Unlocking IP-backed Financing Series

Country Perspectives
Austria's Journey

WIPO

Unlocking
IP-backed
Financing
Series

Country Perspectives
Austria's Journey

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Acronyms

ABGB	Austrian General Civil Code
AG	Incorporated company
aws	Austria Wirtschaftsservice GmbH
B2B	Business-to-business
EIS	European innovation scoreboard
EU	European Union
FFG	Research Promotion Agency [Forschungsförderungsgesellschaft]
FlexCo	Flexible company
FMA	Financial Market Authority (Austria)
FTO	Freedom to operate
GesRÄG	Corporate Law Amendment Act [Gesellschaftsrechts-Änderungsgesetz]
GmbH	Limited liability company
IAS	International Accounting Standards
IDW	Institute of Public Auditors in Germany [Institut der Wirtschaftsprüfer]
IFRS	International Financial Reporting Standards
IO	Insolvency Code [Insolvenzordnung]
IP	Intellectual property
IRAD	Internal R&D
KFS/BW	Expert Committee on Business Administration and Organization [Kammerfachsenat für Betriebswirtschaft und Organisation]
SMEs	Small and medium-sized enterprises
M&A	Mergers and acquisitions
OECD	Organisation for Economic Co-operation and Development
OeNB	Oesterreichische Nationalbank
ÖPA	Austrian Patent Office [Österreichisches Patentamt]
R&D	Research and development
RTI	Research, technology and innovation
SICAV	Société d'investissement à capital variable (Luxembourg)
UGB	Austrian Commercial Code [Unternehmensgesetzbuch]
UmgrStR	Reorganization Tax Guidelines [Umgründungssteuerrichtlinien]
VC	Venture capital
WIFO	Austrian Institute of Economic Research
WIPO	World Intellectual Property Organization
WKFG	Venture Capital Fund Act [Wagniskapitallfondsgesetz]

Executive summary

Austria is a small, developed, open economy with a bank-based corporate finance system but an underdeveloped venture capital market. In terms of innovation performance, Austria is one of the "strongest" innovators in the European Union (EU) but is not among the EU's leading group.[1] Austria has a strong industrial base and widely supports the use of innovation, knowledge production and intellectual property (IP) for sustainable economic development.

While intangible assets such as IP and industrial property rights are recognized as drivers of commercial success, Austrian companies do not commonly tap into these assets to secure financing. Nonetheless, Austrian economic policy prioritizes responding to the financing hurdles that businesses, especially small, young and innovative companies, face. Several measures promote research and support business, for example grants, low-interest loans, loan guarantees and equity instruments. These take IP and innovation into account. Therefore, these measures also implicitly infuse funding, and partially compensate for the lack of IP-backed financing.

Developing a dedicated IP-backed financing system is hindered less by legal aspects, such as the possibility of pledging industrial property rights, and more by other factors such as a lack of awareness or understanding of available options, the practice of corporate financing and a weak venture capital market-orientation of the financing system. IP-backed financing would not be a new element in Austria's bank-based financing system. However, the critical mass that will fuel demand, incentivize the development of an IP finance ecosystem, and facilitate accessing equity and debt capital financing at low cost for small and medium-sized enterprises (SMEs) is yet to be demonstrated.

The most important challenges for Austria are further promoting the development of a viable domestic venture capital market; strengthening capital market orientation; improving the visibility of IP in company balance sheets, making the valuation of these rights more accessible and cost-effective; supporting markets for IP; and supporting awareness and understanding of IP in all areas within the finance system.

Austria's Journey

Introduction

Intangible assets drive competitive advantages, innovation and economic growth. These assets are primarily secured by intellectual property (IP) rights such as patents, but also by trademarks, copyright and trade secrets. Innovation in modern knowledge-based economies is based on strong investments in research and development (R&D) that fuel the creation of IP and related intangible assets. This shift in value toward intangibles poses challenges for corporate financing, especially for innovative startups that have potentially valuable IP but may have a volatile cash flow profile.

This report presents the situation of IP-backed corporate financing in Austria, describing the financing mechanisms based on the availability and existence of IP. Corporate financing in Austria generally relies on a well-functioning bank-based financing system, but the use of capital markets for corporate financing is underutilized. According to the European Innovation Scoreboard (EIS), Austria is a "strong innovator," with an innovation performance that is above the European average (116.3 percent of the European Union average).[2] Austria's strengths include public–private co-publications, international scientific co-publications, and having non-Austrian nationals making up a high percentage of doctorate students. Relative weaknesses can be seen in non-R&D innovation expenditure, broadband coverage and knowledge-intensive services exports. Moreover, particularly important for this report, the provision of venture capital (VC) is also below average (only 80.7 percent of the EU average). A look at the World Intellectual Property Office's (WIPO) Global Innovation Index 2024 shows a similar picture. Austria's innovation performance is ranked in the top quartile (17th out of 133 countries).[3] While Austria's strengths lie in its institutional and entrepreneurial environment, the indicators referring to financing innovation and startups are below average.[4]

The long-term goals of Austrian research, technology and innovation policy are to catch up with the international leaders, strengthen Austria's position as a research, technology and innovation hub, focus on producing excellent and effective findings, and cultivate knowledgeable, talented and skillful human capital.[5] IP-backed financing can contribute to realizing these objectives.[6]

This report documents the status quo of IP financing in Austria and highlights the most important challenges.[7] First, it discusses the basics of corporate financing and the recent trends in IP in Austria. Then it provides an overview of the legal and regulatory framework, and the relevant institutions in the IP finance system. The critical subareas of IP finance are also discussed in greater focus. Finally, key challenges to the expansion of IP-backed financing are identified in the summary.

The Austrian system of corporate financing

Austria's corporate financing system is heavily bank-based. Nonfinancial Austrian companies are mostly financed through equity and loans.

Table 1: Financial liabilities of nonfinancial companies in Austria, 2022[8]

Financing instruments	Million euros	Share in percent
Loans	423,489	42.9
Short-term loans	48,701	4.9
Long-term loans	330,197	33.4
Trade credits	44,591	4.5
Interest-bearing securities	35,660	3.6
Short-term interest-bearing securities	446	0.0
Long-term interest-bearing securities	35,214	3.6
Equity	492,447	49.8
Listed shares	97,896	9.9
Unlisted shares	47,216	4.8
Other equity shares	347,335	35.1
Other financial liabilities	36,706	3.7
Total	**988,302**	**100.0**

Source: Oesterreichische Nationalbank.

This structure is reflected in the Oesterreichische Nationalbank's macroeconomic financial accounts (Table 1).[9] In 2022, businesses were financed largely through equity (just under 50 percent), closely followed by loans (43 percent). By contrast, financing through the issuance of corporate bonds (around 3.6 percent) and other financial liabilities (around 3.7 percent) played a lesser role in Austria.

Equity financing is dominated by investments in partnerships and corporations, while debt financing is dominated by loan financing, particularly long-term bank loans. Url *et al.*[10] expand the financing calculation to include subsidized and alternative forms of financing and estimate that, in the area of debt capital, subsidized loans account for around 0.3 percent of financial liabilities. The financing options belonging to equity, including business angels, crowd investing, VC and private equity, also account for a total of around 0.3 percent of financial liabilities, with private equity accounting for the majority of this total (around 0.2 percent) and venture capital making up almost the remainder (around 0.1 percent).

These figures are determined by large companies and do not take into account intersectoral receivables and liabilities. Therefore, the picture in Table 1 does not represent the full reality of Austrian small and medium-sized enterprises' (SMEs) capital structure. According to Breyer *et al.*,[11] in 2018, before the pandemic, the average equity ratio (the proportion of equity to assets) among Austrian companies was 40.7 percent, in line with the average of the other EU countries involved in the study. However, the equity ratios of Austrian SMEs were lower than those of large companies and those in comparison countries. In Austria, SMEs' capital structure is traditionally heavily based on credit, although their average equity ratio has also improved significantly in recent decades.

The choice of financing structure depends on several influencing factors. Austrian tax legislation favors debt capital in the form of loans and bonds over all forms of equity.[12] This is because of the deductibility of interest payments. Interest payable on borrowings is deductible for corporation tax purposes, whereas dividends paid on shares are not tax-deductible. Moreover, the quasi-fixed transaction costs of the provision of financing instruments are another important consideration affecting demand. The costs of using the capital market (especially regulatory costs when issuing securities, and the costs of bridging information asymmetry) make capital market financing costly for SMEs.

A recent survey commissioned by the Austrian Federal Economic Chamber and the Austria Wirtschaftsservice GmbH (aws) confirms that the most important source of financing for investments for SMEs is equity financing.[13] According to this study in 2022, around 51 percent of

SMEs' financing requirements were financed internally, bank loans financed around 19 percent of investments, additional contributed equity around 18 percent, and subsidies and other financing likewise around 11 percent.[14] Alternative forms of financing, such as VC and mezzanine financing, were only used by a minority of companies. For smaller companies, bank financing and contributed equity played a more important role than the average for all companies.[15] More than 60 percent of Austrian SMEs relied on bank financing as their primary source of debt financing.[16] This dependence is also observed in how SMEs primarily adjust their investment volume or delay investments as a result of the rejection of credit applications, or the reduction of the approved loan amount.[17]

The bank-based Austrian financing system is well suited to providing existing companies with loans for operational activities, even if small companies are generally confronted with higher risk premiums and stricter lending criteria (e.g., collateral requirements). In such a financing system, however, problems can arise in the financing of growth processes that are driven by risky, innovative investment projects. Risk-averse banks are often unable to finance such growth processes. This can be seen, among other things, in the comparatively low rate of fast-growing SMEs.[18] Capital market segments such as private equity, VC, equity and bond markets, which tend to be better able to finance such growth processes, are less important in Austria in terms of corporate financing than in other European countries.[19] Financing difficulties for intangible-intensive companies are therefore not only related to the availability of bank loan supply in the economy but may also be a result of an equity gap.

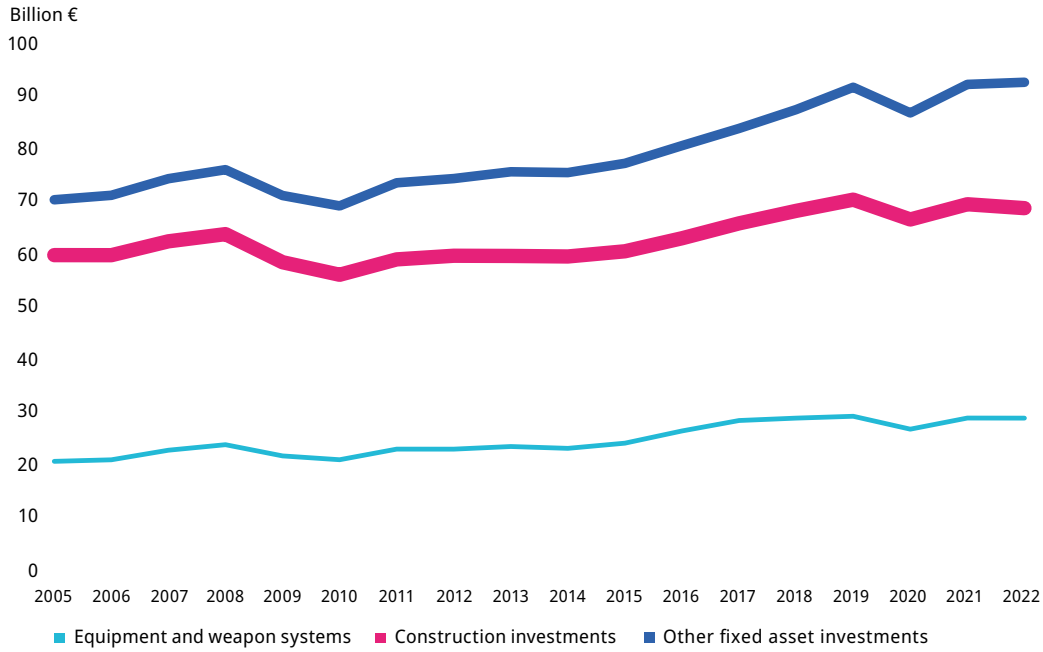
Government business support programs in the form of subsidized loans, guarantees and grants try to address this issue. Financing constraints play a particularly important role in building a strong innovation, investment and startup policy. Underdeveloped financial markets and a lack of VC are perceived as critical barriers limiting young, technology-intensive and growth-oriented companies from implementing projects that could potentially drive the economy. Subsidies to companies are awarded by the federal government through the Austrian Research Promotion Agency (FFG), the aws and the Austrian Hotel and Tourism Bank. In addition, federal provinces have their own business support agencies. The support schemes are primarily project-based, with the FFG generally financing R&D projects, whereas the aws uses a variety of instruments, ranging from consulting services, subsidized loans and guarantees for investment and innovation projects to grants and direct equity investment in companies.[20] Together, government support helps to ensure that corporate financing remains resilient, even in times of crisis.

This overview suggests that the weakness of VC financing in Austria and the low capital market orientation limit the breadth and depth of IP financing in the country, as loan financing, apart from state guarantees, is only suitable for IP financing for companies that are already established. However, the available statistics do not allow the scope of IP-supported financing in Austria to be quantified.

IP trends in Austria

Investments in intangible assets have increased significantly in Austria since the turn of the millennium.

Figure 1: Gross fixed capital formation in Austria, 2005–2022 (in billion euros)



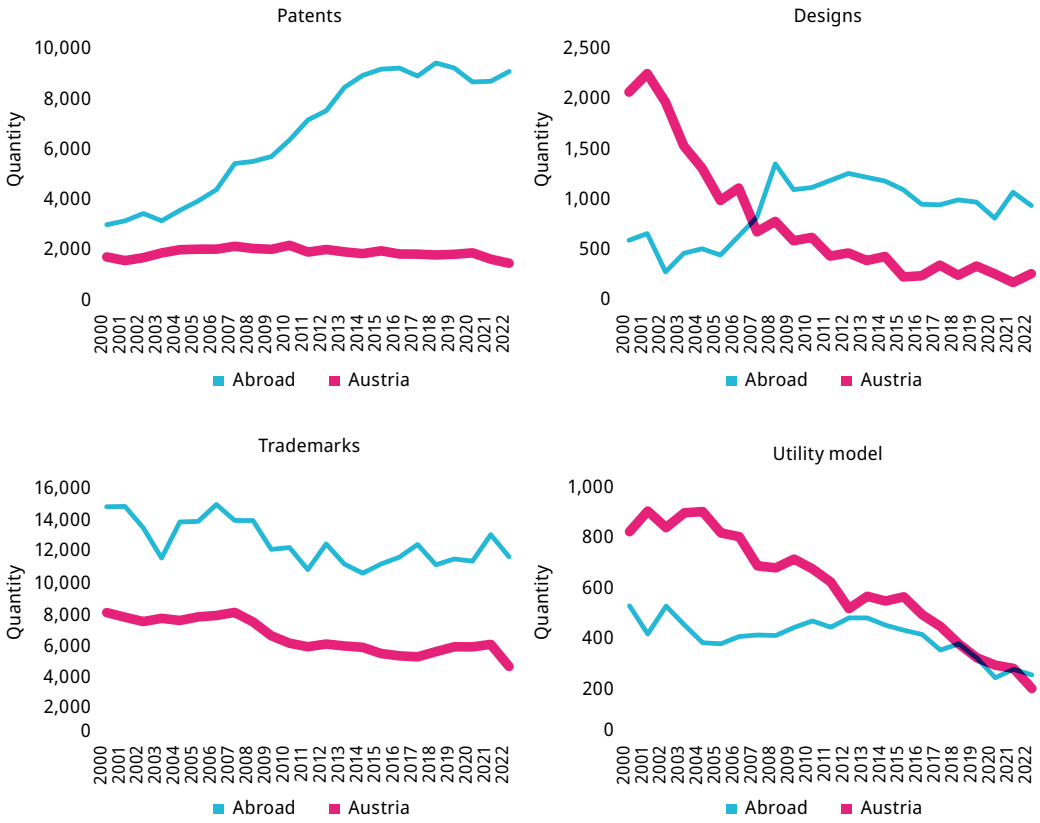
Source: Quarterly statement of the National Accounts from Statistics Austria (December 2023). The periods show real values (base year 2015).

If we look at the "Other fixed asset investments" category, which is relevant for innovation, the majority of this category (most recently more than 99 percent) includes intangible investments in IP such as R&D, computer programs and licenses.[21] This investment category in particular is considered knowledge-intensive and is more closely linked than other investments to innovation. In terms of share, these investments increased from 14.7 percent in 2005 to 25.5 percent in 2022. This shows a clear shift toward "knowledge capital" in overall Austrian investment behavior. It suggests that the Austrian system of corporate financing was able to support intangible investments even during crises in which the slump in "other fixed asset investments" was significantly less pronounced than in equipment and construction investments. RTI policy efforts since the end of the 1990s have contributed to Austria's R&D ratio being among the best in Europe for around 10 years, most recently ranking third in the EU in 2022 at 3.2 percent.

However, there are varying trends in the data on the number of IP applications, both domestic and international (figure 2), made by Austrian applicants. The shift of IP applications at European and international levels demonstrates an increase in internationalization. Moreover, it also signifies the quality of the respective patents, demonstrating the broader marketability of the IP.

Nonetheless, data during the COVID-19 pandemic and energy crises, in 2020 and 2022, respectively, demonstrate a slightly greater decline in domestic applications than in foreign patent applications. In 2022, there was a decline in the number of trademark applications, consistent with the slight downward trend observed since the 2000s. Further, a clear downward trend can also be seen in utility models and design applications. This decline is even more pronounced in the case of utility models. These figures place Austria behind the most innovative countries within Europe.

Figure 2: Domestic and international IP applications by Austrian applicants, 2000–2022[22]



Source: WIPO

Data on industrial property rights used as collateral for loans show that pledging of patents is rare in Austria. This is primarily because of the uncertainty of value, and the difficulty of estimating its earning potential.[23] Further complication arises from the countries in which the relevant patents are to be pledged. In these statistics (Table 2), only pledges of national and European patents valid in Austria were taken into account.

The chart also shows that patents are rarely pledged in the year of filing but that the pledged patents have generally been in existence for a longer period. Of the 136 pledges from 2015 on, only 27 related to patents that were filed after 2015 and only 59 to those granted after 2015. Seventy-seven of the patents were registered before 2015. These data show that, since 2000, only around 0.6 percent of all patents applied for and 1.3 percent of patents granted in the period under review have been used for pledges. There is no focus by technology class.

Most pledgees are Austrian banks that take patents or license income as collateral. Most striking is the above-average use of pledges in 2002, 2010 and 2020, which are years closely following economic slumps in 2001 (after the terrorist attacks of September 11), 2009 (financial market crisis) and 2020 (COVID-19 pandemic).

Table 2: Pledged patents in Austria, 2000–2022[24]

	Year = Year of application		Year = Year of granting		Year = Pledge year
Year	Applications[25]	Of which pledged	Grants	Of which pledged	
2000	2,323	25	1,247	22	8
2001	2,375	19	1,358	24	8
2002	2,212	14	1,450	17	38
2003	2,413	18	1,288	17	7
2004	2,577	22	875	23	7
2005	2,524	18	1,035	22	27
2006	2,648	28	1,564	21	18
2007	2,677	18	1,237	24	12

	Year = Year of application		Year = Year of granting		Year = Pledge year
Year	Applications[25]	Of which pledged	Grants	Of which pledged	
2008	2,628	37	1,301	26	29
2009	2,557	19	1,102	25	6
2010	2,671	22	1,130	29	41
2011	2,429	12	1,198	21	24
2012	2,556	9	1,439	26	26
2013	2,417	11	1,255	11	29
2014	2,446	8	962	10	20
2015	2,452	6	1,356	5	5
2016	2,327	7	1,135	13	7
2017	2,322	3	1,102	11	19
2018	2,237	4	1,189	9	5
2019	2,286	4	1,112	6	21
2020	2,303	3	1,058	9	44
2021	2,048	0	1,038	3	9
2022	1,886	0	1,151	2	14
Total	**55,314**	**307**	**27,582**	**376**	**424**

Source: ÖPA, WIFO calculations

According to the interviewees, pledges of trademarks are more common than pledges of patents, especially in the years since 2010 (Table 3). Nevertheless, this generally applies to the well-established and effectively enforceable trademark rights of established companies. However, trademarks are less likely than other property rights, such as patents, to secure future earnings. An interviewee pointed out that trademarks are more uncertain. For smaller firms without global trademarks, it is even more difficult to recover their value in the event of insolvency. The data in Table 3 also show that, of the trademarks applied for or registered since 2000, only around 0.3 percent of all trademarks applied for, and 0.4 percent of trademarks granted, were used for pledges in the period under review.

The pledging data indicate that industrial property rights are seldom used as collateral for loans.

Table 3: Pledged trademarks in Austria, 2000–2022[26]

	Year = Year of application		Year = Year of registration		Year = Pledge year
Year	Applications	Of which pledged	Registration	Of which pledged	
2000	9,326	24	7,168	23	2
2001	8,756	9	8,313	16	4
2002	8,190	11	6,357	5	103
2003	8,461	22	6,843	23	9
2004	8,421	20	7,702	18	0
2005	8,614	30	6,876	28	3
2006	8,665	19	7,042	27	0
2007	8,680	28	6,471	29	0
2008	8,263	32	6,070	28	0
2009	7,597	31	5,983	33	10
2010	6,871	26	5,610	31	0
2011	6,386	20	5,063	15	0
2012	6,563	38	4,871	38	34
2013	6,274	34	5,938	37	128
2014	6,193	13	5,115	16	79
2015	5,796	5	4,871	8	23
2016	5,757	8	4,702	4	42
2017	5,663	22	4,513	20	44
2018	5,941	5	5,646	10	21
2019	6,269	27	5,172	10	43
2020	6,262	41	5,240	55	21
2021	6,465	4	5,427	8	74
2022	5,004	2	4,564	2	23
Total	**164,417**	**471**	**135,557**	**484**	**663**

Source: ÖPA, WIFO calculations

Legal and regulatory framework conditions for IP-backed financing

This section presents the legal and regulatory framework conditions for IP-backed corporate financing on the basis of three points: (1) right of pledge, (2) accounting standards for companies and (3) VC financing.

Right of pledge

Austria has a robust legal and regulatory framework that determines corporate financing. The right of pledge, generally regulated in Section 447 of the Austrian General Civil Code (ABGB), grants the creditor limited rights *in rem* to obtain satisfaction from the pledge if the claim secured by the pledge is not fulfilled. The right of pledge gives the pledgee advantages, particularly in insolvency. The pledgee can demand separation of the pledged property from other assets in insolvency (Section 48 of the Insolvency Code (IO)). This means that, in the event of insolvency, the pledged property can be separated and prioritized to the pledgee and not lumped in with all assets allocated to all the other entities a borrower may be accountable to. This gives the pledgee some level of confidence that its loan will be recouped in the event of insolvency, reducing risk. This lower risk then translates to a lower cost of borrowing, which is represented by the interest rate. Thus, this provision on pledging eases in a lower interest rate and ultimately makes capital more affordable and accessible.

The right of pledge also applies to IP rights, such as patents, trademarks and design rights. It can establish whether rights or claims can be exploited by the pledgee, and publicized in a register entry.[27] This means that there are no specific Austrian restrictions on the pledging of IP rights. However, there are restrictions on the determination of their value., which are not to benefit from any protection of good faith, i.e., in such a way that it can be challenged in the event of a dispute. As applied to IP finance, this means that, should there be a change in the value of the IP, the borrower would not be accountable for the change in value, and the lender cannot dispute what it thought the IP would have been worth at the time of the borrowing transaction.

Moreover, if the patent holder's patent right is declared null and void or if it is revoked under Sections 48 and 49 of the Patent Act, the registered pledge associated with the IP is also invalidated. It is important to note that, IP rights often require complementary assets like knowledge and human capital in the company to be exploited. Moreover, in the case of national property rights, the pledge only has national validity and must be registered separately in each country. The European unitary patent, which has unitary effect in several participating member states, has been determined to be subject to the national law of a particular participating member state.[28] This added complexity on the complementarity of IP assets, as well as the likely cost of procedural registration, may affect the attractiveness of IP-backed lending for pledgees.

Accounting standards

Companies in Austria are governed by the Austrian Commercial Code (UGB). While intangible assets are becoming increasingly decisive to the success of many companies, the UGB remains restrictive on the capitalization of internally generated intangible assets. There is an accounting capitalization obligation for internally generated and purchased tangible assets, as well as for acquired intangible assets. By contrast, however, this is not the case for internally generated intangible assets where there is an explicit prohibition on its capitalization.[29] This is deemed restrictive by European standards.[30] Its prudence is linked to tax legislation and creditor protection. On the other hand, the International Financial Reporting Standards (IFRS) focus on providing information to investors, and thus allow for the capitalization of acquired and internally generated intangible assets if the company will derive future economic benefit from the asset and if the acquisition or production costs of the asset can be reliably measured.[31]

The restrictive accounting regulations of the UGB act as a disincentive to invest in the valuation of IP as, according to experts, it cannot be capitalized in any case. However, this also means that key elements of corporate value are not captured by the balance sheets.

A review of this capitalization prohibition was suggested in the Austrian government's 2017 IP Strategy.[32] This brings Austria in line with Germany, which included a capitalization option for internally generated intangible assets in its national legislation several years ago.

Regulatory aspects of venture capital financing

Austria has taken important steps to improve the legal and regulatory framework for VC financing of innovative companies. Under supervisory law, VC funds are considered alternative investment funds and are subject to the Alternative Investment Fund Manager Act, and thus a special tax regime. In 2015, the Alternative Financing Act (AltFG) also created the possibility of crowdfunding, and relaxed information disclosure requirements for businesses. This form of financing is particularly suitable for smaller projects. Thus, since 2019, a segment in the Vienna Stock Exchange under "direct market plus" has allowed SMEs to enter the capital market with easier regulatory requirements and lower costs.

Further, in 2023, the Venture Capital Fund Act (WKFG), the Start-Up Promotion Act and the Corporate Law Amendment Act of 2023 (GesRÄG) created new framework conditions for startups. The Venture Capital Fund Act allows VC funds to be set up in the legal form of an incorporated company (AG). This has created a new fund structure under corporate law that is comparable to Luxembourg's SICAV Société d'investissement à capital variable (SICAV) or the German InvAG to increase the attractiveness of VC for institutional investors due to the tradability of the shares.[33] This means that change and transfer of ownership could be more easily facilitated. There is no need to go through the tedious formalization process associated with more restrictive corporate structures. With respect to IP finance, this increase in fungibility may make investing in businesses that are IP-intensive more favorable. Should they wish to resell their stake in businesses, that could be more easily facilitated.

The GesRÄG of 2023 facilitated the implementation of key measures affecting Austrian company law. A new legal form was introduced, the flexible company (also known as FlexCo). This opens up additional options under company law that were previously reserved for AGs, such as employee participation models that give employees a stake in the enterprise. FlexCos can issue so-called "company value shares" of up to 25 percent of the share capital for a consideration of at least one cent. Employees who hold such shares are shareholders and participate in the company's profits but not in the decision-making process of the company. A written contract is sufficient for the transfer of company shares but it does not have to be notarized.[34] Moreover, the minimum capital required for GmbHs and FlexCos has also been reduced.

The interviewees considered these regulatory changes to be important steps in the right direction toward growing VC in Austria, and in attracting investors who are more likely to invest in IP-intensive companies.

Institutions involved in IP-backed corporate finance

It is difficult to identify specific players that focus closely on IP financing given its low volume in Austria. However, based on the interviews conducted, it is evident that there is functioning cooperation in Austria between the patent office, research and business support institutions and other players in the IP community. This reflects the fact that IP financing requires a holistic approach. Disseminating information and funding opportunities on IP rights for SMEs and startups is important. Austria generally has well-developed government funding programs and initiatives that provide financial support for startups. After their own financial resources, public subsidies are the second most common source of financing for startups.[35]

Patent office

The Austrian Patent Office (ÖPA) is the central information and service hub for industrial property protection in Austria, and is responsible for the examination, granting and registration of IP rights. The ÖPA works closely with national and international stakeholders to provide Austrian innovators with the best possible support in the field of IP. In addition, it also participates in invalidation proceedings relating to IP rights in the Higher Regional Court.

The ÖPA has expertise covering technical and legal IP matters and is, therefore, the central point of contact for IP-related searches and advice. It also offers comprehensive information and consulting services in the field of IP rights, especially for SMEs, startups, students and creative professionals.

The organization and its experts offer information on IP protection via the customer center and its technical and legal information services. Special advisory formats are available for specific target groups such as students (IP Buddy) and women (Buddy for Her). Customers can get in direct contact with experts and, if necessary, receive a free patent search.

The central information platform IP Hub provides an overview of support services for IP rights throughout Austria and Europe. Advice, events and subsidies are offered in cooperation with numerous partners from the nine federal provinces.

The ÖPA "IP-Academy" also offers free seminars and workshops for a broad audience and for specific target groups. The focus is on SMEs and startups.

The organization also provides initial tips and valuable information when it comes to enforcing industrial property rights. With its "First Aid Buddies," which engage the expert participation of trademark lawyers and patent experts, the ÖPA provides an overview of options for action and alternative dispute resolution.

Austria Wirtschaftsservice GmbH

The aws is the federal government's development bank and is responsible for awarding and processing federal economic development funding for companies. Its main tasks are the awarding and processing of aid, subsidies and financing, the provision of advisory services, and participation in SMEs. The aws has various instruments at its disposal:

- grants to support companies in important development phases;
- loan guarantees to enable entrepreneurial investment and innovation projects that would not be financed owing to insufficient or no collateral;
- subsidized loans to reduce financing costs through low interest rates and to create long-term planning security for companies;
- company investments via the aws Mittelstandsfonds and the aws Gründerfonds, which provide equity for selected companies and support them in various stages of development;
- support for investors (e.g., the Venture Capital Initiative, Startup Invest) by investing in VC companies in order to mobilize VC for Austria;
- intended to promote and strengthen expertise and know-how in companies; Service & Consulting focuses on innovation protection, innovation exploitation and IP consulting, including comprehensive support in the development of IP strategies.

The aws implements programs to support the development of ambitious, innovative startup ideas in the pre-startup phase, with grants of up to EUR 200,000 to develop viable business concepts. The focus is on deep tech, green tech, scalable business models and innovative business models with added value for society. The aws seed financing programs follow on from this and aim to bridge the financing gap from startup to market launch. In addition to the grant component, the companies receive consulting services and are also supported in tapping into other sources of financing.[36] The aws also has various matching services that bring innovative startups and SMEs into contact with large companies and promising startups into contact with financially strong and experienced investors (see the box "Connecting SMEs with sources of finance").

Connecting SMEs with sources of finance

The **aws Industry-Startup.Net** is a neutral matching service provided by the aws. It aims to connect innovative startups with SMEs, and large corporations for collaborative entrepreneurial projects. This service facilitates partnerships in areas such as R&D, technology, prototyping, product development, market strategies and strategic investments. Startups must be less than

six years old and based in Austria. The platform also organizes matching events for networking and collaboration.

The **aws i2 Business Angels program** is an independent, neutral platform designed to connect promising startups with experienced investors. This service facilitates structured and transparent matchmaking between startups and business angels, family offices, preseed funds, seed funds and strategic investors. Key features of the program include:

- Matching service: Startups can apply online, and, if they meet specific criteria, they can be connected with over 400 investors. Annually, the program screens around 700 startup projects, with approximately 50 to 60 receiving investment opportunities.
- Investment summaries: Selected startups are featured on the aws Connect platform, where they can present investment summaries, pitch decks or videos to potential investors.
- Events: The program organizes regular events and pitch meetings, such as the Austrian Business Angel Day, the Business Angels Summit and various pitch events, to facilitate networking and personal connections between startups and investors.
- Co-investment opportunities: Investors can use the platform to find co-investors for startups they are already backing or plan to invest in.

The program supports startups that have a scalable product or service, a clear competitive advantage and a significant market potential, with funding needs ranging from EUR 100,000 to EUR 1 million. Investors are typically required to commit a minimum investment of EUR 50,000 per startup.

Participation in the program is free for startups, while investors pay a nominal annual fee.

The aws Equity Finder is an online platform that facilitates connections between startups, SMEs and potential investors. The platform is designed to increase the visibility of these businesses within the investment community by providing direct access to crowdfunding/crowdinvesting platforms, business angels, early-stage funding sources and VC firms.

A key feature of the aws Equity Finder is that it does not prescreen or filter the projects for investors. This means that entrepreneurs alone are responsible for presenting their business opportunities, allowing for a transparent and unfiltered marketplace. For investors, the platform offers a cost-free and quick way to discover innovative ideas and businesses without any preliminary selection by the aws.

Consulting and support services in the area of innovation protection, which help SMEs and startups to identify, secure, use and defend IP, are particularly relevant for IP financing. The services range from telephone consultations to individual discussions with experts (discover.IP together with the ÖPA), to the promotion of comprehensive coaching for the development of IP protection strategies.[37]

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discover.IP

discover.IP is a cooperation between the aws and the ÖPA.

In an individual and free consultation with IP experts from the ÖPA and the aws, suitable protection and funding options for innovation projects are discussed, taking into account the business model.

This offer targets private individuals as well as SMEs.

The goals of discover.IP are:

- to enable the systematic use of IP by the participating company;
- to strengthen IP awareness within the company;
- to identify possible courses of action for the establishment of IP rights or commercial exploitation.

The aws supports cooperation between universities and companies as part of various funding programs that serve to strengthen Austrian knowledge and technology transfer. The aws also handles support measures for the knowledge and technology transfer centers located in universities. In this context, it supports the transfer of scientific findings into commercial practice.

Investments highly relevant to IP are made by the aws Gründerfonds, which offers VC for Austrian tech startups with growth potential. The aws Gründerfonds I was established in 2013 and the Gründungsfonds II in 2023. The focus has been on investing in the startup and early growth phases.

Credit guarantees enable companies to take out loans for growth in order to finance ambitious expansion projects (tangible and intangible investments).

Austrian Research Promotion Agency

The FFG is the central agency of the federal government for the promotion of business-related R&D, as well as innovation and digitalization, in Austria. With this core function, the FFG offers a differentiated program portfolio, which it handles for various clients. In addition to funding RTI projects and the further development of infrastructure and institutions, the FFG also promotes the development of human potential. Around 70 percent of subsidies go to companies, the remainder to research institutes and universities. The FFG primarily relies on direct grants, loans and services to provide these services.

One program for SMEs is the Patent.Voucher, developed jointly with the ÖPA, which makes it possible to clarify with professional support whether an innovation idea is patentable. If successful, it also supports patent application and monitoring.

Patent.Voucher

The FFG "Patent Voucher" (Patent.Scheck) is a funding initiative by the FFG and the ÖPA designed to support SMEs, startups and founders and has been available since October 2016. By the end of 2023, the Patent.Voucher had been used 2,333 times. This program helps these entities assess the patentability of their innovation ideas and accelerate the preparation and submission of patent applications.

The Patent Voucher operates in two phases:

- Compulsory phase: An interactive search for IP rights conducted by a national patent agency.
- Optional phase: Preparation and execution of national and international (PCT) patent applications, along with patent monitoring.

The funding covers up to 80 percent of the total costs, capped at EUR 12,500. Applications for this voucher can be submitted at any time, and the initiative aims to enhance startups' and SMEs' IP competence by providing professional support for patentability assessments and subsequent patent applications.

In addition, experimental development projects are also important for innovative companies. Funding is generally 50 percent of the eligible project costs, up to a maximum of 70 percent for startups. It consists of a mix of grants, loans or bonds, with the grant component decreasing with the size of the company. The FFG programs primarily support companies and research institutions in the phase of generating IP. This means that IP financing is not the main focus. However, costs for IP rights are eligible for funding. Securing IP rights is also given an important role in the projects financed by the FFG, and planned IP protection activities are considered in the project evaluations and due diligence processes. This shows that industrial property rights are broadly anchored in the FFG's program management processes.[38]

National Contact Point for Knowledge Transfer and Intellectual Property

The National Contact Point for Knowledge Transfer and Intellectual Property was established in 2010 to strengthen the transfer of knowledge between science and industry and to support universities and public research institutions in dealing with IP rights. These goals are achieved through a series of projects and measures, the most important of which are the free provision of standardized contract templates, the development and provision of the Open Innovation Toolbox and the organization of events for the transfer of knowledge and new developments in knowledge transfer and IP.

Financing providers

Banks are the most important providers of debt capital in Austria. However, the use of IP as collateral for loans is not very widespread and, hence, nor is the use of IP-backed financing instruments.

Another important provider are foreign investors who drive a significant portion of private equity and venture capital in the country.

Crowdfunding platforms have also been growing in Austria, but are currently mostly directed to real estate projects rather than that of IP financing.

Consulting companies, patent attorneys and lawyers

Consulting services and IP valuations are often carried out by external experts. Many of the large Austrian and international law firms, as well as the large service providers in the areas of auditing, tax consultancy and management consultancy, have specialists in IP and intangible assets. Patent attorneys also advise on and evaluate IP rights. There are also services to support companies in the management and valuation of their intangible assets. In Austria, IP rights exist primarily to help companies with their market positioning, product strategies or mergers and acquisitions (M&A) processes.

IP rights and loan financing

In Austria, loan financing from commercial banks plays the most important role in SME financing. Owing to a lack of economies of scale, high transaction costs, resource-intensive investor relations and transparency requirements, debt financing via the capital markets is generally not the first option that SMEs turn to. SMEs face higher collateral requirements than larger companies for loan financing because of the perceived higher risk of insolvency, and information asymmetries. However, despite the need to match higher collateral requirements, the data on pledges of patents (Table 2) show that IP rights are still very rarely used as collateral for loans. This further highlights the opportunity to grow the acceptance of IP as collateral.

A company valuation in the credit assessment primarily assesses the company's ability to repay loans reliably from future cash flow. IP can also play a role here because, in certain segments, it can provide information about a company's market positioning and competitive advantages. However, these valuations are generally qualitative and oriented toward cash flow. For most SMEs in "traditional" segments, this barely plays a role because they do not have a business model based on IP rights. When financing startups with loans, lenders look for tangible collateral, sureties and state loan guarantees as collateral. For large companies, where collateralization is rarely an issue, patents and trademarks play an important role in cash flow but they are generally not given special consideration in the analysis.

IP can be used as collateral but, according to the interviewees in this report, this is rarely the kind of collateral that creditors rely on. Further, there are high costs associated with transacting using pledges or other security transfers compared to the benefits.[39] These costs are rooted in difficulties in monetary valuation, in the uncertainty of the valuation (volatility over time) and, above all, in the difficulty of separating IP rights from the company in the event of a default.

According to the interviewees, IP rights are often not exploitable in companies without complementary assets. In the opinion of the interviewees, the pledging of trademark rights, which is more frequently used, is also primarily seen as an "add-on." Negative clauses and other nonfinancial loan conditions are used much more frequently; these stipulate that no loan collateral will be made available to future creditors and prevent the borrower from encumbering other assets (including IP rights) until the debt has been repaid.

State support instruments, such as guarantees, also play an important role in lending. Without these instruments, SMEs in particular would sometimes not receive loans from banks in the amount required for their expansionary projects. Bank financing is based on the ability to repay loans regardless of the company's phase. However, loan financing without material collateral, sureties or guarantees is generally only an option if the risk of loan default is extremely low.

IP is not in itself currently heavily utilized to meet collateral obligations. The interviewees generally saw the equity requirements as a limiting factor for corporate financing, but not the central factor in IP-backed financing; the main factors were primarily identified as costs and risk in the event of a loan default.[40]

Austrian mezzanine lenders support companies in their growth and expansion phases, or in financing changes in ownership. The most important instruments of mezzanine capital include silent participations (typical and atypical variants), profit participation certificates and subordinated profit-participating loans. As the financing is primarily provided via equity-like loans, collateralization is irrelevant. This type of financing is therefore primarily focused on established companies and is less crucial for young and small companies.

IP rights and venture capital financing

Many startups rely on equity financing to fund their growth. Loan financing as a primary financing instrument is particularly unsuitable for innovation-driven startups with high growth potential. Accordingly, in Austria, equity financing via business angels and VC also plays an important role in technology-oriented sectors. Many efforts have been made to increase the availability of VC, ranging from instruments such as the Venture Capital Initiative to the aws start-up fund and regulatory reforms.[41] Nevertheless, many studies continue to show that Austria has an underdeveloped VC market.[42] A large proportion of funding comes from abroad and, regionally, much of the investment is concentrated in Vienna.[43] With regard to the high proportion of foreign VC, interviewees noted that this can increase the risk that IP created in Austria will leave the country after the startup phase. The Start-up Barometer 2022 also shows that most investment comes from foreign investors, especially in later financing rounds.[44] Nonetheless, Austrian investors dominate primarily in the first financing rounds.

In this respect, the interviewees saw the Austrian funding system for high-tech startups as generous. Pre-seed and seed financing were seen as important and positive factors for startup dynamics in the technology sector. According to the Austrian Investing Report 2022, angel and institutional investors stated that around 50 percent of the companies they invested in had also received state support.[45]

The findings from the interviews show that the quality of the IP rights portfolio plays an important role in investors' financing decisions in the high-tech sectors. The valuation of IP is an integral part of a company valuation. In the startup phase, the company consists almost exclusively of IP (or the potential to generate valuable IP), the startup team and the business model. Qualitative and quantitative methods (model calculations, analogies and databases) are used by companies and investors to evaluate the IP. The portfolio of IP rights, together with the human capital of the founders and employees, determines the company's potential.

Patent rights are often a door opener for technology-oriented startups in the life sciences and clean tech sectors. They are also important for attracting investors in other technology sectors.[46] Trademarks play a secondary role, as many companies seeking capital have yet to establish their brand. Nevertheless, trademarks can have a positive impact on a company's valuation, particularly in the case of scalable business models in the IT sector. For software companies, copyright and the extent to which a company uses open-source software are more important

for investors. Trade secrets can be important in the search for funding but are usually not the focus. Alignment between IP rights, IP strategy and business model is particularly important in later financing rounds, as this fit signals whether a company will be able to convert its intangible assets into tangible success.

State guarantees and funds

Austria has a range of support measures for companies and startups to help innovative, IP-intensive companies to meet their financing needs. These also compensate for weaknesses in the IP-financing system. The most important instruments are startup and research funding, subsidized loans and loan guarantees.

The aws offers guarantees primarily for the purpose of financing the growth of SMEs. These credit guarantees enable companies to take out loans for growth processes in order to finance ambitious expansion projects (tangible and intangible investments). According to the 2022 annual report, the aws issued 1,140 guarantee commitments in its core business, with a financing volume of EUR 329.1 million and total project costs of EUR 540.2 million.[47] Companies with strong IP portfolios are also supported. These guarantees can account for up to 80 percent of the loan amount for SMEs (up to 50 percent for large companies). The guarantees are granted on the basis of the company's prospects of success and the eligibility of the investment project. IP is primarily included in company and project valuations and is often taken into account as an indication of a company's growth potential.

For financing in excess of EUR 100,000, the loan guarantees are collateralized over and above the liability of the entrepreneurs or shareholders. These guarantees are usually collateralized with the assets of the projects. However, the aws does not use IP rights as collateral, even for projects with a strong IP focus. Here, as is the case with banks when granting loans, "negative pledge" clauses, which restrict sales, pledging and possibly licensing abroad, are used. This is based on the experience that the collateralization of IP is very costly compared to the guarantee amount.

The aws invests in companies with high IP-financing relevance via indirect and direct instruments. The most important direct instrument is the Gründerfonds. The aws Gründerfonds I was established in 2013 and focuses its investments on Austrian tech startups with high growth potential for startup. It also provides follow-up financing in the startup and early growth phases. The fund volume amounts to EUR 68 million and has made 46 investments; 13 exits have already taken place. The fund sees itself as an anchor investor in the early stages whose purpose is to mobilize additional domestic and foreign private VC for Austrian startups.

In 2023, the Gründungsfonds II was established by the aws with investment capital of EUR 72 million and a focus on green and digital technologies. The aws also indirectly invests in Austrian companies through co-investments and investments in VC funds. The most important instrument for this is the Venture Capital Initiative, with nine funding rounds since 2010, the last one being in 2021. The aws participates in VC funds that invest in Austrian startups, the Business Angels Fonds Austria and the new Start-Up Invest program, which is primarily aimed at investors who invest in technology-oriented Austrian startups. These programs support not only companies but also the development of the VC ecosystem. Austrian funds with corresponding management capacities have also emerged, particularly in the area of early-stage investments.

IP insurance

IP is excluded from professional liability insurance and therefore insuring it requires its own insurance. Based on the interviews conducted, these insurance companies play a more indirect role in IP financing. Insurance policies offered in Austria are provided by international providers and sold by local insurance brokers. These insurance policies are extensions of product liability insurance that cover IP (usually patents and utility models). Patent liability insurance often acts as a "business enabler" in the context of supply chains for export transactions when products are exported to certain markets where there is a high probability of patent disputes for the

purpose of blocking the product (the United States of America, People's Republic of China and Australia). These insurance policies require proof of "freedom to operate" (FTO; verification of the product's IP rights) and are customized and concluded on a case-by-case basis. As an extension of product liability, they also cover the risk of having to pay compensation in addition to legal costs. They are mainly used by suppliers to give the seller of the end product a guarantee of the product's salability in the relevant markets.

In the context of IP finance, only a few interviewees were aware of IP insurance. Generally, neither a direct relationship nor practical relevance to financing was relayed.

Legal protection insurance for IP (patent and trademark protection insurance) is also offered in Austria by a German insurance company. However, these products are largely unknown in the deep-tech startup community.

Markets for IP

Secondary markets are used to facilitate transactions such as the resale of intangible assets. There are no known organized Austrian markets for IP. International platforms exist for internet domains (*sedo.com*) and trademark rights (*redcoinip.com*). In Austria, the transfer of IP rights usually takes place in the context of individual transactions on an ad hoc basis. The creation of an "exchange" or other business-to-business (B2B) market platforms for IP rights (not only for trademark rights and internet domains) would be worth considering. Such exchanges with a broad distribution could support not only the exploitation of IP rights but also the valuation of IP assets, and the financing based on them.

The role of IP valuation

All interviewees emphasized that the valuation of IP is essential for financing purposes. However, most of the interviewees mainly carried out qualitative assessments, especially in the early stages of companies and in loan financing, which is often supplemented by quantitative assessments. The qualitative assessment focuses on the extent to which the industrial property rights protect the company's product. In the case of equity investments, IP rights are analyzed as part of the company's due diligence, primarily as a factor that contributes to the value of the company. Owing to the complexity of the valuation, specialized service providers, patent attorneys, law firms and chartered accountants are often used. Some transactions require experts with specific technological knowledge.

The valuation of IP is triggered by IP transactions, such as a sale or purchase, licensing, tax purposes or even disputes. The valuation of IP rights plays a role in company valuations in the case of M&A or disposals of parts of companies and spin-offs. Valuation in the context of VC financing is particularly relevant for the financing of SMEs. Investors and companies looking for valuation services can access national and global providers. There are now specialized providers for patent searches, as well as databases with information on transactions and valuations of IP. Nevertheless, a patent valuation, including a detailed FTO analysis, can easily amount to a six-figure-euro sum in Austria.[48] Therefore, the extent to which investors rely on IP valuations by external service providers varies. Since financing rounds are usually carried out by several investors at the same time in the same rounds, some smaller investors seem to rely on the judgment of larger anchor investors and do not commission their own valuations.

There are standards for company valuation in the context of accounting. The expert opinion of the Expert Committee on Business Administration and Organization of the Austrian Chamber of Public Accountants and Tax Advisors on Business Valuation KFS/BW1, dated March 26, 2014, provides standards for business valuation.[49] These are authoritative in Austria and mandatory for members of the Chamber of Public Accountants and Tax Advisors, and are cited by the UmgrStR (the Reorganization Tax Guidelines of the Federal Ministry of Finance) and the Administrative Court as a reference for principles recognized in business administration.

Owing to the ban on capitalizing internally generated intangible assets, there are no accounting standards for the valuation of internally generated intangible assets in Austria. In practice,

German and international standards are used, for instance the “Principles for the Valuation of Intangible Assets” from the Institute of Public Auditors in Germany (IDW S5) and the “International Valuation Standards.” Also, there are national standards from Austrian Standards International (ASI) on the “Valuation of the Intangible Asset ‘Trademarks’” (Austrian Standard A 6800) and on the “Procedure for Patent Valuation” (A 6801), which provide guidelines on the valuation of intangible assets. These documents discuss the common methods of IP valuation: the cost approach (based on replacement value or historical costs), the income approach (based on future income) and the market approach (based on comparable market transactions). They provide indications of when certain methods should be used but do not specify which is the preferred method for which IP right. According to the interviewees, this is also because the valuation of IP rights cannot be carried out independently of the valuation context. Different values may result depending on the valuation context. The valuation of an IP right in a “going concern” (utility value) is not based on the needs of a pledgee with regard to the value of the IP right at the time of liquidation. This limits the usability of valuation reports for different purposes, but makes it reflective of the specific need at the time.

IP rights are not standardized goods. Accordingly, IP transactions are often bundled into purchases and sales of other units (e.g., parts of companies). When they take place, these transactions are rarely made public, which contributes to valuation difficulties. The interviewees considered standardization and cost reduction, especially of quantitative IP valuation, necessary to increase the acceptance of IP as an asset, pledge or security. However, standardized guidelines for valuation in the context of IP financing are currently not on the horizon. Some interviewees emphasized that one starting point could be the development of standardized and credible assessment tools based on artificial intelligence.

However, further work needs to be done to raise awareness among companies. The interviewees also pointed out that the protection of trade secrets and the need to examine new technologies for possible protection by means of formal protection rights and, if possible, to apply for them is still not sufficiently developed, especially among SMEs. Yet, without a concept and compliance structures, IP cannot be evaluated and offered as security.

Challenges and opportunities of IP-backed financing in Austria

This report has shown that Austria has a well-functioning bank-based corporate financing system. It is generally possible to use IP rights as collateral for IP-backed financing. These rights play an important role in companies' product market strategies and also as signals for corporate financing. The corporate financing system is complemented by a well-developed state support system, which successfully helps to reduce debt and equity gaps for SMEs, especially innovative SMEs with strong IP. IP valuation methods are available and follow international standards.

Nevertheless, the results show that IP-backed financing is underdeveloped in Austria. The importance of industrial property rights for companies' competitive positions is not reflected in their use as collateral for credit transactions or in the size of the risk capital market.

The low use of IP in the lending approval process is due to difficulties of using IP as loan collateral in commercial banks' lending business models and is further exacerbated by uncertainties regarding IP valuation and difficulties in realizing IP in the event of insolvency. In addition, many SMEs are also not ready for IP financing. The valuation of IP rights is almost never used for financing, partly because of the high costs involved. However, this does not fully explain the observed underdevelopment of the Austrian VC market.

These considerations give rise to key challenges for the development of a stronger IP-backed financing system in Austria:

Challenge 1: Improvement of the Austrian venture capital market, especially for later rounds of financing

Above all, the weakness of the capital market and VC-based financing in Austria hinders the development of a strong IP-financing ecosystem, as the experts surveyed also emphasized. While public subsidies and venture capitalists provide good support in the seed and early startup phases, weaknesses are particularly evident in later financing rounds, where foreign funds often dominate. In this regard, the lack of domestic institutional investors particularly was mentioned. This makes it difficult for Austrian funds to participate in later financing rounds. The main reasons given were the low capital market orientation of the Austrian financial system, and the lack of incentives for Austrian private and institutional investors to invest in VC.

Challenge 2: Improving the visibility of IP on company balance sheets

In many companies, IP is important for growth and long-term success. This means that IP is becoming an increasingly important part of a company's value. However, the current accounting regulations do not take this into account. The valuation of IP for the purpose of financing is also rather unusual, except in the technology-oriented

startup sector. According to the interviewees, this is also linked to the Austrian accounting guidelines, which place a prohibition on capitalizing internally generated IP. As a result, corporate reporting on IP is minimal. A relaxation of these requirements and the creation of an option to capitalize self-created IP in compliance with the trade-offs between the principles of balance sheet accuracy and prudence could provide leverage to make IP valuations more common and less costly.[50]

Challenge 3: Markets for IP rights

More and better information on IP transactions allows better valuations of industrial property rights. Clear procedures and channels for the sale of IP rights in the event of insolvency increase the acceptance of IP rights as collateral for lenders. In both cases, markets are central to IP. The widespread lack of formal markets for intangible assets – apart from platforms for trademarks and domains – hinders the utilization of property rights for IP financing. The establishment of transparent, stable and active secondary markets for IP rights in Austria and in Europe is a major challenge. Nonetheless, without these, a sustainably functioning IP-financing system is unlikely to be established.

Challenge 4: Sustaining awareness, information and training measures on IP and subsidies for IP use

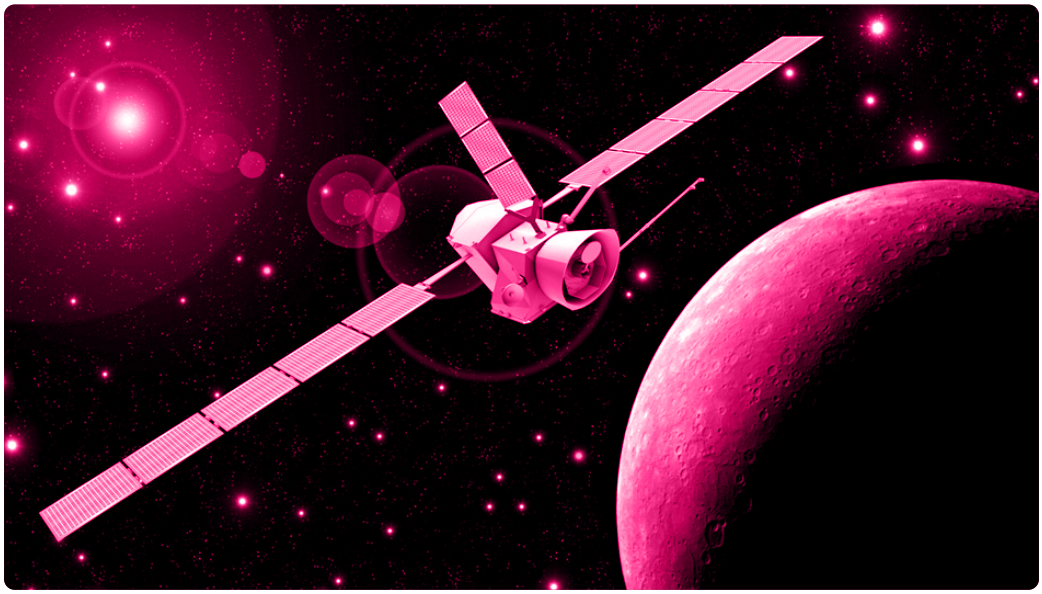
Offering information, advice and training measures is important to increase the use of industrial property rights. IP and IP strategies are taken into account in business and research subsidies, especially for startups and IP-intensive companies. According to the interviewees, there is an awareness of the importance of IP among technology-oriented startups, but it has not yet fully reached SMEs in traditional technology sectors. Knowledge of the relevance and pitfalls of IP rights is essential not only for startups and companies but also for investors, especially with regard to VC investors and universities in knowledge-based economies, which is why education and training on IP remains a challenge.[51]

Challenge 5: Considering the European dimension

According to some interviewees, the establishment of IP-backed financing will develop first in particular industry segments, similar to VC, which is indispensable for certain high-tech sectors in particular.[52] In addition to Austria, it is also important to consider the European dimension (e.g., European IP markets and standards for the valuation of intangible assets).[53] At European level, the economies of scale of the European capital and product market can also be utilized for Austrian IP financing. Open borders and comparable regulations are essential for small and open economies in order to promote the emergence of critical masses and specialization advantages.

Austria case studies

Case study 1:
Beyond Gravity Austria Ltd



Credit: European Space Agency[54]

Sector
Space technology

Number of employees
220

Company headquarters
Vienna

Types of IP right held
Patents (State Prize Patent Winner 2023), trademarks

Institutions or entities that facilitated the transaction
Internal financing by Beyond Gravity (formerly RUAG RüstungsUnternehmen-AktienGesellschaft), as well as project funding from the government and the EU

How IP finance was observed

Essentially, there are three funding sources to finance product and IP development at Beyond Gravity Austria Ltd (BGA):

1. Customers, which include institutions such as the European Space Agency and NASA, for whom BGA delivers solutions to meet a specific need. This builds upon BGA's IP and can be complemented by internal R&D activities and promotional projects to target broader market needs.
2. IRAD projects.
3. Projects cofunded at the national level, such as through the FFG, or at EU level by such bodies as Horizon Europe or the European Defence Fund. Cofunded projects (where not all costs are covered) require an IRAD component.

Given its structure and strong financial position, BGA does not need external financing. However, Beyond Gravity management conditions the amount of IRAD granted to a particular product line or technological field on its valuation of the IP foreseen to be created within the proposed IRAD activities.

Identified challenges

Estimation of future revenues and profits created by the IP foreseen to be developed within the frame of IRAD-activities.

Case study 2:

Anyline Ltd

Credit: Anyline GmbH

Sector
Information technology/software

Number of employees
100

Company headquarters
Vienna

Types of IP right held
Patents, trademarks

Institutions or entities that facilitated the transaction
Venture debt funding

How IP finance was observed

Anyline, an innovative technology company, believes that IP and protecting it are of key importance. The misuse or infringement of its IP rights could jeopardize the company's interests.

Anyline is funded through equity and external financing.

In the case of equity financing, warranty clauses usually apply. IP rights are also regularly checked externally for their validity and value.

In the most recent round of debt financing, IP rights were pledged to lenders to secure funds. The pledges were a key aspect for the lenders.

Identified challenges

Processing and registering the pledges to lenders was reported to be particularly challenging. Anyline holds patents in the United States of America and Asia, among other places. As such, it had to engage external legal consultants and this was thus costly.

The process of pledging trademark rights (WIPO and EUIPO), however, was quick and straightforward.

Case study 3:

Inmox Ltd

Credit: Inmox Ltd

Sector
Mechatronics

Number of employees
8

Company headquarters
Vienna

Types of IP right held
Patents, word marks and combined word and figurative marks

Institutions or entities that facilitated the transaction
Investors, funding agencies (FFG, aws)

How IP finance was observed

For a deep-tech startup, the novelty and uniqueness of a product or technology are essential for offering a unique selling proposition against competitors, and for establishing itself in the market as a young company. Although obtaining IP rights poses certain challenges, these protective measures initially enable access to technology funding, which forms a crucial pillar in the financing of technology startups in an early product and company phase in Europe.

Moreover, IP rights are an essential part of due diligence during fundraising and the acquisition of investors. These rights not only reconfirm the uniqueness of a product but also create a barrier to imitation by competitors, thus providing a market advantage.

These two points have an immediate and short-term positive impact in the context of IP rights and the (successful) securing of financing sources.

In the long term, IP rights also affect the acquisition of new customers in the industrial environment or B2B segment. Large companies often utilize young companies' flexibility, agility and different perspectives to solve internal challenges or complement their solutions. Owning IP rights to a technology or product once again shows its novelty and uniqueness and offers a further market or negotiation advantage.

Identified challenges

For startups, the economic valuation of IP rights poses a significant challenge, as their long-term impact only becomes apparent over time. There is insufficient long-term experience to understand the effects of a patent and the actual impact it has had. Another challenge is raising awareness among parties about IP rights, the associated costs and, more importantly, the time frames involved in a patent application, which cannot be expedited.

In an ecosystem that values speed, expected costs can be planned and managed, but the time frames present a major hurdle and can become a game stopper if IP rights are still in the approval phase and have not yet been granted. This requires effective communication between parties to foster an awareness of the importance of timing.

Case study 4:
Selmo Technology Ltd

Credit: moodley strategy and design group GmbH

Sector
Information technology

Number of employees
25

Company headquarters
Söding–St. Johann, Austria

Types of IP right held
Patents and trademarks

Institutions or entities that facilitated the transaction
FFG, Bank Austria, AVV Investment Ltd

How IP finance was observed

Selmo Technology Ltd attempted to use its patents as collateral for borrowing, but discussions with various banks revealed that patents are generally not accepted in this role. Particularly for startups, using patents as collateral could be a viable option to raise capital. This raises the question of who is best positioned to evaluate patents and why banks lack clear guidelines to facilitate the use of patents as collateral.

Identified challenges

The main challenge that Selmo Technology faces is the valuation of patents. It remains unclear why banks are reluctant to accept patents as collateral. Selmo Technology suggests that institutions such as FFG or the aws could assess the suitability of patents for securing financing. Additionally, a new concept could be developed that mirrors the existing “double equity” program, where patents are pledged instead of using equity.

Despite the high valuation of patents in the technology and science sectors, the financial industry often perceives patents primarily in terms of cost and risk, rather than value. Based on Selmo Technology's experience, this perception persists even after successful product development and market entry, despite positive company growth. Using the company's valuation post-market entry as the basis for patent valuation to facilitate financing was suggested. Although this approach was repeatedly discussed with banks at various company stages, these discussions have not yet been successful.

Endnotes

1 European Commission (2024). European Innovation Scoreboard 2024, https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en [accessed July 24, 2024].

2 Ibid.

3 WIPO (2024). Global Innovation Index 2024. Austria Country Profile, https://www.wipo.int/gii-ranking/en/austria/section/benchmark [accessed November 13, 2024].

4 Ibid.

5 RTI Strategy 2030 - Strategie der Bundesregierung für Forschung, Technologie und Innovation [German only], www.bmbwf.gv.at/Themen/Forschung/Forschung-in-%C3%96sterreich/Strategische-Ausrichtung-und-beratende-Gremien/Strategien/FTI-Strategie-der-Bundesregierung-.html [accessed May 28, 2024].

6 Federal Government (2017). Intellectual Property Strategy for Austria, https://www.bmaw.gv.at/Themen/Innovation/IP-Strategie.html [accessed May 28, 2024].

7 Methodologically, the report is based on research of international literature and data, but mainly on interviews with experts. A total of 18 interviews were conducted with 27 interviewees from 16 different companies and institutions.

8 Austrian National Bank (n.d.). Financial Accounts. https://www.oenb.at/en/Statistics/Standardized-Tables/financial-accounts.html

9 The national financial accounts show the financial transactions and asset bases, and liabilities by economic sector in Austria. Intrasectoral links are not shown.

10 Url, T., Friesenbichler, K. and Hölzl, W. (2019). Quellen der Unternehmensfinanzierung in Österreich (Sources of Corporate Financing in Austria). WIFO.

11 Breyer, P., Endlich, E., Huber, D., Oswald, D., Prenner, C., Reiss, L., Schneider, M. and Waschiczek, W. (2021). Eigenkapitalausstattung österreichischer Unternehmen – Hindernisse und Handlungsoptionen (Equity Capitalization of Austrian companies – Obstacles and Options for Action). Monetary Policy and the Economy, Q3 2021.

12 In particular, the tax deductibility of interest should be mentioned here, although this has been somewhat weakened in the course of past reductions in corporate tax rates.

13 Marketmind (2023). Unternehmensfinanzierung 2023, Strukturbefragung unter österreichischen Betrieben [Corporate Financing 2023, Structural Survey of Austrian Companies], study commissioned by the Austrian Federal Economic Chamber and aws.

14 Kaniovski, S., Pekanov, A. and Url, T. (2021). *Ex-post-Analyse der Wirkungen des COVID-19-Maßnahmenpaketes auf die Unternehmensliquidität [Ex-Post Analysis of the Effects of the COVID-19 Package of Measures on Company Liquidity]*. WIFO; Lorenz, S., Pitlik, H., and Schratzenstaller M. (2021). Bundeshaushalt und Staatsschuld in der COVID-19 Krise [Federal Budget and National Debt in the COVID-19 Crisis]. *WIFO Monthly Reports*, 94(1), 53–65. Hölzl, W. Böheim, M., Friesenbichler, K., Kügler, A. and Leoni, T. (2021). Staatliche Hilfsmaßnahmen für Unternehmen in der COVID-19-Krise: Eine begleitende Analyse operativer Aspekte und Unternehmenseinschätzungen. (State Aid Measures for Companies in the COVID-19 Crisis: An Accompanying Analysis of Operational Aspects and Company Assessments). WIFO. Note: The share of subsidies reported in the study (WKO 2021) increased significantly in 2020 compared to previous years due to the considerable expansion of government aid measures to contain the negative effects of the restriction measures in the COVID-19 pandemic, while that of equity and bank financing declined.

15 Marketmind (2023) (op. cit.).

16 OECD (2022). Austria. In *Financing SMEs and Entrepreneurs 2022: An OECD Scoreboard*. OECD Publishing, https://doi.org/10.1787/e9073a0f-en [accessed November 14 2024].

17 Marketmind (2023). (op. cit.).

18 FTB (2016). Austrian Research and Technology Report 2016. Federal Ministry of Science, Research and Economy (bmwfw) and Federal Ministry for Transport, Innovation and Technology (bmvit); Hölzl, W., Bärenthaler-Sieber, S., Bock-Schappelwein, J., Friesenbichler, K. S., Kügler, A., Reinstaller, A., Reschenhofer, P., Dachs, B., and Risak, M. (2019). Digitalization in Austria. State of Play and Reform Needs. WIFO, AIT, University of Vienna.

19 Hölzl, W., Böheim, M., Friesenbichler, K. (2016), KMU Börsen in Europa (SME Exchanges in Europe), WIFO Monograph, Study for the Federal Ministry of Science, Research and Economy (bmwfw) and aws, Vienna; Breyer, P., Endlich, E., Huber, D., Oswald, D., Prenner, C., Reiss, L., Schneider, M. and Waschiczek, W. (2021). Eigenkapitalausstattung österreichischer Unternehmen – Hindernisse und Handlungsoptionen (Equity Capitalization of Austrian companies – Obstacles and Options for Action). Monetary Policy and the Economy, Q3 2021; Köppl-Turyna, M., Berger, J. and Strohner, L. (2021). *Effekte von Venture Capital und Private Equity Fonds in Österreich [Effects of Venture Capital and Private Equity Funds in Austria]*. Eco Austria.

20 The aws also extended special federal support services during the COVID-19 pandemic (investment premium, bridging guarantees), as well as to companies affected by the energy price increases (grants, bridging guarantees) driven by global conflicts.

21 Friesenbichler, K., Bilek-Steindl, S., Glocker, C. (2021) Österreichs Investitionsperformance im internationalen und sektoralen Vergleich (Austria's Investment Performance in International and Sectoral Comparison), WIFO Monograph, Study commissioned by the Austrian Federal Economic Chamber.

22 WIPO. Domestic applications are IP rights filed with the Austrian Patent Office by applicants located in Austria. International applications are applications filed with patent offices in other countries/regions by persons located in Austria.

23 Brassell, M. and K. Boschmans (2019). Fostering the Use of Intangibles to Strengthen SME Access to Finance. *OECD SME and Entrepreneurship Papers No. 12*. OECD.

24 Source: ÖPA, WIFO calculations. Only the first pledge is taken into account. Applications and grants refer to all applications and grants of patents at the Austrian Patent Office.

25 GesRÄG: Gesellschaftsrechts-Änderungsgesetz. https://www.usp.gv.at/gesetzliche-neuerungen/archiv-bgbl-2023/gesraeg-2023.html#:~:text=Das%20Gesetz%20erm%C3%B6glicht%20in%20gesellschaftsrechtlicher,der%20Willensbildung%20der%20Gesellschaft%20zukommt [accessed November 14 2024].

26 Source: ÖPA, WIFO calculations. Only the first pledge is taken into account. Applications and registrations refer to all applications and registrations of trademarks at the Austrian Patent Office.

27 Pursuant to Section 452 of the ABGB. See Riedler, A. (2022). *Zivilrecht V: Sachenrecht [Civil Law V: Property Law] – 6th Edition*. LexisNexis; Koch, B. (2012) Kreditsicherheiten an Gesellschaftsanteilen, Immaterialgütern und Internet Domains (Loan Collateral in Company Shares, Intangible Assets and Internet Domains). In Apathy, P., G. Iro and H. Koziol (eds), *Österreichisches Bankenvertragsrecht, Vol. IX (Austrian Banking Contract Law): Kreditsicherheiten Teil II [Loan Collateral Part II]*. Springer Verlag.

28 In principle, the national law at the registered office of the first notifier applies if the notifier is based in one of the participating member states. Otherwise, German law is applicable as the legal first principle (Article 7 of the Regulation EU1257/12).

29 Section 197 (2) of the UGB.

30 For example, the German accounting guidelines permit the optional capitalization of certain internally generated intangible assets, with the exception of trademarks, print titles, publishing rights and customer lists. Switzerland also allows the capitalization of internally generated intangible assets under certain conditions. See also the description in the Austrian IP strategy (Federal Government 2017, pp. 41 ff.). Federal Government (2017). Intellectual Property Strategy for Austria.

31 Self-created trademarked names, print titles, publishing rights, customer lists, self-created goodwill, research expenses and certain expenses for human capital and companies' market share creation or startup costs are explicitly excluded from capitalization.

32 Federal Government (2017). Intellectual Property Strategy for Austria.

33 Keuschnigg, C. and S. Sardadvar (2021). *Mit einer bewährten Rechtsform zu mehr Risikokaptital [With a Proven Legal Form to More Risk Capital]*. WPZ – Economic Policy Center.

34 Unternehmensservice Portal. Flexible Kapitalgesellschaft und neue Formen der Mitarbeiterbeteiligungen. https://www.usp.gv.at/news/flexkapg.html [accessed November 14 2024].

35 Austrian Startup Monitor (2022). *Austrian Startup Monitor 2022*.

36 All companies funded in the Preseed, Seedfinancing, First Incubator and other programs receive mandatory IP consulting so that they can learn about the extensive strategic design options of IP rights at an early stage and exploit their potential.

37 Currently (as of the beginning of 2024), this comprehensive support is only offered for green tech. Until 2023, comprehensive IP consulting for those receiving funding was part of many aws startup funding programs.

38 As was also anchored in the goal of the Federal Government's IP strategy (2017, op. cit., p. 52), "Increased Integration of IP Issues into the FFG's Funding Practice."

39 In practice, for example, the documentation required for the assignment of rights of use by way of security and the deposit of the source code for software is very extensive, requiring the involvement of IP experts, and this is only a viable option in exceptional cases.

40 Receivables from intellectual property, such as pledged license income, may be eligible under certain conditions. The "SME adjustment factor" for loans for SMEs has been in place since 2014 and is intended to neutralize the increase in capital requirements for SME loans associated with Basel III. This capital benefit factor of 76 percent may be applied to loans to SMEs up to a certain loan amount. The SME adjustment factor is linked to the size of the company (EU SME definition) but not to intellectual property.

41 More information on the program can be accessed through these links- https://www.aws.at/aws-venture-capital-initiative/ and https://www.gruenderfonds.at

42 Köppl-Turyna, M., J. Berger and L. Strohner (2021). (op. cit.); EY (2022). *EY Start-up Investment Barometer Österreich (Austria) 2023*. EY.

43 Invest Europe (2023). *Investing in Europe: Private Equity Activity 2022*. Brussels. Note: Industry statistics (Invest Europe 2023) show that Austrian PE/VC investments only accounted for around 0.04 percent of gross domestic product (GDP) in 2022, while the European average was around 0.62 percent of GDP. Foreign funds raise the market statistics (total PE/VC invested in Austria) to 0.14 percent of GDP, while the European average remains roughly the same at 0.64 percent. The situation is similar for venture capital in the narrower sense. Here, the data show less of a difference between industry and market statistics but Austria still lags behind the European average (industry statistics: Austria 0.03 percent and Europe 0.09 percent of their respective GDPs; market statistics: Austria 0.04 percent and Europe 0.09 percent).

44 EY (op. cit.).

45 Jung, S., M. Schlömmer, J. Wiesner, M. Köppl-Turyna and N. Graf (2023). *Austrian Investing Report 2022*. aaia, aws and avco.

46 The interviewees also noted that there are sometimes conflicts between the positions of the universities and those of the investors with regard to the IP rights concerning potential spin-offs, which are also relevant for the financing of the spin-offs. These conflicting objectives have been recognized and studies are being carried out that will result in guidelines.

47 In addition, 288 guarantee commitments were made in 2022 as part of the COVID-19 programs (bridging guarantees; the program ended June 2022) with a financing volume of EUR 60.5 million and total project costs of EUR 65.4 million, while 2,016 commitments were made in 2021 with a financing volume of EUR 417.9 million and project costs of EUR 447.3 million. In order to support SMEs with liquidity bottlenecks due to high energy costs, the possibility of state bridging guarantees was also created, and these are processed by the aws.

48 The FTO analysis is particularly essential for exporting companies. Every market entry outside Europe should be accompanied by an FTO analysis.

49 portal.ksw.or.at/download/fachinformation/LPVEIKVFWP/link/uz7urR85hT_iDTzWPT7lyQ|| [accessed May 29, 2024].

50 The IRFS standards (in particular IAS 38) and the requirements in other European countries, in particular countries whose accounting regulations are similar to those of the UGB, provide starting points for this. In Germany, the German Accounting Law Modernization Act of 2009 brought the accounting regulations under the German Commercial Code (HGB) into line with IFRS accounting rules, which also introduced the option of capitalizing internally generated intangible assets. It would be particularly relevant for IP financing if these assessments were to fulfill requirements that could make them usable for IP financing.

51 In view of global developments and the rapid internationalization of companies, the design of an IP strategy plays an important role in IP financing, as does FTO, if export potential is to be exploited. In the case of startups from the university environment, the tension between the IP claims of universities and the requirements of investors also plays a role.

52 In particular, software was cited as a possible industry, as well as industry sectors in which intellectual property rights are central to a company's success and can be delimited, defined and evaluated comparatively easily.

53 European Commission. Capital Markets Union. Available at: finance.ec.europa.eu/capital-markets-union-and-financial-markets/capital-markets-union_en

54 European Space Agency. https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Hot_stuff_the_making_of_BepiColombo

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