NEW VENTURE SCOUTING

Academic Spin-offs

Framework for Spin-offs for Austrian Universities and Research Institutions

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Title

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Table of Contents

1. Executive Summary

Due to their significant role in transferring research results into society, spin-offs are increasingly becoming a focal point for universities, research institutions[1], and public institutions in general. Over the past few years, continuous developments and improvements have taken place at Austrian universities and research institutions in this area. Nevertheless, the spin-off process is occasionally characterized by individualized procedures and regulations, a lack of transparency, and protracted negotiations between the involved institutions and founders. These factors can lead to uncertainty among academic founders and within the affected institutions.

This guide, developed in collaboration with more than 100 stakeholders of the spin-off ecosystem, provides a clear framework for future spin-offs. The goal is to accelerate spin-off processes at universities and research institutions and to alleviate the burden on (existing) structures.

The guide aims to support the founding of spin-offs through research and teaching, and to reach academic and research areas that have so far received little information and support, such as the exploration and development of the arts, humanities, social sciences, and cultural studies. It particularly emphasizes the importance of ventures aimed at achieving the 17 Sustainable Development Goals (SDGs) set by the United Nations.

The legal framework already offers the possibility of implementing an active spin-off strategy, as demonstrated by several Austrian best practice examples. Faster and more efficient spin-off formations should enhance international scalability, thereby advancing the objectives of the FTI strategy – Austria aims to establish 100% more economically successful spin-offs by 2030[2]. The beneficiaries of this initiative include the involved institutions (reputation gain and positioning), the founders (fast, transparent procedures), the research location (additional spin-offs), and ideally, society at large (new problem solutions, contributions towards achieving the SDGs). Moreover, spin-offs are also a crucial part of regional innovation systems.

The key lies in the valorization of knowledge. If universities and research institutions view knowledge as an asset, leveraging it for the greatest benefit of society, they will develop the necessary strategies and structures.

[1] In this document, the terms "universities and research institutions" refer to universities, universities of applied sciences, and non-university research institutes

[2] Compared to the year 2020, when the FTI strategy was formulated

Important in any strategy are the people who implement it. This guide is intended to support all those motivated and dedicated individuals who are already working at various levels at Austrian universities, in research institutions, within the research community, and in the ecosystem on this topic.

Ten Central Recommendations

The following ten recommendations form the basis of this guide:

1. A comprehensive understanding by the leadership levels of universities and research institutions regarding knowledge utilization is essential. Thus, these institutions are advised to integrate their commitment to **spin-offs into their overall strategy, publish it**, and, if existing, anchor it in research and Third Mission strategies. It is important that aspiring founders receive support regardless of the economic scaling potential, as the social and societal impact of business models should also be highly valued.
2. Universities and research institutions should, as already anchored in existing performance agreements, develop **clear guidelines for spin-offs accessible to all stakeholders, including standardized IP[3] policies, term sheets[4], and template contracts**, and make these transparently visible, for example, on their websites. This increases security for both parties during negotiations. In the context of necessary market conformity and competition compliance, attention should be paid to being founder-friendly.
3. Universities and research institutions should develop a **standardized process for spin-offs** that involves internal and external stakeholders, including investors, and provides academic founders with early insight into the spin-off processes. Where such a framework exists – as anchored in the performance agreements for 2022-2024 with the universities – its implementation should be accelerated. This process should establish clearly defined responsibilities and be adequately resourced. Internationally, setting a maximum duration for standard processes is considered a key quality feature for successful spin-offs. The involved institutions should therefore clearly communicate the intended completion time and the duration of the standard process. Within the standard process, relevant data on spin-off activities should be collected to contribute to further optimization and better planning of spin-off processes.
4. For various reasons, such as the autonomy of universities, the organizational structure of Austrian universities and research institutions is designed differently. For successful implementation of spin-off initiatives, it is crucial to establish an **efficient, clearly defined,**

[3] Intellectual Property

[4] A Term Sheet is a document that records all the agreed-upon essential points of the future contract between the university or research institution and the future spin-off

and long-term governance structure at the university or research institution, which specifies who is responsible for which decisions regarding spin-offs. This structure should also enable quick and effective decision-making processes and proactively address potential conflicts of interest.

5. Universities and research institutions should develop a **differentiated exploitation and equity strategy for spin-offs** as part of their spin-off strategy. This strategy should enable various models, such as direct equity stakes in the form of company shares, licenses (royalties), or hybrid forms. When designing these models, additional conditions such as milestone payments[5], IP fees, and support services, for example in the form of infrastructure, should be considered. The implementation of this exploitation and equity strategy should be understandable and transparent. The following ranges can be derived as guidelines from national and international best practice examples:
    a. License fees should be set depending on the industry and the specific context of the spin-off. Typical and founder-friendly license fees range between 2% and 5% of revenue.
    b. Appropriate equity stakes in the form of company shares are generally between 5% and 20%, depending on past and future investments and support services during technology development.

    An alternative to active participation is virtual company shares (phantom shares). For universities and research institutions, flexibility increases if a combination of license fees and equity stakes is chosen, where the overall package should be proportionate. Deviations from standardized term sheets (see recommendation 2) are possible depending on the development stage of the company, the contribution of the university or research institution, and market potential.
6. It is recommended that universities and research institutions develop **appropriate, individual exploitation and equity structures** within or outside their existing organizations. If an external structure in the form of an entity is created – which is usually associated with multiple technical and structural considerations – the formation of a capital company, such as a GmbH (limited liability company), for the operational implementation of the exploitation and equity strategy is advisable. This form of organization ensures clear structures and legal certainty, which is advantageous for both the institutions involved and the founders of spin-offs.
7. Due to resource constraints and to increase the visibility of spin-off activities as well as their reputation, **cooperation between universities and research institutions** along common

[5] Milestone payments are payments that are tied to the achievement of agreed milestones, such as reaching a specific sales volume

thematic focal points or in geographical proximity is recommended. Existing and established networks, such as knowledge transfer centers, could also be utilized for this purpose. The Netherlands serves as a best practice case, where twelve out of fourteen state universities implement common spin-off standards. In regional cooperations, particularly existing local support programs such as AplusB, EIT[6], EIC[7], and similar initiatives, as well as the local investor community, could be integrated. Another good practice example of cooperation is the Entrepreneurship Center Network (ECN).

8. To increase the number and quality of spin-offs, universities and research institutions should provide a **comprehensive range of entrepreneurship education** and expand this offering into areas that have not yet been involved. Teaching basic entrepreneurial knowledge should be part of the regular curriculum and supplemented by extracurricular activities. An important aspect of this training is early sensitization and awareness of entrepreneurship as a career path. The training should be offered to students as well as scientific, artistic, and non-scientific staff. It is crucial to emphasize that such comprehensive offerings should also be developed for areas beyond STEM[8] fields, which have not yet engaged with this topic. During the spin-off process, universities and research institutions should support aspiring founders with programs featuring professional mentors and relevant networks, access to pertinent markets, and assistance in finding co-founders. For these services, as well as for entrepreneurship education offerings, existing structures should be utilized, and collaborations between different universities and research institutions should be encouraged.
9. In Austria, (aspiring) spin-offs can benefit from the incubator network AplusB and are supported by comprehensive research and early-stage financing through relevant programs from the FFG[9] and the aws[10]. For spin-offs with scalable business models, **private investors are essential**. It is necessary to **involve them early in the spin-off process**, particularly as sparring partners, to enable sustainable financing for the later stages of the company.
10. The provision of resources (financial, personnel, and infrastructure) for spin-off activities is already part of the **funding for universities and research institutions and should be increased in the future**. This pertains to the initiation and development of spin-offs as well as the operational management of exploitation and equity. In particular, existing initiatives should be strengthened and continued. Additionally, special financing mechanisms could be offered

[6] Europäisches Innovations- und Technologieinstitut (European Institute of Innovation and Technology)

[7] European Innovation Council

[8] Science, technology, engineering, and math

[9] Österreichische Forschungsförderungsgesellschaft mbH (Austrian Research Promotion Agency GmbH)

[10] Austria Wirtschaftsservice Gesellschaft mbH (Austria Business Service Company GmbH)

by the federal government to support the establishment and financing of spin-off entities from universities and research institutions.

2. Problem and Scope Definition

Spin-offs are of crucial importance for the economy and society, as they represent an essential link between academic research and its exploitation or valorization in the form of innovative technologies, products and services (Ecker & Glassler, 2016). They create jobs, promote prosperity and competitiveness and disseminate new knowledge and technologies. Spin-offs make a significant contribution to addressing and solving global challenges, as formulated in the United Nations Sustainable Development Goals (SDGs) and other Grand Challenges, and thus make an active contribution to overcoming current problems such as the climate crisis, resource scarcity and social inequality. Through the rapid transfer of research results, they complement the research strategies of universities and research institutions because new research topics can be developed through feedback with the market or society[11]. Spin-offs are, therefore, an important part of the third mission, which focuses on the social responsibility of science alongside research and teaching and considers the impact in relation to societal and social challenges. Programs such as the European Commission's Horizon Europe recognize and support this role by defining social impact as part of their funding criteria.

For universities and research institutions, spin-offs offer the opportunity to combine basic and applied research with their own talents. They not only promote innovation within the institutions concerned, but also contribute to a culture that embraces entrepreneurial thinking, independent action, decision-making under uncertainty and a willingness to take risks. This can promote the transformation of universities and research institutions towards the "Entrepreneurial University" (Etzkowitz et al., 2000).

Successful spin-offs are also an essential component of reputation management. They increase the visibility of excellent research results and contribute to strengthening the national and European innovation location. In addition, they offer a potential new funding stream, provided they are professionally supported and managed. Universities and research institutions can benefit directly from active investment management and successful management of shares, licensing and research and development contracts.

Spin-offs also open up a career path for students, employees and graduates that can be an attractive alternative to a traditional academic career. Making the topic of spin-offs visible can also be a positive differentiator in the competition for students who are active in examinations.

[11] One example of this is the spin-off Bitmovin (https://bitmovin.com/), which runs a CD laboratory together with the Alpen-Adria-University Klagenfurt

In addition to the development of the sciences (research and teaching), the development of career models for young academics and artists and other tasks, the Universities Act 2002 (UG) also includes knowledge transfer as one of the central tasks of universities. This also includes the (commercial) exploitation of new findings and technologies, which underlines the importance of spin-offs in the university context.

In view of the challenges and the low number of academic spin-offs compared to other countries, the Austrian federal government has set specific development goals in its RTI Strategy 2030 (Federal Government of the Republic of Austria, 2020). One of the main goals is to double the number of academic spin-offs by 2030. This strategic direction is also reflected in the government program 2020-2024 (Federal Chancellery of Austria, 2020), which includes measures to significantly increase activities in the areas of research and development (R&D), knowledge transfer, start-ups and spin-offs. It also emphasizes the strengthening and expansion of knowledge transfer centers and technology transfer offices (TTOs) at universities and research institutions, both at local and regional level, based on international models. In addition, universities and research institutions are encouraged to promote start-up cultures and entrepreneurial thinking, which is set out in the performance agreements and supported by programs such as the FFG's Spin-off Fellowship and initiatives to strengthen female entrepreneurship.

The Austrian University Development Plan 2025-2030 of the Federal Ministry of Education, Science and Research (2022) continues to pursue these goals. The plan emphasizes the need to strengthen university Technology Transfer Offices (TTOs) and expand cooperation with industry. It also includes the further development and implementation of university property rights and exploitation strategies, encompassing areas such as licenses, patents, and spin-offs. Particular attention is given to establishing transparent framework conditions for spin-offs, with special consideration of the social dimension, especially in the development of the arts and the humanities, social, and cultural sciences.

These legal frameworks and strategic orientations thus form the basis for a dynamic and innovative spin-off culture in Austria, which both promotes academic research and exerts a positive influence on the economy and society.

The report by the Austrian Council for Research and Technology Development (2022) on Austria's scientific and technological performance identifies business start-ups as a persistent weak point in the Austrian innovation system. Although slight improvements have been recorded, Austria remains below the EU average in key indicators of start-up dynamics. While the increasing proportion of fast-growing companies is a positive sign, it remains low compared to international standards. Another issue is the availability of venture capital, which is both declining and insufficient in Austria. Additionally, entrepreneurial thinking and start-up skills are relatively weak compared to other countries. To date, spin-offs in Austria have often been created spontaneously, driven by the individual interest and

motivation of students and researchers. To improve this situation, priority should be given to measures that promote entrepreneurial skills across all areas of education, and the domestic venture capital market could be strengthened through initiatives such as a state fund of funds.

The Austrian Startup Monitor 2022 (Leitner et al., 2023) estimates around 90 academic spin-offs per year. To generate a higher number of high-quality spin-offs, universities and research institutions must strengthen their role and function within the innovation system. According to Leimüller (2017), research institutions should become "central innovation brokers that carry out knowledge and technology transfer permanently and with great intensity." This approach would accelerate and intensify innovation processes addressing social, ecological, and economic challenges. Achieving this requires appropriate decisions at the management level of the research institution, along with suitable governance instruments and a sustainable open innovation culture among all members.

The discrepancy with the current status quo is highlighted by a survey of academic spin-offs conducted by New Venture Scouting in 2023 (see 11.7). The survey aimed to capture the perspective of academic founders specifically to derive insights about the start-up friendliness of the current spin-off process. The 30 participating spin-offs expressed appreciation for the substantial support from TTOs, the provision of resources (infrastructure, personnel), and the institutional reputation from which they benefited. The ecosystem was also acknowledged for its extensive advisory network and supportive programs. However, the spin-offs called for a more standardized and much more transparent process, along with improved communication:

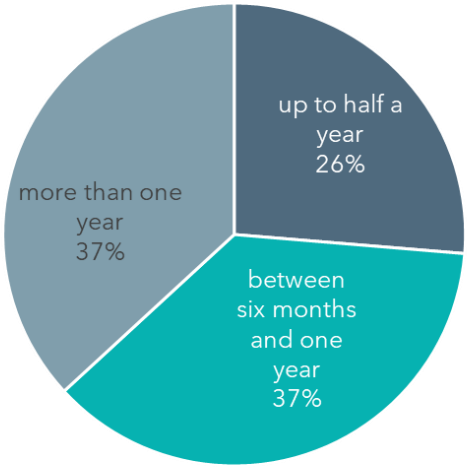
> *„Clear guidelines esp. For [sic] the IP usage or transfer; There should be such a guideline all over Austria, because the research institutes (universities) handle this totally different [sic]!!"* [12]

The current highly individualized spin-off process often leads to uncertainties for both the academic founders and the universities and research institutions involved. This is reflected in extended contracts, with an average duration of 10.8 months. It should be noted that the duration of negotiations varies significantly, ranging from one to 24 months. One possible reason for this could be the lack of clear targets for the duration of the negotiation process.

[12] Sample answer based on the question: What do you think was missing in the spin-off process?

Figure 1: Duration of the spin-off process

(Based on the results of the survey of spin-offs)[13]



In comparison, international spin-offs only need an average of 8.9 months to reach an agreement with the institution concerned (Air Street Capital, 2022), with 73% completing the process within a year.

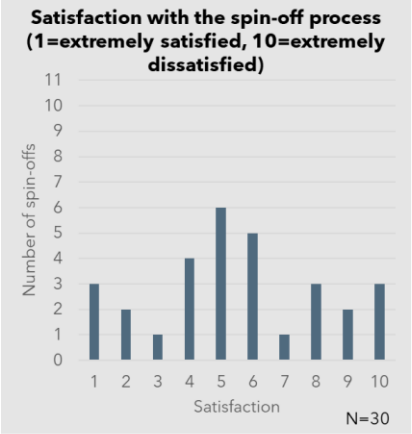
Overall, there is a low level of satisfaction with the spin-off process in Austria in general, which according to qualitative data is partly due to the non-standardised process. However, satisfaction with the contractual conditions achieved by Austrian spin-offs is rather high.

Figure 2: Satisfaction with the spin-off process and the conditions achieved

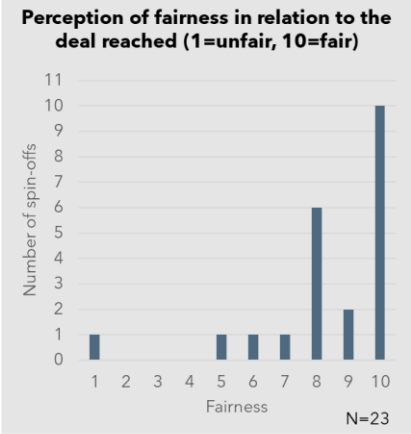
(Based on the results of the survey of spin-offs)[14]

[13] Based on the question: How many months did your business take from start to finish? (N=23)

[14] Based on the question: Based on your experience, how would you rate the spin-out process? Do you consider the deal that you achieved to be fair?



Average: 5,5



Average: 8,3

In addition to a lack of standardisation and transparency, the lack of entrepreneurial thinking on the part of universities and research institutions was also frequently mentioned as a point of criticism. Academic founders would like the institutions concerned to adopt an economic perspective, coupled with a willingness to take the necessary risks.

> *„[…] These institutes have to change their mindset from pure research-based thinking to silicon valley / Cambridge tech-cluster thinking first. Furthermore, they have to change their mindset from 20th-century patent thinking to business-oriented thinking. […]"*[15]

In summary, the spin-off ecosystem in Austria has shown significant improvement in recent years. However, further development is necessary through targeted measures in standardization, transparency, and systematic support to enhance start-up friendliness and fully realize its innovation potential.

This comprehensive spin-off framework aims to make a significant contribution to the professionalization and standardization of spin-off processes, which are currently individually designed and often fraught with uncertainty. To this end, it presents the current status of existing guidelines and regulations. On the other hand, it identifies gaps and makes specific recommendations based on best practices and input from stakeholders in the academic ecosystem. The spin-off framework is intended as a recommendation for action. It does not claim to be exhaustive and requires further legal examination in certain areas.

The primary addressees of this spin-off framework are universities and research institutions. It is intended to serve them as a practical recommendation for action that makes the spin-off process clearer and more predictable.

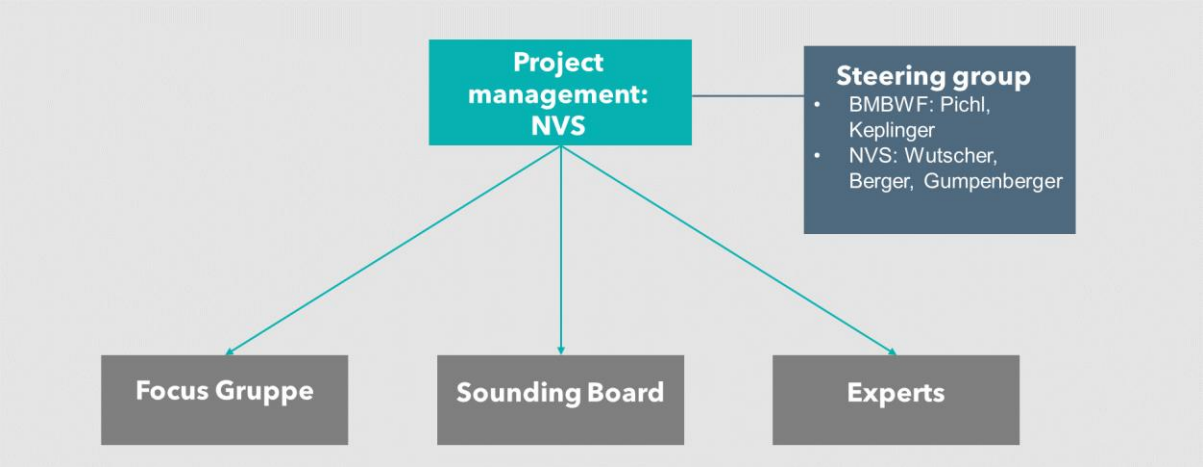
[15] Sample answer based on the question: From your point of view, what was missing in the spin-out process?

Overall, this spin-off framework should help to make the Austrian spin-off ecosystem more effective, transparent and dynamic and thus create the basis for a flourishing culture of innovation and business creation.

3. Methodology and approach

New Venture Scouting (NVS) was commissioned by the Federal Ministry of Education, Science and Research to develop coordinated guidelines for an optimized spin-off process in Austria. Figure 3 shows the project organization and formats of stakeholder involvement.

Figure 3: Project organization



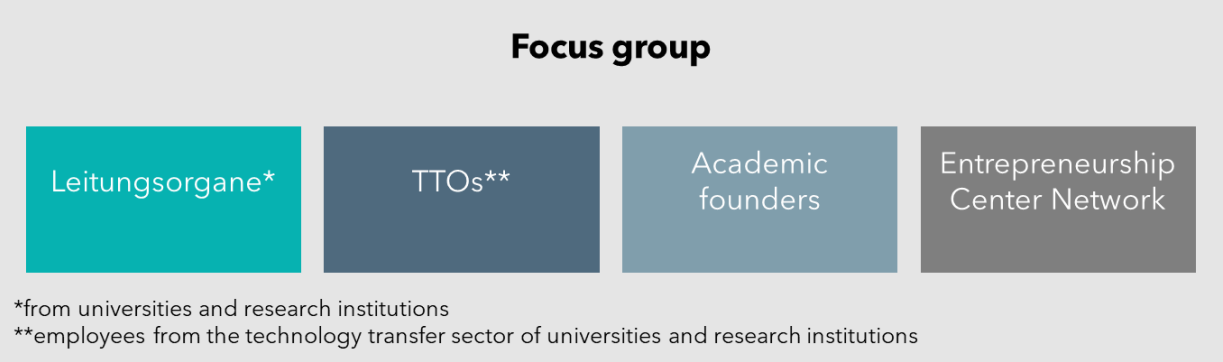
3.1. Intensive involvement of stakeholders in three formats

The relevant stakeholder groups were intensively involved in the development of the guidelines. There were three formats: a focus group (working group of those directly involved), a sounding board (institutional decision-makers) and experts (lawyers and tax experts).

These three stakeholder groups were involved in a bottom-up approach. A key component of this approach was co-creation, in which the stakeholders involved worked together in a collaborative and interactive process to create and agree on the key content of the guidelines. As a result, the guidelines reflect a broad spectrum of perspectives and expertise and are highly relevant in practice.

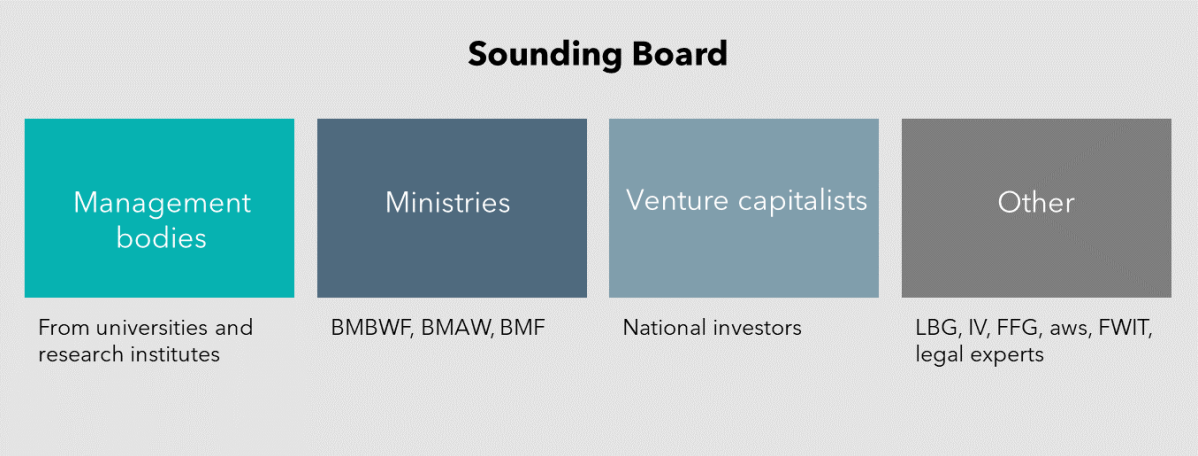
The focus group functioned as an active working group, which worked in close coordination on specific content for the guidelines as part of several workshops in person and online – both in the large group and in specialized, smaller working groups. A detailed overview of the organizations represented in the focus group can be found in 11.2.

Figure 4: Composition of the focus group



The sounding board consisted of a committee of extended stakeholders from the spin-off ecosystem that monitored the progress of the work and the results and whose feedback was obtained in two meetings. A detailed overview of the organizations represented on the sounding board can also be found in 11.2.

Figure 5: Composition of the sounding board

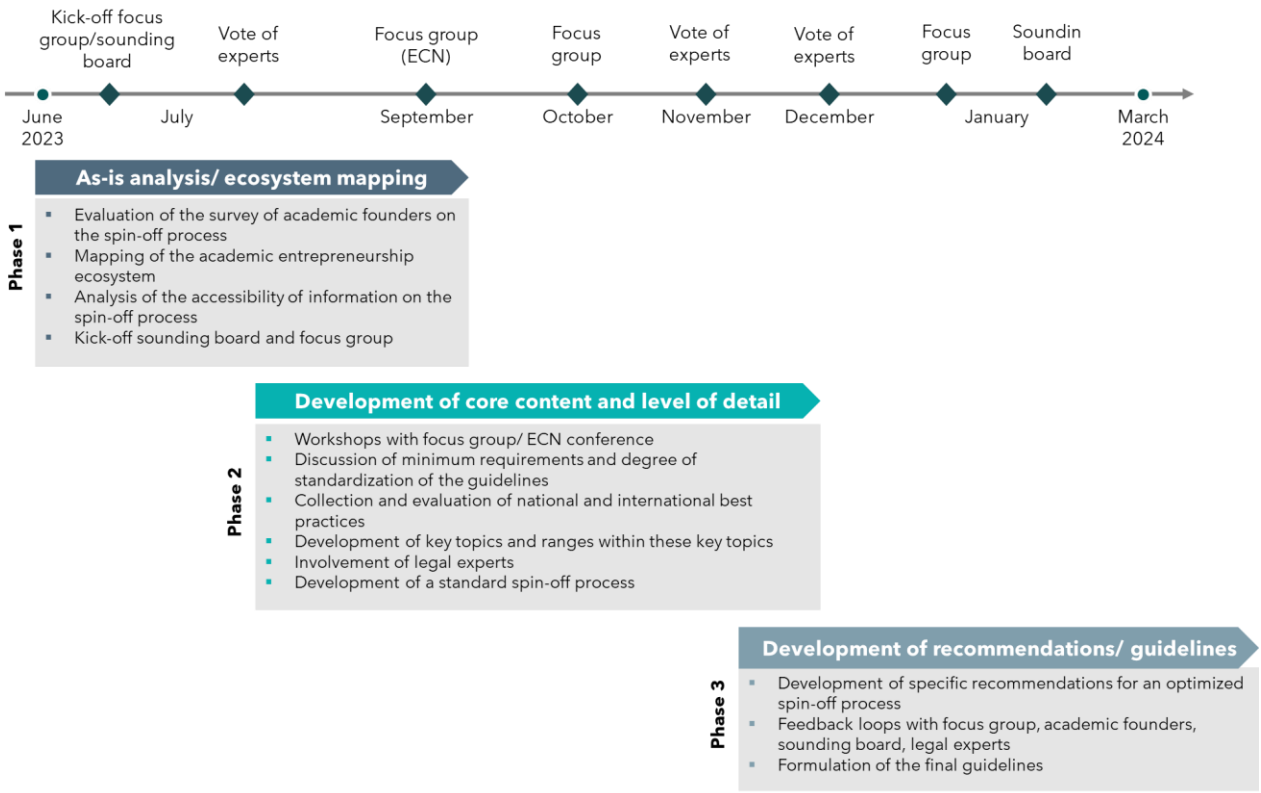


The experts consulted were BDO Austria Holding Wirtschaftsprüfung GmbH and Herbst Kinsky Rechtsanwälte GmbH. Thanks to their many years of collaboration with universities and research institutions, particularly with spin-offs, these experts bring extensive practical experience and specialist knowledge to the table.

3.2. Procedure in three work phases

The project started in June 2023 and was completed in March 2024. It was organized in three work phases.

Figure 6: Overview of the work phases



3.2.1. Work phase 1: As-is analysis and ecosystem mapping

After initial coordination within the steering group, a comprehensive overview of the initial situation was obtained in the first phase. To this end, a survey of spin-offs was conducted to incorporate the perspectives of the founders. Additionally, the academic entrepreneurship ecosystem was mapped to identify relevant stakeholders and their roles (see 6.2) and to include them in the process. Furthermore, the websites of Austrian universities and research institutions were thoroughly analyzed regarding the accessibility of information and regulations related to spin-off processes (see 5.2.).

The organization of a kick-off workshop with both the sounding board and the focus group was also central to this phase.

3.2.2. Work phase 2: Development of core content and level of detail

The specific topics (table of contents), for which guidelines were to be developed, were primarily formulated during workshops with the focus group and its four sub-working groups, at the ECN Conference 2023 in Linz, and with the involvement of tax and legal experts. The results of the initial analysis were incorporated into the discussions, addressing specific topics such as dealing with intellectual property rights (IPR) and participation in spin-offs. This collaborative effort with stakeholders ensured that the most important topics and content were addressed comprehensively, allowing for the development of a standard spin-off process without blind spots.

In this work phase, existing guidelines, documents, models, and practices from national and international universities and research institutions were reviewed in parallel, and best practice examples were identified using qualitative content analysis. Additionally, legal experts were consulted during several meetings.

Based on the results of the workshop, the analysis of national and international best practice examples, and the technical contributions from the experts, the project team prepared an initial draft of the guidelines.

3.2.3. Work phase 3: Development of concrete recommendations and guidelines

The third and final phase involved the development of concrete recommendations, which were then subjected to a circular feedback process. Multiple oral and written feedback loops took place with members of the focus group, prospective founders of spin-offs from various universities and research institutions, the client, and the sounding board. Feedback was immediately incorporated or discussed further after each session. This iterative process allowed for rapid improvement and validation of the recommendations. After the final sounding board meeting, the recommendations were finalized – taking into account legal aspects – and supplemented with important content to form this document.

The Federal Ministry of Finance was involved in the focus group. Regular updates also took place with the aws, as the results of the guide are intended to be incorporated into the online contract templates of the Intellectual Property Agreement Guide (IPAG) as a first step. This will ensure regular revision and, if necessary, adaptation. The recommendations were also brought to the attention of the responsible department of the Austrian Court of Audit. Additionally, the project team took advantage of various opportunities for exchange with an extended group of national and international stakeholders:

- 14.09.2023: Entrepreneurship Center Network (ECN) – Conference[16]
- 28.-29.09.2023: STEAM Transfer Conference[17]

[16] The **ECN (Entrepreneurship Center Network)** is Austria's nationwide platform for promoting and supporting entrepreneurial thinking and action in the higher education sector, as well as for cross-university networking. The ECN Conference takes place annually with the participation of the partner universities (currently 31 universities and universities of applied sciences) at alternating university locations. (https://ecn.ac.at/)

[17] The **STEAM Transfer Conference** was coordinated by the Knowledge Transfer Center of the Academy of Fine Arts and initiated within the framework of the cooperation project *"From STEM to STEAM"* of the Knowledge Transfer Center East and the Knowledge Transfer Center West. The conference focuses on the integration of artistic-creative and artistic-research disciplines into the STEM fields. (https://www.wtz-ost.at/steam-transfer-2023/)

- 17.-18.10.2023: Aurora Fall Biannual[18]
- 07.11.2023: Berlin Science Week – Next Generation University[19]
- 23.11.2023: Spin-off Austria Conference [20]
- 12.12.2023: Globsec Danube Tech Summit[21]

[18] Werner Wutscher serves on the Advisory Board of Aurora, a university alliance of nine European universities. The project was presented at this year's annual meeting in Olomouc. (https://aurora-universities.eu/aurora-olomouc-biannual-2023/)

[19] The Chancellor of RWTH Aachen has launched an initiative to reform German universities, in which Werner Wutscher is participating. The project was presented at the networking and working meeting on November 7. (https://www.rwth-aachen.de/cms/root/die-rwth/aktuell/~wsqil/next-generation-university/)

[20] Together with I.E.C.T. Hermann Hauser, New Venture Scouting organized this year's Spin-off Austria Conference with more than 400 participants from 20 countries. (https://www.spin-off-austria.at/press)

[21] The Danube Tech Summit is an initiative aimed at fostering cooperation in the Danube region on technology and spin-offs.. (https://www.globsec.org/what-we-do/projects/danube-tech-summit-2023)

4. Definition of academic spin-offs

The spin-off definition from the Austrian Startup Monitor 2022 (Leitner et al., 2023) was used for this guide. This definition distinguishes between:

- A start-up/company in which the idea for the new product/business model (e.g., idea development) arose as part of a course or continuing education program on the topic of business start-ups during and in causal connection with an educational relationship at a university or university of applied sciences = **educational spin-off**

and

- A start-up in which the idea for the new product/business model arose during and in thematic connection with an employment relationship at a university or research institution = **research spin-off**

This guide addresses both forms of spin-offs. For simplicity, only the term "spin-offs" is used throughout.[22]

[22] The definition discussion was conducted very intensively within the focus group. To reflect the entire range of services offered by universities and research institutions in this area, it is recommended that the definition be broadened

5. As-is Analysis

In developing these guidelines, a comprehensive analysis of the current situation was first carried out. This involved discussing the legal framework, identifying the stakeholders in the spin-off ecosystem, and obtaining an overview of the current spin-off process standards.

5.1. Legal framework for universities and research institutions

The Universities Act 2002 (UG) forms the legal basis for the 22 public universities in Austria. One of the central tasks of universities is the transfer of knowledge, which includes the commercial exploitation of new findings and technologies. However, the UG contains only detailed provisions on how this task is to be fulfilled by the universities and, in particular, what rights and obligations universities have with regard to spin-offs. According to § 10 UG, universities are entitled to establish companies, foundations, and associations, as well as to participate in companies and be members of associations, provided that this establishment, participation, or membership serves the fulfillment of the university's tasks and does not impair research (including the development of the arts) and teaching. A central provision in connection with spin-offs is also § 106 UG, which grants universities the right to make use of service inventions (see 11.6.8).

Other relevant legal provisions for universities include the Private Universities Act and the Universities of Applied Sciences Act. These laws regulate the establishment, organization, and implementation of courses at private universities and universities of applied sciences. However, these two laws are not as comprehensive as the UG and do not contain specific provisions regarding service inventions like those found in the UG.

Non-university research institutions are regulated differently, with no specific provisions on spin-offs in their relevant legal bases.

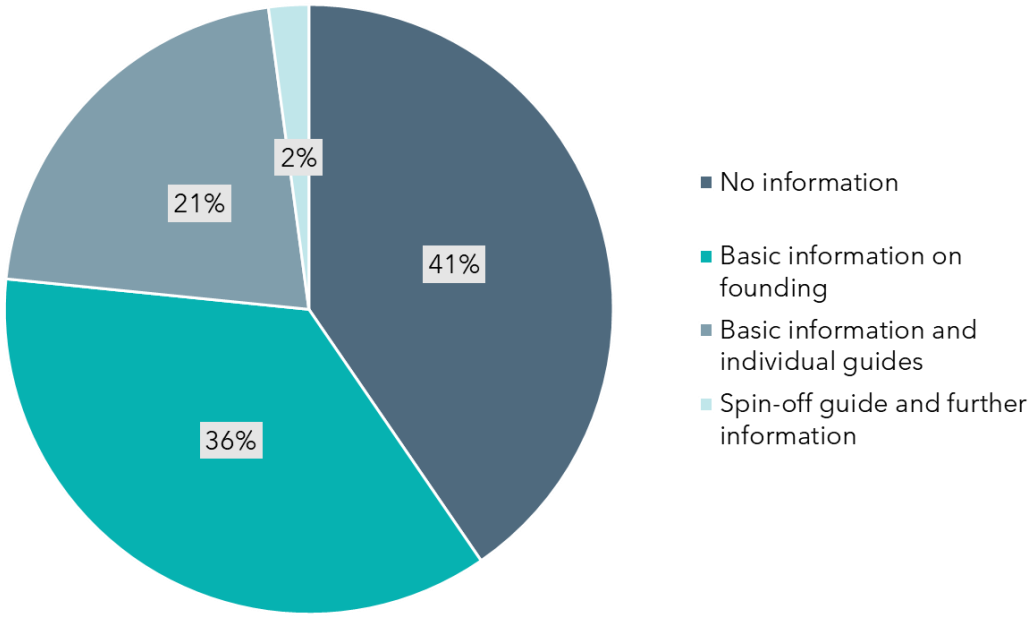
As domestic best practice examples show, an active spin-off policy is possible and can be implemented within the current legal framework. For instance, individual universities and research institutions are already implementing active exploitation and participation policies through spin-off vehicles (see 6.7.3).

5.2. Accessibility, Transparency, and Scope of Regulations

A systematic online search on the accessibility and transparency of existing regulations and rules on the spin-off process was conducted in August 2023 as part of this project. The search covered the websites of 47 Austrian universities and research institutions and revealed the following:[23]

- For 19 institutions, no information on spin-off processes was found, or only references to third parties (e.g., aws, Chamber of Commerce) were noted
- 17 websites contained only general information on founding a company, particularly on general support services offered by the university or research institution for start-ups
- Ten websites offered extended information, including individual guidelines/guides, such as patent guides, IP strategies, and participation strategies
- Only one website contained a publicly accessible guide specifically for academic spin-offs

Figure 7: Online accessibility and transparency of guidelines on the spin-off process



It should be mentioned that some of the websites referred to further information on the intranet for employees could not be reviewed by the project team due to a lack of accessibility.

[23] The search was based on the keywords foundation, entrepreneurship, spin-off, start-up, and (technology/research) transfer. A classification was made according to four categories: 1 (No information or purely references to third parties), 2 (Basic information on the topic of founding and support services), 3 (Extended information including guidelines/guides, e.g., IP guidelines), 4 (Comprehensive information including general spin-off guidelines)

An online survey of 30 Austrian spin-offs and research spin-offs conducted by New Venture Scouting from the end of February to the beginning of April 2023 (see 11.7 on the survey methodology) supports these findings. During the survey, which included both open and closed questions, the following question was asked: "Does the university have a defined spin-off guideline?" 69% of spin-offs answered "no." This indicates that the majority of universities and research institutions either do not have spin-off guidelines, are unaware of them, or the guidelines cannot be accessed by spin-offs.

For the as-is analysis for this spin-off framework, all participants in the focus group and the sounding board (see Section 3 on methodology and Section 11.2 for the institutions involved) were invited to send the project team guidelines and documents (confidential or publicly accessible) that they were familiar with. The following picture emerges from the documents received:

- Documents were provided by a total of eleven universities and research institutions.
- Of these, five universities and research institutions sent confidential documents, some of which were intended only for the internal management level and not for (prospective) founders.

These results once again indicate that the majority of universities and research institutions do not currently have a standardized spin-off process. There is an urgent need for coordinated guidelines for an optimized spin-off process to increase transparency and streamline procedures.

Regarding the level of detail and preparation of the information, the analysis of the guidelines and documents provided reveals the following:

- The documents that are only accessible internally offer the greatest information content, for example, regarding process flows, exploitation regulations, and conflicts of interest. It is not always clear whether they are intended solely for the management level of the respective institution or if they are also made available to prospective spin-offs. The extent to which these documents are known internally to all relevant management bodies of the university or research institution cannot be assessed
- While several institutions describe the handling of invention rights (e.g., inventor remuneration), aspects that elucidate the spin-off process (e.g., IPR, licensing, participation) are only explained in a few documents. Hardly any bandwidths are mentioned, nor are decision criteria illustrated
- There is a lack of appealing graphical presentation: only a few of the documents examined contain decision trees, flow charts, or other visualizations of the content that make the processes and procedures clear and comprehensible

A look at other EU countries and Switzerland reveals that comprehensive guidelines and documents are not universally accessible there either. Nevertheless, some universities and research institutions stand

out for their particular transparency and comprehensive concepts, and can therefore be regarded as exemplary: the Technical University of Munich (TUM), RWTH Aachen University, TNO (Netherlands), and the association of twelve of the fourteen Dutch universities (TU Delft, 2023; Universiteiten van Nederland), which have published standard Spin-off Dealterms. An overview of the best practices included can be found in Section 11.4.

6. Aligned Guidelines and Recommendations for the Spin-off Process

As explained in Chapter 3, the following guidelines and recommendations are based on the results of a comprehensive stakeholder process, coupled with input from experts and a qualitative content analysis of relevant documents and survey results.

6.1. Strategy and Visibility of the Spin-offs' Topic

The basic prerequisite is a comprehensive understanding of the exploitation of knowledge at the management level of universities and research institutions. It is therefore recommended that the institutions integrate their commitment to ***spin-offs into their overall strategy, make this commitment public****, and, if available, embed it in research and third mission strategies. It is important that prospective founders receive support regardless of the economic scaling potential, as significant value should also be placed on the social and societal impact of business models.*

As already enshrined in existing performance agreements, universities and research institutions should develop ***clear guidelines for spin-offs that are accessible to all stakeholders. These guidelines should include standardized IP policies, term sheets, and sample contracts****, and should be made transparent, for example, on their website. This increases security for both sides during negotiations. Within the framework of necessary market conformity and competition compliance, attention should be paid to start-up friendliness.*

A successful increase in both the number and quality of academic spin-offs requires that they are appropriately recognized and promoted at universities and research institutions. For the significant efforts at the operational level—particularly the activities of the Entrepreneurship Center Network (ECN)—to bear fruit, a clear commitment to the transfer of research results, including via spin-offs, is required from the governing bodies, such as rectorates and university councils at universities. The creation of such an institutional framework should not only promote the establishment of spin-offs but also clearly define and communicate their processes and requirements. Therefore, the basis for any activity in this area must come from the respective management level. It is recommended that universities and research institutions integrate the promotion of spin-offs into their overall strategy. The priorities and focus of the spin-off strategy should align with the research strategy of the respective institution.

What is not included in the development plans and performance agreements of the universities or the university strategies (mission statement, development plan, etc.) of the universities of applied sciences

(UAS) is not implemented or suffers from a lack of resources. To ensure that spin-offs are not created „by chance" but are part of a clear research and transfer strategy, the following prerequisites are necessary:

- **Entrepreneurial Spirit**: Successful spin-off activities require a climate that fosters an entrepreneurial spirit, where students and employees are encouraged to implement their ideas and develop entrepreneurial skills. This necessitates that the topic of spin-offs is championed by the management of the university or research institution to ensure visibility and value assessment, integrating it into the standard teaching repertoire. Successful international examples, such as those seen in technical universities, include mandatory entrepreneurship classes in the curriculum. At a minimum, one general (teaching) course on the subject is recommended to raise awareness of this career path. Additionally, these topics should be considered in all other strategic decisions of the university or research institution.
- **Employment Policy:** Entrepreneurship and spin-off topics must also impact the employment policies and job advertisements for lecturers and researchers. While universities and research institutions will continue to prioritize excellent research and teaching in their appointment policies, fostering a culture that promotes spin-offs should become part of the institution's ethos. As noted by the focus group when drafting these guidelines, *„Those who cannot or do not want to actively support the establishment of a spin-off should not (at least!) prevent it."* To this end, it is necessary to consider thematic priorities when filling positions and to ensure a spin-off-friendly climate is supported in all job allocations. Practically, this means that individuals and activities promoting start-ups receive visible recognition from management, similar to outstanding research achievements. It has proven particularly effective for spin-offs to be supervised by individuals who have start-up experience or have worked with start-ups in the private sector.

If the visibility and appreciation of the topic of spin-offs emanate from the top management level, activities at subordinate levels will also benefit from increased visibility.

As a first step, universities and research institutions should develop transparent guidelines for spin-offs that are accessible to all stakeholders, including a standardized IP policy and term sheets, and make these available on their websites. Such a transparent framework, integrated into everyday practice, strengthens awareness and support for spin-offs at all levels of the institution, particularly for academic founders. This approach enables prospective founders to learn about the spin-off process early on, while also increasing security and predictability for both parties during negotiations, ultimately enhancing the speed of execution.

6.2. Recommendations for Spin-offs from Universities of Applied Sciences

Austrian universities of applied sciences (UAS) are an integral part of this guide. However, their representatives emphasize the importance of addressing the unique features of UAS. One key distinction is their lower research intensity compared to traditional universities, which shifts the focus more toward educational spin-offs.

Many Austrian UAS have been actively supporting prospective company founders for many years. This support is aimed at active students, employees, and alumni alike. The support offerings are usually UAS-specific and can be organized both curricularly (courses in degree programs) and extracurricularly (offers by start-up and founder centers at the respective UAS or through focused start-up and support programs). Support typically focuses on the early phases of a potential start-up (ideation, validation, market launch, or pre-seed/seed). The vast majority of projects supported to date in the UAS sector can be attributed to training spin-offs. Many spin-offs are founded without protectable intellectual property rights of the respective UAS.

To better support UAS spin-offs in the future, additional resources are needed. For example, a fund to support innovation and spin-off projects at UASs in Austria could be established, from which the respective UAS could apply for resources for its spin-off support. It is important that UASs are represented in the governance structure of such a fund.

Spin-offs from UASs should not be seen as a special case, but rather as entities facing similar challenges and opportunities as spin-offs from other universities and research institutions. They also need suitable (investment) models and vehicles to participate in the success of spin-offs. One option for UASs would be to establish a limited liability company (LLC) or a flexible capital company (FlexKapG), in which UASs can also participate in the form of company value shares. Another possibility is to establish a joint subsidiary with external partners, where the partners contribute know-how and expertise (e.g., an investment company together with an incubator).

6.3. Importance of Spin-offs without Registered Intellectual Property Rights

Some research areas, such as the development of the arts and the humanities, social, and cultural sciences, are currently underrepresented in the spin-off ecosystem, which is why they should be highlighted in this guide. Their research achievements are often not patentable, and awareness-raising activities for entrepreneurship are often still in their infancy in these fields. However, these disciplines are extremely important for solving urgent social and ecological problems, not least because they often involve business models with a significant (social and/or ecological) impact.

However, through a strategic and committed approach, universities and research institutions can make a significant contribution to the success of spin-offs without registered IP rights and simultaneously

strengthen their own innovation culture. When supporting spin-offs without registered IP rights, they should consider the following important points:

- **Focus on Key Competencies:** Emphasize the development and promotion of key skills, such as an entrepreneurial mindset among researchers, to provide a solid foundation for the success of spin-offs without specific registered IP rights
- **Practice-Oriented Research**: Focus on practice-oriented research and applied projects to ensure that research results are directly incorporated into the development and growth of spin-offs
- **Networks and Collaborations**: Actively promote networks and collaborations between the university or research institution and external partners (e.g., companies) to give spin-offs access to external resources, expertise, and potential customers.
- **Support Business Model Development**: Provide resources and advice to support the development of business models for spin-offs. A clear focus on the market and value creation is crucial
- **Promoting Entrepreneurial Skills**: Encourage researchers to develop entrepreneurial skills to strengthen spin-offs in market launch and business development
- **Long-Term Partnerships**: Create a framework for long-term partnerships between the university or research institution and the spin-offs to ensure continuous support, knowledge sharing, and the promotion of innovation

The current discussion at the European level highlights that not only patentable research results are crucial for the further development of humanity. In December 2022, the Council of the European Union published a recommendation on guiding principles for the valorization of knowledge. This was followed in March 2023 by the European Commission's recommendation for a code of conduct for managing intellectual assets for knowledge valorization in the European Research Area. Intellectual assets are defined as „all results or products generated by research and teaching activities (such as intellectual property rights, data, know-how, prototypes, processes, methodologies, technologies, software)." With this recommendation, the European Commission underscores that non-patentable or copyrighted intellectual property must also be included in valorization considerations to address pressing social and ecological problems. The great importance of interdisciplinary innovation approaches becomes evident—from basic research to the valorization of results through (social) entrepreneurship. The task facing the players in the research and innovation system is clear:

> *„In order to exploit the full value of intellectual assets generated by research and teaching activities, organizations carrying out research and teaching activities need to manage intellectual assets in a broader sense, both those that can be legally protected, such as patents,*

copyrights, trademarks, and other intellectual assets that could be used in valorization activities. This requires the development of strategies for the management of these intellectual assets and the promotion of specific and cross-divisional skills in order to exploit the full potential of the intellectual assets generated. Efficient management of intellectual assets is a prerequisite for efficient knowledge valorization." (Council Recommendation (EU) 2022/2415 of 2 December 2022 on Guiding Principles for the Valorization of Knowledge, 2022)

6.4. The Spin-off Process

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*Universities and research institutions should **develop a standardized process for spin-offs** that involves internal and external stakeholders, including investors, and provides academic founders with early insights into the spin-off processes. If such a start-up framework exists—as outlined in the 2022-2024 performance agreements with the universities—its implementation should be accelerated. This process should clearly define responsibilities and be adequately resourced. Setting a maximum duration for standard processes is internationally recognized as a key quality feature for successful spin-offs. Therefore, the institutions should clearly communicate the target completion date and the duration of the standard process.*

As part of the standard process, relevant data on spin-off activities should be collected to contribute to the further optimization and better planning of spin-off processes.

*To increase the number and quality of spin-offs, universities and research institutions should provide a comprehensive **range of entrepreneurship education** and expand this in areas that have had little exposure to it. Basic entrepreneurial knowledge should be part of the regular curriculum and supplemented by extracurricular activities. An important aspect of this training is early sensitization and awareness-raising about the possibilities of entrepreneurship as a career path. This training should be offered to students, as well as academic, artistic, and non-academic staff. It is important to emphasize that such a comprehensive offering should also be developed for areas outside of STEM/MINT that have not yet engaged with this topic.*

During the spin-off process, universities and research institutions should support prospective founders with programs that provide professional mentors and access to relevant networks, markets, and assistance in the search for co-founders. Existing structures should be utilized for these services, as well as for entrepreneurship education programs. Additionally, cooperation between different universities and research institutions should be promoted to enhance these efforts.

The structure of this chapter is based on the ideal spin-off process, inspired by the spin-off process of the Technical University of Munich (TUM) (TUM ForTe – Forschungsförderung &

Technologietransfer, 2022) and further developed with input from the focus group. It is important to always consider the perspective of the founders.

A successful spin-off process is central to the success of spin-offs. It begins long before the company is founded and its effects extend far beyond this milestone. A well-designed spin-off process should fulfill the following functions:

- Raise awareness of spin-offs at universities and research institutions
- Provide the best possible support for founders, increasing the probability of founding a company
- Ensure an efficient and streamlined start-up process
- Provide predictability through fixed maximum duration
- Enable efficient use of resources for spin-offs
- Secure favorable deals for universities and research institutions regarding participation
- Establish long-term partnerships with the spin-offs

This can only be achieved through good communication and early involvement of all parties involved—internal and external stakeholders such as investors (see 6.5.2 and 6.5.3).Additionally, the conflicts of interest inherent in such a process must be openly addressed and clarified (see 6.5.4).

For all those involved, a successful process is characterized by the following features: It provides clarity and transparency about how the process works, what needs to be done at each step, and the standard market practices and start-up-friendly bandwidths, such as those regarding investments by universities and research institutions. As a result, it ensures that spin-offs can occur more quickly and efficiently than before.[24]

Figure 8 shows a typical spin-off process. This process pays particular attention to the duality of technology development and the development of the founder's personality and the formation of the founding team. The search for co-founders is often an important and challenging issue for teams of technological start-ups, which usually consist mainly of technicians in the early phases.[25]

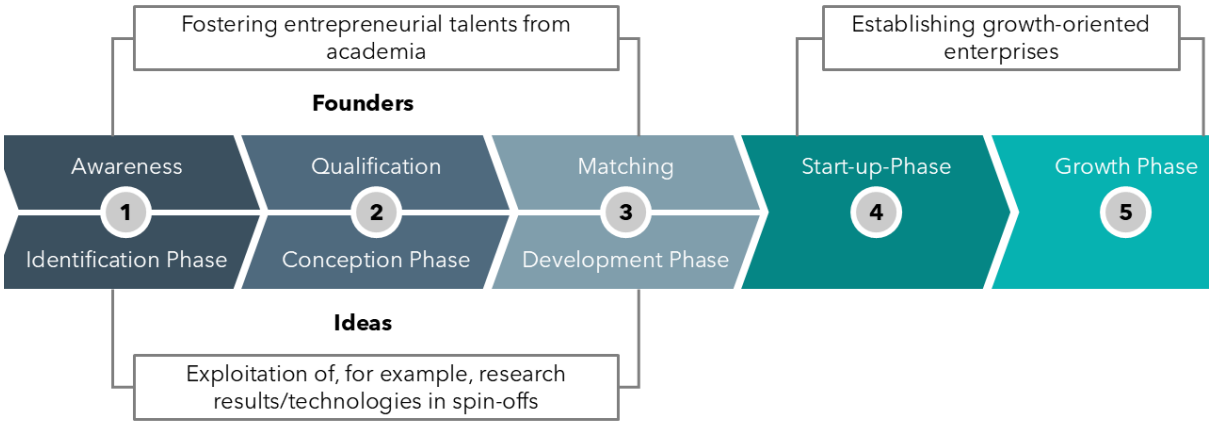
[24] Duration in Austria averages 10.8 months (see 2Problemn); of course, even with a standardized process as recommended in this guide, if the founders wish to deviate from the standard process, a later completion must be expected

[25] Spin-offs, unlike traditional companies, are distinguished by their use of the lean startup methodology, as outlined by Ries (2014). While traditional companies often engage in lengthy planning processes to develop new products or business models, spin-offs take a more agile approach by quickly creating prototypes based on initial ideas and immediately testing them in the market. The integration of (Technology Readiness Level, TRL) and

In the following chapters, the respective phases are briefly outlined and examined from the perspective of the founders. From their perspective, specific recommendations for universities and research institutions can be derived regarding stakeholder management, support services, and measures, among other things. The founders' perspective is supplemented by a look at start-up ideas and usable research results, focusing on their identification and development along the spin-off process.

Figure 8: Spin-off process

(adapted; based on TUM ForTe – Research Promotion & Technology Transfer (2022))



6.4.1. Phase 1: Raising Awareness

During the awareness-raising phase, students and employees are introduced to the career path of founding and managing a company through various channels and methods. Education and training courses on entrepreneurship are offered, as entrepreneurship training has a positive influence on the creation of spin-offs, highlighting the importance of providing appropriate (Sansone et al., 2021). From the founders' perspective, their first contact with entrepreneurship and spin-offs occurs at the university or research institution during this phase, forming the basis for all subsequent steps. Concurrently, ideas, technologies, and research results with potential for entrepreneurial exploitation are identified. At universities, this identification typically takes place through cooperation between the Technology

(Commercial Readiness Level, CRL), as described by Phadke and Vyakarnam (2019), further accelerates the development of agile business models, significantly contributing to economic and societal transformation. Consequently, spin-offs and startups are pivotal in innovation ecosystems, driving change at a much faster pace than traditional methods (Adner 2012, 2021). To capitalize on this advantage, it is crucial for spin-offs to have the necessary commercial expertise on board, enabling them to swiftly develop, test, and refine their business models

Transfer Office (TTO) and dedicated employees (known as technology brokers or ambassadors) within the faculties.

Awareness can be raised in a variety of ways:

1. Incorporate entrepreneurship into training and further education for students and employees, such as through courses. Alongside basic entrepreneurial knowledge, include the lean startup approach (Ries, 2014). This method emphasizes planning and living with uncertainty, which is beneficial for other areas of life and imparts the necessary mindset for any start-up project.
2. Universities and research institutions should offer shorter, practice-oriented formats to particularly interested individuals to make entrepreneurship tangible. Boot camps and hackathons, for example, which should be open to both students and employees, are suitable for this purpose.[26]
3. The topic of spin-offs should be a fixed part of career counseling and employee appraisals.[27]
4. The university or research institution should increase the visibility of successful founders through guest lectures, visualizations (such as a spin-off map), and comprehensive communication via internal channels. This can inspire others to imitate their success and facilitate valuable contacts.

This sows the first seed of interest in the topic, which can then grow through incidental points of contact or specifically selected activities.

To identify the right students and employees, as well as exciting research results, at the right time from the perspective of the university or research institution, it is important to analyze internal processes and procedures. Systematically determining when and where special attention should be paid to the topic is crucial. Possible areas and points in time include:

- IP area:
    a. when filing an invention disclosure

[26] **A good practice example is the Entrepreneurship Avenue, initiated by the ECN.** Students from a wide variety of disciplines come together in several labs with founders, investors, and mentors to work specifically on their start-up ideas (https://www.entrepreneurshipavenue.com/)

[27] **Another good practice example is the Ludwig Boltzmann Society Career Center,** which offers not only coaching and career counseling but also start-up consulting as well as various workshops and events on the topic of entrepreneurship (https://cc.lbg.ac.at/uebersicht/). Naturally, the inherent conflict of interest when researchers are addressed must be discussed (see 6.5.4). For employees affected by § 109, however, the exploitation of research results can also open up new career opportunities.

b. when filing a patent application
c. for further contacts with the IPR department

- Research management / funding advice
    a. when preparing an application (chapter "Dissemination, Exploitation", ...)
    b. at the end of the project (employment contracts may also expire)
- Dissertation projects
    a. at the beginning of the dissertation project (orientation phase)
    b. Doctoral students around one year before the end of the dissertation
    c. upon formal submission of the dissertation

6.4.2. Phase 2: Qualification

At the beginning of Phase 2, potential founders have already made a conscious decision to explore the spin-off start-up route, for example by contacting the Entrepreneurship Center at their university or research institution and expressing their interest. For them to explore this path further, it is essential that they feel well supported and advised, and know who their contacts are for spin-off topics. The personal level is crucial to success. In this phase, it is important to invest internal resources in the units necessary for the qualification of the founders. These are usually the TTOs or the Entrepreneurship Centers.

In this phase, a wide range of topics related to the founding of the company are addressed. These include technical requirements, such as the (conception phase, which involves developing a concept from idea development to prototype construction and validation). Additionally, economic requirements are covered, such as preparing a (business plan with all market-relevant components like market analysis and offer development, etc.)

In addition to the professional level, this phase also focuses heavily on the personal development of the prospective founders: What does it mean for them personally to move from research to self-employment and the private sector? What does this also mean in terms of their leadership qualities? In this phase, it is crutial that the potential founders are supported in their decision-making and develop their leadership qualities in order to be able to lead themselves and their team in the company accordingly. These leadership qualities are highly relevant in various activities outside of self-employment as well. Therefore, it is worth considering whether leadership development should be integrated into student curricula and employee development plans across the board.

The contact persons, for example in the Entrepreneurship Centers, have the task of making internal and external support formats known and accessible and also making recommendations on the order in which they should be utilized. Support programs and the appropriate selection of such programs have a significant influence on the success of spin-offs (Degroof & Roberts, 2004; Patzelt & Shepherd, 2009). Examples of support formats are the following:

- External consulting services for developing a business plan, determining the optimal time to establish a company, and securing funding (e.g., aws, FFG).
- Relevant incubation programs at universities and research institutions: Success factors include the duration of the support service (Does the duration allow for a gradual development of the founder's personality?), the relationship of trust with the mentors (Does the program provide sufficient opportunity to get to know each other and build trust?), and the opportunity to learn from peers (Does the program facilitate intensive exchange with individuals in similar circumstances?).
- Networking with business universities so that prospective founders from the deep tech sector in particular can integrate business expertise into their business planning in a timely manner, receive support with market research, etc.

6.4.3. Phase 3: Matching

In the third phase, the project is on the verge of being founded. On the technological side, intensive work is carried out on the product or service, with the aim of transitioning from a concept to a functioning prototype. Ideally, the founders already have their first potential customers who are willing to collaborate with them, allowing the founders to develop a deeper understanding of the market.

Matching plays a major role for the founders in this phase: What does the founding team look like? Who is missing, and what expertise still needs to be brought into the team? Since the success of the spin-off heavily depends on the quality and composition of the founding team, great attention must be paid to this aspect. Universities or research institutions should provide intensive support to prospective founders and assist in the search for co-founders. A balanced team composition, including both academic and non-academic members, as well as commercial expertise, is associated with higher spin-off growth (Visintin & Pittino, 2014). Spin-offs with experienced entrepreneurs in the team usually perform better (Lundqvist, 2014). Collaborations with universities or research institutions from other disciplines are also a valuable option.

To accelerate the further development of the business project, founders should be connected with a suitable incubator or accelerator during this phase and made aware of external support services such as the Spin-off Fellowships funding program. It is advisable to integrate with existing institutions and activities. The Startup Navigator and the Startup Landscape Austria of the Federal Ministry of Labor and Economic Affairs[28], for example, provide a good overview. Joint activities of universities and research institutions with academic incubator networks, such as AplusB, are very useful as interdisciplinarity is actively practiced here. Additionally, regional efforts should be coordinated, for

[28] Startup Navigator: https://startup.usp.gv.at/startup; Startup Landscape Austria: https://austria.dealroom.co/intro

example within Vienna or in Graz and Klagenfurt, to save resources and leverage synergies. It is important to make the best possible use of existing structures and to build on them (e.g., long-standing structures of regional knowledge transfer centers).

For spin-offs intending to utilize protected property rights from the university or research institution, negotiations with the IP owner must take place at this stage. Transparency and communication must be the top priority. Before negotiations begin, founders should have access to external, impartial consultation, for example, from a law firm or tax consultancy. This outsourcing of advice helps to overcome the natural conflict of interest (see 6.5.4) faced by the TTO of the university or research institution when negotiating with founders: responsible employees must protect their institution's interests while also supporting the founders effectively. This external advice provides founders with a neutral perspective on the upcoming start-up negotiations, which is crucial. Experience from New Venture Scouting, which has supported at least 50 academic spin-offs over the last ten years, shows that founders often have doubts about the proposals made by universities and research institutions regarding license or partnership agreements. They struggle to assess whether the proposals are fair and appropriate. Although the proposals are generally standard market practice, justifiable, and often start-up-friendly, spin-offs need external reassurance to trust their institution. Developing models and offers for external advice in collaboration with other affected institutions makes sense in this context.

It is essential for both sides—the university or research institution and the founder—to maintain a good basis for discussion during contract (term sheet) negotiations. Future collaboration can only be beneficial if the term sheet is drawn up by mutual agreement and all parties feel they are being treated fairly. The university or research institution must communicate transparently and substantiate its demands. This includes providing calculations of the investment made in the relevant research work to date (including patent costs, etc.) and referencing standard market ranges (see 6.7).

The result of the negotiations between the founders and the university or research institution should be a term sheet that includes all key points of the negotiated contract components between the parties and serves as a binding foundation for the subsequent formulation of the contract[29].

6.4.4. Phase 4: Start-up

The start-up phase begins with the founding of the spin-off company. At this point, the company may already be serving its first customers, and technology development is well advanced.

[29] The IPAG sample contract database also offers assistance. (A letter of intent is available https://www.ncp-ip.at/vertragsmuster-ipag/vertragsmuster/fh-und-uni-ausgruendungen)

In the start-up phase, founders continue to need support from their university or research institution. This support can include providing infrastructure and staff for a fee, as well as access to networking and further training events. Additionally, the institutions should assist future spin-offs in accessing funding agencies and investors. It is crucial for the university or research institution to ensure the visibility of the spin-offs, both through internal channels (newsletters, websites, events, etc.) and externally in the ecosystem, business, and politics. This visibility is especially important for impact-driven start-ups. From the founder's perspective, all contractual matters with the university or research institution should be finalized during this phase. This includes the license agreement, rental agreement, and infrastructure contract.

This phase marks the beginning of a certain decoupling process from the university or research institution, although the extent of this decoupling depends on the business model. Spin-offs in the life sciences sector often remain dependent on the institution's infrastructure for an extended period, while less technology-intensive spin-offs tend to leave the institution more quickly.

6.4.5. Phase 5: Growth

In the growth phase, the founders have already gained extensive experience with customers and can work with a validated product and business model. The biggest challenges in this phase are to ensure that the internal structures (team and processes) grow in time and are managed successfully. The start-up transitions into a scale-up. Financing becomes a key issue in this phase. Despite the excellent early-stage funding provided by aws and FFG, there is often a financing gap in Austria for this growth phase, as there is little venture capital available and public funding does not support this phase either.

Successfully managed spin-off processes are characterized by universities and research institutions maintaining close contact with the spin-offs during the growth phase. They ensure that the wealth of experience from these spin-offs is available to students and employees who are potentially interested in founding a company, through events and testimonials, both online and offline. Spin-offs should continue to benefit from their connection to the university or research institution by receiving maximum visibility in the ecosystem and beyond, such as through external events and networking opportunities. An association with the university or research institution brings credibility. Therefore, the institutions should allow and even encourage spin-offs in this phase to market themselves using the university or research institution's logo, such as "Spin-off of University or Research Institution XY."

6.5. Governance, Stakeholder and Resources

For various reasons, such as the autonomy of the universities, the structural and procedural organization of Austrian universities and research institutions varies. For the successful implementation of spin-off initiatives, it is crucial to establish an ***efficient, clearly defined, and long-term governance structure*** *at the university or research institution that specifies who is responsible for*

which decisions in spin-offs. This structure should also enable fast and effective decision-making processes and proactively address potential conflicts of interest.

The provision of funds (financial and human resources as well as infrastructure) for spin-off activities is already part of the ***financing of universities and research institutions and should be strengthened*** *in the future. This concerns the initiation and development of spin-offs as well as operational exploitation and investment management. Existing initiatives, in particular, should be strengthened and continued. Additionally, special financing mechanisms could be offered by the federal government to support the establishment and financing of spin-off vehicles at universities and research institutions.*

6.5.1. Governance at the University or Research Institution

Austrian universities and research institutions are organized in a highly divergent manner. For universities, this diversity results from their autonomy. In contrast, universities of applied sciences (UASs) and non-university research institutions have different forms of funding and financing.

The Rectorate and the University Council are responsible for the strategic orientation of universities. It is therefore recommended that the strategy for spin-offs be anchored at this level. Operational responsibility for spin-offs typically lies with the vice rectorates responsible for technology transfer, usually the vice rectorate for research, and often also involves the vice rectorates for finance. The rules of procedure of the rectorates and other regulations for the management of universities vary greatly. Measures should be reflected in the management guidelines and organizational manuals. Additionally, it is recommended to develop participation manuals with clear criteria, such as those regarding ethical principles.

TTOs and their managers and employees play a key role in the management of spin-offs at both universities and research institutions. These offices are set up either as separate organizational units or as task areas within larger organizational units, responsible for exploitation activities, primarily based on service inventions. The range of tasks varies greatly; at some universities and research institutions, entrepreneurship activities are also supervised in addition to the actual transfer tasks. The reporting lines here are also very different.

At universities, the regular changes in rectorates are associated with challenges, as this often leads to shifts in responsibilities. This entails long transition phases with changing personnel. Outsourcing the participation structure in the form of a corporation offers the institution the advantage that short-term changes are not possible, and such structures (see 6.7.3) have a higher guarantee of continuity than in-house structures. According to § 21 para. 1 lit. 9 UG, the University Council is responsible for approving the establishment of companies and foundations as well as participation in companies. When appointing members to university councils, it would be advisable for them to also have relevant expertise in the

area of spin-offs. In any case, a comprehensive duty to inform and report to the University Council should be provided. Additionally, the University Council could delegate members with appropriate qualifications to the supervisory boards or advisory boards of spin-off subsidiaries responsible for the operational management of investments. This would enable efficient and rapid action in spin-off matters.

At universities of applied sciences, the funding of spin-offs is regulated differently depending on the research area, rectorate, and management. In principle, no direct financial participation can be entered into with spin-offs due to the model of earmarked study place funding. However, the respective UAS can support spin-offs through non-monetary cooperation by embedding them in the internal and external teaching and research network, sharing know-how and resources, and thus enabling competence and network gains for both sides.

6.5.2. Stakeholder-Management in the Spin-off Process

Stakeholder management is of particular importance in the spin-off process. Two crucial dimensions are transparency and communication. It is important to raise awareness across all stakeholder groups before the start of the spin-off process and address conflicts of interest early on, as employees of the university or research institution in different roles and positions significantly influence the quality and speed of the spin-off process. The founders also play a crucial role in the success of the process. Additionally, external players are important in various stages of the process.

Stakeholder management is particularly important in the spin-off process. Two crucial dimensions are transparency and communication. It is essential to raise awareness across all stakeholder groups before the start of the spin-off process and address conflicts of interest at an early stage, as employees of the university or research institution in different roles and positions significantly influence the quality and speed of the spin-off process. The founders play a crucial role in the success of the process. Additionally, external players are important at various stages of the process.

Professional stakeholder management requires a dedicated person at the university or research institution. Ideally, this person should have start-up experience and be seen as a mediator and coordinator. Their responsibilities include identifying the most important stakeholders in the spin-off process, bringing them on board, and acting as a link and communicator throughout the entire process. The management level should visibly and tangibly support this person. It is important that they have a comprehensive view of the entire university or research institution and can build bridges across different departments. This person should always prioritize the success of the spin-off process, without being beholden to the specific interests of individual stakeholders. They must have a good overview of the stakeholders and know which stakeholders need to be involved in each phase of the spin-off process.

Additionally, they should understand internal processes and power dynamics. The transition from stakeholder management to community management is fluid. In a university or research institution where spin-offs receive the attention they deserve, a community naturally forms over the years from the individual stakeholders in the spin-off area. This community should also be supervised and supported to ensure ongoing collaboration and success.

The table below provides a typical overview of the stakeholders involved and their core concerns.

Table 1: Stakeholder and their Ideal Role in the Spin-off Process

Phase in the Spin-off-Process / Stakeholders	1. Sensitization	2. Qualification	3. Matching	4. Start-up	5. Growth
(potential) Founders	• Become familiar with the topic	• Continue on the path towards founding • Acquire knowledge relevant to founding • Develop technology towards a prototype	• Form a founding team • Work on the prototype • Negotiate with the university or research institution • Need early-stage financing	• Have clarified contractual matters with the university or research institution • Found a company • Go out into the market for the first time • Involve members of the university or research institution in the advisory board • Act as a testimonial • Act as contacts for people interested in founding a company • Participate in spin-off alumni activities	• Expand the team, develop the organization further • Conclude initial contracts with reference customers • Involve members of the university or research institutions in the advisory board • Act as a testimonial • Act as contact persons for people interested in founding a company • Take part in spin-off alumni activities

Technology Transfer Offices (TTOs)	• Identify ideas, research results, and technologies with start-up potential	• Develop and provide information on standard contracts and framework conditions	• Represent the interests of the university or research institution in contract negotiations	• Take on relationship and reputation management (monetary)	• Take on relationship and reputation management (monetary)
Entrepreneurship Centers	• Raise awareness of the topic (e.g., courses, events) • Are the first point of contact for interested parties	• Run and manage their own incubators • Network with external incubators and accelerators	• Offer start-up support • Supervise their own incubators • Network with the ecosystem in general and with prospective and established spin-offs in particular	• Take on relationship and reputation management (non-monetary)	• Take on relationship and reputation management (non-monetary)
Rectorate and Senate or Comparable Management Functions	• Create framework conditions and act as political promoters		• Enable a quick decision on the participation of the university or research institution (yes/no)	• Enable a quick decision on the participation of the university or research institution (yes/no)	
Supervisors/Professors of the Founders	• Provide technical support and resources (infrastructure, personnel)	• Pay attention to start-up friendliness if they wish to participate • Enable the use of infrastructure at the university or research institution	• Enable use of infrastructure at the university or research institution • Support the search for personnel/co-founder matching	• Enable the use of infrastructure at the university or research institution • Provide internal staff • Take on an advisory role on the spin-off's advisory board	• Enable the use of infrastructure at the university or research institution • Provide internal staff • Take on an advisory role on the spin-off's advisory board

				• Enable further research cooperation	• Enable further research cooperation
Faculty Management (Deans) or Comparable Organizational Units	• Serving as promoters	• Serving as promoters	• Serving as promoters	• Serving as promoters	• Serving as promoters
University Council or Comparable Body	• Are political promoters	• Are political promoters	• Enable a quick decision on the participation of the university or research institution (yes/no, depending on the participation model)	• Enable a quick decision on the participation of the university or research institution (yes/no, depending on the participation model)	• Are political promoters
External Project Partners and Institutes		• Provide the best possible support for the foundation	• Participate in IP negotiations if necessary	• Participate in IP negotiations if necessary	
Funding Agencies	• Offer founding consulting	• Offer founding consulting	• Offer fellowship programs • Offer pre-seed financing	• Offer seed financing	• Offer seed financing
Incubators and Accelerators			• Prepare for the foundation in coordination with the university or research institution	• Accompany and support the commercialization of the spin-off	• Accompany and support the commercialization of the spin-off
Investors	• Are in contact with the university or research institution	• Are in contact with the university or research institution	• Are in contact with the university or research institution	• Are in contact with the university or research institution	• Provide financial resources

		• Communicate the opportunities for private investors	• Communicate the opportunities for private investors • Provide feedback to spin-offs	• Provide financial resources	
External Consultants			• Advise the spin-offs before negotiations begin	• Check the terms of the contract	

6.5.3. Early involvement of investors and companies

In Austria, (prospective) spin-offs can benefit from the AplusB incubator network and receive support through comprehensive research and early-stage financing via relevant FFG and aws programs.

***Private investors** are essential for spin-offs with scaling business models. **Involving them at an early stage in the spin-off process is crucial**, particularly as sparring partners, to secure sustainable financing for the later phases of the company.*

The Austrian start-up ecosystem is dominated by state support. A wide range of public funding is available from aws and FFG for start-ups and early stages. Tailor-made measures such as the FFG Spin-off Fellowship are also offered. These programs are beneficial and should definitely be continued to increase planning security for founders and private investors.

Private investors are particularly in demand for the growth phases of spin-offs and support spin-offs in the life sciences and deep tech sectors during their comparatively long time to market. However, in Austria, the capital market and equity culture are weak. The financing of spin-offs is a specialized segment of the capital market that requires a deep understanding of the needs of scientific founders and science-driven business models. The number of funds and business angels investing in this area is limited. Nevertheless, private investors are crucial for founders beyond financing requirements, as they provide market expertise that founders often lack in the early stages and play a significant role in the internationalization of spin-off projects.

Early involvement and regular dialogue with investors are necessary to ensure that spin-offs remain marketable and investable [30]. Foreign best practice examples, such as those from the Netherlands and Germany, demonstrate intensive cooperation with private investors. The primary responsibility for this lies with the founders. However, joint formats with universities and research institutions, such as the involvement of Invest Austria at INiTS pitching events, help to increase mutual understanding and improve Deal-Flow[31] for investors. Additionally, cooperation with companies is essential to gain reference customers and open up market access for spin-offs.

[30] Investors are often perceived by universities and research institutions as disruptive in the negotiation process, while investors themselves frequently complain about the slowness of decision-making processes at these institutions. One example of the need for early involvement is the structure of company shares (cap table): shares held by individuals who are not actively involved in the company (so-called dead capital) can become obstacles to further financing rounds. In addition to early communication, standardization of term sheets can help increase mutual understanding. It is clear that universities and research institutions that handle spin-offs professionally are partners at eye level for investors

[31] Deal-Flow refers to the number of investment opportunities available to investors

6.5.4. Dealing with conflicts of interest

At universities and research institutions, natural conflicts of interest in spin-offs should be systematically identified at an early stage. This involves analyzing individual stakeholders in the spin-off process step by step to determine where conflicting interests may arise, for example through a stakeholder survey. It is also important to reflect on whether the respective role in the spin-off process inherently involves a conflict of interest. Conflicts of interest occur when researchers found companies while continuing to work as researchers at the university or research institution. Another example is the dual role of TTO and promoter of start-up activities: during the negotiations of the term sheet, the TTO should safeguard the interests of the university or research institution while also providing the best possible support to the founders.

The second step should be to determine how the previously identified conflicts of interest can best be assessed, made fully transparent, and managed. Many conflicts can potentially be prevented or mitigated.

Of course, conflicts of interest may also arise during the spin-off process that were not anticipated. In such cases, it is advisable to disclose them quickly, work out a solution with the affected stakeholders, and communicate this transparently.

A few key conflict lines and examples are shown in the following table, along with recommendations on how best to deal with them:

Table 2: Lines of conflict and proposals for their management

Examples of conflicts of interest	Suggestions for their management
• Conflicting objectives on the part of the management of the university or research institution to produce a high number of actively examining students and graduates to meet economic and social needs (e.g., doctors for healthcare) • In the case of UASs, funding is tied to study places and there is very little scope for additional activities	• Addressing and balancing conflicts • Supporting individuals who are intrinsically motivated to manage the spin-off activities of universities and research institutions • In universities, planning will also be necessary at the faculty level regarding the required number of researchers and the desired number of spin-offs
• During term sheet negotiations, a conflict of interest may arise due to the personal union of the TTO and Entrepreneurship Center, as TTOs try to represent the interests of both the	• Establishment of a dedicated entrepreneurship unit that can focus solely on successful spin-offs

university or research institution and the founders simultaneously	• Ensure good coordination between the TTO and Entrepreneurship Center, but with distinctly separated roles • Clearly communication of this role clarification to the founders to manage expectations and ensure a rapid process
• Question of participation in intellectual property and potential equity participation by senior professors • Internal conflicts of interest with the university or research institution, which would also like to participate in the success of spin-offs • External conflicts of interest with investors who, for financial market reasons, only accept very small stakes from non-founders	• Establish and clearly communicate internal regulations regarding contributions to patent applications, along with external guidelines on how many shares professors should hold in corporations where they are no longer actively involved • Key question: Are the shares in line with market conditions, and is the spin-off still investable?
• Question of university or research institution participation through licensing and/or shares • Founders are interested in keeping costs as low as possible • TTOs, as representatives of the university or research institution, seek financial returns for services already rendered for research and development	• Transparent, reliable, communicated spin-off processes and bandwidths for licensing and investments • External, neutral advice for prospective spin-offs before negotiating the term sheet

6.5.5. Resources

The necessary resources (financial and human resources as well as infrastructure) are a prerequisite for professional stakeholder management in addition to suitable governance structures. Additionally, sufficient resources are required for operational exploitation and participation management. It is recommended to make good use of existing initiatives and offers and to consider new financing mechanisms.

6.6. Cooperation Between Universities and Research Institutions

For reasons of resource optimization and to enhance the visibility and reputation of spin-off activities, ***cooperation between universities and research institutions*** *along common key topics or in geographical proximity is recommended. Existing and established networks, such as knowledge transfer centers, could also be utilized for this purpose. The Netherlands serves as a best practice example, where twelve out of fourteen state universities implement joint spin-off standards. In the case*

of regional cooperation, existing local support programs such as AplusB, EIT, EIC, and similar initiatives, as well as the local investor scene, could be integrated. Another good practice example of cooperation is the Entrepreneurship Center Network (ECN).

In the interests of conserving resources and exploiting synergies, universities and research institutions should pool their resources for spin-off support services and measures as much as possible and identify opportunities for cooperation. In addition to saving financial resources, intensified cooperation offers the opportunity to learn from others and to jointly set and further develop offerings. This not only saves financial resources but also time, as each university or research institution does not need to reinvent the wheel. Moreover, the lack of interdisciplinarity in many start-up projects—such as start-up teams without business expertise—can be better addressed through cooperation between different universities and research institutions. This collaboration fosters new networks and approaches, enhancing the overall effectiveness of spin-off initiatives.

There is great potential for cooperation in supporting and advising spin-offs through joint support programs. Universities and research institutions should join forces to offer support programs for prospective spin-offs. Such cooperation not only saves human and financial resources but also enhances exchange and networking between universities and research institutions. This collaboration benefits prospective founders and provides universities and research institutions with new information and knowledge. Additionally, cooperation increases the visibility of spin-off activities and makes them more accessible to external stakeholders such as investors.

6.7. Participation of Universities and Research Institutions in Spin-offs

*Universities and research institutions should develop a **differentiated exploitation and participation** strategy for spin-offs as part of their overall spin-off strategy. This strategy should encompass various models, such as direct participation in the form of company shares (equity), licenses (royalties), or hybrid forms. When designing these models, additional conditions such as milestone payments, IP fees, and support services (e.g., infrastructure) should be considered. The implementation of this exploitation and participation strategy should be comprehensible and transparent.*

The following ranges can be derived as guidelines from national and international best practice examples:

> *a. License Fees should be determined based on the industry and the specific context of the spin-off. Typical and start-up-friendly license fees range between 2% and 5% of sales revenues.*
>
> *b. Appropriate equity investments in the form of company shares range from 5% to 20%, depending on the investments already made and future investments and support services during technology development.*

Virtual company shares (phantom shares) are an alternative to active participation.

For universities and research institutions, flexibility is increased if a combination of license fees and company shares is chosen, ensuring the overall package remains proportionate. Deviations from the standardized term sheets (see recommendation 2) are possible depending on the stage of development of the company, the contribution of the university or research institution, and the market potential.

In principle, stakeholders recommend the active participation of universities and research institutions in as broad an approach as possible. The strategic decision regarding which forms of participation to select is left to the discretion of the institutions concerned. The following chapter presents all forms and possibilities of participation in spin-offs in detail. Relevant conceptual explanations of license fees, shares (equity), and spin-offs without (registered) intellectual property can be found in section 11.5.

6.7.1. Legal Framework Conditions

The participation of universities and research institutions in spin-offs and the exploitation of intellectual property rights is subject to various legal frameworks, including company law, employment law, state aid law, and tax law, which must be carefully observed.

With regard to company law, great attention must be paid to the choice of the legal form of the spin-off. The Austrian legal system offers a range of company forms to choose from (e.g., LLC, AG, FlexKapG, Partnerships). For the exploitation of intellectual property, the university or research institution must ensure that appropriate provisions are included in the articles of association. These provisions should enable the exploitation of IP while preventing the sale or outright transfer of intangible assets.

In terms of employment law, particular attention must be paid to the drafting of employment contracts with employees of universities or research institutions, especially if the employment relationship is not of a public law nature. The employer's right to claim rights to a service invention, in accordance with the provisions of the Patent Act, generally requires a written agreement, which should ideally be included in the employment contract.

Additionally, to comply with state aid law in connection with participation in spin-offs, it must be examined whether there may be unlawful aid.

Income from the exploitation of property rights is generally taxable. Therefore, from a tax law perspective, all tax obligations and any tax relief options should be clarified.

It is recommended to seek advice from legal experts and tax advisors in a timely manner regarding the exploitation of property rights. This will ensure that all relevant legal provisions and regulations are properly complied with.

Further selected legal framework conditions and considerations can be found in Annex 6 (Section 11.6).

6.7.2. Models for Exploitation

Various models for the exploitation of IP are presented in the following chapter. The most suitable exploitation model depends on several factors, including the IP owner's objectives, the type of IP, the available resources, and strategic considerations. All legal and business aspects should be carefully considered when making the appropriate choice. Compliance with certain guidelines in the exploitation of intellectual property should ensure a controlled and appropriate transfer.

Additionally, it is generally advisable to develop an IP policy that clearly defines guidelines for dealing with intellectual property within a university or research institution. This policy should include a definition of IP and outline the corresponding responsibilities of various stakeholders (inventors, university or research institution, founders, etc.). Furthermore, guidelines for handling IP applications, know-how transfer, licensing, and IP valuation principles should be disclosed. Based on this policy, sample contracts for possible IP and know-how licensing can be developed.

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If several universities and research institutions are involved, one institution should take on the role of lead investor. Coordinated principles, such as joint term sheets, are recommended.

6.7.2.1. Licensing

Through licensing, the university or research institution transfers the right to use the IP to another party or a spin-off in return for a license fee. As a rule, the owner of the IP retains ownership of the IP but grants the licensee the right to use it under certain conditions. The license is valid for a specific period and scope and is precisely defined by a license agreement.

A basic distinction is made between three types of licenses. In the case of a simple license, the licensee is entitled to use the licensed object in addition to the licensor. The latter reserves the right to grant further licenses. An exclusive license is characterized by the fact that the licensor is still entitled to use the licensed item, but no further licenses may be granted to third parties. In the case of an exclusive

license, the licensee may exclude all other persons (including the licensor) from using the subject matter of the license.

Licenses are granted in return for a license fee. In principle, there are two options for the type of license fee: (1) a fixed license rate, where a fee agreed upon with the licensee is charged, or (2) a revenue share, where the fee is calculated as a percentage of the revenue generated based on the licensed IP. The obligation to pass on intellectual property at normal market conditions must be observed to ensure compliance with competition law and state aid law requirements.

It is also advisable to define a clause that prescribes further payments in the event of particular economic significance, counteracting the risk of insufficient remuneration in the event of a transfer.

Licensing is often the preferred method of exploitation for universities and research institutions, as they remain the owners of the intellectual property. It also offers the advantage of enabling the licensor to generate revenue from IP and create a direct source of income with early returns through the collection of license fees. Additionally, universities and research institutions can reduce commercial risk by transferring responsibility for development, production, and distribution to licensees. This allows the institution to focus on its core competencies.

Universities and research institutions also have the option to individually structure the license conditions, such as license fees, geographical restrictions, areas of use, and other conditions that align with their interests.

License fees depend heavily on the specific individual case. The amount varies depending on the industry, the IP in question, and the other contractual conditions. National and international examples (see 11.4), examined as part of the development of the guidelines, as well as the exchange with the focus group, show that customary and start-up-friendly license fees range between two and five percent of sales revenues. Deviations from these conditions should only be made in individual cases. This range was also reflected in the survey of academic founders conducted by New Venture Scouting.

6.7.2.2. Participation

Each university or research institution should develop a structure that enables it to take advantage of the full range of participation opportunities. The decision to use corporations or other legal forms should be made in accordance with the individual strategy and framework conditions of the respective institution. This investment structure should also include the possibility of investing in other companies in addition to spin-offs. These could include collaborations with other companies to finance research projects.

Alongside license fees, direct participation is the most important form of participation in the success of the spin-off. International and national examples (see 11.4) were analyzed, and the focus group was

consulted to determine a customary level of participation. An appropriate level of participation for universities and research institutions is generally in the range of five to 20 percent. As with license fees, the individual participation level depends on other contractual conditions and the specific IP in question and must be determined on a case-by-case basis.

6.7.2.3. Real Shareholdings versus Virtual Shareholdings

The university or research institution can participate in the spin-off by way of real or virtual shares. Real shareholdings convey an actual (company) share in the spin-off and thus a shareholder position. In contrast, virtual shareholdings (also known as "virtual shares" or "phantom shares") are fictitious shares in a company. Essentially, they grant an economic position comparable to that of a shareholder through an agreement under the law of obligations. However, unlike real shareholdings, virtual participations generally do not confer any voting or participation rights. Since virtual participations are purely contractual and not bound by company law requirements, there is flexible scope for structuring the rights and obligations associated with them.

Real participations offer the participant (university or research institution) actual shares in the spin-off, along with co-determination and information rights, and are often advantageous from a tax perspective. Virtual participations, on the other hand, can be advantageous for the institutions as they involve less administrative effort (due to the lack of voting and participation rights) but still enable participation in the goodwill or exit event of the spin-off (usually the sale of the company or an IPO). However, the scope for influencing the spin-off is often limited, depending on the structure.

For founders, the issue of shares (both real and virtual) can be financially advantageous because they can serve as consideration for the licensing of IP by the university or research institution to the spin-off. The liquidity problems that often hinder the acquisition or licensing of IP in exchange for license payments, common in early phases, can be circumvented by issuing shares. The shares granted can either replace license payments entirely or at least reduce them. Virtual shareholdings also have the advantage for founders that they do not affect the ownership structure of the company's share capital, providing more flexibility for the subsequent addition of further shareholders (e.g., investors).

Virtual shares can be an attractive solution for both sides in connection with spin-offs. Some German universities, such as TU Munich and TU Darmstadt, have already implemented models for spin-offs based on the issuance of virtual shares in return for granting licenses to or the outright transfer of the university's IP.

The issuance of virtual participations is generally possible for all company forms. This is an obligation of the spin-off under the law of obligations, typically outlined in a (participation) agreement. The new Flexible Capital Company (FlexKapG) offers an additional option comparable to virtual participations: Enterprise Value Shares / Unternehmenswertanteile (UWA). UWA are a newly created share class that

entitle the holder to financial participation in the profits and liquidation proceeds of the company. In the event of an exit, there is also a mandatory co-sale right in favor of the holders of UWA.

Apart from a few exceptional cases, holders of UWAs have no voting rights but do have the right to participate and ask questions at the Annual General Meeting. The main use case for UWAs is the participation of employees, which has often been organized in the form of virtual shares. However, the issuance of UWAs is not limited to this use case; UWAs are open to everyone.

The UWA of a FlexKapG may be issued up to a maximum of 25% of the company's share capital. The share capital contribution of a UWA must be at least one cent. Holders of UWA do not appear directly in the company register but must be entered in a share register administered by the company.

Participation in the form of UWAs can be advantageous for universities or research institutions because, similar to virtual shares, they enable financial participation without any participation obligations. However, the prerequisite is that the spin-off is founded as a FlexKapG. In any case, it is recommended to develop model contracts for participations.

6.7.2.4. Strategic Participation and Financial Participation

A distinction can be made between two main approaches to participation by universities and research institutions: strategic participation and financial participation. These two models serve different objectives and can be applied depending on the interests of the parties involved. In many cases, a combination of both approaches is used, depending on the specific objectives of the university or research institution, the type of IP developed, and the negotiations with potential partners. A balanced approach that considers both financial and strategic aspects can help effectively achieve the university's or research institution's objectives.

Strategic participations focus on the implementation or support of the core tasks in research and teaching of a university or research institution, particularly (1) services, (2) scientific cooperation, and (3) participation in companies that provide infrastructure. It can also be an active decision of the institution to limit its participations to thematic priorities, such as life sciences. It must be ensured that decisive influence (e.g., delegation rights in the supervisory board and general meeting, possibility of majority resolutions) is achieved through articles of association, as well as effective participation management, controlling, and reporting.

Financial investments focus on the implementation or support of knowledge and technology transfer projects. This occurs particularly in the form of spin-offs, spin-ins, or start-ups. Here, too, it is important to ensure rights (e.g., no obligation to make additional contributions, statutory minority rights, protection against dilution) through partnership agreements and to ensure effective investment management, controlling, and reporting.

6.7.2.5. Participation in Spin-offs without Registered Intellectual Property Rights

From a legal perspective, the above considerations can easily be applied to spin-offs that do not have registered (or registrable) property rights, such as non-patentable inventions or copyright-protected creations. In principle, non-registered property rights can also be licensed by granting rights of use, e.g., as part of know-how license agreements. In this respect, reference can be made to the explanations above.

In the case of participation, special attention must be paid to ensuring that the spin-off is granted comprehensive and unrestricted usage rights to the intangible assets by their creator. The transfer of property rights by registering the spin-off as the owner in the respective register is not possible with unregistered property rights.

In the case of participation, particular attention must be paid to ensuring that the spin-off is granted comprehensive and unrestricted rights of use to the intangible assets of its author or creator. A transfer of property rights by registering the spin-off as the owner in the respective register is out of the question for unregistered property rights.

Since registered intellectual property rights offer a higher level of protection than unregistered rights, it is all the more important to maintain confidentiality regarding the latter to ensure the greatest possible protection.

6.7.2.6. Mixed Model

A mixed model, which includes both licensing and participation, can also be used for the exploitation of IP. This model can be tailored to the specific circumstances and objectives of the parties involved, increasing flexibility for universities and research institutions. Of course, the overall package must be appropriate.

6.7.3. Considerations for the Spin-off Vehicle

It is recommended that universities and research institutions develop ***suitable, individualized exploitation and participation structures*** *within or outside their existing organizations. If an external structure is created (spin-off)—which typically involves a large number of technical and structural issues—the establishment of a corporation for the operational implementation of the exploitation and participation strategy, such as a LLC, is a good option. This form of organization guarantees clear structures and legal certainty, which is advantageous for both the institutions concerned and the founders of spin-offs.*

The choice of legal form for a spin-off vehicle, i.e., the legal structure through which a university or research institution participates in a spin-off, depends on various factors, including legal, tax, and

organizational requirements. The legal form frequently chosen and recommended for several reasons is the limited liability company (LLC).

The choice of legal form for a spin-off vehicle, i.e., the legal structure through which a university or research institution participates in a spin-off, depends on various factors, including legal, tax, and organizational requirements. The legal form frequently chosen and recommended for several reasons is the limited liability company (LLC).

The establishment of a separate holding company by a university or research institution, characterized by transparent and reliable long-term governance, can ensure stability during changes in management functions. Best practice cases indicate that spin-off subsidiaries can assume additional roles beyond their primary function. For instance, a LLC (limited liability company) can provide services related to knowledge and technology transfer on behalf of the university or research institution, thereby facilitating successful innovation. This is often achieved by forming collaborations with business and industry partners and acquiring shareholdings in selected companies. Thus, the purpose of such a company extends beyond merely holding shares in spin-offs. It often engages in other activities, such as functioning as a start-up center and incubator, supporting the broader innovation ecosystem.

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The LLC provides a clear framework for managing and protecting intellectual property. With the limitation of liability, shareholders' liability is confined to their capital contributions, safeguarding their personal assets. This aspect is crucial in research areas often fraught with uncertainties and risks. Consequently, the university or research institution's risk is generally restricted to the loss of the share capital.

In addition, the LLC offers increased flexibility: transferring shares is generally easier with a LLC than with other legal forms, facilitating the sale of shares or the inclusion of new partners. This capability allows capital to be raised from investors to finance research and development. Moreover, the LLC enables flexible management organization. Universities and research institutions can outline their

specific requirements and structures in the LLC 's articles of association, tailoring the governance and operational framework to their needs.

The ability to sell shares in the LLC or issue new shares as part of a capital increase allows for raising capital from investors to finance research and development. Additionally, the LLC, like other legal forms, offers the possibility of appointing a supervisory board or advisory board. It is recommended that board members be nominated from various relevant areas, particularly research, business, and the university council. This approach ensures that decisions are made swiftly, broadens the research institutions' network, and guarantees that decisions are appropriate and aligned with market conditions.

Overall, the LLC offers a solid legal foundation for the effective use, management, and commercialization of intellectual property in the context of a spin-off from a university or research institution. Additionally, the new Flexible Corporation / Flexible Kapitalgesellschaft (FlexKapG) can also be an attractive legal form for spin-offs. The FlexKapG is largely based on the legal structures of the LLC Act but extends these with new flexible structuring options and simplifies the transfer of shares. Thus, the FlexKapG combines the legal certainty of the LLC with increased flexibility and structuring options.

Regardless of the organizational form chosen for investments, continuous and professional management of the investment portfolio is required.

A university fund should be considered for financing investments, initiated by the aws as part of the Venture Initiative. This fund should support the start-up of spin-off vehicles per university or research institution by either investing directly in the respective spin-off vehicles or participating per investment. Such a Unifund would provide more capital for spin-offs and incentivize the institutions to participate in spin-offs with the help of a spin-off vehicle.

6.7.4. Participation of Founding and Non-Founding Employees

Non-founding employees often play a significant role in academic spin-offs. Founding employees are those who leave their academic positions to devote themselves full-time to the spin-off. In contrast, non-founding employees retain their academic positions and only work part-time or in an advisory capacity for the spin-off. This latter group has often significantly contributed to the development of the intellectual property underlying the spin-off and may, therefore, receive a stake in the spin-off.

Non-founding employees who work in the spin-off, advise it, and/or have played a crucial role in the development of the intellectual property should also be rewarded. However, non-founding employees generally play a subordinate role in the future success of the spin-off. Founding employees, who leave the academic environment and take on more significant risks, have a much greater influence on the spin-off's success. This should be reflected in higher participation for founding employees in the spin-

off. Additionally, investors are often critical of a high level of participation by non-founding employees (dead capital), which can jeopardize the spin-off's investability.

The challenge is to find a balance that acknowledges the contributions of various stakeholders while meeting investor expectations to ensure the long-term successful development of the spin-off. Universities and research institutions, as stakeholders, should be aware of this issue and act as mediators when necessary.

6.8. Intellectual Property: Valuation Process and Valuation Principles

The valuation of intellectual property should generally meet the criteria of transparency, validity, reliability, appropriateness, and objectivity (Austrian Standards International, 2011, S. 6). Austrian Standards International (2011) provides guidelines for the valuation of patents, utility models, and patentable know-how to assist in the valuation of intellectual property.

The evaluation process can be divided into four phases (Austrian Standards International, 2011, S. 5–6):

1. Reason for valuation
2. Identification of the subject of the valuation
3. Valuation basis with a survey of the legal, technological, market, and financial aspects
4. Valuation

The final step, the valuation, is carried out (a) qualitatively by analyzing and evaluating the legal, technological, and market aspects and/or (b) quantitatively by selecting the exploitation options, selecting the value concept, using market and financial assumptions for the quantitative analysis, and conducting a monetary valuation.

A monetary patent valuation is usually carried out based on a survey of the patent law, technological, market, and financial aspects (Austrian Standards International, 2011, S. 8–9). The documents required for the valuation must be obtained with economically justifiable effort, and the corresponding data must come from the patent owner or qualified third parties and be of appropriate quality. If insufficient data is available, estimates and assumptions must be made (Austrian Standards International, 2011, S. 9).

Table 3: Valuation Principles of Intellectual Property

Patent Law Aspects	Technological Aspects	Market Aspects	Financial Aspects
Ownership and rights of use	Key technology or minor improvement	Commercialization options	Economic benefit: (1) Revenue potential: evaluation of

			the financial potential of the patent through licensing, sale, or integration into own products (2) Operating costs: possible costs for maintaining and defending the patent
Breadth and type of patent claims	Market-driven or research-driven technology	Size and development of the product market, market potential	
Geographical coverage	Possibilities of circumvention, imitation, and substitution	Competitor and own market share	
Current legal status and legal validity	Proof or verifiability of infringement	Securing or opening up markets	
Remaining term, supplementary protection certificate	Development status and market maturity	Relevance of the patent for the product	
Pending oppositions, nullity proceedings, cancellation proceedings	Life cycle until expected replacement by new technologies	Share of the technology covered by the patent in company turnover	
Monitoring of possible infringements and resources to enforce rights	Implementation requirements and feasibility (e.g., production facilities, qualifications, investments)	Interactions with other intellectual property rights	
Dependence on third-party patent rights (freedom-to-operate)		Conformity with strategic concepts, e.g., marketing or research and development strategy	
Dependencies on legal provisions and standards		Implementation requirements and	

		feasibility (e.g., sales, distribution, marketing)	
Exploitation scenario (e.g. conversion patent, blocking patent and stockpiling patent)			

A transparent and standardized evaluation procedure is recommended to comply with competition and state aid regulations and to enable a license amount at standard market conditions. The ÖNORM standardized questionnaire can be used for this purpose. This catalog provides corresponding questions on the four evaluation criteria mentioned at the beginning, weights them, and enables a qualitative assessment of their degree of fulfillment for the product being evaluated. The assessment results in a patent indicator factor that describes the market impact of the patent (Austrian Standards International, 2011, S. 10).

In addition to evaluating the four criteria, the license amount is also determined based on standard industry benchmarks.

For a quantitative valuation, a basic distinction is made between three patent valuation models: (1) the income approach, (2) the market comparison approach, and (3) the cost approach. The choice of method depends on the occasion, the value concept, and the specific characteristics of the patent to be valued (Austrian Standards International, 2011, S. 10).

For a quantitative valuation, a basic distinction is made between three patent valuation models: (1) the income approach, (2) the market comparison approach, and (3) the cost approach. The choice of method depends on the occasion, the value concept, and the specific characteristics of the patent to be valued (Austrian Standards International, 2011, S. 10).

The income approach valuation model is based on the expected future income generated by the patent. It considers the net income that the patent is expected to generate in the future, applying discount factors to determine the current value.

In the market comparison method, the value of the patent to be assessed is determined based on comparisons with similar patents or transactions in the market. This model relies on the prices achieved for comparable patents to draw conclusions about the value of the patent being evaluated.

The cost method considers the costs incurred or estimated for the development of the patent. It assumes that the value of a patent corresponds to the historical or estimated costs incurred for its development. However, potential future income is not necessarily taken into account.

7. Conclusions

Austria is on the right track: the Austrian Startup Monitor 2022 (Leitner et al., 2023) extrapolates around 90 academic spin-offs per year, with a clear upward trend. Awareness of spin-offs has increased in recent years, both in society as a whole and within universities and research institutions. Nevertheless, Austria is lagging behind in international comparison and, according to the federal government's RTI Strategy 2030, the number of academic spin-offs should double by 2030.

For this to succeed, it is necessary for universities and research institutions to strengthen their role and functions in the innovation system and to integrate research and entrepreneurship. They should encourage students and researchers to transfer their research results to the economy and society in the form of spin-offs, thereby contributing to solving current societal and social challenges. Additionally, they should provide the appropriate framework conditions to promote the creation and development of spin-offs. The commitment of top management in universities and research institutions is crucial: only if they fully support the topic of spin-offs can the culture within these institutions develop in this direction. Furthermore, every university or research institution needs a designated person responsible for spin-offs.

Spin-off processes at universities and research institutions can be improved and accelerated if transparency and reliability prevail, and these processes are handled efficiently. Standardization and increased cooperation between various universities and research institutions are helpful in this regard. A clear framework for future spin-offs ultimately benefits all stakeholders involved in the process. Of course, appropriate resources are necessary for the success of the spin-off process, as well as for upstream activities to raise awareness and provide training and further education in entrepreneurship.

A clear commitment to spin-offs is also reflected in a differentiated and active participation strategy, which enables various models of participation in companies. The implementation of this participation strategy should be comprehensible and transparent. A prerequisite for an active participation policy is that each university or research institution develops suitable participation structures for itself and has efficient and clearly defined governance structures.

This guide is intended to strengthen the ongoing positive developments in the Austrian spin-off ecosystem and serve as a further step towards improving the ecosystem, without claiming to be exhaustive. It aims to bring transparency to the system and serve as a basis for the uniform professionalization of the spin-off process at universities and research institutions. The target audience includes universities, research institutions, and academic founders.

In summary, this guide is intended to support all those who are currently driving the Austrian ecosystem forward.

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9. List of Tables

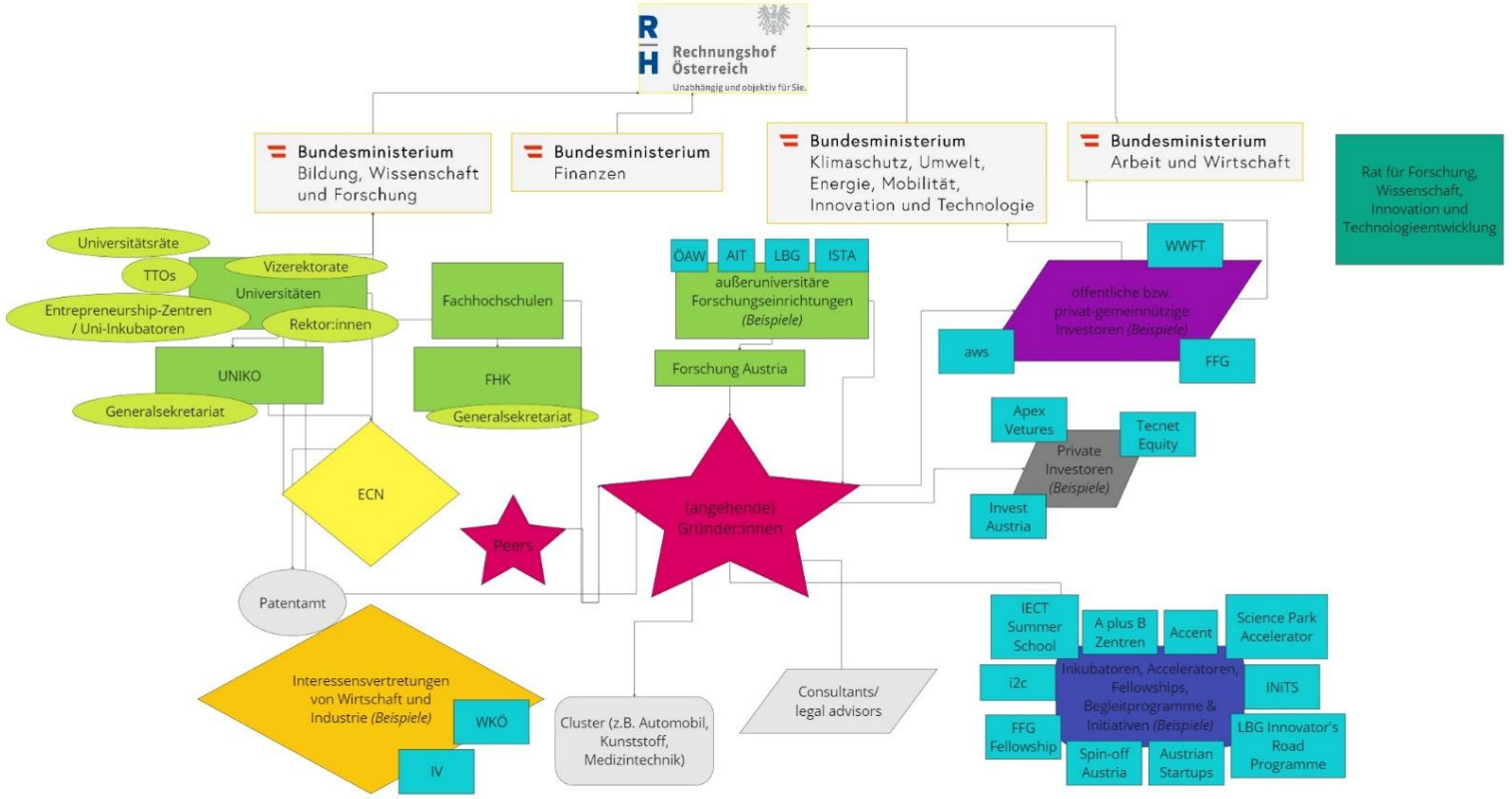
10. List of Figures

11. Annex

11.1. Annex 1: Map of the Players

The following figure shows the players in the Austrian spin-off ecosystem. The illustration is not exhaustive and contains selected examples. Its purpose is to identify relevant stakeholders, understand their roles, and involve them in the process.

Figure 9: Map of Stakeholders in the Spin-off Ecosystem



11.2. Annex 2: Composition of the Focus Group and the Sounding Board

Organizations Represented in the Focus Group:

Organization	Name
Academy of Fine Arts Vienna	Georg Russegger
Austrian Institute of Technology	Hans-Peter Blahowsky
BDO Austria	Hannes Oberschmid
Federal Ministry of Finance	Gregor Gatterer
Federal Ministry of Education, Science and Research	Maria Keplinger Daniela Kopriva-Urbas Paul Pumsenberger
ChromeO - Spin-off University of Vienna:	Laura Maggini
University of Applied Sciences Upper Austria	Gerold Weisz
St. Pölten University of Applied Sciences	Gabriele Permoser
University of Applied Sciences Technikum Wien	Rafael Rasinger
University of Applied Sciences Wiener Neustadt	Thomas Wally
Herbst Kinsky Attorneys at Law	Philipp Kinsky Irmgard Nemec
INiTS	Irene Fialka
Institute of Science and Technology Austria	Markus Wanko
Johannes Kepler University Linz	Petra Muschitz Wolfgang Resch Christiane Tusek
Medical University of Graz	Birgit Hochenegger-Stoirer Maximilian Hotter
Medical University of Vienna	Michael Hoschitz Andrea Kolbus
University of Leoben	Remo Taferner
Novasign - Spin-off BOKU	Mark Duerkop
Austrian Academy of Sciences	Artur Erlacher Claudia Kitzmüller
Austrian Research Promotion Agency	Barbara Lohwasser Markus Pröll-Schobel
Graz University of Technology	Christoph Adametz Mario Fallast

Vienna University of Technology	Birgit Hofreiter Peter Karg Tanja Sovic
University of Natural Resources and Life Sciences, Vienna	Michaela Amstötter-Visotschnig
University of Graz	Jakob Gaugeler Markus Nachbagauer Bernhard Weber
University of Innsbruck	Annelie Gerstmayr Alexandra Hamm Sara Matt
University Mozarteum Salzburg	Christopher Lindinger
University of Vienna	Marco Masia Tobias Reckling Lucas Zinner
University of Veterinary Medicine Vienna	Christine Ruckenbauer
Vienna University of Economics and Business	Rudolf Dömötör

Organizations Represented on the Sounding Board[32]:

Organization	**Name**
Academy of Fine Arts Vienna	Werner Skvara
University of Klagenfurt	Martina Merz
Austria Wirtschaftsservice	Sonja Polan Bernhard Sagmeister Tanja Spennlingwimmer
Austrian Cooperative Research	Iris Filzwieser
AustrianStartups	Markus Raunig
Federal Ministry of Labor and Economy	Florian Frauscher Sarah Klaffner
Federal Ministry for Climate Protection	Daniela Kopriva-Urbas
Salzburg University of Applied Sciences	Beate El-Chichakli
Salzburg University of Applied Sciences	Dominik Engel Michael Leitner Andreas Rissaweg

[32] Some individuals/organizations preferred not to be named in the document for various reasons, such as the level of cooperation involved

University of Applied Sciences Technikum Vienna	Theresa Philippi
Federation of Austrian Industries	
INiTS	Irene Fialka
Innovation Salzburg	Walter Haas
Institute of Science and Technology Austria	Markus Wanko
Invest Austria	Aurnaud Beasse Nikolaus Futter Daniela Haunstein
Johannes Kepler University Linz	Petra Muschitz
Ludwig Boltzmann Society	
Management Center Innsbruck	Andreas Altmann Benjamin Suitner
Medical University of Graz	Margit Glaeser Michael Heinisch Caroline Schober
Medical University of Vienna	Andrea Kolbus
University of Leoben	Christiane Spiel
Austrian Conference of Universities of Applied Sciences	Kurt Koleznik
Austrian Research Promotion Agency	Silvia Laimgruber Werner Müller
Paris Lodron University of Salzburg	Arne Bathke
Council for Research, Science, Innovation and Technology Development	Nikolaus Possanner Bernhard Wally
Research Center for Molecular Medicine	Prudence Donovan Giulio Superti-Furga
Graz University of Technology	Christoph Adametz
Vienna University of Technology	Christian Hoffmann
Tecnet Equity	Doris Agneter Leo Capari Anna Kirchmair Thilo Schmalz
University of Natural Resources and Life Sciences, Vienna	Michaela Amstötter-Visotschnig Manuel Orasch Josef Plank
University of Graz	Peter Riedler

University of Innsbruck	Christian Mathes
University of Vienna	Paul Frey Ronald Maier
Austrian Federal Economic Chamber	Kambis Kohansal-Vajargah Melina Schneider

11.3. Annex 3: Documentation of the Appointments Made

Focus Group Kick-off - 26.06.2023

- Presentation of the project plan and the planned work structure
- Brainstorming and collection of relevant topics for the first workshop
- Collection of materials and existing guidelines relating to academic spin-offs as a basis for discussion and further development of the project

Sounding Board Kick-off - 06.07.2023

- Presentation of the background and objectives of the project
- Presentation of the project plan and the planned work structure
- Feedback round on general questions and suggestions regarding the project and the topics:
    - Invention rights
    - IP including licensing and patent exploitation
    - Approval process and participation/spin-off vehicle

Focus Group Workshop I - 12.07.2023

- Introduction of the event and participants
- Discussion of various definitions and reaching a consensus on a common understanding of academic spin-offs
- Discussion of central topics in the form of a table of contents, core content of the guidelines, and their degree of concretization
- Collection and discussion of initial content-related questions relevant for the further development of the project
- Formation of smaller working groups

- Definition and distribution of work packages for the working groups

Focus Group Workshop II (ECN Conference) - 14.09.2023

- Introduction to the objectives and current status of the project
- Ideal spin-off process:
    - Discussion of the ideal spin-off process
    - Discussion of the various stakeholders in the spin-off process and potential conflicts of interest
    - Discussion of approaches on how start-up friendliness can be integrated into a standardized spin-off process
    - Discussion of the information and resources prospective founders need before they start the spin-off process

Focus Group Workshop III - 11.10.2023

- Review and presentation of the status quo
- Presentation, feedback on, and approval of working group results from the four groups:
    - The ideal spin-off process
    - Investment management and spin-off vehicles
    - Spin-offs without IP/start-ups in the fields of GSK, EEK, art
    - Recommendations for spin-offs from universities of applied sciences
- Discussion of the next steps

Focus Group Presentation of the Key Recommendations - 22.01.2024

- Presentation of the condensed key recommendations (executive summary) and detailed discussion/feedback round

Sounding Board Presentation of the Key Recommendations - 24.01.2024

- Review and presentation of the status quo of the project
- Presentation of the completed work process
- Presentation of the condensed key recommendations (executive summary) and detailed discussion/feedback session

11.4. Annex 4: Overview of Best Practices

Both national and international best practice examples were included in the development of the guidelines.

11.4.1. National Best Practices

Eleven universities and research institutions confidentially submitted existing materials on the topic of spin-offs as part of the focus group and the sounding board. These included, in particular, IP strategies and guidelines, as well as spin-off strategies and guidelines. This content was incorporated into the guidelines in anonymized form.

11.4.2. International Best Practices

In addition, the following international best practices were included in the development of the guidelines:

- École Polytechnique Fédérale de Lausanne (EPFL)
    - EPFL Start-ups guidelines:
- RWTH Aachen
    - Start-up guidelines: https://www.rwth-innovation.de/de/gruender/angebote/wissenswertes?file=files/templates/website_data/Downloads/Leitf%C3%A4den/RWTH%20Gr%C3%BCndungsleitfaden.pdf&cid=9026
    - Exchange with the technology transfer team
- Federal Agency for Springboard Innovations (SPRIND)
    - IP-Transfer 3.0 – Das Transfer-Taschenmesser: https://www.sprind.org/de/artikel/ip_transfer_werkzeug/
- University of St. Gallen
    - Guidelines for the award of the "Spin-Off University of St. Gallen" label: https://www.startuphsg.com/wp-content/uploads/2022/12/Richtlinien_HSG_Spin-Off.pdf
- TNO (Netherlands)
    - Policy regarding financial agreements with spin-offs (confidential)
    - Exchange with the technology transfer team
- Technical University of Munich
    - Start-up guide: https://www.tum.de/fileadmin/user_upload_87/ga45rax/TUM_Gruendungsleitfaden_interaktiv_DE_03_23.pdf

    - Fast-Track model: https://www.forte.tum.de/forte/patente-und-lizenzen/tum-fast-track-modell-fuer-start-ups/
    - Exchange with the technology transfer team
- Universiteiten van Nederland (Association of Dutch Universities)
    - Spin-off deal term principles: https://filelist.tudelft.nl/TUDelft/Technology_Transfer/Dealterm%20Principles%20UNL.pdf
- Wageningen University and Research
    - Regulations for establishing WUR spin-off companies: https://www.wur.nl/en/show/wur-spin-off-regulations-eng-310820-def.htm

Due to legal and cultural considerations, only continental European best practices were selected. Due to the accessibility, quality, and comprehensiveness of the information, a special focus was placed on the Technical University of Munich, RWTH Aachen, TNO Netherlands, and the Universiteiten van Nederland.

11.5. Annex 5: Equity Investments – Definitions

Equity investments enable universities and research institutions to benefit financially and/or strategically from spin-offs in return for the services and support provided and the intellectual property rights. There are two main options for this:

i. License Fees (Royalties)

In these guidelines, royalties are understood to be ongoing payments made by a licensee (founder) to the licensor (university or research institution). These payments are made for the commercial use of intellectual property belonging to the licensor (e.g., patents).

ii. Shares (Equity)

Access to intellectual property rights can also be granted in exchange for shares in the founding company. A distinction is made here between genuine shares, which grant membership rights (in particular voting rights, information, and inspection rights), and non-genuine shares (phantom shares, profit participation rights), which can correspond economically to a genuine shareholder position but do not grant any membership rights. In most cases, the shares are dilutive, meaning that when new shareholders (e.g., investors) are admitted, the percentage share of the individual shareholders is reduced proportionally.

iii. Participation in Spin-offs Without Protected Property Rights

Participations without protected property rights do not include a legal transaction regarding intellectual property. Nevertheless, the university or research institution can participate financially and/or strategically. A financial participation is to be seen as an investment by this institution in a spin-off with the aim of providing the spin-off with start-up financing, coupled with the expectation of financial returns in the future. Strategic participation - also through monetary or in-kind contributions - focuses on core academic tasks, such as scientific collaborations, and can involve monetary or in-kind contributions.

iv. Spin-off vehicle

In these guidelines, a spin-off vehicle is the legal structure through which a research institution participates in a spin-off (e.g. LLC).

11.6. Appendix 6: Selected Legal Framework Conditions and Considerations

As mentioned in Chapter 3, the development of this spin-off framework was preceded by intensive discussions and coordination with the focus group. It became clear that clarification was needed, particularly regarding the legal framework and the question of what is and is not permissible under state aid law. The most important terms and legal requirements are therefore explained in this appendix.

11.6.1. Types of Intellectual Property

While there is no universally accepted definition of intellectual property (IP), it is generally understood to mean creations of the human intellect such as ideas, inventions, information, and knowledge. Intellectual property is legally protected by intellectual property rights (IPR). Intellectual property rights are divided into the following main groups:

- Industrial Property Rights
    - Patent and utility model
    - Designs (design right)
    - Trademark (Trade Mark)
- Copyright
- Know-how (Confidential Information)
- Other Special Forms

For universities and research institutions, technologies and materials without industrial property rights are also extremely relevant in addition to the protectable main groups. These include research results that are not (or are no longer) patentable, such as published cell lines, antibodies, plasmids, mouse

models, methods, research reagents, etc. The handling of property rights and the distribution of income must also be regulated with spin-offs in this regard (see 11.6.8).

11.6.2. Patents and Utility Models

Patents for inventions can cover products or processes that are new, industrially applicable, and based on an inventive step. A product patent protects, for example, machines, chemical substances, electronic circuits, and pharmaceuticals. Patented processes relate to the manufacture of a product, a specific working method, or the use of products for specific purposes. The maximum term of protection for a patent is 20 years from the date of application.

Similar to a patent, a utility model also requires that the invention is new and industrially applicable. However, in contrast to a patent, lower requirements are placed on the degree of novelty. Unlike a patent (examined property right), a utility model is an unexamined property right, as it is only formally examined by the Patent Office.

In Austria, it is possible to protect the logic of software programs with a utility model.

11.6.3. Designs (Design Right)

The design right protects the appearance of an industrial product, i.e., the design. Registration provides more comprehensive protection than non-registration, although it must be checked in each individual case whether the requirements for registration are met.

11.6.4. Trademark (Trade Mark)

Trademarks are company identifiers that serve to distinguish the goods or services of one company from identical or similar goods or services of another company. A trademark can consist of a word, an image (logo), a combination of these, or a three-dimensional or color mark. Only registration offers comprehensive protection, and the requirements for registration must be checked in each individual case.

11.6.5. Copyright

Copyright applies to works of literature (including scientific works and plans), sound art, visual arts (including architecture), and cinematography, provided these are regarded as original intellectual creations. Unlike industrial property rights (patent, utility model, trademark, design), copyright is not a registration right. It is created at the time of creation and does not require registration or entry in a register.

A work protected by copyright must be a unique (original), intellectual creation that is perceptible to the senses. Mere ideas and concepts do not enjoy copyright protection. Furthermore, only natural persons can be authors within the meaning of the Copyright Act. It is not possible to waive authorship (Section 19 (2) UrhG).

Works are protected by copyright both as a whole and in individual parts.

Computer programs are considered linguistic works. Machine codes, object codes, source codes, all program parts, subprograms, program modules, and associated design materials (plans, structure diagrams) are protected. Databases can be subject to copyright as collective works if they are a unique intellectual creation due to the selection or arrangement of the material (database works).

11.6.6. Know-how (Confidential Information)

Know-how refers to secret, technical, or commercial specialized knowledge, which includes both protectable knowledge (e.g., patents and other industrial property rights) and non-protectable business secrets (e.g., production or sales information). For know-how to enjoy the protection of trade secrets under Sections 26a et seq. of the German Unfair Competition Act (UWG), it must be secret, of commercial value, and subject to appropriate confidentiality measures.

11.6.7. Other Special Forms

These relate, for example, to plant variety protection (property rights for new plant varieties) or semiconductor protection.

11.6.8. Dealing with Property Rights and Distribution of Income

Legal Framework

Under certain circumstances, universities and research institutions have the right to take up inventions made by employees (e.g., university staff or employees of research institutions), provided that these are service inventions.

The definition of a service invention is regulated in § 7 para. 3 PatG. According to this regulation, a service invention is an invention by an employee if its subject matter falls within the field of activity of the company in which the employee works and if:

1. The activity that led to the invention is part of the employee's official duties, or
2. The employee received the impetus for the invention through their work in the company, or
3. The creation of the invention was significantly facilitated by the use of the company's experience or resources

The prerequisite for the employer's ability to use a service invention is a written agreement between the employer and the employee, stipulating that future inventions by the employee will belong to the employer or that the employer will be granted a right to use such inventions. Such agreements are usually included in collective agreements or employment contracts. If this is not the case, a separate agreement should be concluded. An exception applies to employment relationships under public law,

where the respective employer can claim service inventions or a right to use them even without a written agreement (Section 7 (2) PatG).

If an agreement exists stating that future inventions made by the employee are to belong to the employer, the employee must promptly notify the employer of any invention they make, except for inventions that are clearly not covered by the agreement. The employer must then declare to the employee within four months from the day they received this notification whether they claim the invention as a service invention based on the existing agreement (§ 12 para. 1 PatG). If this declaration is not made, the invention remains with the employee.

It should be noted that the employee is, in any case, entitled to appropriate special remuneration for the transfer of an invention they have made to the employer, as well as for granting a right of use concerning such an invention, unless the inventor was employed specifically for the purpose of inventing and receives correspondingly higher remuneration.

Special Provision for Universities: § 106 UG

Pursuant to § 106 UG, the provisions of the Patent Act apply to service inventions made at a university within the framework of a public or private law employment or training relationship with the federal government or within the framework of an employment or training relationship with the university, with the university being regarded as the employer.

Pursuant to § 106 para. 3 UG, the inventor must promptly inform the rectorate of any service invention. If the university wishes to claim the service invention in its entirety or a right to use it, the rectorate must notify the inventor within three months. Otherwise, the inventor retains the right to the invention.

This provision only applies to inventions by university members who have a public or private law employment or training relationship with the federal government or an employment or training relationship with the university. Inventions by regular students are therefore not covered by the provisions of § 106 UG, and rights to such inventions (in the absence of an agreement to the contrary) belong exclusively to the inventor (cf. § 4 para. 1 PatG).

The provisions of the PatG (§§ 6ff PatG) apply to service inventions made at private universities or universities of applied sciences. Accordingly, a written agreement is mandatory for the assignment of service inventions to the employer; only employers in public law employment relationships are entitled to a right of assignment ex lege pursuant to Section 7 (2) PatG.

University members are also entitled to appropriate special remuneration for the transfer of an invention they have made to the university and for the granting of a right of use concerning such an

invention, unless the inventors were employed specifically for the purpose of inventing and receive correspondingly higher remuneration.

With regard to copyrighted computer programs and database works, the Copyright Act contains comparable provisions, with the existence of an employment relationship with the university or research institution also being essential in this context.

Distribution of Income

The income generated from the commercial exploitation of academic research (e.g., license fees, sales revenue, option fees) not only strengthens the financial resources of universities and research institutions but can also help fund further research projects. An effective distribution of this income requires clear guidelines and transparency to ensure that both the institutions involved and the researchers participate appropriately in the economic successes.

In particular, the right of inventors to appropriate special remuneration in accordance with Section 8 PatG must not be overlooked. Inventors are legally entitled to this claim, and it may not be waived. An exception applies if the employee or member of the institution was expressly employed for the inventor's work, and this has already been compensated as part of a higher remuneration (Section 8 (2) PatG). The employee's entitlement to remuneration generally arises when the employer decides to make use of the invention, but the entitlement to payment only becomes due when the employer actually starts using the invention (Eypeltauer & Nemec, 2015, p. 49).

When calculating the service invention remuneration, particular consideration shall be given to the economic significance of the invention, any other exploitation of the invention in Austria or abroad, and the contribution made by suggestions, experience, preparatory work, or resources of the employer's company or official instructions to the creation of the service invention (Sec. 9 PatG). The amount of the service invention remuneration can be adjusted retrospectively if a significant change in the relevant circumstances has occurred (§ 10 para. 1 PatG).

Since the provisions regarding service inventions in Section 106 UG and the PatG only concern patentable inventions, there is more room for maneuver in connection with spin-offs involving non-patentable inventions. In this case, remuneration does not necessarily have to be granted to the inventor.

At present, there is no standardized Austrian-wide utilization key for service inventions made at universities and research institutions. Therefore, each institution is primarily responsible for implementing its own guidelines for the distribution of income. The level of participation for inventors varies between universities and research institutions, typically ranging from 25% to 50% of the profit or net proceeds (Eypeltauer & Nemec, 2015, p. 55). Many universities and research institutions also grant inventors a fixed amount for financing or as an advance payment on the service invention remuneration. Contracts related to contract research or third-party funding, which may require a

differentiated approach regarding service inventions and the income generated from them, should also be considered in this context.

Patenting Costs

Patentable inventions should be protected as comprehensively as possible by patents. However, very high costs (e.g., official fees, fees for patent attorneys) are often incurred in connection with patent applications and the granting of patents. If a patent or technology is to be licensed or transferred to a spin-off, the question arises as to how these costs should be managed. In such cases, the university or research institution transfers intellectual property and often, especially in the case of exclusive licenses, can no longer generate any income from it apart from license fees, despite having incurred significant expenses up to that point.

In many cases, the institutions concerned cover the initial patenting costs to support the spin-offs in developing and marketing their technologies. This may include funding patent applications, expert opinions, and other related expenses. In return, clear agreements can be made between the institution and the spin-off company to ensure that the costs are shared fairly and equitably.

It is not uncommon for universities and research institutions to stipulate the repayment of patenting costs or a share of the income from license fees and sales of patented technologies in the event of success. These returns can then be reinvested in research or used to support further spin-offs. Transparent communication and clear agreements on cost allocation are crucial to avoid potential ambiguities and ensure that all parties benefit from patenting. Such a proactive approach not only facilitates the smooth running of the start-up phase but also promotes sustainable collaboration between universities or research institutions and their spin-off companies in the field of intellectual property.

Dealing with Non-Co-Founding Investors

Significant innovations often originate from collaborative research involving multiple scientists in a project. In such cases, the question arises as to how the non-co-founding inventors can appropriately participate in the (economic) benefits of a spin-off company.

The entitlement of inventors to the service invention allowance is also central in this context. Even if an inventor is not involved as a founder of a spin-off, they are still entitled to the service invention remuneration. This consideration should always be factored in when distributing the spin-off's income.

It is also worth noting the right to be named as the inventor, as enshrined in Section 20 (1) PatG. Accordingly, every inventor (including service inventors) is entitled to be named as the inventor in the patent application related to their invention. This right cannot be effectively waived and exists independently of any participation in the founding of a spin-off.

11.6.9. Intellectual Property in Externally Funded Projects

The management of intellectual property generated in a research consortium with third-party funding requires careful planning and consideration of the legal framework. Detailed rules and regulations on the scientific and commercial exploitation of intellectual property and potential property rights should be clarified in advance in the project agreements. In these agreements, the partners involved in the research projects should acknowledge their obligation to continue publishing the nature, subject, and results of the research activities.

In principle, a distinction must be made between existing intellectual property rights (so-called background knowledge) and newly developed intellectual property (so-called foreground knowledge) that was created through the new research project. While existing intellectual property remains with the owner who contributed it to the project, a different approach should be taken with newly developed intellectual property.

In connection with externally funded projects, it is essential to distinguish whether the projects undertaken are strategically and/or industrially or company-related research activities. It is advisable to clarify in the project agreement whether the research activities are of a strategic and/or industrial nature. Based on this classification, the division of rights among the project partners involved can then be determined.

In the case of R&D results and property rights arising from strategic projects, it is recommended that these be owned by the university or research institution, which then grants corresponding (non-exclusive) rights of use to the other project partners. The exact conditions should be clearly defined in the project agreements, including whether the rights are granted free of charge or based on fees, procedures for property rights, and compensation for inventors. The project agreements should ensure that exploitation rights are precisely defined, that contractual deadlines for notifications on the use of inventions by the contractual partners are adhered to, and that provisions for market-compliant remuneration (including inventor remuneration, as well as patent and license fees) are incorporated into the contract.

In contrast, it is recommended that R&D results and property rights resulting from research activities of an industrial or company nature be defined as the property of the industrial partners in proportion to their financial investment. In return, the university or research institution and any other partners involved should be granted a (non-exclusive and non-transferable) right to use the results. Here, too, precise conditions should be defined in the project agreements.

For projects with a mixed character (i.e., both strategic and industrial), it is recommended that all participants be considered owners of the R&D results.

11.6.10. Aspects of Competition Law and State Aid Law

According to Article 107 (1) AEUV, any aid granted by a Member State or through State resources in any form that distorts or threatens to distort competition by favoring certain undertakings or the production of certain goods shall, insofar as it affects trade between Member States, be incompatible with the internal market.

Also worth mentioning is the General Block Exemption Regulation (Commission Regulation (EU) 651/2014 of June 17, 2014, declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty on the Functioning of the European Union, GBER), which declares certain aid to be compatible with the internal market and therefore not subject to notification. It must also be examined on a case-by-case basis whether the support provided by a university or research institution to a spin-off falls under the GBER. In the case of spin-offs in the field of research and innovation, the special provisions of the GBER on "aid for research and development and innovation" must be observed. Certain facilitations may also arise from Article 22 of the GBER (aid for business start-ups), particularly in light of the most recent amendments and additions to the GBER (e.g., on the transfer of intellectual property) made by Commission Regulation (EU) 1315/2023 of June 23, 2023..

State Origin of Funds

EU state aid law is relevant if a benefit is granted by the state or from state resources. Put simply, this is particularly the case if the advantage results in a certain burden on the budget of the respective Member State (Sutter, Art 107 TFEU para. 26).

In the case of state or state-financed universities and research institutions, the funds used to provide support are often of state origin. This is exemplified by universities in Austria, which are generally financed from public funds. Under performance agreements with the federal government, represented by the Federal Minister of Education, Science and Research (BMBWF), universities are allocated a so-called global budget, which they can use freely within the scope of their tasks and the performance agreements (see § 12a UG) (Holoubek & Lang, UG3.01 § 12a Rz 1 f.). If support services are paid from the global budget, the criterion of the origin of state funds is undoubtedly fulfilled. On the other hand, proceeds from third-party funds and income generated from assessments are not considered state funds (cf. § 12 para. 11 UG 2002). Therefore, universities can generally use these funds to provide support services to spin-offs without triggering the application of EU state aid law. However, it should be noted that, in individual cases, it is not always possible to clearly distinguish between global and third-party funds in university accounting. Consequently, it is not always certain whether individual grants come exclusively from third-party funds or (also) from the global budget provided by the federal government. If the funds used to support spin-offs are at least partially allocated from the global budget (i.e., not

exclusively from third-party funds or investment income), then, in case of doubt, it must be assumed that the entire "pot" originates from state funds.

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Beneficiary Status

Article 107 (1) TFEU contains an extensive, dynamic, and impact-oriented definition of state aid (Sutter, Art. 107 AEUV para. 20). An advantage is considered to exist if the recipient does not provide a corresponding consideration (market equivalent) for the improved position and therefore receives an economic benefit that would not have been obtained under normal market conditions (Sutter, Art 107 AEUV para 35).This not only includes positive benefits (such as cash and in-kind contributions), but also measures that reduce burdens on companies that they would normally have to bear (Sutter, Art 107 AEUV para. 34).

The free support of spin-offs through the provision of infrastructure or human resources undoubtedly fulfills the concept of preferential treatment under Article 107 (1) TFEU, as it involves the granting of valuable economic advantages. When it comes to providing mere consultancy services, it must be assessed on a case-by-case basis whether these services have an intrinsic value that can be expressed in monetary terms. In most cases, advice relating to purely administrative matters is unlikely to meet this threshold (see also below on the appreciability threshold). However, when the support involves the transfer of technical and substantive know-how that has a concrete market value, it may be considered an advantage within the meaning of Article 107 (1) TFEU.

Favoring Companies (Group of Beneficiaries)

The prohibition of state aid covers preferential treatment of certain companies and branches of production; private individuals are excluded (Von Wallenberg & Schütte, 2023, TFEU Art 107 para. 38). However, if all companies receive preferential treatment, there is no specific preferential treatment for certain companies.

Article 107 (1) TFEU is based on a functional concept of an undertaking: The decisive factor is not the legal form of the beneficiary or beneficiaries, but the type of activity carried out. If the beneficiary entity pursues an economic activity by offering goods or services on the market, it is deemed to be an undertaking within the meaning of state aid law (Pöschmann & Titscher, 2008; Sutter, Art 107 para. 30 ff).

Against this background, the question of whether spin-offs may be supported by state or state-funded universities and research institutions from a state aid perspective does not depend on the timing of the formal establishment of the company behind the spin-off. Both support provided after the foundation and before or during the foundation can be relevant under state aid law. The decisive factor is whether an economic activity is being carried out and whether the company is participating in competition by offering goods or services on the market. From that point in time—regardless of the formal establishment—it must be assumed that the company qualifies as an undertaking within the meaning of Article 107 (1) TFEU. Benefits that are provided in direct temporal connection with the commencement of this economic activity, or that continue to have an effect in terms of their value at the time of commencement, are therefore to be assessed against the EU ban on state aid.

Specificity of the Advantage

Only aid to certain undertakings is covered by Article 107 (1) TFEU. Therefore, it is crucial that the beneficiaries of the aid can be specifically identified (Pöschmann & Titscher, 2008). This criterion does not require the beneficiaries to be identified by name; it is also fulfilled for groups of companies that are distinguished from others by common characteristics (e.g., certain activities of the company). The potentially large number of generic entrepreneurs does not preclude the assumption of a selective group of beneficiaries, nor does their dispersion across the entire economy of a country (Pöschmann & Titscher, 2008). Thus, the mere fact that state or state-funded universities or research institutions offer courses, workshops, networking meetings, talks, hackathons, and similar events for a large number of spin-offs does not mean that the specificity criterion of Article 107 (1) TFEU is not met. However, if such events are open to the general public, it cannot be assumed that certain companies benefit.

Impairment of Competition

Another prerequisite for the applicability of the EU ban on state aid is the creation of an (imminent) distortion of competition between companies. This must be examined on a case-by-case basis, but it is

unlikely to be in doubt. If spin-offs that participate in the market receive aid from a state or state-funded university or research institution, this will generally strengthen their competitive position relative to other market participants, thereby impairing competition.

Summary

It can be summarized as follows: If a state or state-funded university or research institution grants a spin-off—which is engaged in an economic activity and is therefore in competition—economic advantages measurable in monetary terms from state funds (in the case of universities: from the global budget) without receiving a market-oriented consideration in return, this constitutes unlawful state aid within the meaning of Article 107 (1) TFEU, unless an exception or special rule of EU state aid law is applicable in the individual case (see the following subchapter).

In addition to the assessment of admissibility under state aid law, various university, corporate, procurement, labor, and tax law requirements and framework conditions must also be examined in advance when universities support spin-offs, potentially with the assistance of experts.

Exceptions and Special Rules in EU State Aid Law

In general, it should be noted that a benefit may fall under the legal exceptions of Article 107 (2) or the discretionary exceptions of Article 107 (3) TFEU. When promoting spin-offs in the field of research, development, and innovation, Article 107(3)(b) TFEU ("aid to promote the execution of an important project of common European interest") may be relevant (Communication from the Commission - Union framework for State aid for research, development and innovation, 2014). The existence of such an exception must always be examined on a case-by-case basis.

Also worth mentioning is the General Block Exemption Regulation (Commission Regulation (EU) 651/2014 of June 17, 2014, declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty on the Functioning of the European Union, GBER). This regulation declares certain aid to be compatible with the internal market and therefore not subject to notification. Here too, it must be examined on a case-by-case basis whether the support provided by a university or research institution to a spin-off falls under the GBER. In the case of spin-offs in the field of research and innovation, the special provisions of the GBER on "aid for research and development and innovation" must be observed.

A benefit may also be permissible in exceptional cases if it falls below the de minimis threshold, meaning that the total amount of aid granted to a single company within a given period (three tax years) does not exceed a certain amount (EUR 200,000). The applicability of the relevant Commission Regulation (EU) 1407/2013 of December 18, 2013, on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid (general de minimis Regulation) must be examined on a case-by-case basis, particularly whether the aid qualifies as de minimis aid

within the meaning of Article 3 of the Regulation. Especially in the case of support for spin-offs in the form of mere consultancy services, the relevant appreciability threshold will likely only be reached in exceptional cases.

For aid to companies providing services of general economic interest, Commission Regulation (EU) 360/2012 of April 25, 2012, on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid to undertakings providing services of general economic interest (De Minimis-DAWI Regulation) must also be observed, as it provides for higher thresholds. Additionally, there are special regulations for the agricultural and fisheries sectors.

Support Services Provided by the University as a Shareholder

It is conceivable that a state or state-funded university or research institution could provide the support services outlined above to a spin-off in the role of a shareholder.

Austrian universities are generally entitled to establish and participate in companies. However, such a foundation or participation is only permissible if it serves the fulfillment of the university's tasks (within the meaning of § 3 UG 2002) and, in particular, research (development and development of the arts) and teaching are not impaired (Faulhammer, 2018, UG[3.01] § 10 para. 2). A university's participation in a spin-off (e.g., by providing the support services mentioned above) is therefore only an option if it aligns with the university's tasks in its specific area of activity (Karollus, 2010). Even if the (positive and negative) requirements of § 10 UG 2002 are met and participation in a spin-off is generally permissible from a university law perspective, the EU ban on state aid may still be violated regardless of the participation.

In terms of state aid law, if the university uses funds from the global budget to invest in a spin-off, the primary question is whether it receives fair market consideration, meaning whether a private investor acting rationally in a market economy would also have made the investment (the so-called private investor test) (Sutter, Art 107 TFEU para. 68). This can be assumed if the investment can be classified ex ante as (sufficiently) profitable (Pöschmann & Titscher, 2008).

The same principles must be applied to the shareholder benefits of the university. The relationship between the extent of the support provided and the consideration received by the university (e.g., in the form of the value of the shareholding or other benefits resulting from the shareholding) is decisive in determining whether the support provided as a shareholder qualifies as unlawful aid under EU law. A comparison with the other shareholders of the respective spin-off is also useful for assessing the admissibility of a shareholder contribution under state aid law. If other shareholders provide services to the company to a comparable extent, this generally argues against an impermissible advantage by the university.

In principle, the principles of state aid law can also be applied to universities of applied sciences or non-university research institutions that use state funds in connection with their participation in spin-offs.

11.7. Apendix 7: Methodology and Limitations of the New Venture Scouting Spin-off Survey

The methodology of the survey was based on an online survey that included both closed and open questions. This survey was conducted from the end of February to the beginning of April 2023. Participants were recruited in part via the FFG Spin-off Fellowship and the LBG Innovator's Road program. A total of 31 participants took part in the survey, representing spin-off projects. Of these, 30 projects came from Austria and one from Italy.

The sample included both training spin-offs, where the business idea was developed as part of the training relationship, and research spin-offs, where the business idea was developed as part of an employment relationship. Of the participants, 68% had already founded or were in the process of founding their company.

Specifically, the Austrian group of participants consisted of 11 alumni from the FFG Spin-off Fellowship and 19 alumni from the LBG Innovator's Road program. Additionally, participants were recruited via public channels.

The survey has some limitations that must be taken into account when interpreting the results. For example, the sample is not based on a random principle but is primarily made up of participants from spin-off support programs. Furthermore, no participants from universities of applied sciences were represented. The majority of respondents had formal agreements with their own university or research institution and were highly dependent on intellectual property. The average age of the spin-offs surveyed was 3.3 years.

These limitations have certain implications for interpreting the survey results. For example, the spin-offs included in the study are likely more mature and informed than the average Austrian spin-off due to the mentoring and coaching they received during their support programs. Additionally, the results of the survey cannot provide any insights into the spin-off process at universities of applied sciences. Furthermore, the sample deviates from an average Austrian spin-off, as most Austrian spin-offs have no formal or legal ties to their university or research institution and are less dependent on intellectual property, according to the Austrian Startup Monitor 2022. Ultimately, the conditions for spin-offs may have changed since the study was conducted, as the spin-off process has received increasing attention in recent years.