

# Mapping of Artificial Intelligence Start-ups in Europe

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23

MARCH



**Skopai**  
AI Power to Find Start-ups

# ARTIFICIAL INTELLIGENCE TRANSFORMING THE WORLD

The term **artificial intelligence (AI)** broadly refers to "the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages" (The Oxford Dictionary).

AI is not a futuristic vision but something that exists today and is integrated with and deployed in various domains, including **finance, national security, healthcare, criminal justice, transportation, and smart cities**. Many examples of AI developments yield significant economic and social benefits and are already impacting the world and enhancing human capabilities and future development in significant ways.

Many people benefit from AI in their daily lives without even realizing it. For example, when using a streaming service such as Netflix, the recommendations received about shows are generated by an AI system; Google uses AI to sort through millions of search results to find the ones needed. At a more sophisticated scale, self-driving cars use a complex network of AI systems to make real-time decisions while driving. On a more general level, much modern healthcare uses AI to diagnose and treat illnesses and injuries.

Modern companies use all kinds of data in almost every part of their work. From logistics management to marketing, from HR to strategy, companies use data to inform their processes for better results. As a result, AI solutions are rapidly becoming more popular in **analyzing existing data and reacting to corresponding patterns to help companies make decisions**.

Today, as future technology trends and reliance on technology in everyday work become the new normal, AI has become essential to more and more businesses and is rightfully attracting the attention of entrepreneurs and investors more and more. AI start-ups are attracting large-scale investors' attention by building previously unimaginable solutions to traditional problems



# A STEADY INCREASE IN AI INVESTMENTS

Rapid penetration of digital technologies and the internet has contributed significantly to the growth of the global AI market over the past few years. **The global AI market size was estimated at US\$ 119.78 billion in 2022 and it is expected to hit US\$ 1,591.03 billion by 2030 with a registered CAGR of 38.1% from 2022 to 2030.**<sup>1</sup>

AI MARKET SIZE, 2021-2030 (USD BILLION)



Source: Precedence Research

Technological innovation has been an essential part of most industries, and the massive investments in R&D by technology giants continue to drive technological advancements across industries. The burgeoning demand for artificial technologies in various end-use verticals is expected to significantly drive the growth of the global AI market in the coming years.

The global shift in focus towards digitalization is also positively impacting market growth. Top global technology giants such as Google, Microsoft, IBM, Amazon, and Apple are increasing their investments in upgrading and developing various AI applications. In addition, companies are also taking several strategic initiatives in terms of industry consolidation to gain a competitive edge.

In addition to this, favourable government initiatives are expected to have a positive impact on industry growth. **European national governments collaborate with enhanced EU-wide initiatives and coordinate funding to advance the AI sector.**

<sup>1</sup> Artificial Intelligence (AI) Market. Precedence Research. Available at: <https://www.precedenceresearch.com/artificial-intelligence-market>

# PANORAMIC VIEW OF 5,000+ AI START-UPS IN EUROPE

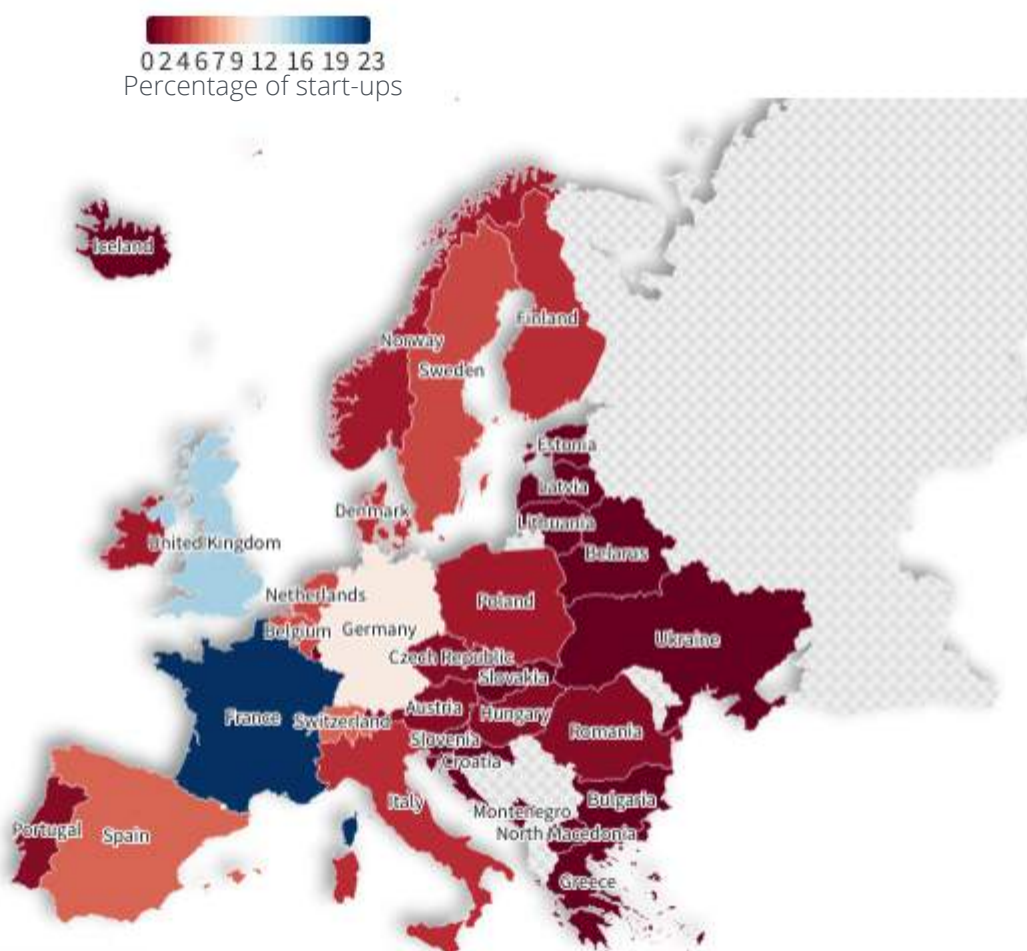
The mapping of European AI start-ups is based on the data on more than 5,000 start-ups listed on the Skopai platform in March 2023. These companies have their headquarters in Europe, were created during the last 10 years (after year 2013), develop solutions based on AI technologies, and employ less than 500 employees. This report presents an overview of the current landscape of AI start-ups in Europe with a particular focus on French start-ups.

The analyzed start-ups are spread across **35 countries**. The most presented countries include **France (23.1%)**, **United Kingdom (15.6%)**, and **Germany (10.3%)**, followed by **Switzerland (5.3%)**, **Spain (5.2%)**, **Netherlands (4.5%)**, **Sweden (3.9%)**, **Belgium (3.7%)**, **Finland (3.3%)**, **Denmark (3.2%)**, and **Italy (3.1%)**.

All the information on the basis of this report, including **the profiles of more than 5,000 European AI start-ups**, can be accessed here:



## HEADQUARTERS OF AI START-UPS

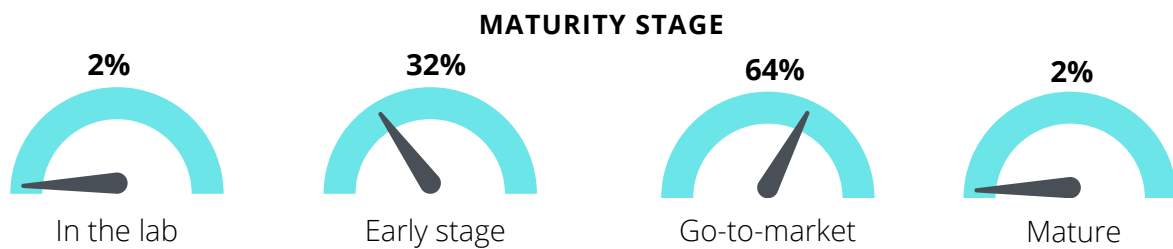




# MATURITY STAGE

Most AI start-ups in the landscape are on the **go-to-market stage (64.3%)**, have defined their markets and search for the first customers. More than 30% of start-ups are on their **early stage (32.2%)**, focus on product development and search for the initial funding. **More than 1,700 new AI start-ups** have been created over the last five years. There are **eight AI unicorns** in the landscape. These companies are valued at \$1 billion or more.

In terms of team size, more than half of the start-ups analyzed have **less than 10 employees (60.5%)** and **between 11 and 50 employees (30.6%)**. Nearly one in ten companies (8.9%) is larger and employs between 51 and 500 employees.



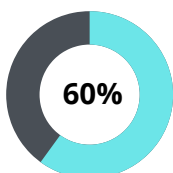
Note: Based on the data on 5,060 start-ups.

**NEW!** 1700+ NEW START-UPS CREATED DURING 2018-2022

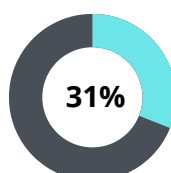


## TEAM SIZE

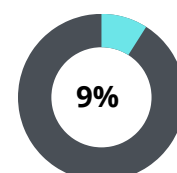
≤ 10 employees



11-50 employees



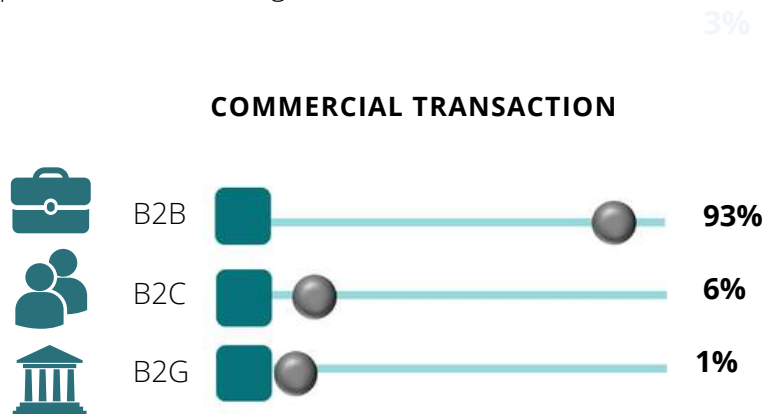
51-500 employees



Note: Based on the data on 1,298 start-ups.

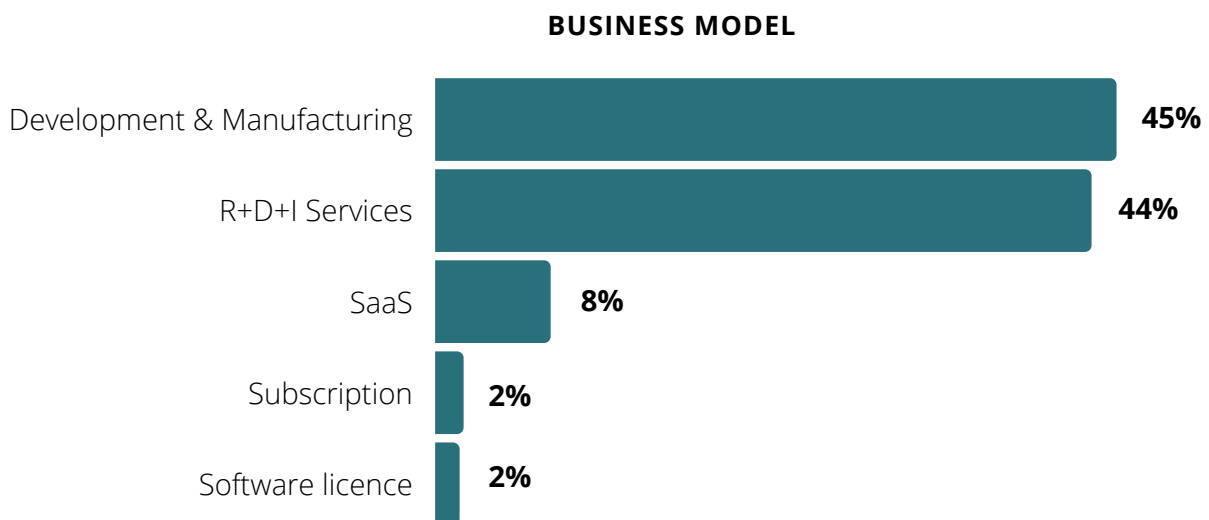
# BUSINESS MODEL

The dominant form of commercial transaction of European AI start-ups is **Business-to-Business (B2B, 93.2%)**. Only 6% of the analyzed start-ups have Business-to-Consumer (B2C) model and offer solutions to individuals, and 0.9% – have Business-to-Government (B2G) model and provide services to governmental institutions.



Note: Based on the data on 5,037 start-ups.

In terms of business models, the majority of AI start-ups operate in the sectors of **development and manufacturing (45.3%)** and **R+D+I Services (43.6%)** (Research, Development and Innovation, or sometimes Research, Development and Industrialization). Software as a service (SaaS, 7.7%), subscription (1.9%), and software license (1.6%) business models are also present in the landscape.



Note: Based on the data on 1,867 start-ups.

# APPLICATION OF AI TECHNOLOGIES

## MARKETING & RETAIL

Using AI technology to achieve marketing goals related to marketing, branding, and advertising, the vast majority of business models are B2B

1082  
20.46%



799  
15.11%

Healthtech is the fastest growing vertical within the healthcare sector. Integration with AI is the future focus direction of the field

## HEALTHCARE

## FINANCE

Emerging technologies challenge traditional finance, some start-ups choose to make the financial system incorporate more diverse technological elements

529  
10.00%



446  
8.43%

Fully automated management of human resources and workforce within the enterprise, with almost all start-ups in this field being B2B models

## HUMAN RESOURCES

## SECURITY

Security and cybersecurity are one of the many uses of AI. The use of AI in predicting and reacting quickly to its relevance can have a positive impact

318  
6.01%



286  
5.41%

Robotics is an AI machine closely related to the technological development of the field

## ROBOTICS

## EDUCATION

Technology-driven education transformation is the key to achieving more educational opportunities and is an essential direction for future AI development

214  
4.05%



202  
3.82%

AI is full of potential in the automotive industry, and a portion of B2G models exist among start-ups in this industry

## AUTOMOTIVE

## INDUSTRIES

The traditional industrial field has used a lot of AI technology, especially machine learning, and the future development of data science is worth looking forward to

187  
3.57%



## SINGLE.EAF

164  
3.10%

AI technology for analysis and evaluation can firmly guarantee the smooth operation of agricultural production work

## AGRICULTURE





# GENERATIVE AI AND NATURAL LANGUAGE PROCESSING

Generative AI and Natural Language Processing (NLP) are both hot topics today, as their combination offers significant advantages over traditional data analysis and content creation methods. They lead to the development of powerful tools that can analyze vast amounts of text data, extract valuable insights and even generate new content indistinguishable from human-created content, and even have the potential to transform many industries, including healthcare, finance, customer service, and entertainment.

**Generative artificial intelligence (AI)** describes algorithms (such as ChatGPT) that can be used to create new content, including audio, code, images, text, simulations, and videos.

**Natural language processing (NLP)** refers to the branch of computer science — and more specifically, the branch of AI — concerned with giving computers the ability to understand text and spoken words in much the same way human beings can.



**Clevy.io** develops an online platform allowing companies to quickly and easily create and maintain chatbots. These chatbots use machine learning and semantic analysis to understand natural language and can facilitate access to a company's internal information.

- More than **350** customers
- Monthly requests processed up to **200K**
- Serving **2M** employees worldwide
- Reduced repetitive questions to internal support teams by **80%**



**Chattermill** unifies customer feedback, customer support, and product feedback into a single platform and uses deep learning AI to analyse customer data at scale and provide actionable insights.

- Backed by world-class investors, Chattermill has raised **three rounds** of funding

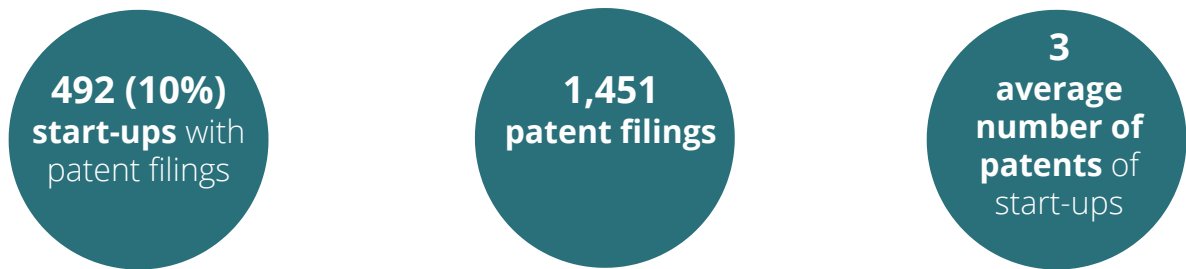


- The company is not only well regarded by investors but also works with customer experience pioneers from a wide range of industries, including HelloFresh, Just Eat Takeaway.com, Transferwise, Spotify, and Uber.

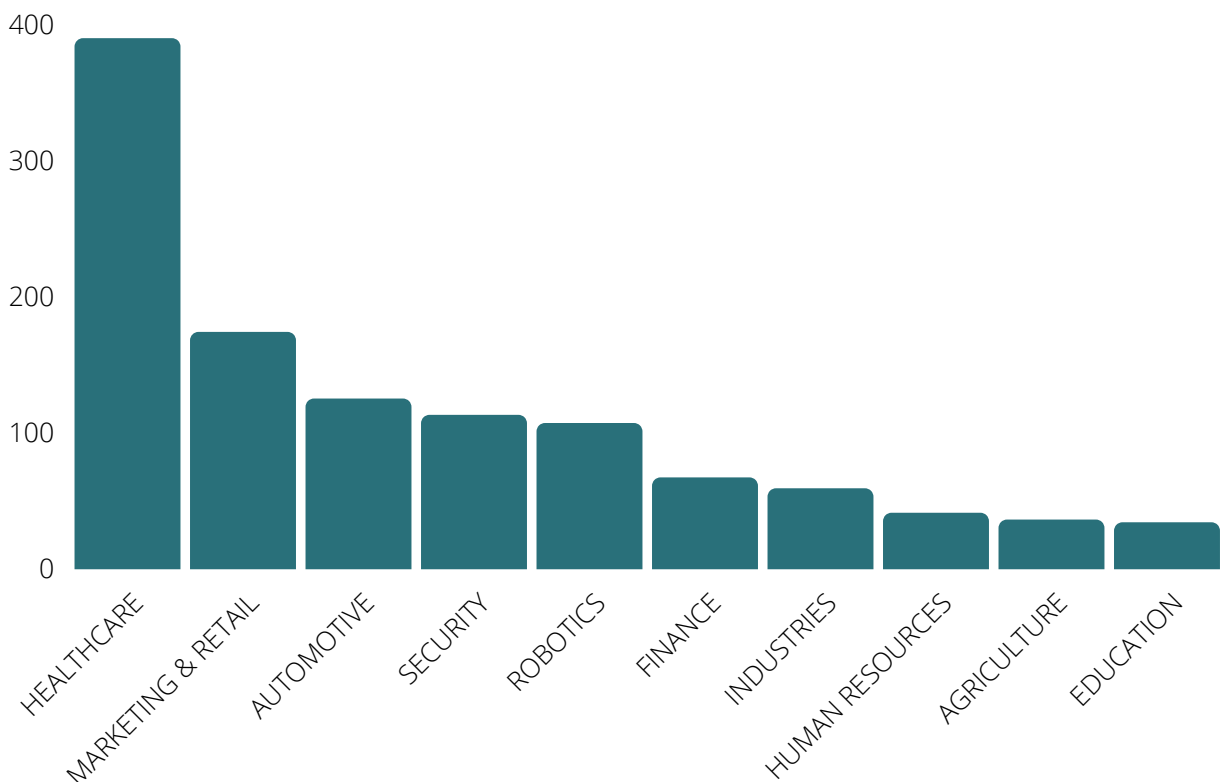
# TECHNOLOGY AND PATENTS OF AI START-UPS

European AI start-ups emphasize cutting-edge technologies. According to the data, **492 AI start-ups have filed patents**, which represent about 10% of the analyzed start-ups in the landscape. In total, **1,451 patent filings** have been registered by the start-ups, with an average of **3 patents per start-up**.

Most of the patented AI start-ups operate in healthcare (390 patents), marketing and retail (174 patents), automotive (125 patents), security (113 patents), and robotics (107 patents) sectors.



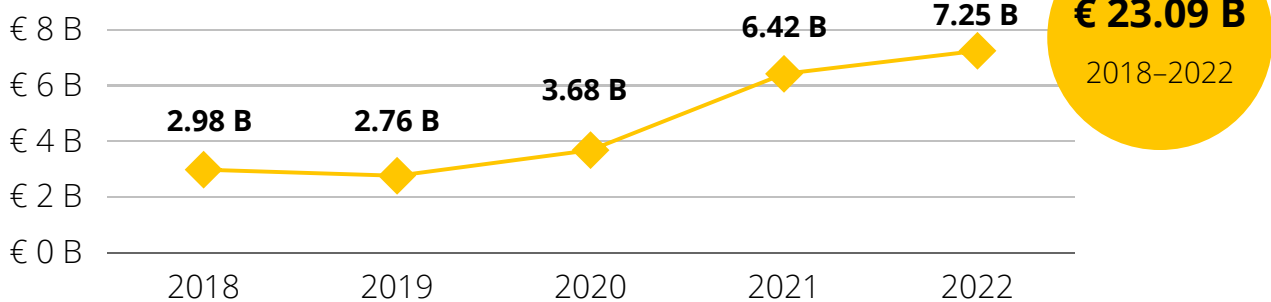
NUMBER OF PATENTS PER AI APPLICATION



# AI START-UPS FUNDRAISING

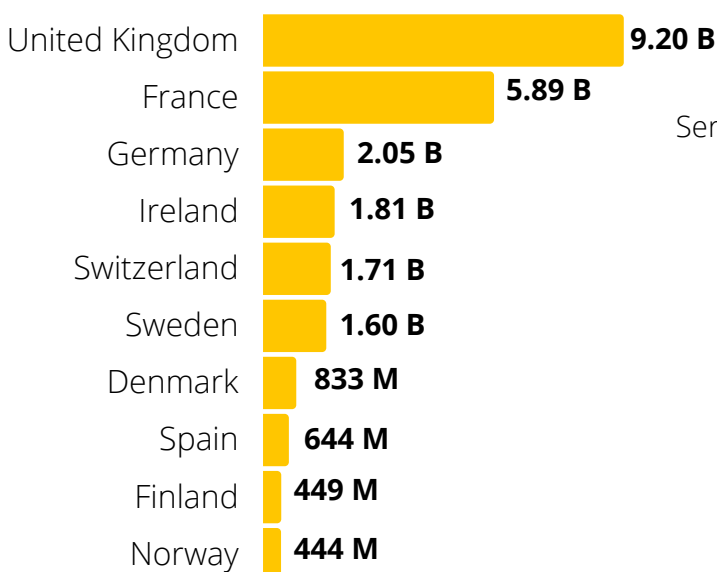
Over the last five years (2018-2022), AI start-ups raised **more than 23 billion euros in funding**. There is a positive trend in fundraising over time. In 2022, start-ups in the landscape raised 7.25 billion euros in funding which is more compared to the previous year. Start-ups from the **United Kingdom** and **France** raised more capital, according to the data. The last funding round raised by AI start-ups is mainly **Series A (42.2%)** and **Pre-Seed and Seed (37.6%)** rounds. This reflects the dominated go-to-market maturity stage of the start-ups in the landscape. Further, 15.4% of start-ups raised Series B, and only about 5% – Series C-F.

## TOTAL FUNDRAISING, 2018-2022



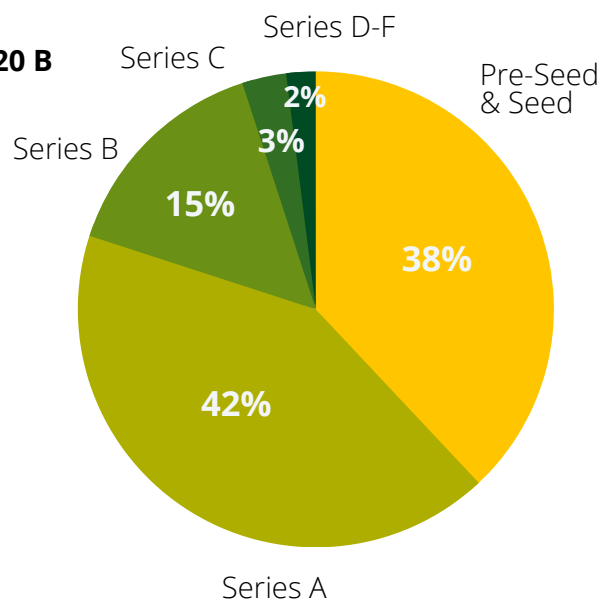
Note: Based on the data on 1,270 funding rounds of 902 start-ups.

## FUNDRAISING BY COUNTRY



Note: Based on the data on 1,331 start-ups.

## LAST FUNDING ROUND



Note: Based on the data on 415 start-ups.

# INVESTMENTS IN 2022

## > 100 M €



In May 2022, **Spotawheel** raised \$110M in a Series B funding round to drive the growth of the team. VentureFriends led the round, along with Adevinta Ventures, Uniqa Ventures, Rockaway Ventures, Velocity Partners, FJ Labs, Collective Spark, and a mix of European credit and banking institutions



In March 2022, **Lendable** raised a £210M funding round to accelerate growth. Ontario Teachers' Pension Plan led the round

## 40-100 M €



In October 2022, **Resolve Biosciences** raised \$71M in Series B funding. Patient Square Capital led the round with participation from EDBI, PS Capital, Alafi Capital, and NRW.BANK. The company intends to use the funds to scale operations and accelerate product development to meet demand worldwide



In June 2022, **Kaiko** bagged \$53M in funding. Eight Roads led Series B to fundraise, with Revaia participating alongside existing investors Alven, Point9, Anthemis, and Underscore. Kaiko will use the funding to expand globally

## 15-40 M €



In December 2022, **Chattermill** raised \$26M to continue to expand operations and its business reach. DN Capital, Ventech, Runa Capital, Btov, SVB, and Blossom Street Ventures were among the investors



In January 2022, **raffle.ai** raised a €16M Series A round from K1 Investment Management, Danish growth fund and Vækstfonden VC to advance how the world accesses data

## 5-15 M €



In October 2022, **LatticeFlow** raised \$12M in Series A funding. Atlantic Bridge and OpenOcean led the round, with participation from FPV Ventures and existing investors btov Partners and Global Founders Capital. The company intends to use the funds to expand the capabilities of its platform and respond to growing customer demand



In November 2022, **modl.ai** raised €8.5M in funding. The round was led by Griffin Gaming Partners and M12, with participation from Rendered.vc, PreSeed Ventures, and Transistormedia. The company intends to use the funds to expand its reach to make the AI Engine available to developers worldwide

## < 5 M €



In September 2022, **Muninn** raised €2.5M in a seed round led by Swedish VC firm Luminar Ventures. PreSeed Ventures also participated in the round. The funds will be used to grow both the product and go-to-market teams to continue strengthening the product while accelerating growth



In October 2022, **BlueSkeye AI** secured £3.4M in funding to improve people's quality of life through its proprietary face and voice analysis technology. The round was led by XTX Ventures, which invested alongside Foresight Group, Praetura Ventures, the University of Nottingham and a consortium of high-net-worth individuals

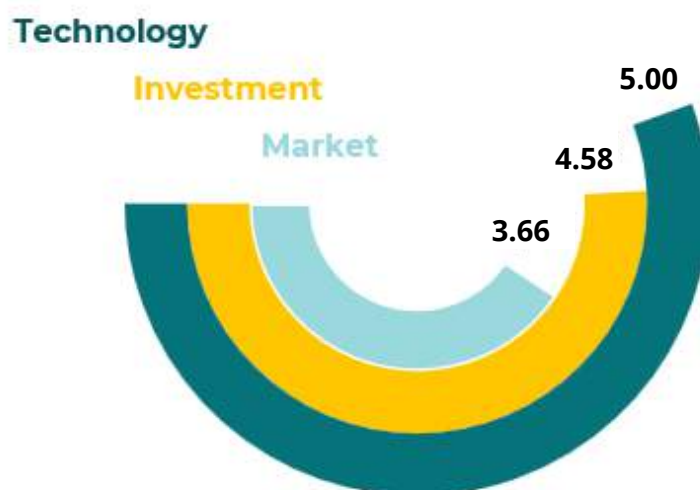
Note : The presented start-ups are non-exhaustive examples.

# READINESS LEVELS OF AI START-UPS

The readiness levels assess the maturity of technology, investment, and market of start-ups. The estimation is based on the methodology developed at NASA that enables consistent and uniform discussions of maturity across different types of technology. Each start-up is evaluated against the parameters for each dimension of technology, investment, and market on a 9-point scale (1-lowest, 9-highest).

On average, the analyzed AI start-ups are estimated to have **higher level of technology readiness (5.00)**, followed by **investment (4.58)** and **market (3.66) readiness levels**.

## POSITION IN THE 3 DIMENSIONS: TECHNOLOGY, INVESTMENT AND MARKET



### Technology Readiness Level

- TRL 1: Basic principles observed and reported.
- TRL 2: Potential application or solution validated.
- TRL 3: Proof-of-concept demonstrated, analytically and/or experimentally or mock-up.
- TRL 4: Component and/or breadboard and/or prototype laboratory validated or first tests.
- TRL 5: Component and/or breadboard and/or prototype validated in simulated or real space environment or first market (pilot).**
- TRL 6: System or solution or service adequacy validated in simulated environment or in limited area.
- TRL 7: System or solution service adequacy validated.
- TRL 8: Focus on quality and cost.
- TRL 9: Post market surveillance.

### Investment Readiness Level

- IRL 1: Team in place.
- IRL 2: Potential application or solution validated.
- IRL 3: Attractive solution, solid IP.
- IRL 4: Regulatory, certainty regarding difficulty.**
- IRL 5: Business model validated, first market pilot.**
- IRL 6: Recurrent revenue.
- IRL 7: Profitable growth.
- IRL 8: Focus on capacity, quality and cost.
- IRL 9: Post market surveillance.

### Market Readiness Level

- MRL 1: Need validated.
- MRL 2: Potential application or solution validated.
- MRL 3: Key competencies, regulatory or trials or tests for market access.**
- MRL 4: Pilot, first revenue.**
- MRL 5: Distribution or commercial partnerships, first recurrent revenue.
- MRL 6: Recurrent revenue.
- MRL 7: Profitable growth.
- MRL 8: Focus on production ramp up.
- MRL 9: Post market surveillance.

# METHODOLOGY

The study is based on the data on **5,290 AI start-ups in Europe**, presented on the Skopai platform and extracted in March 2023. The data on start-ups are collected from sources publicly available on the internet, using data science and AI algorithms.

## CRITERIA



### Europe

Have at least one of the following tags: **AI, data science, machine learning, deep learning, computer vision, NLP, image processing, sentiment, sentiment analysis**, excluding consulting start-ups



Created **after 2013** (during the last 10 years)



Employ **less than 500 employees**

### List of European AI start-ups

All the information on the basis of this report, including the profiles of more than 5,000 AI start-ups in Europe, can be accessed here:

► New user:

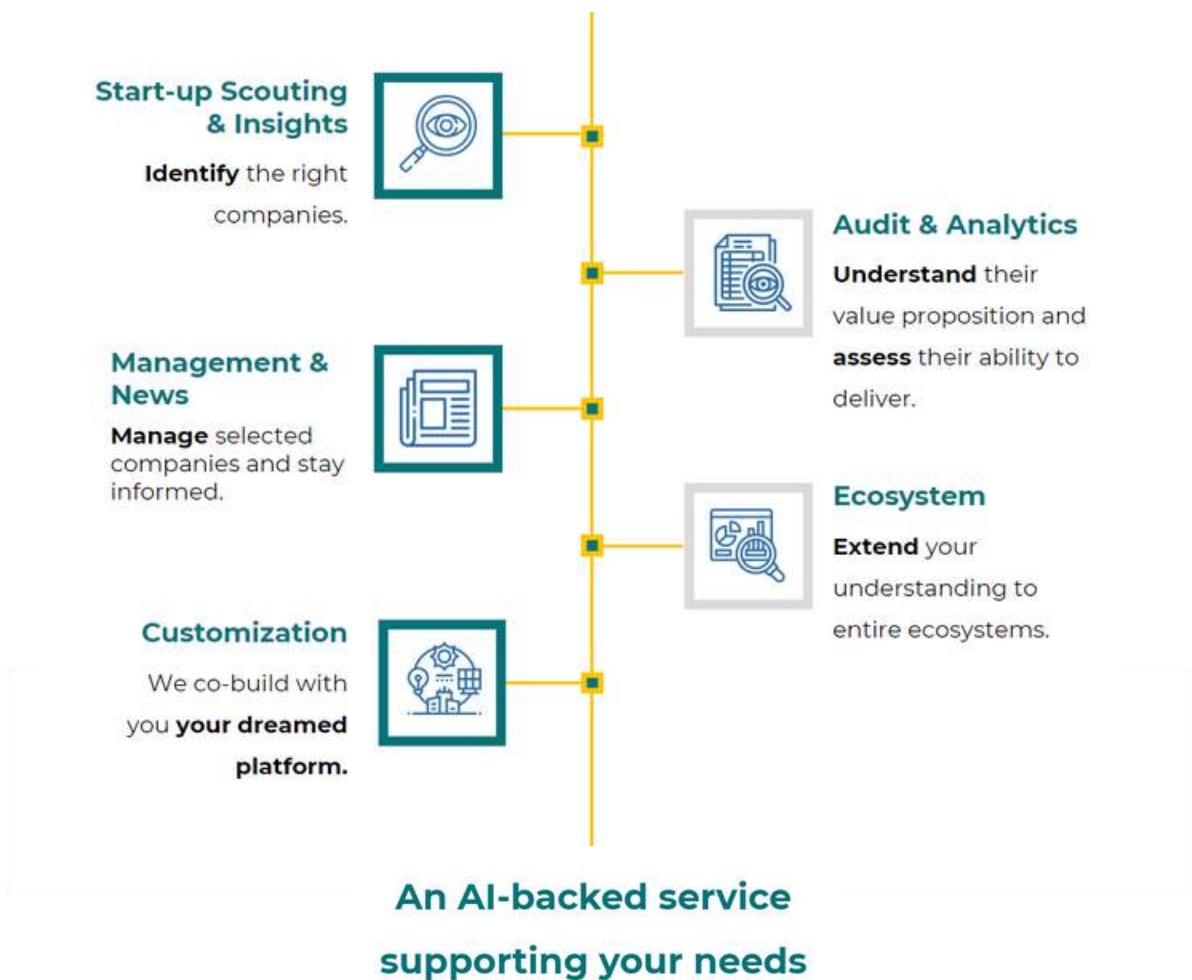


► Skopai user:



# BIG DATA AND AI TO CAPTURE THE NUMBER AND DYNAMICS OF START-UPS

**Skopai intelligence and innovation platform** offers a full set of comprehensive and qualified real-time information on start-ups worldwide. Using the validated methodology and machine learning algorithms, the Skopai platform helps discover, monitor and evaluate technology companies and innovation ecosystems across all sectors by providing accurate and reliable information in real-time.



# SKOPAI



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