PROSPECTS FOR HIGH-GROWTH TECH VENTURES

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The new landscapes being mapped out for high growth rely heavily on intellectual assets. An EPO-LESI conference highlighted the models that tech ventures are now adopting to harness the full potential of their innovations. Adéla Dvořáková reports

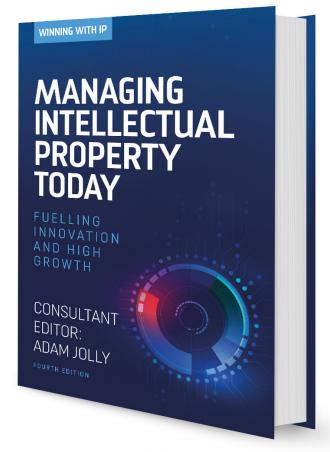
ew funding and business models based on intellectual property as an asset are creating the potential for Europe's high-growth tech ventures to close the gap with their peers in the United States. At the High-growth technology business conference in November 2022, some of the most promising developments 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 to line up growth.

Where Europe lags behind is in follow-up capital. As a result, in some sectors, its high-growth tech ventures are twice as likely to be acquired as any other companies of their size, often by their counterparts in the US.

However, with the value of the world's intangible assets reaching \$76 trillion in 2021, according to *Brand Directory*, there are promising signs that this funding gap for high-growth ventures is being bridged, as mainstream lenders increasingly recognise the potential of IP as







Growth is ever more centred on intellectual property. In tech. In innovation. In people. In disruptive models. In data. In value propositions. Those who integrate IP into their strategy, culture and mindset are significantly more likely to grow at pace. Drawing on the knowledge and experience of 20 leading IP players of today and tomorrow, including the high-growth team at the EPO's Patent Academy, this book gives a series of insights and lessons into how IP inspires and fuels growth of 10 percent, 20 percent, 50 percent and more, not just this year, but next year and into the future.

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 rethinking business models and identifying how to tap the value in IP, such as using Web3 to reward everyone in a value chain.

Today, the accelerating pace of innovation is creating new risks related to finding a clear path to market for tech ventures. Most business leaders are not confident that they have these risks properly covered, particularly when they are acquiring technology. Those who are prospering as digital innovators are building an IP culture 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; otherwise, they may find themselves being backed into licences on less than favourable terms.

High performers

High-performance ventures, capable of sustaining growth of 20 percent over several consecutive years, increasingly operate within a virtuous circle of developing tech 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; while those that apply for a patent at the EPO are 34 percent more likely to see high growth.

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. Nor are they innovating alone: half of them are commercializing their inventions via licences, spin-outs or co-operations to build capacity for manufacturing, distribution or research. 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 commercialization of IP across Europe, bolstering their growth.

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

Surprisingly, there is no lack of technical skills holding Europe back in this deep-tech area. In this case, it is more the absence of the required funding, as upfront costs are relatively high for a product cycle that takes time to reach profitability. 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.

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 US 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.

Where does the difference lie? From the point of view of investors, it is all about the effective transfer of IP.

Timing is the first potential showstopper: how can you exploit IP 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 won't find the value of its IP too heavily diluted by subsequent investors.

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 as collateral

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

The obstacles are high transaction costs and lack of recoverable value. One way to inspire confidence is through government subsidies, guarantees or recovery funds, which is a strategy pursued in South Korea and China.

In Europe, more faith is being placed in the innovation that is now happening in financial markets. Valuations are becoming standardized 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.

Strategically open

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 artificial intelligence, 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 coinvent with their assets.

When you know how you are going to respond, however, it gives you the power to explore different business models. Because digital technologies are virtual, they can be easily distributed at low marginal cost, opening up the potential for add-ons like freemiums and two-sided markets, thus creating value in other ways.

As a fluid asset, data encourages you to be more open and collaborative, as rapid progress depends on building on the work of others. So how do you allow access to your data, leverage somebody else's or license it?

Defensively, you have to secure it as an asset and create

a culture of confidentiality. Offensively, you will leverage your 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. 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 you are building, and particularly the conditions of the open-source licence. You subsequently need to make the remaining 20 percent as creative and profitable as possible.

By contrast, for open standards, such as WiFi or 5G, it is largely a question of leveraging what is already there. These standards are available for free and you are not part of the development process. However, if the standard does not match your expectations, you can ask for your requirements to be included in the next iteration.

New risk landscapes

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

Everything is implemented more quickly based on the widespread use of third-party technology. Contractually, acquired patents might indemnify you for a technology itself, not how it combines with others or how you apply it.

The other complication is that you are now dealing with IP owners without products or services who have radically different strategies for establishing their rights. The model for such non-practising entities is to enforce for profit, not in exchange for freedom to operate. In the US, according to some sources, they still account for a majority of high-technology patent litigation, although the trend is declining. Following the introduction of the Unified Patent Court, the question is whether Europe will follow in that direction, although the business case for NPEs in Europe is different from that in the US.

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

Make sure everyone is aware of these risks from the start by setting up a link between your digital and IP teams. Even if you cannot be comprehensive, gain an early overview of the state of the art. Before you start anything, make sure you know what is already out there. When risks do materialise, an active IP strategy puts you in a better position to settle or cross-license.

Web3 and smart contracts

Web3 is rewiring business models for enterprise and innovation in all their forms. As digital assets, non-fungible tokens are laying the foundation for smart contracts that automatically reward everyone in the value chain.

Industrial equipment, for instance, is now being linked to smart wallets, signals and contracts. As each unit starts to produce a live flow of data, it creates a new form of liquidity. In the past, capital expenditure was spread over 10 to 15 years. Now decentralised financial products, enabled by Web3, make bonds or loans available in real time.

Potentially, this will create a new demographic of investors who can invest smaller amounts upfront. If you can attract such subscribers, it could transform your prospects for building installations such as solar farms.

Around such questions of trust, Web 3 technologies can create models for returning transparency and control to individuals. In aggregate, for instance, the analysis of medical data is creating a wave of new, more personalised treatments. However, it can be hard to square with individual permissions for its use.

MyAria is a start-up that has designed a smart wallet to return ownership of data to each individual patient. Now in use in two hospitals, data is collected individually in smart wallets with a transparent structure for approving its use elsewhere. Through a smart contract, everyone's interests are aligned so they each benefit.

Partners, licences and negotiations

As a digital innovator, you will almost certainly be collaborating with others in developing your ideas and reaching your market. To benefit from such transactions, it is better to get ahead of the curve and line up deals that are going to suit you in the long term. Here you will encounter two main problems: finding the right partner and conducting negotiations that end up being more

complex than you expected. So look for partners who can facilitate your path to market: they may be a university, a corporation, a network, a support agency or a customer. They can help you to evaluate your ideas and suggest potential partners.

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

So 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 is fine to explore the options.

• Any opinions expressed in this article are those of the authors and not necessarily those of the European Patent Office.

These presentations were given at the High-growth technology business conference organized by the European Patent Office and the Licensing Executives Society International in November 2022. The programme and the presentations can be found at: epo.org/htb-conference.

The **EPO** is the patent-granting authority for Europe with a mission to support innovation, competitiveness and growth.

The **LESI** is an authority on setting and promoting high professional standards in the transfer of IP rights with a mission to advance the business of IP globally.

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