

From Metrics to Impact

Building Successful Start-up Ecosystems

April 2025

BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung



Boston Consulting Group partners with leaders in business and society to tackle their most important challenges and capture their greatest opportunities. BCG was the pioneer in business strategy when it was founded in 1963. Today, we work closely with clients to embrace a transformational approach aimed at benefiting all stakeholders—empowering organizations to grow, build sustainable competitive advantage, and drive positive societal impact.

Our diverse, global teams bring deep industry and functional expertise and a range of perspectives that question the status quo and spark change. BCG delivers solutions through leading-edge management consulting, technology and design, and corporate and digital ventures. We work in a uniquely collaborative model across the firm and throughout all levels of the client organization, fueled by the goal of helping our clients thrive and enabling them to make the world a better place.

UnternehmerTUM is a unique platform for the development of innovations. It offers start-ups an all-round service from the initial idea to the IPO. A team of over 400 employees provides support in setting up the company, entering the market, and financing—including venture capital. A team of experienced consultants offers established companies optimal access to the UnternehmerTUM ecosystem. UnternehmerTUM has many years of expertise in the development of innovation strategies and the implementation and spin-off of technology-driven business ideas. Founded in 2002 by entrepreneur Susanne Klatten, the non-profit UnternehmerTUM GmbH is the leading center for start-ups and innovation in Europe, with more than 50 high-growth technology start-ups every year—including Celonis, Konux, and Isar Aerospace. Together with strong partners such as the Joachim Herz Foundation, UnternehmerTUM brings together other start-up ecosystems and helps them to grow.

Learning and Exchange Center for Innovation and Entrepreneurship Practice (LEC)

UnternehmerTUM together with the Joachim Herz Foundation also established the “Learning and Exchange Center for Innovation and Entrepreneurship Practice” (LEC). Official partners of the LEC include the Joachim Herz Foundation, Boston Consulting Group, the Stifterverband, the Federal Ministry for Economic Affairs and Climate Action, the Startup Association, and the Baden-Baden Entrepreneurial Talks. The LEC’s central mission is to promote networking and professionalization of start-up factories. By sharing knowledge and experiences, these centers can enhance their efficiency and effectiveness—also by creating suitable KPIs for the continuous optimization of start-up factories.

To achieve this mission, the LEC operates across four core areas:

1. Strategic support and networking—facilitating collaboration between start-up factories, developing joint solutions, and fostering thematic knowledge exchange

2. Knowledge generation and sharing—collecting and analyzing national and international best practices, providing structured resources, and ensuring cross-factory learning
3. KPI measurement and strategic steering—establishing a data-driven framework to monitor, compare, and optimize start-up factory performance, ensuring transparency and continuous improvement
4. Improving framework conditions—optimizing legal and financial conditions for start-ups and start-up factories.

To ensure measurable success, the LEC has implemented 11 key performance indicators (KPIs), covering the entire start-up lifecycle from initial engagement to long-term impact. These KPIs enable start-up factories to:

- Track early-stage interest and engagement (e.g., event participation, entrepreneurial mindset development)
- Measure start-up formation and scaling success (e.g., number of supported teams, registered start-ups, and private/public funding secured)
- Assess long-term outcomes and economic impact (e.g., exits, IPOs, and sustainability metrics).

By continuously analyzing and comparing KPIs, the LEC identifies best practices, addresses challenges, and refines strategic initiatives to maximize the impact of start-up factories across Germany.

Stifterverband is a community of around 3,500 committed individuals, companies, and organizations from business, science, and civil society. Its mission is to rethink and shape education and science in order to sustainably strengthen society's innovative capacity. As a driver of change, it analyzes current challenges, supports pilot projects, and facilitates their dissemination through diverse networks. It connects business, science, and civil society, develops ideas collaboratively, and initiates political reforms. Its work focuses on two main areas: education and skills, as well as collaborative research and innovation.

Stifterverband works to foster a stronger entrepreneurial mindset within academia and to improve the framework conditions for science-based start-ups. With the Gründungsradar, it provides a benchmark for measuring how well German universities support start-ups and entrepreneurial mindsets, setting standards and driving change across the higher education system. In addition, Stifterverband contributes its expertise to strategic initiatives like IP Transfer and T!Raum, which aim to modernize knowledge and technology transfer and build strong regional innovation ecosystems.

The Joachim Herz Foundation promotes the courage to start anew. It was founded in Hamburg in 2008 and is one of the largest German foundations. The Joachim Herz Foundation is committed to innovation and supporting the transfer of cutting-edge research into practice so that this important work generates social benefits and does so quickly. It strengthens start-up ecosystems and works to foster a new generation of entrepreneurial talent dedicated to sustainable business models and radical innovation. It is also helping to renew vocational training so that young workers are prepared for a working world that is being transformed by AI and digitalisation. The foundation's aim is to provide effective solutions to current challenges such as climate protection, resource scarcity and the skilled labour shortage. The Joachim Herz Foundation's entrepreneurial responsibility ensures that it continuously develops its capital investment with a view to the future. It bases its activities on the foundation of German-American dialogue because the Joachim Herz Foundation believes that the exchange between these cultures is key to creating productive, new beginnings.

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1 | Introduction and Objective

Purpose and Scope of the Playbook

Germany leads in research but often struggles to commercialize its findings. Despite international recognition, the nation frequently fails to transform scientific discoveries and technological innovations into market-ready products and services. This gap between research and commercialization hampers economic growth and innovation. There is a pressing need for professional support to facilitate more effective transitions for spin-offs.

Europe, with its robust position in global research and development, has the potential to lead in deep tech, as highlighted in Boston Consulting Group's recent report, "From Lab to Leader." This is evidenced by concrete examples: European countries occupy seven of the top ten spots in the World Intellectual Property Organization's (WIPO) Global Innovation Index; ten of the world's top 20 research institutions are in Europe; and European nations hold 25 of

the top 40 positions in annual per capita patent applications. However, despite excellence in R&D, Europe trails the United States in deep tech investments and commercialization: Over half of the 427 global deep tech unicorns are based in the United States, while Europe currently has only 42. Between 2018 and 2023, American deep tech firms secured \$237 billion in funding, compared to Europe's \$40 billion. Consequently, American tech start-ups have been more successful in marketing their innovations.

University-affiliated start-up centers can bridge this gap between research and commercialization by providing essential infrastructure, consulting, and networks to young companies and innovative projects. The German Federal Ministry for Economic Affairs and Climate Action (BMWK) launched the "Start-up Factories" flagship competition to promote such centers along the lines of UnternehmerTUM, HPI, and CampusFounders. The goal is to support universi-

ty-affiliated, privately organized, and entrepreneurially managed start-up centers, serving as incubators for future innovations and economic growth.

The competition aims to establish up to ten start-up factories modeled after UnternehmerTUM, HPI, and Campus-Founders. The initiative seeks to increase the number and quality of knowledge-based spin-offs across Germany. In late May 2024, an expert jury selected the 15 most promising projects for the concept phase. The winning universities include Freie Universität Berlin, FAU Erlangen-Nürnberg, Georg-August-Universität Göttingen, Johann Wolfgang Goethe-Universität Frankfurt am Main, Karlsruhe Institute of Technology (KIT), Philipps-Universität Marburg, Technical University of Dortmund, Technical University of Dresden, University of Bremen, University of Hamburg, University of Münster, University of Paderborn, University of Rostock, Saarland University, and University of Cologne.

In this phase, the selected projects will develop detailed concepts over eight months, forming the foundation for the subsequent project phase, during which up to ten projects

will receive funding for five years. The high interest in the competition and the involvement of nearly 150 partners from universities, research institutions, and the private sector indicate strong momentum to position Germany as a start-up nation. This momentum must be harnessed through the professional development and sustainable support of the start-up factories.

Currently, there is no standardized approach to tracking KPIs across German start-up ecosystems and incubators, with existing reports primarily focusing on start-up metrics or on support structures within higher education institutions rather than the broader ecosystem landscape. The goal is to develop standardized KPIs that improve understanding and foster collaboration among future start-up factories without overriding existing frameworks. Representatives from all 15 candidate start-up factories were contacted, gathering over 200 current and prospective KPIs along with their tracking challenges, which were then distilled into a set of essential KPIs and grouped into categories.





2 | Key Performance Indicators for Measuring Start-up Success

As part of our collaboration with the cluster of 15 finalists, we have defined 11 key performance indicators across four strategic fields. These KPIs ensure that start-up factories effectively drive entrepreneurship, support start-up formation, and create long-term impact.

Before diving into the KPIs, it is essential to understand the start-up lifecycle. Together with the **organizational foundation**, it is necessary for a start-up's success and outlines three key phases in the start-up journey:

1 Engagement stage: The initial phase where entrepreneurial interest is sparked through early interactions, laying the groundwork for future ventures

2 Founding stage: The period of development and early successes, as start-ups emerge and establish themselves within the ecosystem

3 Impact stage: The phase where long-term success and sustainability are achieved, ensuring the continued growth of start-ups.

In parallel, the **organizational structure** emphasizes infrastructure as the backbone of a start-up factory. This includes internal operations, resources, and support systems that drive innovation and scalability. A KPI framework is essential to effectively measure and optimize the impact of start-up support structures. By tracking KPIs across each stage—from engagement to impact—organizations can

Stages and organization of the start-up lifecycle and its organization

Start-up lifecycle



Engagement stage

Initial interactions and foundation of entrepreneurial interest



Founding stage

Development and early successes of start-ups within the ecosystem



Impact stage

Long-term success and sustainability of start-ups

Organization



Infrastructure

Internal workings and resources of the start-up factory

Note: Not every start-up factory covers the entire path of a start-up from entrepreneurial training to scale-up, so not all KPIs are relevant for every start-up factory.

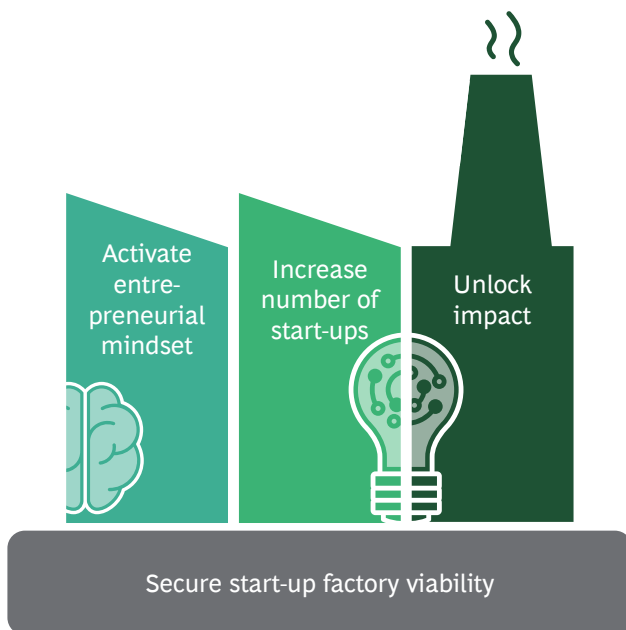
evaluate effectiveness, refine their strategies, and enhance their contribution to the start-up ecosystem. The following section introduces a structured KPI framework to assess and drive start-up success and organizational efficiency.

This section of the playbook outlines the core KPIs for start-up factories, emphasizing the essential metrics across various success factors. While additional KPIs can be tracked, this compilation serves as a fundamental checklist and toolbox, providing guidance on how to monitor these metrics. It's crucial to understand the "what's in it" and "what's not in it" for each KPI to ensure accurate comparability across different start-up factories. The one-pagers will illustrate how each KPI, whether measured as an absolute number or as a relative figure, can be used in analyses. Care must be taken in interpreting these measures, especially when using relative KPIs for comparison, as they can sometimes obscure the true performance and context.

2.1 Secure Start-up Factory Viability

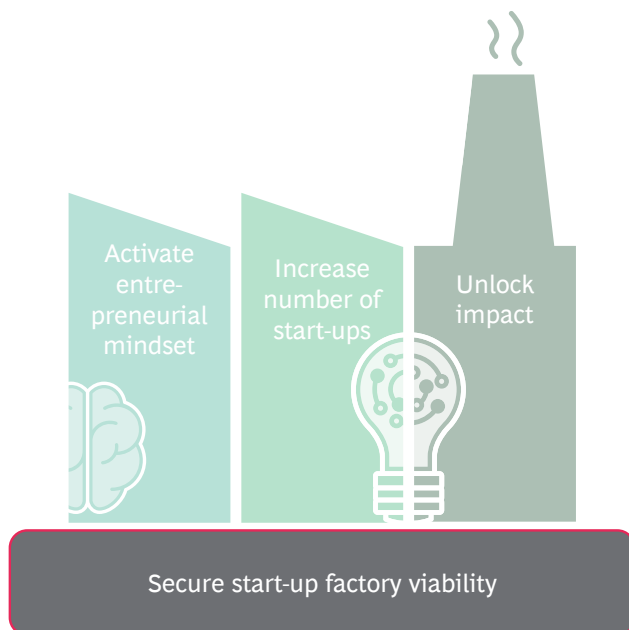
This foundational field measures the stability and operational effectiveness of start-up factories. The first three KPIs—total private capital funding, number of people employed, and net promoter score (NPS)—are critical indicators of the financial sustainability, operational strength, and perceived value of start-up factories. Each KPI provides valuable insights into how well these innovation hubs are functioning and their long-term impact on the start-up ecosystem.

Objectives for start-up factory success



- Number of individuals initially engaged
- Number of participants in engagement programs
- Space utilization
- Number of entrepreneurial teams supported
- Number of registered start-ups (and characteristics)
- Total amount of public funding awarded
- Total amount of private funding secured
- Number of exits (and total amount)
- Total amount of private capital funding by the start-up factory
- Number of people employed by the start-up factory
- Net promoter score for the start-up factory

Secure start-up factory viability: core KPIs



- Total amount of private capital funding by the start-up factory
- Number of people employed by the start-up factory
- Net promoter score for the start-up factory

1. TOTAL PRIVATE CAPITAL FUNDING

What it measures:

This KPI tracks the total amount of private capital secured annually by the start-up factory to finance its operations and support entrepreneurial activities.

Examples:

- A start-up factory in Berlin secures €2M from corporate sponsors and angel investors to expand its acceleration programs.
- A university-affiliated incubator receives €500K in private donations to establish a prototype lab for AI start-ups.
- Partnerships with VC firms result in a €1M investment fund dedicated to early-stage deep tech ventures.

Impact:

High private funding levels reduce dependency on government grants, allowing start-up factories to operate independently, scale faster, and invest in new programs. More funding means better infrastructure, expert coaching, and higher-quality support for start-ups.

2. NUMBER OF EMPLOYEES

What it measures:

This KPI evaluates the workforce size of the start-up factory, tracking all full-time equivalent employees (FTEs), including coaches and mentors.


Examples:

- A start-up factory expands its team of start-up coaches from 5 to 12 due to increased demand for mentorship.
- A newly launched incubator hires four full-time venture analysts to support start-up funding applications.
- A deep-tech hub brings in senior mentors from industry to provide specialized expertise, increasing the employee count by 30%.

Impact:


A higher number of employees indicates growth in service capacity. More staff means better mentorship, wider industry networks, and stronger operational support for start-ups, ultimately leading to higher start-up survival rates and successful scaling.

KPI deep dive | Total amount of private capital funding by the start-up factory

Overview		
 Infrastructure	Description <ul style="list-style-type: none"> Total amount of annual private capital secured by the start-up factory to fund its operations and support activities 	
How to measure	Tools	Relative KPI
<p>Sum counted until cutoff date December 31</p> <p>Private capital funding by the start-up factory per year</p> <ul style="list-style-type: none"> Track all private capital transactions received by the start-up factory over a year <p><i>Examples</i> What's in it E.g., donations, private investments, sponsorship</p> <p>What's not in it E.g., governmental contributions, loans</p>	<ul style="list-style-type: none"> Track amount of private capital funding of start-up factory in balance sheet 	<ul style="list-style-type: none"> Private capital funding per entrepreneurial team supported <p>(Total capital funding by the start-up factory / no. of entrepreneurial teams supported)</p>

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

KPI deep dive | Number of people employed by the start-up factory

Overview		
 Infrastructure	Description <ul style="list-style-type: none"> Full-time equivalents of all staff employed by the start-up factory (workforce size) 	
How to measure	Tools	
<p>Cutoff date is December 31</p> <p>Number of people employed as of Dec 31</p> <ul style="list-style-type: none"> Track all employees employed by the start-up factory as full-time equivalents <p><i>Examples</i> What's in it E.g., coaches, mentors</p> <p>What's not in it E.g., freelancers, adjunct lecturers, interns, working students</p>	<ul style="list-style-type: none"> Track employees (FTE) by HR 	

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

3. NET PROMOTER SCORE (NPS)

What it measures:

This KPI tracks the annual satisfaction score of start-up teams and stakeholders, based on their likelihood to recommend the start-up factory to others.

Examples:

- A fintech founder rates their start-up factory a 9/10, citing strong investor connections and valuable pitch training.
- A deep-tech start-up gives a low score (4/10), stating that legal support was inadequate, highlighting an area for improvement.
- A university-based start-up factory sees its NPS increase from 6.5 to 8.2 after launching a dedicated funding advisory program.

Impact:

A high NPS attracts more start-ups and investors, solidifying the start-up factory's reputation as a premier innovation hub. It also provides direct feedback for optimizing services, ensuring continued growth and ecosystem relevance.

KPI deep dive | Net promoter score for the start-up factory

Overview



Infrastructure

Description

- An annual measure of satisfaction and loyalty based on feedback from all entrepreneurial teams and start-ups of each start-up factory, as well as the other start-up factories within the start-up factory ecosystem

How to measure

On a scale from 0 to 10, how likely are you to recommend the start-up factory "XX" as a valuable resource to other entrepreneurs or start-up teams?

- Promoters (8-10): Highly satisfied and likely to actively promote the incubator
- Passives (5-7): Satisfied but not enthusiastic enough to promote
- Detractors (0-4): Dissatisfied and potentially damaging to the incubator's reputation through negative word-of-mouth

Tools

Start-ups

- Send out questionnaire once a year via e.g., start-up coaches

Other start-up factories

- Send out questionnaire once a year via e.g., start-up coaches

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

2.2 Activate Entrepreneurial Mindset

This category assesses how effectively the start-up factory nurtures entrepreneurship among students, researchers, and professionals. These three KPIs—number of individuals initially engaged, number of participants in engagement programs, and space utilization—focus on early-stage engagement, educational program participation, and resource efficiency within start-up factories. Together, they measure how effectively these innovation hubs attract, educate, and support aspiring entrepreneurs.

4. NUMBER OF INDIVIDUALS INITIALLY ENGAGED

What it measures:

This KPI tracks the total number of people exposed to the start-up factory through first-contact events such as presentations, fairs, and online sessions.

Examples:

- A start-up factory hosts an open lecture on entrepreneurship, attended by 500 students from different faculties.
- A university incubator organizes a start-up fair, engaging 1,200 visitors from various disciplines.
- A start-up factory live-streams an innovation talk, with 3,000 viewers participating online.

Impact:

A higher engagement number expands awareness of entrepreneurship opportunities among students and researchers, creating a broad pipeline of potential start-up founders and ensuring that more individuals consider entrepreneurship as a viable career path.

KPI deep dive | Number of individuals initially engaged

Overview



Engagement stage

Description

- Total count of individuals who are exposed to information about the start-up factory in first-point events. This includes attendees at large-scale presentations and viewers of online sessions, measured annually.

How to measure

Sum counted until cutoff date December 31

Events

In-person event attendance per year

- Offline: Total number of attendees at all first-point of contact events
- Online: Total viewers of online sessions

Examples

What's in it

First point of contact events/offersings
E.g., first-year student events, information sessions within a lecture, fairs, guest lectures

What's not in it

E.g., social media engagement, Seminars or courses with ECTS

Tools

Starter

- Manually count attendees in simple spreadsheets by dedicated person

Advanced

- Use platforms like Eventbrite for event management (in private mode)

Sophisticated

- Integrate tracking in CRM

Examples of relative KPIs

- Total number of individuals initially engaged **per 1000 students** (outreach effectiveness: density of participants of awareness interactions in relation to the student population)

(no. of individuals initially engaged / no. of students within start-up factory ecosystem) * 1000

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

5. NUMBER OF PARTICIPANTS IN ENGAGEMENT PROGRAMS

What it measures:

This KPI counts individuals who actively enroll in structured programs designed to deepen their entrepreneurial knowledge (e.g., workshops, courses with university credits, or incubators).

Examples:

- A start-up factory runs a “Start-up Bootcamp,” enrolling 80 students for an intensive six-week training.

- A university launches a course on venture building with 150 registered participants, granting ECTS.
- A start-up factory introduces an incubation program in which 40 early-stage founders receive coaching and access to funding.

Impact:

A strong engagement program enrollment indicates a deeper commitment from participants, increasing the likelihood of start-up founding, while people returning for engagement programs after attending initial contact events indicates a successful outreach strategy.

KPI deep dive | Number of participants in engagement programs

Overview



Engagement stage

Description

- The annual total of individuals who enroll and participate in structured programs of the start-up factory designed to provide educational value or university credits, focusing on fostering initial engagement with the start-up factory

How to measure

Sum counted until cutoff date December 31

Program enrollments per year

- Total number participants enrolled in engagement programs¹ from the start-up factory that provide university credits or have further educational purposes concerning entrepreneurship

Examples

What's in it

Educational programs

E.g., Courses or seminars with ECTS, educational programs within the start-up factory ecosystem for entrepreneurially minded students

What's not in it

E.g., Programs with established entrepreneurial teams

Tools

Starter

- Use attendance sheets or manual sign-ins tracked in a spreadsheet by dedicated person

Advanced

- Leverage online registration systems like Eventbrite

Sophisticated

- Integrate tracking in CRM

Examples for relative KPIs

- **Conversion rate** from individuals initially engaged to participants in engagement programs

(no. of participants in engagement programs / no. of individuals initially engaged) * 100

1. For example, in the course catalog, includes words such as Entrepreneur(ship), Existence, Founders, Founding, Self-Employment, Start-Up, Business Plan, Entrepreneur, and deals specifically with the topic of start-ups

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

6. SPACE UTILIZATION

What it measures:

This KPI assesses how effectively designated start-up spaces (e.g., co-working areas, labs, makerspaces) are utilized throughout the year.

Examples:

- A university makerspace with 10 available workbenches is occupied 80% of the time by hardware start-ups.

- A start-up factory offers a co-working space with 50 desks, showing 90% occupancy due to high start-up demand.

- A biotech incubator's wet lab reports full utilization, requiring an expansion plan.

Impact:

Efficient space utilization maximizes start-up support capacity and ensures that resources are not underutilized. High occupancy rates may indicate the need for facility expansion or better space management systems to accommodate demand.

KPI deep dive | Space utilization

Overview



Infrastructure

Description

- The percentage of time that designated spaces of start-up factories (such as co-working spaces, labs, offices) are occupied and utilized for start-up activities, measured throughout the year to assess the efficiency of space management

How to measure

Measurement period: Jan 1 to Dec 31

Example of space dimensions: Wetlabs, makerspace, number of desks, etc.

Capacity

- Measure the total possible occupants of a facility/space

Population

- Measure the total number of people who use a facility/space

Occupancy level medium per year

- Divide the capacity of the facility/space by the number of occupants in the facility/space

Tools

Starter

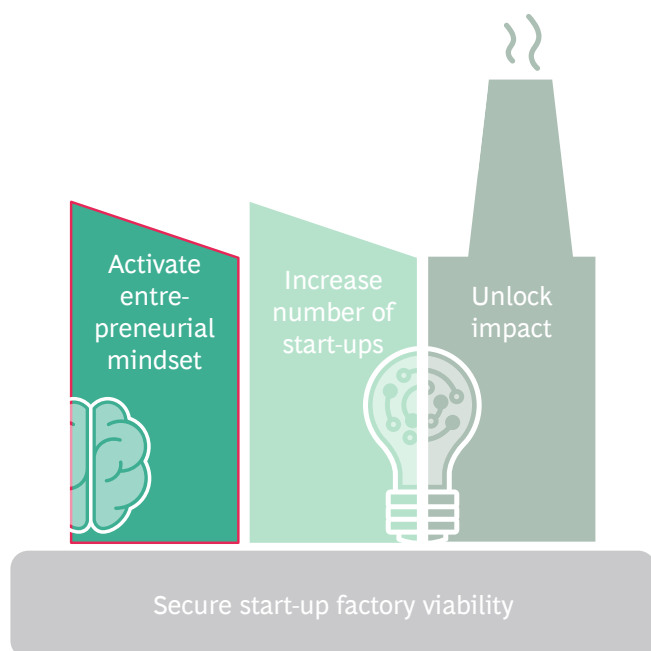
- Manually (difficult to apply)

Advanced

- Use digital space utilization tool, e.g., Nexodus

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

Activate entrepreneurial mindset: core KPIs



- Number of individuals initially engaged
- Number of participants in engagement programs
- Space utilization

2.3 Increase the Number of Start-up Formations

The following two KPIs focus on early-stage start-up support and formal business establishment, reflecting the efficacy of start-up incubation programs and their ability to convert start-ups into real businesses.

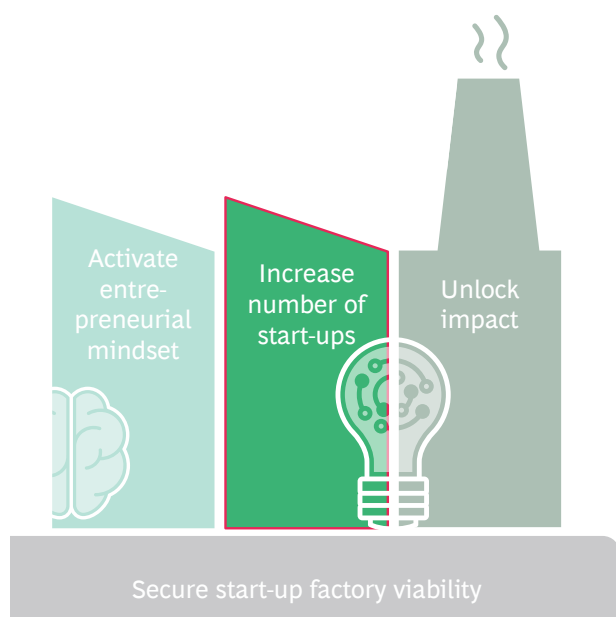
These two metrics are directly linked:

- The KPI “entrepreneurial teams supported” measures early-stage engagement, ensuring that aspiring founders receive structured guidance.

- “Registered start-ups” tracks the real-world outcome, showcasing how many teams successfully turn into formal businesses.

A strong correlation between these two KPIs indicates high conversion rates, proving that the start-up factory effectively nurtures and scales entrepreneurial talent into viable companies.

Increase number of start-ups: core KPIs



- Number of entrepreneurial teams supported
- Number of registered start-ups (and characteristics)

7. NUMBER OF ENTREPRENEURIAL TEAMS SUPPORTED

What it measures:

This KPI tracks the total number of entrepreneurial teams that plan to start a company (including single-person teams) and receive at least one form of formal support from the start-up factory, such as financial assistance, mentorship, and other resources.

Examples:

- A start-up factory supports 20 pre-incubation teams that receive mentorship and early-stage funding but have not yet registered as legal entities.
- A university incubator provides workspace and training for 15 entrepreneurial teams, helping them refine their business models.
- A biotech start-up team joins a specialized deep tech accelerator, gaining access to lab facilities and industry advisors.

Impact:

This KPI quantifies the effectiveness of the start-up factory in attracting and nurturing entrepreneurial talent. A higher number of teams supported indicates a strong pipeline of future start-ups and validates the quality of start-up programs offered.

8. NUMBER OF REGISTERED START-UPS

What it measures:

This KPI counts the number of start-ups that successfully complete the formal business registration process after or while receiving support from the start-up factory.

Examples:

- A team developing AI-driven diagnostics registers as a GmbH after receiving coaching and investor introductions.
- A mobility start-up working on autonomous vehicle software incorporates as a UG (limited liability) and secures its first private funding.
- A fintech venture, previously part of a university start-up program, formalizes its business structure and starts generating revenue.

Impact:

This KPI reflects the start-up factory's success in transitioning teams from ideation to legally operating businesses. Higher registration rates demonstrate strong support structures, while low numbers may indicate a need for better follow-up programs or funding access.

KPI deep dive | Number of entrepreneurial teams supported

Overview



Founding stage

Description

- The count of entrepreneurial teams incl. single-person teams (entrepreneurial teams with a strong intention to launch a new venture) that receive formal support from the start-up factory, which includes financial assistance, resources, and advisory services that help their business projects

How to measure

Sum counted until cutoff date December 31

Entrepreneurial teams supported per year

- Total number of all entrepreneurial teams supported by the start-up factory that receive formal support, including financial backing, resources, or advisory services

Examples

What's in it

E.g., pre-incubation teams (with strong intention)

What's not in it

E.g., registered start-ups, informal with no strong intention of start-up registration

Tools

Starter

- Keep a manual log of entrepreneurial teams supported (collected and updated by e.g., mentors)

Advanced

- Track all manual numbers within CRM

Sophisticated

- Utilize a CRM to track numbers of teams

Examples of relative KPIs

- Total number of entrepreneurial teams supported **per 1000 students**


(no. of entrepreneurial teams supported / no. of students within start-up factory ecosystem) * 1000

- Total number of entrepreneurial teams supported **per participants in engagmt. programs**

(no. of participants in engagement programs / no. of participants in engagement programs)

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

KPI deep dive | Number of registered start-ups

Overview	
 Founding stage	Description <ul style="list-style-type: none"> The number of start-ups, within a year, that have completed the formal process of business registration (start-up incorporation), establishing them as legal business entities, after or while receiving support of the start-up factory
How to measure <p>Sum counted until cutoff date December 31</p> <p>Registered start-ups per year</p> <ul style="list-style-type: none"> Total number of start-ups that successfully register through legal or governmental entities after or while receiving support of the start-up factory <p>Examples</p> <p>What's in it</p> <p>Legal business entities (incl. international legal forms), e.g., GbR, UG, GmbH, etc.</p> <p>What's not in it</p> <p>E.g., entrepreneurial teams within the formal process with no completed business registration</p>	Tools <p>Starter</p> <ul style="list-style-type: none"> Record registrations in a spreadsheet from surveys by, e.g., coaches <p>Advanced</p> <ul style="list-style-type: none"> Manually checked with European business register or trade register or e.g., crunchroom <p>Sophisticated</p> <ul style="list-style-type: none"> Integrate automatic data retrieval from sources in CRM
Examples of relative KPIs <ul style="list-style-type: none"> Conversion rate from entrepreneurial teams supp. to registered start-ups (no. of registered start-ups / no. of entrepreneurial teams supported) * 100 Total registered start-ups per 1000 students (density of registered start-ups in relation to the student population) No. of registered start-ups / no. of students within start-up factory environment 	

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

Descriptive KPI deep dive | Characteristics of registered start-ups

Industry <p>Multiple choice</p> <p>Drop-down for industries (according to start-up Monitor from start-up Verband)</p> <ul style="list-style-type: none"> Information and communication technology Medicine and healthcare Food and consumer goods Education Energy and electricity Mobility and logistics Human resources Chemistry and biology Industrial goods Construction and real estate 	Diversity of start-up team <p>Single choice</p> <p>Drop-down for gender</p> <ul style="list-style-type: none"> All identify as male All identify as female All identify as non-binary Gender mix (incl. various gender identities) <p>Internationality</p> <p>In which country did the team members complete their highest level of school education (excluding university)?</p> <ul style="list-style-type: none"> All team members completed their highest level of school education in Germany All team members completed their highest level of school education in European countries, excl. Germany All team members completed their highest level of school education in non-European countries Team members completed their highest level of school education in a mix of the regions above 	Patents <p>Patent use</p> <ul style="list-style-type: none"> Did you utilize any university patents in the establishment of your start-up?
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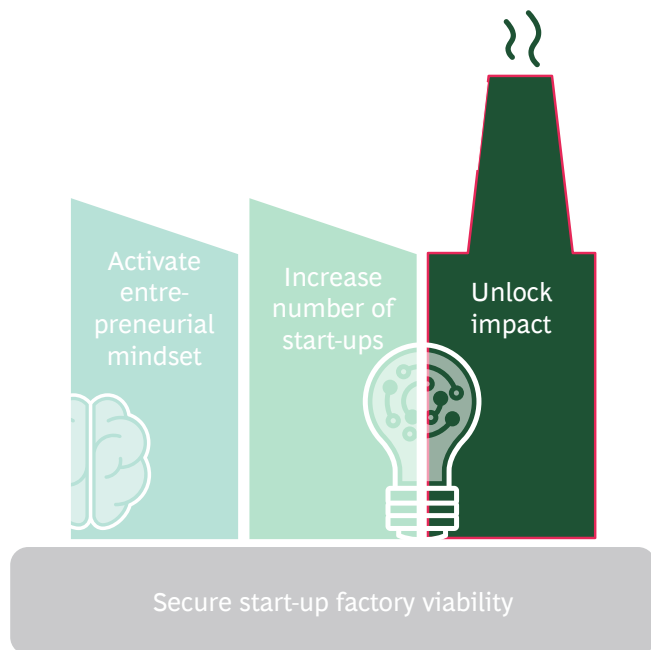
Source: Start-up Monitor (start-up Verband); BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

2.4 Unlock Growth and Impact

These KPIs—total amount of public funding awarded, total amount of private funding secured, and number of exits—

are critical indicators of a start-up factory's financial impact and the long-term success of its start-ups.

Increase number of start-ups: core KPIs



- Total amount of public funding awarded
- Total amount of private funding secured
- Number of exits (and total amount)

9. TOTAL AMOUNT OF PUBLIC FUNDING AWARDED

What it measures:

This KPI tracks the total euro amount of public grants and scholarships awarded to start-ups, including federal, state, European, and global funding.

Examples:

- A deep-tech start-up receives a €1.5M EU Horizon Grant to develop next-generation battery technology.
- A medtech start-up secures €500K from the German EXIST program to fund early-stage research and clinical trials.

- A cleantech venture wins a €1M state grant to scale its carbon capture solution.

Impact:

Public funding reduces financial risk for early-stage start-ups, allowing them to develop innovations without immediate investor pressure. Higher public funding also signals strong governmental support for innovation ecosystems.

KPI deep dive | Total amount of public funding awarded

Overview



Impact stage

Description

- The cumulative monetary euro amount of all public funding provided to start-ups within the start-up factory ecosystem, including federal, state, and scholarship funds – also on European and global level, intended to support start-up growth and development

How to measure

Sum counted until cutoff date December 31

Total amount of public funding awarded per year

- Total cumulative amount (EUR) of all public funding awarded to supported start-ups by start-up factory, excluding financial contributions that do not directly flow to the start-up, such as EXIST grants awarded to the start-up factory as part of the prize

Examples

What's in it

E.g., state/federal grants (incl. European and global level), scholarships

What's not in it

E.g., research allowances, share of grant awarded to the start-up factory

Tools

Starter

- Track total amount of grants awarded manually via e.g., yearly questionnaire for start-ups
- Desk research along funding data bases (e.g., crunchbase and dealroom) and social media updates (e.g., LinkedIn posts)

Advanced

- Connect database with publicly available information, e.g., social media updates

Examples of relative KPIs

- Total amount of grants awarded **per start-up**
(Total amount of grants awarded / no. of start-ups)

Use caution with relative KPIs in funding as absolute figures often better highlight the extraordinary impacts of standout start-ups

Note: Exchange rate on the day of the transaction date

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

10. TOTAL AMOUNT OF PRIVATE FUNDING SECURED

What it measures:

This KPI tracks private investment secured by start-ups, including venture capital, private equity, and angel funding.

Examples:

- A fintech start-up raises a €5M series A round led by a leading venture capital firm.

- A mobility start-up secures €2M in private equity from a corporate partner to pilot electric vehicle infrastructure.
- A biotech company attracts €750K from business angels, enabling product development and market entry.

Impact:

Private funding indicates market confidence in a start-up's business model, ensuring growth and scaling opportunities. It also enhances a start-up factory's reputation as an effective launchpad for investor-ready companies.

KPI deep dive | Total amount of private funding secured

Overview



Impact stage

Description

- The aggregated euro amount, within a year, of private capital funding that start-ups within the start-up factory ecosystem have secured

How to measure

Sum counted until cutoff date December 31

Total amount of private funding secured per year

- Total amount (EUR) of private capital funding secured by the start-ups supported by the start-up factory that is publicly announced. To be tracked in the reference year of public announcement

Examples

What's in it

E.g., VC, private equity funding, funding from business angels

What's not in it

E.g., convertible loan agreement, debt financing, IPO

Tools

Starter

- Track total amount of grants awarded manually via e.g., yearly questionnaire for start-ups
- Conduct desk research along funding databases (e.g., crunchbase and dealroom) and social media updates (e.g., LinkedIn posts)

Advanced

- Connect database with publicly available information, e.g., social media updates

Examples of relative KPIs

- Total private funding **per start-up**
(Total VC funding / no. of start-ups)

Use caution with relative KPIs in funding as absolute figures often better highlight the extraordinary impacts of standout start-ups

Note: Exchange rate on the day of the transaction date, IPO: initial public offering, VC = venture capital

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung

11 NUMBER OF EXITS (AND TOTAL AMOUNT)

What it measures:

This KPI tracks the number of successful exits, including IPOs, mergers and acquisitions (M&A), and buyouts.

Examples:

- A cybersecurity start-up exits via a €100M acquisition by a global tech firm.
- A SaaS start-up launches an IPO on the Frankfurt Stock Exchange, raising €50M.
- A healthtech start-up undergoes a €20M buyout by a larger pharmaceutical company.

Impact:

High exit numbers demonstrate the start-up factory's ability to produce scalable, high-value ventures. Exits also attract more investors and validate the long-term sustainability of the start-up ecosystem.

KPI deep dive | Number of exits (and total amount)

Overview



Impact stage

Description

- Total number of exits and their amount; event in which the founders/investors/employees of a start-up liquidate their ownership stakes, realizing a return on investment

How to measure

Sum counted until cutoff date December 31

Number of exits (incl. amount) per year

- Total number of exits within the period of one year and total amount

Examples

What's in it

E.g., IPOs, M&A, buyouts, reverse mergers

What's not in it

E.g., dissolution, gradually stopping operations

Tools

- Collect number of exits via publicly available information, incl. social media updates
- Conduct desk research along exits tracking websites and stock exchange data
- Record registrations in a spreadsheet from surveys by, e.g., coaches

Examples of relative KPIs

- Number of exits
per number of start-up
(no. of exits / no. of start-ups incubated)

Source: BCG, UnternehmerTUM/LEC, Stifterverband, Joachim Herz Stiftung



3 | The KPI Toolbox

A Global Best-Practice Imperative

Measuring the success of start-up incubators is not only a key objective of the Learning and Exchange Center but also a priority for renowned research institutions and politics. Despite all external influences, there are certain key factors that make a start-up ecosystem robust and successful. Various studies (including the MIT Innovation Systems Blueprint) and the experiences of leading hubs worldwide largely agree on the following success factors:

- **Access to funding (money):** Start-ups need sufficient capital at all stages. Successful ecosystems combine multiple funding sources, including VC funds, angel investors, corporate venture capital, and government programs. Deep-tech start-ups require specialized, long-term investors, as seen in regions with targeted funds and accelerators (e.g., biotech, climate tech). Public funding also plays a role, bridging gaps through grants and co-investments, as seen in Israel's Yozma, the EU EIC Fund, and Germany's High-Tech Gründerfonds. A strong financing ecosystem—from pre-seed to IPO—is crucial for start-up success.
- **Talent and education (talent/methods):** Skilled, motivated talent is the foundation of any start-up ecosystem. Top universities (e.g., MIT) foster entrepreneurship through targeted programs, courses, and competitions. Structured methods, such as innovation-focused curricula and interdisciplinary collaboration, support founders. Beyond formal education, mentorship from experienced entrepreneurs strengthens start-up culture, as seen in Silicon Valley and Israel. A diverse, open culture attracts global talent, while visa and immigration policies influence competitiveness in the global talent race.

- Infrastructure and support (materials):** High-performing ecosystems provide physical and digital infrastructure such as coworking spaces, labs, and test environments. Deep-tech start-ups require specialized facilities (e.g., clean rooms, biotech labs, test tracks), attracting relevant companies to such hubs. Strong digital infrastructure, including broadband, cloud services, and open data platforms, is also essential. Support structures—accelerators, start-up centers, and expert networks—help founders overcome challenges in business modeling, legal issues, and market access. MIT's ecosystem, with its dense network of resources, is a good example of this.
- Science and business as partners (collaboration):** A thriving ecosystem relies on collaboration between start-ups, universities, corporations, and policymakers. Universities drive innovation through research, talent development, and structured tech transfer programs. Corporations support start-ups as customers, investors, or partners, fostering a culture of cooperation over competition. Governments provide funding, tax incentives, and policy support. This synergy builds a dense innovation network where all stakeholders contribute to a thriving start-up environment.
- Culture and mindset:** A risk-tolerant, entrepreneurial culture is essential for innovation. Failure is seen as part of the learning process, and success stories help establish founders as role models. Political and societal support for start-ups varies by region but is growing globally. Start-ups are increasingly viewed as solutions to major challenges (e.g., climate change, healthcare), reinforcing their importance in economic development.
- Networks and community (networks):** Successful start-up hubs have dense, collaborative networks. Regular meetups, hackathons, and industry events foster trust, partnerships, and knowledge exchange. Proximity to investors and early adopters accelerates growth, as seen in Silicon Valley, where tech giants support start-ups. Established founders reinvest as business angels, creating a cycle of success (e.g., PayPal Mafia). Strong university alumni networks like MIT's further reinforce **start-up growth**.





4 | Conclusion and Future Outlook

Driving Measurable Impact and Sustainable Growth

Start-up factories play a pivotal role in transforming entrepreneurial potential into real economic impact. To ensure long-term success, they must go beyond idea generation and act as data-driven enablers of sustainable start-up ecosystems. The 11 KPIs defined in this framework serve as strategic levers to assess, optimize, and scale their impact effectively. To fulfill these KPIs and enhance the effectiveness of start-up factories, the following key actions should be prioritized:

1 Ensure financial stability and growth: Establish a diversified funding strategy, create a structured investment pipeline, and build trust with investors through transparency and clear market potential.

2 Strengthen talent pipelines and entrepreneurial capacity: Develop structured talent acquisition strategies, offer specialized training and mentorship, and establish founder-friendly incentives to attract and retain top talent.

3 Enhance infrastructure and operational efficiency: Optimize the use of space with coworking spaces and shared facilities, leverage centralized shared services, and implement digital infrastructure to accelerate start-up development.

4 Expand ecosystem engagement and industry collaboration: Organize networking events, establish industry partnerships for early market validation, and foster international connections to attract global investors and talent.

5 Adopt a lifecycle-oriented growth approach: Define clear start-up development phases, implement performance-driven tracking systems using KPIs, and promote knowledge exchange by integrating best practices from leading innovation ecosystems.

By aligning with regional strengths, embracing a data-driven mindset, and leveraging structured KPI tracking, start-up factories can position themselves as high-impact innovation hubs. This approach will not only ensure their own sustainability but also create a self-reinforcing cycle of entrepreneurship, investment, and breakthrough innovation.

To continuously improve, start-up factories should implement a factory maturity index to benchmark their progress against top global ecosystems, and use KPI tracking to refine strategies and ensure sustained growth. Strengthening cross-factory collaboration is essential, as it fosters knowledge sharing and creates co-investment opportunities. By embracing strategic alignment, rigorous KPI evaluation, and long-term scalability, start-up factories will drive the next wave of deep-tech and high-growth ventures in Europe.

As Germany positions itself as a global leader in deep tech and entrepreneurship, the structured KPI framework will play a crucial role in shaping policies, securing investments, and fostering sustainable innovation. Through collaborative efforts, data-driven decision-making, and continuous knowledge exchange, the LEC ensures that start-up factories drive economic growth, technological breakthroughs, and long-term success.

Building on a KPI framework, the next step involves enabling start-up factories to systematically collect and analyze data. A factory maturity index can serve as a structured assessment tool, evaluating key performance dimensions such as infrastructure, ecosystem integration, start-up success rates, and operational efficiency. By facilitating benchmarking, the index can help to identify strengths, pinpoint areas for improvement, and generate strategic insights to support informed decision-making and sustainable growth.



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