

Gateway Factory

MONITOR

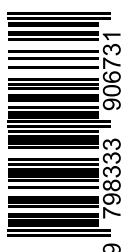
YOUR STARTUP REPORT FROM RHINELAND TO THE MOON



aix
solution



Gateway
Factory



Meet The Ecosystem

Inside the innovation triangle:
Cologne, Aachen, Düsseldorf

DeepTech Watchlist

The Next-Gen Innovators: 15 DeepTech startups
with breakthrough potential

Learn, Connect, Grow

Key events shaping the future of innovation

DEEPTECH
CHAMPIONS
MADE IN
EUROPE



IMPRINT

GF Gateway Factory GmbH
Weyertal 109
50931 Köln
Deutschland

Kontakt
Telefon: 0173 950 99 44
E-Mail: join@gateway-factory.de
Internet: www.gateway-factory.de

Vertretungsberechtigte Geschäftsführende
Tanja Zirnstein, Tim Hiddemann

Registernummer:
HRB 89123

Registergericht:
Amtsgericht Köln

**Umsatzsteuer-Identifikationsnummer gemäß § 27a
Umsatzsteuergesetz:* DE309780938

Editorial

What do Aachen, Cologne, and Düsseldorf have in common? They are places where knowledge is created, where research meets reality — and where startup potential is often just one step away from a global breakthrough. With the Gateway Factory, we aim to make exactly that step possible.

We are living in a time when innovation is not only digital but profoundly technological: new materials, intelligent machines, AI-driven diagnostics, sustainable production processes. DeepTech is transforming industries, markets — and ultimately, societies. But especially in fields where technology is deeply embedded, more than just courage is needed: access to production, to capital, to pilot projects, and to experienced partners is essential. Space to grow is essential — as is a network that moves with you. The Gateway Factory is that space.

We bring together the best of three locations — Aachen, Cologne, and Düsseldorf. As Gateway Factory, we offer access to state-

of-the-art production infrastructure and laboratory facilities, tailored mentoring programs from experienced founders and industry experts, pilot projects with real application partners, connections to investors and funding bodies, and a Europe-oriented network that does not limit innovation to national borders.

We believe Europe needs more than good ideas. It needs places where research becomes reality. The Gateway Factory is such a place — open to founders from the region and from all over Europe.

This report is therefore an invitation: to found, to think further, and to build together an ecosystem that not only supports DeepTech — but makes it possible.



*Dr. Tim Hiddemann and Tanja Zirnstein,
Managing Directors of Gateway Factory*

1. The Rhineland as an Innovation Region

Page 5–8

2. Quick Stats & Fact Blocks

Page 9–10

3. Local DeepTech Heroes

Page 11–30

4. Ecosystem Monitor

Page 31–46

5. Insights & Trends: DeepTech in Europe

Page 47–64

6. Upcoming Event Highlights

Page 65–68

7. Join the Mission

Page 69–71



The *Rhineland* as an Innovation Region

In the Spotlight

Where research meets entrepreneurship and ideas find room to grow

The Rhineland stands out as a region that embodies diversity, scientific excellence, and strong economic foundations like few others. With the three innovation hubs of Aachen, Cologne, and Düsseldorf, it brings together the ideal conditions for groundbreaking startups: internationally connected universities, industry-driven value chains, and a rapidly growing startup culture.

This is where knowledge turns into reality and where research evolves into scalable businesses.

1. Spotlight: The Rhineland as an Innovation Region

What makes the Rhineland unique is the dense concentration of universities, hidden champions, startup programs, funding structures, and talent within a very small geographical area. Where else can you find three excellence universities, Europe's largest trade fair for medical technology, an AI unicorn, and DeepTech accelerators just a few train minutes apart?

These pages show: The Rhineland is not a footnote in Europe's innovation landscape. It is a key region that strategically connects science, industry, and startups.

The *Rheinland* in Numbers

Population (total):

~5.6 million in the extended city triangle

Students (total):

Over 200,000 in Cologne, Aachen & Düsseldorf

Startup Density:

Top 3 in North Rhine-Westphalia (Cologne: #1, Düsseldorf: #2, Aachen: #3)

Startups (total):

Over 1,300 active startups in the region

Unicorns (active):

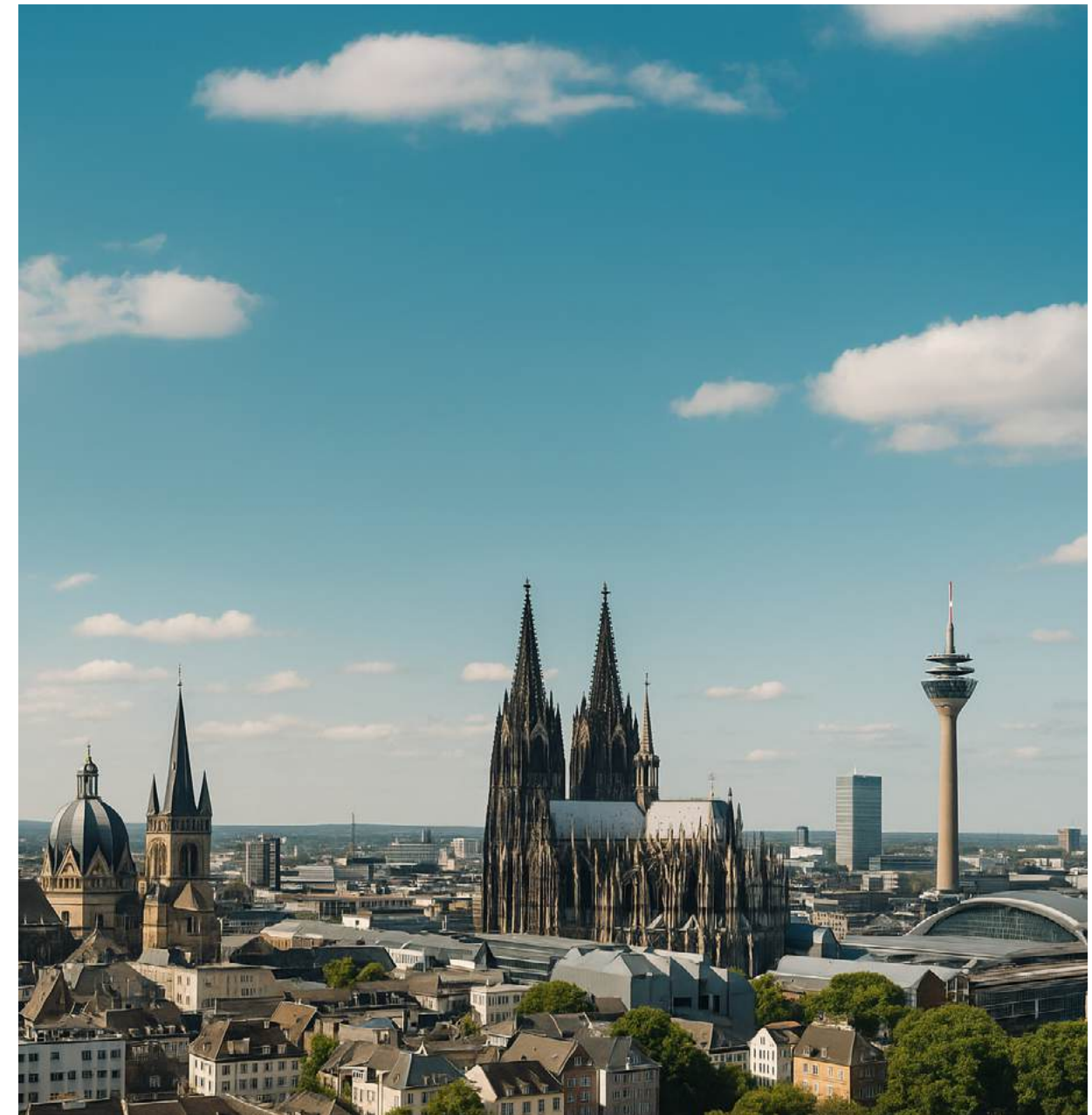
1 (DeepL), with additional candidates in the pipeline

Top Awards:

Recently, 11 of the "Top 50 Startups in Germany" came from Aachen



Representation of the Rhineland –
the home of the Gateway Factory



The Rhineland is truly a space of opportunity for anyone looking to drive society forward through technology.

Only 14% of all unicorns worldwide come from *Europe*.

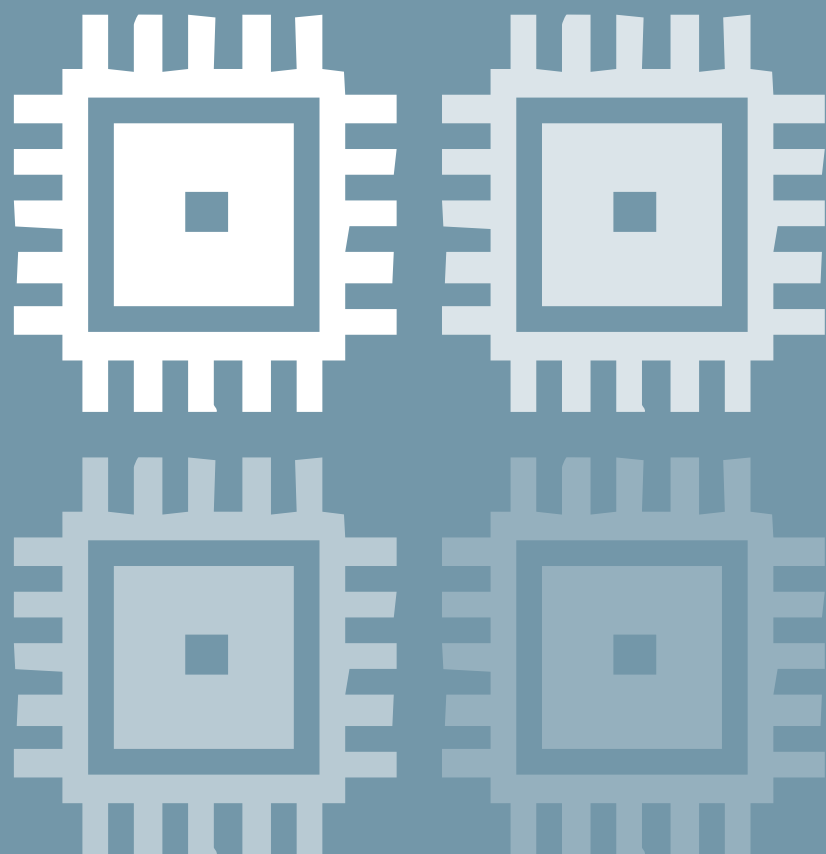


DeepTech startups already accounted for around 20% of all European VC investments in 2022.

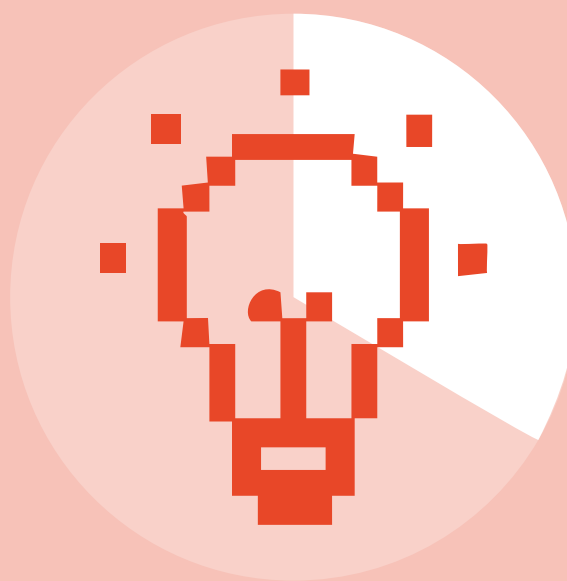
DEEPTech CHAMPIONS MADE IN



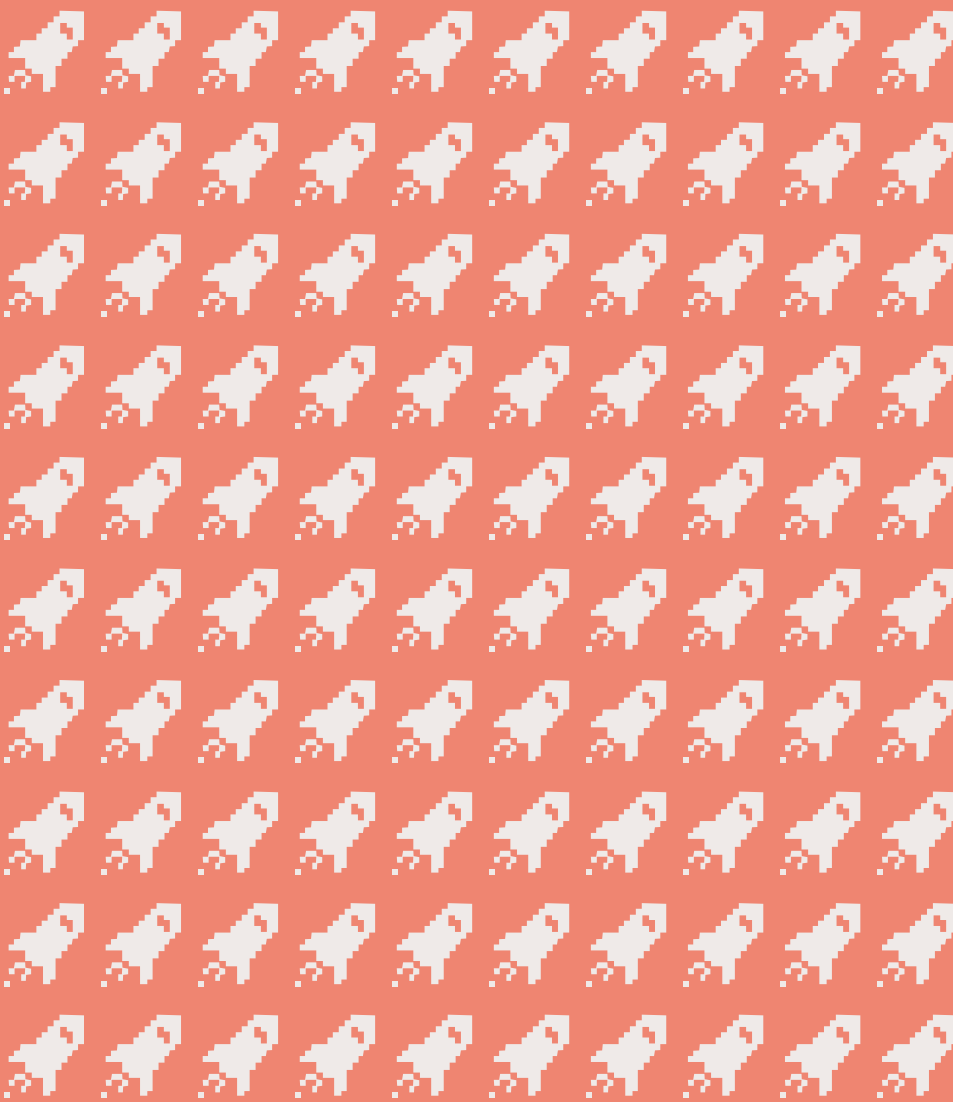
Cologne is the fourth largest *hub* for developers in Europe.



Nearly *one-third* of all startups are founded in Europe.



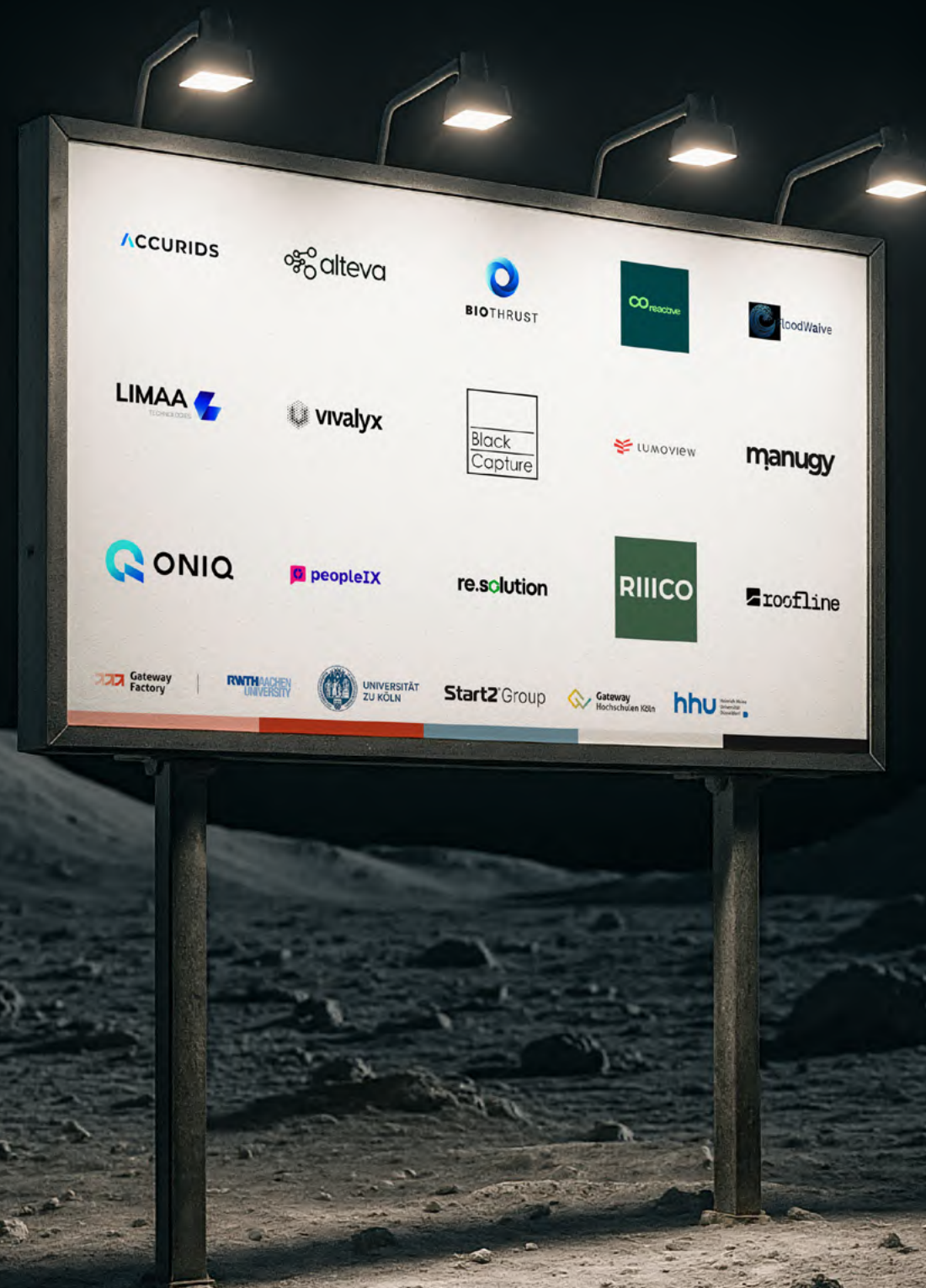
More than 100 *DeepTech* startups were founded in the Rhineland in the past three years.



RWTH Aachen is the university with the *highest* number of founders in Germany (6.4%).

Local DeepTech Heroes

In Aachen, Cologne, and Düsseldorf, a new generation of founders is emerging, driven by the ambition to solve real problems with substantial technology and unafraid to think big.

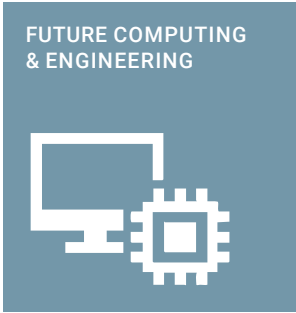
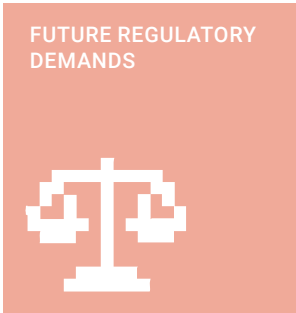


Gateway Factory DeepTech Watchlist 2025

From the Rhineland. For Europe. *With Real Impact.*

DeepTech doesn't happen by chance. It takes people who think further, places that foster growth, and the right conditions to transform complex research into scalable solutions. A look at the deeptech startups within the Gateway Factory ecosystem proves exactly that.

They are developing future technologies in fields such as circular economy, artificial intelligence, life sciences, and production technology. Their stories make it clear: the Rhineland is no longer a blank spot on the startup map, it is becoming a growing hub for DeepTech with international relevance.



Company	Founded in	Stage	Funding (Total)
Accurids 	2019	Seed	N/A
Alteva Technologies 	2023	Seed	€1,700,000.00
Biothrust 	2023	Seed	€0.00
Black Capture 	2025	Pre-Seed	N/A
Co-Reactive 	2024	Seed	€1,900,000.00
FloodWaive 	2020	Pre-Seed	N/A
Limaa Technologies 	2022	Seed	N/A
Lumoview 	2021	Seed	€5,500,000.00
Manugy 	2021	Pre-Seed	N/A
ONIQ 	2020	Seed	€3,900,000.00
People IX 	2022	Seed	€2,300,000.00
Re.Solution 	2024	Pre-Seed	N/A
RIIICO 	2021	Seed	€7,500,000.00
Roofline 	2024	Pre-Seed	€0.00
Vivalyx 	2018	Seed	€15,400,000.00

The data used was sourced from Crunchbase and was retrieved in June 2025.

Future Regulatory Demands Future Health & Life Sciences
 Future Computing & Engineering Sustainable Infrastructure & Mobility



Accurids

✓ Seed
📍 Aachen

Founded in 2019
€ N/A

👤 11

🔗 <https://accurids.com/>

Founded in 2019, Accurids is building a first version of the software in co-development with customers. Accurids develops a digital Registry of Things, which helps organizations build a foundation for a sustainable data eco-system. The primary focus of Accurids is to provide fast, reliable and harmonized access to reference and master data from distributed systems. This allows to reuse, link and share master data across organizational boundaries, integrate legacy systems efficiently and significantly lowers data integration costs, which make about 80% of the IT budget of large organizations.

Founderteam:

- Dr. Heiner Oberkamp
- Dr. Torsten Osthus



Alteva

✓ Pre-Seed
📍 Cologne

Founded in 2023
€ 1,700,000.00¹

👤 9

🔗 <https://alteva.tech/>

Our team is building a sustainable future for humanity in which nature and our technologically advanced and equitable society thrive in unison. To enable that future, we are decarbonizing the global transportation sector. Alteva is using technology developed at the German Aerospace Center, to develop and commercialize ultralight batteries made from abundant and sustainable raw materials. Our batteries are significantly lighter, safer, and cheaper than what is currently being used for electric vehicles. Therefore, for the first time, we can offer energy storage solutions for electrified airplanes, heavy-duty trucks, construction and mining applications, and agricultural vehicles. We are targeting markets that, together, represent about 8 - 10 Gt of annual greenhouse gas emissions.

Founderteam:

- Ida Milow
- Aiko Bernehed

¹Last Funding:
€1,700,000.00
January 20, 2025

Lead Investor:
HTGF, NRW.BANK,
UnternehmerTUM Funding for
Innovators, Pjotr van Schthorst,
Jan Stumpf

Biothrust

✓ Seed
📍 Aachen

Founded in 2023
€ N/A²

👤 11

🔗 <https://biothrust.com>

We are BioThrust, a biotech startup based in Germany that brings (sensitive) cell production to industrial scales. Our bionic bioreactor employs an artificial lung, providing stress-free cultivation conditions to achieve higher cell concentrations and quality. Through our patented membrane stirrer, we provide bubble-free gas exchange for any process. The formation of foam is completely avoided while gas transfer rates are 30x what conventional bioreactors offer. Our membranes allow you to increase your space-time yield by up to 250% without harming cells. By efficiently scaling the cell cultivation process, we help provide affordable stem cell therapies as well as driving progress in other sectors like cultured meat and synthetic biologics.

Founderteam:

- Dr. Patrick Bongartz
- Konstantin Kurz
- Moritz Meyer



²Last Funding:
February 17, 2025

Lead Investor:
EIC Accelerator,
Freigeist Capital

Black Capture

✓ Pre-Seed
📍 Cologne

Founded in 2025
€ N/A

👤 2

🔗 <https://blackcapture.de/>

Black Capture commercializes a scalable, hardware-based CO₂ capture solution, leveraging advanced ceramic membranes to offer industries a more efficient and cost-effective alternative to conventional carbon capture methods. Their approach addresses both environmental sustainability and economic resilience against volatile CO₂ pricing.

Founderteam:

- Andreas Elli
- Martin Pietrowski





Co-Reactive

✓ Seed
📍 Aachen

Founded in 2024
€ €1,900,000.00³

👥 9

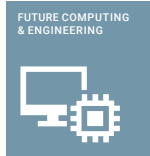
🔗 <https://co-reactive.com/>

If the cement industry were a country, it would rank as the third-largest emitter of greenhouse gases, accounting for 8% of global emissions, following China and the USA. The cement production process releases substantial CO₂ from limestone, highlighting the urgent need for solutions to harness and utilize these vast quantities of CO₂. This is where Co-reactive steps in – a spin-off from RWTH Aachen University. We're developing an innovative process for CO₂ mineralization, binding CO₂ in solid form. This groundbreaking technology converts CO₂ into solid carbonate that can be used as a sustainable resource. By incorporating our product into construction industry, we not only dramatically reduce the carbon footprint but also enhance the properties of construction material.

Founderteam:

- Dr. Andreas Bremen
- Orlando Kleineberg
- Willi Peter

³Funding:
500k dilutive,
inkl. grants: 1.9M€



FloodWaive

✓ Pre-Seed
📍 Aachen

Founded in 2020
€ N/A

👥 14

🔗 <https://floodwaive.com>

FloodWaive provides high-resolution, easy-to-understand flood forecasts within seconds. Their solution enables precise and comprehensive risk assessments, empowering public and private stakeholders worldwide to take early and decisive action.

Founderteam:

- Dr. Julian Hofmann
- Adrian Holt

Limaa Technology

✓ Seed
📍 Cologne & Berlin

Founded in 2022
€ N/A

👥 6

🔗 <https://limaatechnologies.com/>

LIMAA develops a fully automated tissue preserving end-to-end histopathology platform for clinical use. This first of its kind platform allows to analyze entire tissue biospecimens in 2D and 3D without embedding or slicing while the tissue is not consumed. Preserved tissue samples are used for downstream applications leading to the unique opportunity to integrate multiplex biomarker visualization of entire tissue samples, genomics and AI guided decision making in every routine sample - no matter what sample size.

Founderteam:

- Fabian Mohr
- René Hägerling
- Mélanie Guenter



Lumoview

✓ Seed
📍 Cologne

Founded in 2021
€ €5,500,000.00⁴

👥 27

🔗 <https://www.lumoview.com>

Lumoview provides an innovative solution for fast, precise, and autonomous building data capture.

Benefit from an easy-to-use scanning technology, digital access to all relevant building data, and seamless integration into your systems. Increase your productivity, reduce costs, and contribute to the energy transition through data-driven decisions for sustainable maintenance and renovation projects of many properties.

Founderteam:

- Arne Tiddens
- Silvan Siegrist



⁴Last Funding:
€3,000,000.00
June 2, 2025

Lead Investor:
IBB Ventures, Greencode Ventures,
NRW.BANK, WakeUp Capital,
EIC Accelerator



Manugy

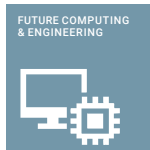
✓ Pre-Seed Founded in 2021 9
📍 Cologne € N/A

🔗 <https://www.manugy.com>

MANUGY offers flexible, automated production solutions for small to medium-sized energy storage systems with a focus on battery technology. We support companies in industrializing next-generation innovative battery technologies through a holistic approach that integrates product, process, and engineering expertise. As a one-stop shop, Manugy enables their partners to efficiently scale their production without compromising on quality or sustainability. Their goal is to accelerate the energy transition through customized series manufacturing solutions and make a sustainable contribution to the future of energy storage.

Founderteam:

- Dr. Christoph Baum
- Toni Voebel
- Prof. Dr. Simon Lux



ONIQ

✓ Pre-Seed Founded in 2020 17
📍 Cologne € €3,900,000.00⁵

🔗 <https://oniq.com/en>

ONIQ introduces a new era of efficient and sustainable manufacturing operations. With a click of a button, the software IQA generates a digital twin of the actual production and logistics processes, eliminating the necessity for manual process mapping.

AI-powered analyses uncover inefficiencies, root causes, and improvement opportunities, facilitating the rapid identification of effective solutions for common operational challenges. This not only enhances operational efficiency but also bolsters sustainability by shedding light on the product carbon footprint. IQA leverages IT and OT data from existing enterprise IT systems and integrates seamlessly into the existing IT infrastructure.

Founderteam:

- Christoph Kosmehl
- Yvonne Therese Mertens
- Davis Kirkendall

⁵Last Funding:
€3,500,000.00
July 20, 2022

Lead Investor:
TechVision Fonds,
coparion

People IX

✓ Seed Founded in 2022 14
📍 Cologne € €2,300,000.00⁶

🔗 <https://www.peopleix.com/>

PeopleIX enhances human resource management through cutting-edge people analytics. We empower organizations to make data-driven personnel decisions that foster productive and open work environments. Our solution enables HR teams to recruit and onboard talent more efficiently, increase employee productivity, and retain top performers. Our platform seamlessly integrates with various HRIS and ATS systems, providing comprehensive insights across the entire employee lifecycle. PeopleIX's key features include people analytics, HR data integration, employee lifecycle analytics, retention strategies, diversity, equity & inclusion (DEI) metrics, data-driven decision-making tools, and customizable HR dashboards.

Founderteam:

- Dr. Georg Schaal
- Nick Stodt



⁶Last Funding:
€2,300,000.00
March 20, 2025

Lead Investor:
Earlybird Venture Capital,
TS Ventures, neoteq ventures

Re.Solution

✓ Pre-Seed Founded in 2024 6
📍 Aachen € N/A

🔗 <https://www.linkedin.com/company/resolution-recycling>

re.solution offers a chemical recycling technology for polyester-containing textile waste that is characterized by a low chemical and water footprint. The process runs on renewable energy and is designed to recycle fibre blends and handle impurities that are common in textiles. Providing sustainable alternatives particularly to virgin plastic, we divert valuable resources from landfills and incineration. As we forge ahead, we cordially invite investors, partners, and eco-conscious people to join us in our mission to make a tangible impact on plastic waste reduction and to contribute to a more sustainable and circular future of textiles.

Founderteam:

- Amrei Becker
- Marcel Gausmann
- Dr. Hendrik Winckler
- Christian Kocks

www.gateway-factory.de





RIIICO

✓ Seed
📍 Düsseldorf

Founded in 2021
€ €7,500,000.00⁷

👥 38

🔗 <http://riiico.com>

RIIICO synchronizes physical factories with digital twins, enhancing systems like Siemens Tecnomatix and NVIDIA Omniverse through AI-generated 3D reality data. We help manufacturers address modern production challenges with precise spatial intelligence. Their AI engine converts real objects into CAD-compatible models while maintaining their exact positions, enabling seamless integration into existing workflows. This allows for improved simulation and planning even without complete data, accelerating VSOP validation and ensuring faster time-to-market for new products.

Founderteam:

- Felix Fink
- Jan Büchsenschütz
- Patrick Mertens

⁷Last Funding:
€5,000,000.00
June 12, 2025

Lead Investor:
Earlybird Venture Capital,
Pi Labs, Berkeley SkyDeck Fund,
Volvo Cars Tech Fund,
seed + speed



Vivalyx

✓ Seed
📍 Aachen

Founded in 2018
€ €15,400,000.00⁹

👥 16

🔗 <https://www.vivalyx.com>

Vivalyx is pioneering a groundbreaking, synthetic, multifunctional preservation solution—Omnisol—that holds promise to transform organ transplantation by improving organ vitality, reducing costs, and overcoming limitations of blood-based methods.

In a nutshell: Vivalyx is dedicated to saving lives of people suffering from organ failure by increasing the vitality and number of donor organs.

Founderteam:

- Dr. Andreas Schumacher
- Dr. Benedict Doorschodt
- Dr. Carola Steins-Rang
- Dr. René Tolba
- Dr. Christian Bleilevens

⁹Last Funding:
€8,500,000.00
February 19, 2025

Lead Investor:
TechVision Fonds, Brightlands
Venture Partners, Leblon Capital,
GOOSE Capital, EIC Accelerator



Roofline

✓ Seed
📍 Aachen

Founded in 2024
€ N/A⁸

👥 17

🔗 <https://www.roofline.ai>

roofline is on a mission to make AI deployment at the edge flexible, efficient, and easy. In a rapidly evolving landscape where novel models like LLMs emerge quickly and hardware solutions grow increasingly diverse and complex, traditional deployment methods have become major barriers to edge AI adoption due to their low adaptability, limited performance, and poor user experience.

Our software solution revolutionizes this process by offering unmatched flexibility, superior performance, and remarkable simplicity. With roofline, users can import models from any framework and deploy them across diverse hardware with just a single Python call, streamlining the implementation of cutting-edge AI technology.

Founderteam:

- Maximilian Bartel
- Dr. Thomas Zimmermann
- Jan Moritz Joseph

⁸Lead Investor:
First Momentum Ventures,
PAWAO Capital

alteva

Founder:
Aiko Bernehd, Founder & CEO;
Ida Milow, Founder & CTO

PROBLEM SOLVING

We solve two problems at once: we are critically dependent on foreign battery and raw material imports, and current generation batteries are too heavy to electrify wide swaths of the transportation sector. With our batteries, we can drive European innovation, electrify and decarbonize our vehicles, and establish Europe as a tech leader in global energy storage solutions.

TEAM MEMBER

9

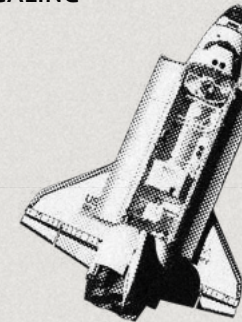
STAGE



WHAT DO YOU NEED?

Funding, we are raising an additional 1.5 M€ to prepare our Seed round.

SCALING



More about alteva:
<https://alteva.tech>

FOUNDED IN

2023

BASED IN



BUSINESS MODEL

We design, manufacture and cell battery cells.

AWARDS

- Creative Destruction Lab - Climate Stream Graduate
- 1. Place NRW Future Tech Award
- DTM 100 Finalist
- 1. Place at the automotive Berg Pitch

SUSTAINABLE INFRASTRUCTURE AND MOBILITY



FUNFACT

“

Being a founder is taxing, strenuous, ungrateful, and tiring. But it is absolutely worth every minute... *unless* you have to interact with public funding offices.

”

Although many sectors are rapidly electrifying, Europe is critically dependent on battery and raw material imports from hostile nations. To reduce this dependence, alteva is developing innovative, ultralight lithium-sulfur batteries that can be produced using European materials and manufacturing processes. Rather than competing with Asian manufacturers on price and scale, our batteries are up to three times lighter and significantly more sustainable than current market alternatives. We will first deliver batteries to prototype customers in small applications and volumes, starting with drones and e-bikes, before tackling larger markets. In the long term, we will electrify global aviation, long-distance trucking, and heavy-duty machinery in the construction, mining, and agriculture industries with batteries manufactured in Europe.

Co-reactive

Founder:
Andreas Bremen, Founder & CEO;
Orlando Kleineberg, Founder & CTO;
Willi Peter, Founder & CCO

PROBLEM SOLVING

Co-reactive addresses the critical shortage of high-quality supplementary cementitious materials (SCMs) by producing *carbon-negative alternatives* from industrial CO₂—helping decarbonize construction while filling a growing supply gap.

FOUNDED IN

2024

TEAM MEMBER

9

FUNFACT

“Co-founders Orlando and Andreas first met while studying mechanical engineering—and spent several years as flatmates. That shared experience laid the foundation for the strong collaboration behind Co-reactive today.”

WHAT DO YOU NEED?

We are close to the finish line of *closing our seed funding round*, allowing us to move ahead with scaling our technology to a demo plant.

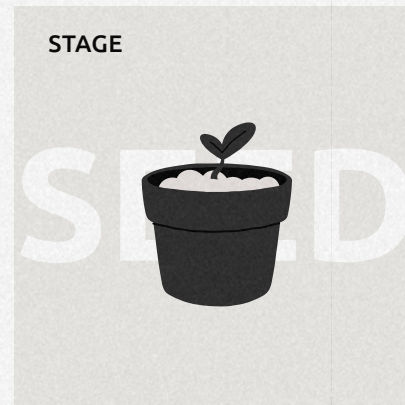
BASED IN



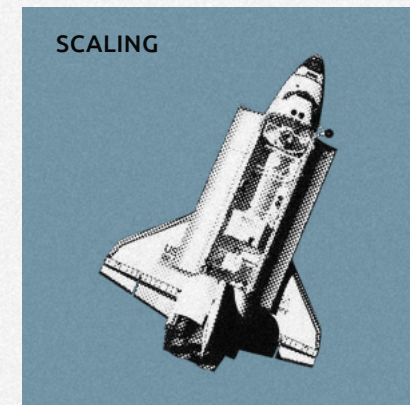
BUSINESS MODEL

Co-reactive starts with a *build-own-operate* model to scale its technology, then transitions to a licensing model complemented by strategic joint ventures—enabling rapid, collaborative deployment of its carbon-negative SCM solution.

STAGE



SCALING



More about Co-reactive:
<https://co-reactive.com>

SUSTAINABLE INFRASTRUCTURE AND MOBILITY



AWARDS

- Winner in Holcim's global accelerator Season 4
- ABE_Award 2024
- Ignition Accelerator Award by digihub Düsseldorf

Co-reactive transforms industrial CO₂ emissions into high-performance, carbon-negative cement additives using proprietary mineralization technology—delivering both climate impact and material strength. Based in Germany, the startup is redefining sustainability in construction by turning CO₂ into value.

Roofline

Founder:
Moritz Joseph, Founder & CEO;
Maximilian Bartel, Founder & CTO;
Thomas Zimmermann, Founder, CFO & COO

BUSINESS MODEL

We are in a *B2B2B* position between edge AI chip vendors and developers. We operate a *licensing model* in both channels.

FOUNDED IN

2024

BASED IN



FUNFACT

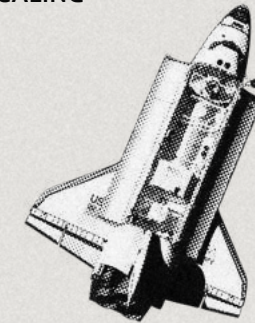
“
We are actually
not a roofing
company.”

STAGE



More about Roofline:
<https://roofline.ai/>

SCALING



TEAM MEMBER

13

ELEVATOR PITCH

Roofline enables the edge AI products you dream of. While developers want tooling that just works, the reality can be months of onboarding and error messages after trying to run the newest GenAI model locally on-device. Roofline is on a mission to bring the power of chips into the hands of innovators. Our next-generation AI compiler empowers AI users to run applications directly on-device with maximum flexibility, efficiency, and ease. We are partnering with leading chip vendors in the edge market to integrate their existing optimizations with our SDK and unlock the full potential of their hardware.

FUTURE COMPUTING & ENGINEERING



WHAT DO YOU NEED?

While we initially focus on partnering with chip vendors, we are also looking for AI developers building products in the edge AI space as early design partners. This includes robotics, industrial IoT, wearables, etc.

As AI-driven automation revolutionizes industries such as automotive, robotics, and healthcare, the ability to process data at the edge is no longer optional but a necessity. However, AI deployment tools have failed to keep pace with this transformation. Over 100 new large-scale AI models emerge annually, introducing novel computational challenges that legacy frameworks simply cannot support. Compounding this, AI HW has grown increasingly fragmented, with hundreds of chip architectures requiring unique SW stacks. This lack of standardization results in costly and inefficient deployment processes, slowing innovation and making it nearly impossible for developers to integrate cutting-edge AI into real-world applications.

Vivalyx

Founder:
Dr. Benedict Doorschodt, Founder & CTO;
Dr. Andreas Schumacher, Founder & CEO;
Prof. Dr. René Tolba, Founder & Chief Medical Officer;
PD Dr. Christian Bleilevens, Founder & Chief Science Officer

ELEVATOR PITCH

Vivalyx is solving the global organ shortage with a patented synthetic blood substitute. Uniquely capable of revitalizing organs that are currently deemed non-transplantable, it has the potential to increase the number of viable organs for transplantation by 4x —while significantly cutting costs. Looking ahead, it will also serve as a *delivery system* for gene and cancer therapies.

TEAM MEMBER

14

BASED IN



More about Vivalyx:
<https://vivalyx.com>

FUNFACT

“Downhill biking seemed like a brilliant idea for our first team retreat—until it all went off the rails. For the next one, we stuck to hiking.”

FOUNDED IN

2022

BUSINESS MODEL

Our primary clientele includes transplant centers (hospitals) and donor organ procurement organizations. In Europe and the US, we have identified approximately 250 key accounts to target through a *direct sales approach*.

AWARDS

- *Creative Destruction Lab 2024 - finalist*
- *Hello Tomorrow Conference 2025 - finalist*
- *German Founder Award 2025 - top 13*

STAGE



FUTURE HEALTH & LIFE SCIENCES



WHAT DO YOU NEED?

12M Series A to fund our sales ramp-up and broadening of indications (start of fundraise with clinical data later 2025)
+ Hiring VP Sales

Over 1 million patients suffer from organ failure. Non-transplant solutions, such as dialysis, impose heavy burdens on patients and incur costs exceeding €100 billion annually in the US. Without transplantations, patients often face fatal outcomes, particularly in liver-related cases. In the future, a wide range of solid organ diseases, particularly cancer, will be treated extracorporeally. For example, end-stage cancer in a solid organ could be treated outside the body using chemotherapeutics at doses that would otherwise cause severe systemic side effects. After treatment, the organ would then be reimplanted into the body.

Starting a DeepTech company is not a sprint. It's a technological marathon, marked by regulatory hurdles, long development cycles, and capital-intensive phases. That makes it all the more important to have a strong environment that not only inspires but truly supports.

In the Rhineland, this environment is already a reality. The region between Aachen, Cologne, and Düsseldorf is becoming one of the most exciting innovation hubs in Europe — because it combines the best of research, industry, and startup mentality.



4. Ecosystem Monitor

But who exactly provides support *and how*?

This is the main part of the Gateway Factory Ecosystem Monitor. It provides a summary of the initiatives, collaborators, and key figures that support deep tech startups from the first idea to growth. We would like to introduce to you three start-up centers in this Moonitor, one in each city: RWTH Innovation for Aachen, Gateway Excellence Start-up Center University of Cologne for Cologne, and CEDUS for Düsseldorf. Undoubtedly, there are numerous additional options, particularly in Cologne, such as the Gateway TH Köln. So, please do not hesitate to investigate them on your own.

The Gateway Factory is not starting a new ecosystem. It is at the heart of an active network of dedicated stakeholders who have been committed to entrepreneurship, research, and innovation for years.

What we do is connect.
Bring together.
Accelerate.

Founding. Network. Support. – CEDUS

Name of the startup center: CEDUS

Number of team members from your startup center: 6



Isabell Nethke
Deputy Head of CEDUS & Consulting
isabell.nethke@hhu.de

“[...] Sustainability and impact have become core priorities—not just in product design, but across entire business models.”

What are some of the most promising new startups emerging from your startup center?

Isabell: There are many promising teams that we are currently working with. It's difficult to single one out, but if we had to name one team, it would be Jobfair. We are really excited to see what the founders will come up with in the coming months. We can only advise everyone to keep following this development.

What are the upcoming challenges your startup center and its affiliated startups are dealing with?

Isabell: As a start-up center like CEDUS at HHU Düsseldorf, we - like many of our research-related startups - are confronted with specific challenges relating to the transfer of scientific ideas into marketable solutions. The transfer of research into practice remains a key issue. Finally, we as a centre are also coming up against structural limits. The increasing demand for counselling, coaching and matching services meets with limited personnel capacities. At the same time, the need for specialised support is growing - for example in IP issues, ESG standards or international scaling strategies. In order to meet this dynamic, we are working on scalable formats and are consistently expanding our partner network in the region.

What are your expectations for collaboration with other startup centers in the Gateway Factory network and which synergies do you plan to leverage?

Isabell: As part of the Gateway Factory network, we aim to strengthen NRW's startup ecosystem by fostering deeper collaboration between university startup centers. Sharing knowledge and best practices helps us improve our support programs, especially for deep tech and science-based ventures.

We see great potential in forming cross-university founder teams, combining expertise from different institutions to tackle complex challenges. Through joint events, pitch formats, and demo days, we can increase visibility for early-stage startups and position NRW as a hub for innovation.

By sharing resources—from legal coaching to lab access and funding advice—we make support more accessible and efficient, benefiting founders across the entire region.

What role does the Rhineland region play for deep tech startups and what potential do you, as a startup center, see in this region?

Isabell: The Rhineland is home to leading universities (RWTH Aachen, University of Cologne, HHU, etc.), Max Planck and Fraunhofer Institutes, and a dense network of applied research. This scientific ecosystem forms a critical pipeline for deep tech innovation, particularly in fields like biotech, AI, materials science, and medtech. As CEDUS, we believe the Rhineland has the critical ingredients to become a leading deep tech hub in Europe with diverse

knowledge centers, industry openness to pilot and co-develop and increasing investor interest. We are committed to bridging research and entrepreneurship.

Which emerging trends do you see as particularly relevant for your startup center and future startups?

Isabell: At CEDUS, we see a strong rise in deep tech and science-based entrepreneurship, with researchers turning breakthrough innovations in fields like AI, materials science, and green chemistry into startup ideas. This requires long-term support, close integration with research infrastructure, and tailored funding paths.

At the same time, sustainability and impact have become core priorities—not just in product design, but across entire business models. Founders increasingly focus on climate resilience, social value, and circular economy solutions, responding to both investor demands and societal needs.

Finally, AI-native startups are redefining how young ventures work. Even in early stages, teams integrate AI tools into their operations, from research and automation to market analysis—requiring new skills, ethical frameworks, and agile processes from both founders and support structures.

Which outstanding teams have originated from your startup center? Are there any remarkable success stories you can share?

Isabell: Elona Health is developing a digital health application that supports outpatient psychotherapy through intelligently controlled therapy content, thereby increasing adherence to treatment and the coordination of treatment processes. Elona also aims to become the extended arm of psychotherapists and relieve them of their workload.

talnt.de is a boutique recruitment consultancy specializing in tax and audit professionals. The company connects qualified and ready-to-move experts with clients in the tax sector, aiming to create real value for both sides. With extensive recruiting experience, talnt.de supports clients as a competent partner and offers additional services such as a curated candidate board and informative blog articles-

TunaTech is a spin-off from the Institute of Metabolic Physiology, Ecophysiology Group. The company focusses on the breeding of demanding fish species such as the Atlantic bluefin tuna.

innoVIVA - Breathe deeply. Healthier living. innoVIVA develops and distributes breath testers for the lifestyle and healthcare market. Thanks to the non-invasive and fast test procedure, innoVIVA offers medical professionals an innovative device and increases patient well-being.

Which programs and events are upcoming at your startup center?

Isabell: The next upcoming event is the award ceremony for the HHU Ideenwettbewerb. In September, we will have a joint stand at the Future Tech Fest, where we can showcase start-ups and research projects. In addition, the Rhineland-wide Cofoundermatch event will take place on the same day, where we will help form teams that develop their start-ups well and for the long term.



14th HHU Ideas Competition award ceremony on July 10th at 6 p.m.



The Future Tech Fest will take place on September 11, 2025 at the Areal Böhler in Düsseldorf.

“At CEDUS, we see a strong rise in deep tech and science-based entrepreneurship, with researchers turning breakthrough innovations in fields like AI, materials science, and green chemistry into startup ideas.”



Scan for the
Event Calendar

Science. Entrepreneurship. Innovation.



Frederik Lindner
Head of Start-ups and Acceleration
f.lindner@gateway-unikoln.de

– Gateway Excellence Start-up Center Uni- versity of Cologne

What are some of the most promising new start-ups emerging from your startup center?

Frederik: Many teams are dedicated to the great challenges of our time, for example in the areas of ecological and social sustainability or health. Alteva wants to decarbonize the global transportation sector. The team is developing ultralight batteries made from abundant and sustainable raw materials. W1nnas are innovating sports nutrition with healthy performance pouches for athletes. Visaflow is specialized in providing Legal Tech SaaS solutions in the visa and relocation context. Fintech NarolQ enables companies to create their own ETFs and funds as well as turning fund issuers into ETF issuers by plugging them on their NarolQ platform. Teams like these are already gaining much attention, for example NarolQ has recently raised a 6.5m seed financing round with VC powerhouse General Catalyst among the investors.

What are the upcoming challenges your startup center and its affiliated startups are dealing with?

Frederik: AI is the big topic of our time – and both an opportunity and a challenge. For startups in all sectors it is a challenge to integrate AI into products and processes and keep up with the rapid development. At the same time, we can see from many of the teams we support that AI offers completely new solutions to major problems in



Startup Your Idea Contest 2025
(Fotocredit: Dustin Preick)

society, the door to significant innovations is wide open.

Regarding the tense situation of the global economy, we are currently observing B2B startups having difficulties to mobilize corporates for collaborations or pilot projects. We hope to be able to provide even better support here with the Gateway Factory network.

What are your expectations for collaboration with other startup centers in the Gateway Factory network and which synergies do you plan to leverage?

Frederik: Together we can best promote the growth of the most promising startups. Scaling and financing at an international level pose major hurdles for deep tech startups. With the Gateway Factory network, we combine the strengths of the participating partners – and provide access to state-of-the-art infrastructure, pilot customers, and expertise. At the same time, we are creating a larger ecosystem that also attracts partners for later stage financing rounds and internationalization. Last but not least, the network also helps with matchmaking in the very early stages to bring together the best high potentials from different disciplines.



Scan for the
Event Calendar

What role does the Rhineland region play for deep tech startups and what potential do you, as a startup center, see in this region?

Frederik: The Rhineland is the location where startups can grow – deep tech startups in particular. Our region is the economic engine of Germany, with a strong industrial base. Proximity to pilot customers is key in the B2B sector. Furthermore, 10 million people live here. This means that we offer the best market access not only for B2B but also for B2C startups. Our talent pool is huge, with more than 15,000 researchers and approximately 200,000 students alone in the cities of Aachen, Cologne and Düsseldorf. In this way, we offer the best access to innovative ideas from research as well as to talent. In addition, a dense VC infrastructure for financing startups has been established over the years.

Which emerging trends do you see as particularly relevant for your startup center and future startups?

Frederik: AI acts as a booster, for example in the legal sector. Particularly exciting AI startup projects come from research in business informatics. Here, teams such as Pixit, Foresight and xPolicy are demonstrating pioneering applications of research findings.

In addition to AI, we see climate change as the major topic that many of our startup teams are tackling. We expect to see even more promising startup projects in this area, partly thanks to the excellent research at our university and initiatives such as the University of Cologne’s Sustainability Office.

Which industry verticals does your startup center support?

Frederik: Future Health & Life Sciences, Future Regulatory Demands, Sustainable Infrastructure & Mobility and more.

Which outstanding teams have originated from your startup center? Are there any remarkable success stories you can share?

Frederik: According to a report by Financial Times outlet Sifted, Vytal is one of the fastest-growing start-ups in Europe, ranking 12th in 2024, and has so far been able to mobilize investments of 18 million euros. The

“The Rhineland is the location where startups can grow – deep tech startups in particular. Our region is the economic engine of Germany, with a strong industrial base.”

AGENDA	Mo. 28.07.	Di. 29.07.	Mi. 30.07.	Do. 31.07.	Fr. 01.08.
9:00 - 12:00 Uhr	Welcome, Vorstellung und Organisatorisches 9:00 - 10:00 Uhr	Welcome & Warm-up 9:00 - 9:15 Uhr	Welcome & Warm-up 9:00 - 9:15 Uhr	Welcome & Warm-up 9:00 - 9:15 Uhr	Welcome & Warm-up 9:00 - 9:15 Uhr
	Ideen Pitches & Teambuilding 10:00 - 11:00 Uhr	Business Planning / Lean Canvas Benny Gerdes 9:30 - 12:00 Uhr	Marktabgrenzung & Wettbewerbsanalyse Benny Gerdes 9:15 - 12:00 Uhr	Finanzierung Simon Graw 9:15 - 10:30 Uhr	IP & Patentrecht Björn Schulz 9:15 - 10:15 Uhr
	Role Model - Erfahrungsbericht Gateway Start-up Open Advo 11:00 - 12:00 Uhr			Pitch Training Simon Graw Start Up Coach 10:30 - 12:00 Uhr	Final Pitches Gateway Jury: Miriam Fussangel Eda Grafe Christoph Krieger 10:15 - 12:00 Uhr
12:00 - 13:00 Uhr	GEMEINSAME MITTAGSPAUSE				
13:00 - 17:00 Uhr	Idea Validation Benny Gerdes 13:00 - 16:30 Uhr	Energizer 13:00 - 13:15 Uhr	Energizer 13:00 - 13:15 Uhr	Energizer 13:00 - 13:15 Uhr	Wie geht es weiter? #makeideaswork 12:40 - 13:00 Uhr
		Einführung/Anforderungen Pitch Simon Graw 13:15h-14:30h	Team Arbeit 13:15 - 16:30 Uhr	Pitch Training Simon Graw Start Up Coach 13:15 - 14:30 Uhr	Best Pitch Announcement 13:00 - 13:15 Uhr & Check-Out 13:15 - 14:15 Uhr
		Team Arbeit 14:30 - 16:30 Uhr		Teamarbeit 14:30 - 16:30 Uhr	
	Check-Out 16:30 - 17:00 Uhr	Check-Out 16:30 - 17:00 Uhr	Check-Out 16:30 - 17:00 Uhr	Check-Out 16:30 - 17:00 Uhr	

Agenda Start-up Summer School 28.07. - 01.08.2025

digital reusable system for take-away and delivery food is typical of startups from the University of Cologne. We support many teams that bring entrepreneurship and digitization to new fields of application to generate social and ecological impact.

Pioneering innovations and startups in one of the University of Cologne’s strongest research areas, Life Sciences, are also typical. Detechgene’s new technology enables simple and precise detection of pathogens outside the laboratory. Prosion Therapeutics is a biotech company with a proprietary technology combining the advantages of small molecules and biologics to unlock undruggable disease drivers.

The University of Cologne is now one of the top 3 most startup-friendly universities in Germany. Top rankings in the Stifterverband’s “Gründungsradar” and in the German Startup Monitor prove that the University of Cologne not only produces a particularly large number of founders, but that its startup support is also one of the best in the country.

Which programs and events are upcoming at your startup center?

Frederik: Those founders who are just starting out with their idea can take important steps towards becoming a startup in just five days at the Summer School (28.07.-01.08.).

Always a good idea: apply for the Start Your Idea Contest. Submit your idea by October and present it in front of a large audience at the pitch final. There are big cash prizes to be won.

With the Gateway Incubator, we help founders in the early pre-startup phase – to develop the idea into a sound business model. Our program imparts practical knowledge in all topics relevant to startups. Additionally, we connect the teams with the startup ecosystem. The program includes workshops, training sessions, social events, coaching, expert advice, workspaces and lots of startup community. The next batch starts in autumn.



Gateway Incubator – the next batch starts in autumn. (Fotocredit: Fabian Stürtz)

Deeptech. Entrepreneurship. Connect. – *RWTH Innovation*

Name of the startup center: RWTH Innovation

Number of team members from your startup center: 16



Images via www.rwth-innovation.de



Philip Mayer
Coaching Programs
philip.mayer@rwth-innovation.de

Which outstanding teams have originated from your startup center? Are there any remarkable success stories you can share?

Start-ups like Cylib and Black Semiconductor illustrate the strength of our regional ecosystem in driving forward technologies that are shaping the industries of tomorrow. Cylib, with its pioneering solution for sustainable battery recycling, and Black Semiconductor, developing next-generation chip technologies based on photonic-electronic integration, are both gaining global attention. Their recent fundraising rounds in 2024 – €55 million for Cylib and €250 million for Black Semiconductor – underscore investor confidence and the growing international relevance of innovations emerging from Aachen. Especially as Europe seeks greater independence from US and Chinese markets, these ventures are key contributors to strengthening European technological sovereignty.

What are some of the most promising new start-ups emerging from your startup center?

Our startup center continues to foster some of Europe's most forward-thinking ventures, tackling major global challenges through cutting-edge innovation. Among the most promising examples is Vivalyx, an Aachen-based startup developing a groundbreaking synthetic preservation liquid for organ transplantation. Their solution enables organ perfusion at body temperature and shows superior results compared to traditional blood-based methods. In April 2024, Vivalyx raised €5.4 million in seed funding to accelerate clinical development. Another standout is LiveEO, which uses AI-powered satellite data to monitor climate risks and critical infrastructure, helping industries like energy and transport respond to environmental threats. The Berlin-based company, founded by RWTH Aachen Alumni - raised €25 million in its latest funding round, further cementing its role in driving sustainable, data-driven solutions across Europe and beyond. Furthermore, IonKraft developed a plasma technology to make plastic packaging 100% recyclable. Through their innovative coating approach, plastic containers receive barriers that were previously only possible through multi-layer plastics which were hard or impossible to recycle. Currently, they are working on delivering their first machines to their customers.

“Especially as Europe seeks greater independence from US and Chinese markets, these ventures are key contributors to strengthening European technological sovereignty.”



Malte Brettel
Teaching

4. Ecosystem Monitor

“The Rhineland region—centered around RWTH Aachen—offers a uniquely fertile environment for deep tech startups in engineering, energy, mobility, and industrial technology.”



What role does the Rhineland region play for deep tech startups and what potential do you, as a startup center, see in this region?

The Rhineland region—centered around RWTH Aachen—offers a uniquely fertile environment for deep tech startups in engineering, energy, mobility, and industrial technology. With a strong industrial backbone that includes global players and Mittelstand firms such as Ford, Covestro, Lanxess, and Deutsche Post DHL, startups benefit from direct access to potential pilot customers, strategic partners, and application environments. Just as critical is the growing support from the regional investment landscape: early-stage investors like High-Tech Gründerfonds (HTGF), TechVision Fonds, NRW.BANK, and other specialized VCs have played a key role in helping RWTH-affiliated startups bridge the gap between lab and market. As a startup center, we see enormous potential in these close industry-university-investor linkages, which make the Rhineland one of Europe’s most dynamic regions for scaling deep tech ventures with global impact. Moreover, the startup support ecosystem with other partners is uniquely strong in Aachen. Close collaboration with local players like digitalHUB, FH Aachen, AGIT and student initiatives as well as super-regional partners e.g. in Belgium and the Netherlands strengthen the ecosystem for young startups.

Which programs and events are upcoming at your startup center?

Our startup center at RWTH Aachen is gearing up for an exciting lineup of programs and events through 2025 that continue to strengthen our deep tech ecosystem. In July 2025, the annual Chiotec conference brought together founders, investors, and industry leaders to showcase cutting-edge technologies and foster collaboration. Following that, the fall batch of our Incubation Program will provide ~15 startups with tailored support to accelerate their market readiness. This August and November, we will launch two batches of our Ideation Program, each welcoming ~10 teams for intensive coaching and development. Reflecting our strong commitment to female entrepreneurship, 10 successful EXIST Women scholarship recipients began their programs in Spring 2025, gaining access to our comprehensive support network. Making

sure that a lot of students and researchers at RWTH Aachen know about the possibility of starting a business, we are organizing several workshops specially designed for researchers as well as a 3-day bootcamp for students providing them with the most important tools when starting a business. Together with digitalHUB Aachen, we organize the digitalSUMMIT in September 2025. Beyond these flagship initiatives, we maintain an active founder community through regular roundtable discussions and events at the Collective Incubator, providing ongoing opportunities for networking, peer learning, and collaboration within the RWTH startup ecosystem.

What are the upcoming challenges your startup center and its affiliated startups are dealing with?

Our startup center and affiliated startups face two main challenges. First, bridging the technology gap—transforming deep tech innovations into market-ready products—remains a critical hurdle. To address this, we actively foster partnerships with industry leaders, research institutions, and innovation hubs that provide access to resources, pilot projects, and market insights, helping startups accelerate commercialization. Additionally, we support startups in securing crucial funding by actively assisting with EXIST applications, such as the Forschungstransfer and Gründungsstipendium program, which specifically targets the transfer of research innovations into the market. Second, attracting talent with strong business and entrepreneurial skills is a challenge, as RWTH is primarily a technical university. To overcome this, we cultivate a collaborative ecosystem by partnering closely with neighboring universities and startup centers focused on business and economics, creating interdisciplinary teams that combine technical expertise with essential business acumen. This integrated approach strengthens our startups’ capabilities and prepares them for sustainable growth.

Which emerging trends do you see as particularly relevant for your startup center and future startups?

At RWTH Aachen, we see several emerging trends shaping the future of our startup ecosystem. First, sustainability and climate tech continue to gain momentum, with startups focusing on energy efficiency, circular economy solutions, and green manufacturing—areas closely aligned with our engineering strengths. Second, the rise of AI and data-driven technologies is transforming traditional industries like manufacturing, mobility, and healthcare, creating new opportunities for startups to innovate with smart automation, predictive maintenance, and personalized solutions. Third, advanced materials and semiconductor technologies remain a critical frontier, given their foundational role in enabling next-generation devices and systems. Finally, interdisciplinary collaboration—combining deep tech with business, design, and social sciences—is increasingly vital, as complex challenges require holistic approaches. Our startup center is actively aligning programs and partnerships to equip founders with the skills and networks needed to leverage these trends for impactful innovation.

What are your expectations for collaboration with other startup centers in the Gateway Factory network and which synergies do you plan to leverage?

From the RWTH Aachen perspective, we see great potential in collaborating with other startup centers within the Gateway Factory network. We bring a strong pipeline of engineering startups and deep tech expertise, which are key strengths of our ecosystem. By working together, we aim to share best practices in startup coaching and scaling, pool specialized knowledge, and co-host events that foster cross-disciplinary innovation. This collaboration will enhance resource efficiency, broaden funding opportunities, and amplify the international visibility of startups across the network, ultimately accelerating innovation and growth throughout the region.

aixsolution e.V.

The student consultancy from Aachen



“aixsolution is an exciting partner for startups, especially from the deep-tech sector. An interdisciplinary aixsolution team supported us with significant impact in our search for OEMs for a specific product component. We particularly appreciated how quickly the consultants familiarized themselves with the complex subject matter.”

– Konstantin Kurz, Co-Founder & CFO at BioThrust GmbH

4. Ecosystem Monitor

aixsolution e.V. is a student consulting firm at RWTH Aachen University that has been combining practical consulting at a high level with academic standards since 2000. As a student initiative, aixsolution supports companies of various sizes – from startups and medium-sized businesses to established corporations – with strategic, digital, and operational challenges. The members consist of committed students from different disciplines who bring interdisciplinary expertise, fresh perspectives, and high personal initiative to every project. Beyond project work, aixsolution places great emphasis on the personal and professional development of its members through workshops, training, and a strong network of partner companies, alumni, and the university environment of RWTH Aachen.

“The Moonitor is one of the most exciting projects for aixsolution. It emerges from close cooperation, supported by a strong network and the principle of mutual learning. Our goal is not only to make founders visible but also to accompany them beyond the report through targeted projects and to support them in bringing innovation from the Rhineland to the world.”

– Jacob Schartel, Chairman of the Executive Board aixsolution e.V.



Jacob Schartel
Chairman of the Executive Board aixsolution e.V.

Expert Insights: *DeepTech Champions* reshaping Europe's future



5. Insights & Trends – DeepTech in Europe



As Europe awakens to a new era of technological innovation, we've gathered compelling voices from the forefront of this transformation. This chapter explores how DeepTech is evolving from academic research into market-changing solutions across the continent, with a special focus on the Rhineland's remarkable journey.

Our featured conversations begin with an exclusive interview with Robin Neff, Senior Investment Associate at World Fund, who traces their journey from shop floor engineering to venture capital. They offer unique insights into hardware innovation, the Rhineland's emergence as a sustainable technology hub, and portfolio success stories like Cylib and Aedion that exemplify the region's potential.

Orrick, a global law firm, shares revelations from their groundbreaking Orrick Founder Equity Study 2025, illuminating how Europe's multidisciplinary teams – combining scientific excellence with business

acumen – are navigating the complex funding landscape.

Finally, we feature a thought-provoking article from TechVision Fonds on "How Rhineland Start-ups Are Changing the World with High Technology," chronicling the region's remarkable transition from coal mining to pioneering cleantech. This transformation mirrors the broader European story, where institutions like RWTH Aachen are becoming launchpads for breakthrough innovations.

As Europe redefines its innovation strategy, mobilizes capital, and nurtures top talent, regions like the Rhineland exemplify what's possible when research excellence meets entrepreneurial ambition. The Gateway Factory stands as a bridge in this movement, bringing together knowledge, capital, production capabilities, and partners to help shape Europe's DeepTech era.



Fotocredit: World Fund



Engineering Climate Solutions

With a unique perspective bridging engineering and finance, World Fund champions the Rhineland's emergence as a hub for sustainable innovation, supporting breakthrough companies like Cylib and Aedifion while building Europe's sustainable future.

Engineering Climate Solutions: A VC's Vision

Interview with Robin Neff,
Investment Manager at World Fund

Could you describe your professional journey? How has your technical background shaped your current perspective on investments in the climate tech sector?

Robin: My professional journey began with an apprenticeship as an electronics technician, gaining hands-on experience on the shop floor. I then pursued a bachelor's degree in industrial engineering, gaining technical depth and an interest for everything hardware-related. After gaining some experience on the automotive supplier side, I joined Porsche Ventures. We were fortunate to back fast-scaling ventures like cylib, 1Komma5° and Black Semiconductor - all deep tech pioneers driving decarbonization. Now at World Fund, I focus on a wide array of climate and frontier technologies. Our mission to empower climate tech entrepreneurs to build a regenerative world.

You've been in venture capital since 2020/21. What biases against hardware startups have you observed in the VC industry and what's your stance on this? How do you see the climate crisis as a driving force for investments?

Robin: When I entered VC in 2020/21, I was struck by how hardware was often dismissed as "not a VC-case." That never resonated with me. Capital intensity isn't ex-



Startup Your Idea Contest 2025
(Fotocredit: Dustin Preick)

clusive to hardware - leading software firms raise billions. Europe's engineering and manufacturing edge is an asset we must leverage. In VC it is easy to get lost in the noise. I've always believed in anchoring investment theses in strong macro trends. Climate change is unfortunately not going away - it's worsening. The capital required to solve it is in the trillions, and the longer we wait, the more it will cost us annually. Luckily a new generation of founders - veterans that potentially learned some hard lessons at Northvolt, Lilium, and others - are bringing real experience to new ventures. Europe's ecosystem is maturing, and conditions are ripe for transformative climate-tech startups.

How would you describe the unique characteristics of the startup ecosystem in the Rhineland compared to other German locations? Which cities and technologies stand out particularly?

Robin: Germany's startup ecosystem has traditionally been fragmented. Berlin remains a hub for hyper-connected capital and community, while Munich benefits from strong corporate R&D. The Rhineland offers something distinct, a mix of industrial legacy, engineering excellence, and excellent research. Cities like Aachen and Cologne are particularly noteworthy. Aachen, anchored by RWTH University, excels in battery technology and advanced engineering. Cologne and Düsseldorf host major industrial players undergoing transformation. There are a lot of super interesting companies like Accure, Aedifion, Voltfang, or Black Semiconductor (to only name a few) emerging from this ecosystem. Many of them have raised significant amounts of capital and continue to build momentum. This is the beginning of a regional flywheel effect.

What does European resilience mean to you specifically and how does climate technology contribute to it? What role does the Rhineland play in this vision and how does World Fund support companies in this area?

Robin: European resilience is not just a catchphrase, it's about reducing reliance on foreign energy, critical materials, and foundational tech. It means building the capacity to produce, scale, and govern key climate and industrial technologies within Europe's borders. At World Fund, we've backed companies like Cylib, and IQM to bolster Europe's industrial sovereignty. We support our portfolio not only with capital but also with strong network connections, regulatory insights, and access to public sector markets. Tools like contracts-for-difference and resilience-based procurement are vital. The Draghi Report's call for €800B/year in climate investment underscores the scale. The Rhineland can be central - modernizing infrastructure and driving commercialization of sustainable tech.



Portfolio of some of their backed teams who understand decarbonisation as value driver (Graphic via PressKit of World Fund).

5. Insights & Trends – DeepTech in Europe

Which companies from your portfolio in North Rhine-Westphalia would you particularly highlight? What makes these startups so successful and what developments have they recently achieved?

Robin: Two standout NRW-based portfolio companies of ours are Cylib and Aedifion - and of course we are always looking for the next. Cylib, spun out of RWTH Aachen, pioneering with their end-2-end battery recycling approach. After raising a €55m Series A they recently secured major NRW funding to build their first industrial facility. This is a prime example that climate tech can scale very quickly. Aedifion, based in Cologne, combines hardware-agnostic control systems with AI-driven analytics to optimize energy use in buildings. They recently closed a €17 million Series B and were now focused on expanding across Europe. From NRW to the world!

How do you evaluate the current support ecosystem for startups in the Rhineland? Where do you see room for improvement to unlock the full potential of the region?

Robin: The Rhineland's support ecosystem is growing. RWTH, Fraunhofer Institutes, and NRW.BANK form a strong base. But to fully unlock potential, we need tighter public-private coordination and more capital for scale-ups to really unlock the potential at scale. Early-stage support is solid, but we must better bridge research and global commercialization, connecting founders to global customers and late-stage capital.

What role does venture capital play in promoting climate innovations? How does World Fund combine financial success with climate impact? What advice do you have for founders in the hardware space looking to attract venture capital?

Robin: VC is key to climate innovation. At World Fund, financial success and climate impact go hand-in-hand. We measure it via our Climate Performance Potential (CPP) methodology, a rigorous, impact-first framework. Advice to founders? Don't fall too in love with the tech. Get out. Talk to customers. Understand real-world pain points. Especially in hardware, scaling depends on identifying the right initial application. This is what VCs are looking for: technology rooted in real-world need, with the potential for fast iteration and growth.

About World Fund

World Fund helps to decarbonise the global economy. As a climate tech VC, they are driven by tackling the climate crisis and only invest in technologies with scalable businesses and significant emissions savings potential. World Fund supports startups from early to growth stage, focusing on Energy, Food and Agriculture, Manufacturing, Buildings, and Mobility.



(Fotocredit: World Fund via worldfund.vc)

Unveiling the DNA of German Startup Teams

The Orrick Founder Equity Study 2025 examines nearly 2,200 venture-backed German startups, revealing crucial patterns in team composition and equity distribution. Their data shows two-founder teams dominate the ecosystem (41%), women remain significantly underrepresented at just 15% of all founders, and clear equity allocation patterns emerge based on team size. Stay tuned for more!

Text via Orrick, Herrington & Sutcliffe LLP

FOUNDER TEAMS AND EQUITY SPLITS IN VC-FUNDED GERMAN START-UPS

WRITTEN BY ORRICK

Founder Teams and Equity Splits in VC-funded German Start-ups

We are excited to share initial findings from our Orrick Founder Equity Study 2025.

We analyzed founder teams and equity distributions across almost 2,200 German start-ups established between 2019 and 2024, each having secured external funding through business angels or (corporate) venture capital investors. While our dataset focuses on funded start-ups rather than the entire German start-up ecosystem, it provides valuable insights into team composition, gender distribution, and equity allocation patterns.

The complete findings as well as a practical guide on how to approach team composition and equity splits have been published in 15th edition of the Orrick Legal Ninja Series (OLNS#15).

Team Size

Let us first look at the distribution of team sizes. The overall data set shows that two-founder teams dominate (41%) followed by three-founder teams (26%) and solo founders (19%). Spoiler alert (more on that in OLNS#15): While the aggregate data shows remarkable stability in team composition over a six-year period several sectors display notable deviations from these aggregate patterns.

Gender Distribution

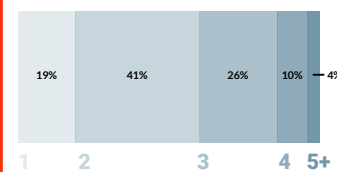
Our data set included a total of 5,299 founders and our analysis confirms and quantifies the significant underrepresentation of women in German start-ups.

We found an overall woman representation of only 15%. As this disparity not only persists but often widens with increasing team sizes, the overall picture suggests that substantial work remains to achieve better gender balance. However, as we will see in the analysis of the annual developments as well as different sectors in OLNS#15, there are a few encouraging signs.

All editions of OLNS can be found here: orrick.com/olns

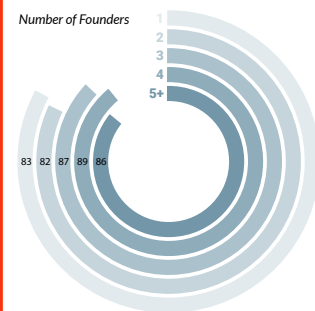


NUMBER OF FOUNDERS



Data Points: 2,179
Average: 2.43
Median: 2

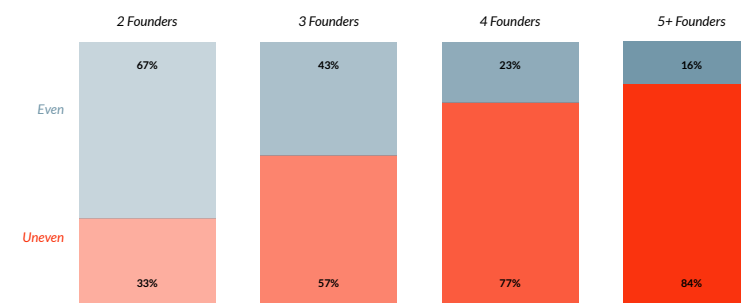
MEN REPRESENTATION (IN %)



Data Points: 5,299
Average: 85% Man; 15% Women

Even and Uneven Splits

The distribution of equity among co-founders represents one of the most crucial and potentially contentious decisions in a start-up's early life. Let us start with the decision whether to split the equity evenly or unevenly.



Data Points: 1,775
Average: Even = 51%; Uneven = 49%

Two-founder teams demonstrate the strongest preference for equal distribution, with 67% opting for even splits. As team size increases, the complexity of equity distribution grows correspondingly. While we observe a shift toward uneven splits in three-founder teams, which predominate at 57% of cases, the preference for uneven splits is even more pronounced among four-founder-teams and teams with five or more founders, with 77% and 84%, respectively opting for differentiated equity distribution.

Equity Distribution Patterns in Teams with Uneven Splits

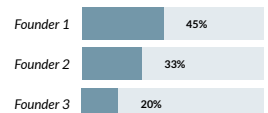
And how do teams with an uneven equity distribution actually split the pie?

While this pattern suggests that founding teams have developed certain "standard" approaches to uneven equity splits, the specific distribution often depends on team size and – as to be seen in OLNS#15 – potentially other factors (Another spoiler: We also analyzed how the gender mix in a founder team impacts equity distribution.).

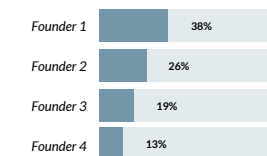
2 FOUNDER



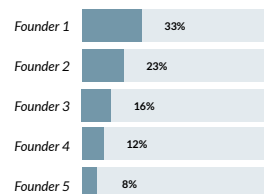
3 FOUNDER



4 FOUNDER



5+ FOUNDER



Equity distribution in teams with uneven splits (Total 865)

About Orrick

The Legal Partner Who Scales with You: Orrick is a global law firm with 1,100 lawyers in 25+ markets in the United States, Europe and Asia. We focus on serving the Technology and Innovation, Energy and Infrastructure and Finance sectors. In Europe, we advise on more venture transactions than any other law firm. Furthermore, we provide support to start-ups in their incorporation and early stages through a variety of services, such as our unique online Incorporation or VSOP Riddle which walks the founders through the respective process. These services are designed to ensure an efficient setup that provides a solid basis for future growth.

From Coal to Innovation: Rhineland's Tech Renaissance

Discover how Aachen's high-tech startups like membion are transforming Germany's industrial heartland, solving global water scarcity challenges while creating the SMEs of tomorrow.

Text by Björn Lang,
Partner at TechVision Fonds



Marching water for the SMEs of tomorrow - How start-ups from the Rhineland are changing the world with high-tech

From coal to wastewater treatment technology: the region around Aachen is exemplary for the transformation of an entire economic landscape.

Tradition meets the future

Anyone drawing the economic map of Germany cannot ignore Aachen. The city in the border triangle - once the heart of early European industrialization - was a symbol of the strength of the manufacturing industry: mechanical engineering, mining, energy. The region around Aachen and the Rhenish mining district in particular were characterized for decades by opencast lignite mining, steel production and large-scale industry. But with the structural change in the energy sector, the phasing out of fossil fuels and the decline of traditional industries, the question arises: What comes next?

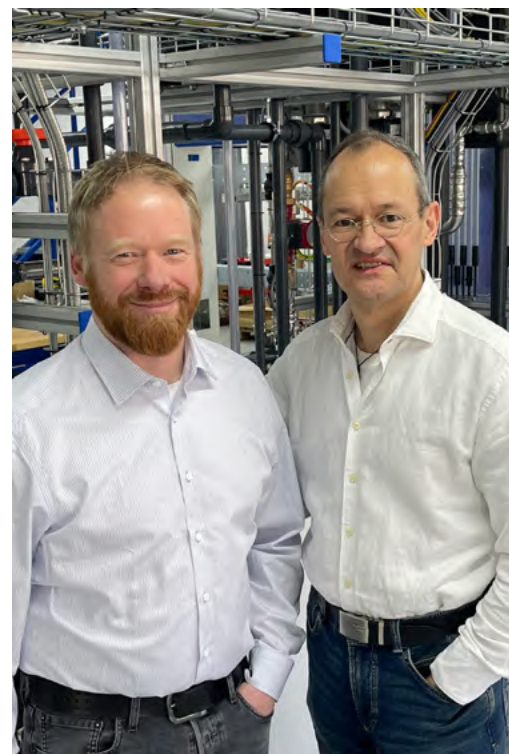
The answer today is provided by a new generation of companies - and they do not come from hip lofts, but from laboratories, technology halls and universities.

A strong breeding ground for DeepTech

The Rhineland in North Rhine-Westphalia and Aachen is one of the strongest research locations in Europe. RWTH Aachen University is one of the world's leading technical universities and trains thousands of highly qualified specialists every year. A unique innovation ecosystem has formed around it: the RWTH Innovation Campus, the Fraunhofer Institutes and numerous technology centers offer founders infrastructure, mentoring and access to capital. In this environment, more and more start-ups are emerging that are not limited to digital platform solutions, but solve real industrial problems with physically tangible technology.

The Gateway Factory was established in the Rhineland from the federal initiative "Lighthouse Competition Startup Factories". With this initiative, the strong locations in the Rhineland - Cologne, Düsseldorf and Aachen - will join forces to further strengthen entrepreneurship in the Rhineland. The Gateway Factory bridges the gap between excellent research, prototypes and the production hall. It offers infrastructure, programs and access to capital to turn academic ideas into marketable products with international competitiveness. With offers such as the Production Camps or the Scale-Up Program, it accelerates the industrial scaling of technology-intensive start-ups.

"It is the silent revolution in western Germany - and it has only just begun."



Team Membion – Klaus Vossenkaul and Dirk Volmering
(Foto via tvf.vc)

In Aachen, a number of highly innovative start-ups are now demonstrating how structural change really works. Not through publicly prescribed programs and measures from the drawing board, but through genuine entrepreneurial spirit, innovative strength and the belief in something really big.

Compared to other startup strongholds such as Berlin or Munich, the ecosystem in the Rhineland is less centralized and not shaped by individual large companies or patrons. The Rhineland is home to the SMEs of tomorrow. Its location in the heart of Europe, in direct proximity to the Benelux countries and France, as well as the presence of a large number of large "old economy" companies, make it the ideal location for this.

membion - Technological breakthrough from the Eifel

It is therefore no coincidence that high-class tech start-ups with the potential to really change the world for the better are created right here. One such company is membion, founded in the Eifel region, just a few kilometers south of Aachen. The start-up has dedicated itself to one of the most pressing problems of our time: water scarcity. membion develops innovative filters for membrane bioreactors (MBR) that represent a revolution in wastewater treatment. MBR technology delivers 1000 times better water quality than conventional wastewater treatment plants, while at the same time drastically reducing the space required. The shortcoming of previous MBR plants: due to the very high energy consumption for aeration, they were hardly competitive in terms of operating costs.

5. Insights & Trends – DeepTech in Europe

About TechVision Fonds

TechVision Fonds (TVF) is an early-stage VC based in Germany. TVF manages the third and fourth venture fund and invests in technology startups with an aggregated fund volume of over € 100 million. As a financial investor, TVF provides capital of up to € 6 million to founders while supporting all ventures with hands-on mentoring, industry expertise, and valuable networks. TVF offers unique access to the “old economy” via the S-UBG Group, giving young startups access to their first potential customers or partners. The network includes over 150 successful portfolio companies from 30 years of investment experience.

	
STAGES	AUM
(Pre-) Seed Series A	> 100 Mio. €
	
INITIAL TICKET	MAX AMOUNT
500k € - 2,0 Mio. €	6,0 Mio. €

Investment criteria (Graphic via tvf.vc)



“ After all, despite the justified boom in artificial intelligence, we will not be able to solve the global challenges of our time with software and lean business models alone.”

What was previously considered too expensive and too complex is now economically competitive thanks to membion. Compared to state-of-the-art MBR systems, membion saves up to 90 % energy and thus catapults MBR into a new dimension in terms of economic efficiency. The compact design also makes it possible to implement the increasingly required fourth purification stage without the need for additional space. Membion also makes water treatment significantly more sustainable.

Proof of this is the company's latest milestone: the contract for Germany's largest MBR wastewater treatment plant in Wolfsburg (220,000 population equivalents) - a breakthrough for the company and proof that start-ups can also successfully conquer the B2G market.

But membion stands for more than just technical excellence. The company is an example of the new generation of SMEs from the Rhineland: deeply rooted in the region, close to research, driven by engineering - and with a global impact. Due to high market demand, membion is currently developing additional production space - expanding capacity is currently the biggest challenge for the company.

Capital for complexity

With the boom in hardware and deep tech start-ups, the investor landscape is also changing. For a long time, it was difficult for hardware start-ups to find capital. Too expensive, too slow to scale, too risky, too “asset-heavy” - according to the well-known VC mantra. However, the reality of climate change, the energy crisis and resource scarcity has also shaken up some investors. After all, despite the justified boom in artificial intelligence, we will not be able to solve the global challenges of our time with software and lean business models alone.

Venture capital investors specializing in DeepTech, ClimateTech and similar areas are now focusing on start-ups that use complex technologies to make a big impact instead of relying on quickly scalable products. membion and co. are benefiting from this - and showing that persistence and technological depth pay off.

A new economic self-image

The structural change in the Rhineland is more than just the end of open-cast mining. It is the beginning of a new industrial era. One in which technology is not an end in itself, but a solution. In which start-ups like membion are not the antithesis of SMEs, but their logical continuation.

The Aachen region is therefore not only a historical industrial trendsetter - it is one again. Only this time not with coal and steel, but with membranes, chips and recycling processes.

It is the silent revolution in western Germany - and it has only just begun.

A partnership like the one between the TechVision Fonds as a deep-tech investor and the Gateway Factory as a growth-oriented ecosystem shows how the right forces can work together to take visionary teams to the next level. When capital meets infrastructure, expertise meets entrepreneurial courage and research meets industrial implementation, the result is more than funding - it is movement. An invitation to all those who not only want to accompany structural change, but also shape it.

Upcoming Event

Highlights

Mark your calendar, pack your business cards, and join Europe's thriving DeepTech community as we build the next generation of technology champions together.



Next Pulse Workshop



"B2B Sales Mastery"
with Matthias Stammen (Source.ag)

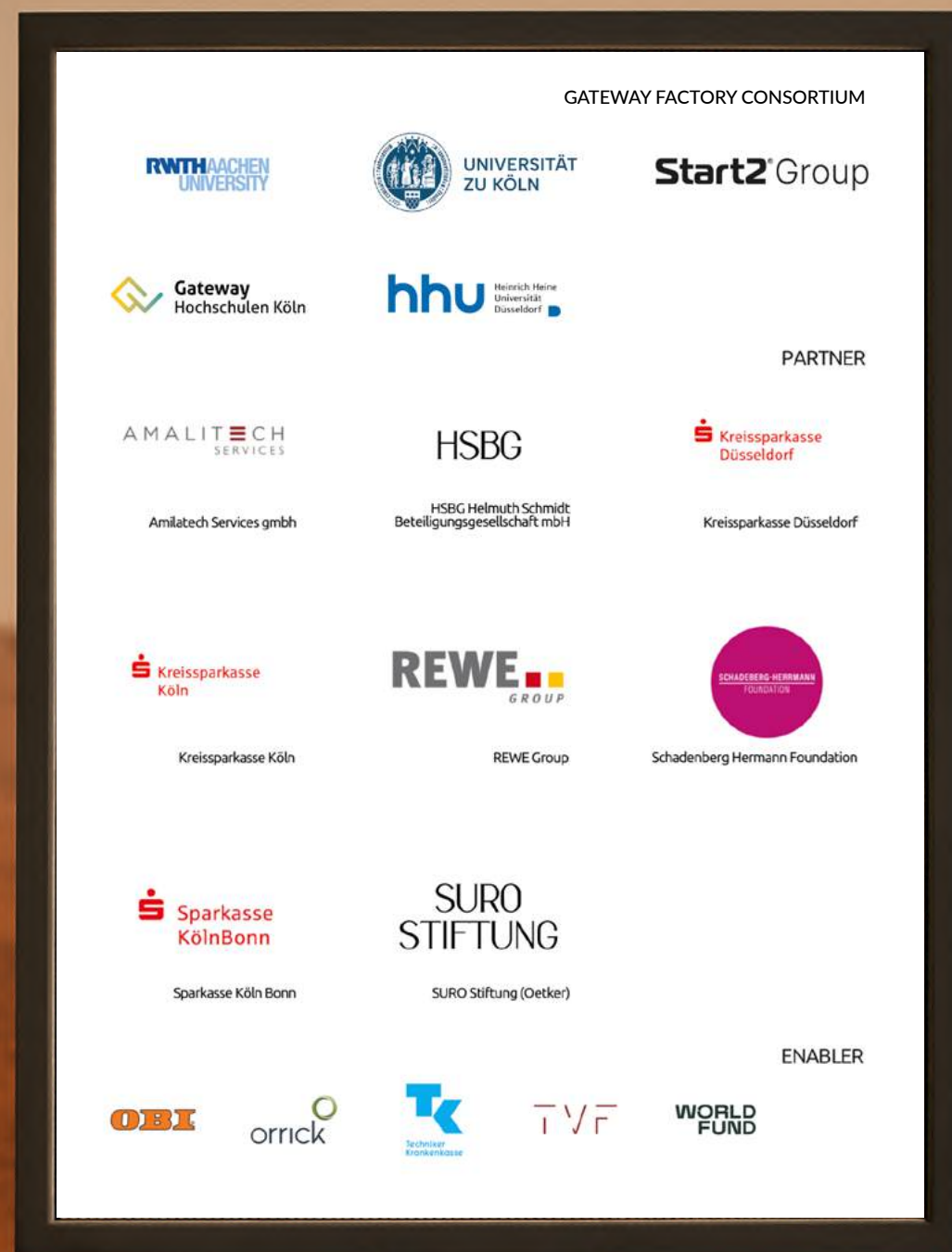
JULY 09, 2025
3:30 PM

Coming Soon

Event	Date	Location	Website
Gateway Factory PULSE Workshop 	09.07.2025	Online	https://gateway-factory.de/pulse
Prämierungsfeier HHU Ideenwettbewerb 2025	10.07.2025	Düsseldorf	https://www.cedus.hhu.de/detailseite/praemierungsfeier-hhu-ideenwettbewerb-2025
Cologne Startup Summer Night 2025 – 10 Jahre Gateway	10.07.2025	Cologne	https://www.eventbrite.de/e/cologne-startup-summer-night-2025-10-jahre-gateway-tickets-1309580653989
Gateway Start-up Summer School	27.07. – 01.08.2025	Cologne	https://gateway-unikoeln.de/en/events/gateway-start-up-summer-school-2025
Gateway Factory PULSE Workshop 	13.08.25	Online	https://gateway-factory.de/pulse
Startup-Frühstück	13.08.25	Aachen	https://www.aachen.digital/event/startup-fruehstueck-20-2/
TechBBQ 2025 	27.08.2025	Copenhagen, Denmark	https://techbbq.dk
PIRATE Night 2025 (Pirate Summit)	28.08.2025	Cologne	https://piratesummit.com/
Gateway Gov & Legal Tech Forum	01.09.2025	Cologne	https://gateway-unikoeln.de/events/gateway-foerderverein-event
Startup Week Düsseldorf 2025	08.09. – 12.09.2025	Düsseldorf	https://startupweek-dus.com/de/
Digital X 2025	10.09.2025	Cologne	https://digital-x.eu/en/focus-edition
Future Tech Fest	11.09.2025	Düsseldorf	https://www.futuretechfest.de/
Legal Hackathon Cologne 2025	12.09.- 14.09.2025	Cologne	https://legalthackathon.de/#einleitung
DMEXCO 2025	17.09.2025	Cologne	https://dmexco.com/de/

Stage Two - Wildcard Event x Gateway Factory 	18.09.25	Cologne	https://gateway-factory.de/stagetwo
Renewable Materials Conference	22.09. - 24.09.2025	Siegburg	https://renewable-materials.eu/
Bits & Pretzels 2025	29.09. – 01.10.2025	Munich	https://www.bitsandpretzels.com
How to Web 2025 	01.10. - 02.10.2025	Bucharest, Romania	https://www.howtoweb.co/
Female Founders Event	07.10.2025	Cologne	https://gateway-unikoeln.de/en/events/female-founders-event
Kick-Off Event Ready to Scale 	08.10.2025	Cologne	https://gateway-factory.de/
World Summit AI 2025 	08.10.- 09.10.2025	Amsterdam, Netherlands	https://worldsummit.ai/
Stage Two 2025	28.10. - 30.10.2025	Berlin	https://stagetwo.io/
EdTech Hackathon	09.11.2025	Cologne	https://www.startplatz.de/event/genai-ki-hackathon-edtech-2024-11-09/?type=hackathon
Web Summit 2025 	10.11.- 13.10.2025	Lisbon, Portugal	https://websummit.com
MEDICA 2025	17.11.- 20.11.2025	Düsseldorf	https://www.medica.de/
Slush 2025 	19.11.- 20.11.2025	Helsinki, Finland	https://slush.org/
prototypes.cologne	27.11.2025	Cologne	https://prototypes.uni-koeln.de/

Whether you're looking to dive deep into specialized tech domains, seeking funding opportunities, or wanting to expand your network across Europe's most dynamic innovation hubs, these carefully selected events offer the perfect platform to propel your DeepTech venture forward.



Partner

Thank you so much for your support and
being a part of the Gateway Factory family!

Join the mission

Ready to be part of Europe's DeepTech revolution?
The Gateway Factory invites you to connect with us!

Thank you to our partners

The Gateway Factory's mission to bridge European innovation with startup ambition would not be possible without the dedication and vision of our remarkable partners. We extend our deepest gratitude to the institutions, investors, advisors, and industry leaders who have joined us on this journey to build DeepTech champions in the Rhineland and beyond.

Special thanks to World Fund, Orrick, TechVision Fonds, aixsolution e.V., and our academic partners at RWTH Aachen, HHU Düsseldorf and University of Cologne for their invaluable contributions to this magazine and to our broader ecosystem. Your exper-

tise, commitment, and belief in Europe's innovative potential have been instrumental in creating this platform for transformation.

We also acknowledge the founders and teams featured in this report, who exemplify the pioneering spirit that is reshaping our industrial landscape. Your work inspires us daily.

Join the DeepTech Movement

Ready to be part of Europe's DeepTech revolution?
The Gateway Factory invites you to connect with us:

- Founders: Whether you're developing ground-breaking technology or seeking to commer-

- cialize research, we provide the resources, expertise, and connections to help you scale.
- Investors: Join our network of forward-thinking capital partners committed to backing transformative technologies with impact.
 - Industry Partners: Collaborate with innovative startups and access cutting-edge solutions that can drive your organization's future.
 - Talent: Build your career at the intersection of science, technology, and entrepreneurship in one of Europe's most dynamic ecosystems.

Get in touch:

Email: join@gatewayfactory.de
Website: <http://www.gatewayfactory.de>
LinkedIn: [/gateway-factory](https://www.linkedin.com/company/gateway-factory)
Instagram: [@GatewayFactory](https://www.instagram.com/GatewayFactory)



Group photo of the first Gateway Factory Virtual Pitch Night

Together, let's build
DeepTech Champions –
made in Europe.



The start-up-friendly universities in Aachen and Cologne are founding Gateway Factory GmbH together with Start2 Group to develop established startups into internationally successful scaleups. Gateway Factory Startup unites strong partners and an ecosystem that is second to none. We combine the technological expertise and experience with industrial cooperations in Aachen with the management and financial expertise in the business metropolis of Cologne. The Start2 Group adds its scaling know-how and international networks.





SUBSCRIBE

Never miss an issue.
Subscribe at www.gateway-factory.de

CONTACT US

For general inquiries,
write to join@gateway-factory.de

PARTNERSHIP

To enquire about partnering or sponsorships,
get in touch at join@gateway-factory.de

FOLLOW US

To get along and stay up to date
follow us on LinkedIn or Instagram!