including in District Court, the International Trade Commission, and as co-counsel in German nullity and infringement proceedings.

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## About Young Basile Hanlon & MacFarlane, P.C.

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