



TRANSFORMING R&D INTO MARKET-READY PRODUCTS

A guide for innovation
decision makers.

Right now, Europe is less than the sum of its parts

That's the conclusion of former European Central Bank chief Mario Draghi, who was tapped by the European Commission to look for ways to save European competitiveness from dragging behind the rest of the world.

His [report](#) makes grim reading. It paints a picture of “low industrial dynamism, low innovation, low investment, and low productivity growth” across the EU's 27 member states.

In spelling out how the US and China have raced away from Europe on all of those fronts, the report makes it clear that finding success in research isn't the only hurdle innovators face. The ecosystem deck appears stacked against them, too—especially in deep tech where the EU is struggling to keep pace.

Deep tech refers to companies leveraging science and engineering breakthroughs to create technology that tackles big global problems. It's important because it can create new markets, drive economic growth, and enhance people's lives in such areas as green energy, biotech, food security, artificial intelligence and quantum computing.



But why is Europe lagging behind in deep tech innovation?

According to Draghi, the problem is not that Europe lacks ideas or ambition: we have plenty of talented researchers filing plenty of patents.

But there comes a point when something has to stop being science and move into the market. That's where the dead area is—making the transition from research and development (R&D) to commercialization. Since getting a product to market is critical to realizing a return on your research investment, it's essential that you get over that hump.

In this guide, we'll look at the reasons why R&D is "getting stuck in the lab." We'll show why Europe has what it takes to launch and grow successful deep tech companies that compete with the rest of the world. We'll give innovation decision makers a step-by-step guide on how to turn their research into profitable new business models. And we'll look at two organizations that—with Stryber's help—have done exactly that.

"The problem is not that Europe lacks ideas or ambition. We have many talented researchers and entrepreneurs filing patents. But innovation is blocked at the next stage: we are failing to translate innovation into commercialisation, and innovative companies that want to scale up in Europe are hindered at every stage by inconsistent and restrictive regulations."

- Mario Draghi, The Future of European Competitiveness

What is standing in the way of corporate innovation?

Corporations are pouring money into R&D.

Global R&D spending reached a record high of US\$1.7 trillion in 2023. This resulted in around 3 million patent filings—199,000 of them inside the EU. While China and the US lead the charge on patent applications, Germany, France, the UK, Switzerland and the Netherlands all rank in the top 10 countries filing patents, according to the World Intellectual Property Organization.

The goal of all that R&D investment is that it should lead the development of new technologies that can be commercialized into profitable business ventures. This can happen either inside the organization or outside in the form of a spin-off or joint venture. The important word here is ***should***.

Because intellectual property (IP) commercialization is where the wheels come off—and there are three big reasons why:

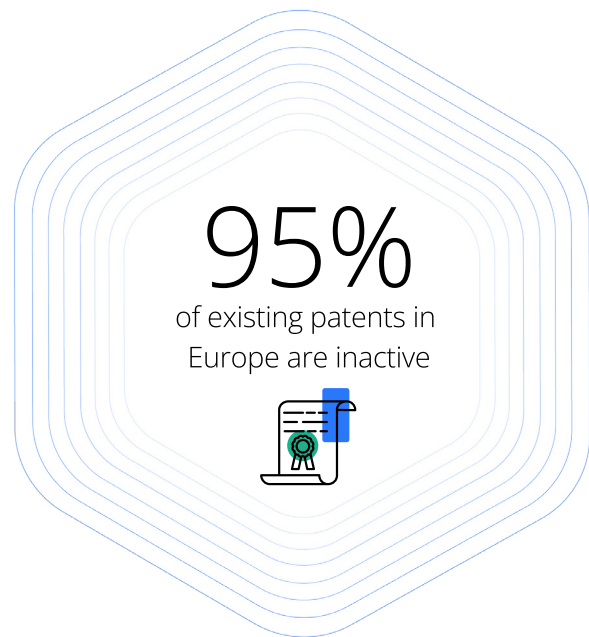


1

Innovation work is being starved inside R&D departments

A [Dealroom/Lakestar/Walden Catalyst report](#) from November 2023 finds that 95% of Europe's patents remain inactive, never finding their way into companies or products.

If you look at the technology asset lifecycle, you can immediately see why this figure is so disastrous. Stage three is where the full value of R&D is captured. But only 5% of patents make it to this stage.

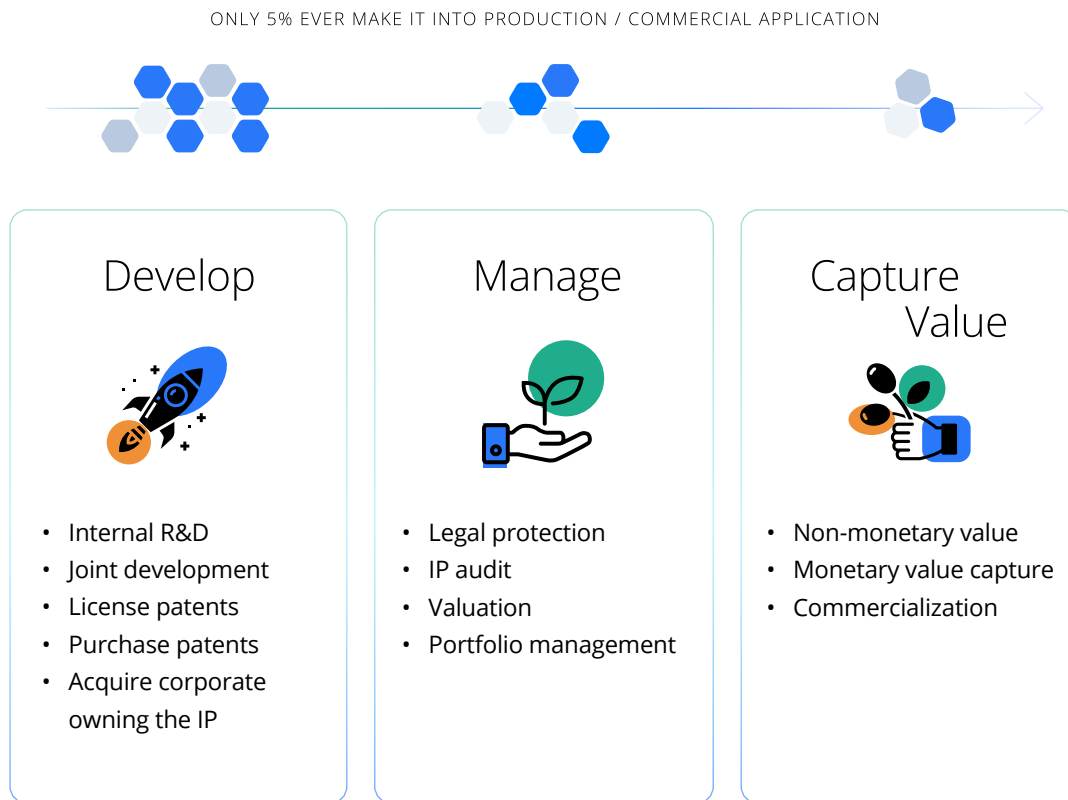


The rest are either stuck in the valley of death around stages one and two, or the patent is licensed out for others to commercialize. Licensing hands over control and potential profits to a third party. It shuts the door on the innovator's chances of monetizing their technology by using it as the foundation for new products or services within the corporate walls.

While licensing is a valid option and, in some cases, the right option, strategic venture-building partnerships or joint ventures may deliver much more value.

Playing a game of “wait and see” with technology assets hurts the bottom line. Patent protection lasts only 20 years, and technology tends to become obsolete long before that. The stakes are high in the race to extract value—otherwise you’re just pouring money down the drain.

Technology asset lifecycle



Another issue? R&D and IP should have monetary value related to its commercial potential—how much money it can make and growth it can drive.

There's that word **should** again.

But accounting principles require that intangible assets be recorded on the balance sheet at cost or less. This means technology assets are woefully underexposed in decision-making processes. Do you know the true commercial value of your IP, R&D and technology assets? Are they given proper “competitive value” weighting in strategy decisions?

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Are you exploring all the options?

2

Europe is throwing up too many roadblocks

Europe has an innovation problem. The unfortunate truth is that:

- No EU company with a market cap of €100+ billion has been set up from scratch in the last 50 years.
- Of the world's top 50 tech companies, only 4 are European.
- Between 2008 and 2021, 30% of the unicorns founded in Europe relocated their headquarters abroad.

With numbers like this, it's easy to blame external factors for the failure to turn good science into great business models.

Like Draghi, you might point to the disconnected policies across EU member states which make it hard for new ventures to scale across a fragmented single market. Or you might highlight the overregulation that stifles corporate innovation, investment and scale. The EU has around 100 laws and over 270 regulators active in the tech space, for example, which throws up a huge amount of red tape for companies trying to navigate this landscape.

The good news is that we now live in a post-Draghi Europe. The European Commission has heard the warnings and is set to revamp its industrial strategy in favor of a dynamic „competitiveness first“ approach. For innovators in breakthrough tech, this is a watershed moment to:

- Align your R&D investment and commercialization plans with European priorities, and take advantage of the big spending and tangible enablers that are about to come online.
- Help policymakers and regulators understand how they can most effectively support deep tech growth inside the EU.
- Jump on the Europe train and establish a path of growth within it, instead of looking for opportunities overseas.



3

The magnetic pull of incrementalism

As they grow, organizations develop complex governance and “their way of doing things.” Ways of thinking become deeply entrenched. The pull of legacy operations is strong, and it can be hard to steer a corporate innovation through them. This is why corporate leaders will often choose to fund more of the same (but incrementally better) business lines than take the risk of systematically building new business models and revenue streams from scratch, like a true startup.

And even if there is the vision and will to take those moonshot bets, there’s too much missing to make it a reality. This includes missing...

KNOWLEDGE

of markets and consumer demand outside the core business



GOVERNANCE

management structures that incentivize and reward innovation.



TALENT

to drive those entrepreneurial projects (academic and scientific backgrounds may not have a commercial mindset).



APPETITE

for experimentation and risk-taking (fear or failure can be a real roadblock).



ACCESS

to markets, partners and investors.



EXPERIENCE

in launching business models from scratch and performing diligence on the higher technology risks



Incrementalism is fatal when top firms plan for 10x yearly growth. But unless you are prepared to disrupt your established practices to make room for new ventures spun off from the inside, you will most likely hinder, not help, IP commercialization efforts.

It's not all bad news!

Europe actually has what it takes to become a global hub for deep tech excellence.

WELL-EDUCATED TALENT

1.5 TIMES

the number of STEM graduates than the US

6 SCHOOLS

in the top 20 schools globally for computer science



EMERGENT DEEP TECH HUBS

MAJOR VC INVESTMENTS:

\$3.2bn | **\$1.2bn**
Stockholm | Grenoble

\$1.5bn | **\$700m**
London | Munich

\$1.5bn
Paris



ALL-TIME HIGH PUBLIC SUPPORT

€100BN+

in public investment from Horizon Europe, EIC, NATO fund, JEDI and more.



VC FUNDING

€15BN

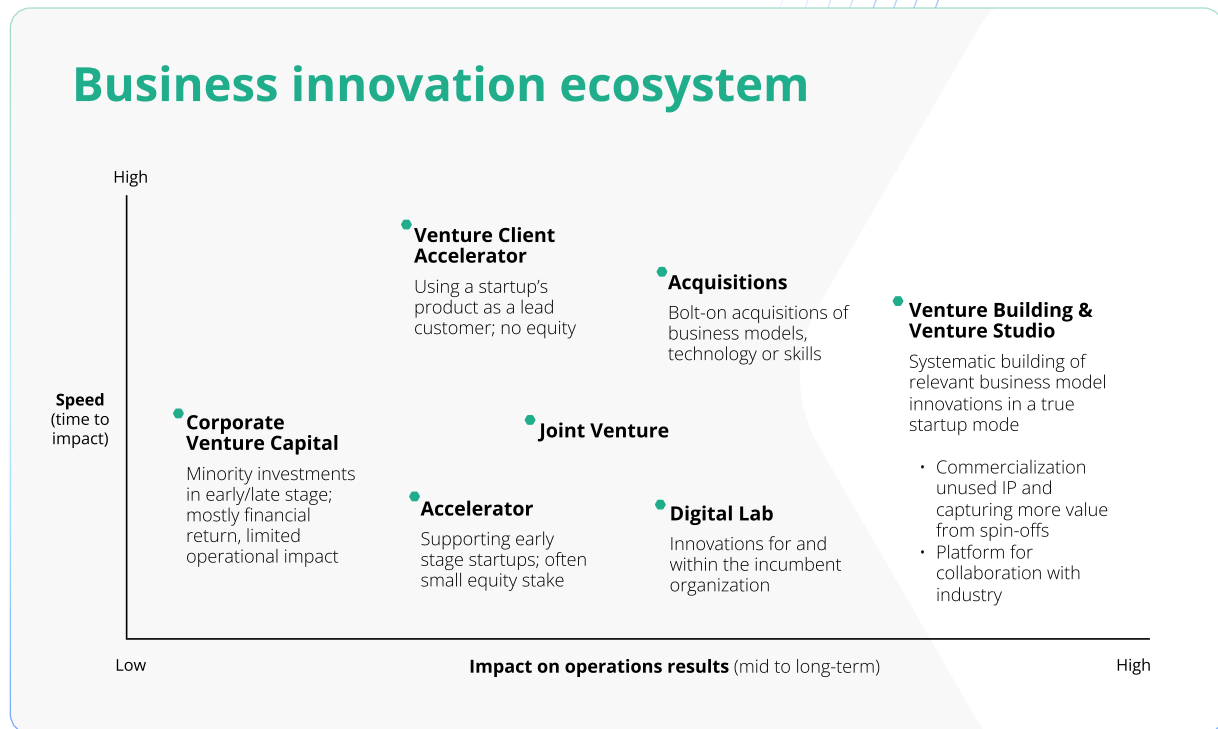
2023



5 Keys to successful R&D commercialization

There are, of course, multiple ways for R&D to leave the nest and become a profitable business. Getting the right ecosystem mix in place is key to getting the most value from your innovations. The choice will depend on the business—its ambitions, risk profile, the reality of the technology assets it’s working with, and the financial expectations it’s hoping to realize.

Illustrative, not exhaustive



Whatever that mix of innovation vehicles ends up looking like, pushing into adjacent markets and business models is essentially a transformation exercise—it’s a change in focus, mindset and workflow. Five factors stand out as especially important for making this happen.

1

Establish strong tailored governance

An external set up—where the innovation vehicle has its own ring-fenced funding and team—is by far the best way to defeat the gravitational pull back to the mothership. Separation lets the new venture experiment, pivot fast, and make decisions autonomously without being crushed by legacy business thinking.

As with any entity, the innovation vehicle needs clear governance to set strategy and oversee operations. The governance board is the rudder of the ship. Make sure it's represented by external advisors who have experience in R&D commercialization and new venture creation to inject a more objective perspective. And bring in your strongest leaders to create high aspirations and accountability.

The right incentivization of the founding team is another important mechanism of governance. Founding a company is a marathon. Having skin in the game through co-investment or founder equity incentives is a significant factor enhancing the motivation of the founding team.

Governance is forward-looking. It provides the operational blueprint for the entire process, including such matters as:

- Whether and to what extent the portfolio of new ventures will be a strategic play versus just financial interest for the corporate.
- Targets and budget, which should look at all factors including financial sustainability and long-term growth potential right from the start.
- The extent to which mothership assets / capabilities will be used.
- Performance metrics, aligned to the innovation vehicle's goals and objectives, to ensure accountability.
- At what stage decisions are made to spin-in or spin-out.
- What happens next when agreed-upon milestones are hit (or not hit).
- When strategic pivots are needed and what that looks like.

At every stage, governance provides your guardrails. It establishes clear management structures so that your teams can focus on the important stuff—building groundbreaking ventures.



EXAMPLE

Airbus, Rehau, Nestlé

Corporates like Airbus, Rehau and Nestlé have significant portfolios of different technologies and R&D assets to commercialize. All use dedicated innovation units to bundle their innovation expertise and assure a commercialization strategy aligned with the market, while maximizing value capture. The dedicated company builder remains flexible and independent, harnessing key networks and resources as needed from the parent company.

These companies work, at least partially, with external partners to help them think outside the box, open new pathways for R&D commercialization and launch new business models. Strong governance is baked in. Rehau, for example, lists its proven blueprint, structured approach for building & scaling, dedicated professional team, and firm commitment from top management as mission-critical to the success of its company-building engine.



2

Launch lots of boats, accepting that some will sink

Innovation-ready organizations take a portfolio approach instead of putting all their eggs in one basket. This means managing the R&D pipeline in a way that allows for multiple breakthrough or disruptive projects to be explored at once. Diversification reduces risk by weeding out bad ideas early, ensuring that only high-potential projects are fully invested in.

For that to work, you need to be ruthless about what is allowed to continue and what gets killed off. Traditional stage gates are very efficient at validating ideas quickly and dismissing the risky ones before too much cash gets burned. At gates:

- Ideas/ projects are scored against certain criteria
- A go / kill decision is made
- Projects are prioritized
- Funding is allocated to the next stage of development.

At the outset, you may not know where your technology will be most valuable. So, make sure your portfolio reflects a range of potential applications—multiple shots on goal.



3

Tune processes to the market not the other way around

R&D budgets go towards solving hard tech problems. In the development stage, the market is rarely tested enough to know if what the company hopes to build will be valuable to customers. Will anyone care about the problem being solved? Can you build a business model that's scalable? Can you prove the value? These are the right questions to ask, but traditional R&D only asks: Can we make it work?

It's important that innovators step outside this bubble. You cannot always rely on customers knowing what they want: as Nvidia's CEO famously said, their customers didn't want faster chips because they thought they were too expensive, despite this being where the technology was headed. This means that everything, from the first technology viability assessment to the go-to-market strategy, should be tailored to the market.

Use a mix of reasonable tools that give you that outward-looking picture. The following three exercises will help validate the chances of your technology meeting market needs:

Techno-economic analysis

Techno-economic analysis determines the business value that could be generated from the technology application, based on the research, experiments and proof of concepts. For example, if a new chemical process is x% more efficient, how much value will it

generate in terms of time savings, money savings, performance improvements, sustainability benefits, or other benefits, such as being able to use less of a certain chemical or more of another?

This tool is valuable because it forces you to think from first principles, for instance: Is there enough supply of this chemical to even warrant pursuing the research further? Does it make sense from an energy-cost perspective to develop the technology towards the specific market application?

Technology and IP "investability" due diligence

The goal of this exercise is to create an attractive strategy for the technology in terms of investability. Investors like defensible technology and a cap table where the university or company does not have a too-high stake. Clearly articulate:

- Is the technology asset /IP defensible ?
- What's your technology differentiation (technical advantage)?
- What are competitors doing?
- Do you have a reasonable strategy for equity or royalties towards outside investors?

Think like an investor and you're halfway there—for every decision, answer the high-level question "should we invest"?

Market intelligence and foresight

In any market-tuning play, data is your friend. Where is the market moving, business-wise, technology-wise and society-wise? How does your technology fit into customers' overall business model, value chain or ecosystem? Data-driven insights, customer interviews and specialist AI tools all help assess market trends and establish the strongest commercialization pathways.

If you have not brought in an expert to help validate your technology's market potential, you may be pushing a square peg into a round hole. There's always scope to shape commercialization strategy based on market feedback. Commercialization specialists work with you hand-in-hand to ensure you stay focused on real-world use cases, scalability, and impact.

EXAMPLE



MIT Proto Ventures

MIT Proto Ventures is a venture engine of the Massachusetts Institute of Technology. It was set up to turn theoretical research into practical, market-ready ventures in fields where MIT already has a competitive edge. Commercialization is incredibly successful because it follows a structured, repeatable process:

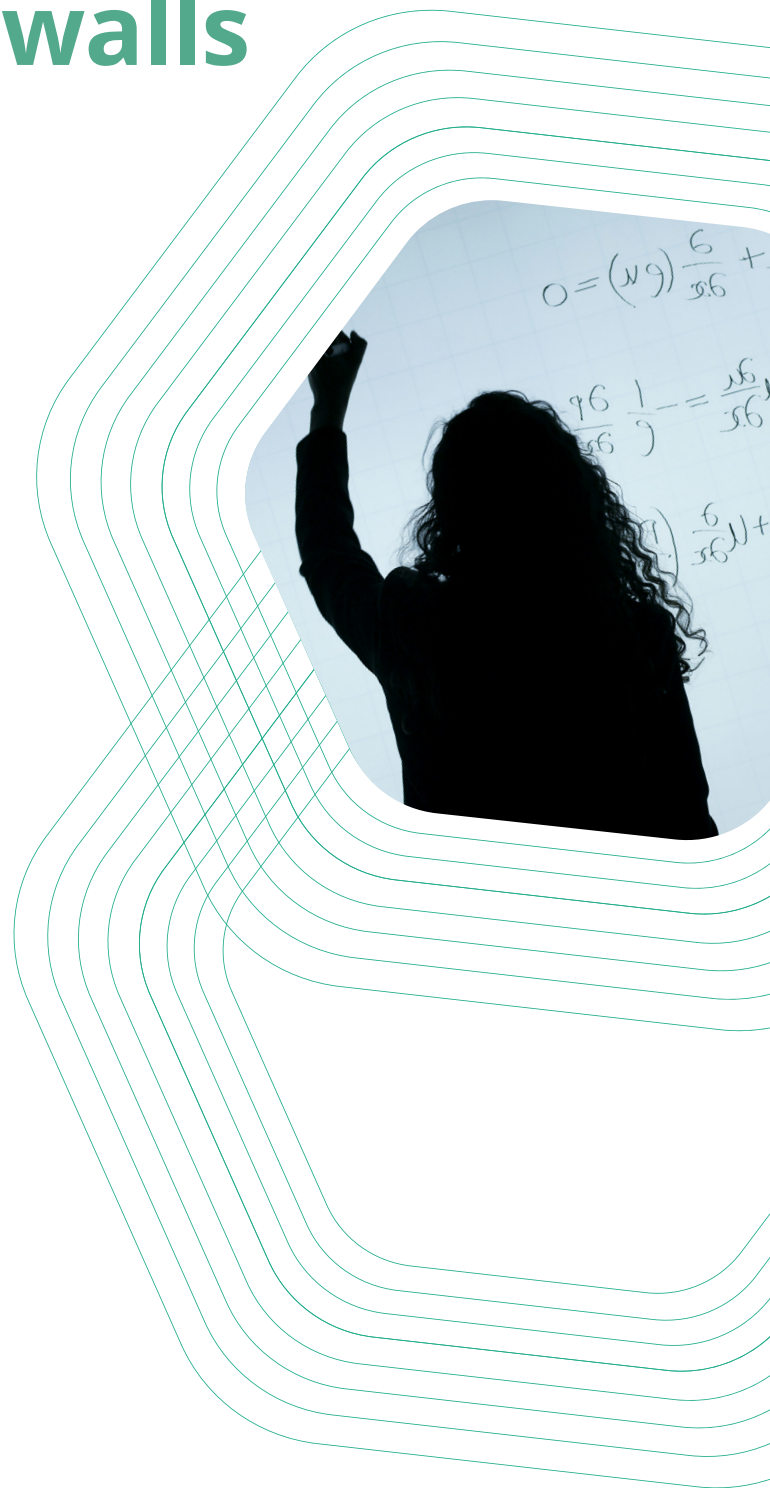
- 6-12 months of exploration – MIT hires a venture builder to map every piece of research, IP and interested party within a specific “channel” or field.
- Venture builder recruits MIT community members, often post-doctoral students, to work on “strengthening” the R&D, focusing on IP management, interest areas and early venture formation.
- Teams subject the best ideas to technical and market de-risking.
- Technically feasible solutions with clear value propositions and product-market fit make the grade; the rest are stage-gated out.
- Ventures capable of securing their own funding are launched into the market.

4

Access talent beyond your walls

Talent is often the dimension holding organizations back from capturing the full value of their R&D. The motivation that attracts people to R&D or academic roles is completely different to the motivation that attracts people to business building. Few people will be able to straddle both worlds—so be prepared to launch an innovation-focused talent acquisition campaign. That might look like:

- “Kidnapping” the most entrepreneurial-minded individuals from your R&D teams to join the innovation venture.
- Establishing cross-functional teams with complementary skill sets, such as people from product development, marketing and sales.
- Partnering with a venture-building specialist and using their talent and capabilities.
- Hiring people with relevant entrepreneurial skills to build your own capabilities (including raiding competitors’ talent pools!)
- Invading any and all networks that can help you find talent for innovation ventures (e.g. academic and startup networks, hackathons, etc.)



5

Make sure the CEO gets the innovation plates spinning

The innovation vehicle may have its own business-building mandate but success comes from leaders making decisions and seeing them through. The C-Suite must own the endeavor. Otherwise, the organization won't rewire itself away from legacy thinking and the commercialization culture won't stick.

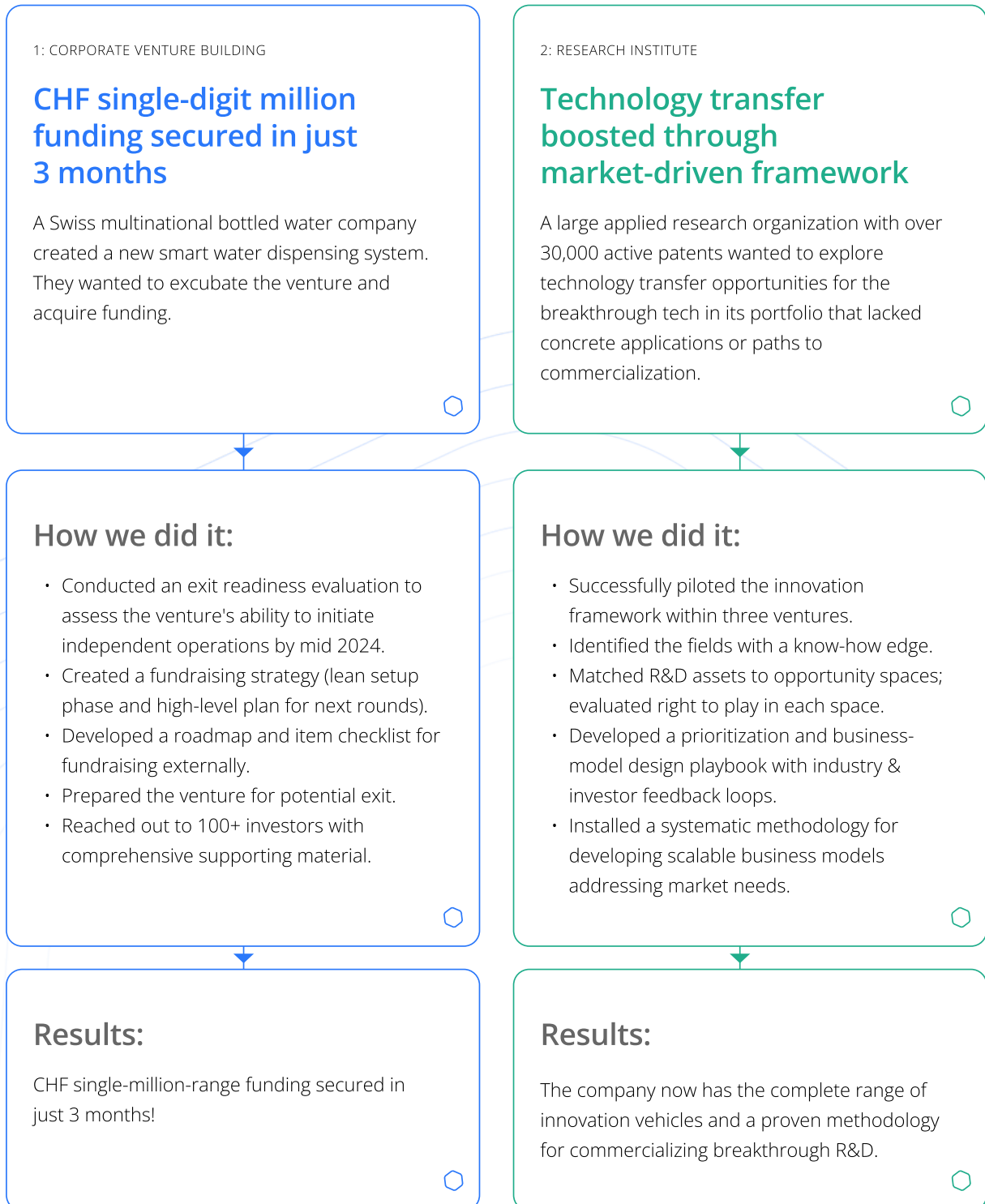
Boston Consulting Group's annual "Most Innovative Companies" survey repeatedly shows that C-suite-level engagement matters: among companies that outperform their peers on innovation outcomes (as measured by their share of sales from new products and services), close to 90% demonstrate clear C-suite-level ownership, compared with only 20% of underperformers.

The main reason CEO engagement lends such a massive advantage is that innovation begets more innovation. It's never a single event, and aggressively invested leadership is essential for giving weight and urgency to the need for commercialization.



Real world examples

We helped these companies incubate and commercialize their R&D efforts into promising ventures.



Making the leap from lab to market

Making the leap from journal articles to new business models is a challenging process, but can bring more value than you thought possible. And not just in monetary terms, but also in cultural spillover.

Society benefits greatly from deep tech breakthroughs. Scientists find it hugely rewarding to work on something that has the potential to change lives and improve society. A generation of talent gains experience scaling technology assets into thriving businesses. And the European continent gets the competitive edge it seeks.

To reap these benefits, leaders need to be deliberate about the process. In the near future, artificial intelligence may better support efforts in R&D commercialization to improve speed and/or bring down cost. Government growth agendas may clear the path to make it easier to commercialize R&D assets, as well. But the road map elements must be in place nevertheless—it's your R&D, the ball's in your court, and those that move the fastest will have a competitive edge.

CONTACT US

Ignite growth with
untapped R&D potential

Ready to get R&D out of the lab in an efficient way? Learn how we help you find the higher gear to release R&D's uncaptured value. Let's talk!

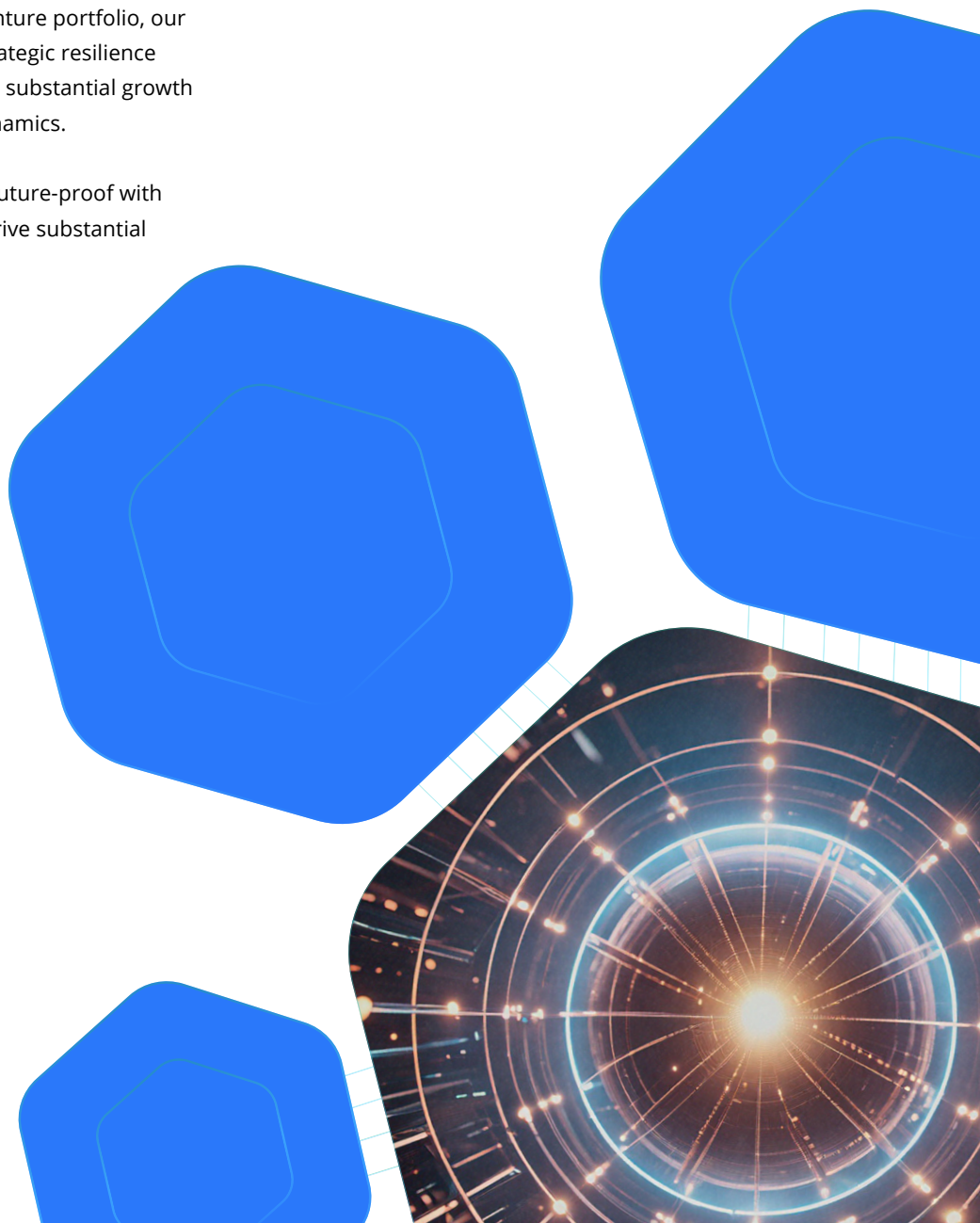
About Stryber

We are a leading strategic growth consultancy and corporate venture builder. We have launched over 100 businesses by applying our data-driven methodology. No buzzwords, no fluff.

We combine our entrepreneurial and methodological expertise with corporate assets to establish innovative, meaningful, and future-proof business models for ambitious global leaders. By establishing a sophisticated, high-potential venture portfolio, our clients de-risk their core, build strategic resilience against disruption, and accelerate substantial growth despite ever-changing market dynamics.

In short, we help you to become future-proof with innovative new businesses that drive substantial growth.

[Learn more at stryber.com](https://stryber.com)





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