



**SPIN OFF
TREND
OF
TODAY**

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Home

A spin-off company is generally understood as a business company designed to successfully commercialise a new finding/innovation (or invention, discovery, etc.), especially in the research or academic environment. It is the upfront transfer and application of intellectual property into practice. This has the advantage of transferring risks and commercial activities from the research/academic sphere to the commercial sphere.

For the sake of completeness, let us give a few definitions. The very definition of a spin-off company can be derived from the English term spin-off, which is usually interpreted as an accidental or unexpected result or by-product of an interesting project.

The concept of a spin-off company or also the term "corporate spin-off" is understood as an entity that separates from the parent company by "spinning off" tangible assets, employees, intellectual property rights or technology.

A number of studies demonstrate a positive stock market reaction to spin-off announcements or expansions (see Miles and Rosenfeld, 1983; Allen et al., 1985)

Spin-off companies are among the major university technology transfer mechanisms with the highest commercialization value (Rogers et al., 2001) and are formed primarily with the explicit goal of commercializing established and validated research results (Pattnaik & Pandey, 2016; Rasmussen, 2008; Rasmussen et al, 2014). Although this is a relatively well-known and long-standing phenomenon, it has gained a lot of attention in the last few decades (Etzkowitz, 2002), primarily in universities and states that are committed to the development of entrepreneurship at all levels of education.

The commercialisation of innovation from the university and academic environment by public sector representatives is permanently in the sights of all policy makers worldwide, especially in order to prepare an ideally harmonised legislative environment for the creation of a supportive business environment. Over the years, a number of national policies have sought to encourage and create an enabling environment for universities to engage in the commercialization of research results (Bolzani et al., 2014; Grimaldi et al., 2011; Rappert et al., 1999). In this regard, universities have played a key role in technology transfer or knowledge transfer and transfer of research outputs to the commercial sphere over the last few decades, increasing their involvement in transforming scientific discoveries into commercial opportunities through the establishment of spin-off companies e.g. Del Giudice et al., 2013; Stemberkova et al. 2013.

New companies established in this way are mutually beneficial for both the investor and the research organisation, including the future prospect of often interesting financial gains. An equally important benefit is the application of the results of the intellectual property in practice. In general, for investors, association with any academic institution is a prestigious matter, through mutual cooperation they gain unique access to closer cooperation with individual departments of the given academic institution, the possibility of using its unique knowledge, the possibility of professional consultation with leading experts in the field, the possibility of using various joint grant schemes for further development of the given intellectual property if desired in the given case and much more. For academics, mutual cooperation always means an exclusive opportunity to bring their technologies and innovations to the regional/national/international market. Furthermore, academics can use

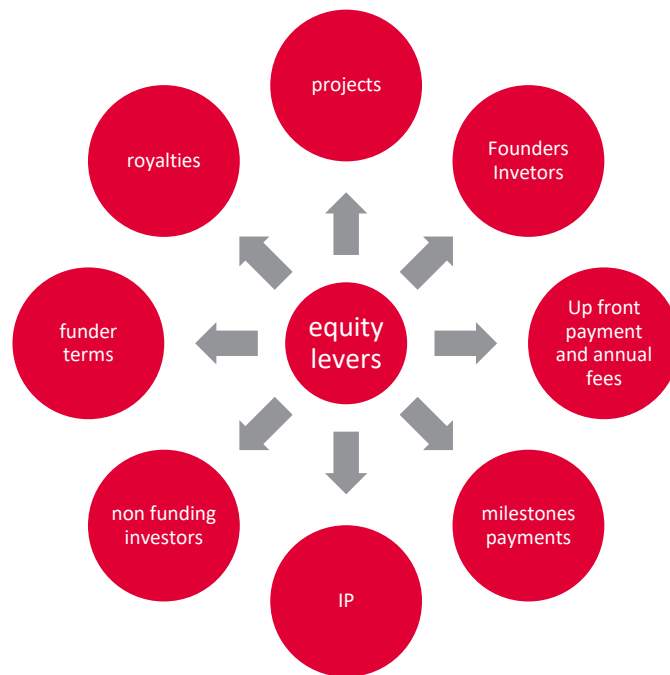
the investor base for the necessary marketing, gain interesting experience in business decision-making and business strategies, and can be part of the negotiations on the further position and development of the company as agreed. All these competences are very valuable for the further direction and development of all parties. The risks of certain possible failure are therefore transferred from the research organisation to the company. If an interesting joint business success is achieved, the academic research institution gains in prestige. Such success can then act as a model for the further development of science and research at that academic institution.

Company models can be different. Either an academic institution or a private investor can have a stake in the emerging company, depending on the agreement. In terms of the actual inputs to the company formation, again it depends on the outcome of the facilitation itself. By default, there is a monetary contribution by the investor and a non-monetary contribution through its intellectual property by the academic institution. The value of the non-monetary contribution is normally determined by an expert opinion.

When setting up a company in terms of a complex process, many factors need to be observed, we list the following, which must determine

- Intellectual property protection strategy
- Contribution of the investor and the company to obtaining a quality implementation team
- Offer and support from the university for the emerging company to access the laboratory infrastructure
- Investment strategy
- Business strategy
- Access to academic university development
- Intellectual property protection costs - if relevant
- Employee conflicts of interest
- Filling key positions

Diagram: Optimisation of company setup in simplified form



Elaborated by: R. Štemberková, 2024

Basic typology of spin-off companies

1. Spin-off company with 100% ownership of the research organisation

It is a more flexible form of incorporation, intended to be an extended arm of the research organisation. The right internal rules are always needed. The advantage of this option is the absolute control of the research organisation over the company being formed.

2. Spin-off company with participation of a research organisation and another entity

Another type of spin-off company is one that involves the participation of a research organisation that has a majority or minority stake in the newly formed company. The advantage of this solution is the sharing of risk and control over the emerging entity, as well as the financial and commercial know-how gained by cooperating with a private entity.

3. Spin-off company without research organisation participation

In this form of company, the research organisation has no shareholding, but can be set up, for example, by its employees. Incorporation takes place with the cooperation or knowledge of the research organisation and is accompanied by mutual agreements between the company being formed and the research organisation. This option has the advantage of being low risk for the research organisation.

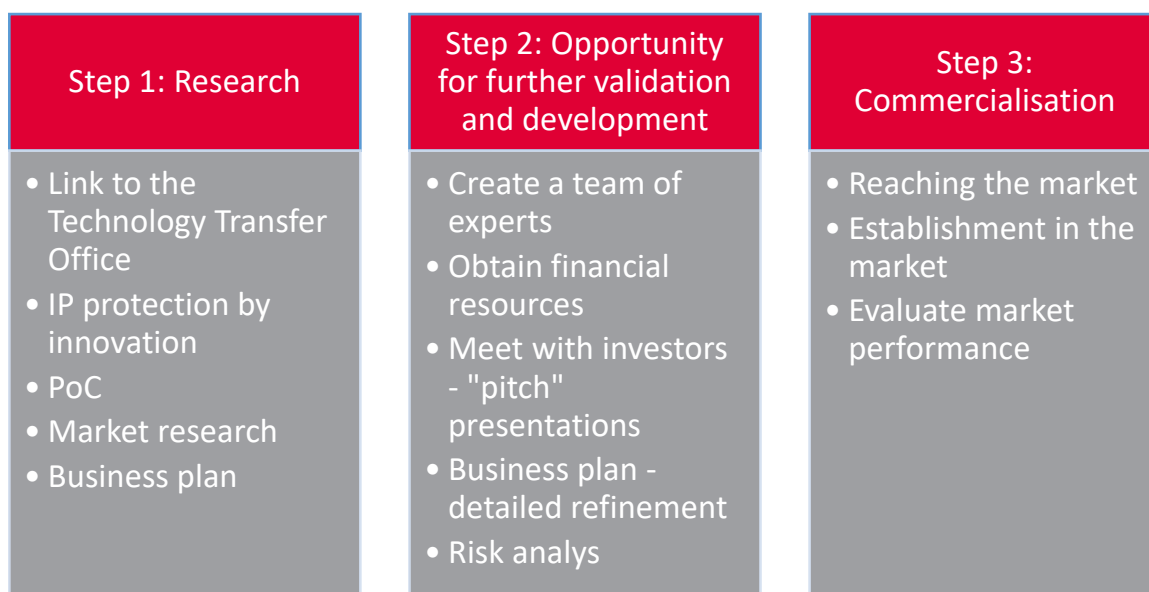
It is therefore clear that spin-off companies act as critical actors in innovation ecosystems and as connecting points between entrepreneurial and innovation ecosystems, given their links with the university, which has the potential to act as an organiser of innovation ecosystems, and with the commercial sphere, given its propensity to create and capture value. The companies in question are generally made up of entrepreneurial scientists and R&D innovators.

It is therefore clear that R&D intensity is related to the growth of spin-off companies or their establishment. On the basis of past experience, it should be noted that the establishment of spin-off companies has a significant impact on revenue growth positively related to the performance of the company. The regional and national ecosystem is positively associated with the growth of spin-off companies.

Stages for developing a successful spin of a company

We have identified three basic phases related to business readiness and the successful launch of a spin-off company on the market. Among the most important factors is the thorough protection of intellectual property, if relevant in the case. It is to have achieved the Proof of Concept stage for further expansion and production. Clear terms and conditions, milestones need to be set and operating rules need to be communicated with the involvement of the technology transfer office. Furthermore, it is essential to get an active working team of both experts and business people. It is necessary to verify the sufficient market potential of the innovation itself, to create a business plan with risk reduction effect.

Diagram: Scientific stages of innovation development



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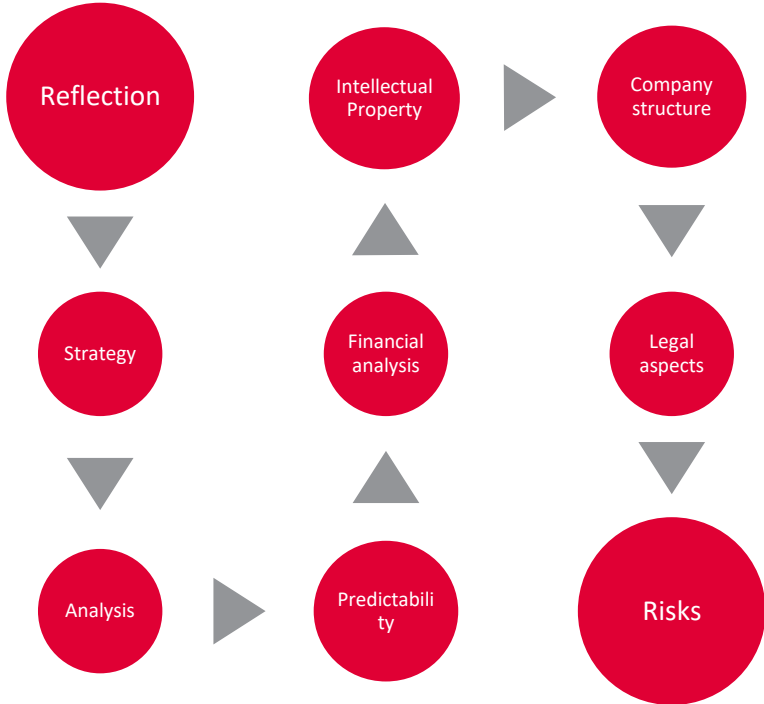
We have attempted to link the above stages of innovation development at academic institutions to the stages of technology readiness.

For the Research phase - we can assign the technology readiness phases TRL1-3/4 (basic research to preclinical experiments). This is a very substantial and important phase prior to the actual spin-off, the aim of which is to gather significant scientific data and refine the innovation itself. During this phase, it is certainly necessary to contact the relevant technology transfer centre, to secure intellectual property protection if necessary, to verify the functionality of the innovation within the PoC, to create a business model and to scout potential target groups.

As part of the further validation and development step, the company continues to build and develop, moving the technology from TRL 3/4 towards TRL6/7 (specifically scaling up, GMP manufacturing, from preclinical studies to Phase I/II clinical trials). During this phase and this time period, it is critical to build the expertise of the team, raise sufficient funds, develop a thorough, detailed business plan, set the next phases of operations and establish a strategy for finding potential investors.

Step 3 comes and is implemented when the spin-off moves to commercialisation/acquisition or partnership and at this stage the product is developed from TRL 6 towards TRL 9 (Phase III clinical trials, marketing authorisation, launch and post-market surveillance).

Successful spin-off - partial steps



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1. Reflection - acceleration processes

In this first, initial phase when considering the creation of a spin-off company, it is necessary to establish clear phases of product development as a structured framework for further development, in relation to the development of the company and to consider the conditions for their transition to external partnerships. Creating a future roadmap, establishing validation metrics, considering resource allocation including setting strategic milestones is absolutely key at this stage

2. Strategies

At this stage, it is necessary to evaluate how the newly established company is consistent with the main strategic objectives of its parent company. The whole process involves a verification of potential. This includes leveraging the company's assets, as well as verifying customer relationships, infrastructure and expertise, and portfolio diversification.

If the emerging spin-off firm is aligned with the corporate objectives of its parent company, it can benefit significantly from the resources across its parent company's full range of capabilities. If, however, the business focuses on an entirely different market or requires more flexibility and risk-taking than is somewhat customary with the parent company, this certainly increases the spin-off's chances of success by giving it the flexibility to adapt and pivot at the speed needed to meet its own unique market challenges.

3. Analysis

This phase requires a detailed analysis of the market potential and competitive position. Clearly define the company's target market with a possible future growth trajectory. Monitor consumer trends. Define the competitive environment in relation to its own products. Determine the future direction of the company based on the analysis of partial data.

4. Predictability

In the context of business management, it is necessary to be timeless and to be able to anticipate any changes related to the operation of the company (supply chain, planning, employment policy, management, employee training, IT systems and operational processes, etc.

5. Financial analysis

It is necessary to prepare a financial analysis and a forecast of further development, which should include in particular the current financial situation, the estimated development of the company's future income, requirements, or needs for further financing. A detailed financial analysis will enable better targeting of the strategic direction of the company. After defining these data, it is necessary to determine the financial structure of the company, in particular the initial structure of its financing and the distribution of equity.

6. Intellectual property

To resolve the transfer of intellectual property clearly and precisely within the framework of the concluded contracts and to determine other possible generated intellectual property within the development of the company primarily in terms of property relations, including consideration of the approach of possible further commercialisation.

7. Company structure

During this phase, the management structure of the company needs to be established in order to prosper in the future. Consider the choice of an outsider or an internal candidate, according to the professional competencies needed to lead the company.

8. Legal aspects

All legal, commercial and tax implications and associated costs need to be carefully considered in the context of the company being prepared. They need to be fully consistent with the overall strategy, goals and long-term vision of the parent company and the emerging entity.

9. Risks

As part of the successful setup and preparation of a company, the key risks i.e. operational risks, market risks and integration or separation issues need to be clearly considered. This will result in an effective strategy to mitigate future potential incoming risks.

The goal of creating a thriving spin-off company is to exploit its extraordinary innovation opportunities. First of all, for this reason, it is necessary to prepare an exact analysis of all the sub-steps mentioned above.

Market Research for Academic Spin-offs

Academic spin-offs are seen as an important mechanism for transferring technological knowledge from universities to industry, although they often have low growth rates. One possible reason for this is the lack of appropriate marketing skills, as spin-off managers tend to limit the role of marketing to the execution of mere tactical activities.

Academic spin-offs usually develop products and services that can be applied in different markets. This peculiarity makes it difficult to conduct marketing research given the variety of segments and channels to be prioritised.

As such, market research is one of the important elements that allows the decision maker to obtain a more accurate picture of the target group and, consequently, to obtain valuable information on the pricing strategy of competitors and to adapt the marketing strategy accordingly. The insights gained from a well conducted market research helps a new company to better plan its decision making, plan further production and clearly identify market opportunities.

In primary and secondary research, we try to collect data mostly from our own sources, using a variety of methods. These include Qualitative Research, Quantitative Research, Brand Research, Customer Research, Competitor Research and Product Research.

There are several options for conducting market research and it is always up to the company's management which approach they choose. See below for a basic overview table of market research options.

SWOT analysis - used as a tool in many other areas, it allows to identify the strengths and weaknesses of the company and at the same time to determine the opportunities and threats of the environment. This method is also widely used in other fields.

In terms of competitive analysis, it should be mentioned that it helps to monitor and evaluate the activities of competitors within a given business sector.

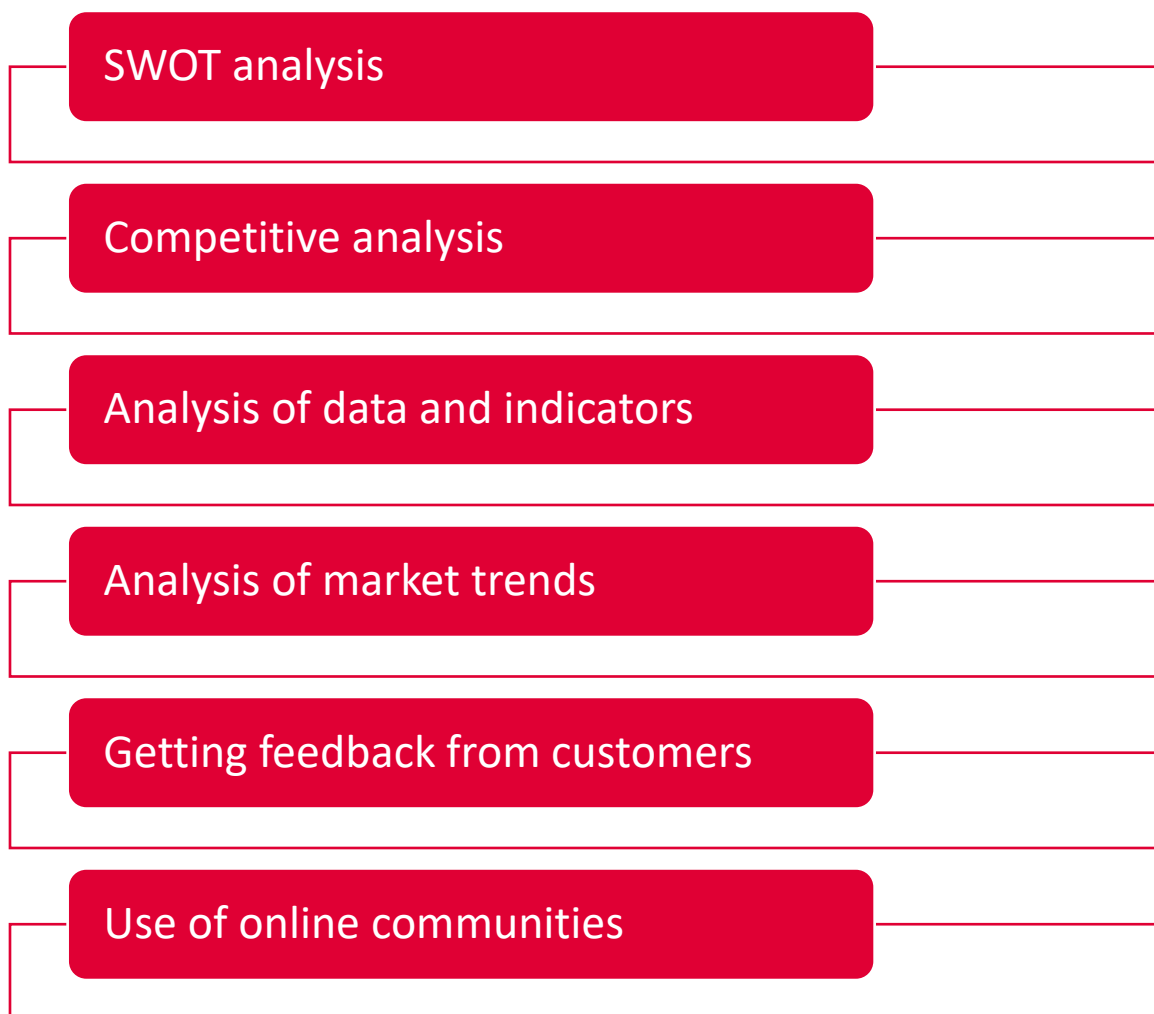
Data and indicator analysis is widely used in the marketing industry to monitor the effectiveness of activities and to continuously adjust and adjust strategy based on the ongoing results.

The market trend analysis, as the name suggests, allows us to monitor industry trends in customer preferences, technological innovations and to contribute to these results with strategies to ensure the company's long-term competitiveness.

Another very effective method is to secure feedback and opinions from end customers, which is mainly used to improve products and services to improve the marketing strategies of the company itself.

The use of online communities to conduct surveys directly on a specific group of respondents is also very interesting.

Diagram: Basic market research methods

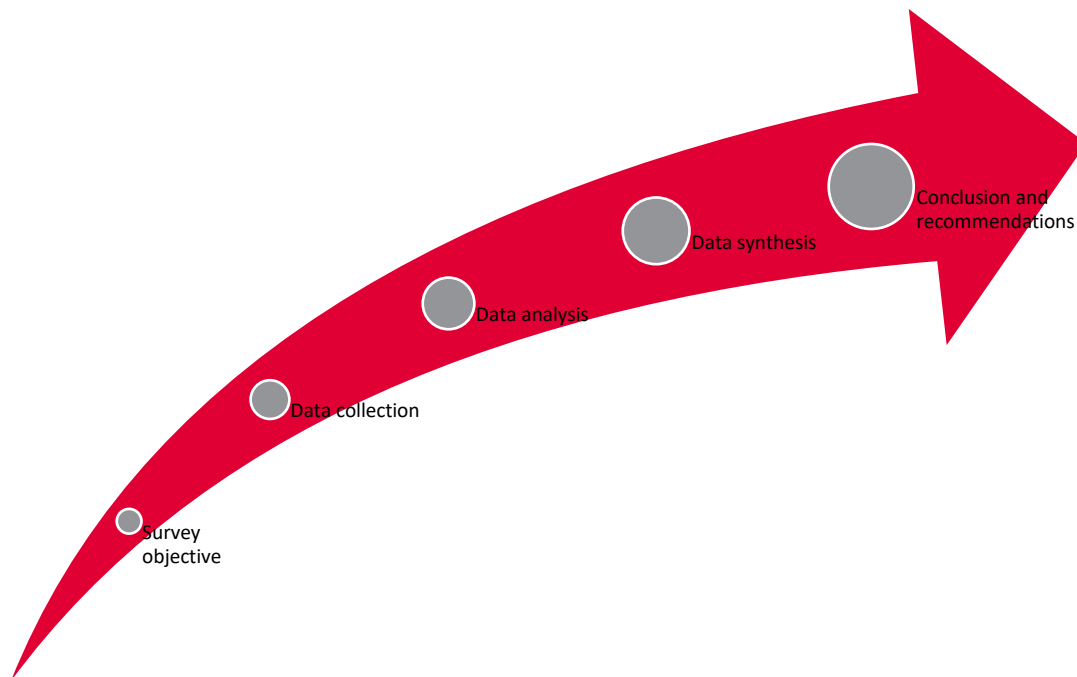


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The analysis itself has a significant impact on the further development and direction of the company within its natural competitive environment within the industry. By assessing facts in a timely manner, it enables the company to better match its efforts and products to the needs of its customers and to take advantage of identified opportunities in the available market.

The creation and dissemination of information about customers and competitors directly affects the ability of firms to develop technological innovations and achieve profits. However, market orientation also poses a challenge for spin-offs and can ultimately lead to inefficiencies when external technological conditions require firms to respond quickly to environmental stimuli.

Diagram: market research phase



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The implementation of the market research itself depends primarily on clearly specified objectives or targets for the survey itself. At this stage, a clear plan needs to be drawn up, including both methods and tools for the objectives to be achieved.

The second phase is the collection of data according to the selected method and their quantity to obtain the most representative quantity that will influence the evaluation of the results and prediction of the future direction of the company.

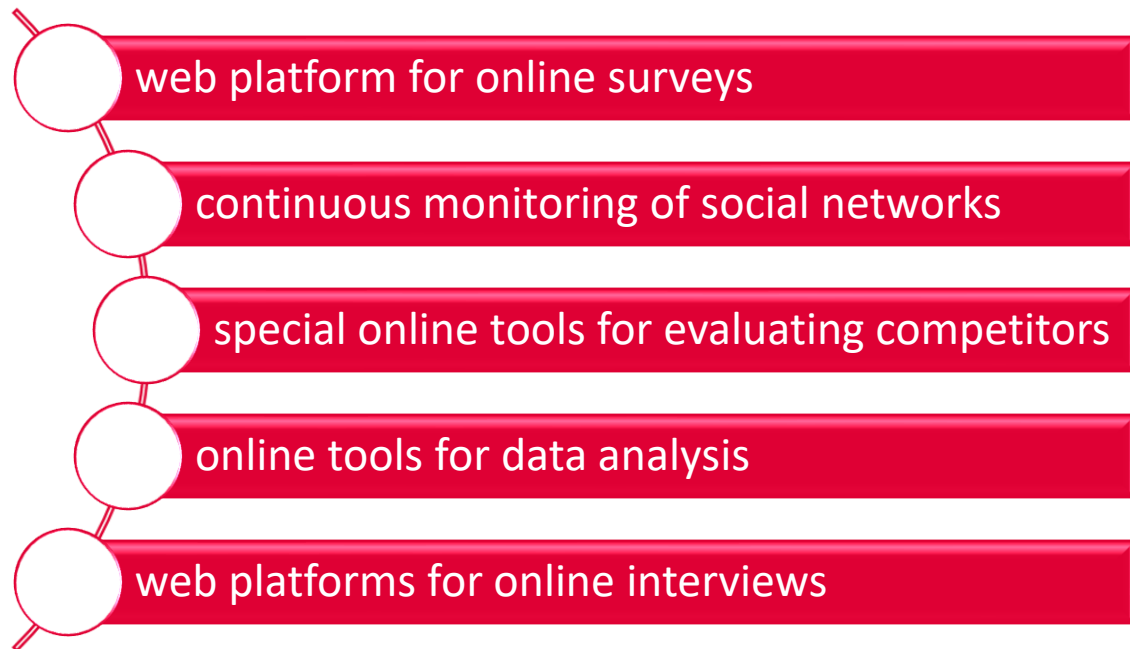
The third phase is the analysis itself, where the data obtained is subjected to an investigation to identify opportunities and threats in the market and, based on the data, to determine key trends for further development.

In the data synthesis, the results are interpreted and specific recommendations and possible conclusions are drawn. These are then incorporated into the company's core development, marketing and production strategies.

In the last phase, all the information obtained is summarized for further setting up of the company and especially for its further successful functioning on the market.

In terms of the market research itself, several tools can be used to efficiently find out the necessary data for decision making.

Diagram: Market research tools



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The individual tools need to be chosen in accordance with the objectives of the survey and suitability to the target group, so that relevant and expected data are subsequently obtained, which will be relevant for evaluation and the creation of valid conclusions and which will help to set further more effective direction and development of the company.

Spin-offs through the lens of an investor

Spin-offs represent a specific category for the venture capital investment community. At present, there is practically only one venture capital fund in the Czech Republic (managing, among others, funds from the European Investment Fund and other local institutional investors). This is due to the specific knowledge requirements of investment team members - i.e. that they have at least a basic understanding of the issues in which the fund should potentially invest. Just as Czech investors look abroad for opportunities to invest in spin-offs, foreign investors come to the Czech Republic either as independent investors or as co-investors alongside Czech investors.

Innovation, team, market and overall "investment case" are key in the VC investor's perspective. So what does an investor look at when an offer comes to the table - the opportunity to invest in a spin-off?

- What is the subject of the research, what are the results so far?
- What are the intellectual property rights, what is protected and how
- Who are the founders and how are they able to run the project for a number of years
- What investment will the project require to commercialise/internationalise it?
- The legal form of the spin-off, the distribution of shares and the role of the authors of the research (founders)
- What will be the further extent of university involvement (use of university facilities to continue the project)?

Stage of cooperation with VC investor

1. Market and Technology validation

This phase is crucial to confirm that the new technology (the result of the research) will actually work and find its customers. In this phase, the project is spun off into a separate company and the scope of the intellectual property rights and the rights and obligations of all stakeholders, i.e. the universities (research organisation) and the founders, need to be precisely defined. If at this stage a potential financial investor is already with the project, practical experience can help significantly and guidance to customers.

2. Market and Technology development

This phase should involve the demonstration of a working device or pre-clinical testing, depending on the nature of the spin-off.

At this stage, an investor should have already stepped in to finance the project. This phase can take a varying amount of time and the investor may finance the project in stages. For each tranche, the investor and the spin-off team will set targets to be met to enable further funding. From the team's point of view, it is therefore essential to precisely define the project/product development milestones.

In exchange for the funding, the investor receives a share in the spin-off. With each successive round of funding, the investor's share increases and the share of the original partners - the university (research organisation) and the founders (i.e. the authors) - decreases. It is important for the investor that the founders still remain in the company, so it is important to establish an appropriate share ratio at the outset. It is generally considered that the optimal ratio is 40% university and 60% founders. In Europe, there are a number of models to quantify the university's share in a spin-off, but in the Czech Republic, unfortunately, there is currently a tendency for universities to retain a majority share, which complicates the subsequent situation when an investor enters; the investor does not want to be left in the position of a completely minority shareholder with no influence on decision-making when providing a significant investment.

3. Product and Business Development

If the spin-off has successfully managed to complete the development of the technology, it should be ready to scale the business. At this stage, there is always a VC investor, or usually a

consortium of investors, and often also a corporate investor, i.e. an investor from the relevant business to which the spin-off has added value.

If successful even at this stage, it is the turn of the exit, i.e. the sale of the spin-off either to a strategic investor or - in our conditions, so far rarely - to the stock exchange. At this stage, all stakeholders receive funding according to the amount of their stake in the sale.

In terms of numbers, available statistics from the UK, for example, indicate that the majority of funding for spin-offs in the last ten years has gone into the pharmaceutical sector (51%), followed by computer hardware (9.5%)

In 2021, the total deal value was GBP 2.7 billion, in 2022 slightly less, GBP 2.3 billion, but with a record 414 investments.

Thinking through the spin-off project

The preparatory phase for the establishment of a new company, which is based on the knowledge of the research organisation = spin-off, involves classical project preparation. There are many different tools and instruments for this - lean canvas, reality check, pitch deck and many others. We recommend the preparation team to try one of the tools or to use one with which they already have good experience. In this material, we will lightly describe the basic mind map, whose different branches indicate what not to forget in the preparatory analysis.

It is important to remember that the different parts of this chapter are interrelated and interdependent - a change in one part induces a change in the other parts. Thus, they cannot be dealt with completely independently of each other.

What?

The focus of the company must be on a product or service for customers. In the case of a spin-off, it should be based on know-how or technology that has been developed as part of the institution's research activities. This brings with it an interesting point where, from a scientific point of view, the nature of the technology or knowledge is obvious, and it leads to the assumption that the product/service is also obvious. In practice, however, we see that this is succumbing to a seductive but mistaken notion. Let's ask a few questions to help us verify that we have a good understanding of the future product of the upcoming company.

What will your customers come for? What will they be willing to pay for? In what form will they get it? How will they be able to dispose of it?

What is the advantage of your product/service compared to existing ones on the market? Please forget the answer that there is no comparable product - this only happens very rarely when the product responds to a new situation in the world or society or brings a complete novelty and has the potential to be a so-called change agent (disruptive solution).

Have you conducted market research (this topic is covered elsewhere in this material)? Do you have a preconceived idea of how big it is and how it behaves? Are there any regulations that limit it? How does it vary in different countries? How much of the market do you aspire to cover with your product?

What do competing products, and their producers look like? How many are there, how big are they? How are they different from you and your product? Where do they operate? And how do they have their products protected? And how are yours protected? And will you be able to secure your rights?

To whom?

Who are your customers? Are they a specific target group? Does it occur in any specific region?

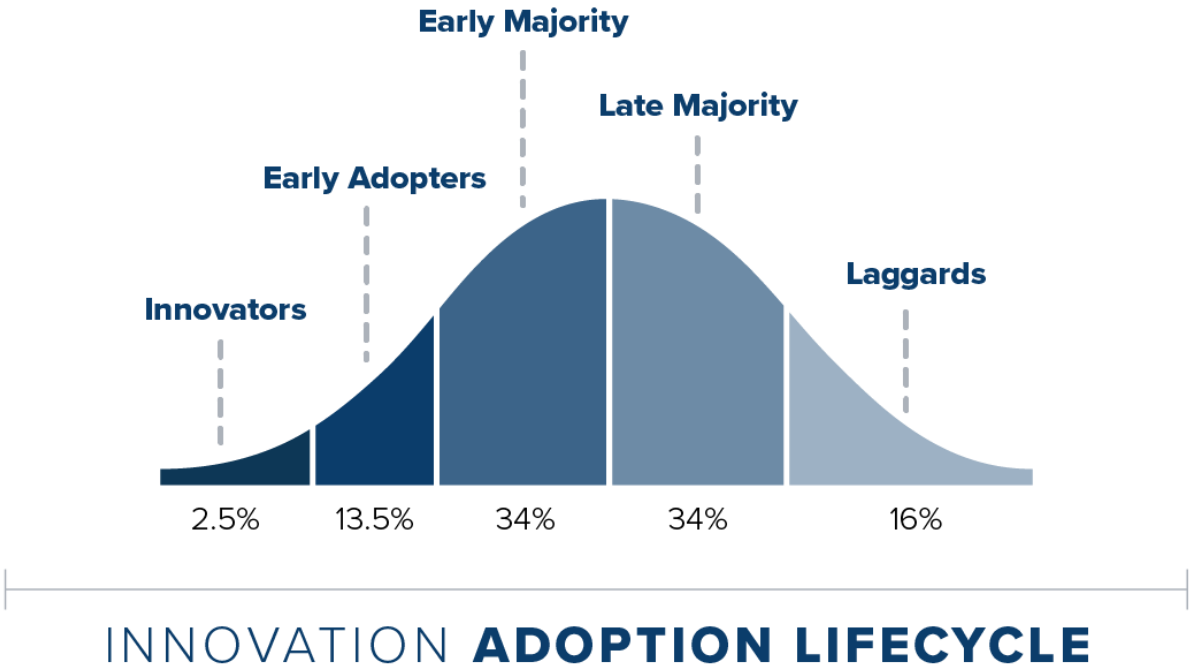
Are you focusing on any specific industries? Will there be industry-specific habits or characteristic types of behavior? Do you know the limits or obstacles that lie ahead and are

you prepared to overcome them? A typical regulated industry is health care products and services. Different industries are conservative or open to new ideas in different ways. will there be industry-specific habits or characteristic types of behavior?

What type of customers are you targeting - will your customers be companies, integrators or end customers? Will you become part of a supply chain? What will be your dependence on others in the chain? Common acronyms used in this context are:

- B2B – business to business = your customer is other companies that already have a market position, have established distribution networks, have specific requirements that take into account their logistics, storage and management systems. They have a clear need for how much and what they need when and where, and in what quality. Are you ready to adjust your product parameters to meet your existing customers' needs? And what are the limits of variability that will still be acceptable to you? Will you be able to meet the delivery times and volumes ordered? How many can you reach?
- B2C – business to customers = your customer will be your end customers. How do you reach them? Will you build your own distribution network, or will you join some retail chains? How will you validate what your customers want, expect and how are you prepared to respond to their expectations?

In the case of end customers, there are several interesting studies (for example Diffusion of Innovation: How the Adoption of New Ideas Spreads | QAD Blog) the typical distribution of customers in terms of willingness to try and accept new products. Depending on which customer you are targeting you will need to adjust the rest of the business plan.



- B2G – business to government = your customer is a government or public administration, authorities or non-profits. It is sometimes said that the "G" is the most difficult type of customer, which is linked to the management of public budgets and the strict rules associated with it. Moreover, this is spiced up by differences between countries, and thus ambitions for B2G business with foreign requires particularly good preparation.
- An interesting case at the B2B/B2G interface is new scientific instruments and equipment, which at first glance does not seem like a lucrative business. Don't be fooled, the global scientific community has a great need for quality instruments. But at the same time, the industry is bound by procurement rules. All the previous questions are therefore very relevant to this case.

Please don't underestimate the balance sheet of your customers - all too often in the transfer from academia to practice through spin-offs there is not a completely clear customer, but you need to unravel the whole customer chain and the links between the different parts. Again, other parts of the business plan will need to be tailored according to where in the customer chain you are targeting.

Why?

The fundamental question of spin-off survival - why should your customers buy your product? And why should they pay for it? What motivates your customers to be your customers?

Here's where a little digression is in order. In many cases of new business start-ups, the first customers are family, friends and their friends. Unfortunately, in many cases, these loved ones expect to receive a discount or special treatment. Consider very carefully whether this makes sense when you are starting out and need to get going. What is your real value to your customers?

In principle, there are two types of customer motivation:

- your product solves a problem that is worth the resources and effort involved in solving with your product. What problem are you solving for your customers? What need are you answering? How intense is the problem? How common is it in your target audience? And what are the alternative solutions?
- Emotions in their entirety can also be the target. This includes, for example, the pet supplies trade (European specific), but also most medical devices, equipment or pharmaceuticals. Also related to emotions are modern and trendy issues that move in cycles. So, if you work with this kind of emotion, you can expect it to be very re-regionally and time varying. In this case, it is also an interesting way of pricing, pro-bono, because emotion-based markets are more tolerant and willing to spend. This is balanced by their size and volatility.

How?

The question has two underlying themes - business model and go-to-market strategy. Unfortunately, the latter topic is sometimes forgotten and is dealt with after the fact, which brings a number of difficulties. Good preparation can save a lot of time, energy and resources.

It is a bit surprising, but in practice one can encounter spin-offs that have a very comprehensive and scientifically well described section on the technology, or better still on its broad context, but either completely absent or significantly atrophied in the section on the business model. The latter is absolutely essential for the operation and long-term sustainability and, if the intention is to attract investors, absolutely indispensable.

How will the spin-off product reach customers? What form will it take, what will all the components or variants be? Will you be counting sales by the piece, or will you go with an ongoing subscription service mode? Is your business based on units sold, or on follow-on services? Or is it a soft service?

Will you need a network of brick-and-mortar stores, or do you intend to get into the shelves of chains? Or will you be a supplier to someone else? Will you operate online? How will you arrange storage and logistics?

How do customers find out about you? What marketing tools will you use and in which territories?

Please don't forget the dissatisfied customers. Complaints are sure to come. Will you handle them yourself, or will you need a partner? What about after-warranty service? Will you have enough spare parts, people and space for repairs? Or are you counting on the fact that your product is a consumer and high-volume item? Who will be responsible for any defects and damages caused?

The second, and unfortunately often neglected, topic is how to reach our target market. What will it take - how much time, how much money, how many other resources? Who will we need to reach? What will need to be arranged in a given country? How are we going to localize our product and get it to our customers??

This branch of the mind map can be very extensive, in fact it can form a separate mind map encompassing everything from sourcing raw materials to promotional printed materials.

How much?

A very popular and much discussed issue. Even for this topic there are a number of methods and tools that can help you with a proper financial balance sheet. Usually, one can get by with a spreadsheet and basic formulas, but investors are interested in more complex numbers than simple sums. In any case, your financial balance sheet should not fail to address three basic areas:

- 1) **Product pricing** - what all inputs do you need to include in pricing? This is where the very dangerous bias that the result of scientific research is "cheaper" and therefore will be cheaper to produce comes into play in the early moments. This fallacy comes from

only factoring in the direct costs of the materials consumed. But often forgotten are the time of the people involved, the energy and other indirect costs, but also the marketing, storage, logistics and, in fact, everything you need to not only realise the product but also to get it to the customer. Here you have to dissolve the time of the whole team, who will definitely want a paycheck to live on. This is where you have to add in mandatory levies and taxes, certification fees, distribution shares, the cost of dealing with complaints and warranty service. Intellectual property protection and litigation related to the rights associated with it. Insurance of all kinds, including throwing away an entire batch because someone forgot to follow the exact manufacturing process, is reflected in the price of the product. Or the time your line will be at a standstill because someone didn't order the necessary rubber bands, or they didn't arrive in time. And all of this is just a sliver of what you have to factor in. Trust us.... The result of scientific work is not usually the cheapest alternative to existing competition.

- 2) **Budget** – that's the usual pragmatic part, which is usually not missing, but sometimes it is desperately economical. You need to be absolutely upfront about what your monthly costs will be for what. How many people will want a paycheck and how much material you'll need or how much you'll pay for rent and other utilities (see above). The budget should include amounts for business development or expanding your product line, or just for increasing your order volume. A budget is never dogma, it's a framework idea of how much money you'll probably ever need. Remember that some costs are fixed and will recur constantly, others are variable, and you will be able to balance with those. Don't forget yourself and your time, your family needs something to live on too. It is definitely advisable to prepare a short-term, medium-term and long-term budget, which brings us to the last heading:

- 3) **Business plan** – accept the fact that every start-up, unless it has a million-dollar legacy behind it, burns money for the first few years. It's perfectly normal and logical. A budget will show you, with some degree of probability, how much money you are likely to burn and for how long. It will tell you how much money you will need to borrow or get from an investor. But beware, both the lender and the investor will be interested in when you will be able to pay them back. When do you start digging out of the red? When and how do you know if you're already in the black? How long will it take you to repay your debts? How long before an investor can expect to see an appreciation of their money?

On the Internet and in traditional sources, you will again find a wide range of guides and aids on what a financial plan should contain and how to work with it. Don't be afraid to try different tools. Playing around with a thought experiment at this stage can also be fun. Try different alternatives - from the very pessimistic to the joyfully optimistic. The likely reality will be somewhere between.

With whom?

The last branch of our mind-map, which deserves much more space than we can give it in this material. Let us delve into it only very lightly to sketch the full breadth of the topic.

At the beginning of every academic spin-off there is a creative team involved in creating a result with application potential. This team is usually made up of one or two intellectual movers and shakers surrounded by a larger or smaller group of other people, implementers and workers, without whom the result would not have come into being. Usually, the whole group appears as co-authors of a scientific paper, and it is the norm in academic circles.

If the result is protected by intellectual property rights, the creative contribution of individual team members must be addressed. It is not recommended to underestimate this stage, because if the future intention is to commercialise the result in the form of a spin-off, i.e. the entry of an investor into the company, the number and clarified claims of the originators are one of the key points that the investor considers in the due diligence. If there is any doubt about unclarified rights, and therefore a higher risk of litigation, most investors will back out of the future relationship. This happens in cases where the relationship with the home research organisation or between the originators is not settled. It is also a malarkey if there is insufficient treatment of freedom-to-operate, i.e. the ability to commercially exploit intellectual property that is dependent on someone else's prior protected rights. Unfortunately, this happens quite often in the research world, because it is somehow forgotten that scientists can use third-party rights without a closed license, but only for research and teaching purposes. And these are already far exceeded by the intended spin-off.

From the original creative team, there is usually a core group that would like to put the result into practice and is willing to risk or partially limit their scientific career to do so. This core is overwhelmingly either a lone wolf, most often a pair, and in a very small number of cases three or more people. This core needs a lot of courage and strength, which in principle determines the future success of the spin-off. Unfortunately, it usually does not include a person with business experience, and it would be very useful to expand it with such a person. This task is very difficult in practice unless the core creative core can find someone suitable in their social bubbles. Of course, scientists are usually able to get a lot of things done and manage on their own. There can be no doubt about that. But the question is whether they will enjoy this type of work and for how long. But let's wish ourselves luck and believe that we have a small team of movers and shakers capable of covering the basic considerations, preparing a strategy, agreeing on a direction and getting the whole project off the ground together. It is an example of good practice when this core team also become founding partners in a new company with a significant stake.

In addition to the core team of founders, sometimes it is also necessary to have other people more or less co-operating. These can be volunteers and enthusiasts, temporary or full-time employees (more likely in the later stages), they can be friends working on invoice, or students on internship. All of these people tend to be essential to the realisation of the product and impose costs and responsibilities on the young spin-off. It is therefore among the recommended preparatory activities to properly consider who, when and how much we will

need. Where can we find such a person? How much will it cost? How will we entice him or her to join us? What will we promise him or her and on what terms? How much will we draw him or her into the core team and therefore into strategic considerations? The more people with different expertise, the more assumptions and disagreements. Agree in advance the conditions under which it will be possible to leave the team, it happens.

All considerations so far point to the fact that an academic spin-off, like all start-ups, will need the financial cushion necessary to get off the ground. Next up, then, is consideration of potential investors. Very simplistically, there are two main groups of investors - financial and strategic. Each has its own specifics, different motivations, different approaches and different demands for influence in the company.

- **Financial investor** – usually doesn't understand your business in detail, but maybe specializes in related fields (for example, life-science, or quantum technology, or mobility). Related to this, he's likely to give you a fairly free hand in what the final product will look like, as long as you convince him of its potential. But what he probably won't give you a free hand in is the financial flows. After all, financial motivation is the main reason he is talking to you in this case. Exit in a relatively short time (max 10 years and that's a lot) and with a high return is his main goal.

He will monitor how you are performing as a team, pushing you to the highest performance and greatest speed of execution of your business objectives.

Most of the time, they can make relatively effective decisions and react flexibly. Once you have him on board, he will readily provide you with his wide and industry-unlimited network of contacts and mentors, because it is also in his interest that you succeed to the maximum. Count on him to be extremely risk-sensitive and able to balance that with higher demands for a stake in the company. Don't assume that if he has chosen you, you are just one of many horses in his investment stable.

Don't forget to negotiate the terms of his exit from the company. Will you be willing to exit with him? And how will it look with the possible entry of another investor? Whose shares will be cut?

- **Strategic investor** – is almost the opposite of financial. Usually it is a larger, stable company that finds your spin-off's product interesting (for very different reasons, please try to think why). It offers you a broad armful of background and knowledge, established distribution channels, working processes, long-term strategies and knowledge of its part of the market. It may be willing to offer you some of its resources - experts, equipment, premises, raw materials. The contacts and mentors it can offer tend to be narrowly focused on the market segment in which it operates.

What you can certainly expect is a limitation of your autonomy - please add here the answer to the question above as to why he is interested in you. Of course, his expectations are also linked to profit, but usually only secondarily. Much more likely, he wants to improve his own market position with your help, to gain new opportunities, new customers, to improve his position vis-à-vis his competitors. All of this is linked to the quality of your product, the know-how of your core team.

You will also be familiar with the famous "corporate chaos" where many processes take a long time and sometimes decisions are made abroad, where you may not fully understand the motivations of the national branch backing you.

In principle, however, it is not bad at all to become part of a larger family of international network of companies working together on a complex topic. Even some famous Czech unicorns are now functional cogs in multinational corporations.

Final recommendations

Start your preparations early, take your time and enjoy. It's a strategic game that can have a profound effect on the quality of your future life.

Find the right people for your team. Look for them outside your academic bubble. It's important to find a driving force who will take ownership of the whole project.

Have a well thought out business plan and everything that goes with it. Don't be afraid to take advice. Try out different tools and tools, experiment with different approaches. A change of perspective can bring new ideas and reveal hidden risks.

Don't underestimate the risks! You don't write a grant project where you fill in a colourful spreadsheet, you go into real business. Think quite pragmatically about how to handle them. Who will do what? How much money and time will it cost? Is there any way to avoid this? Be glad when someone points out a risk you may have overlooked or underestimated.

Prepare to be suspected and scrutinised from all sides at your home academic institution - be prepared for unpredictable questions. And most importantly, don't take them personally! The mental barriers that sometimes exist in the publicly funded research environment are discussed elsewhere in this material.

Alert your partners and investors to the fact that your company is an academic spin-off and what you will have to go through, or what restrictions the parent institution has placed on you. If they hang on, they really believe you, if they run away, they weren't the right ones and they wouldn't have done you any good anyway.

We wish you good luck and are ready to help you.

Prejudices, myths and superstitions about academic spin-offs

It must be admitted that the topic of companies emerging from research organizations has been developing and changing rapidly and turbulently in our country in the last ten years. What was discussed as an insurmountable obstacle a few years ago is no longer an issue today. It is also necessary to admit that the national cultural environment has its own specific characteristic attitudes towards business in general, and the academic community, which originates from this environment, is of course not protected from them. One can thus encounter various prejudices, even myths and superstitions, which create a mental barrier for the smooth creation of new business entities based on the results of the work of research organizations. We can perhaps console ourselves a little by the fact that in other European countries also different mental models of failure in business activities are manifested, diametrically different from the common perception in America or Asia. Therefore, when trying to implement foreign models in our socio-cultural national environment, it is necessary to think about its specifics.

Furthermore, only a brief overview of examples of currents of opinion representing various academic institutions or their parts, which almost every knowledge transfer workplace has encountered in practice, is given. Each research organization has its own characteristic attitudes formed by the people who work in it. Let's face it, we are in the developmental stage of our local environment and we are lucky enough to watch the gradual transformation of the environment in real time.

Most of the concerns that are the source of the following examples flow quite logically from the previous historical experiences of specific individuals and specific institutions. The experiences and experiences associated with them were so intense that they resonate with the group many years after they happened. The background is usually the fear of "tunneling" of public funds, experience with the consequences of draconian checks by providers, the SAO or financial authorities, which proceed according to different interpretations of the law and, of course, also from different moral attitudes towards what is right and fair. The following examples should therefore be taken more as an inspiration to think about the wider context and then take it into account when proceeding in a specific case to a specific institution.

100% share of the parent institution

„The safest thing is when the research organization has a 100% stake in the new company, or at least a majority majority, so that it has everything under control.“

In many materials (including this one) you can read that a 100% equity share in a newly established company is an advantageous solution for several reasons:

- There is no need to resolve the founding agreement, the entire process is under the institution's control. This makes approval significantly simpler and, in theory, faster.

- There is no need to deal with the risks of the influence of other shareholders on the running of the company, its decision-making, or determining what will happen to money or other values.
- The vision's promise of 100% profit share is a big draw - we'll continue to focus on that.

However, there are also a number of disadvantages:

- A research institution usually does not have people with managerial and business experience and usually lacks experience in managing a small, dynamically developing enterprise. He needs completely different values and attitudes than those valued in the academic environment. And to be honest, many of the activities that happen quite naturally in spin-offs are boring, routine, even annoying for academics. The academic emphasis on precise care and deep understanding is in stark contrast to the need to balance time, quality, resources and real customer needs.
- The decision-making processes of public research organizations are complicated and lengthy, because these institutions primarily manage public funds, their use is regulated by a whole series of laws. In addition, the spin-off is governed by a completely different set of laws and regulations and needs to react very flexibly and manage its assets in a completely different way than is usual in academic institutions.
- A 100% share of the parent institution can in many cases fundamentally undermine or even disqualify the spin-off. According to some interpretations of the European regulation of public aid rules, in that case it is not a so-called small or medium-sized enterprise, which has favorable conditions in accessing the possibility of drawing support from public sources. A very similar effect is also often placed on compliance with the usual conditions for the selection of suppliers implemented from a public institution to a small start-up company. With some providers of subsidies for startups, the opinion resonates very strongly that in the event that a research organization has a share higher than 50%, this startup is directly condemned to survival, or to extinction.
- Also, the insistence on the establishment of supervisory and control bodies at spin-off companies whose implementation team consists of literally 1.5 people is rather a laughable episode. The main driving force behind a spin-off is the person of the executive, or the team of founders (which usually consists of a maximum of three people). This team holds the know-how and energy to launch a new business, usually based on their previous work. This team needs autonomy for its actions, trust and support from the institution if it is to succeed. An extreme task awaits, the chance of success of which is less than 10%. This extremely high risk is associated with the very essence of starting a new technology company and is certainly not reduced by increasing supervision and regulation of the company's activities.
- The attitude "*Failure is a crime, failure is the result of bad decision-making and incompetence of the executive/leadership*" and the related condemnation "*one company has already gone bankrupt, don't give it to him*" belong very closely to the previous topic. This is a pan-European phenomenon and it is the task of future generations to free ourselves from it. As a personal motto, you can adopt the beautiful

statement: *"Mistake is a friend, thanks to which we learn and grow."* Further development of this reasoning no longer belongs to this material.

- The research organization's pursuit of 100% control directly indicates a reduction in the level of personal engagement and motivation for the realization of a successful enterprise. Transferring responsibility away from the executive is a very complicated legal issue.

Most of the needs that a research organization has with its spin-off firm can be handled contractually and are not necessarily addressed by a 100% stake.

Also interesting is the related discussion about how successful the given spin-off should or could be. Among the primary attitudes of academic organizations is usually that it is enough to support its employees and supply what the institution needs from them. Ambitions for growth, international markets and large turnovers are usually completely absent. Paradoxically, this reasoning is not at all connected with another deep-rooted superstition, which is mentioned below.

Reducing Business Share

„Allowing a reduction in business share at the expense of an academic institution is "theft" in broad daylight.“

For a small startup to be successful (and we can of course debate what that means), it needs to grow. He needs to invest all his resources in his own development, and often those resources are few. One of the usual, common and legal ways to get additional development funds is the sale of a business share. Logically, this means that the shares of the other partners must be reduced in some way.

The current value of the company is also very closely related to this. If it is successful, the company has started production, a few employees, orders for weeks ahead, then its current value is significantly higher than it was at the very beginning, where "only" know-how was present. The share of implementation work needed to really start a business is often negligible in the eyes of academic staff. However, practice and reality are different. From the original know-how of the institution (of course, the readiness of the technology and its maturity as well as demandingness and a number of other attributes depend here) it was necessary to create a product or service, the value of which is absolutely essential for the market, through hard work and a large volume of other resources.

The director of a major global manufacturer of electron microscopes stated at one of the many conferences that in order to obtain a specific product applicable on the market from a research result from a public institution, they must invest in it several years, tens of millions of crowns and the time of a team of people who implement product development. development. To this, of course, you have to add traders and marketing costs, without which it is also very difficult to trade. This investment can be quantified to a certain extent and set as a counterweight to the original know-how value calculations.

One more aspect needs to be considered – it also has an impact on a possible license to the original know-how as a result of the research organization. What is the real share of the institution's knowledge contribution to the resulting market product? What part of it is really a key part, and what part "only" served as a springboard for its development? Expectations about shares or royalties from the spin-off activity should be based on this.

A non-negligible effect is also brought about by the difference between money that comes from public sources (subsidies, institutional support, the institution's own activities) and those that are private. In principle, public money should be invested where the strategic interest of the state/company lies and the risk is still too great for the investment to be attractive even for private capital. With the gradual reduction of risk, the share of public funds should be reduced and the share of private funds should be increased. The work of private investors is a business of its own kind, and just like in our little spin-off, in their case, profit is the primary goal. However, they are entering a still very risky phase.

On the basis of the facts described above, the kind reader will certainly be happy to answer the very often surprisingly asked question himself:

„Why does the investor want such a large share?“

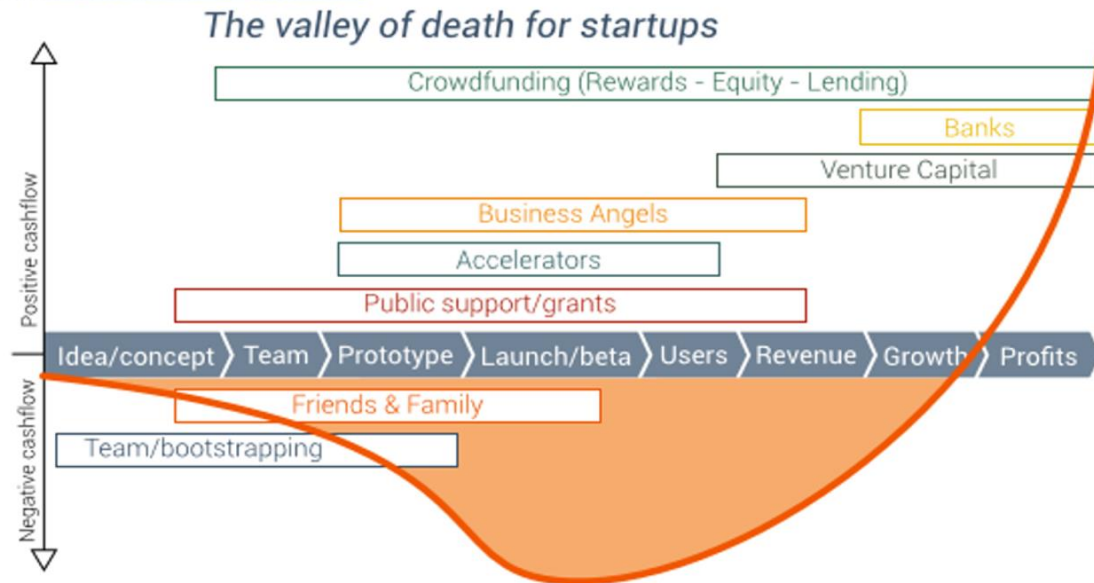
Spin-off as a source of financing

„We will set up a spin-off because we need to spread our funding sources.“

It might seem that there is a huge motivation and confidence in success hidden behind this statement. Unfortunately, the truth is different. Research organizations have been struggling with underfunding and an inconsistent system of grant funding for a long time and thus live in permanent financial stress. Any hope of another source of funds, ideally stable and non-negligible, is therefore too great an attraction.

Unfortunately, it is possible to hear or read the above declaration of motivation for the establishment of academic spin-offs all too often. At the same time, it is absurdly distant from the reality of a newly founded technology company whose task is to start a new business. It is also completely detached from the well-known economic lessons and graphs illustrating the so-called valley of death, in which more than 90% of spin-off attempts end sadly.

Source: www.startupfundingbook.com



From the illustrative picture, which can be found in millions of different variations on the Internet and in professional literature, it is clear that the company cannot generate any profits for at least the first few years. On the contrary, it is in the so-called "burning money" area, where it needs to invest hugely - in product development, in ensuring production, logistics, trade, customers, employees and others.

Also, the entry of a large investor can usually only be expected in the later stages. So, it is clear that the means to overcome the valley of death must come from other sources:

- Savings, family, friends - asking the originator of the know-how how much you yourself would be willing to invest in the development of the company will very often reveal the true level of commitment and confidence in your own technology and also indicate how it could be with a possible license fee.
- Financial contribution of the parent institution - there are known cases where the research organization committed itself to several years of regular financing of the operation of its company. Usually, however, these are so-called SPVs = companies with the specific task of providing service to the parent institution. In such cases, it is entirely appropriate for the research organization to hold 100% ownership. In other cases, it is very problematic for the above reasons.
- Public support – specific financing instruments for small and medium-sized enterprises in accordance with EU rules. Here, pay attention to the connection with the parent institution, which disqualifies the spin-off, the majority of the ownership share is held by a larger entity. There are several options in which public support regime spin-off financing can take place. De-minimis is only one of the options, although at the same time the simplest for legal interpretation and established practice.

- Financial instruments – credits, loans, mortgages...and theoretically tax credits and deductions. The area is complex, poorly treated in the Czech Republic and downright harmful to technology startups.
- Private investment financing - in many forms with very different interests and demands.

Perhaps it is clear from the above that the expectation from a newly founded spin-off that it will become a source of funds to cover the costs of a research organization is far beyond the boundaries of naive idealism.

Spin-off must not be unprofitable

„The spin-off must not be unprofitable, because otherwise we would have to cease its activity - this is what the law imposes on us.“

The above argument usually comes from the control and economic parts of research organizations. They are based on well-known sections regulating the so-called other or additional or additional activities of public institutions. At the same time, they ignore the fact that the newly founded spin-off company is no longer subject to these laws but is governed by a completely different set of regulations and standards that determine the limits of its behavior. The second neglected fact is that it is a completely independent legal entity to which mutual obligations affecting the corresponding activity of the research organization can be contractually regulated. It is up to these components to ensure that these obligations are in accordance with the law. That is, for example, that the research organization does not commit itself to additional payment obligations towards other co-owners of business shares.

Unfortunately, the interpretation practice of Czech law has not been settled until now, and therefore it is not possible to say with certainty what all risks can or must be contractually treated so that the possible failure of the spin-off does not endanger the founding parent institution.

Bringing out the know-how

„In particular, people who work at the institution at the same time are not allowed to work there - they will bring out the know-how!“

A concern that resonates intensely in public institutions and their control bodies. Logically, it flows not only from the above-described reality of "gray" practice, when not only know-how is actually transferred to the private activities of individuals. It is also supported by deep-rooted prejudices and mistrust of people's honesty. It's hard to say how many more generations it will take before our nation gets rid of the attitudes of "he who doesn't steal is robbing his own family" or "he who gives is stupid, he who doesn't take is stupider". From these moral principles springs the generally applied "presumption of guilt", which is the main obstacle and an active destroyer of the development of national entrepreneurship and innovation.

If we look at the issue factually and rationally through the lens of foreign experience, we will find that more developed companies offer variously strict solutions, from a strict prohibition

of concurrent employment at the institution and work in a spin-off to the possibility of devoting a given part of your working time to the institution (up to 20%) applying the research result through a spin-off.

It is certainly recommended to define the activities and powers of persons in writing, and for those in which the same activities overlap, for both parties to describe this fact and make it as transparent as possible (without eliminating the spin-off). The sad truth is that in countries whose national identity is based on "trust-based" principles (for example, Norway), this issue is solved in a fundamentally different way than in the Czech Republic.

Establishing a spin-off is administratively almost impossible

„Approval processes at the institution are complex, unpredictable and take a long time!“

Unfortunately, this sigh is still true at many research institutions. The intention to establish a spin-off is expressed by several bodies, in which people usually work who do not have their own experience with business, because they have spent their whole life in an academic environment. Nevertheless, they believe that they have the right not only to comment on every point of the plan, the draft contract, the calculations, the composition of the team and the plan of activities, but also to contradict them and demand various measures. At worst, these requirements are inconsistent between negotiations.

In such an environment, it is extremely frustrating to try to push through the intention to establish a spin-off. At some institutions, therefore, methods have been developed to implement business plans without the institution's participation. Unfortunately, there are not unusual cases when business activities take place during the working hours of the institution's employees, with the use of computers, laboratories or even consumables. Assessing how legal and moral these methods are, is completely beyond the scope of this material. In such an environment, the effort to create countermeasures logically arises and the whole system becomes impenetrable.

On the other hand, if the processes are set up rationally and there is a consensus that the spin-off plans should be supported, then going through the administrative process can help refine the plan and significantly increase its chances of success. If we want to properly prepare the plan to establish a spin-off, we will need the same documents required by the administrative process. For example, it can be the following types of documents (recommendation of the Academy of Sciences):

- compiled plan for the economic evaluation of the institution's deposit = it is part of the calculations related to the value of the property shares and also to the financial plan.
- evaluation of risks and benefits for the institution, including non-financial ones (socio-economic impact) = if we are to come to an agreement, it is fair to play with open cards.
- unambiguous identification of the knowledge potential of the institution that is in the area of the planned scope of the spin-off = whether we conclude a license agreement or its analogy in the form of a spin-off agreement, we will need this information there. We also need it for proper processing of calculations.

- rules for dealing with the generated intellectual property in the spin-off = if we build on the knowledge that is the result of the institution's work, we should know who will be responsible for what, who will pay what, who will enforce rights and other natural components of care for intellectual property.
- clear identification of persons with a risk of conflict of interests and a plan to eliminate this risk = a very relevant requirement also with regard to the previous chapter.

Originator as CEO

„It will be best if the originator leads it, he understands it best.“

Yes, it looks tempting. The person who has conceived and developed a scientific result in a form where it seems that it could have a very close practical application and is simultaneously motivated to bring it into practice can be the one to lead a new company. In some cases, it can actually work. However, practice shows that such cases are rather an exception and there is a greater chance of success in engineering fields.

Before entrusting the management of a new technological spin-off company to a scientist, it is necessary to carefully consider his management and business skills, and especially his willingness to devote himself to routine and uncreative work for a long time. Usually, the career of a scientist is chosen by creative, inquisitive personalities and in the course of their professional life they acquire abilities and skills useful for scientific work. Deep technical understanding and insight into the regularity of natural laws does not yet guarantee that the same person will be able to deal with customers, deal with contracts, accounting, promotion, production documentation, quality, logistics.... and other common concerns common in a corporate environment. That's one side of the coin.

In addition, it is also necessary to consider whether we want to "sacrifice" the quality and abilities of a scientist for one current technology and thus theoretically give up other results that this person could produce. Do we really want to waste his creative scientific potential on business? Ob-especially in situations where our institution does not allow concurrent work or does not offer any time-limited possibility to return to the scientific team.

The situation is not easy for the simple reason that we lack enough people who are capable of running the company and currently have the space to do so. Finding one that would functionally fit the spin-off team at the same time, was able to respect the embedded expertise and sufficiently understood the potential, was able to determine the goal and get other team members excited about it, is a really difficult task. And that on a pan-European scale. In recent years, there have been efforts to connect managers with technicians precisely in order to assemble a functional team for a spin-off, but we are still waiting for a functional model.

The role of head of a technical or development team, the so-called CTO, is promising for the know-how originator. He can thus continue to devote himself to the development of the original idea and direct it into practice, but at the same time he is freed from a number of activities that are necessary, not fun. In foreign practice, where there is a different perception

of the concurrent employment at a scientific institution and in a company, this is the usual choice, which gradually allows important professors to work in several companies and at the same time continue to devote themselves to their own research and teaching. He is usually involved as a CTO in the initial stages of a spin-off, when he nurtures a successor who is then able to handle operational matters and the management of follow-on development and withdraws himself into the role of a member of the development team, or even completely into the role of a partner in the company and consultant.

In addition to the most common myths described above, it is possible to encounter other, more or less related prejudices. Sometimes it is possible to hear the fear of an irreversible interruption of the scientific career and the loss of position in the rankings (here we advise the kind reader to try to think about the position of female scientists when they try to return to a scientific career after maternity leave). At other times, there is concern, especially from the institution's management, that there will be a massive "brain drain" thanks to the spin-off. Related to this is also the still frequent phenomenon of conditional envy of possible success, which should preferably be eliminated in advance.

The road to culturally and mentally setting an environment that will be friendly and supportive for academic spin-offs will still be long. But let's believe that it will still have a good direction as it is at present.

Current aspects of the development of ecosystem for university spinoffs in Czechia

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Ecosystem for university spinoffs

When examining university spinoffs, it is crucial to acknowledge the unique challenges and opportunities that arise in the realm of academic entrepreneurship. University spinoffs, which are companies founded on university research and often involve faculty and graduate students, play a pivotal role in knowledge dissemination, economic growth, and innovation (Hayter, 2016). However, several barriers can impede the successful establishment and growth of university spinoffs.

One significant obstacle faced by university spinoffs is the necessity for effective knowledge intermediaries within the entrepreneurial university ecosystem (Hayter, 2016). These intermediaries are essential in facilitating the transfer of research-based knowledge into viable commercial ventures, bridging the gap between academia and industry. Without adequate support from knowledge intermediaries, university spinoffs may struggle to navigate the complexities of technology commercialization and market entry.

Moreover, the participation of graduate students in the development of university spinoffs can present both opportunities and challenges (Hayter et al., 2016). While graduate students can bring fresh perspectives, innovative ideas, and technical expertise to spinoff ventures, conflicts with faculty advisors and other students may arise, impacting the progress and direction of the initiatives. Effective collaboration and communication among all stakeholders are essential to overcome these interpersonal challenges and foster a conducive environment for entrepreneurial success.

Additionally, the identification and evaluation of disruptive technologies in university spinoffs pose a significant challenge (Almeida, 2021). Recognizing disruptive innovations and understanding how they can create new markets or transform existing ones require a deep understanding of market dynamics, technological trends, and consumer behavior. University spinoffs need robust methods for identifying and evaluating disruptive technologies to stay competitive and drive innovation in their respective industries.

In this context, also the study by Novotná, M., Švadlenka, L., & Gottwald (2020) brings valuable insights into the identification and evaluation of disruptive technologies within university spinoff ecosystems. They focus on the intersection of disruptive innovation, knowledge management, and entrepreneurial behavior within these ventures, shedding light on how university spinoffs can leverage disruptive technologies to enhance innovation, competitiveness, and growth within the entrepreneurial landscape. It aligns with the broader context of business innovation and disruptive innovation strategies Almeida (2021). Additionally, their exploration of disruptive technologies offers practical guidance on recognizing and assessing new-market disruptive technologies within university spinoffs, which can be reflected in strategies for enhancing competitiveness and innovation potential.

Furthermore, the role of academia-industry partnerships and incubations is crucial for the success of university spinoffs (Joghee & Kabiraj, 2018). Establishing strategic collaborations

with industry partners, incubators, and accelerators can provide access to resources, expertise, and market networks that are essential for the growth and sustainability of spinoff ventures. By leveraging these partnerships, university spinoffs can enhance their product development, market reach, and overall competitiveness.

While university spinoffs offer significant potential for economic growth and innovation, they face various barriers that require strategic planning, collaboration, and support mechanisms to overcome. By addressing challenges related to knowledge intermediaries, graduate student involvement, disruptive technologies, and academia-industry partnerships, university spinoffs can maximize their impact and contribute effectively to the entrepreneurial ecosystem.

International comparison

When comparing the university spinoff ecosystems in Czechia with the most advanced innovative countries, it is essential to consider various factors that influence the entrepreneurial landscape and innovation dynamics. Drawing insights from academic research and best practices in entrepreneurship, the comparison can shed light on the strengths, weaknesses, and opportunities for enhancing the university spinoff ecosystems in Czechia.

In advanced innovative countries, such as the United States, the United Kingdom, and Germany, the university spinoff ecosystems are characterized by robust knowledge intermediaries, strong academia-industry collaborations, and a culture of entrepreneurialism deeply embedded within the academic institutions Heaton et al. (2019). These countries have well-established mechanisms for technology transfer, commercialization, and venture creation, supported by a network of incubators, accelerators, and funding agencies that facilitate the growth of university spinoffs.

In contrast, the university spinoff ecosystem in Czechia may face challenges related to limited access to funding, underdeveloped knowledge intermediaries, and a relatively nascent culture of entrepreneurship within academic institutions. Research suggests that countries with weaker innovation potentials can benefit from international collaborations to acquire advanced knowledge and technologies (Odei & Stejskal, 2020). Therefore, fostering international partnerships and collaborations can be a strategic approach for Czechia to strengthen its university spinoff ecosystem.

Moreover, the role of university environments in promoting entrepreneurial behavior is crucial for the success of spinoff ventures (Rocha et al., 2021). Countries with mature innovation ecosystems prioritize outputs like intellectual property production and licensing, while those in the early stages focus on establishing policies, culture, and systems that promote innovation practices (Chaipongpati et al., 2022). By aligning policies and initiatives to support entrepreneurial activities within universities, Czechia can create a conducive environment for spinoff creation and growth.

Furthermore, the comparison of innovation ecosystems of different countries emphasizes the importance of considering various aspects, parameters, and operational outcomes (Polyakov, 2024). Understanding the operational dynamics, policy frameworks, and collaborative networks in advanced innovative countries can provide valuable insights for Czechia to enhance its university spinoff ecosystem. By leveraging best practices and lessons learned from leading innovation hubs, Czechia can tailor its strategies to foster a thriving ecosystem for university spinoffs.

Recommendations for the ecosystem

To expedite the establishment of university spinoffs in Czechia, the state and academia can implement various strategies based on insights from academic research and best practices in entrepreneurship and innovation. Drawing from relevant references, the following recommendations can be considered:

1. **Enhance Awareness and Entrepreneurial Culture**: Creating university-wide awareness of entrepreneurship opportunities and stimulating the development of entrepreneurial ideas among students and academic staff can foster a culture of entrepreneurship within universities (Burg et al., 2008). Programs targeted at students and faculty that promote entrepreneurship can help identify and nurture potential spinoff ventures.
2. **Provide Support and Resources**: Supporting start-up teams by offering access to advice, coaching, training, and resources can help aspiring entrepreneurs develop the necessary skills and knowledge for venturing into spinoff creation (Burg et al., 2008). Establishing incubators or science parks within universities can provide physical spaces and resources for spinoff development (Huggins et al., 2019).
3. **Facilitate Collaboration and Networking**: Encouraging academia-industry partnerships and collaborations can enhance the network centrality of universities, facilitating knowledge exchange and technology transfer for spinoff creation (Thomas & Maine, 2019). Establishing collaborative networks involving investors, managers, and advisors can provide spinoffs with access to valuable resources and expertise (Burg et al., 2008).
4. **Promote Innovation Policies**: Innovation policies at the national and regional levels should be designed to support the formation and growth of university spinoffs (Thomas & Maine, 2019). Providing incentives for collaboration between large and small science-based firms, research labs, and universities can stimulate innovation and entrepreneurship in the academic ecosystem.
5. **Establish Clear Rules and Procedures**: Setting clear and supportive rules and procedures that regulate the university spinoff process can enhance transparency, fairness, and efficiency in spinoff creation (Burg et al., 2008). Well-defined guidelines can streamline the spinoff establishment process and provide a conducive environment for entrepreneurial activities.
6. **Leverage Knowledge Intermediaries**: Engaging knowledge intermediaries within the entrepreneurial university ecosystem can facilitate the transfer of research-based knowledge into successful spinoff ventures (Hayter, 2016). Faculty colleagues and graduate students can provide valuable influence, advice, and management support crucial for motivating and supporting the establishment of university spinoffs.

Implementing these points can play a pivotal role in accelerating the creation of university spinoffs in Czechia, fostering a vibrant entrepreneurial ecosystem, promoting innovation, and driving economic growth through knowledge dissemination and technology commercialization.

Conclusion

In conclusion, the comparison of Czechia's university spinoff ecosystem with the most advanced innovative countries highlights the need for policy reforms, and collaborative initiatives to enhance the entrepreneurial landscape and drive innovation through university spinoffs. By learning from global best practices and adapting them to the local context, Czechia can strengthen its position as a hub for knowledge creation, technology transfer, and entrepreneurial ventures.

Social Innovation_a Norwegian Example of a Strategy for Further Development

Creating a targeted support for a culture of social innovation in universities can involve formalising and internalising processes to support efforts to harness research results in society. So how can the current university system support social innovation?

With increasing societal challenges around the world, higher education institutions are being encouraged and supported to assess their impact and influence on their surroundings. Recently, there is a more stated expectation in society that academic research should make a practical contribution to society if universities are to maintain their prominent position (Panda & Gupta, 2014). Such a demand for societal impact has largely prompted universities to reflect and rethink their role and strategize on how to demonstrate their civic responsibility. This stems from the fact that tackling 'grand challenges' requires new forms of social organization, collective action and coordination that are aimed at enhancing human well-being (Benneworth & Cunha, 2015). Here, according to Manzini (2015), social innovation comes into play as a process of developing and implementing solutions to complex and challenging social and environmental problems that affect humanity. Being multidimensional and interdisciplinary, social innovation helps to identify unmet social needs by using creative tools and new approaches to generate innovative solutions that fill gaps in service design and delivery (Păunescu et al., 2022). Creating a culture of social innovation in universities can involve internalizing and formalizing processes to support efforts to use research results in society

Studies on social innovation in HEIs tend to focus more on learning and community engagement in HEIs (Păunescu et al., 2022) and lack attention to how researchers can formalise social innovation work internally within their HEI roles, beyond teaching and student engagement or dissemination duties. Further, the literature on entrepreneurship as practice is dominated by more technical perspectives that leave out social entrepreneurs in the university setting.

The Norwegian analysis first showed how the pilot projects work to unlock the potential of research and address problems with beneficiaries. It also summarised the main objectives of participation in the programme, which are to increase capacity and maturity by supporting network, team and plan development, and to seek to reduce risk and uncertainty by addressing legal, ethical and financial issues.

Furthermore, the analysis showed how the pilot programme contributed academic theories, inspirational experiences and practical tools and their further development to achieve these objectives (see Figure 2). The joint activities served three main purposes: a) To learn about new theoretical themes to illuminate and invite discussion. For example, on the role of academia and universities in engaging in social innovation; b) Sharing experiences for inspiration. For example, social entrepreneurs from academia sharing their pathways to innovation; c) practical suggestions on how to work with specific challenges. For example, how

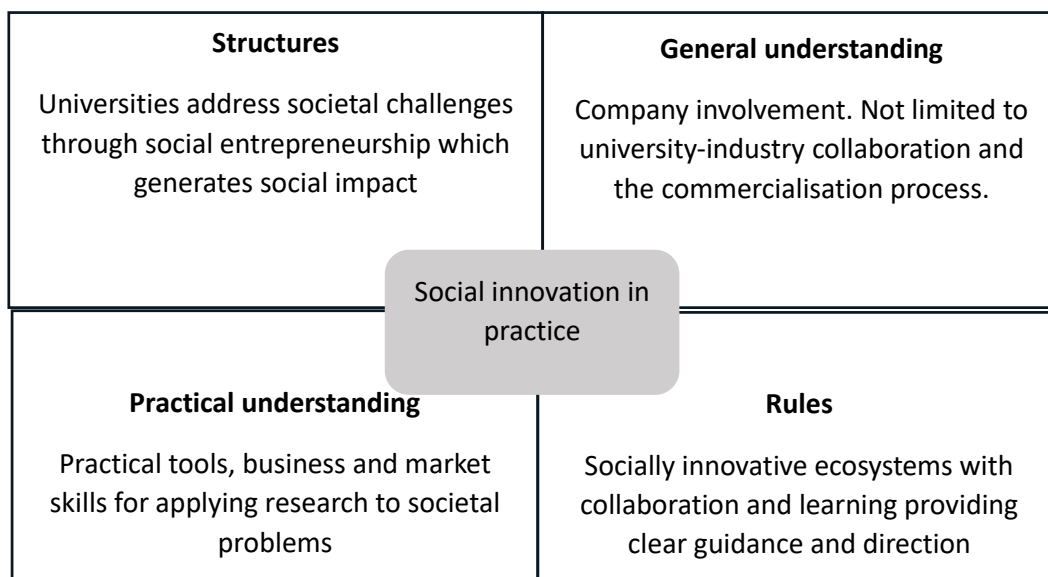
to approach public sector demand and data management in the transition from research to innovation.

It was further discussed how all the findings contribute to the formalisation and internalisation of social innovation work as a 'social practice' in universities. Participation in such an innovation programme can be conceived as the introduction of 'social innovation as practice' in universities.

This conceptualization contributes to the development of entrepreneurship and entrepreneurship as a practice and emphasizes working with social innovations of societal relevance within universities. The conceptualization of "social innovation as practice" can contribute to operationalizing efforts to establish and develop Knowledge Transfer Offices (KTOs) in universities. This involves the dual work of specific support for researchers and projects, as well as general efforts to create a variety of programs and formats that create a culture for social innovation.

Future studies could further develop the concepts of 'social innovation as practice' in higher education institutions. This study has limitations resulting from its narrow scope, which only addresses preliminary and initial work with an innovation program and uses only data from it. Further research may bring closer the existing internal and external structures of universities that hinder or help social innovation programs. Other methods of collecting more data, such as stakeholder workshops, participant interviews and observations, could support such work. Other stakeholders not included here, such as university leaders and managers, could also be included. Funding bodies that manage research should also be considered in future studies.

Diagram: The four components of Social Innovation in Practice



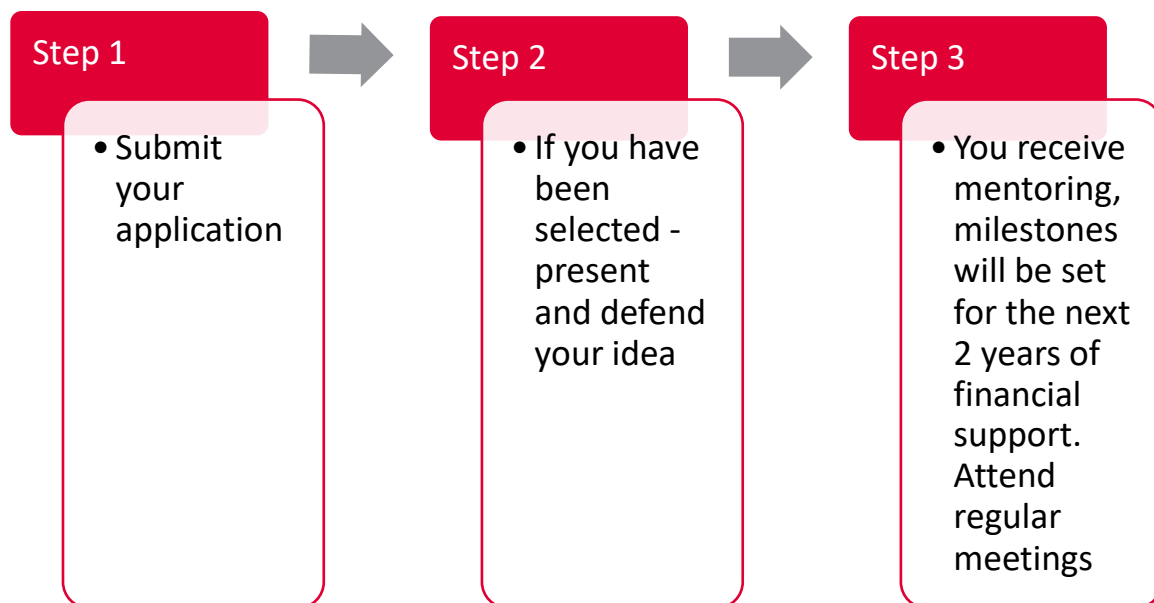
Source: ResearchGate - Download Scientific Diagram (researchgate.net)

Norwegian unique example SPARK NORWAY

The two-year innovation programme was launched in Norway in 2017. The main aim of the programme was to develop ideas more broadly in the humanities and social sciences. The model was developed based on inspiration from Stanford (SPARK). It is a unique programme that had not been run in Norway before. Currently, 18 running projects are supported as of the date of publication of the present scripts. The themes within the different calls are expanded in different ways but current societal needs - e.g. energy, environment, etc. The main criteria for the actual selection include a clear plan set out for the sub-project. Defining a clear gap in society and determining how the submitted project plan can bridge that gap. At the same time, the project in question needs to clearly define how SPARK Social Innovation can be of assistance (through mentors, networks, funding, etc.). This includes possible meetings with mentors in the areas, building a learning forum - monthly meetings for project teams, partners or anyone who may be interested in any way in the social innovation campus.

Diagram: Steps after approval/prioritisation by your faculty/unit

Steps for application



Step 1: After you have been introduced to your faculty, you need to submit an application.

Step 2: An internal jury of experienced experts will select 10-15 projects to submit their ideas to the broader jury for wider discussion.

Step 3: Projects selected for the SPARK Social Innovation programme will receive mentoring and financial support (up to NOK 400,000 per year - for a maximum of two years based on meeting milestones).

University of Bergen – Example of a Functional Transfer Center

Universities, like other academic organizations, are considered important actors in innovation ecosystems. It can be the most diverse research collaboration with industry and other public sector organizations, whether it is a provider of human capital, the publication of scientific articles, the generation of patents and the creation of new businesses based on the intellectual property of the university. Universities and academic institutions are increasingly aware of their key role as contributors to economic and social development on a global, national and regional scale. This role is often referred to as the "third mission" of universities (Etzkowitz & Leydersdorff, 2000; Laredo 2007)

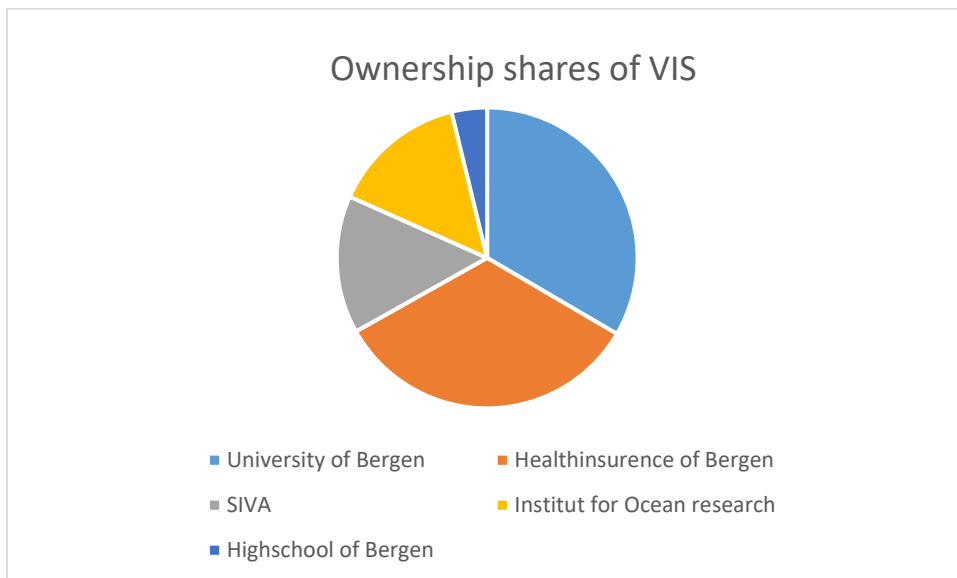
The University of Bergen is one of the internationally recognized research universities, has a total of seven faculties and almost 20,000 students study there. It employs more than 4,200 teachers and other employees. Doctoral students are paid employees, which makes a PhD at the University of Bergen particularly attractive for rising talents. Approximately half of the doctoral graduates come from countries outside Norway.

The University of Bergen is a co-owner of VIS, which deals with technology transfer and commercialization on behalf of several research institutions in the Bergen region. VIS helps researchers and research institutions to commercialize research results so that knowledge and inventions bring benefits to individuals, society and businesses, similarly to other centers of the same type.

VIS is a company that provides a complete service in the field of commercialization and intellectual property rights protection, from the very beginning of identifying an interesting R&D result to its application on the market. Its range of assistance to researchers includes assistance in evaluating the innovative and commercial potential of inventions, obtaining funds, assessing patentability, providing legal assistance and a comprehensive service in negotiating license agreements and concluding contracts, searching for partners, establishing new companies and profiling new possible projects with application overlap.

Ownership and shares within the established VIS center is as follows: University of Bergen (33.4%), Haukeland University Hospital (Helse Bergen) (33.4%), Siva Company (14.8%), Institute for Marine Research (14.5%) and Western Norway University of Applied Sciences (3.8%).

Scheme: ownership shares of VIS



Edited by: R. Štemberková, 2024

Norwegian law distinguishes between patentable inventions, and other forms of innovation or ideas. The university can demand to take control over commercial rights to the employee's patentable inventions, in whole or in part. The use of this right shall not conflict with the principle of academic freedom. The employee is free to prioritize publication, even if this may hinder the opportunity to commercialize the invention.

But for patentable inventions, VIS has to be notified by sending a disclosure of invention (DOFI). Other results, like physical objects or ideas with a potential to be commercialized, for instance trademarks or design, can also be reported to VIS, and the company, which is partly owned by UiB, can help to develop it.

VIS will evaluate whether an effort is to be made to commercialize results. The evaluation is done in dialogue with the employee. The employee briefs his/her department head on the case in question when the commercialization process begins.

The employee has a right to a reasonable share of the net revenue from a successful commercialization. The benchmark for revenue sharing is one-third to the employee, one-third to the university and one third to the research environment in which the commercializable result was achieved.

In the event the university does not exploit a research result or pursue commercialization of it by a given deadline, the employee himself/herself may exploit the result commercially by agreement with the university.

Creation of spin-offs:

If we choose to establish a new company, we will do so in cooperation with you. You don't necessarily have to be the company's general manager, but your role will nevertheless be a central one, e.g. with a position on the board. We will find a satisfactory solution.

TTO's tasks often comprise:

- Generating the required documents to set up the new company
- Composing the company's board and management
- Come up with the required initial funds
- Protecting the company's name, logo, domain name, etc.
- Developing a comprehensive business plan
- Developing your idea in the new company
- Find the right investors
- Preparing shareholder agreements and cooperation agreements with e.g. UiB
- Preparing any option schemes for key personnel

Support system for innovation at UiB:

Each faculty at UiB has its own innovation advisors. At MED there is also appointed innovation leaders at each institute. These advisors are your first stop for innovation, and they can help with questions about DOFIs, patent searches, IPR questions or business plans.

Innovation advisers at the Division of Research and Innovation can help with further questions about innovation, funding, contracts, etc. While some are specialized in innovation or infrastructure, others are legal advisors specialized in contracts and IPR.

UiB Idé

UiB idé gives employees and students the opportunity to apply for support to test and develop good innovation ideas.

The maximum funding amount is NOK 500,000 for researcher projects, and NOK 100,000 for student projects. The application deadline is the 15th of March 2022. The program budget is NOK 2,000,000.

Both researchers and students can also apply for a maximum of NOK 25 000 from UiB tidleg idé (UiB early idea), which aims very early projects, that later can qualify for the maximum amount. You can apply for UiB tidleg idé throughout the year, as there is no application deadline. <https://www.uib.no/en/fia/142589/do-you-have-good-idea-seek-support>

Ecosystem for innovation in the region

UiB is present on several arenas where we collaborate with business and public institutions. We have established collaborative arenas through the knowledge clusters and participate in business clusters in the region.

- UiB's knowledge clusters

UiB has six knowledge clusters in the areas of media, health, marine, climate, energy and technology and the Middle Ages.

- Health incubator

In collaboration with Helse Bergen and VIS the university has established the medical incubator Eitri.

- Business clusters

UiB is also a member of several business clusters:

NCE Maritime Cleantech develops energy-efficient, environmentally, and climate-friendly solutions for the maritime sector.

GCE Ocean Technology develops innovative marine technology in renewable energy, marine food production, marine mineral resources and oil and gas production.

NCE Seafood Innovation Cluster develops sustainable solutions for the seafood industry.

NCE Media brings together companies, research and educational institutions and others to facilitate innovation in the media industry.

NCE Finance Innovation brings together 80 members in finance and technology development.

NOSCA Clean Oceans works especially with oil spills, and the UiB-owned institute NORCE is a member.

PropTech Innovation focuses on innovative solutions in the real estate and construction industry. NORCE is a member.

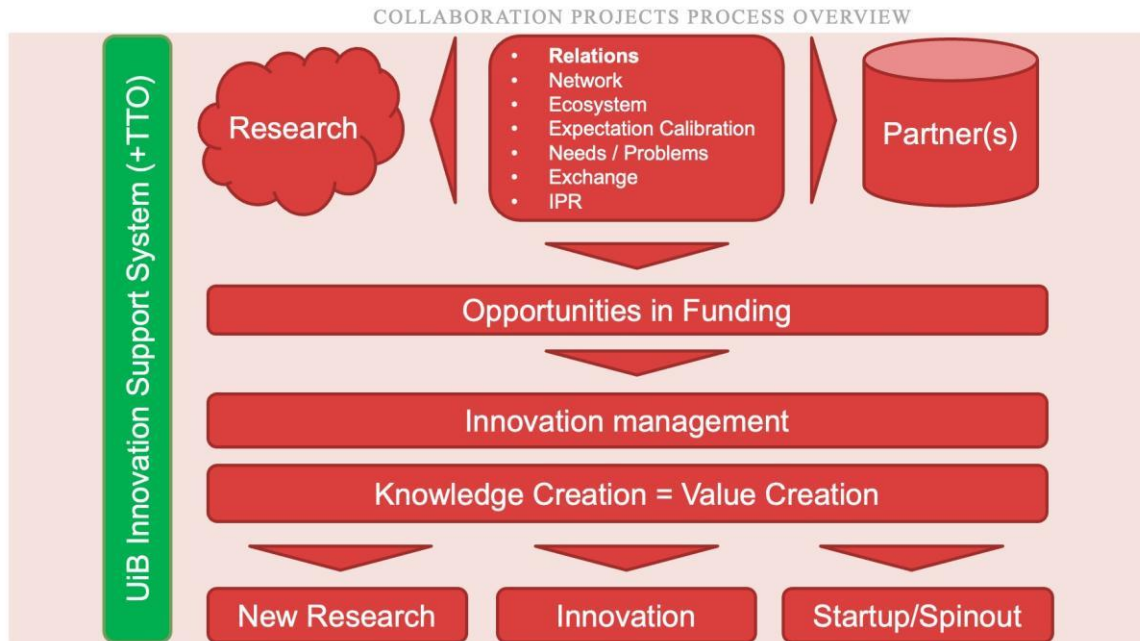
- Catapults

Norwegian Catapult are national centers, with public support, that deliver facilities, equipment and expertise to small and medium-sized companies, to make it easier to develop prototypes, test, visualize and simulate new solutions.

Ocean Innovation - delivers design, prototyping, testing, and verification to the maritime industry.

Sustainable Energy - development and testing of sustainable systems for production, storage, distribution, and management of energy.

Project cooperation – the process

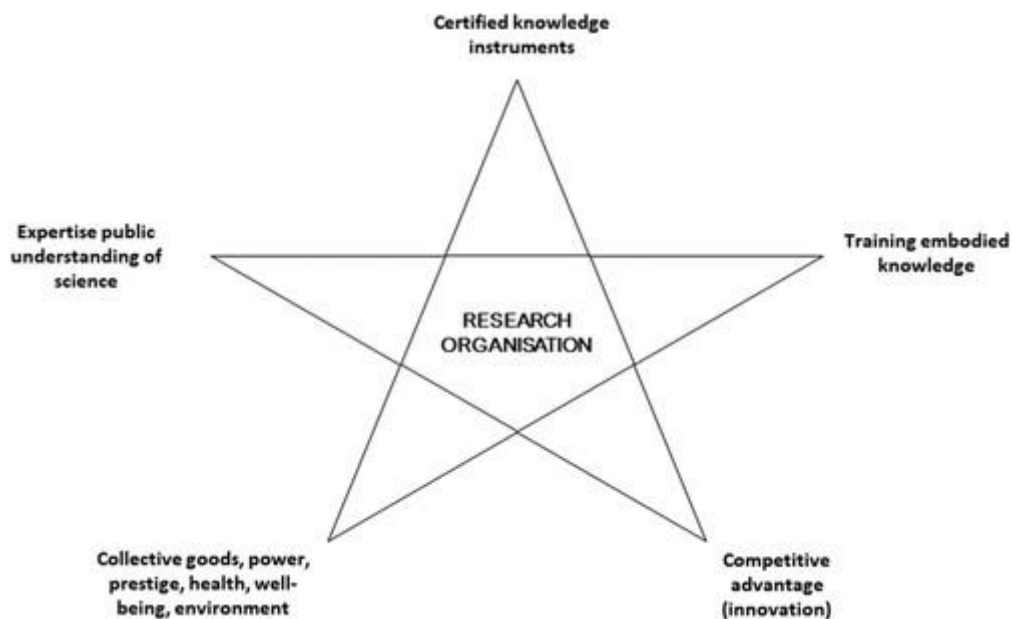


To understand the role, contribution and mutual relations between universities and other actors of the innovation ecosystem, it is important to monitor the types and depth of ties and connections within the innovation ecosystem

The main motivation for establishing an ecosystem perspective is to adopt measures and laws regulated by government bodies (Valkokari 2015; Smorodinskaya et al. 2017) and implement them into internal regulations adapted to internal set processes.

Research Compass and its Impact

Fig. 1. Research compass and its impact



Source: Taxt, R.E. a kol. (2022)

Given the fact that the dissemination of research and active communication with the general public are an important part of academic culture. Through research-based innovations, knowledge and new insights are transferred from the university environment to society. The choice of the method of applying the results itself then depends on the specific type of innovation. The University of Bergen plans to continue to profile the importance of research, innovation and education. Within the top management, it is planned to strengthen the framework for open science as part of the further development and support of the third pillar of the university. The VIS center supports the wide variety of disciplines of innovation at University through various innovative trainings for academic staff and students. VIS also strengthens its position by developing cooperation with other institutions and the business sector within the region, at national and international levels, for the wider dissemination of innovative knowledge into practice itself. The main scientific areas that the University of Bergen focuses on are energy and energy industry, natural sciences, modern technology and oceanography. Discussion and dissemination of knowledge are prerequisites for the development of the academic community within a democratic society.

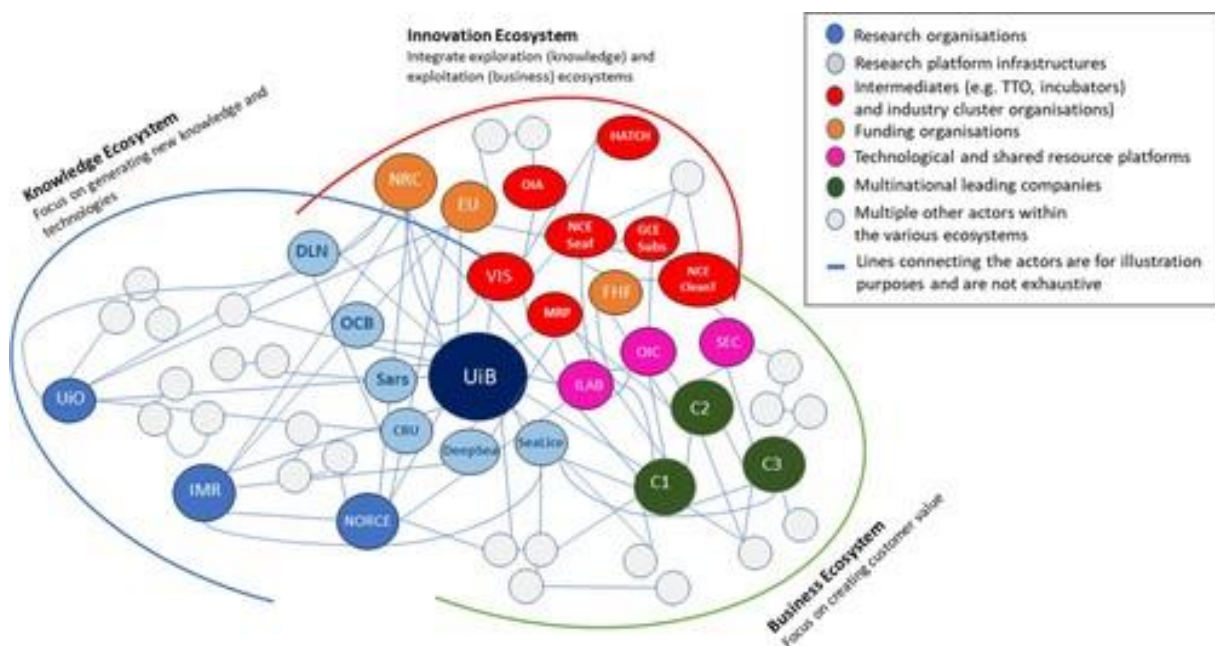
The University of Bergen is integrated within a global network, within which it has long-term cooperation with multinational companies, especially in the field of the generally wide-ranging maritime industry. The University of Bergen contributes to innovation and commercialization through VIS by entering into major licensing agreements and establishing academic spin-offs. The transfer of an idea into actionable knowledge is considered an important part of a research organization's competitive advantages. As an example, in the period 2010-2016, a total of 29 patents in the field of natural sciences related to oceanographic research, whose originators work at the university, were registered in the VIS patent database. All patents, except for one

of them, were connected with partners from the application sphere, and the projects were the result of long-term mutual cooperation.

In terms of a general statement, we can state that Norway generally achieves low results when it comes to the creation of patents, and in this respect the Vestland region, where Bergen is located, is below average by Norwegian standards (Norges, 2019). However, it should be noted that VIS has a large portfolio of commercialization projects related to marine technology compared to other TTOs in Norway and has been appointed by the Research Council of Norway as the national coordinator for marine technology commercialization activities.

Below we present a diagram of the innovation ecosystem of the University of Bergen within the joint complementarity of the innovation, knowledge and business ecosystem.

Scheme: Key players in the innovation ecosystem of the University of Bergen



Taken over: Taxt, R.E. a kol. (2022)

Full article: The embedding of universities in innovation ecosystems: The case of marine research at the University of Bergen (tandfonline.com)

University of South Bohemia in České Budějovice – Example of a Functional Transfer Centre

Universities and academic organisations are perceived in the regions as important drivers and contributors within innovation ecosystems. "Technology transfer and knowledge transfer are among the unique areas that scientific and research institutions use to link academia with the application sphere, i.e. to develop the so-called third role of universities." (Štemberková, 2013). Thus, the role of universities nowadays is far from being limited to proper teaching and research, but includes the so-called third role of engaging more actively in society (Etzkowitz & Leydersdorff, 2000; Laredo 2007, Štemberková et al. 2023). The last years, not only associated with the COVID crisis, have shown how important and necessary it is to link academic and commercial environments.

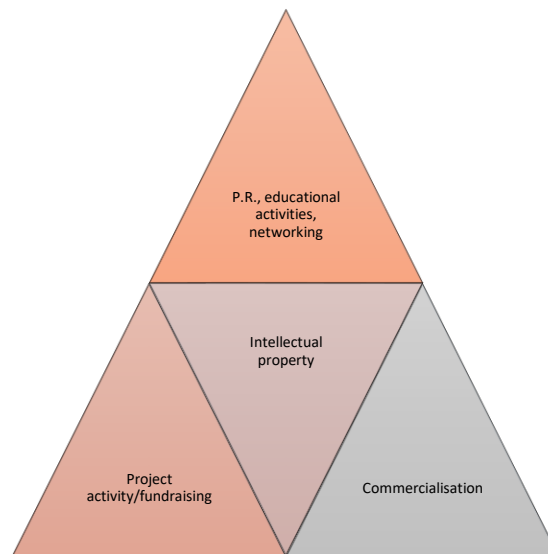
The University of South Bohemia is a regional university with national and international reach. It is ranked among the highly recognised research universities, has a total of eight faculties and more than 9,000 students. It employs more than 2,800 teachers and other staff.

Since 2012, the University of South Bohemia has established the Office of Technology Transfer (TTO), which actively promotes knowledge transfer and technology transfer and is a university-wide service workplace. The TTO primarily helps researchers to commercialize research results so that knowledge and innovations benefit individuals, society and businesses, similar to other centers of the same type.

The Technology Transfer Office provides a complete service in the field of intellectual property, from the very beginning of identifying an interesting R&D result to its application on the market. Its range of assistance to researchers includes help in evaluating the innovative and commercial potential of inventions, obtaining funding, assessing the suitability of the type of industrial legal protection, providing a comprehensive service in negotiating licensing agreements and contracts, finding partners, establishing new companies and profiling new potential projects with an application overlap. TTO has a unique software tool for registering cases of industrial law and copyright protection, i.e. the entire field of intellectual property.

The Technology Transfer Office is active in seeking funding from other national and international sources for the development of further technology transfer activities at the University of South Bohemia. Last but not least, the key activities include promotion and media coverage, educational activities developed by the Technology Transfer Office and networking activities, which are equally important.

Diagram: Main activities of the Technology Transfer Office

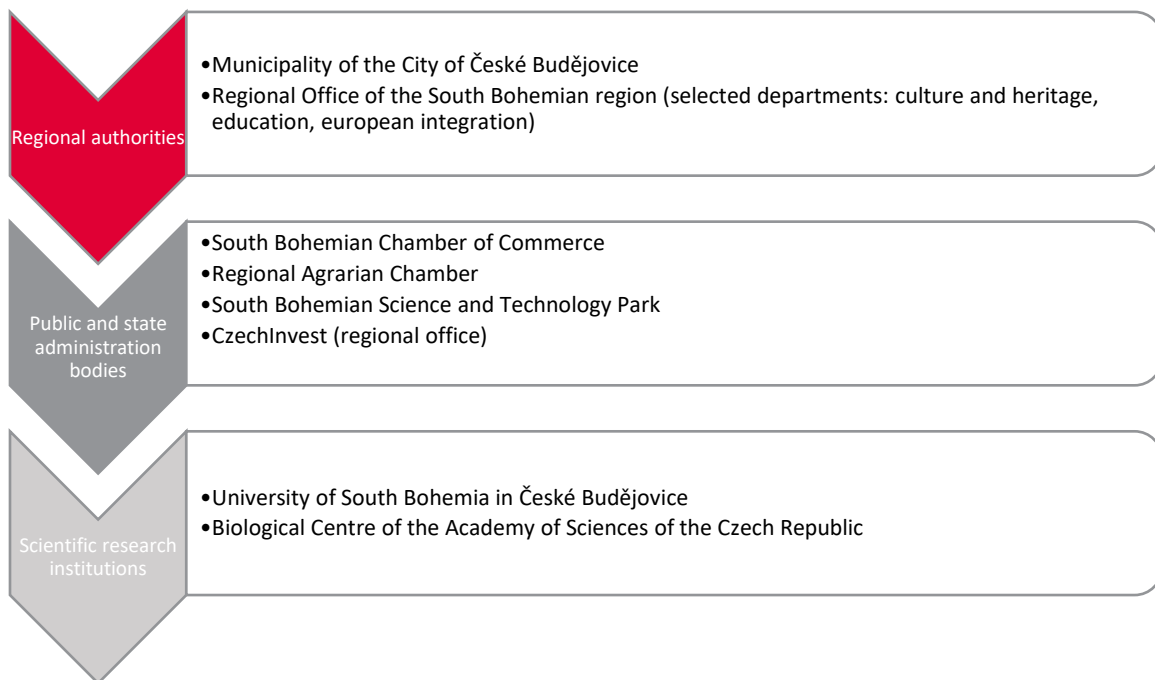


Adapted from: Štemberková, 2013

The Technology Transfer Office is 100% owned by the University of South Bohemia in České Budějovice.

In order to understand the role, contribution and interrelationships between universities and other actors in the innovation ecosystem, it is desirable to observe the types of linkages and entanglements with ecosystem actors and their intensities.

Regional Innovation Network of the Office of Technology Transfer - South Bohemian Region



National Innovation Network within which KTT JU is established



International Innovation Network within which KTT JU is established



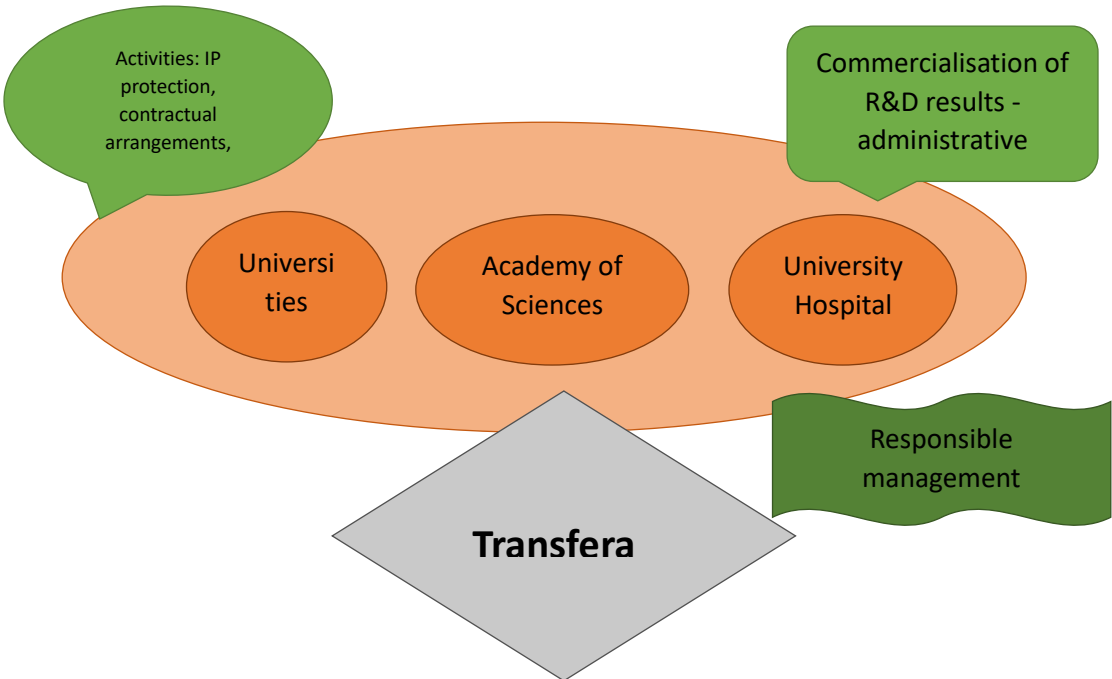
Dissemination of research and active communication with the general public are an important part of any academic culture. Through research-based innovation, knowledge and new insights are transferred from the university environment to society. The choice of how the results are actually applied depends on the specific type of innovation.

The TTO continues to support a wide diversity and disciplinary innovation at the University, including various training courses on the whole spectrum of knowledge transfer for all scientific and academic staff and masters’ and PhD students. TTO is also trying to strengthen its position by further developing cooperation and networking with other institutions at national and international level as well as with the business sector not only within the region. All these connections lead to further opportunities and to a wider dissemination of the innovative knowledge of the University of South Bohemia into practice itself. The main scientific areas in which the University of South Bohemia focuses and orients itself are natural sciences, information technologies, modern technologies, agriculture and logistics.

In terms of comparison of the whole Czech Republic, the results are generally average in terms of patent generating, and in this respect the South Bohemian Region is below average by Czech standards (CZSO/patents and licenses/data as of 31.12.2023). However, it should be noted that the Technology Transfer Office of the University of South Bohemia, like other TTOs in the Czech Republic, does not always go the route of filing applications for inventions or other choice of industrial legal protection and this step is considered with regard to the technical evaluation of the innovation.

In recent years, the University of South Bohemia has entered into two spin-off companies as part of commercialization. The 1st spin-off company is engaged in the development of a drug for immunotherapy. The 2nd spin-off company is focused on monitoring forest stands in relation to bark beetle infestation.

Organisational chart of KTT in the Czech Republic (to illustrate the interconnection of transfer centres in the Czech Republic)



Incorporation of legal entities at the University of South Bohemia in České Budějovice

The JU may establish, participate in the establishment as one of several founders or participate in legal entities with a subject of activity that is related to the educational, scientific, research, development, innovation, artistic or other creative activities of the JU or that serves to make more efficient use of the JU's human resources and assets. The legal entities that the JU may establish or participate in the establishment of, or in which it may participate, include, in particular, a society, foundation, institute, limited liability company, cooperative, or educational legal entity. JU is not entitled to become a partner in a public partnership or a general partner in a limited partnership. JU is not entitled to assume liability for the monetary debt of another person or to establish a lien on real estate. The JU shall not take any legal action leading to the establishment of a legal entity or to the acquisition of an interest in a legal entity if the management of the JU could be burdened by a loss from the management of the legal entity or by a loss arising from an interest in the legal entity. However, in exceptional cases, on the basis of a proposal by the Rector and with the approval of the Academic Senate of the University, partial financing of a legal entity may be included in the budget of the University. The founding legal act within the meaning of Section 122 of the Civil Code, by which the University establishes or co-founded a legal entity, and the share transfer agreement or other legal act by which the University acquires a participation in a legal entity, must comply with the relevant legal provisions.

The proposal for the establishment of a legal entity of the JU for submission to the Academic Senate and the Board of Trustees of the JU must contain in particular the following information listed below, which is discussed and negotiated with the future investor or partners, as well as within the management of the University and the management of the relevant faculty. In addition to the information listed below, the final draft of the agreements and articles of association of the company to be established shall be submitted:

- Draft legal entity identification data
 - (Article 4(3)(a) of the Rules)

- Detailed definition of the reasons, purpose and objectives of the establishment of the legal entity, specification of material and immaterial benefits for the JU resulting from the activities of this legal entity
 - (Article 4(3)(b) of the Rules)

- Purpose and objective of the legal entity
 - (Article 4(3)(c) of the Rules)

- Legal analysis of the steps required for the entry of a legal entity (Article 4(3)(d) of the Rules)
- Statutes
- Establishment and formation of the company
- Draft opening economic balance sheet of a legal entity (Article 4(3)(e) of the Rules)
- Proposal for the name of the statutory body, the number of its members and the manner in which they act for the legal entity, and the name, role and number of members of other bodies of the legal entity (Article 4(3)(g) of the Rules)
- Opening Proposal Specification of material and financial conditions for the existence of a legal entity and their fulfilment (Article 4(3)(h) of the Rules)
- Determination of the method of distribution of profits and resolution of losses from the activities of a legal entity (Article 4(3)(i) of the Rules)
- Profit distribution
- Solving the loss
- A proposal for the method of financing the legal entity and a statement as to whether the legal entity is to be established within the framework of the activities for which the JU was established or as a complementary activity (Article 4(3)(j) of the Rules)
- Draft of the relevant founding legal act (Article 4(3)(k) of the Rules)
- Detailed justification of the cash or in-kind contribution (Article 4(4)(a) of the Rules)
- Amount of cash deposit (Article 4(4)(b) of the Rules)

TermSheet Spin-off JU

The Term Sheet below is prepared as an auxiliary material for negotiations with the investor/investors regarding the partial terms of preparation for the establishment of a joint company.

TERMSHEET FOR SPIN OFF
Inventions descriptions
Inventor / Inventors
Know How, Patent Rights - choose according to type of invention
Ownership
Territoriality
Type of the company
Management of the company
Share of the University of South Bohemia
Transfer of the shares
Type of agreement/agreements
Contractual partners
Academic Senate / Board of Directors (decision of the authorities of the University of South Bohemia)
Applications field (field / market segment)
Investors role (direct cooperation / consultation / other)
Milestones payment (if applied, state milestone and finance)
Royalties (amount of % / timeline)

Payment by signing (the obligation to pay arises on the date of signature - yes / no)
Spin-off financing
Repayment of loans and distribution of profits
Pre-emption
Conflict of interest (whether there is + proposal for a solution)
Reporting (form, timeline, subject)
Future IP / know- how (adjustment of ownership relations)
Patent prosecution (procedure in case of need for legal protection of rights)
Publication (rules for issuing publications arising from spin-off activities)
Warranties
Exit

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