

## Prospects For High-Growth Technology Businesses

By Adéla Dvořáková and Adam Jolly

### Abstract

New funding and business models based on IP as an asset are creating the potential for Europe's high-growth tech ventures to close the gap with their peers in the United States. At the High-growth Technology Business Conference in November 2022, some of the most promising developments were highlighted by those actively engaged in creating and retaining value in new industries and markets. This article features a selection of their views.

IP is already established as a primary factor in opening up the path to high growth, even if its unique nature makes it hard to define as an asset and its value difficult to predict. In digital innovation, the dynamics in IP is intensifying; growth depends largely on the extent to which new models for yielding value are adopted and how the risks of co-inventing with each other's assets are managed.

In Europe, a rich ecosystem for the early-stage funding of IP ventures is taking root. The experience of investors in bringing university-developed deep tech to market is tempered by the knowledge of the different points at which IP can break a deal that is contemplated to establish growth.

Where Europe lags behind is in follow-up capital. As a result, in some sectors, its high-growth technology businesses are twice as likely to be acquired as any other companies of their size, often by their counterparts in the United States.<sup>1</sup>

However, with the value of the world's intangible assets reaching \$65 trillion in 2020 and \$76 trillion in 2021,<sup>2</sup> there are promising signs that this funding gap for these high-growth ventures is being bridged, as mainstream lenders increasingly recognise the potential of IP as collateral for loans. In some countries, such as South Korea and China, government subsidies, guarantees or recovery funds are available. In Europe, more

faith is being placed in the financial system's ability to innovate. Future growth will also depend on re-thinking business models and identifying how to tap the value in IP.

Today, the accelerating pace of innovation is creating new risks and opportunities related to finding a clear path to market for tech ventures. Most business leaders are not confident that they have the risks properly covered, particularly when they are acquiring technology. Those who are prospering as digital innovators are building an IP culture and developing an IP strategy that gives them an early sense of their competitive position. They also need to be ready to make an effective IP case in negotiations with their partners and consider new options, such as the Unitary Patent.

### Boosting High Growth with IP

High-growth technology businesses,<sup>3</sup> capable of sustaining growth of 20 percent over several consecutive years,<sup>4</sup> increasingly operate within a virtuous circle of developing technology by investing in innovation and intellectual assets. Compared to small and medium sized enterprises in general, those who hold any IP rights have 68 percent higher revenue per employee on average,<sup>5</sup> while those that apply for a patent at the

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1. European Patent Office and European Investment Bank. 2022. "Deep Tech Innovation In Smart Connected Technologies." P. 13. Accessed 14.10.2023. [https://link.epo.org/web/deep\\_tech\\_innovation\\_in\\_smart\\_connected\\_technologies\\_study\\_en.pdf](https://link.epo.org/web/deep_tech_innovation_in_smart_connected_technologies_study_en.pdf).

2. Brand Finance. 2022. "Global Intangible Finance Tracker (GIFT)—an annual review of the world's intangible value." P. 9. Accessed 14.10.2023. <https://brandirectory.com/reports/gift-2022>.

3. In this article, the terms *high-growth technology businesses* and *high-growth tech ventures* are used interchangeably.

4. European Patent Office. 2019. "High-Growth Firms And Intellectual Property Rights." P. 23. Accessed 14.10.2023. [https://link.epo.org/web/high\\_growth\\_firms\\_study\\_en.pdf](https://link.epo.org/web/high_growth_firms_study_en.pdf).

5. European Patent Office and European Union Intellectual Property Office. 2021. "Intellectual Property Rights And Firm Performance In The European Union." P. 14. Accessed 14.10.2023. [https://link.epo.org/web/ipr\\_performance\\_study\\_en.pdf](https://link.epo.org/web/ipr_performance_study_en.pdf).

EPO are 34 percent more likely to see high growth.<sup>6</sup>

Besides preventing imitators and building their profile, high-growth ventures have a variety of transactional motives for pursuing IP, such as winning contracts, negotiating licences and raising funds.<sup>7</sup> Nor are they innovating alone: half of them are commercialising their inventions via licences, spin-outs or co-operations to build capacity for manufacturing, distribution or research.<sup>8</sup> This is partly to compensate for their limited portfolio of assets, and partly to overcome the persisting fragmentation of the European single market. The recent introduction of the Unitary Patent promises to facilitate their commercialisation of IP across Europe, bolstering their growth.<sup>9</sup>

So how does the current performance of European SMEs compare to the U.S. in booming areas of technology? For instance, in the field of smart connected objects driving the Fourth Industrial Revolution (4IR), a recent EPO study shows that the U.S. has twice as many SMEs with international 4IR patents as the EU27.<sup>10</sup>

Surprisingly, the lack of technical skills is not what is holding Europe back in this deep-tech area. In this case, it is more the absence of the required funding, as upfront investments are relatively high for a product cycle that takes time to reach profitability.<sup>11</sup> A rich ecosystem of early-stage investors is now establishing itself in Europe. The next step is for them to become more aware of the potential of IP in terms of triggering high growth.<sup>12</sup>

## From Deep Tech to Unicorns

For Europe, the challenge is to improve the conversion of promising technologies into spin-outs and unicorns. Compared to two leading American universities (Stanford and Berkeley), for example, two of their

German counterparts (TUM and RWTH Aachen) have slightly more graduates, but 31 percent fewer spin-outs and 75 percent fewer unicorns.<sup>13</sup>

Where does the difference lie? From the point of view of investors, it is all about the effective transfer of IP. When exploring the success criteria of university spin-outs, there are a number of areas that are of particular interest to them.

Timing is the first potential showstopper: how can IP be exploited as early as possible while waiting for it to be tangible enough to protect robustly? Intense discussions generally revolve around a university's right to continue using IP, license it, or assign it to someone else. Investors want to assure themselves that the spin-out will be able to assert its ownership rights and will not find the value of its IP too heavily diluted by subsequent investors. IP transfer at universities should therefore be handled as early and efficiently as possible.<sup>14</sup>

Other break points include valuation, regulatory approval, and follow-on rights. It is best if founders contact investors early on so they can assess how stellar the technology could be and how it could reach the market.

As a potential unicorn in Munich, Deep Drive has focused on its IP strategy from the outset. It is proposing a new architecture for powering electric vehicles, extending their range by 20 percent by locating the motor within the wheels.

"If you are creating a new motor technology, it'll be more or less worthless without IP," says Alexander Rosen, one of Deep Drive's founders and a former electrical engineer at Bosch. "We won't be able to become a tier one supplier without a strong patent portfolio."

The founders had to make up their minds between three different strategies: securing the necessary IP for freedom to operate; creating a large patent portfolio like a big corporation; or building a smaller portfolio of valuable patents that they can defend in court. For them, the third option is giving them a technology lead, as well as the possibility to negotiate with customers and attract investment.

## IP for Debt Financing

Historically, lenders are accustomed to taking tangible commodities, such as real estate or factories as

6. European Patent Office. 2019. "High-Growth Firms And Intellectual Property Rights." P. 48. Accessed 14.10.2023. [https://link.epo.org/web/high\\_growth\\_firms\\_study\\_en.pdf](https://link.epo.org/web/high_growth_firms_study_en.pdf).

7. European Patent Office. 2019. "Market Success For Inventions." P. 27. Accessed 14.10.2023. [https://link.epo.org/web/Patent\\_commercialisation\\_scoreboard\\_European\\_SMEs\\_2019\\_en.pdf](https://link.epo.org/web/Patent_commercialisation_scoreboard_European_SMEs_2019_en.pdf).

8. *Idem*, p. 11-12.

9. For more information on the European patent with unitary effect (Unitary Patent), see: European Patent Office. 2023. "Unitary Patent." Accessed 14.10.2023. <https://www.epo.org/applying/european/unitary/unitary-patent.html>.

10. European Patent Office and European Investment Bank. 2022. "Deep tech innovation in smart connected technologies." Pp. 25-26. Accessed 14.10.2023. [https://link.epo.org/web/deep\\_tech\\_innovation\\_in\\_smart\\_connected\\_technologies\\_study\\_en.pdf](https://link.epo.org/web/deep_tech_innovation_in_smart_connected_technologies_study_en.pdf).

11. *Idem*, p. 67.

12. See also Hackl and Bereuter highlighting the importance of IP for investors during the initial public offering. Hackl, Christian & Bereuter, Thomas. 2021. "IP for Investors: From Spin-Off to Stock Exchange." *les Nouvelles*. 56, no. 1 (March): pp. 31-34.

13. The presenter, Stephan Rauscher, Partner at Earlybird Venture, referred to the 2017 and 2018 yearly reports of the mentioned universities.

14. See also *Bulthuis* on the importance of IP for start-ups and investors: Bulthuis, Willem. 2020. "Why Technology Start-ups Should Be Paying More Attention To Patents." *les Nouvelles*. 55, no. 2 (June): pp. 120-123.

security. These assets appear in a company's accounts and have a predictable value in the event of a default. However, they are less of a priority as industries transform. Intangible assets are now the main drivers, particularly for early-stage ventures with the potential for high growth.

As a result, even if IP is unique in its nature and its value can be hard to predict, it is gaining acceptance as a financial asset among mainstream lenders, who are looking at its potential as security for loans. Deals are already happening for those businesses with established IP revenues or for those with equity backing. However, loans secured by IP itself, or sales of IP to licence back, are more challenging.<sup>15</sup>

The obstacles include high transaction costs caused by information asymmetry and the need for extra due diligence. Additionally, there is a lack of confidence among lenders in the recoverable value. One way to inspire confidence is through government subsidies, guarantees, or recovery funds, which is a strategy pursued in South Korea or China. In Europe, more faith is being placed in the innovation that is now happening in financial markets. Valuations are becoming standardised around royalty principles, more intelligence is available about what is suitable as collateral, values can be insured and tools can track how IP is performing.

*"It remains a specialist field, but it is undoubtedly growing. Innovation in valuations and data management is democratizing it as a form of funding."*

*Martin Brassell, CEO at Inngot*

In the context of debt financing, recent innovations have paved the way for the emergence of a new type of digital asset known as non-fungible tokens (NFTs). NFTs have the capacity to form the basis for smart contracts that automatically reward all participants in the value chain. They represent a potent technology that allows individuals to own a piece of a unique digital asset, as opposed to mere licensing, which is the conventional practice in software. This ownership structure also presents the potential for using NFTs as collateral for debt financing, creating new opportunities for businesses to fund their growth. However, given that the infrastructure supporting NFTs is still evolving, and not all platforms are fully interoperable, it is advisable to examine how transfers of a specific NFT are conducted within the metaverse. Terms and conditions may differ from one platform to another.

15. Cornell University, INSEAD & World Intellectual Property Organization. 2020. "The Global Innovation Index 2020: Who Will Finance Innovation?" Chapter 16: pp. 193-199. Accessed 14.10.2023. [https://www.wipo.int/global\\_innovation\\_index/en/](https://www.wipo.int/global_innovation_index/en/).

## Strategically Open in the Digital Environment

Those developing smart products are inevitably being drawn into innovating openly. They are likely to employ open source, open data, or open standards to support the use of artificial intelligence (AI), machine learning and connectivity that makes them smart. For many, the extent to which they are already involved in such ecosystems can come as a surprise. Once they have recovered, the question, particularly for smaller ventures, becomes how to make a return when others co-invent with their assets.

When innovators know how they are going to respond to the need of openness inherent to the digital innovation, however, it gives them the power to explore different business models. If used in a smart way, open innovation in the digital domain can create a whole portfolio of commercial possibilities.<sup>16</sup>

*"Because digital technologies are virtual, they can be easily distributed at low marginal cost, opening up the potential for add-ons like free-miums and two-sided markets, and thus creating value in other ways."*

*Bowman Heiden,*

*Director at the Center for Intellectual Property (CIP)*

As a fluid asset, data encourages businesses to be more open and collaborative, as rapid progress depends on building on the work of others and may require a certain level of (controlled) openness. So how should ventures allow access to their data, leverage somebody else's or license it? They need to look at their business scenario and what the market can offer in return.

Defensively, they have to secure it as an asset and create a culture of confidentiality. Offensively, they will leverage their own or third-party data to create capabilities for modelling and analysis; and subsequently be clear about who owns it and who can use the results.

In software, an estimated 80 percent of any innovation is open source, developed within a community based on a spectrum of licenses.<sup>17</sup> Some are highly liberal, while others are more restrictive. The first task is to establish a clear legal and technical view of the foundation on which the venture is building, and particularly the conditions of the open-source licence. Subsequently, the remaining 20 percent should be made as creative and profitable as possible.

By contrast, for open standards such as WiFi or 5G, it

16. For further reading on open innovation see: Heiden, Bowman & Peters, Ruud. 2020. "IP And Open Innovation: Managing Technology Push And Pull." *les Nouvelles*. 55, no. 2 (June): pp. 138-142.

17. According to the presenter, Jimmy Ahlberg, Director Open Source Policy at Ericsson.

is largely a question of leveraging what is already there. These standards are available for free, and businesses will typically not be part of the development process. However, if the standard does not match their expectations, they can ask for their requirements to be included in the next iteration.

## New Risk Landscapes

In the past, major projects often took years to complete, so innovators had the time to perform a comprehensive check that they would enjoy freedom to operate once completed. Now Industry 4.0 is re-drawing this competitive landscape.

Everything is implemented more quickly, based on the widespread use of third-party technology. Contractually, acquired patents might indemnify their holders for a technology itself, not how it combines with other technologies or how it is applied.

According to a survey of 600 business leaders by Eversheds Sutherland, IP infringement emerged as one of the top risks in digital transformation.<sup>18</sup> Almost two-thirds say they are now struggling to assess IP risks, while only one-fifth conduct due diligence or go through tailored checklists when acquiring tech ventures or digitalisation technologies. So what are the options for high-growth tech ventures?

They need to make sure everyone is aware of these risks from the start by setting up a link between their digital and IP teams. Even if they cannot be comprehensive, they should gain an early overview of the state of the art. Before starting anything, they need to make sure they know what is already out there and who owns it.

When risks do materialise, an active IP strategy implemented by a sound IP management system puts them in a better position to settle or cross-license.<sup>19</sup>

## Partners, Licences, and Negotiations

Digital innovators will almost certainly be collaborating with others in developing ideas and reaching their market. To benefit from such transactions, it is better to get ahead of the curve and line up deals that are going to suit them in the long term.

Here they will encounter two main problems: finding the right partner and conducting negotiations that end up being more complex than they expected.<sup>20</sup> So they should look for partners who can facilitate their path

18. The presenter refers to the infographic “Shaping The Future Of Digitalization” by Eversheds Sutherland, May 2022.

19. See also: Vandermeulen, Bruno. 2020. “IP Enforcement Strategies For SMEs.” *les Nouvelles*. 55, no. 2 (June): pp. 114-119.

20. European Patent Office. 2019. “Market Success For Inventions”. P. 15. Accessed 14.10.2023. [https://link.epo.org/web/Patent\\_commercialisation\\_scoreboard\\_European\\_SMEs\\_2019\\_en.pdf](https://link.epo.org/web/Patent_commercialisation_scoreboard_European_SMEs_2019_en.pdf).

to market. These may be a university, a corporation, a network, a support agency or a customer. They can help to evaluate ideas and suggest potential partners.<sup>21</sup>

When it comes to licensing, a common pitfall is to operate ad hoc without a clear strategy or a capability to negotiate.<sup>22</sup> In many cases only patents are covered, not brands, designs and know-how.

*“Approach licensing as a key strategic objective, and don’t leave it to chance. It is never too early to start the conversation, rather than trying to fix a situation that has gone wrong. You don’t need to have a particular outcome in mind; it’s fine to explore the options.”*

*Joe Doyle, IP Manager at Enterprise Ireland*

## IP Strategy Supporting High Growth

According to an EPO study on deep-tech businesses, patents play a crucial role in helping the surveyed companies raise funds. Approximately 80 percent of the respondents indicated that having a robust IP strategy is essential to convince investors.<sup>23</sup> Regardless of the specific field in which a company operates, having a solid IP strategy is a prerequisite for becoming a high-growth business in the technology sector.

*“The introduction of the Unitary Patent invites businesses to re-evaluate their IP strategy.”*

*Thomas Bereuter, Innovation Networks Manager at the European Patent Academy, EPO*

With the introduction of the Unitary Patent, access to IP and business-related know-how becomes even more essential for high-growth tech ventures. Therefore, the EPO and the LESI have jointly established the high-growth technology business (HTB) initiative<sup>24</sup> to foster a strategic approach to intellectual property among business decision-makers, train their IP professionals in business-focused IP management practices, and support investors in enhancing their knowledge

21. See also: July, Bastian & Rudyk, Ilja. 2020. “Succeeding With Market Facilitators: How Buyers And Sellers Meet.” *les Nouvelles*. 55, no. 2 (June): pp. 148-151.

22. For more information on licensing see: Heiden, Bowman & Bereuter, Thomas. 2022. “Licensing-based Business Models.” *les Nouvelles*. 57, no. 2 (June): pp. 116-120.

23. European Patent Office and European Investment Bank. 2022. “Deep tech innovation in smart connected technologies.” P. 49. Accessed 14.10.2023. [https://link.epo.org/web/deep\\_tech\\_innovation\\_in\\_smart\\_connected\\_technologies\\_study\\_en.pdf](https://link.epo.org/web/deep_tech_innovation_in_smart_connected_technologies_study_en.pdf).

24. European Patent Office. 2023. “Support for high-growth technology businesses.” Accessed 14.10.2023. [epo.org/high-technology-businesses](https://epo.org/high-technology-businesses).

of IP strategy. To that end, the HTB initiative offers a wealth of resources and training materials.<sup>25</sup>

The objective is for business decision makers to prioritize IP and utilize it wisely to accelerate growth. This should be supported by IP professionals who rely on established tools and standards for IP management, and ideally, by investors with a thorough understanding of IP strategy. In addition, by joining the HTB community initiated by the LESI on LinkedIn,<sup>26</sup> these actors can enhance their knowledge and share their experiences, contributing to the overall improvement of the innovation ecosystem in Europe and beyond. ■

## Disclaimer

Any opinions expressed in this article are those of the authors and not necessarily those of the authors' respective organizations.

## Credit

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