

# Women Founders in European Deep Tech Startups

## *Main Findings Report*



**NOVEMBER 2024**



**Women Founders  
in European Deep Tech  
(WIDT) European Startups**

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We want to thank especially **Julien Dyer**  
for his amazing research assistance

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The opinions expressed do not necessarily reflect the views of  
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Investment Bank Group, the European Commission or of other  
European Union institutions and bodies”.



## Women Founders in European Deep Tech Startups Report - EIF Foreword

The EIF is committed to encouraging female leadership in the Venture Capital industry. This study confirms that women continue to be underrepresented in deep-tech start-ups and reveals that deep-tech start-ups led by women remain underfunded. The findings of the study are yet another reminder that we still have a great deal more to do.

At the EIF have been working to bring about change by introducing gender criteria in our flagship InvestEU programme together with the European Commission. This leadership-focused model encourages women to be integral to the decision-making process in investment roles, paving the way for future women leaders in finance and beyond.

By actively targeting VC funds which espouse gender diversity in their leadership, we want to write a new chapter in Venture Capital. We aim to foster gender diversity across a wide variety of VC sectors, including deep-tech, an area critical in our collective efforts to nurture the innovation ecosystem. A gender positive approach to the deep-tech industry in Europe will in and of itself be a marker of innovation. A more gender-diverse approach to the VC industry can help set Europe apart and put it on a path to become a leader in this field.

Our commitment to promote gender equality in the world of finance and in particular Venture Capital and Private Equity will remain high, and research papers such as this one are key for us to analyse and design future actions that aim to reduce the gender disparity.

We thank EIT-Food for their work on this study that constitutes yet another example of the excellent collaboration we have had with the EIT Knowledge and Innovation Centres in recent years. We look forward to other opportunities to work with EIT, which we have come to view as a like-minded partner for EIF.



**Marjut Falkstedt**  
Chief Executive at EIF

## Women Founders in European Deep Tech Startups Report - EIB Foreword

Only 14% of deep-tech startup founders in Europe are women and they get access to 11.4% of total funding available. However, grants and support programmes represent almost one-third of this funding. Other fund suppliers, such as business angels and VCs are less likely to fund a startup with a woman in the founding team. These findings, which the Women Founders in European Deep Tech Startups Study presents, are insightful in illustrating the current gender finance gap in investments in European deep-tech and the challenges that women founders face to access the adequate sources of funding to grow their businesses. The European Investment Bank Group, through its Strategy on Gender Equality and Women's Economic Empowerment, recognises this gap and joins efforts with its partners to mobilise further investments in women-led and women-owned companies, to boost innovation and unlock the full potential of the European Union's economy.

A pivotal actor in this endeavour, the EIB, through its Advisory services works to raise awareness on this investment gap and the missed opportunity that it represents for the EU. Through its recently launched Gender Finance Lab, funded by the European Commission's InvestEU Advisory Hub, the EIB delivers market research and brings together financial sector stakeholders to promote gender-smart finance practices. Ultimately, EIB Advisory services' mission is to support financial intermediaries to capitalise on the business opportunity of investing in women-owned and women-led businesses across the EU, which represents not only an opportunity for economic returns, but also for higher social and green returns.



**Gemma Feliciani**  
Director of the Financial  
Institutions Department,  
European Investment Bank

## Women Founders in European Deep Tech Startups Report - EIT Director Foreword

The report Women Founders in European Deep Tech Startups contains an important call to intensify efforts across Europe, to bridge the gender gap in deep tech. Less than 25% of deep tech startups have a woman in the founding team, and the percentage of total funding going to deep tech startups with women founders stands at 11.4% only. Gender bias in investment make it crucial to support women-led start-ups at the early-stage. Those first investors are invaluable for founders, particularly for entrepreneurs developing solutions for major global challenges, where societal impact is as essential as commercial success. And that's where the EIT comes in.

Our programmes, such as the EIT SUPERNOVAS, bring women talent both to European start-ups, and to European investment, through Women Investment Network. The pivotal support we are providing to women-led ventures includes funding, access to markets, clients, thematic expertise, and partnerships. Let me give you some concrete examples: Dr Laura Soucek, whose company Peptomyc is revolutionizing cancer treatment around the world. Krisztina Kovacs-Schreiner (CEO) and Dr Florence Gschwend (Co-founder) of Lixea, who developed a groundbreaking technology, which turns global agricultural and wood waste into profitable materials and fuels, contributing to a more sustainable and circular economy. There are thousands more women-led ventures powered by the EIT.

And there are hundreds of thousands of women we are training to be ready to take the step to become entrepreneurs. For example, the EIT Deep Tech Talent Initiative (DTTI) is one of our programmes addressing the tech skills shortage by creating an educational platform dedicated to deep tech skills development. Its goal is to train 1 million European talents in deep tech fields by 2025 – we have set a target of a minimum 30% women participants. To give one more example: the EIT Girls Go Circular project has trained +40,000 schoolgirls across Europe with digital and entrepreneurial skills, through an online learning programme on circular economy. And you can be sure that the EIT will remain committed in the coming years, to support women entrepreneurs in tech.

Delivering ground-breaking solutions to pressing global challenges is possible only with women talent, not only on board, but also on the steering wheel. Join us in making gender-smart innovation happen!







**Martin Kern**  
EIT Director



This study is brought to you by Supernovas, an initiative of the European Institute of Innovation and Technology (EIT) and its Knowledge and Innovation Communities aiming to bring more women into the world of entrepreneurship and investment. Supernovas empowers women-led start-ups and future role models for women in business while at the same time fuelling talent to the next generation of women VCs and angel investors . The EIT is an EU body and an integral part of Horizon Europe, the EU Framework Programme for Research and Innovation.

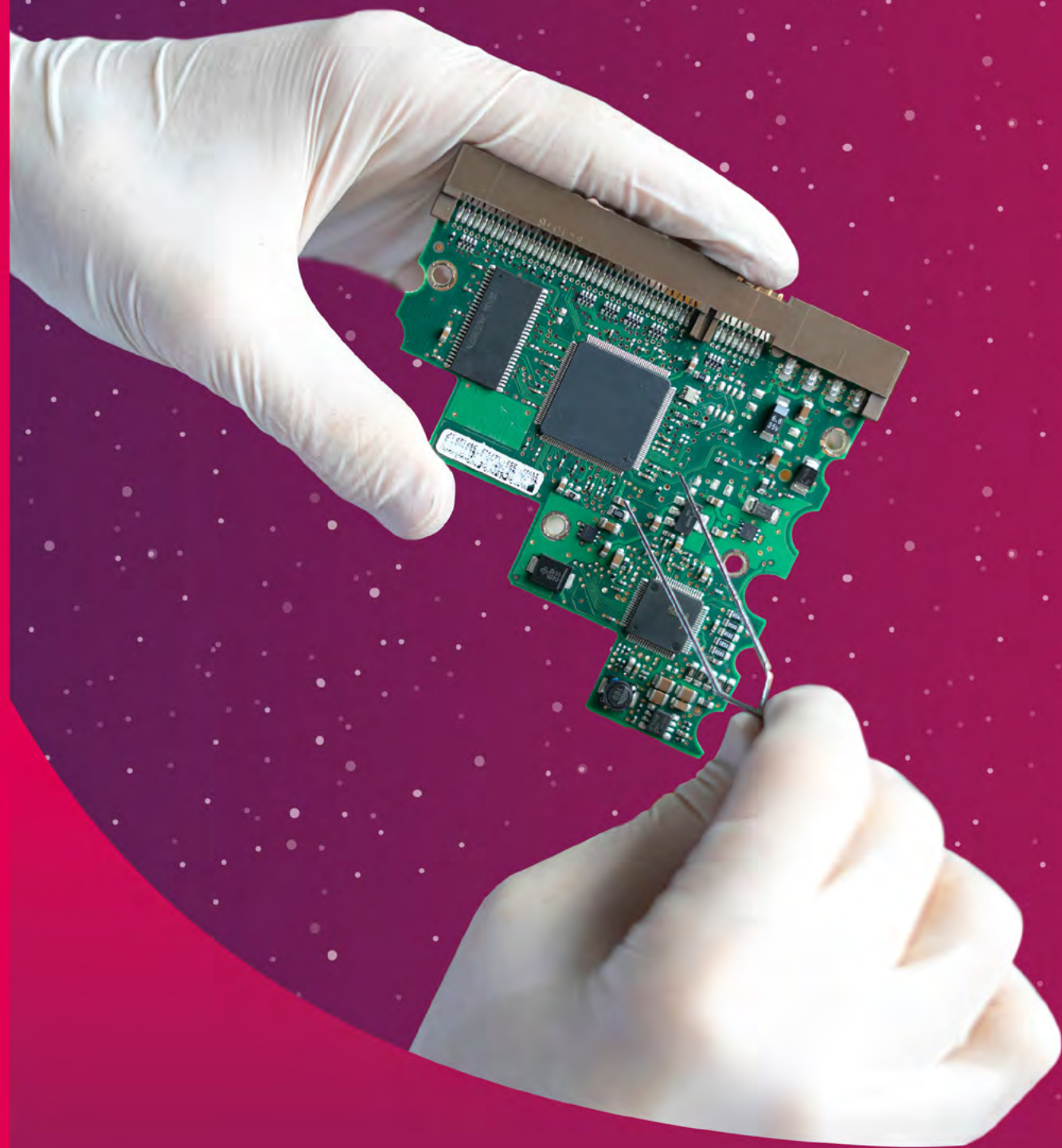
[eit.europa.eu/community-activities/women-entrepreneurship-supernovas](https://eit.europa.eu/community-activities/women-entrepreneurship-supernovas)  
[supernovas.eitcommunity.eu/](https://supernovas.eitcommunity.eu/)

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**01**

# **Purpose and Context of the Study**



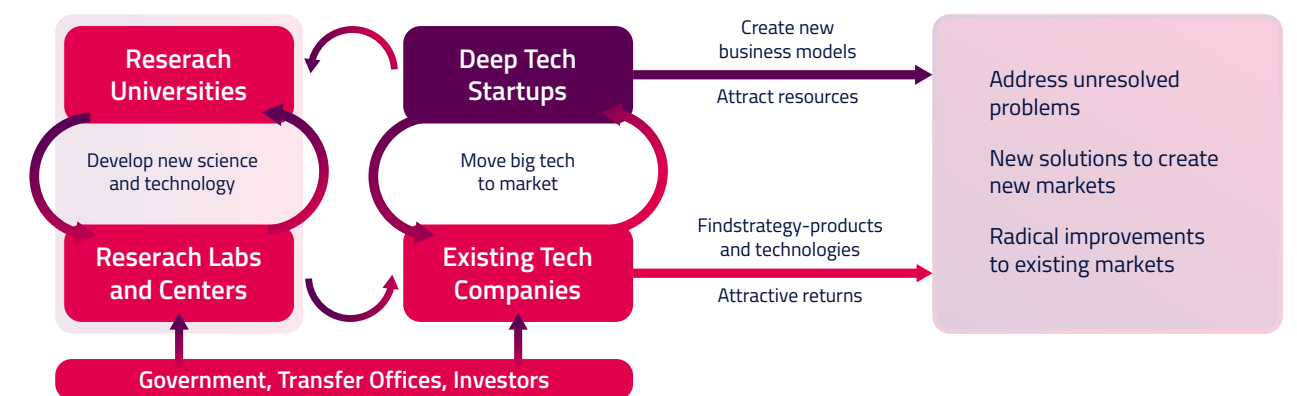


## Subject and context of the Study

- The study addresses a **crucial aspect** of the Deep Tech startup landscape in Europe, which is the **presence of women** and **its implications** in the life of these companies.
- Startups are one of the most relevant mechanisms to **transfer research** carried out in European R&D labs such as universities and research centres to **the market**. Europe is home to some of the best scientists in the world, yet their presence does not translate into Europe having enough **leading technology companies**.
- Women are 50% of the population, having a representation of women in Deep Tech startups lower than this 50% indicates that Europe is not **taking advantage of the talent available** in its population.
- The study provides **insights** into the shortcomings that the European Deep Tech startup ecosystem faces regarding women in founding teams. Europe is defined as geographic Europe as used in the Dealroom database used for this study.
  - The study analyses the **European Deep Tech startup population** with an emphasis on the implications of the presence of women in the startup founding team.
  - The study defines **Women Deep Tech Startups** as startups with at least one woman in the founding team.
  - The study relies on the **database that Dealroom provided** in September 2023 the time of the study and includes startups funded from 2010 to 2022. The classification of a company as a Deep Tech startup is based on Dealroom's evaluation.
- The study addresses the **following objectives**:
  - Understand the **participation of women in founding teams**.
  - Analyse the implications of women in founding team for the **performance of the startup** and the implications of women in founding teams for the **funding path of the startup**.
  - Analyse **the type of funding** received by startups with women in founding teams, the **type of investors**, and the implications on the **valuation of the startup**.

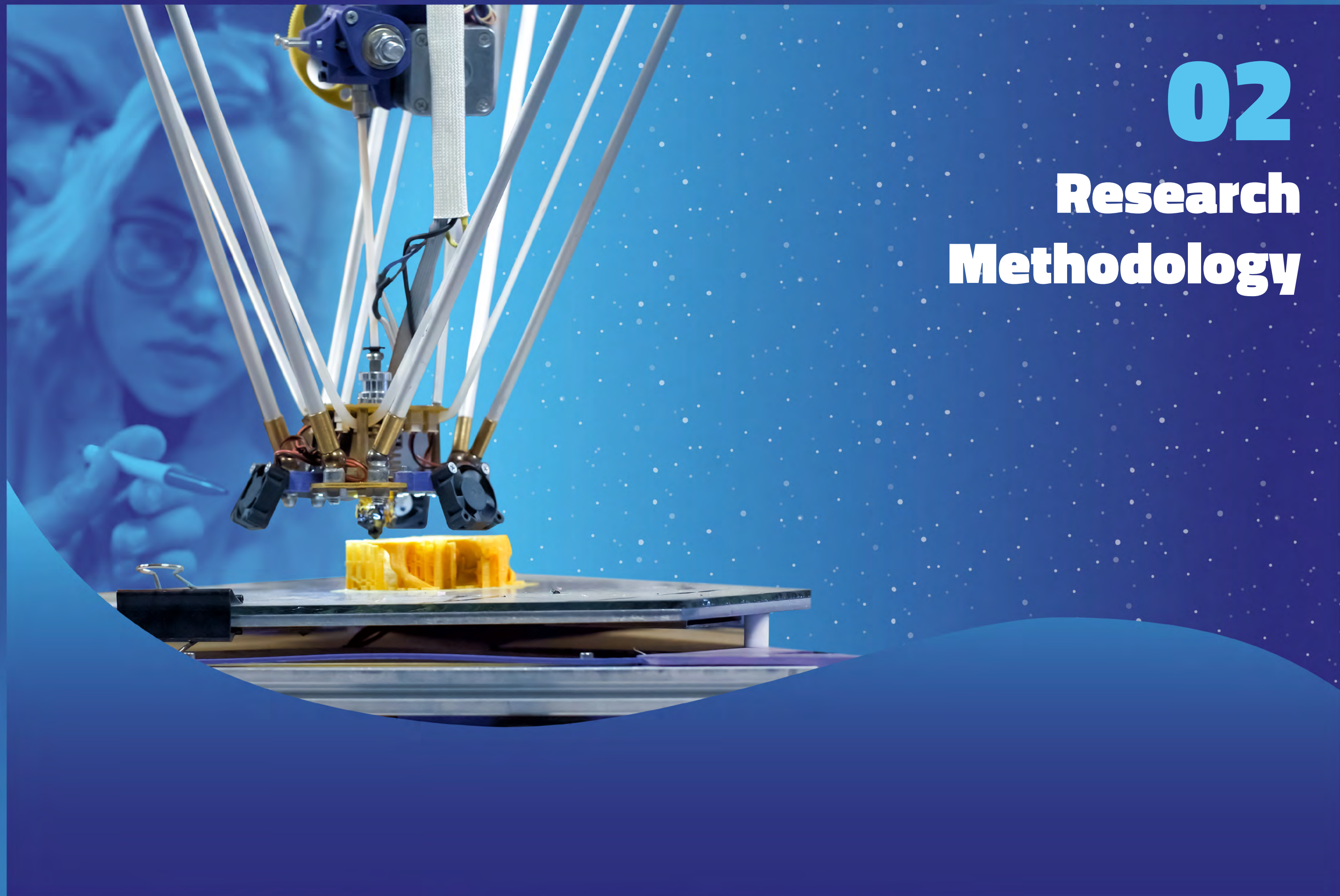
## Deep Tech Startups in the Innovation Ecosystem

Startups are one of the main mechanisms to translate research into products and services that advance society. However, they are just one of the actors in the ecosystem. Furthermore, the health of Deep Tech startups depends on the health of these other actors, including the quality of research universities and research centres as well as the collaboration with existing technology companies.



**02**

# **Research Methodology**





Data Sources

This research study relied on two data sources.

For the quantitative study:

- We used Dealroom database on startups across Europe. We queried the database for companies founded since 2010 using the terms: Europe, DeepTech, Artificial intelligence, Mobile app, Hardware, Machine learning, Big data, Blockchain, internet of things, 3d technology, computer vision, virtual reality, recognition technology, connected device, Augmented reality, Quantum technologies, Natural language processing, Deep learning, Autonomous and sensor technology, Nanotech.
- The geographical scope of the study was set to Europe within the Dealroom database; this scope includes EU as well as non-EU countries.
- The query led to 12,535 observations. We removed 58 duplicated companies. Next, we used the invaluable research assistance of several PhD students to complete the missing data from the original population as well as double-check the information available. In total, more than 6,000 records were updated and corrected.
- For 5,370 companies the names of the founders or their gender could not be found, which reduced the number of companies in the study to 7,165.
- 2023 data not used in the report.
- We analysed the final database using both basic descriptive statistics as well as advanced regression models to identify patterns in the database regarding the participation of women founders in Deep Tech.

For the qualitative study:

We used a qualitative approach to address questions that could not be answered using quantitative information. We interviewed 20 women founders to better understand the process through which they became involved in the startup, their experiences through the journey, and their perspectives on women entrepreneurs in Deep Tech.

The interview included the following topics:

- Background of the woman founder.
- Source of the idea, meeting co-founders.
- The evolution of the startup.
- Initial roles and evolution.
- Role of established organizations.
- Funding.
- Challenges and successes.
- Women in Deep Tech.
- Recommendations.

Deep Tech

Deep Tech refers to “companies, typically startups, whose business model is based on high tech innovation or significant scientific advances.”<sup>1</sup> “They present challenges requiring lengthy R&D, and large capital investment before successful commercialization. Their primary risk is technical risk, while market risk is often significantly lower due to the clear potential value of the solution to society. The underlying scientific or engineering problems being solved by deep tech and hard tech companies generate valuable intellectual property and are hard to reproduce.”<sup>2</sup>

Deep Tech moves frontier technology in research labs to the market. As Deep Tech progresses in the market, it becomes current tech.<sup>3</sup> However, different versions of a Deep Tech are at different stages of market acceptance. Therefore, Deep Tech startups include both companies that are bringing an initial version of a Deep Tech to the market as well as companies that rely on commercial versions of this Deep Tech to create new product offerings in the market. Deep Tech startups include a mix of new-to-the-market technologies with applications of commercial versions of Deep Tech.<sup>4</sup>

There are many classifications of Deep Technologies. For instance: “Advanced materials, advanced manufacturing, artificial intelligence, machine learning, biotechnology, blockchain, robotics, photonics, aerospace and space technology, electronics (including semiconductor manufacturing), cyber threat intelligence, fusion power, and quantum computing.”<sup>5</sup> Or “Novel AI, future of computing, novel energy, space tech, synthetic biology, advanced materials, robotics, transportation, foodtech and agritech, cybersecurity. Biotech is excluded from our definition of Deep Tech, except for some segments like AI-first biology.”<sup>6</sup>

Definitions of women founders in Deep Tech European startups

The focus of the study is the population of startups with the following characteristics:

- European company.
- Startup company defined as companies founded after 2010 in the Dealroom database.
- Deep Tech company as classified by Dealroom. Thus, we rely on Dealroom expertise to classify startups as Deep Tech.

We analysed the final database using both basic descriptive statistics as well as advanced regression models to identify patterns in the database regarding the participation of women founders in Deep Tech.

Women founded	Startup with at least one woman in its founding team.*
Solos	Startups founded by one person.
Majority women	Majority of founders are women (teams and solos).
Majority women teams	Majority of founders are women (teams only).

\* Women founded Deep Tech startups are referred to as women Deep Tech startups.

1 <https://dictionary.cambridge.org/dictionary/english/deep-tech>, accessed Sept. 4, 2023  
2 [https://en.wikipedia.org/wiki/Deep\\_tech](https://en.wikipedia.org/wiki/Deep_tech), accessed Sept. 4, 2023  
3 The term Deep Tech was coined in 2014 by Propel(x) CEO, Swati Chaturvedi and defined it as “companies founded on a scientific discovery or meaningful engineering innovation

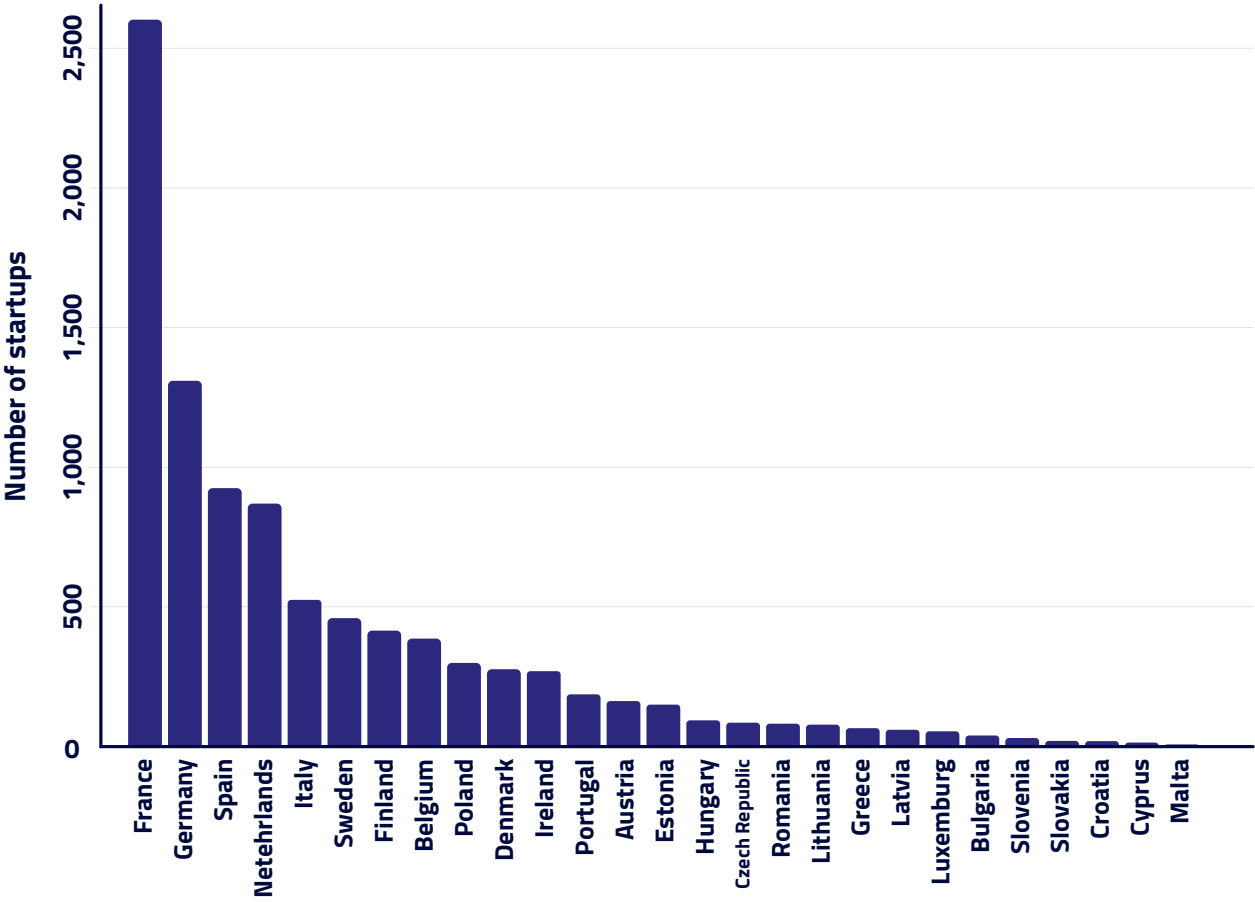
4 Dealroom classification does not include biotechnology as Deep Tech  
5 [https://en.wikipedia.org/wiki/Deep\\_tech](https://en.wikipedia.org/wiki/Deep_tech), accessed November 19, 2023  
6 The European Deep Tech Report, 2023 Edition, January 2023 by Dealroom.co, Lake Star, and Walden Catalyst

# Deep Tech startups launched per EU country

The country with the most Deep Tech startups launched between 2010 and 2022 is France with 2,616 (21.0%) followed by United Kingdom, Germany, and Spain.

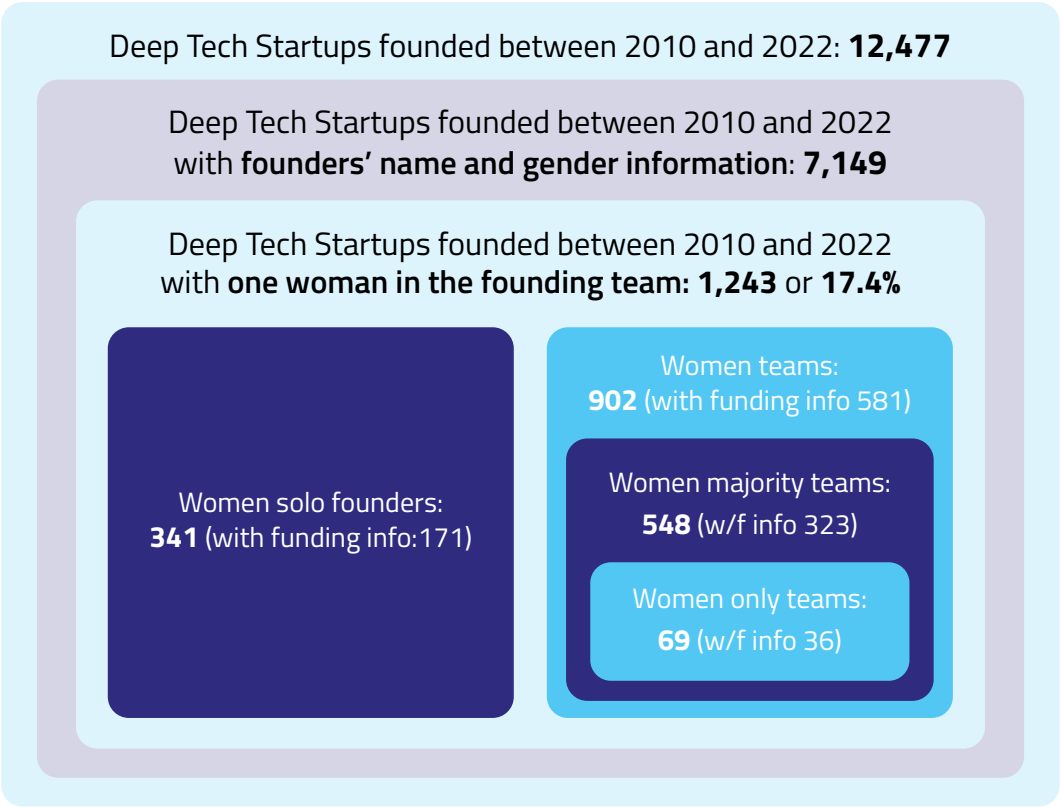
Given the large number of countries and to provide an easier interpretation of the results, we have grouped countries into the following regions:

- Eastern Europe:** Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia.
- Central Europe:** Austria, Belgium, France, Germany, Luxembourg, Netherlands
- Southern Europe:** Cyprus, Greece, Italy, Malta, Portugal, Spain.
- Northern Europe:** Denmark, Estonia, Finland, Latvia, Lithuania, Sweden
- Anglo-Saxon:** Ireland.



# Sample for the study

From the Dealroom database, we identified 12,477 Deep Tech startups founded in Europe between 2010 and 2022. All graphs and statistical analyses in the document refer to this database: European Deep Tech startups founded between 2010 and 2022.





**03**

## **Main Findings of the Study**



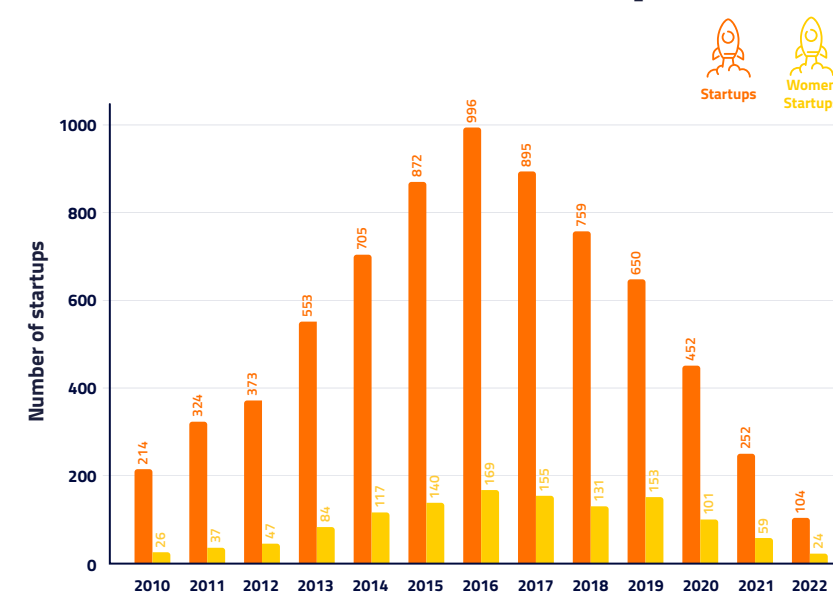
# 03.1 Women in Deep Tech Startups

## Women are underrepresented in the founding teams of Deep Tech startups

- **Women are underrepresented** in Deep Tech startups. Startups in this space with at least one woman in the founding team remains below 25%. The percentage of startups created in this space in any studied year remained under 25%. The percentages has been **increasing from 11.3% in 2011 with a peak of 24% in 2022**.
- The percentage of women over total number of founders of Deep Tech startups **has doubled from approximately 7% in 2010 to 14% in 2022**.

## Women are underrepresented in Deep Tech startups

### Number of Women Startups



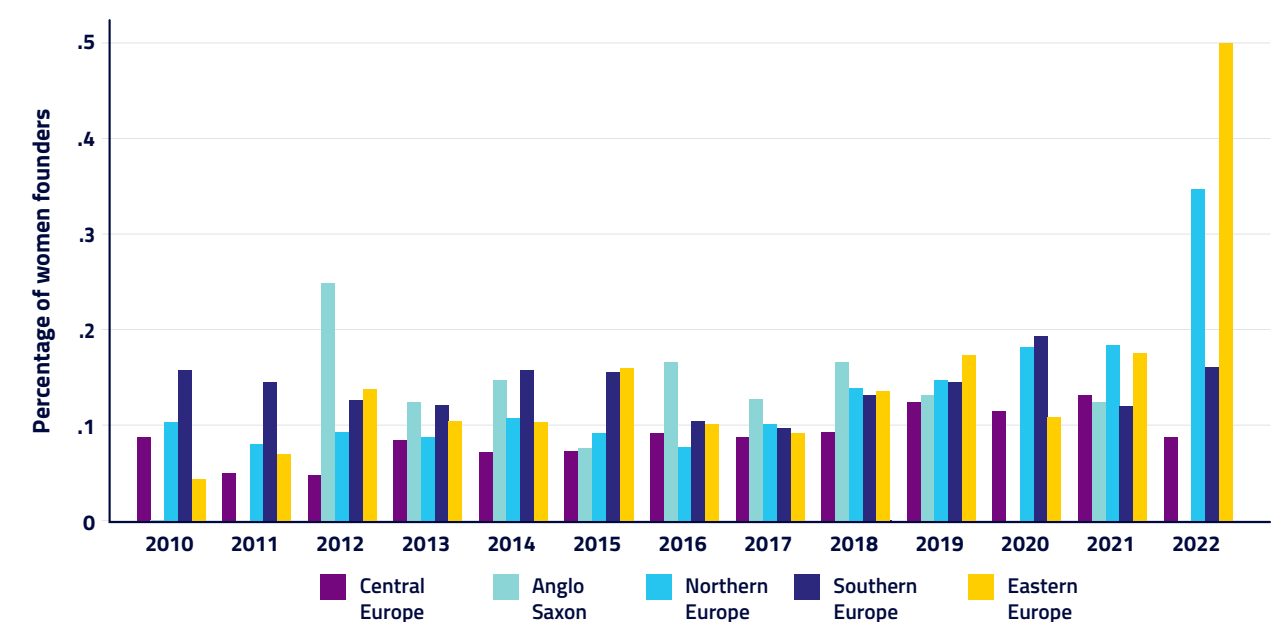
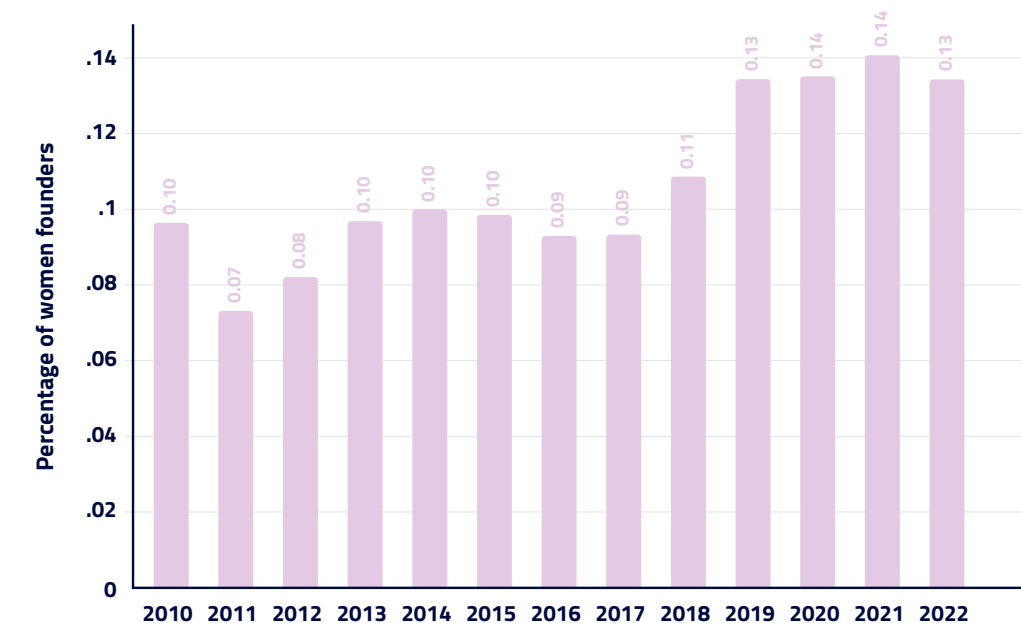
YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
%	12.3	11.3	12.6	15.2	16.6	16.2	17.1	17.7	17.4	23.6	22.4	23.4	24.0

Women founded Deep Tech startups are still a minority. However, the percentage of Deep Tech startups with at least one woman in the founding team has been steadily growing from about 12% in the early part of last decade, to about 23% in the early part of this decade. Because of the drop in the total number of Deep Tech startups, women led startups have decreased since the peak in 2016 at 169.

## The percentage of women founders has been steadily increasing

The percentage of women over total number of founders has been steadily increasing over time from about 7% of total founders in the early part of the decade to 14% in 2021 and 2022. This increase happens across European regions. More women are founding Deep Tech startups, yet their percentage is far from women's distribution in the population, thus underutilizing talent in society.

### Percentage of women founders over time



Women are underrepresented in the founding teams of Deep Tech startups

- Women are **less likely to start a Deep Tech startup on their own**. Only 10.4% solo startups are women compared to 17.4% of all startups having at least a woman in the founding team. Yet, the percentage of solo woman startups has been steadily increasing.
- When considering only startups with at least a woman in the founding team and including solos (where the percentage of women is 100% by construction) as well as teams of two or more founders, the **percentage of women in founding teams** of Deep Tech startups is **61.4%**.
- The **percentage of women in founding teams** of Deep Tech startups with at least one woman in the team (excluding solos) has remained at about **46.8%** through the period. For teams equal or larger than **three founders** the percentage drops to **35.9%**.

Women are less likely to found solo startups and are a minority on founding teams

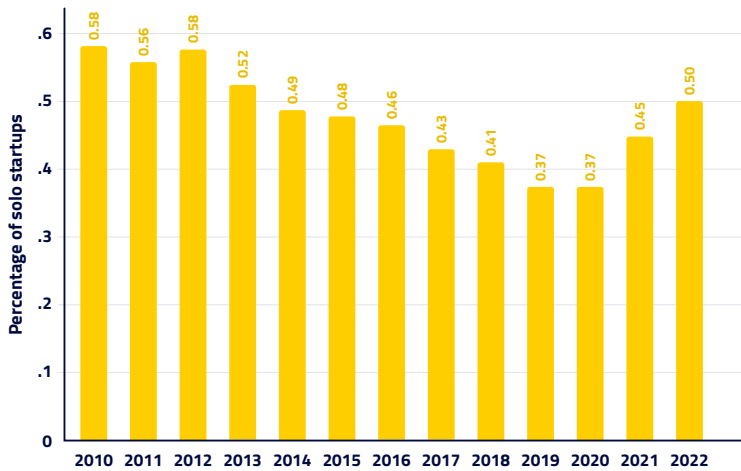
On average, startups with women in the founding team are 17.4% over the period (1,243 startups).  
Of teams with women founders (including solos), 87.6% have one woman and 11.3% have two. Single founders are the largest set of Deep Tech startups.  
The average number of founders is 1.86, with the largest team being 13 founders. However, only 12 startups have more than 6 founders.  
341 startups are women solo startups, representing 10.5% of all solo startups.  
Within startups founded by a team (more than one founder) and at least one woman, the average percentage of women is 46.8%.

Number of founders	Percentage	Number of women founders (including solos)	Percentage
1	46.0%	1	87.6%
2	32.0%	2	11.3%
3	14.4%	3	1.0%
4	5.4%	4	0.1%
5+	2.2%	5+	0%

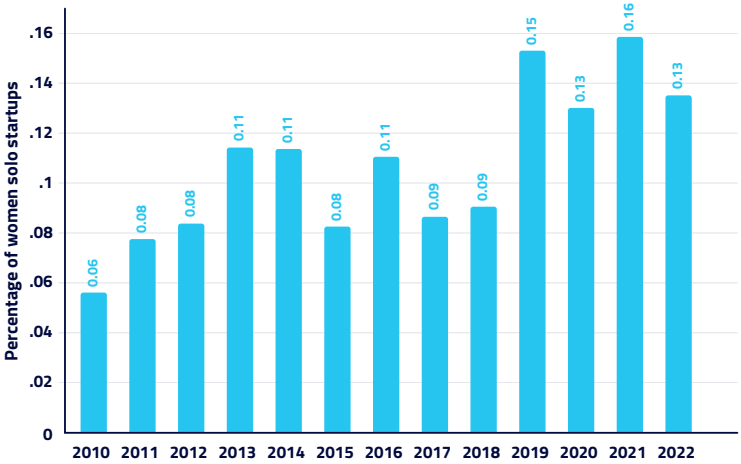
Percentage of women Deep Tech solo founders has been increasing

The percentage of solo founders had been steadily dropping until 2021 where it grew back to 50% in 2022.  
The percentage of women Deep Tech solos over total Deep Tech solos has been steadily increasing over the decade. But it is still a small percentage at about 10% to 15%.  
For Deep Tech startups with a founding team including at least one woman, the percentage of women has remained steady at about 45%.

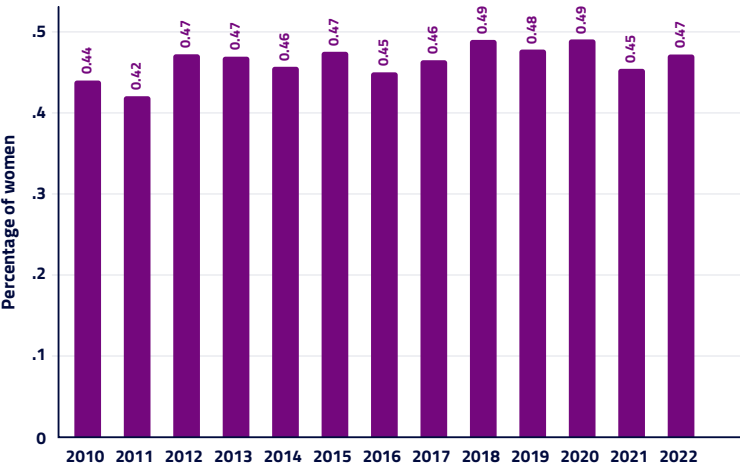
Percentage of solo startups per year



Percentage of women solo startups per year over solo startups per year



Percentage of women in women teams





## Characteristics of women founding teams and their impact on growth

- **Women Deep Tech startups\*** founding teams are significantly larger (excluding solos).
- Women Deep Tech startups are significantly younger (excluding solos).
- Women founders have more tertiary training.
- From data available, the study cannot conclude which combination of founding genders delivers better employee, revenue, profit, and EBITDA performance between women Deep Tech startups and men-only Deep Tech startups.
- However, larger founding teams of Deep Tech startups are associated with higher employee growth.

\* Women Deep Tech startups in the report are Deep Tech startups with at least one woman in the founding team.

## Women Deep Tech startups' founding teams are larger and the startups are themselves younger

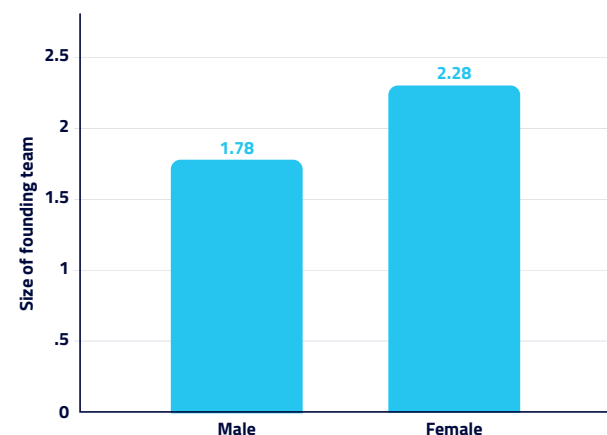
Among those startups founded by a team (rather than solos), teams with at least one woman have larger founding teams and are younger.

In other words, women, on average, tend to join larger founding teams. This finding is consistent with women being less likely to start a company on their own.

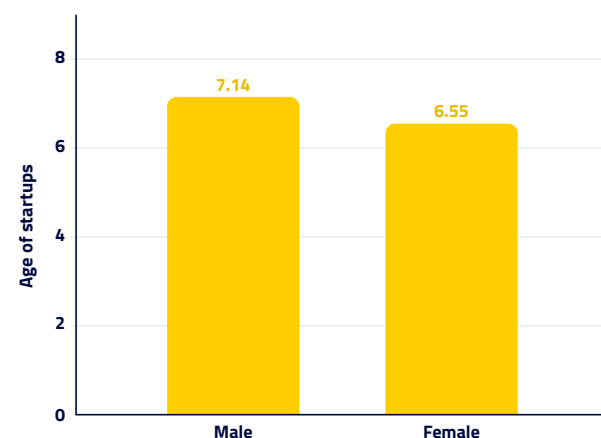
Women Deep Tech startups are younger, which is consistent with the slow increase of women participation in Deep Tech startups described in previous slides.

The differences in size and age are both significant.

### Difference in number founders



### Difference in age of startups



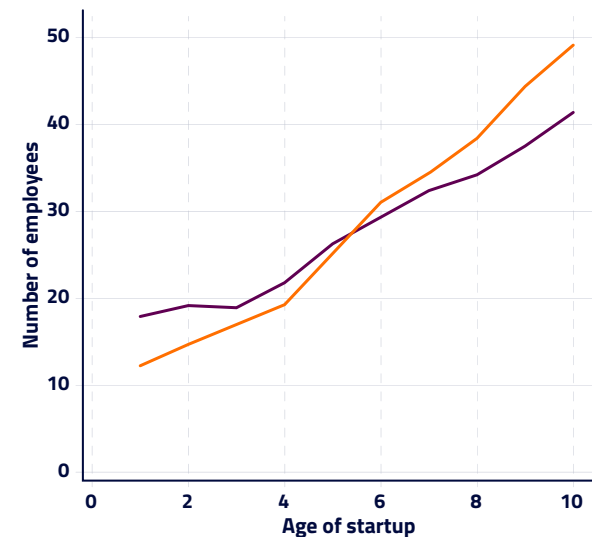
## Based on data available it cannot be concluded that Deep Tech startups are different across gender teams

The study cannot conclude which combination of founding genders delivers more employee growth. Average (as well as median) employee growth is not statistically different between women teams and male-only teams.

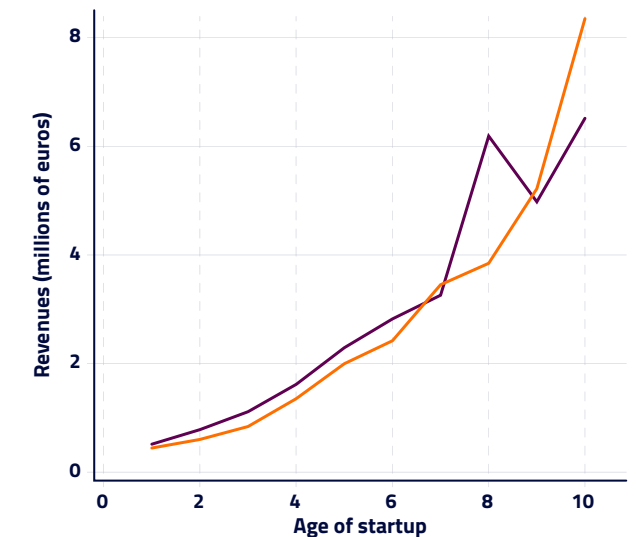
Similarly, average (as well as median) revenue growth is not statistically different across different gender teams. So, the study cannot conclude which combination of founding genders delivers more revenue growth.

One reason for this lack of statistical significance is the large variation in terms of growth across startups.

### Average employee growth



### Average revenue growth

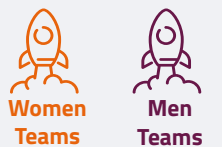
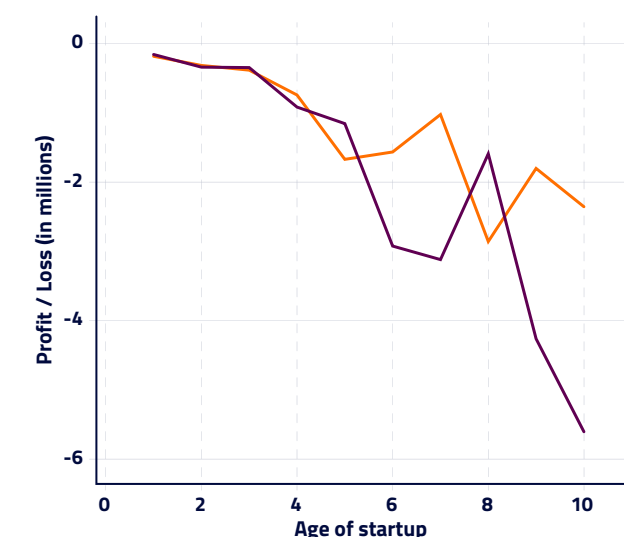


## Profit (Loss) over age of startups researched show no different across gender teams specifically in Deep Tech startups

Deep Tech startups are, on average, unprofitable, which is consistent with these startups requiring significant investment upfront to bring the technology to market. The average loss increases with age as the weight of larger startups increases and these startups requiring larger investments. The median loss is much smaller at about €50,000 per year.

The large variation in profit numbers across startups results in lack of statistical significance. Hence, we did not observe statistical difference in terms of profitability between women startups and male-only startups.

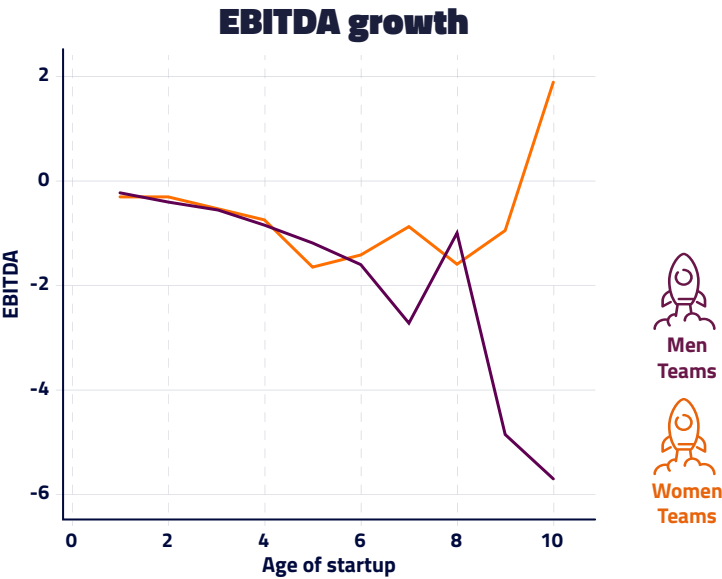
### Profit/loss growth





Based on data available the study cannot conclude which combination of founding genders delivers more EBITDA growth.

EBITDA (Earnings Before Interest Taxes Depreciation and Amortization) is also negative and increasing consistent with these startups requiring significant investment to bring the technology to market. The average is dominated by larger startups. The median indicates a minimum negative EBITDA of €60,000 in years five and seven. One reason for this lack of statistical significance is the large variation in EBITDA numbers across startups.



Women founders have significantly higher education

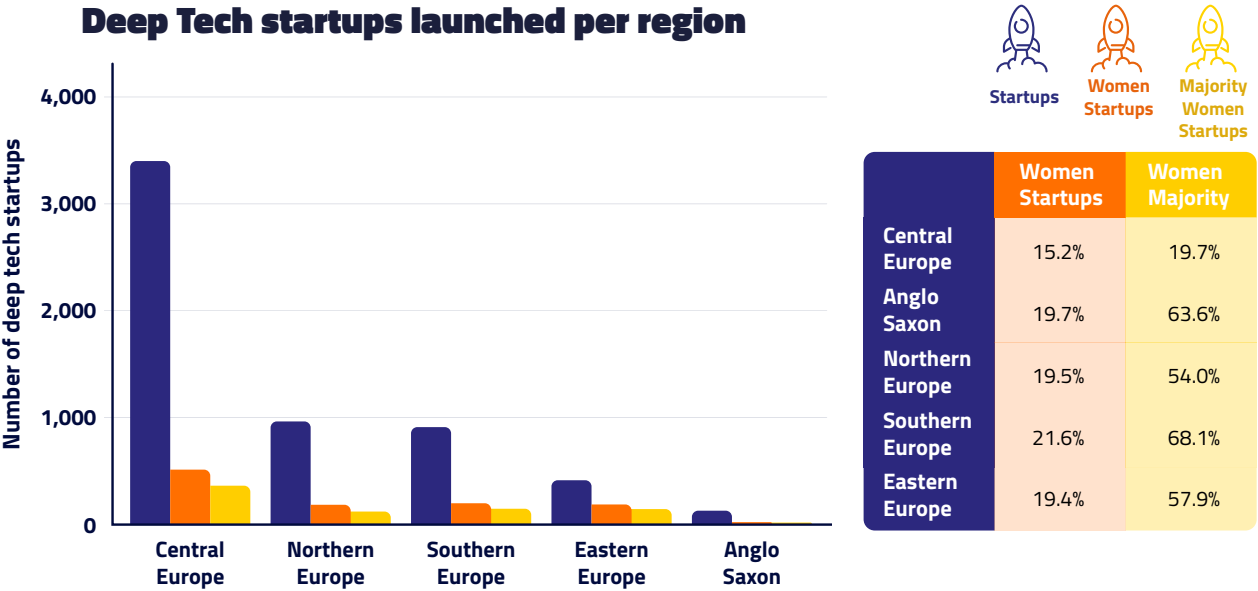
Women founders have on average higher education than their men counterparts. Women with PhDs represent 14.1% of all founders with a PhD, compared to an 11.6% of women founders. Thus, the percentage of women founders with PhD over all founders with a PhD is higher than the percentage of women in the population of founders. There are more women in the population of founders with PhD than in the overall founders' population. Women with a Masters' degree are 12.4% compared to 11.6% of women in the founders' population. Women with a Bachelor degree is 10.3%, lower than the percentage of women founders. High school degree is rare with only 6 observations out of 4,503.

EDUCATION	High School	Bachelor	Master	PhD	Total
GENDER					
Female	33.3%	10.3%	12.4%	14.1%	11.6%
Male	66.7%	89.7%	87.6%	85.9%	88.4%
Total	100%	100%	100%	100%	100%

Women Deep Tech startups across regions

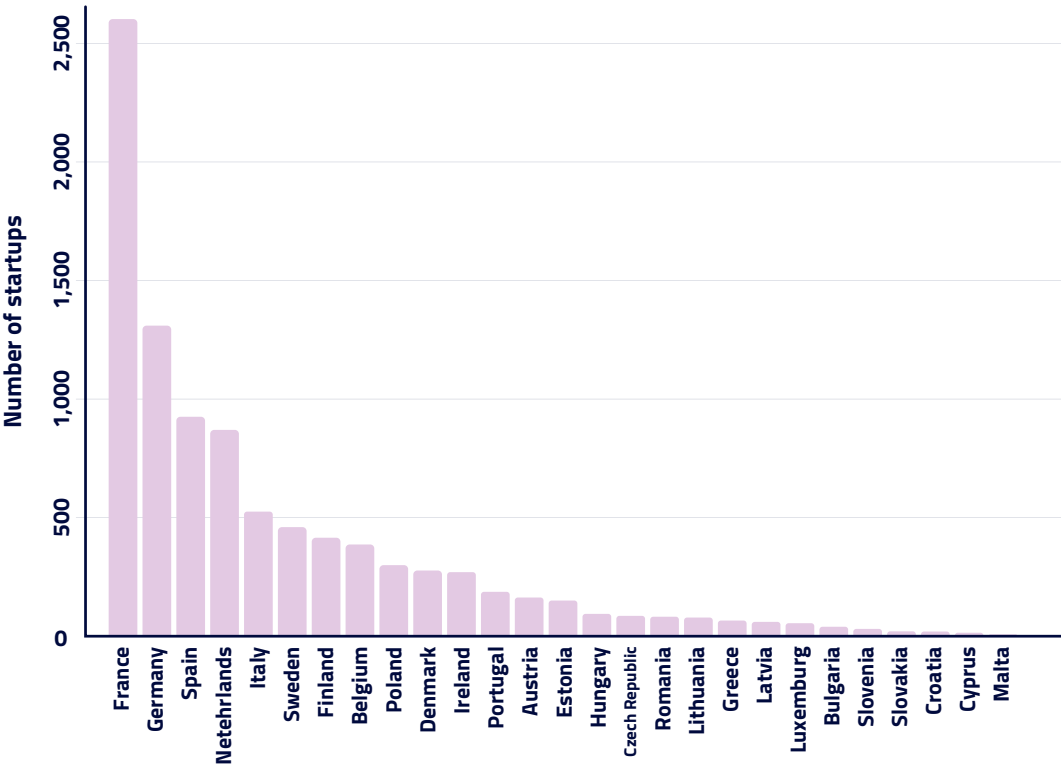
Using the sample of startups with gender information on founders, Central Europe has created the highest number of startups in the 2010-2022 period followed by the Northern European region.

The percentage of startups with women in their founding team is in the 18% range, with Southern Europe reaching almost 22% of women Deep Tech startups.

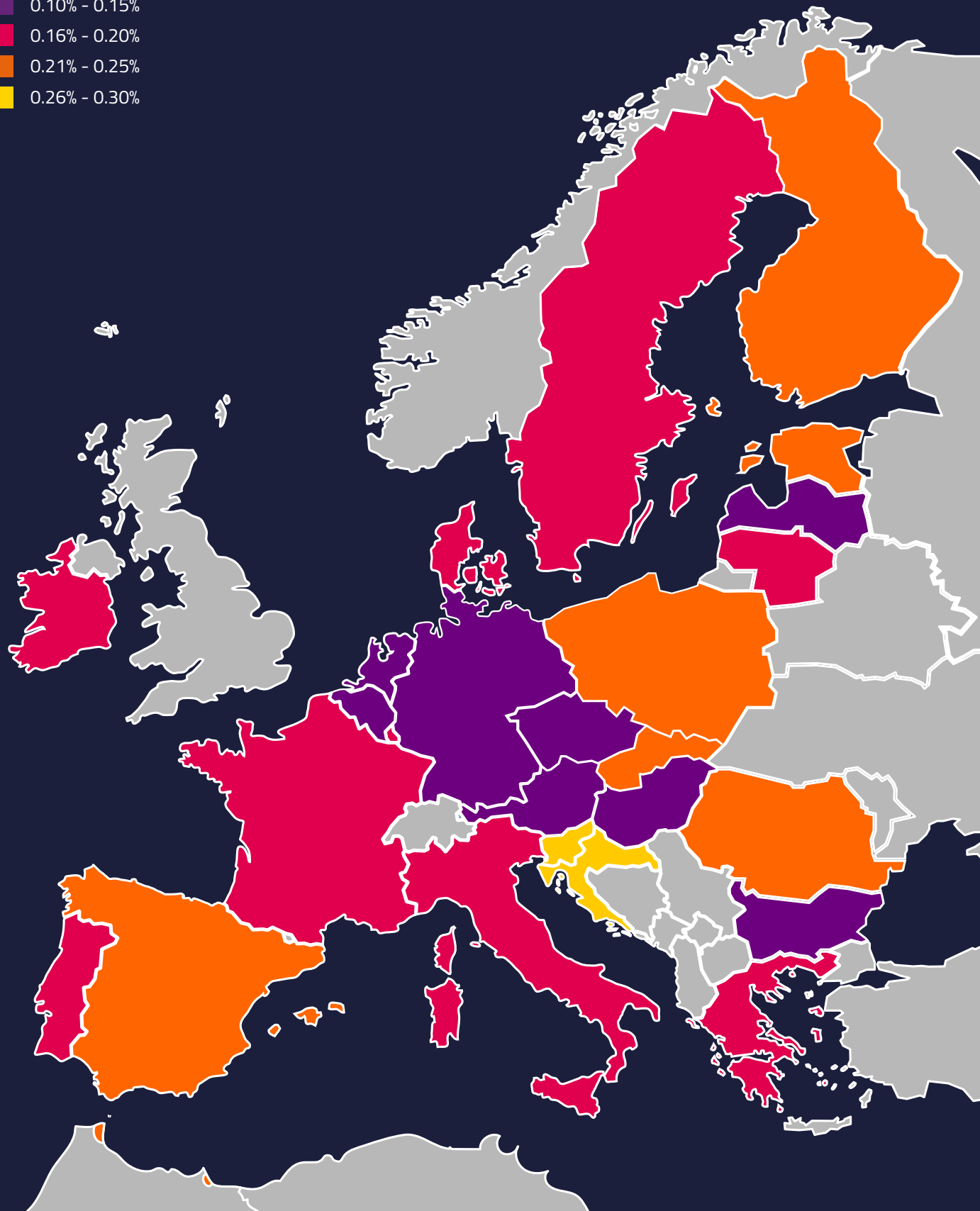
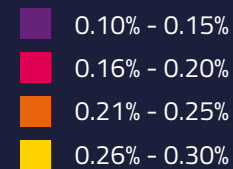


Deep Tech Startups Launched per EU Country

The country with the most Deep Tech startups launched between 2010 and 2022 is France with 2,616 (21.0%) followed by Germany, and Spain.



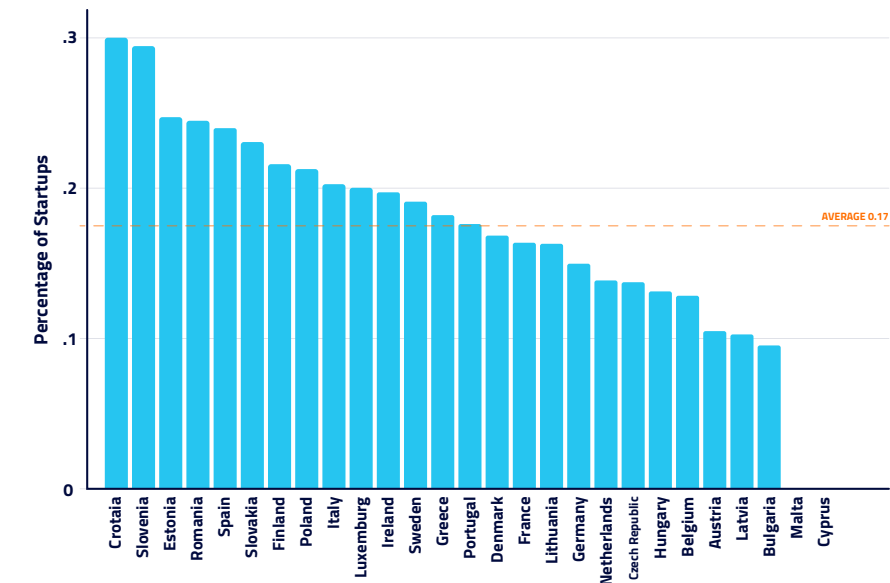
## Percentage of women startups per EU country



## Percentage of Women founded Deep Tech startups per EU country

Using the sample of startups with gender information on founders, we find that most countries are in the 10% to 20%. The outliers are typically smaller countries with very few startups.

Percentage of women per country



## Path to Deep Tech startups *Testimonials from women founders*

The path of women to founding a Deep Tech startup is diverse. This diversity of paths is typical of entrepreneurs:

- Moving from a research centre or university to found a startup based on the work done at the research centre. These founders are often “pushed” to be entrepreneurs rather than deliberately choose it.
- Corporate managers instead spot a business opportunity and decide to pursue it. In these cases, they often have already been involved in a startup project at some point in their careers and/or they have been involved in innovation and new product introduction in corporations.
- The founding team typically happens without a gender structure in mind.
- Women Deep Tech founders are typically highly educated, holding at least one master degree and often several master degrees or a doctoral degree.
- Women Deep Tech founders do not necessarily have a technology training, although many of them do. Those that do not have a tech background mostly have a business background and have either corporate experience or experience supporting innovation (incubators, venture builders, ...). However, they are tech-savvy professionals.
- Regardless of their path to entrepreneurship, they are all driven by the objective of creating, moving things forward, and being able to change the world in some way—this is the most important motivator every morning. They are driven by passion, drive, and doing something valuable to improve the world. Financial ambition is not a primary driver but an outcome of their dream, financial reward expected is less than entrepreneurs would make in the corporate world. This motivational structure is typical of entrepreneurs.

Percentage of women in sectors per country

COUNTRY	Top 1	Top 2	Top3
Austria	Children	Health	Home Living
Belgium	Sports	Entreprise Software	Food
Bulgaria	Sports Health		
Croatia	Children		
Cyprus			
Czech Republic	Fintech	Consumer Electronics	Gaming
Denmark	Legal Education	Gaming	
Estonia	Music	Entreprise Software	Education
Finland	Consumer Electronics	Energy	Children Chemicals Real Estate
France	Chemicals	Consumer electronics	Robotics Marketing
Germany	Children Service Provider	Consumer Apps	
Greece	Media	Food	Entreprise Software
Hungary	Fintech	Home living Fashion	
Ireland	Children Chemicals	Education	
Italy	Media	Energy	Children
Latvia	Children		
Lithuania	Entreprise software	Space	Energy
Luxemburgo	Recruitment	Real Estate	Chemicals
Malta			
Netherlands	Sports	Chemicals	Food Media Music
Poland	Food	Robotics	Energy
Portugal	Education	Entreprise software	Health
Romania	Marketing	Home living Fintech Health	
Slovakia	Health Semiconductors		
Slovenia	Gaming		
Spain	Engeneering	Legal	Health
Sweden	Sports	Energy	Media

03.2  
Funding of Women  
Deep Tech Startups

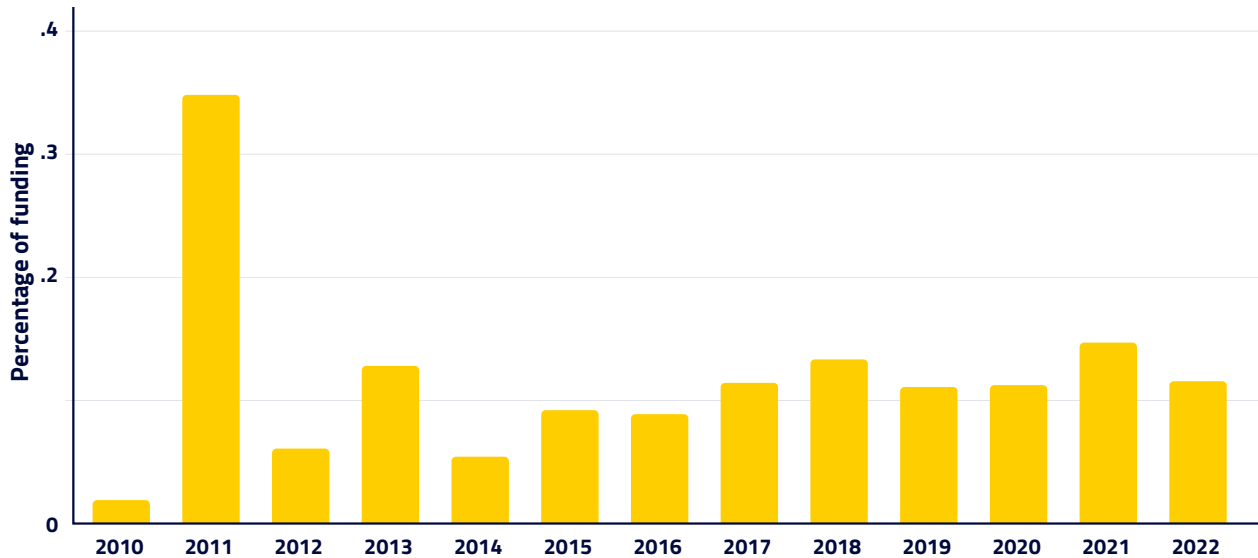
Women Deep Tech startups receive less funding

- The **percentage of total funding going to women Deep Tech startups stands at 11.4%**, below the percentage of women Deep Tech startups being around 17.4%.
- The **size of the first funding round is smaller** for women Deep Tech startups.
- Women Deep Tech startups are more likely to receive a **first round from public sources**.
- Founding teams of Deep Tech startups with a **women majority receive less average total funding and less funding per round**.
- Women Deep Tech startups receive their **first funding faster**.

Funding of Women Deep Tech startups is 11.4%

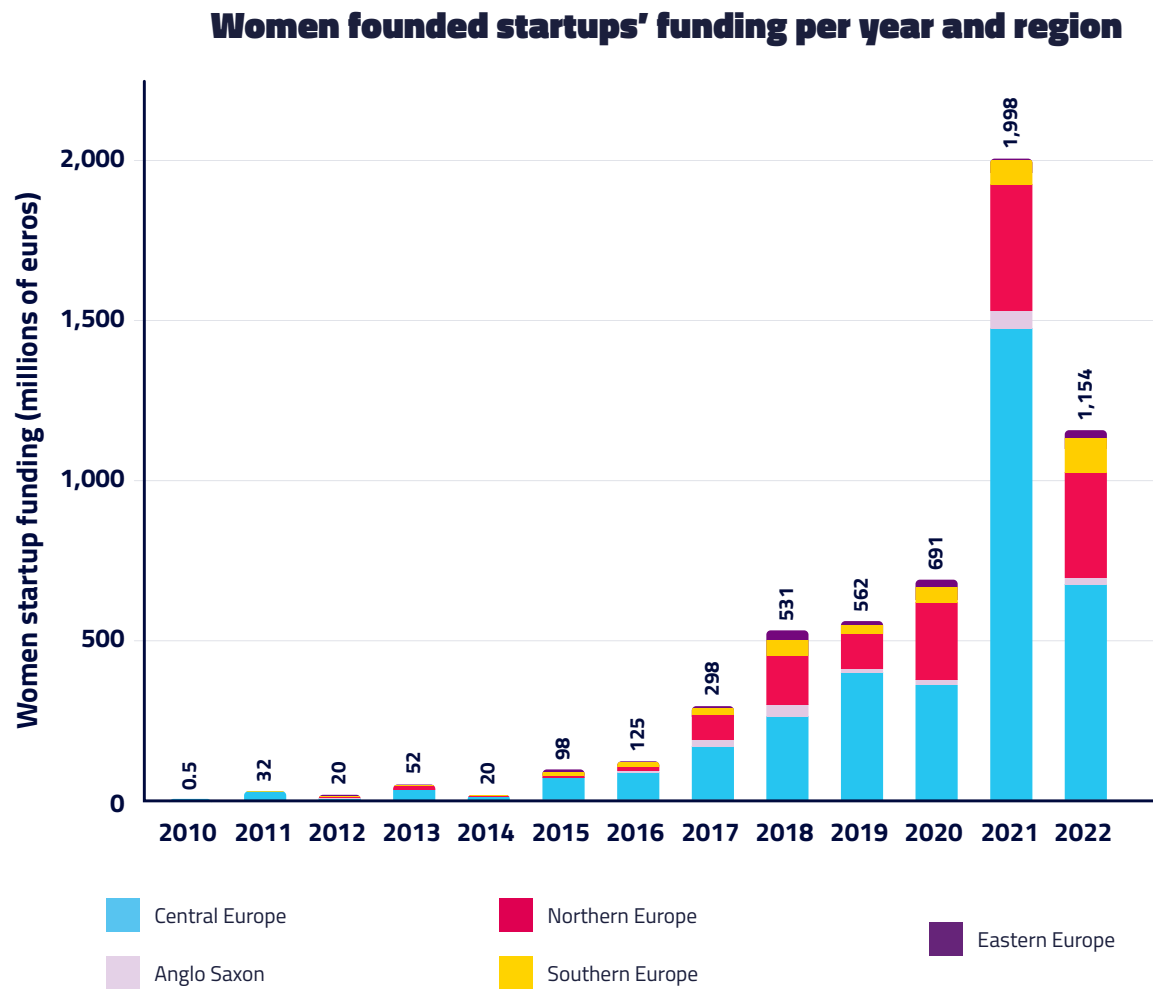
The percentage of funding going to women founded startups (11.4%) is lower than the percentage of women founded startups (17.4%). This finding suggests that funding sources are not evaluating women Deep Tech startups and men-only startups equally as there does not seem to be another reason as to why there should be a difference in terms of funding.

Percentage of funding to women founded startups

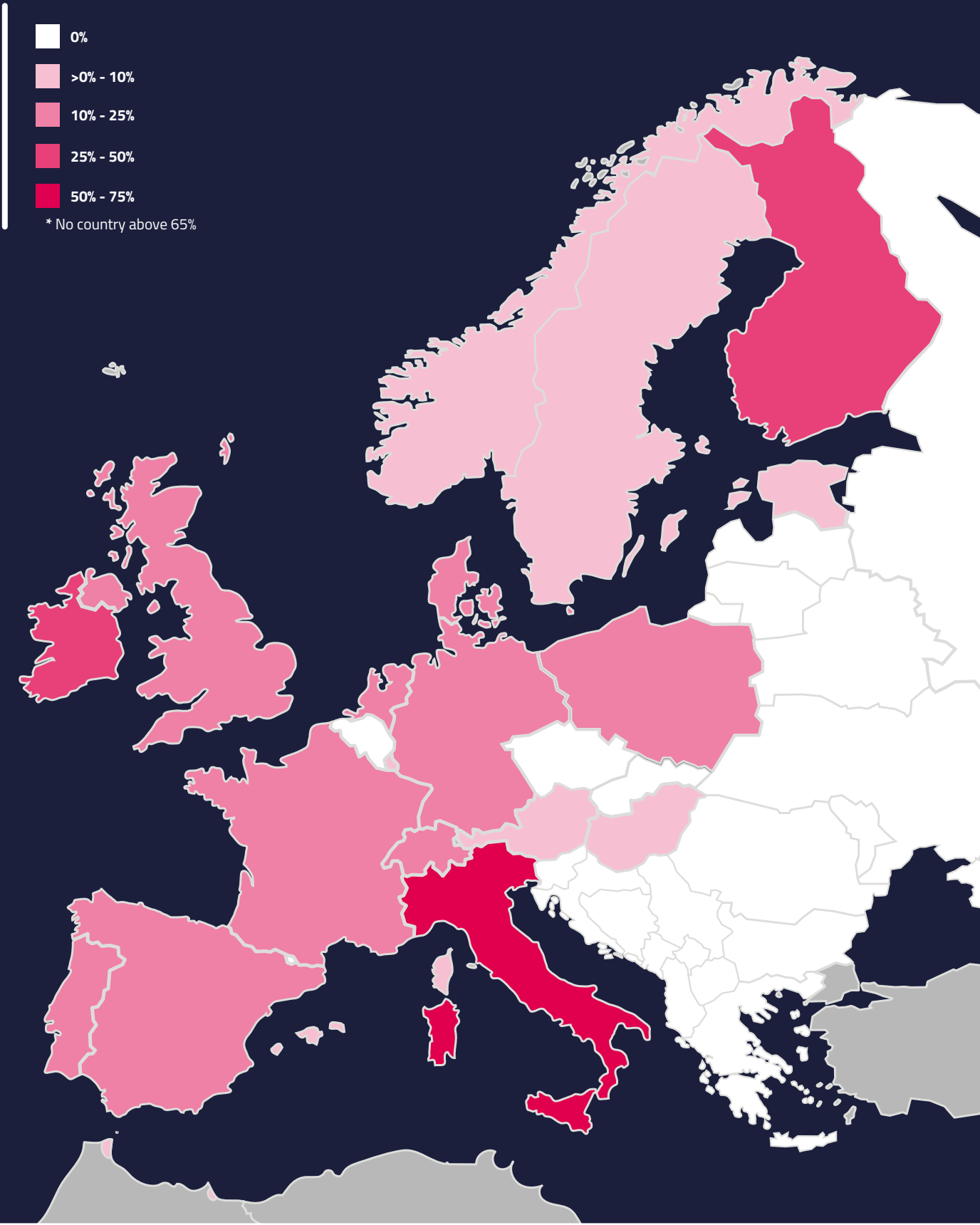


Funding to women Deep Tech startups

Women Deep Tech startups in the sample have seen their funding increase over time as successful Deep Tech startups have been growing. Women Deep Tech startup funding is dominated by Central Europe and the Anglo-Saxon regions followed by Northern Europe.



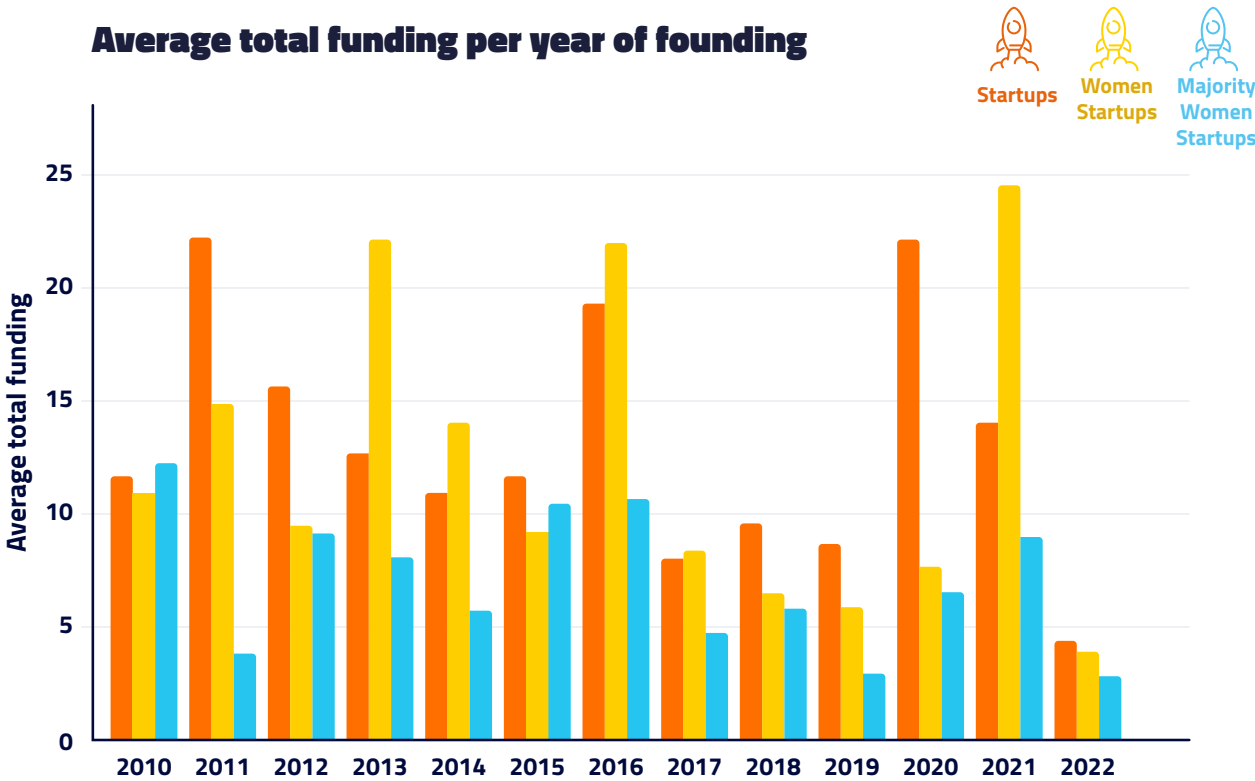
Percentage of funding going to women founded startups per country in 2022





Average total funding is lower for startups with a women majority for most years

The average total funding is lower for women Deep Tech startups for most years. In other words, women Deep Tech startups receive, on average, less funding than men-only startups for most of the years in the sample.



Women Deep Tech startups are more likely to receive their first funding from public sources

Analysing the source of the first funding of a company and coding “Grant” and “Support Program” as public funding, we find that:

- Women founding teams are more likely to receive public funding. This is consistent with public sources of financing supporting women Deep Tech startups. This is also consistent with women Deep Tech startups receiving their first round faster (as it comes from public sources) and these initial rounds being smaller (as public sources typically provide smaller financing).
- Larger founding teams are less likely to receive public funding. Solo startups tend to be less successful and requiring more support. Larger teams can tap private sources of funding faster.
- Younger startups are more likely to receive public funding, consistent with public sources focusing on the early stages of a startup.
- Public funding is more likely to be the first source of funds in Central Europe, Northern Europe, and Southern Europe compared to the Anglo-Saxon region where private sources of funding seem to be more developed.

Total funding is lower for startups with a women majority

- Women Deep Tech startups receive less funding.
- Deep Tech startups with larger founding teams, more patents, and the older receive more funding.
- The number of founders and the age of the startups is positively associated with the funding per round.
- Deep Tech startups with women in their founding team receive less funding in their first round.
- The number of founders of the startup and number of patents are positively associated with the funding in the first round.

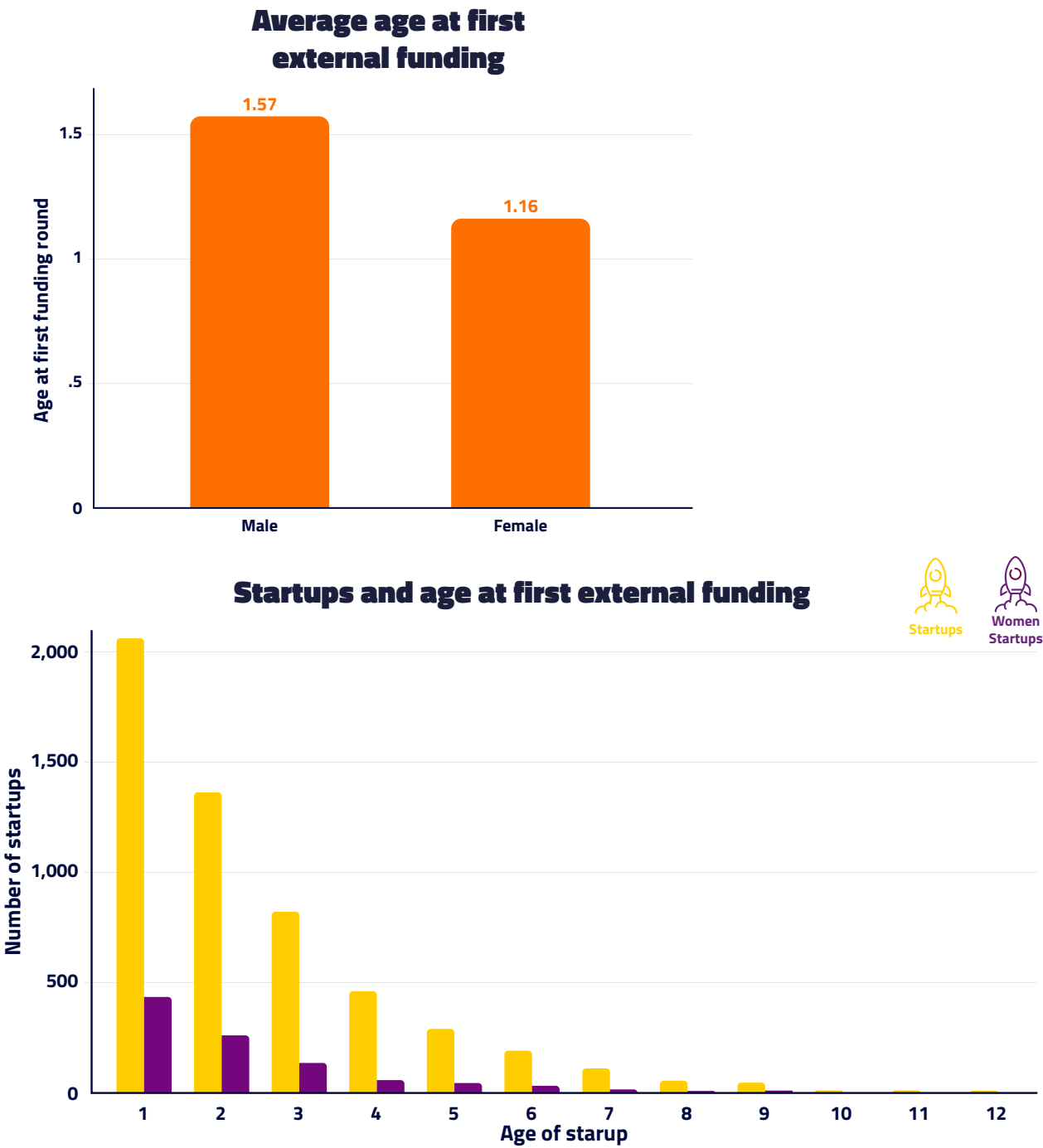


Women Deep Tech startups receive their first funding faster

Women Deep Tech startups get funding faster.

The percentage of women Deep Tech startups that receive funding in their first year over all the startups that receive funding in that first year is 46% compared to the 17.5% that women startups represent over the total number of startups.

Women Deep Tech startups on average are funded at 0.97 years of age, while men-only startups take 1.2 years.



Women Deep Tech startups receive less total funding

Despite women Deep Tech startups receiving their first funding faster, the overall funding that goes to women Deep Tech startups is smaller, their funding rounds are smaller, and their source of funds are more likely to come from public sources.

The combination of these factors means that women Deep Tech startups have fewer resources to be able to be successful. In addition, and as reported in the next section, their valuation is also smaller, which means that women Deep Tech startups must give a larger percentage of ownership to be able to access similar resources.

Finally, and unrelated to gender, we find that Deep Tech startups with larger founding teams and more patents receive more funding.

Path to Deep Tech startups  
Testimonials from women founders

- “There is a part of women Deep Tech startups rely on grants and bootstrapping to have a company as a long-term funding source. Others, rely to a larger extent on private investors—business angels and venture capital—to accelerate the growth of the startup with an exit, typically an acquisition, as the end point (so they can move to their next project!).”
- “Context has a strong impact on the availability and identification of opportunities. For instance, France is an attractive country to start a company as it offers unemployment benefits that covers creating companies—so living expenses are covered, offers founders’ grants, there are public funds that match investors’ funds, and grants for breakthrough innovation.”
- “Funding is often a challenge for women founded startups; we heavily rely on grants early on and struggle when the disbursement of the grants are delayed. But this is typical of startups in general.”
- “Support from public sources is crucial, but they tend to over-emphasize training over providing resources.”
- “However, women founders feel being side-lined when facing venture capital firms and often being tokens in VC conferences without translating into funding.”
- “Women founders are conscious of gender diversity in their hiring divisions. In some cases, they achieve gender balance in the technology side, but often the gender balance comes from non-tech positions. This is because it is easier to find tech men visible in the networks and it is easier to identify them.”

# 03.3

## Investors in Women Deep Tech Startups

### Women Deep Tech startups are more likely to have non-VC funding

- Women Deep Tech startups are more likely to have **government, incubators and non-profit organizations** as investors.
- The percentage of women Deep Tech startups receiving **early and late VC is lower** than those receiving **grants and seed rounds**.
- Women Deep Tech startups are **more likely to receive grants** but **less likely to receive early and late venture capital funding**.

### Women Deep Tech startups are more likely to have government, non-profit, and incubators as investors

- The likelihood of having government funding, incubators and similar, and non-profit funding increases with women in the founding team.
- Other types of investors—universities, angels and similar, venture capital and similar, and corporate— are as likely to invest in any type of gender-mix team.

### The percentage of women Deep Tech startups that receive early and late VC is lower than grants and seed, but those that receive funding are not different

Women Deep Tech startups are more likely to receive grants than late VC funding. In particular, 16% of the 4,985 rounds associated with grants are towards women startups. However, they are less likely to receive seed (15%), early VC (13%), and late VC (11%).

The mean amount of money received in each round is larger for men-only startups except for early VC rounds where women Deep Tech startups receive an average of €12.23 million compared to €10.86 million. However, these means are not significantly different. So, the fact that women and men-only startups receive the same funding per type of round cannot be rejected.

(in millions of €)	Support Program	Grant	Seed	Early VC	Late VC
Percentage of women startups	16%	16%	15%	13%	11%
MEAN					
Amount of funding for women startups	€0.07	€1.01	€1.35	€12.23	€49.35
Amount of funding for men-only startups	€0.16	€1.86	€1.75	€10.86	€63.58
MEDIAN					
Amount of funding for women startups	€0.05	€0.08	€0.65	€5.00	€14.00
Amount of funding for men-only startups	€0.05	€0.15	€0.70	€5.00	€21.00
Number of rounds	917	4,985	7,649	4,419	700

# 03.4 Valuation of Women Deep Tech Startups

## Women Deep Tech startups get lower valuations

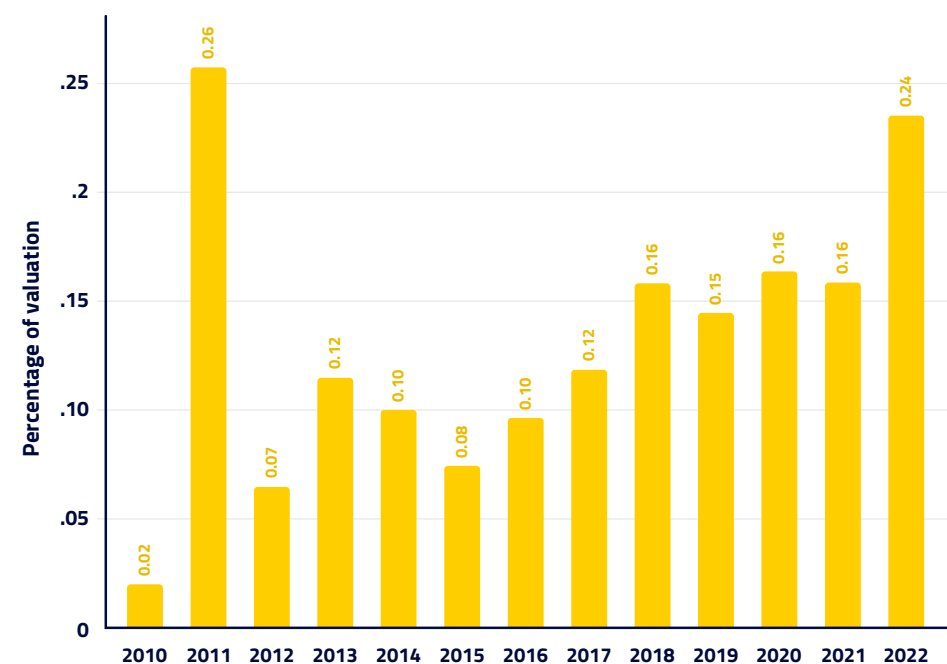
- **First valuation** of women Deep Tech startups is **lower** than men-only.
- Women Deep Tech startups **receive lower valuations** throughout their lives and are **less likely to reach a €20 million valuation**.
- However, the **increase in valuation is no different** for women Deep Tech startups.

## Percentage of valuation going to women Deep Tech startups

The percentage of valuation going to women Deep Tech startups has been steadily increasing, reaching 24% in 2022. However, the prior six years (2018-2021), the average has been at 16% comparable to the 17.4% of women founded startups.

Women Deep Tech startups get a lower first available valuation. The first valuation increases with number of founders and the age of the startup at the time of this first valuation.

### Percentage of valuation to women founded startups



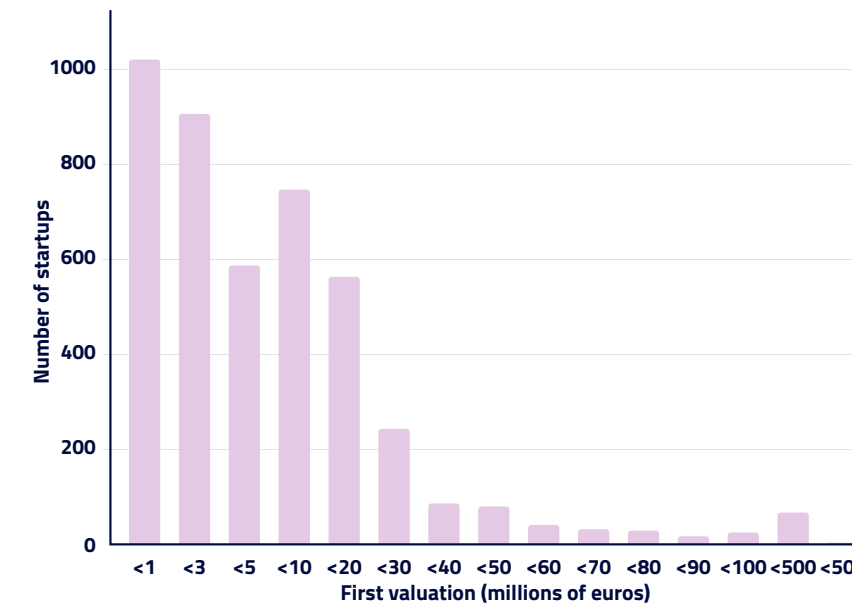
## Women Deep Tech startups are about 15% of the startups that receive a first valuation

The average first valuation is €13.3 million and the median is €4.6 million.

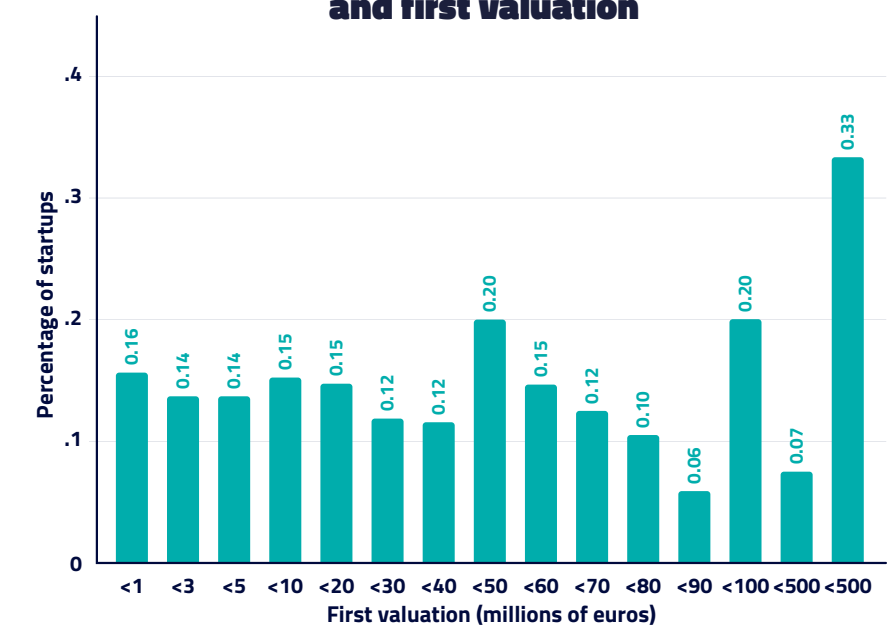
25% have a valuation less than €1.2 million and 75% have a valuation less than €11.3 million.

The percentage of women Deep Tech startups in each of the first valuation brackets is about 14%, below the 17.4% of women Deep Tech startups.

### Startups and first valuation



### Women founded startups and first valuation





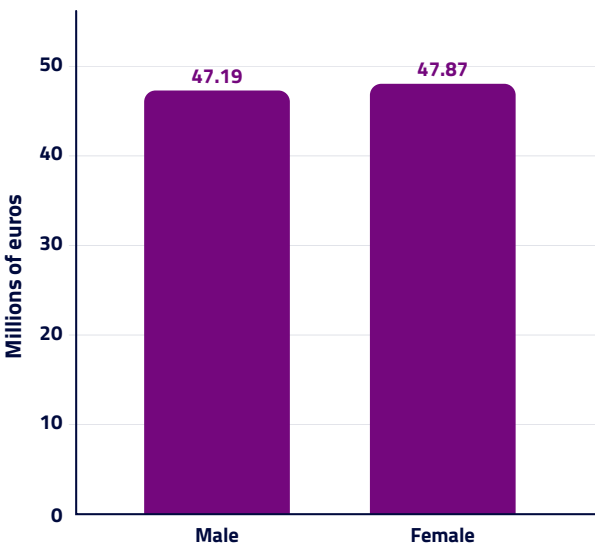
Deep Tech startups reaching a valuation above €20 million are less likely to be women founded

Women founding teams receive lower valuation over the various funding rounds and are less likely to reach a valuation of at least €20 million. The first round for women Deep Tech startups typically comes earlier and from public sources, which sets the initial valuation lower than the valuation of men-only Deep Tech startups. Interestingly, this initial lower valuation propagates through the life of the startup into the rounds with private sources of funding.

The increase in valuation is no different for women Deep Tech startups but it is for solo Deep Tech startups

Women startups have a higher increase in valuation from the first to the last available valuation. However, this difference is not statistically significant. Similarly, teams with a majority of women have a similar increase in valuation to other startups. Only solo startups have an average lower increase in valuation.

Increase in valuation and gender



Increase in valuation and solos





**04**

# **Conclusions and Recommendations**



## Main Conclusions of the Study

- **Europe is dramatically underusing half of the talent in its population.** Only 14% of Deep Tech startups founders are women, while a reasonable expectation is to see this distribution comparable to the distribution of women in the overall population.
- **Women are less likely to start a Deep Tech startup on their own.** However, solo startups are less likely to be successful than team startups.
- **Women Deep Tech startup founders are more high education** on average. This finding indicates that, to found a startup, women feel (or are required) to be better prepared.
- **Women Deep Tech startups receive less funding.** This finding indicates that fund suppliers such as business angels and VCs are less likely to fund a startup with a woman in the founding team.
- **Women Deep Tech startups receive their first funding faster, but this round is smaller and from public sources such as grants and non-profit organizations.** This finding indicates that public sources of funding are doing its job of supporting women in Deep Tech startups, thus the under-funding seems to come from private sources.
- **Women Deep Tech startups receive lower valuations.** This finding indicates a potential bias against women founders, this bias together with lower funding makes success harder for Women Deep Tech startups.



## Recommendations based on the findings of the study

The findings of the study highlight several actions to better understand and remedy this significant disadvantage in Europe:

- **Better understand the supply side of women founders.** The low percentage of women founders in Deep Tech has a supply side aspect to be further explored on how to encourage and support women to launch this type of startups.  
The first question is whether there is a **similar small percentage of women in startups in general or is it tech related**. A similar study would be required for the overall startup population.  
The second question is whether the Deep Tech startup lack of women founders is due to a **low percentage of women in STEM PhD and science Master programs**. A study could evaluate women in STEM high education programs and analyse their career path and whether programs with a higher percentage of women lead to more women Deep Tech startups.
- **Better understand the demand side of women founders.** The low percentage of women founders in Deep Tech has a demand side aspect: founding a Deep Tech startup might be less attractive to women.  
An aspect to be studied is the role of **social structures and policies** this is how **social norms** and **social roles models** associated with the concept of glass ceiling that discourage women from undertaking startup careers. Also, **Social policies** encouraging diversity would help in this direction. As well, and already better know policies that support life-balance, would encourage better use of women's talent.  
Another aspect to be studied is the **barriers and motivations** that drive women to found a Deep Tech startup. If the percentage of women in STEM programs is higher than the percentage of women Deep Tech founders would indicate that starting a company is less attractive than alternative career path. Once these barriers and motivations are better understood, policies to mitigate them should be designed.

An important aspect of the demand side is the availability of funding and valuation. The findings indicate that having a **woman** in the founding team leads to **lower funding and valuation**, a significant drag for a startup. Furthermore, the findings indicate that this disadvantage stems from private sources of funding. Testimonies suggest gender bias in funding decisions.

A first step to better understand this phenomenon would be to study whether the **presence of women in relevant positions in VC funds** eliminates this bias; if so, an important policy would be to encourage the presence of women in the VC industry. Another potential action would be for public funding sources to invest in VC funds that focus on women startups.

**Women Founders  
in European Deep Tech  
(WIDT) European Startups**



