Inventor's guide to startups

Launching a new company using CRG technology/2018

CRG Centre for Genomic Regulation

TBDO Tecnology & Business Development Office

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About this guide

This guide is intended for CRG members that are interested in launching a startup company based on their inventions. It is a broad overview of the startup process and provides background on the resources available for CRG entrepreneurs. It also aims to address frequently asked questions about TBDO support and services.

Some of the information in this guide may also be relevant for outside entrepreneurs with an interest in starting a company based on a current CRG technology. These individuals are required to work with the TBDO throughout the process.

In the document, there is reference to a number of appendices. These appendices have been produced as a separate document to help minimize the overall size of the guide itself. If you have received this guide without the separate supporting appendices, you can access the additional information on the TBDO website at **http://tbdo.crg.eu/entrepreneurs/start-up.**

This guide was written in January 2018. CRG policies and practices may be revised from time to time. Inventors should refer to CRG Intellectual Property and Technology Transfer (IP&TT) policy and Conflict of Interest (COI) policy for current guidelines, as the contents of this brochure are not intended to replace or supersede these policies. Additional information may be found on the TBDO website http://tbdo.crg.eu or by contacting the Technology and Business Development Office (TBDO) at CRG_BusinessInnovation@crg.eu.

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This guide is a publication of the CRG Technology and Business Development Office (TBDO). This first edition is the result of good teamwork and efforts from TBDO members, CRG staff and the TBDO entrepreneurial ecosystem. We sincerely thank everyone for their input and contributions. We also welcome your feedback to improve the guide and address any questions or topics that may have been missed.

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A MESSAGE FROM THE HEAD OF TBDO

Dr Pablo Cironi,
Head of Technology and Business Development Office (TBDO)

The mission of the Technology and Business Development Office at CRG is to facilitate the exploitation of the institution's research for the public good, and to help the economic growth of the life sciences sector in our region. Our aim is that scientific results generated at CRG will develop into novel therapeutic, diagnostic and other type of products that will contribute to the wellness of our society.

Independently of development stage, or whether we perform basic or applied science at CRG, at TBDO we strongly believe that the most beneficial products and services are the result of disruptive scientific achievements. We expect these results to generate a much higher impact in our society if receiving the right support and channeled through the right commercialization strategy. When these innovations are disruptive or address an underserved market, often the best vehicle for bringing these innovations to market is a start-up company.

This guide is intended to help CRG researchers and innovators understand the process involved in the technology transfer process and the steps to be considered when forming a company based upon their innovations.

This guide will also identify resources available at CRG, in Cataluña and in Spain that can help you develop a plan to go from where you are to where you want to be, and to address and understand topics such as how to analyze the business opportunity, external resources for startups and more.

TBDO is here to help you promote your technology and to support your business ideas.

INTRODUCTION

What is an academic startup?

According to the Association of University Technology Managers (AUTM), an academic startup is a company initiated solely on the basis of an institution´s technology. In this respect, startup companies created by CRG should align with the CRG mission to translate new scientific knowledge into benefits for health and value for society. Nevertheless, CRG startups remain private and independent legal entities, whose decisions and activities should be clearly discrete from CRG.

Why start a company?

CRG research results are often very far from being marketable. In order to translate basic investigation into beneficial products and services, CRG secures IP rights and then licenses those rights to private companies that have resources to turn an innovation into a commercial opportunity. When an innovation is disruptive, or can address an underserved market or has the potential to become a platform technology, often forming a startup can be the most rapid, powerful and rewarding vehicle to effectively reach and impact the market.

TBDO´s contribution

Not all inventions are suitable for the creation of a startup company. TBDO is here to help analyse the possible opportunities arising from your research and evaluate whether a startup is the most appropriate path to commercialization. We have the scientific background, business expertise, network of contacts and investment capabilities to support you in the process of setting up a company, including IP management, business planning, market analysis, building your team and fund raising.

What´s in it for CRG?

CRG position as one of the world's top medical research institutes relies upon conducting cutting edge research investigation. Commercializing the IP generated from this research helps CRG raise not only financial but also reputational rewards as well as comply with its main mission to advance knowledge for the benefit of society. In return for the investments in IP, infrastructure and resources, CRG receives equity in the business, thus becoming invested and committed in the future growth and success of the company.

What´s in it for you?

Entrepreneurship is an increasingly appealing career opportunity for ambitious researchers, who can deliver real impact to a disruptive technology by taking it to the market themselves. The participation of the scientist behind the invention will significantly increase the odds of a successful new company. Before embarking on an entrepreneurial venture though, you should carefully consider several factors that can make or break the success of a startup.

First, you should realize that the qualities required to excel as an entrepreneur are distinct from those needed to pursue a career in academia or an established company. While persistence and timely execution are important qualities in both worlds, entrepreneurs tend to be outstanding communicators, delegators, are prepared to manage risk and uncertainty, and have the ability to make decisions based on intuition.

Second, you need a clear picture of your total net worth and, based on this, you should decide how much you are willing or able to commit to the startup both financially and personally.

Third, as an inventor, you should be passionate about bringing the technology to the market, which might be very different from being passionate about the technology.

Fourth, you should be aware that most startups fail and be willing to accept this risk.

Finally, you should be “all in”. Your commitment and passion will be key to build relationships, secure partnerships and drive an equal commitment from your team.

The local context

In relation to other countries, Spain is by no means a bad place to start a business. Numbers speak for themselves: 5.5% of the adult population launched a new business in the last 3.5 years, with an expected 8% increase forecast for the next 3 years. The country is ranked 23rd on the Forbes list of best countries for business and it scores highly for a number of key factors valued for launching a startup, such as; it’s experienced and relatively low-priced labour force, high quality of life even considering negative factors, like the rigidity of its market and red tape.

Barcelona is a runner-up in the top 20 global entrepreneurship ecosystems, behind European leaders like London, Berlin, Paris and Amsterdam. In particular, thanks to sector-specific investors, networks and support programmes, it can offer extremely favourable conditions for life-science startups, as witnessed by the launch of biotech companies like Minoryx Therapeutics (therapeutics for rare diseases), Oryzon Genomics (epigenetics-based therapeutics), Aelix Therapeutics (immunotherapies for HIV), qGenomics (diagnostics) and Stat-Diagnostica (medical devices) among others.

CRG startup success story: qGenomics

“Creating a company is a tough but rewarding experience. gGenomics was created in 2008 and there is still no day like the other... a constant learning experience!!!”

LLUÍS ARMENGOL
Founder of qGenomics

TT 101 – Technology Transfer at a glance for CRG entrepreneurs

The Technology Transfer process (Figure TT.1) can be conceptualized as a continuous process in which CRG research is translated into valuable commercial products and revenues that will in turn fund new CRG innovations.

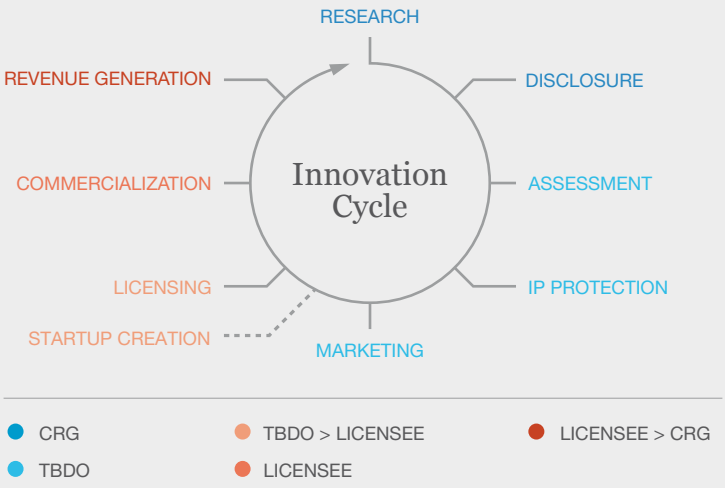


Figure TT.1. The Technology Transfer process at a glance

Research

Research activities often lead to discoveries and inventions, including tools, material, software or other copyrightable work.

Innovation disclosure

The Technology Transfer process begins when you confidentially report the key data of your innovation during scouting meetings with your TBDO manager and then formally submit them for revision via the **CRG Inventor Portal**. Successful evaluations rely on full disclosure transparency.

Innovation assessment

The disclosure is assigned to a Business Development Manager (BDM) in the TBDO team, who will evaluate the commercial potential of the innovation based on IP protectability, technical feasibility, market needs and other critical factors.

As the innovation assessment will guide the consecutive marketing strategy, you should inform a BDM as soon as possible if you are considering starting a company based on your innovation.

Intellectual property protection

During the assessment process you are encouraged not to disclose any unpublished information, to avoid the loss of any potential patent rights. If your innovation is deemed commercially viable and there is a need to protect the intellectual property, TBDO will pursue IP protection in the name of the CRG.

Marketing

TBDO assesses the best route to market for your technology. Depending on the type of technology and its stage of development, the suggestion may

either be to license your technology to an industrial partner or to a startup company.

Please note that following careful assessment, few of the total inventions received by TBDO are deemed suitable as the technological foundation of a startup, whilst the vast majority are more appropriately licensed to existing entities, which have more chances to bring the technology to the market.

Startup Creation

If it is decided that starting a company is the best option to exploit your innovation, the TBDO will guide you throughout the whole process, from analyzing the opportunity to incorporating the business, including the crucial steps of drafting a business plan and pursuing funding. It will also guide you through the TBDO resources and tools available to support entrepreneurship, such as the Bio-Business School (BBS) and the Science to Business (S2B) concept challenge.

Additionally, you may be referred to external consultants, including technology experts, business advisors, serial entrepreneurs and early-stage investors, who can provide field-specific startup advisement.

There are a number of factors that TBDO takes into consideration to help determine whether or not a startup is the most appropriate path to commercialization of your innovation:

Intellectual Property (IP) position: Who owns the IP? Is IP coverage possible (through patent, copyright or trade secret)?

Freedom to Operate (FTO): Will the company have FTO to develop and exploit the innovation?

Technology readiness: How much time and money is required for the innovation to reach market?

Technology innovation: Is the innovation disruptive and/or sustaining?

Product strategy: Does the innovation open up opportunities for future multiple products?

Market need: Does the technology have a clear application and a definable market?

Market potential: Is the market big enough? Is there a growing trend?

Competition: Are there other companies offering similar or alternative solution(s)?

Licensing: Are there existing companies interested in licensing your innovation?

Financial potential: What prediction can be made for future market share?

Inventors commitment: What is the level of involvement from the inventors?

Management: What is the level of passion and experience of the startup executive team?

Support: Is there a business champion for both the innovation and the new venture?

Investment opportunity: Will private investment be required initially/later? Will investors have a clear exit strategy?

Licensing

Either scenario will result in a license or option agreement between the CRG and the new or established business partner. The agreement will incorporate terms and conditions for the use of the technology in return for both financial and other benefits. Typical terms include diligence milestones and the amount of compensation to the CRG and inventors in fees, royalties and equity.

Commercialization

Most CRG innovations are very early stage and it is fairly common that the licensee needs to adapt its commercial strategy to new market opportunities. After a license agreement is in place, TBDO continues to support the licensee and is open to re-negotiate license terms if the request(s) are reasonable and required to ensure success within the marketplace.

Revenue generation

Royalties received by the CRG from licensees are distributed annually. The inventors, including those who are involved in a startup, will receive their share under the CRG Intellectual Property and Technology Transfer policy. Royalties shared throughout the CRG collectively fund research fostering the next generation of innovation.

START YOUR STARTUP
The action plan

Launching a startup company requires not only a compelling technology, but also passion, commitment, good timing and at times, luck. The right timeline for launching will depend on multiple factors, including the technology readiness, the market maturity and the funding opportunities. Before embarking in this challenging journey though, you should carefully consider your action plan, by focusing on the qualities that are typical of success stories: a compelling solution to a factual market need, a significant market opportunity, a sound competitive advantage backed by strong IP protection, a solid business plan; and a qualified management team. The 10 main steps to launching a successful startup company are summarized below and discussed in detail throughout the next chapters. TBDO is committed to guide you through all the steps.

1. Liaise with TBDO

Contact the TBDO as early as possible in the process to discuss your invention and decide whether a startup company is a viable option.

2. Manage intellectual property

A major asset of a startup company, and thus a major tool for attracting investment, is the associated intellectual property. Work with TBDO to get a patent application filed on your invention before any public disclosure.

3. Seek input and network

Leverage the TBDO entrepreneurial ecosystem to review your strategy, network with like-minded entrepreneurs, meet potential investors, attract board members, and validate your technology with potential customers.

4. **Build the entrepreneurial team**

A critical piece to the success of your company is building a strong, cohesive team and establishing expectations concerning roles and commitments.

5. **Analyze the opportunity**

Analyze opportunities and challenges, the unmet need, the competitive advantage of the solution that you are proposing, the market situation, the funding needs and the company's viability.

6. **Plan the business**

Choose the planning method that best suits your opportunity and plan your business carefully.

7. **Develop a communication package**

When validation of the business opportunity is complete, the startup company will need to develop a standard package of communication materials that convey the value of the company and the business strategy.

8. **Get CRG support**

Negotiate a license agreement from CRG to demonstrate to potential funders that the startup has secured the rights to the technology, while respecting CRG policies.

9. **Pursue investors and funding**

Structure financing according to technology development. Find the right and timely balance of non-dilutive and dilutive funding and account for the different expectations of your investors in the different financing rounds.

10. **Establish the business**

At a point when the opportunity has been validated and the startup team has reached the right combination of expertise, experience and personalities, a new company can be formed.

1. Liaise with TBDO

The Technology Transfer process begins when you formally submit a technology disclosure for evaluation by TBDO. Three different disclosure forms are available on the TBDO website via the CRG Inventor portal, at **http://tbdo.crg.eu/community-and-inventors/report**

- Software Disclosure Form **(SDF)**: for software, databases and copyrightable material.
- Research Tool Disclosure Form **(RDF)**: for proprietary tools and materials, such as antibodies, cell lines, mice strains, etc.
- Invention Disclosure Form **(IDF)**: for discoveries not covered by the former two forms.

The assessment process occurs within a three-month period, which starts when the Technology Disclosure Form is fully filled out and signed. The assessment process is completed as follows:

Technology disclosure

First, you have to describe the invention to the fullest extent possible at the time of submission. Upon submission, the disclosure is assigned to a TBDO manager, who will treat it as a confidential document, and will contact you directly detailing the next steps in the process.
Remember that success of any technology evaluation hinges on strong communication and full transparency between you and your TBDO manager, who will help you define the invention. Remember also that, for TBDO to adequately protect the invention, you are responsible for reporting the invention within a reasonable time after such invention is made and well before any public communication, including publications, website descriptions, lectures, posters or abstracts.

Technology assessment

Second, the TBDO manager assesses the disclosed information, to:

- Ascertain technical feasibility of the invention.
- Identify potential obstacles that might hinder licensing and/or commercialization, such as ownership obligations to external sponsors of the research that led to the invention or third-parties' rights on the research results.
- Perform an Intellectual Property (IP) analysis, by reviewing the information available within the public domain, in order to ascertain what sort of IP protection would be most appropriate to pursue commercialization.
- Complete a marketability analysis to enable a preliminary determination of commercial viability of the technology.

An important outcome of the assessment is to ascertain the commercial value of your innovation and to help you recognize its strengths and weaknesses. To fulfill this goal, the TBDO manager accesses a variety of specialized databases and consults several technical and business experts within the TBDO network of contacts, to objectively estimate the invention's technical merit and the target industry's interest.

This preliminary assessment determines whether CRG is interested in protecting the innovation and pursuing licensing, or perhaps prefers deferring decisions until additional supporting data is obtained.

2. Manage intellectual property

IP protection

If your innovation is deemed commercially viable and there is a need to protect the associated intellectual property, then the TBDO will pursue IP protection, which for patentable inventions involves the preparation of a patent application (Figure 2.1). Regardless of the eventual licensing strategy, your active involvement as an inventor is essential for drafting the patent and members of TBDO will ask you to help the patent attorney understand the essence and novelty of your invention. It is also important that you inform the attorney about your business plans, so that the claims can be drafted accordingly.

While all technologies are assessed for patentability, you should keep in mind that patents are not the only way to protect the commercial viability of your innovation. In fact, alternative forms of protection can be preferred in certain cases, depending on the type of products or services that your startup will sell, the specific target industry, and your channels to market.

Other forms of protection typically relevant for CRG innovations include:

- **Copyright** - for software.
- **Know-how and trade secrets** - chosen when it is particularly important not to publish the details of the technology, as instead requested by the patenting process.
- **Trade marks** - for brands. Branding is especially important to boost the visibility of startups and their products. TBDO will support CRG-affiliated startups and help in devising a branding strategy and in registering their trading names and any related website domain names.

Prior art vs. Freedom to Operate (FTO)

Before filing a patent application, TBDO performs a patent and literature search to look for any "prior art" that has already been publicly disclosed or used within the field of the innovation. This search is essential to determine if your innovation has the prerequisites of *novelty*, *inventiveness* and *usefulness* necessary to be granted a patent. It is also used to assess the scope of the patent and the potential business uses that it may cover.

If you are considering launching a startup however, it is very important that you understand that holding a patent (or a license to use it) will only allow you to ban others to operate in your area, but will not automatically grant you the rights to practice in that area, since your products may still fall under the area of influence of a broader blocking patent. In order to ascertain if any company can block your venture's ability to make or sell products without permission, at some point during the startup development you will have to perform a full FTO analysis, which falls outside the scope of TBDO's pre-incorporation activities.

Due diligence

CRG's IP is likely to be one of the key assets of your startup. Before you enter into a licensing negotiation with the TBDO, it is very important that you analyze all the steps of your development process and you identify all relevant IP that your company will rely upon to operate as a separate entity. This analysis will help you find out all the IP rights that you will have to license from the CRG, but also from third parties. For instance, the company may be dependent on specific software packages, datasets, materials or production processes that you have had access to as a CRG researchers, but that are not free for commercial use. Furthermore, this analysis will be very important to show your potential investors that your venture can operate without infringing any third party IP rights.

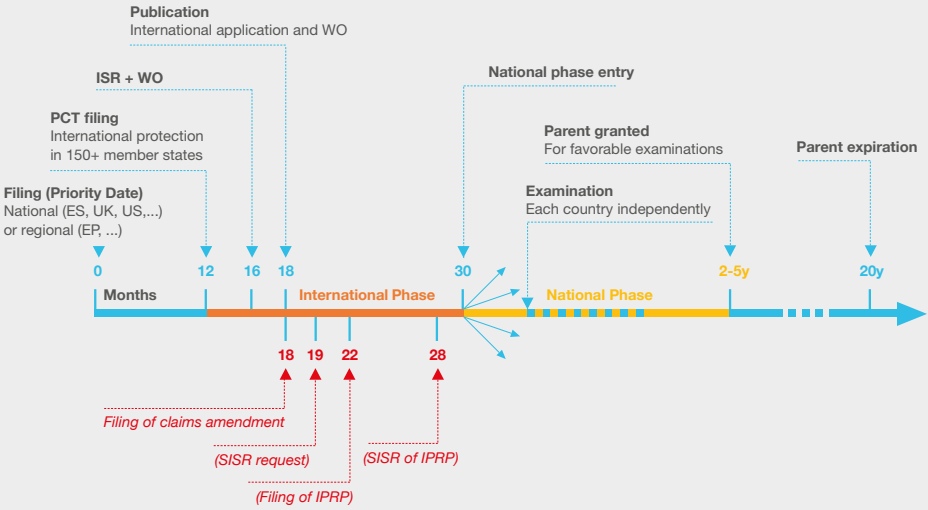


Figure 2.1. Typical patent process at a glance (source WIPO). PCT = Patent Cooperation Treaty; ISR = International Search Report; WO = "Prior Art" Written Opinion; SISR = Supplementary ISR; IPRP = International Preliminary Report on Patentability. (Elements in *italic* are optional).

3. Seek input and network

Entrepreneurs should seek input from as many experts in business and potential customers as possible, throughout the whole startup process. Advice, mentorship and customers' feedback are of paramount importance to build the foundations of your venture, and no single advisor or mentor will have all the right answers or expertise. In fact, by carefully understanding the rationale behind conflicting opinions, you will increase confidence in your startup's potential and enhance the likelihood for a successful business.

CRG fosters a strong entrepreneurial mindset within its community and has put in place several resources to provide its entrepreneurs with networking opportunities. By contacting the TBDO, CRG entrepreneurs searching for mentorship can get in touch with CRG Entrepreneurs-in-Residence (EiRs) and join the TBDO Entrepreneur´s Club if interested. Altogether, the Entrepreneur's Club aims to promote an entrepreneurial spirit, by:

- Providing training, workshops and round table sessions with established entrepreneurs and investors.
- Inviting experienced business guest speakers.
- Organizing entrepreneur business challenges.
- Sharing tailored tools and resources necessary for bringing new ideas to fruition.

In addition we strongly recommend you also:

- Speak with external advisors and mentors who can provide additional and sometimes contrasting perspectives and guidance.
  Once IP protection is in place, and with a confidentiality agreement at hand if necessary, you should talk freely and get critical feedback about your ideas. Furthermore, as the company progresses, they can help you find valuable connections for funding and potential partners;
- Talk to potential customers, and get valuable feedback about their wishes and needs.
- Go to networking events and trade conferences to build a strong and diverse network of business experts and prospective customers.

4. Build the entrepreneurial team

A critical factor that can make or break the success of your venture is building a strong, cohesive entrepreneurial team that shares your passion for the technology and has the right skills sets to execute the vision, while adapting to the ever evolving circumstances.

Indeed, finding the right team may perhaps be more important than the idea itself. The founding team needs to define the key skills required to exploit the opportunity successfully and determine to what extent those skills are present in the team, can be developed or need to be found outside. You may already have people in mind for some roles within the company. However you should make sure that selections are made for the right reasons and team members are added according to the sequence of established goals and milestones.

Setting up roles

INVENTORS' ROLE

As a CRG inventor you should carefully consider your future role in the new startup company. Given that you are the main holder of scientific knowledge about your invention, your scientific/technical involvement will probably be key to the new company, especially in its early stages of operation. Hence, an important question that you soon have to tackle is whether you want to be involved directly in the venture, as part of the entrepreneurial team or rather keep your CRG position, and participate in the early development of the technology through advisory or consultant roles.
If your main focus is academic research and you don´t have the possibility to commit significant time and effort to launching and sustaining the company, the second option would be preferable. Similarly, if you are inclined to begin the entrepreneurial journey, but you are considering moving gradually from your current job to work full-time for the new venture, you should be aware that at some point a partial commitment will prove insufficient, and may even be detrimental to a venture's value.

Please feel free to ask TBDO for guidance about the two options and their different implications in terms of adhering to CRG policies.

FOUNDERS' ROLE

If you opt for the entrepreneurial path, you and your co-founders, with the help of the TBDO, will have to spearhead company formation and to tackle several tasks in parallel, including negotiating a license from CRG, developing a convincing business plan, building a management team and pursue financing.

Due to lack of financial resources, or to comprehensible reluctance to delegate managerial control, several startup companies keep their scientific founders acting as management, with one of them often taking the position of Chief Executive Officer (CEO). Although self-evaluation might be very difficult at this stage, you should be able to understand when such decision can hinder the growth of the company and when is thus better to recruit an experienced management team.

The earlier you can find someone who can help you manage the business, the more time you will have to dedicate to research and development and the better chances you will have that your startup will succeed.

MANAGERS' ROLE

Seasoned managers can effectively negotiate on your behalf with CRG and investors and open doors to key contacts and markets.

In the hiring process, it may be very difficult to identify and recruit a management team that is aligned with your goals and has complementary competences. Furthermore, especially in the very early stages of the startup, you may not have enough resources to offer salary and benefits. In this case, you should be ready to consider that experienced managers would often take a leadership position in a company in exchange for equity.

CRG's ROLE

Your most valuable asset, and thus your major tool for attracting investment at inception, will most likely be the intellectual property licensed from the CRG. While existing companies usually remunerate the license execution fee by means of an "up-front" payment, startup companies typically have limited financial resources for a cash payment and they can only reimburse the license by means of their primary currency, *i.e.* equity. The participation in the initial share capital of the startup makes CRG a founder of the company.

Sort out expectations and conflicts

FOUNDER'S EQUITY

The formation of a new entity presents issues that can create tensions between the founders. In particular, the founding parties must agree as early as possible their expectations about equity distribution, based on a realistic analysis of the value and time commitment that they will bring to the new company.

Before the venture's inception, TBDO will help CRG inventors draft a *term sheet* to ensure that all parties agree on a fair distribution of the company equity, which reflects each individual's contribution. This document will also designate the roles and responsibilities of the different co-founders and set forth the ownership consideration received for successfully achieving the startup objectives.

A common concern of TBDO and potential investors is that founders would leave the company or not commit to its success once they receive equity. To avoid this situation, ownership rights are often subject to a *vesting schedule*, which allows a founder to vest a certain percentage based on a combination of time spent in the company and performance of certain milestones.

CRG'S EQUITY

The ownership interest that CRG receives in the new venture under a license agreement will usually represent a minority position, typically 10% of the share capital. Nevertheless, this equity interest can increase in case of a direct involvement of the CRG in the company formation, for instance by granting access to its resources and infrastructures or through the TBDO support in shaping the business strategy and raising funds. In any case, CRG equity is normally protected from dilution, which occurs when additional investors receive equity in the company, thus reducing the equity share of owners from the previous investments. CRG's *anti-dilution* provision usually holds valid only until reaching a certain milestone, such as a "Series A financing" or an additional investment above a certain amount.

By providing CRG with an anti-dilution protection, the founders are essentially corroborating the value of the license fee equity associated to the licensed technology, which is going to be company's main asset at least until the first capital infusion. It is important to note that other than the CRG share, investors are seldom willing to accept anti-dilution clauses for other founders' equity.

5. Analyze the opportunity

Before investing time in developing an opportunity, you must assess to what extent your idea really constitutes one. Most of the common mistakes in launching a business can be avoided by adopting a thorough and comprehensive *opportunity assessment* process **(Figure 5.1)**, which validates progressively the business idea, and possible business and investment opportunities.

Business idea

- Ideas come from technological innovation, market inefficiencies, or social changes
- Ideas can generate products or services which are technically viable, but not necessarily economically viable.

Business opportunity

- A business opportunity is a business idea which is timely, attractive and lasting
- Because of that, it creates or adds value to users or buyers
- Business opportunities can lead to new businesses but don't guarantee by themselves any growth potential.

Investment opportunity

- An investment opportunity is a business opportunity that is scalable and provides investors with a route to exit with returns
- Growth potential and low marginal costs are indicators of good investment opportunities

Figure 5.1. The opportunity assessment process.

Assess the opportunity

The rationale behind the assessment is that not all business ideas can become business opportunities and not all business opportunities can become investment opportunities.

In particular, business ideas can become business opportunities only when they are:

- **Timely:** it is important to understand the right moment to launch. If it is too early, the market or the technology might not be ready. If it is too late, competitors might have already consolidated a strong position.
- **Attractive:** if there is a business opportunity the business idea will attract both the customers and a team. With no customers, an idea cannot be a business. With no team, the idea might be a good business opportunity, but for someone else.
- **Lasting:** opportunistic deals, based on one-off transaction, have a limited time-span. They can result in short-term profits, but are not business opportunities, as they cannot withstand the test of time.

Similarly, business opportunities can become investment opportunities only if they are **scalable** and if they offer prospective investors an **exit** strategy with good returns.

It should be clear that business opportunities, even very profitable ones, can grow indefinitely without ever scaling. Growing means that you are adding resources at the same rate that you are adding revenues. This is very typical of professional service business models, where companies increase personnel and revenues at the same rate that they increase customers. On the other hand, investors are only interested in scaling, *i.e.* adding resources at an incremental rate, while getting revenues at an exponential rate.

Startup entrepreneurs must step outside the comfort zone of keeping the business within their control and realize as soon as possible that finding a path to scale is critical to attract investors' funding.

Validate the opportunity

BUSINESS FEASIBILITY ANALYSIS

One important step that should be taken before a business plan is written is a *business feasibility analysis*, to validate the opportunity in terms of a product or service that can be sold to a customer. A business feasibility analysis should answer two main questions:

- **Is there a market for your product?** In other words: if you turn your technology into a product (or service), will anyone be willing to buy it? The most valuable resource to answer this question, apart from buying expensive market analyst reports or consulting the often inaccurate "blogosphere", will come from interviewing your prospective customers. You should understand clearly who they are and use your network of contacts to speak to as many of them as possible. You should ask them if they have ever faced the problem that you are trying to solve, how are they currently dealing with it, what are their complaints about current solutions and, most important, would they be willing to adopt your solution, what are the main features and benefits that they expect from it and how much would they pay for it? In other words, is your *value proposition* strong enough that they would change their current solution to adopt yours? Furthermore, you could ask if they are expecting any supplementary product, service or training to buy your product.

- **Will the new venture be able to make money?** In other words: if you turn your technology into a product (or service), will there be a return on the investment worth the efforts? To answer this question, you need to estimate the revenues and costs associated to the product.

It is important to thoroughly assess these points at the outset, to ensure that it makes sense to invest time and efforts in building a company around your technology.

OPPORTUNITY REPORT

Once you have verified the *business feasibility* of your venture, and before shaping your project into a comprehensive *business plan*, you can validate the key factors underpinning your opportunity by drafting an *opportunity report*. Your analysis should synthesize both the features that make the opportunity attractive and the important challenges and hypotheses that you still need to address. Detailed steps to draft your opportunity report are listed in **Separate Appendix A.**

6. Plan the business

After validating the opportunity, the next step is to plan for it. Several years ago, a formal **business plan** was the only accepted way to launch a business. According to the decades-old formula, you write a business plan, pitch it to investors, raise funds, execute your business plan in 'stealth mode' to avoid alerting competitors, release a fully functional product and start selling as hard as you can, following your marketing plan. Everything is planned in advance and you get your first chance to improve your assumptions once you get feedback from the market. Unfortunately, it is now known that most of the startups following this recipe will fail, as too many variables of the process can go differently than initially planned. One of the critical reasons why startups are different from consolidated businesses, in this sense, is that existing companies execute their business model, while startups are essentially looking for one.

Recently, alternative methodologies have emerged that can be used in lieu of a standard business plan. When planning a business that does not require long and accurate research and development, for instance, the **lean startup** methodology offers a less risky way to launch a startup, and is applicable for product-based businesses, such as medical devices or software.

Before deciding on an alternative methodology, it is best to be aware of some of the advantages and issues with business plans, summarized in **Figure 6.1**. In our times of rapid changes, the cons of business plans may

seem to outweigh the pros. Therefore, depending on the type of opportunity at hands, it may be more convenient to use a 'lighter' alternative. In this case, the entrepreneur needs to evaluate which aspects of the business plan can be retained as beneficial and which should be discarded.

Advantages of a business plan

- It structures ideas into a business opportunity
- It anticipates potential difficulties
- It sets a comprehensive strategy for the future
- It validates or correct business hypotheses
- It communicates to different stakeholders
- It can be used as an operative management tool

Issues with a business plan

- It won't be right the first time
- When ready, window of opportunity gone
- It can be obsolete at the printer
- It can distract from other priorities
- No one outside the company really reads it
- No one beside some VCs requires 5y forecasts

Figure 6.1. Pros and cons of a business plan.

Business plan

A business plan is a written description of your venture's trajectory, from a business idea to a sustainable and growing company. In essence, you should describe: what your opportunity is now, in terms of technology resource and capabilities; how you are planning to exploit it, including a plan for developing the technology; and what your business will look like at a given time in the future, typically within 3 to 5 years, at which time you will have increased your assets and profitability. The purpose of a business plan is thus manifold:

- **Plan:** it should be your reference to draft your future actions.
- **Analyze:** it should be your reference to test hypotheses and validate them or reformulate them.
- **Explain:** it should describe to stakeholders both the opportunity and how you are going to exploit it.
- **Sell:** it should grab the attention of potential partners, employees and investors.

Investors will be particularly interested in scrutinizing your figures and make sure that they are investing in a venture with high growth potential within an appropriate time frame. Your business plan should address all their expectations, including: a compelling opportunity, a huge market and financial potential, an unfair competitive advantage (including IP), a proven management team and if possible a contingency plan should things go differently than initially expected.

Operatively, your business plan should build upon your *opportunity report* and expand your former analysis, this time with an emphasis on the actions that you will take; *i.e.* how will you shape and plan your strategy, marketing, operational and financial decisions? **Separate Appendix B** details the main information that should be included in a business plan. The guide is structured in different sections, each containing the most important questions that you must be able to answer. It is important to understand that there is no single best way to draft a business plan and indeed every

plan depends on the nature of the opportunity. From this perspective, you should be able to shape the guide to your needs, using your judgment to prioritize the sections that you consider more appropriate to describe your idea.

The business plan can start as an internal tool to help the founders plan their activities but should dynamically evolve during the company's early life. Keep in mind that successful entrepreneurs never complete a business plan before they get feedback from potential customers and investors. Investors' advice, in particular, is very relevant to sharpen your strategy, as it is based on their former personal expertise in launching successful companies, and their deep understanding of the market needs and trends in the reference industry, to which they are often still connected. TBDO understands that the business plan is a living document and will assist CRG entrepreneurs to develop an adaptable plan that can change as the actual figures come to light and assumptions alter.

Lean startup

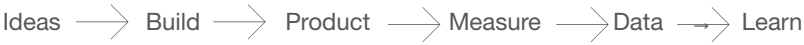
The lean startup approach aims to shorten the business development cycle in the same manner as lean manufacturing did in manufacturing. In the case of a startup, the aim is to test hypotheses from day one and be prepared to change the business strategy based on early customers' feedback. The lean method is based on three key pillars:

1. ***Business model canvas:*** essentially a diagram summarizing in a single page the 9 main building blocks of your business (see **Figure 6.2**). Compared to a business plan, the business model canvas de-emphasizes lengthy market assessments and detailed pro forma financials, and concentrates on the key issue of delivering value to customers while generating profits for the company.

2. ***Customer development:*** This concept entails empathizing with customers to improve the value proposition based on their feedback. The idea is to test the product "out of the building", from day one, thus making sure that we are building what customers really want/need. The key concepts of customer development are:

- **Minimum Viable Product (MVP):** an early version of the product, launched as soon as possible to elicit early customers' feedback. This is contrary to the business plan principle to release only fully functional products.
- **A/B testing:** comparing the results of two different products (A and B) offered to customers or two different groups of customers offered the same product. This type of testing can be used to validate hypotheses and to customize product features for different market segments.
- **Pivoting:** using customers' input to revise assumptions and launch revised version of the product as a result of learning.

3. ***Agile development:*** essentially developing the product iteratively and incrementally according to the principle of Build-Measure-Learn, that can go on endlessly. The phases of the iteration are:



<table>
<tr><th>KEY PARTNERS</th><th>KEY ACTIVITIES</th><th>VALUE PROPOSITION</th><th>CUSTOMER RELATIONSHIPS</th><th>CUSTOMER SEGMENTS</th></tr>
<tr><td rowspan="3">What are you key partners?</td><td>What key activities do we rely on mostly?</td><td rowspan="3">Which customer need are we solving?</td><td>How do we get, keep and grow customers?</td><td rowspan="3">For whom are we creating value?</td></tr>
<tr><td>KEY RESOURCES</td><td>CHANNELS</td></tr>
<tr><td>What key resource do we rely on mostly?</td><td>How do we reach customers?</td></tr>
<tr><td colspan="3">COST STRUCTURE</td><td colspan="2">REVENUE STREAM</td></tr>
<tr><td colspan="3">What are most important costs inherent to our business model?</td><td colspan="2">For what value are our customers really willing to pay?</td></tr>
</table>

Figure 6.2. The business model canvas summarizes your business model in 9 main building blocks and lets you test all your hypotheses in a single page. For more info visit: http://theleanstartup.com

7. Develop materials to “pitch” your company

When the analysis of the business opportunity is concluded, you will need to develop a package of communication material, which convey the business opportunity and the value of the company. You will use this material to “pitch” your company in several occasions, firstly to negotiate a license with the CRG, but then also to raise funds with investors and to attract talent to the company.

The essential elements of a standard communication package, commonly used during the investment process funnel, are summarized in **Figure 7.1.** By preparing a standard package before starting to search for investors, you can avoid *ad hoc* presentations and excessive customization. Nevertheless, you should be prepared to update the material regularly, as conditions and strategies may change often.

- **Elevator pitch.** Verbal introduction prepared to be delivered to investors in the time it would take to ride up an elevator (approximately 30 seconds) or more usually, during a coffee break or at a networking event. It should be concise, carefully planned, well practiced, compelling and understandable by a non-technical layperson. The main topic is the entrepreneur as an individual and then the opportunity in two or three phrases. Its aim is to hook an investor’s interest quickly, for later follow-up.

- **Executive summary.** 1-2 page document (maximum!) that can be handed over to investors if there is interest. It should describe your opportunity in a short, clear and compelling manner that motivates the reader to learn more. It should also show why your team is the most qualified to execute the opportunity. Basically the summary of a formal business plan. An effective executive summary should cover the following sections:

  - Value proposition
  - Problem
  - Solution

- Target market
- Competition
- Team
- Financial summary
- Milestones and traction

- **Slide deck**. A short presentation that covers the key, compelling points of the business plan. It should not describe the technical or scientific details in detail, but rather focus on potential market and customers. It typically contains no more than 20 slides, plus some backup slides, that can be presented in no more than 20 minutes – investors won´t give you more than 30' anyway for a first meeting, and you should leave enough time for questions. Its aim is to grab investor's interest quickly and pave the way for a follow-up meeting. An effective slide deck should cover the following information:

  - The problem that you address.
  - The solution (product and/or service) that you will provide.
  - The potential market, including data on size, growth, trends and segmentation.
  - The market segment(s) that you will address and the target users.
  - Your IP position and strategy.
  - The competitive landscape and your company's competitive advantages.
  - The business model: sales strategy and pricing to reach the end-user.
  - The expenses and revenue projections for a three-year period.
  - The company's timescale criteria and the key milestones along the way.
  - The key details and roles of the company's team.
  - Any key issues to address before launching the company.
  - How much money are you asking for? How will you spend it and how long will it last?

- **Formal business plan.** Some investors will require the submission of a formal business plan, with a thorough analysis of the business opportunity and the startup potential. It should address the main points that investors want to hear: compelling technology, intellectual property protection and landscape, huge market potential, unfair competitive advantage, nifty marketing strategy, clearly defined achievable key

milestones, risk factors and mitigation measures, and experienced and motivated management team. If you are given the option to pitch, then organize all the content in a long presentation, and build the business plan as a group of modules, each for a function of the business, so that it can be sent and presented in pieces. The business plan is generally a confidential document and should be distributed carefully. Yet, you should be careful with confidential information, which should be isolated and properly marked as such.

Figure 7.1. The investment process funnel. Initial interaction with investors should proceed with both an elevator pitch and an executive summary. The business plan or, alternatively, a long presentation of the business opportunity, should only be considered after going through an initial introductory meeting.

8. Get CRG Support

CRG welcomes entrepreneurial activity and encourages the creation of startup companies for the purpose of developing and commercializing its inventions. Once you have decided that forming a startup company is for you and the material elements of a business plan are in place, you must concentrate on getting the CRG interested in your project. It is important to take into account that both the **startup** and **CRG** share a common interest to reduce the IP to practice as quickly as possible and to increase the chances for public benefit through commercialization. Similarly, startups are important for **TBDO** to comply with its mission to nurture the CRG entrepreneurial ecosystem and to translate CRG IP into value for society, thus having an impact on the local, national and international economy. In this respect, it is TBDO's clear interest to make the process of starting a new venture based on CRG technology as simple and transparent as possible, and to make each negotiation a win-win situation, in the interests of both the CRG and the startup.

Separate Appendix C outlines the main steps that entrepreneurs should follow to align with CRG internal policies and to demonstrate to potential investors that the startup has secured the right to exploit the CRG technology. The internal policies include the CRG Intellectual Property and Technology Transfer policy (**IP&TT policy**) and the CRG Conflict of Interest policy (**COI policy**). Such policies form an inherent part of the professional duties of the CRG researchers, who must be aware of the requirement to implement and comply with them before undertaking critical decisions concerning commercialization of any CRG invention.

9. Pursue investors and funding

When launching a startup company, securing funding to support the business will probably be the greatest challenge that you will face as an entrepreneur. Before defining your financing strategy, you must have a good understanding of the financial projection of your business. This will determine how much cash needs to be raised and from which sources you can get it, including sales, grants, and investors. You should be realistic about exactly what's needed, as underestimating the funding required might cause future setbacks.

Determine the amount

The main factors to consider when determining the amount required to move your technology and your commercialization plan forward should include: space and equipment, further development costs, employees' salaries and benefits, travels and legal fees, among other things. The financial requirements of the business need to take into account also the following caveats:

- **Cash burn ratio**. Be aware that cash consumption is constant and fundraising events a one-off. An entrepreneur should always know how much cash is being burnt every month and hence how many more months the business can last without further fundraising.

- **Working capital.** It is important to make prudent estimates of the cash cycle ratios, in terms of days payable outstanding (DPO) and days sales outstanding (DSO), *i.e.* the average number of days that the company takes to pay invoices and to collect often delayed revenues. In a business that burns cash, controlling time is even more important than controlling expenses.

- **Contingency margins.** Entrepreneurs should attempt to raise a surplus cash of 10% to 20% more than the previsioned amount as a means of providing for potential contingencies.

Understand sponsors

Commercializing a technology is a capital-intensive process, which often requires multiple rounds of funding from various sources, as shown in **Figure 9.1**. The three main sources of finance for an *early-stage* startup are typically founders' savings, friends & family contributions and self-financing from the company's operations. In some sectors it is also becoming more common to find public and government funds that support entrepreneurship. Compared to private investors or bank debt, these programs offer very attractive conditions. Sometimes, the support is not financial (office space, consulting, contacts…), but still very useful to help minimizing costs. When early-stage funding is insufficient to sustain growth, entrepreneurs will need further injections of outside capital, typically from business angels (BAs) or venture capitalists (VCs).

The size of the investment needed during this period is an important driver in determining whether to go for BAs, VCs or a combination of both sources. Technology startups which have a sequential and long development period, tend to structure financing according to their key development phases and to raise money only when required. In this way they reduce the financial risk associated to each phase and they gradually increase the venture attractiveness to investors as development advances.

A second important driver is the conditions and expectations of private investors at the different stages of funding. BAs, for instance, invest earlier than VCs, in a point of the development cycle, often referred to as the "equity gap", in which the initial funds are not enough and the venture is not sufficiently advanced yet to attract the interest of VCs. As BAs invest earlier and with smaller amounts of money than VCs, they usually have lower expectations in terms of equity stakes and company control and a longer investment horizon. Nevertheless, both private investors have similar goals of high returns for the considerable financial risk that they are taking with their investment. Return requirements may vary based on industry, but many investors would seek 10x their initial investment over 5-7 years.
TBDO can advise on the pros and cons of each source of financing and help you present your idea to potential investors. TBDO's network can also help you get a first important contact with investors and attract their attention to your idea.

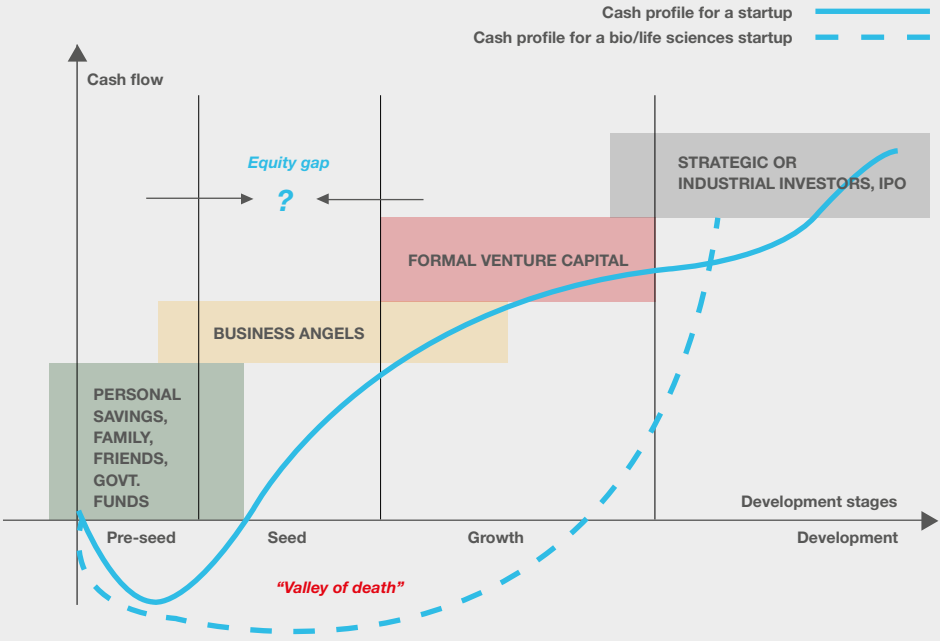


Figure 9.1. The startup financing cycle, using traditional funding sources. The cash profile before reaching break-even, referred to as the "valley of death", is usually deeper and longer for biotech and life sciences ventures.

Choose the best sponsor

Beyond founders' cash contributions, equity and debt will be the two basic dilutive and non-dilutive ways to finance your business based on outside capital as further explained in **Separate Appendix D**. In general, **equity** will give the investors an ownership interest in your company, whilst **debts** will make the holders creditors of your company. The following is a detailed list of the most common sources of funding for an academic startup:

EARLY-STAGE FINANCING

Founders' savings

Needed at least to incorporate the company and to show investors that you are fully committed to the venture and do not see it merely as an extension of your research activities

Friends & family … and fools

Friends and family usually are the first ones to blindly believe in your project. A "friends and family" round can provide critical seed capital while additional funding is sought. However, you should carefully consider whether to count on this form of financing, as it might add little investment and additional bureaucracy to the startup, at the cost of significant dilution. Furthermore, you may want to avoid tense social relations in the future, in case your business will prove unsuccessful.

Bootstrapping ("organic growth")

Organic growth can be an attractive non-dilutive strategy for those startups that can release an initial product fairly quickly and count on sales to slowly grow the business. However, this form of financing seldom applies to academic startups typically built upon early stage innovations.

NON-DILUTIVE FINANCING

Non-dilutive funding is a source of financing that does not require the sale of your company's shares, and hence does not cause dilution and loss of control of the existing shareholders. As resources require approval from stakeholders with deep domain expertise, like competitive grants, strategic partners or foundations, non-dilutive funding can serve as a good source of validation of the team and the technology in front of future customers, partners and equity investors. Common sources of non-dilutive funding are government/public grants, non-for profits grants and bank loans.

DILUTIVE FINANCING

Dilutive funding is any source of fundraising that implies a reduction in the ownership percentage of your company, typically caused by the issuance of new stock. Common sources of dilutive funding are:

Angel investing ("Business Angels")

Business Angels (BAs) are typically high-net-worth business people and entrepreneurs who have a personal interest in investing their own money to back startup companies. They are usually willing to invest in startup companies at an earlier stage, with a longer investment horizon and with a smaller amount of funding than Venture Capitalists (VCs). In return for the considerable financial risk that they are taking with their investment, they are usually expecting a significant shareholding in the company.
Although some angels might take active roles in the startup, most of them have interests in more than one venture and will likely take a mentoring position rather than being heavily involved in the day-to-day running of the company. The best angel investors for your startup are those who have direct experience and contacts in your market, and can offer your startup more than just money.
Business angels often form groups or networks that collaborate to examine opportunities and pool investments. The advantage of pitching your company to such associations is that you can reach many angels at the same time.

Venture Capital

Venture Capital (VC) firms raise substantial funds from other investors and then invest these funds in high growth potential companies. Compared to BAs, venture capitalists tend to invest in startups with a larger amount of money and at a later stage of development, typically after the seed-funding round. In return, they expect to get a bigger equity stake and a more direct control over future developments, by bringing experienced management talent to guide the company's growth. It is not unusual that they invest in several rounds of funding, often as part of a larger consortium of investors in the company. **Table 9.1** shows a comparison between BA and VC investments' main features.

Before approaching a VC firm, you should understand that they specialize in high risk/high growth investments, and hence they can be very strict in selecting the ventures they want to invest in and in setting conditions. In order to prevent frustrations, you should investigate their field of interest, their conditions and their time sensitivities beforehand, for instance by researching their reputation online or by talking to entrepreneurs who have worked with them previously. In particular, you should take into account that within 5-7 years they will wish to recover their investments via an exit strategy, such as an initial public offering (IPO) or a mergers and acquisitions (M&A). This event should be carefully planned ahead in your business plan, as your company will need to be sufficiently stable to allow all stakeholders to benefit from the exit. TBDO is very familiar with venture capitalists in the Spanish region and beyond, and can help to establish connections within these firms.

	BUSINESS ANGELS	VENTURE CAPITALIST
Personal	Entrepreneurs	Money managers
Source of funds	Own money	Fund providers' money
Size of investment (*)	As low as €10,000	Above €200,000
Firms funded	Small, early-stage	Medium-large, later-stage
Motivation	Financial and emotional	Purely financial
Due diligence	Appropriate	Extensive
Agreements	Appropriate	Comprehensive
Geographic focus	Local	Local, national or international
Support	Regular	Financial and networking
Expertise	Sectorial	Growth management
Control	Of lesser concern (meetings)	Strategic (board meetings)
Exit strategy	Of lesser concern	Highly important (IPO or M&A)

Table 9.1. Business angels' vs. venture capitalists' main features and interests.
(*) Amounts can have wide variance. In general BAs in Spain tend to invest less than the amounts that appear in the press referred to the US. Likewise, bio or medical sector deals tend to be higher than the average.

Strategic investors (corporate venture funding)

Corporate VCs are funds that spun out of mid to large size companies and mainly invest in startups that can contribute to these companies' goals. They can be a good source of funding because they are not necessarily looking for a high return on their investment, if the deal can get them a specific competitive advantage in their main business. Some examples of biotech CVCs include Novartis Venture Funds, Lilly Ventures, Merck Ventures, Pfizer Venture Investments, GE Ventures and J&J Innovation, among others.

NON TRADITIONAL FUNDING

Crowdfunding

Crowdfunding companies fund projects or ventures by pooling small investments from a large network of individuals. Important to know is that under the same umbrella definition of crowdfunding there are four very different funding mechanisms:

- **Donation-based crowdfunding:** donors donate a small amount of money to support a cause they believe in or someone´s personal campaign, in exchange for gratitude.
- **Rewards-based crowdfunding:** backers typically contribute a small amount of money in exchange for a reward, such as the item being developed.
- **Debt crowdfunding:** lenders make a loan, expecting to make back their principal plus interest.
- **Equity crowdfunding:** investors invest in a company in exchange for a small piece of equity.

Be very cautious in choosing an equity crowdfunding platform, and get advice if you are not sure about the binding clauses. In particular you should avoid any deal-breaker conditions that can hamper a future exit for a VC investor. For instance, if you want to prevent that each micro-investor, individually, will have the power to block a sale, you should favor pooling of the individual investors into a single entity, obviate anti-dilution clauses and require "drag along" or "tag along" clauses that can force a shareholder to follow decisions made by the majority of other shareholders.

ONGOING INVESTMENTS

Over time, your company will gradually move away from risk financing towards debt financing and income from sales. However, it will likely always need access to cash, for which reason you should be prepared to secure ongoing investments at every stage of development.

Structure a financing round

The investment process works as a funnel with different phases, starting when the entrepreneur first contacts an investor and ending with an investment agreement, typically within 6 months (see **Table 9.2**). In each phase, the venture is questioned in a different manner, but overall investors are interested in assessing:

- How much will the investment cost?
- How will you spend their money?
- What will they get in return?
- When will they get their return?
- How much risk is there behind the project?
- How will you manage such risk?

	FIRST CONTACT	GROUP PRESENTATION	INDIVIDUAL PRESENTATION(S)	DUE DILIGENCE	AGREEMENT DEFINITION	INVESTMENT
Format	Virtual (mail) or direct contact	·Pitch ·Q&A	·Extended pitch ·Additional info	·Questions ·Documenta-tions	Contract	Key points in contract
Communication	·Entrepreneur ·Investor	·Entrepreneur ·10+ Investors	·Team · 2-4 Investors	·Team · Investor · Advisors	·Team · Investor · Advisors	·Entrepreneur ·Investor
Contents	Entrepreneur's proposal	Equity story	Questioning the opportunity	. BP review . Current status of the business	. Valuation . Exit	Consensus on business strategy

Table 9.2. The investment process funnel.

Success during the initial phases of the investment process is mostly related to the entrepreneur's skills as a presenter. However, as the process moves forward, the claims made on a presentation have to be adequately supported. Typically, investors won't initially be interested in the validity of the technology or science, taking for granted the entrepreneur's claims, but instead will focus on the solution that can be built around the technology or science and therefore its potential customers. Later on though, the entrepreneur will need to prove their claims of the technology or science in the due diligence phase.

APPROACH INVESTORS

- Entrepreneurs looking for capital for the first time often face the question: where are the investors?
- Following are some tips to manage your first contact with investors:
- Contact TBDO and your company's advisory network to get proper introductions to BAs and VCs.
- Engage as many investors as possible: be warned that of 100 firms that a VC will receive, only 10 get a close look to the project and only one will finally receive funding.
- Do due diligence on investors. Before approaching a VC, it is worthwhile checking the prospectuses that they use to raise the fund with third party investors, to ensure that their interests and priorities match with yours and whether they can contribute more than equity to your venture.
- Be very clear about the purpose of the meeting. An exploratory meeting may be acceptable, as investors like to be initially approached by entrepreneurs who are seeking their advice. If this is your intent, make sure that they know beforehand.
- If the purpose of the meeting is pitching your business plan to get funding, make sure the presentation team is thoroughly prepared, or you probably won´t get a subsequent meeting.

- Do not try to tell too much at the beginning. Just provide the key information and remember the goal is not to tell everything to investors but to create the investor's interest in wanting to know more.
- Listen to their feedback. Investors need to get the feeling that you are willing to take their advice.
- Be positive. Keep in mind that, even if they won´t fund your company, investors will most probably provide valuable feedback and further contacts.

PITCH TO INVESTORS

Presenting your idea to investors, along with the supporting research and team, is an important step in the investment process, which requires thorough preparation. A company pitch is very different from a scientific presentation and it may take a long time to perfect it before you are ready. Remember that the TBDO can provide coaching on perfecting your pitch. It is also advisable that you attend several networking and pitching events, to get a feeling of how company pitches are made.

Following are some tips to pitch your opportunity to investors:

- Revise your communication package (as presented in **chapter 7**) and make sure to use the right presentation for the specific meeting of the investment process.
- Do due diligence about the investor that you are meeting and adjust your pitch to address the investor's specific interests.
- Don´t focus on the innovation itself, but rather on the product that you are bringing to the market.
- Use examples and prototypes to help illustrate the business potential.
- Use customers' feedback to validate your product and marketing strategy.
- Make sure to provide confidence and mitigate concerns.

- Provide accurate answers or promise to follow up soon.
- Practice your presentation in front of EIRs and experienced entrepreneurs. Their questions will most probably be asked by investors as well.

VALUE THE VENTURE

At some stage in the investment process, you will have to negotiate the valuation of the business with investors, that is, the percentage of the company that the investors will own in exchange for the funds requested. From a technical point of view, there are three main methods to value a biotechnology or life sciences startup: Discounted Cash Flow (DCF), Risk Adjusted Net Present Value (rNPV) and Comparables. The first two methods are based on the estimated cash flow of the company, discounted to calculate the present value. The third one, less scientific but probably the most used, values the startup on the base of recent transactions or market capitalization of comparable companies. Valuation can be influenced by factors unrelated to financial performance, such as timing and lack of alternatives, among others. Subjective factors may also play an important role in reaching an agreement.

Before embarking on obtaining external capital, you must have a strong and detailed set of financial projections plus additional information on the sector deals made in the last 2 or 3 years. Prior to releasing your projections to investors, you should test them by running a sensitivity analysis on events, such as the delay of approvals for a certain development phase. Following are some tips to negotiate with investors:

- T**ake the negotiation as the first step in a continuous relation.** Avoid hard bargaining, ultimatums, and similar tactics that might be effective in one-off relations.
- **Do not auction your venture**. The market for startup investments is not a competitive one. Try to be as transparent as possible and help build syndicates of investors when possible.

- **Use numbers but be aware of their limitations.** Support your valuation with the relevant information and recognized methods.
- **Leverage CRG support.** Investors always perform a due diligence to determine if your startup meets their strategic and financial goals. During this analysis, they will positively value your collaboration with the TBDO, as a reassurance that IP rights are being properly secured by the company.
- **Be aware of the investor's goals**. Investors invest to make profit. When evaluating a company, they take into account its potential, but also if and when they can recoup their investment with an appropriate return. VCs are targeting at least an overall 20% annual return on the fund and a good exit within a timeframe of 5-7 years.
- **Defend equity.** Raising capital from external investors is extremely costly. Minimize the funds you ask for. Tight cash management, debt financing or public sector funding can be alternatives, and planning for sequential rounds as development advances is a good strategy.
- **Understand that control is not only equity share.** Having 51% of the shares is important, but minority shareholders can effectively control the venture through a strong shareholders' agreement. Have a good understanding how those clauses work (anti-dilution, reinforced majorities…) and use them to your advantage.

10. Establish the business

After the opportunity has been validated the entrepreneur may then decide to establish a business. This chapter summarizes the most important steps to launch your startup.

Incorporate the company

The process of establishing a company's existence is called "Incorporation". It involves drafting and registering all legal documents until the registration of the new company with the Register of Companies.
While many different considerations are involved in the incorporation process, the first important decision is to form a separate legal entity, which will provide the entity's owners with limited personal liability, restricted to the amount invested in the company.
The process of selecting an appropriate business entity should take into account the current and future needs of the company and should be driven by a mix of tax, accounting, business structure, strategy, corporate governance and certain personal concerns.

In Spain, the most common legal entities are the 'Sociedad Limitada' (SL), the 'Sociedad Limitada Nueva Empresa' (SLNE) and the 'Sociedad Anónima' (SA). The main steps needed to incorporate a Sociedad Limitada in Spain are outlined in **Separate Appendix E.**

Secure legal representation

TBDO does not provide any type of legal advice, nor does the content of this guide, which is intended exclusively for general information purposes. Before launching your company, you should consult a corporate attorney that can guide you through the whole incorporation process. An attorney will help you to:

- Select the appropriate business entity.
- Prepare, file, and maintain corporate documents. Setting up a new startup company requires extensive paperwork and it is important to operate by the book. **Separate Appendix F** summarizes the main documents that you will need to have in place before incorporating your company.
- Advise on you duties and responsibilities on tax-related matters. Setting up a startup can affect your personal tax liability in several ways and you should seek specialist tax advice to be certain of your position – and also that of the company. At the very least, your company will have to deal with corporate taxes, including **social security, VAT** payments and **withholding taxes.** As an entrepreneur, you may also pay income taxes on any shares that you acquire in the startup.
- Maintain corporate records. The company documentation is important to properly protect the business and its investors.

Seek aids and incentives

Public administrations implement grants, aids and financial programs to support entrepreneurial activities at local, national, international and European Union level. The type of aid and funding ranges from tax deductions for R&D activities to loans at low interest rates. Considering that the aids and the funding change every year, the startup should check those in force at the time of its incorporation.
Refer to **Separate Appendix G** for a list of interesting links related to grants, aids and funding opportunities at local, national and international level.

Take out individual and company insurances

If you will serve as a director of the startup, you will leave yourself open to significant personal financial risk from claims made against the directors' duties. To protect yourself, your family and your personal wealth in respect of claims from which the company does not indemnify you, you should better take out a quality directors' or officers' liability insurance policy.

Also the company will have to take out different compulsory insurances, including an Employers' liability insurance. It might as well be prudent to take out an insurance coverage against public liability, product liability and material damage.

Select co-founders and directors roles

As a private company limited by shares, ownership rests in the hands of its shareholders. Shareholders may or may not have a controlling stake in the company. Either way, they are ultimately in control of the company as they can elect or remove directors and exercise their voting rights at general meetings, via the passing of ordinary or special shareholders resolutions.

The main difference between shareholders and directors is that directors are responsible to manage the day-to-day activities of the company and, as such, are accountable to the shareholders.
Directors are elected periodically. Together, they form the board of the company, which leads the strategic direction and protect the company's best interests. The Board of Directors will meet regularly to review and vote crucial decisions about the company's finances, objectives and responsibilities.

CRG, through a representative appointed by the TBDO, will be entitled to attend the Board of Directors as an observer, with the same rights of attendance and information as any board member. Nevertheless, CRG will usually take part in the deliberations with a right to have a voice but without the right to vote.

Directors do not have personal liability for the company's debts. Under certain circumstances, including fraud or wrongdoing, administrators can still be deemed personally liable for the decisions they make while running the company. Furthermore, sponsors (investors or banks) might often request personal guarantees that bring down the protection that limited liability represents. Thus, if you are planning to become a director of the company, it is prudent to protect your personal wealth by taking out a directors' liability insurance.

Appoint the advisory boards

As the new venture progresses, responsibilities often expand beyond the abilities of the founders. At this stage, many companies establish clinical, business, and/or scientific advisory boards composed of seasoned experts who give straight advice and provide introductions to investor and to contacts in the relevant market. Advisors can be motivated to help for many reasons, including the satisfaction to guide a new venture to success. In general they are incentivized with ownership or, to the extent available, with cash.

TBDO has many contacts into entrepreneurial networks and could help founders find good advisors.

Build an IP protection strategy

Your most valuable asset at inception will most probably be the IP licensed from the CRG. Preserving and enhancing this IP value involves developing an IP protection strategy, including a trade secret policy and the combination of trademarks, copyrights and patent protections.

Find premises for your business

The company will need somewhere to operate the business from. Choosing the right premises can be critical for attracting customers, while the location itself can significantly influence productivity.

Depending on space availability, TBDO may consider leasing a portion of its Valorization Lab, where a number of EIRs conduct their work.

Other resources to consider are incubators, accelerators and science parks in the Barcelona area, where you can also benefit from being closer to a community of entrepreneurs in your same situation.

CONCLUDING REMARKS

This guidebook has progressed from general concepts of Technology Transfer to more specific guidelines for Business Development, via an overall view of legal aspects that should be taken into account to successfully launch a startup. We have tried to address many of the common hurdles faced when starting a company, to help you prevent them and help reduce the number of mistakes made along the way. We hope that it can be a useful resource for you.

We encourage you to contact TBDO for further guidance in any step of your entrepreneurial journey and we leave you with two final lists of recommendations: 10 tips to follow and 5 pitfalls to avoid in order to launch a successful startup.

TIPS TO LAUNCH A SUCCESSFUL STARTUP

1. **Do not idealize entrepreneurship.** Entrepreneurship may be an opportune career choice, but it should not be treated with idealism. Define to yourself and others why you are starting a company and be prepared to change your reasons. Before deciding on pursuing an entrepreneurial career, imagine yourself as an entrepreneur and form a realistic picture of what your working life, day to day, would be like. Are you prepared for that?

2. **Establish a relationship with CRG at the onset.** Your IP is probably going to be your most valuable asset at inception. Reassure investors that IP rights and Conflict of Interest issues are being properly managed by the company.

3. **Decide equity and responsibilities before you start.** Remember that even your best relationships will be strained when forming a company. Be wary of everyone's goals and expectations.

4. **Evaluate the opportunity first and then plan it thoroughly.** This will help you avoid many potential errors. Remember that a great technology and a business idea are not enough to make a successful business.

If there is something fundamentally wrong with the opportunity, be honest with yourself: acknowledge it and think twice before launching. Once the opportunity has been validated, use the methodology for its launch that suits the opportunity most. Whatever method you use, devote a lot of time to it and do not favor a method just because it appears to be the easiest.

5. **Get the users' point of view from the start.** Understand how users will interact with your product or technology. Will it help them? Will they appreciate all functionalities and are they ready to accept all side effects? Is your solution better than existing ones?

6. **Commit to your company**. Define from the start what of yourself you are willing to put in the company, in terms of money and time, and at what point you will be involved in the venture. It can be a milestone or a calendar date, but set an objective. If you cannot be involved, then get professional business help early.

7. **Determine the cash needs of the venture.** Make a concerted effort to predict how much the venture will require for each phase. Do not count on the best-case scenario. Instead, build in contingency buffers, run sensitivity analyses and have alternatives or a plan B whenever possible.

8. **Raise funds efficiently from a mix of sponsors**. Rely on public funds if possible, minimize cash needs and manage working capital efficiently. Raising a lot of money from investors is not necessarily a good thing, if you could have raised it from more economical sources. Engage financing rounds as an opportunity and manage them as projects, with subtasks and deadlines. Make sure that you devote enough time to them.

9. **Understand finance well.** Being an entrepreneur implies managing money and doing it well. Make sure you have a good understanding of basic operating, accounting and corporate finance concepts. Refer to **Separate Appendix D** for a summary of financial considerations in startups.

10. **Invest in your network.** Your value as an entrepreneur and that of your venture depends on the value of your network. Map the entrepreneurial ecosystem of your city and commit yourself to attending a networking event every week or two.

TYPICAL STARTUPS PITFALLS

Launching an academic startup is a high risk objective, marked by high failure rates. Being aware of the common issues that cause startups to fail can boost your chances of success:

NO COMPELLING NEED. At the TBDO we often assess brilliant solutions to inexistent or marginal problems. The dispute is not about the science, which is typically cutting-edge and exciting, but rather about the absence of a compelling customer need or even the presence of a big customer pain in a small market niche. The first step for self-evaluation should be asking yourself: "Ok, I've created a great technology to solve my problem. But have I built something that other people want? How many are them? And even so, would they be willing to adopt my solution and abandon consolidated technologies and common practices?" In other words, after evaluating the *problem/solution* fit, we will help you assess the *solution/market* fit. If you have a good answer to these question you might have a good business opportunity.

BAD TIMING. Even when a strong commercial need exist, you should be careful not to miss your window of opportunity in the market. Launch too early and the market might not be ready. Launch too late and you will have too many competitors. Good business opportunities need to be timely.

INEXPERIENCED MANAGEMENT. *All* startups need a winning team, with multi-sectorial expertise and a consistent strategic vision. Early decisions will affect the company's health for long, so you need to promptly fill any managerial and scientific gap. In particular, it is crucial for inexperienced founders to build a strong initial advisory board and to be prepared to delegate control as the company grows. Finally, ask yourself (and show investors): "Why is my team *uniquely* qualified to run this venture and successfully reach the market?" In other words, you should thoroughly assess the *market/team* fit. Otherwise, your entrepreneurial idea can be a business opportunity, but for someone else.

LACK OF FUNDING. Once you have validated your business opportunity, you need to make sure to raise sufficient funding to develop a commercial product. To attract investors you've got to be prepared to sell your team and your business plan, and to give them an exit route with good returns. Don´t underestimate the importance of your pitching material.

BAD LUCK. Even with careful planning, venture can fail due to unexpected events. Resilient entrepreneurs should take failure as an opportunity to learn from their mistakes, recognize their strengths and create a plan to improve and move forward.

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