

2024

South Summit

SOUTH SUMMIT



SOCIO-ECONOMIC IMPACT OF SOUTH SUMMIT IN MADRID

April 2024

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Report prepared by



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INTRODUCTION AND OBJETIVE OF THE REPORT

South Summit is a global platform that facilitates the connection of startups, investors, corporations and public institutions from all around the world and across diverse sectors

South Summit has established itself as a **driving platform** for the **innovative ecosystem**, fostering **corporate cultural change** for over a decade, attracting talent, generating high-value connections, and contributing to global economic transformation, particularly in Spain and Madrid



1 *13th edition of South Summit*

Madrid 2024

Where?

La N@ve,
Madrid

When?

June 5th, 6th and 7th 2024

2 *Sectors*

Fintech

Ecosystem & innovation

Smart infrastructures

Trust tech

Health & science

AgriTech & food

Sports tech

Space tech

and more ● ● ●

3 *Scope*

The **scope of South Summit** encompasses **entrepreneurs, investors, speakers, corporations, media, institutions, etc.**, from all around the world and across all sectors.

HUMAN BY DESIGN: *In the beginning of a new technological era where the boundaries between humans and machines blur, South Summit emphasizes the human factor through creativity, connection, emotions, and adaptability to change.*

Given its relevance to the entrepreneurial ecosystem and society, this report conducts an analysis of the evolution of this ecosystem over the past year and the socio-economic impact of South Summit in 2024

Report objectives

1

ANALYSE THE EVOLUTION OF THE ENTREPRENEURIAL ECOSYSTEM IN SPAIN

Evolution of the global environment and the national context regarding investment volume and the value of the entrepreneurial ecosystem.

2

CALCULATE THE CONTRIBUTION OF SOUTH SUMMIT

- Estimating the **production (economic activity) and employment** generated by the South Summit event in Madrid in 2024.
- Effect on **media coverage and media impact** of the events in **Madrid and Brazil**.
- Analysis of **the cumulative investment** raised and the **impact of the finalist startups** on the entrepreneurial ecosystem in 2023.
- **Strengthening of growth and internationalization** through **South Summit Brazil**.

Main sources of information

- **Dealroom**, as a provider of data and information related to the entrepreneurial ecosystem
- **Entrepreneurship Map 2023 by South Summit**, developed in collaboration with IE University, analyses the relevance of the Spanish entrepreneurial ecosystem
- **Observatory of the Startup Ecosystem in Spain** by “Fundación Innovación Bankinter”, covering the latest investment trends in Spain in 2023
- **Startup Radar madri+d**, featuring the latest reports on the Madrid startup ecosystem and investment
- **Statistical Institute of the Community of Madrid**, with data on expenditures by national and international visitors

Methodology: Input-Output Model

The estimation of the impact on **economic activity and employment** in Madrid due to the **celebration of South Summit** is calculated using the **input-output model**, a widely used technique for quantifying economic impacts¹.

Similarly this methodology has been used to estimate the **contribution** to the **entrepreneurial ecosystem** of the **Spanish finalist startups** of South Summit in 2023.

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THE ENTREPRENEURIAL ECOSYSTEM



The high interest rates, current geopolitical situation, and banking vulnerabilities largely explain the contraction in the global investment volume in startups in 2023



Macroeconomic factors that have affected the investment volume in startups in 2023



High interest rates

High interest rates that **increase the costs of financing**. Both the Federal Reserve of the United States and the European Central Bank raised their interest rates to 5.25% and 4.5%, respectively, levels not seen since the 1990s.

This affects significantly to operations of over 100 million euros (mega rounds), where costs are notably increased.



Geopolitical situation

The current geopolitical conflicts have created significant **instability in global economies**.

Political uncertainty and tensions between different nations have caused **investors** to adopt **more cautious and conservative** attitudes in their investment decisions.

This has led to a sharp contraction in investments, especially notable in **Latin America and Africa**.



Banking vulnerabilities and preferences for lower-risk assets

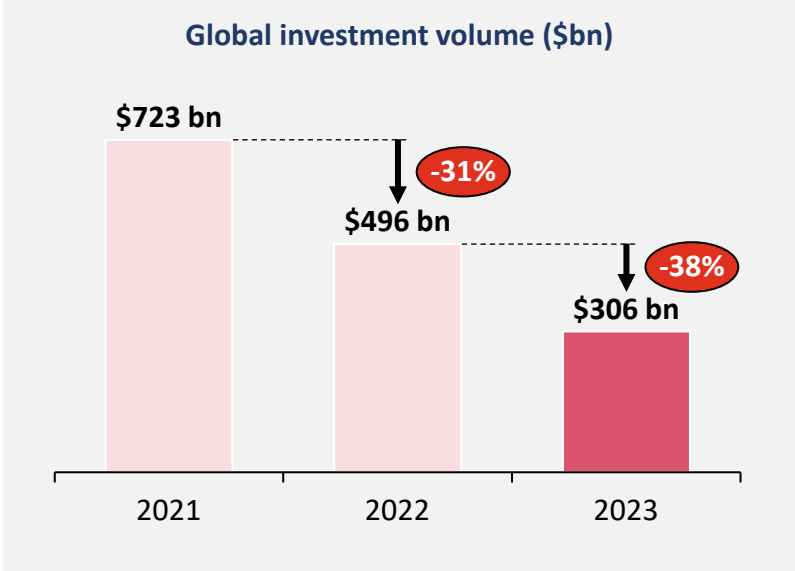
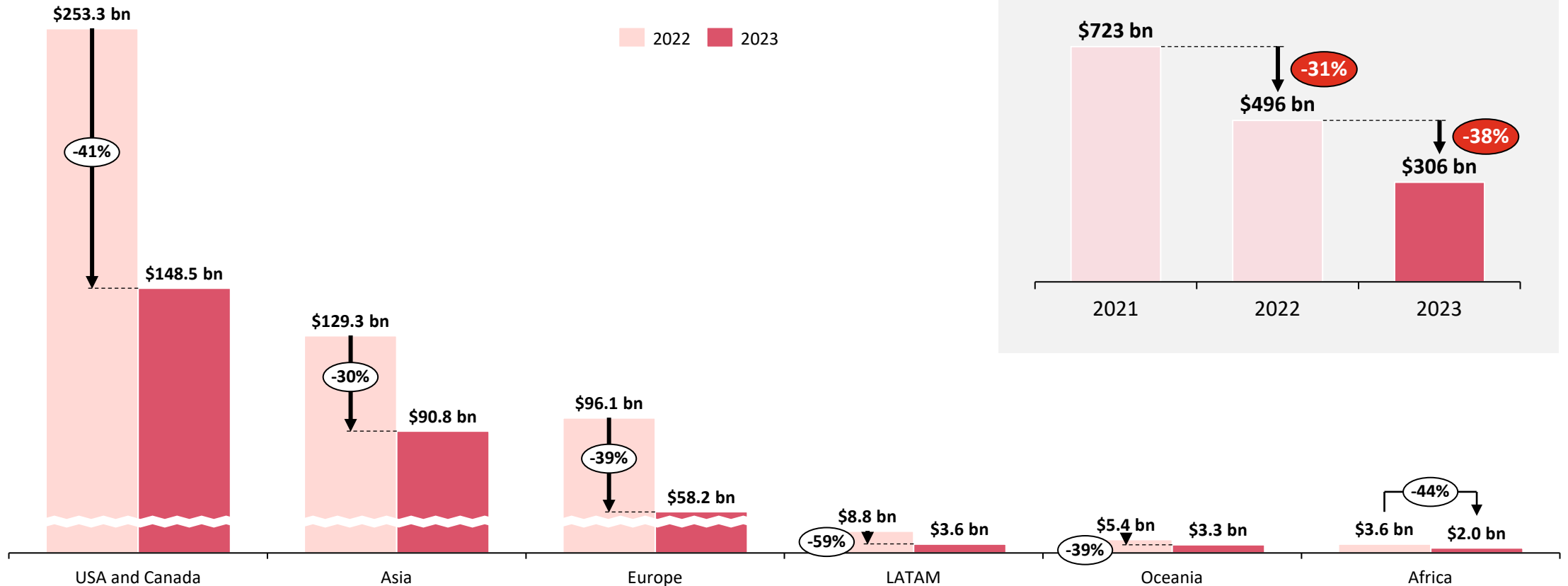
Following the collapse of Silicon Valley Bank, the banking sector in the United States faced a chain crisis in 2023, characterized by **liquidity issues** and **lack of confidence** in financial markets.

This uncertainty and instability significantly impacted startups in the United States, as many of them had their funds deposited in this bank. As a result, numerous startups and investors experienced liquidity issues, leading to a migration of funds towards assets that offered greater stability in international financial markets.



After a record year in 2021, the geopolitical and economic context have derived in a decline in global startup investment volume in 2022. This contraction continued in 2023, with a reduction of 38%

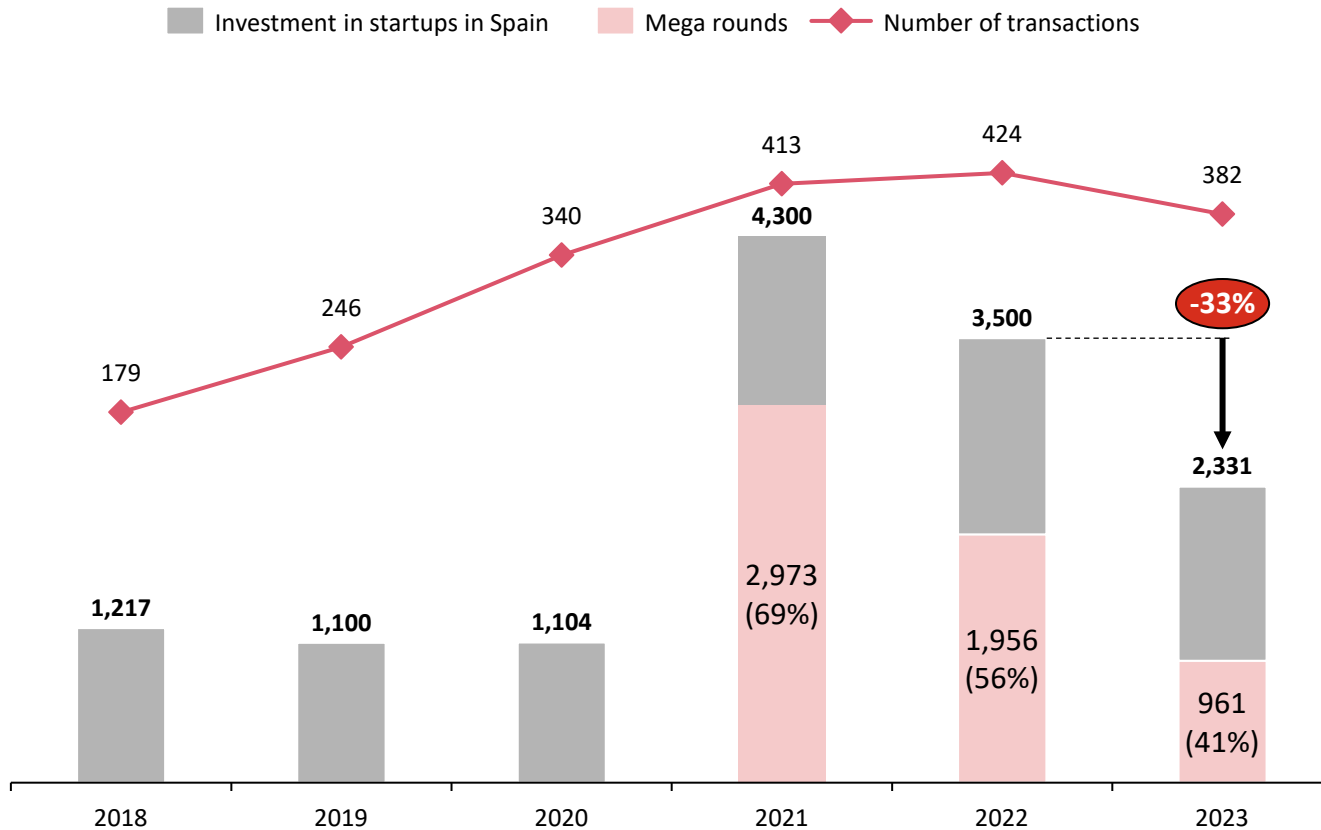
Evolution of investment volume in startups in 2022 (\$bn)





In this context of global investment slowdown, Spain has reduced its investment volume by 33% in 2023, 5 percentage points less than the global average

Evolution of investment volume in Spanish startups (€M) and number of transactions



Key points of 2023

- 33% decrease in investment volume compared to 2022
- Also, the number of transactions has decreased by 11% compared to the previous year
- Much of this contraction is due to the lower number of mega rounds, which decreased by 51% in 2023 compared to the previous year
- Foreign investor participation has decreased by 38%, while the investment volume from domestic investors has increased by 31%



Nevertheless, the value of the entrepreneurial ecosystem, which is the result of the sum of all startup valuations, has maintained a positive trajectory due to economic resilience, ecosystem size and technological advancements



Macroeconomic factors contributing to the growth of the ecosystem value in 2023



Expectations of interest rate reduction

Strong **resilience** of the global economy in high-interest environments, with positive consumption, GDP, and employment data throughout 2023 for most regions.

This fact generated **expectations of interest rate cuts** in the short and medium term, encouraging economic forecasts and a **reevaluation of financial markets**.



Size of the ecosystem and unicorns

Significant increase in the **number of startups** in the last year.

Rise in the **value of unicorns** - *technological startups that reach a valuation of \$1,000 million* - in the main ecosystems of the world.

These **unicorn** companies generate employment, a focus of attracting talent and continue to attract investment within the entrepreneurial ecosystem.



Knowledge and innovation

Technological advances evolved at a very high pace in 2023, where the **relevance and influence of OpenAI** in the development of new **artificial intelligence and data use systems** is especially notable. These technological advances have also been reflected in the number of patents, which increased significantly in the last year.

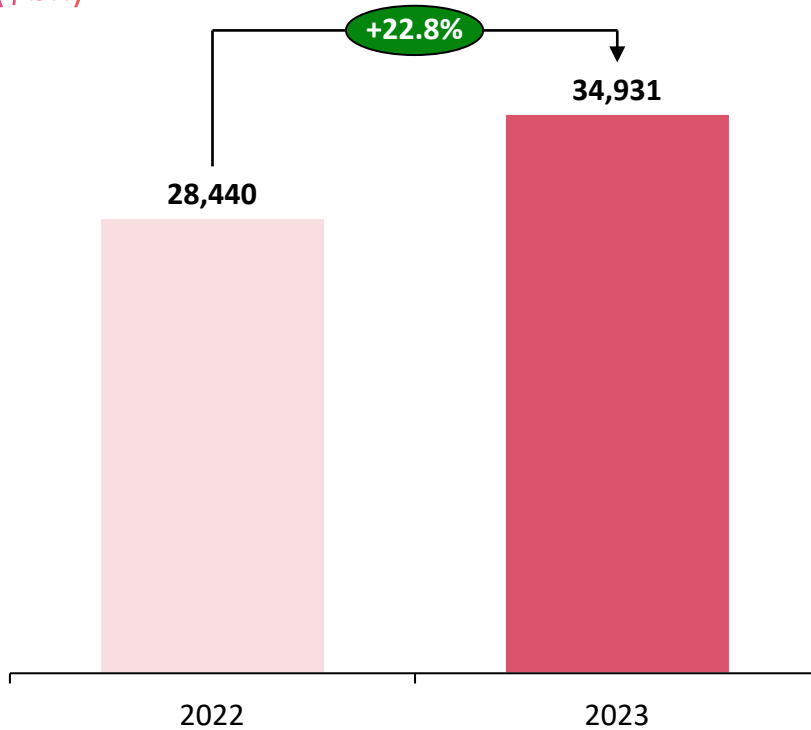
The attraction of qualified talent is decisive for the development of the entrepreneurial ecosystem, where **accelerators and incubators** present **hubs** that concentrate increasingly more specialized talent.



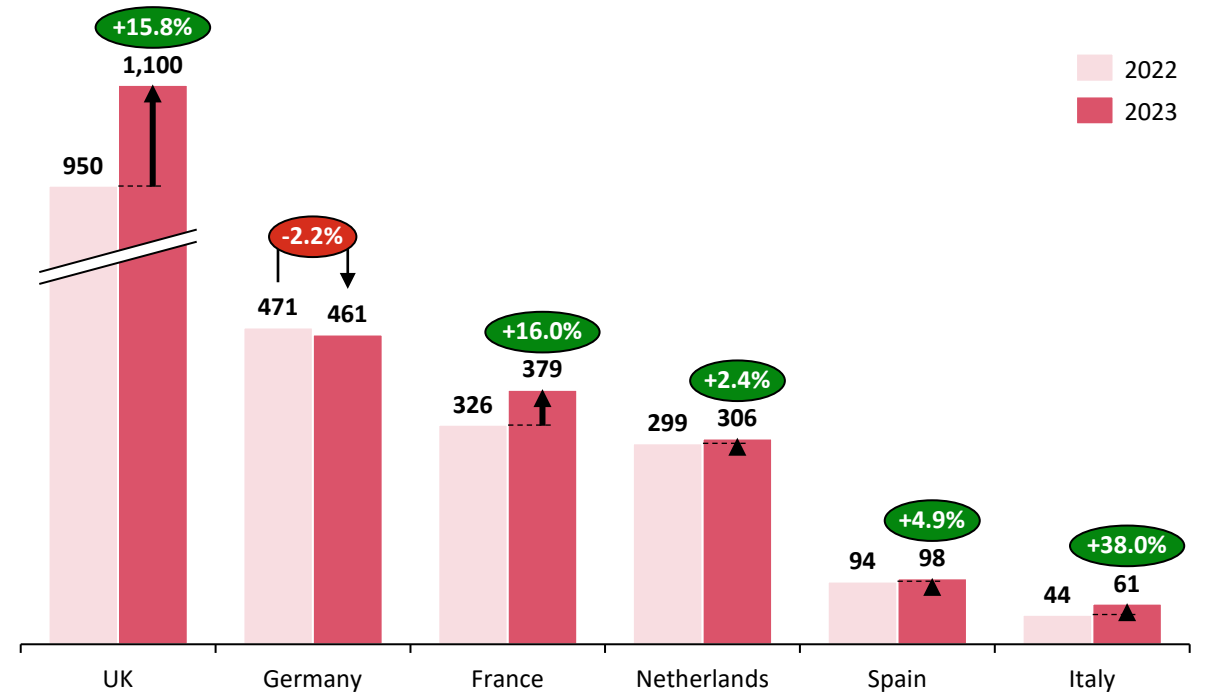
Thus, and despite the drop in the investments volume, the value of the global entrepreneurial ecosystem has increased. Spain, specifically, almost by 5%

In general terms, there has been a **general increase of 23%** in the value of the **global entrepreneurial ecosystem** compared to the previous year. At the European level there are very positive advances, reflecting the greater value of European startups

Value of the global entrepreneurial ecosystem (\$bn)



Value of the entrepreneurial ecosystem in some of the main European countries (\$bn)

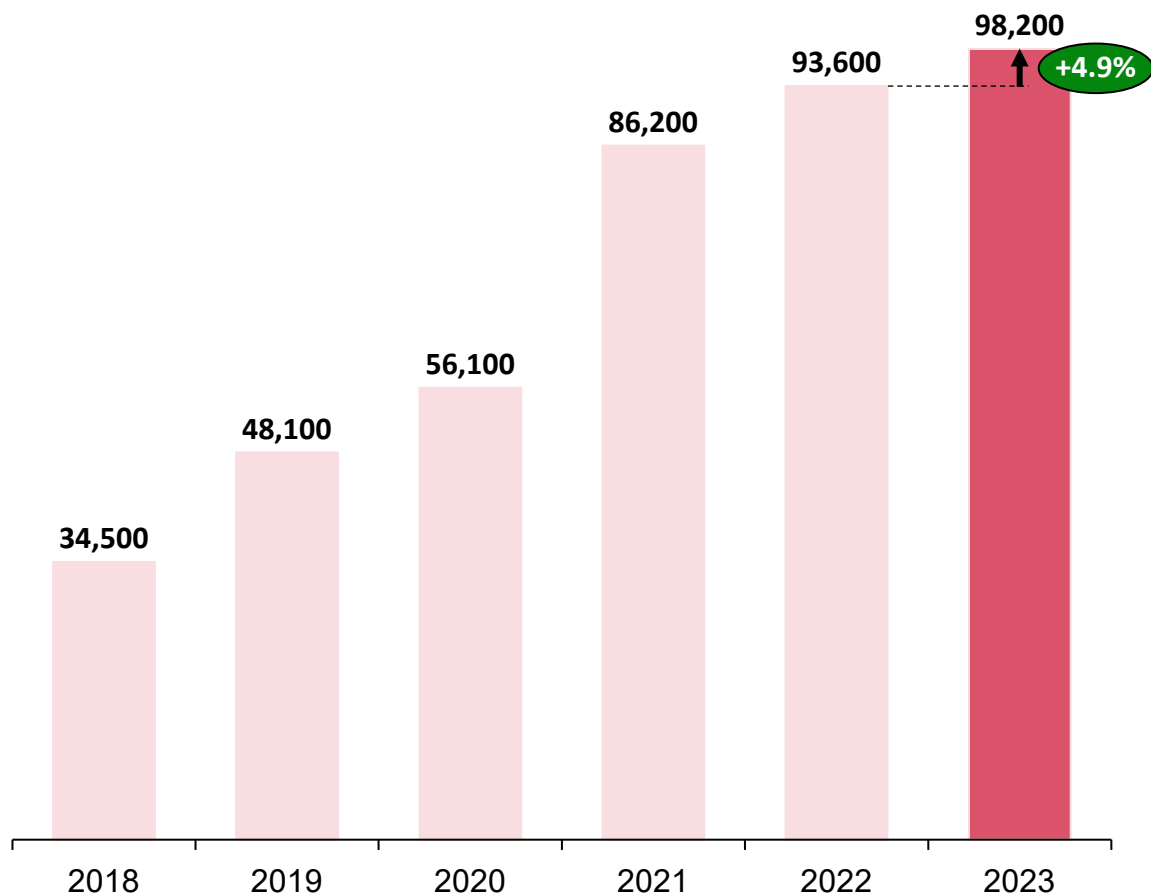




In 2023, Spain presents a consolidated ecosystem, exceeding an entrepreneurial ecosystem value of \$98,000 M



Value of the Spanish entrepreneurial ecosystem (\$M)



Data on the Spanish entrepreneurial ecosystem in 2023



12,354 startups
+3% (12,041 startups)



221 accelerators
+1% (218 accelerators)



118 incubators
+8% (109 incubators)



~137,000 jobs
-14% (~160,000 jobs)



In addition, the implementation of the 'Startup Law' at the end of 2022 has contributed to the promotion of economic and entrepreneurial activity in Spain



At the end of 2022, the **Law to Promote the Ecosystem of emerging companies**, known as the 'Startup Law', was approved, with significant legal and fiscal innovations that aim to boost economic and entrepreneurial activity. Furthermore, it serves as a catalyst for qualified talent by offering a series of support tools to the entrepreneurial ecosystem in Spain and all its actors. A defining startup framework is also established, determining which companies can access these benefits.



What is a startup?

A clear definition of a startup company is established:

- **<5 years old** and an annual turnover **<10 million euros**
- **Innovative** with a scalable model
- It does not come from a merger or division
- **Head office in Spain** with >60% of employees with employment contracts in Spain
- Does not distribute dividends



Fiscal benefits

Establishment of adapted taxation:

- **Reduced tax rate** (15%) for up to four years
- Creation of **the National Entrepreneurship Office** to provide information about entrepreneurship



Talent boost

Hub for attracting qualified talent:

- Increased **tax exemptions**
- Offering **visas for digital nomads**, allowing taxation through the Non-Resident Income Tax instead of the Personal Income Tax, valid for one year



Investment attraction

Incentive for economic activity:

- Greater **administrative ease**
- **Increased** percentage of **deduction**
- Favourable treatment of *'carried interest'* to attract venture capital entities
- **Incentives** to promote **investment** in early stages



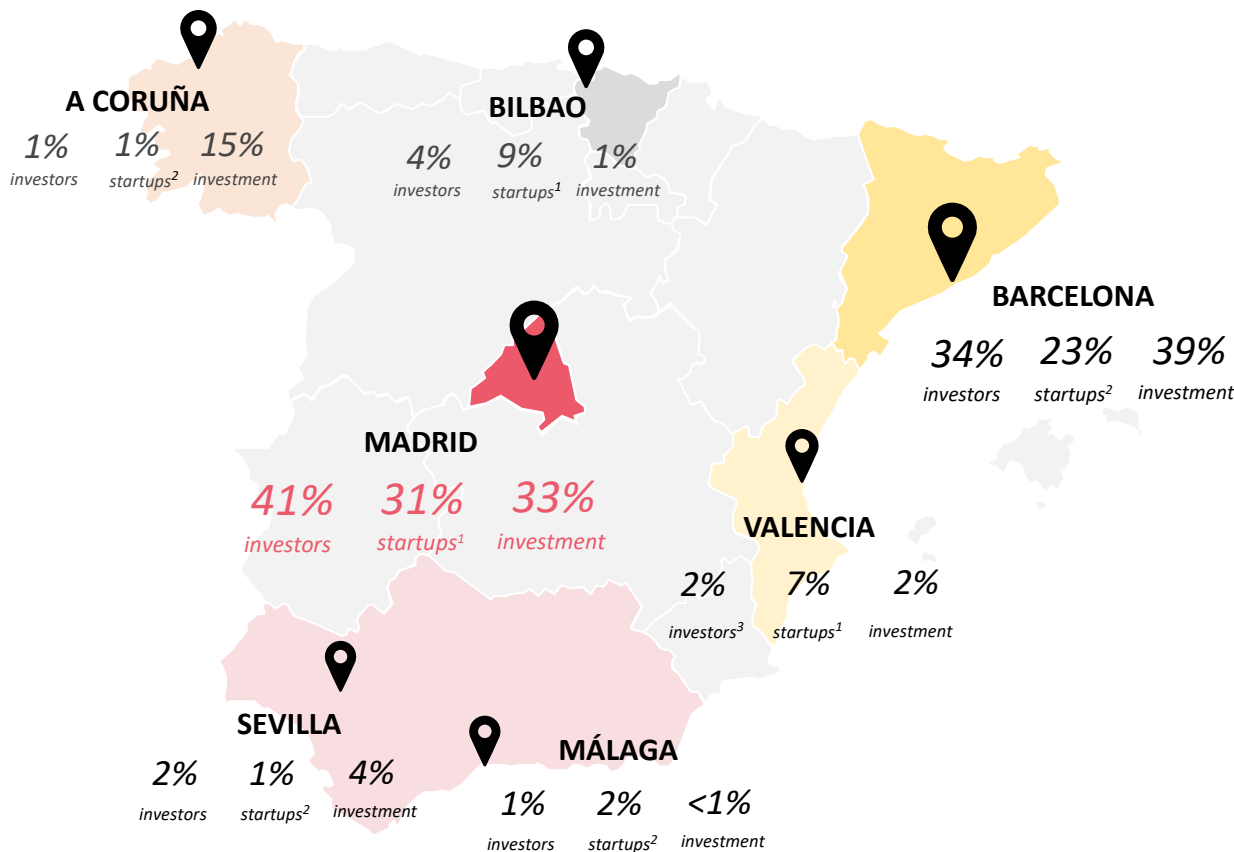
'Sandbox' promotion

Promotion of controlled testing spaces or **'sandbox'** to test technological innovations prior to implementation



On a national level, Madrid and Barcelona remain as the main entrepreneurial ecosystems

 National map of the main entrepreneurial ecosystems in 2023 (% of the national total)



The entrepreneurial ecosystem has experienced a slight slowdown in the past year, although it continues to show positive advancements. Within Spain, **Madrid and Barcelona** remain the primary and **most notable entrepreneurial ecosystems**. Additionally, other ecosystems such as Bilbao, Málaga, and Valencia are gaining relevance.

It is worth highlighting the innovative ecosystem of A Coruña, which saw a significant transaction in 2023 involving the company **Denodo** valued at **€ 336 M**.

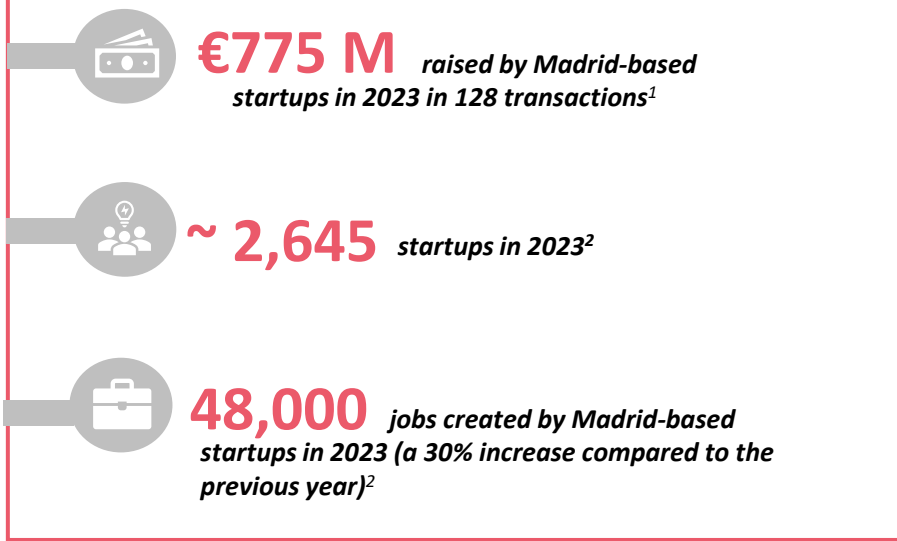
Sources: PwC analysis based on startup data from Dealroom (Data extracted on April 9, 2024) and investor and investment data from 'Fundación Innovación Bankinter' (Investment Trends Report in Spain in 2023).

Note: (1) Regional data used to calculate % of startups for Madrid, Valencia, and Bilbao. (2) For A Coruña, Barcelona, Málaga, and Seville, metropolitan areas were considered. (3) Includes total investors in the cities of Alicante, Castellón, Elche, and Valencia.



Madrid recorded a total investment of nearly €775 M in 2023, maintaining its position as one of the leading *hubs* in Europe

The entrepreneurial ecosystem in Madrid in 2023



Key highlights of Madrid's innovative ecosystem

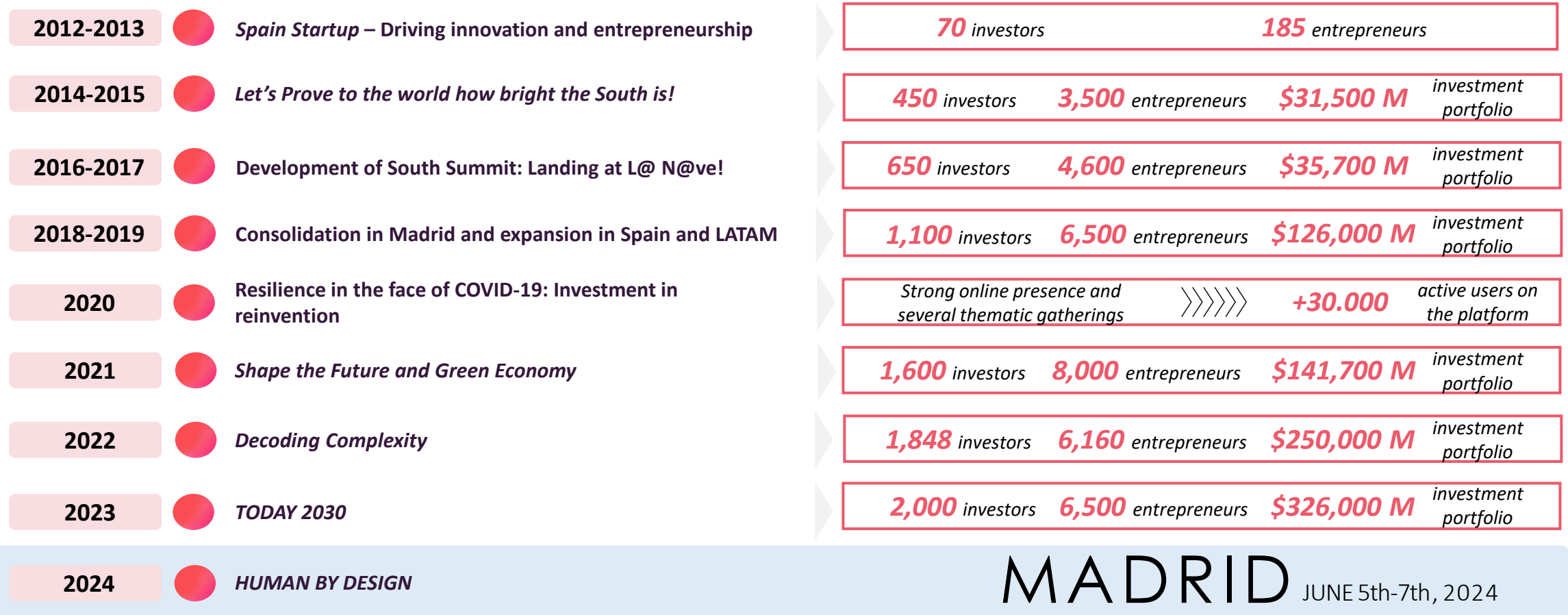
- 1st** national position as a hub for venture capital funds and **5th** position in Europe for investment attraction³
- 3rd** European position in the number of startup accelerators in 2024²
- 4th** European position in the number of pre-seed opportunities, concentrating a wide variety of investment opportunities⁴
- 5th** European position in the total number of technology companies founded in the last 10 years⁵
- 5th** European position in developer availability and talent in 2023⁶

Source: (1) Fundación Innovación Bankinter; (2) Dealroom (Data extracted on April 9, 2024); (3) Financial Times – fDi; (4) Venture Capital and Startup Investment Report from Startup Radar Madri+d 2023; (5) Startup Ecosystem Report from Startup Radar Madri+d 2023; (6) Startup Heatmap Europe 2023 Report.

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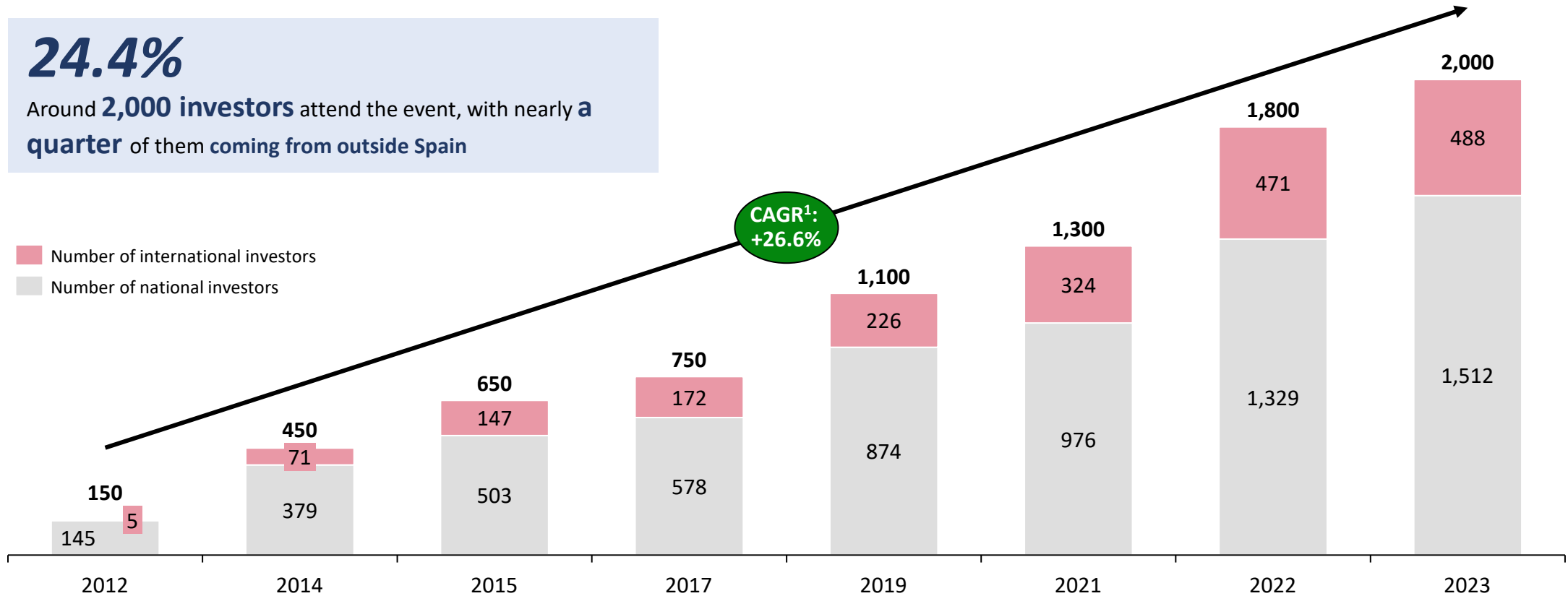
CONTRIBUTION OF SOUTH SUMMIT

South Summit has established itself as a leading event nationally and internationally...



...creating high-value relationships over its more than twelve years of history

 Number of investors at South Summit (2012-2023)




In this 13th edition, South Summit will delve into different areas of the future of technology and business, positioning human beings at the centre of all decisions...

HOW WOULD WE HUMAN by Design

Under the motto **HUMAN BY DESIGN**, the role of innovation as a tool to improve people's lives is emphasized

OUTSTANDING LEADERS

CONNECTION  EMOTION



MARC RANDOLPH

Netflix Co-Founder, Bestselling Author, Entrepreneur, Mentor, and Investor



STEVEN BARTLETT

Entrepreneur, speaker, investor, bestselling author and the host of Europe's No.1 podcast 'The diary of a CEO'



URINE LEVINE

Co-Founder of Waze, Author of 'Fall in Love with the Problem, Not the Solution'

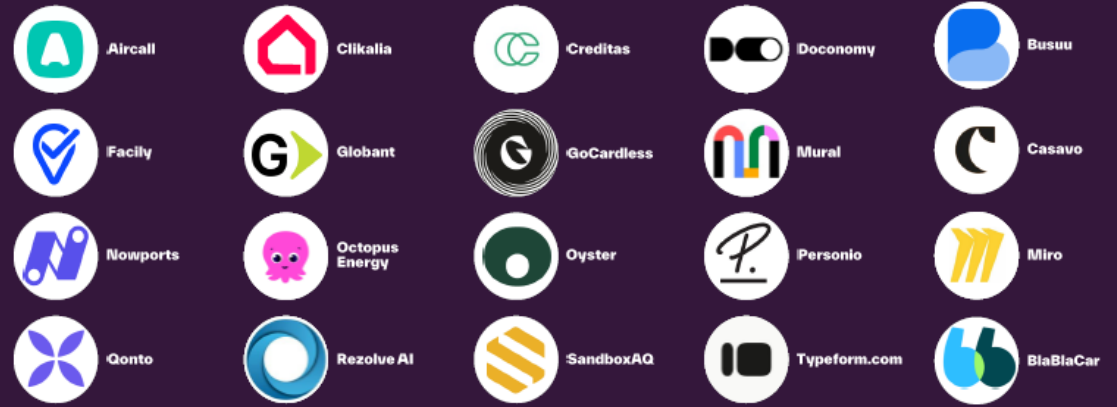


JEFF HOFFMAN

Chairman at Global Entrepreneurship Network












UNICORNS

CREATIVITY  CHANGE



...with meetings, talks, and conferences covering a multitude of sectors and diverse topics

 Topics covered in the 13th edition of South Summit in Madrid

 <p>TRUST TECH</p> <p><i>Privacy Transparency Ethics</i></p>	 <p>FINTECH</p> <p><i>Financial Inclusion Future of Banking DeFi</i></p>	 <p>CLIMATE TECH</p> <p><i>Energy Transition Ecosystem Regeneration Circular Economy</i></p>	 <p>DIGITAL CULTURE</p> <p><i>Entertainment Digital Communities Education</i></p>		
 <p>SPORTS TECH</p> <p><i>Digitalization Future of Sports Leadership</i></p>		 <p>SMART INFRASTRUCTURES</p> <p><i>Industry 5.0 Mobility Connectivity</i></p>		 <p>HEALTH & SCIENCE</p> <p><i>Med Tech Solutions Mental Health Future of Health</i></p>	
 <p>AGRITECH & FOOD</p> <p><i>Food Value Chain Agritech Solutions Future of Food</i></p>	 <p>INNOVATION & ECOSYSTEM</p> <p><i>Redefining Success Ecosystem Collaboration Talent Economy</i></p>	 <p>GROWTH</p> <p><i>Investment Scaling up</i></p>	 <p>SPACE TECH</p> <p><i>Future of Space Sector Revolutionary Spacetech Leadership through Spacetech</i></p>		

In this context, the South Summit event contributes through the following axes...

1

Economy and employment

...generating **economic activity and employment** in Madrid through the organization and hosting of the event...

2

Image and reputation

...improving the **image and reputation** of the country, thanks to both the event in Madrid and the one held in Brazil.

3

Entrepreneurial ecosystem

...contributing to economic activity and employment through the **investment raised** by the **finalist startups**.

4

Strengthening of growth

...and its **international position** as a talent attraction hub thanks to the success of the third edition of South Summit Brazil.

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CONTRIBUTION OF SOUTH SUMMIT

3.1 IMPACT ON THE ECONOMY AND EMPLOYMENT

3.2 IMPACT ON IMAGE AND REPUTATION

3.3 IMPACT ON THE ENTREPRENEURIAL ECOSYSTEM

3.4 GROWTH CONSOLIDATION: SOUTH SUMMIT
BRAZIL

South Summit’s organization and celebration generates a positive impact on the economy and employment in the city of Madrid

Drivers of the socio-economic impact of South Summit in 2024

SOUTH SUMMIT

Socio-economic impact of South Summit 2024



Impacts generated by the **organization of the event**

This type of event generates **economic activity**, thanks to the **expenses and investments** made during the organisation of the event.

These impacts have been calculated based on the information on expenses and investments made by South Summit.



Impacts generated by **event attendees**



The **expenses incurred by attendees** represent an **additional increase in the economic activity of the city** during the days of the meeting.

For the purposes of calculating these impacts, we have used the total number of attendees broken down by their origin.

Drivers of economic impact

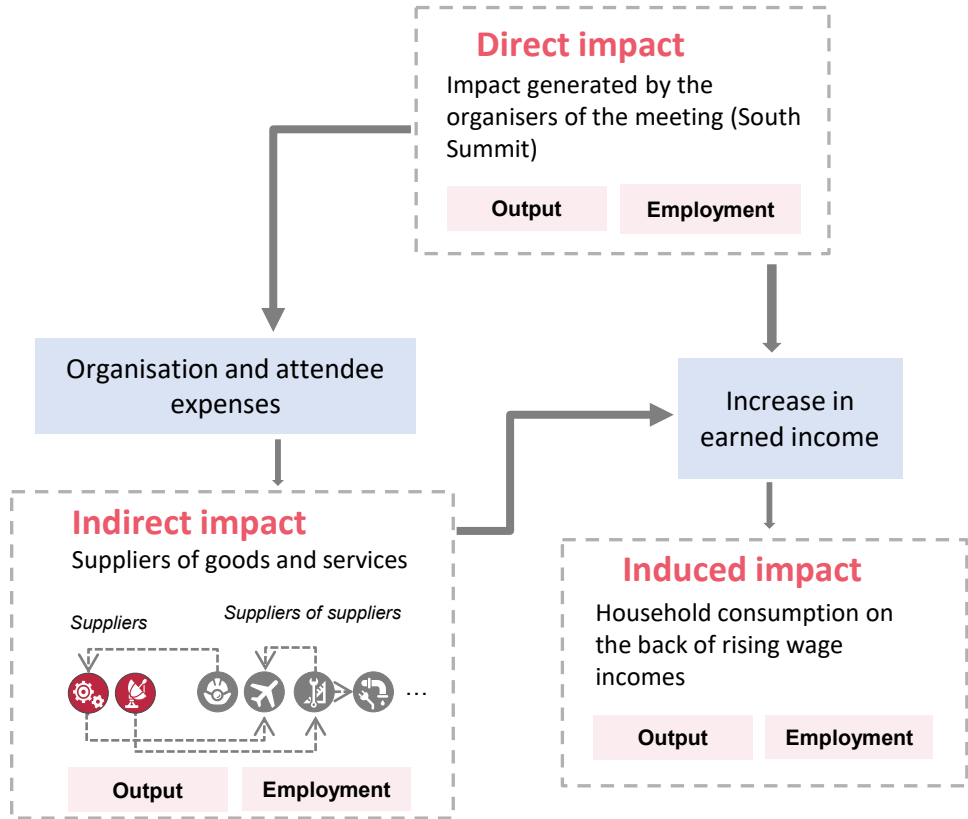


Source: PwC analysis.

Note: We predicted 22,000 attendees based on the number of attendees of the last edition 2023 and the available capacity of the Nave.

These impacts include not only those generated directly, but also indirect and induced

Types of socio-economic impacts on Madrid of South Summit in 2024



Types of impact

Direct impact
Corresponds to the impact generated by South Summit as organiser of the event.

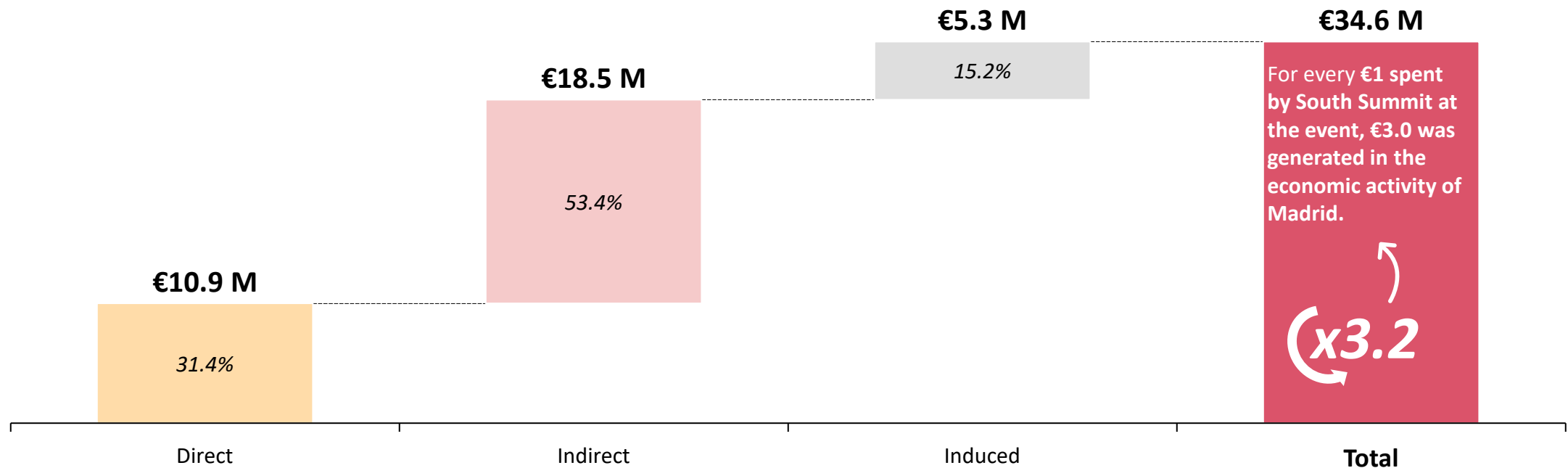
Indirect impact
Increase economic activity (production) and employment, generated by the expenses and the investments made by the event organisers and attendees.

Induced impact
Increased economic activity (output) and employment, generated through household consumption, resulting from higher wage incomes as a consequence of direct and indirect impacts.

Note: Estimation of indirect and induced impacts through the input-output methodology, a standard technique accepted and used by international organisations for this type of measurement. For further information see methodological annex.

The South Summit 2024 event will generate an estimated economic activity of almost €35 M

✦ Impact on output in Madrid in South Summit 2024 (€M)

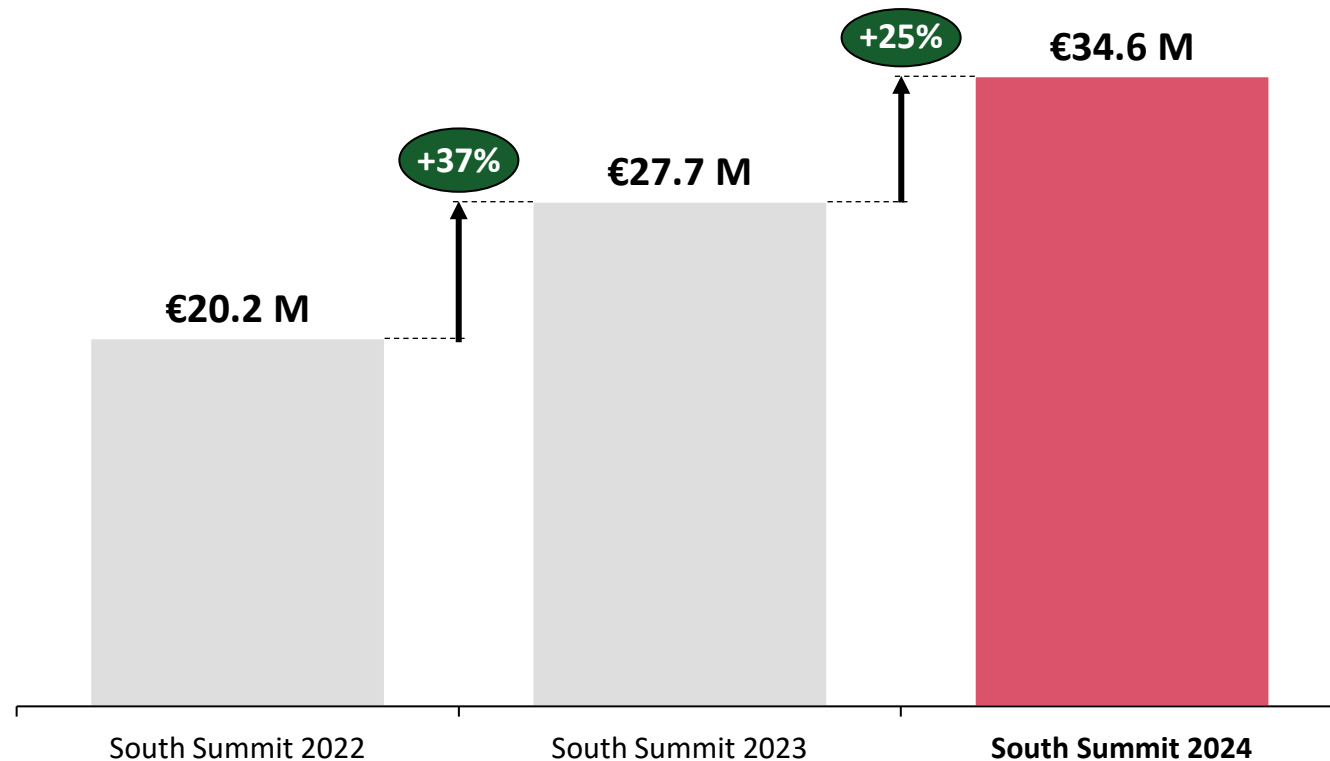


€1,572
+25% compared to 2023

For every visitor who attends South Summit, around **€1,572** of activity is generated in the local economy.

Despite the global investment slowdown, South Summit continues to increase its contribution with an economic impact 25% higher than in the previous 2023 edition

Comparison of South Summit's impact on Madrid's output (€M)



The economic impact of South Summit 2024 is equivalent to...

64% of the expenditure on **cultural activities** budgeted by the Madrid City Council for 2023¹

31% of the **health** expenditure budgeted by the Madrid City Council for 2023²

21% of **education** expenditure budgeted by the Madrid City Council for 2023³

Sources: PwC analysis based on South Summit, National Statistical Institute and Statistical Institute of the Community of Madrid.

Note: (1) Item corresponding to the "Cultural activities" section of the Madrid City Council's 2023 budget.

(2) Item corresponding to the "Health" section in the Madrid City Council's 2023 budgets.

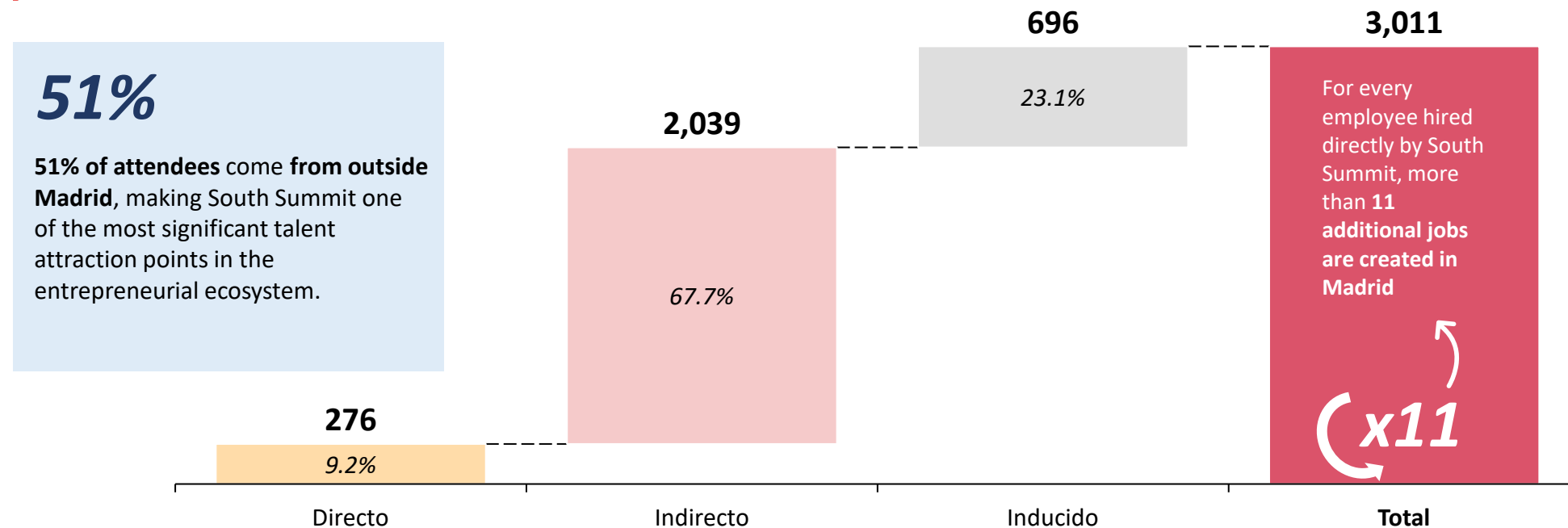
(3) Item corresponding to the "Education" section in the Madrid City Council's 2023 budgets.



In terms of employment, South Summit is positioned as an international attraction hub, with over half of the total employment created due to South Summit's international and global character



Employment impact in Madrid from South Summit in 2024 (equivalent monthly-duration jobs)



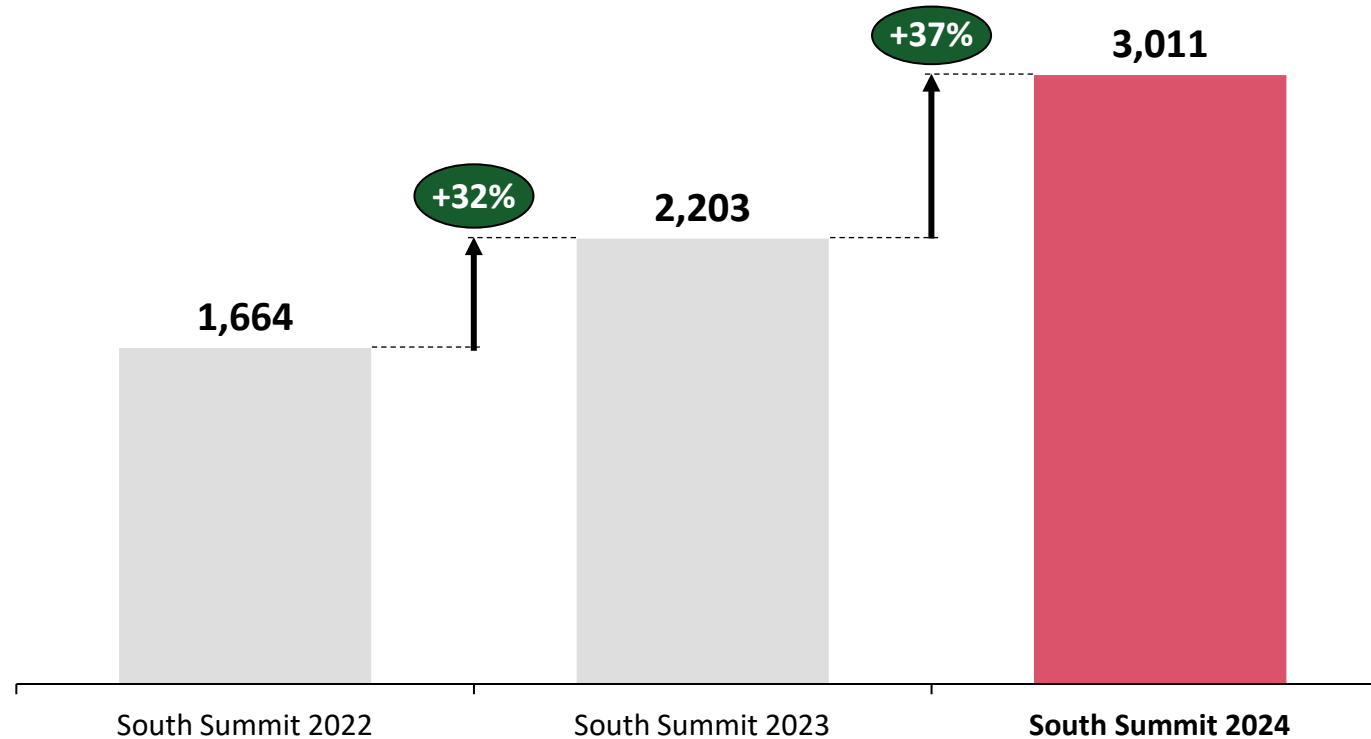
55%

55% of the jobs created are generated by the arrival of attendees from outside Madrid, reinforcing the international and global nature of this gathering



In addition to the global nature of the event, this year's total contribution to employment continues to grow compared to past editions, with a 37% increase over 2023

Comparison of South Summit's employment impact in Madrid in 2024 (equivalent monthly-duration jobs)



405 jobs

For every million euros of spending and investment made by South Summit, around 405 equivalent monthly-duration jobs will be created directly, indirectly and induced

396 jobs

For every million euros of spending made by attendees, around 396 equivalent monthly-duration jobs will be created directly, indirectly and induced.

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CONTRIBUTION OF SOUTH SUMMIT

3.1 IMPACT ON THE ECONOMY AND EMPLOYMENT

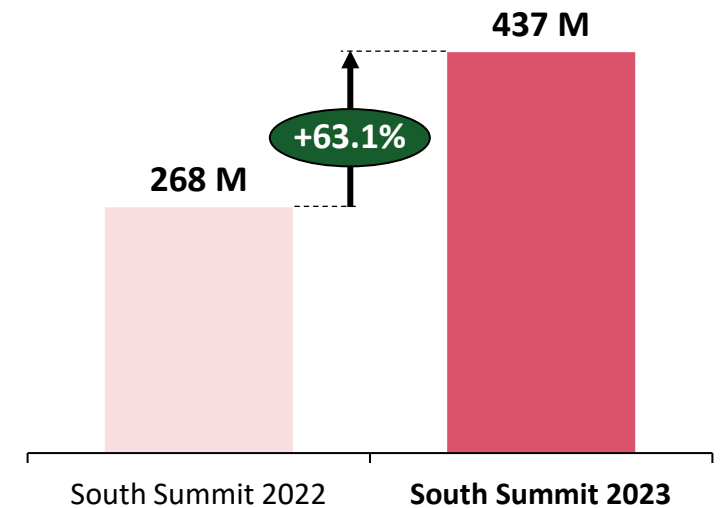
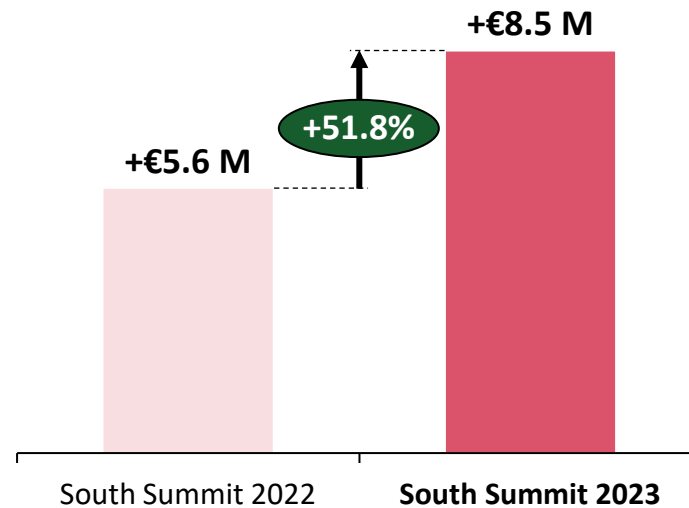
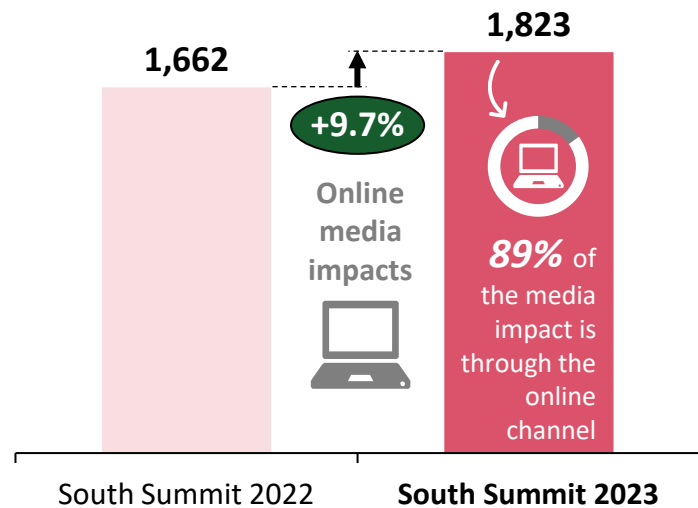
3.2 IMPACT ON IMAGE AND REPUTATION

3.3 IMPACT ON THE ENTREPRENEURIAL ECOSYSTEM

3.4 GROWTH CONSOLIDATION: SOUTH SUMMIT
BRAZIL

The event has a significant media impact, which boosts the city's image and reputation, and helps position it as a benchmark in entrepreneurship

 Summary of the media impact of the South Summit event in Madrid in 2023 (June 7th-9th)

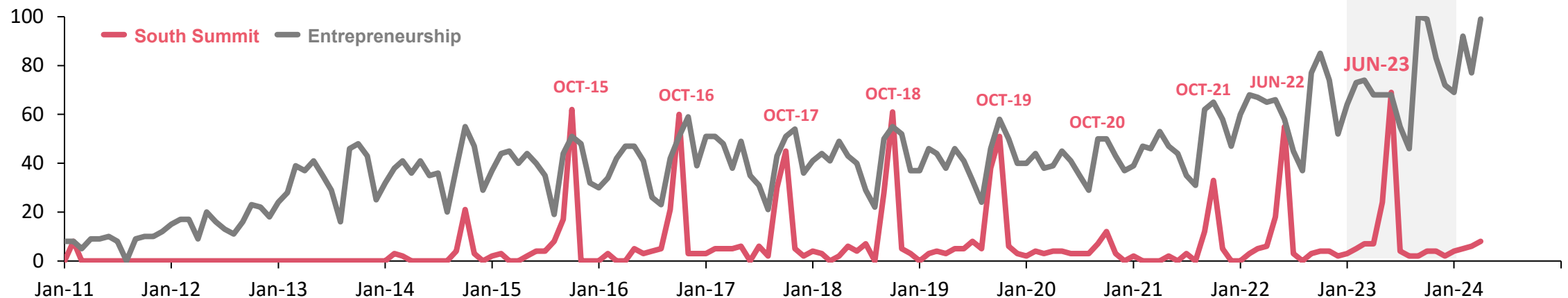


Apart from the Madrid's event, South Summit generated relevant media impact whose effects persist throughout the year

Summary of South Summit's media impact throughout 2023



Relationship between the number of searches in Google Spain for 'South Summit' and 'entrepreneurship'



Sources: South Summit and Google Trends.

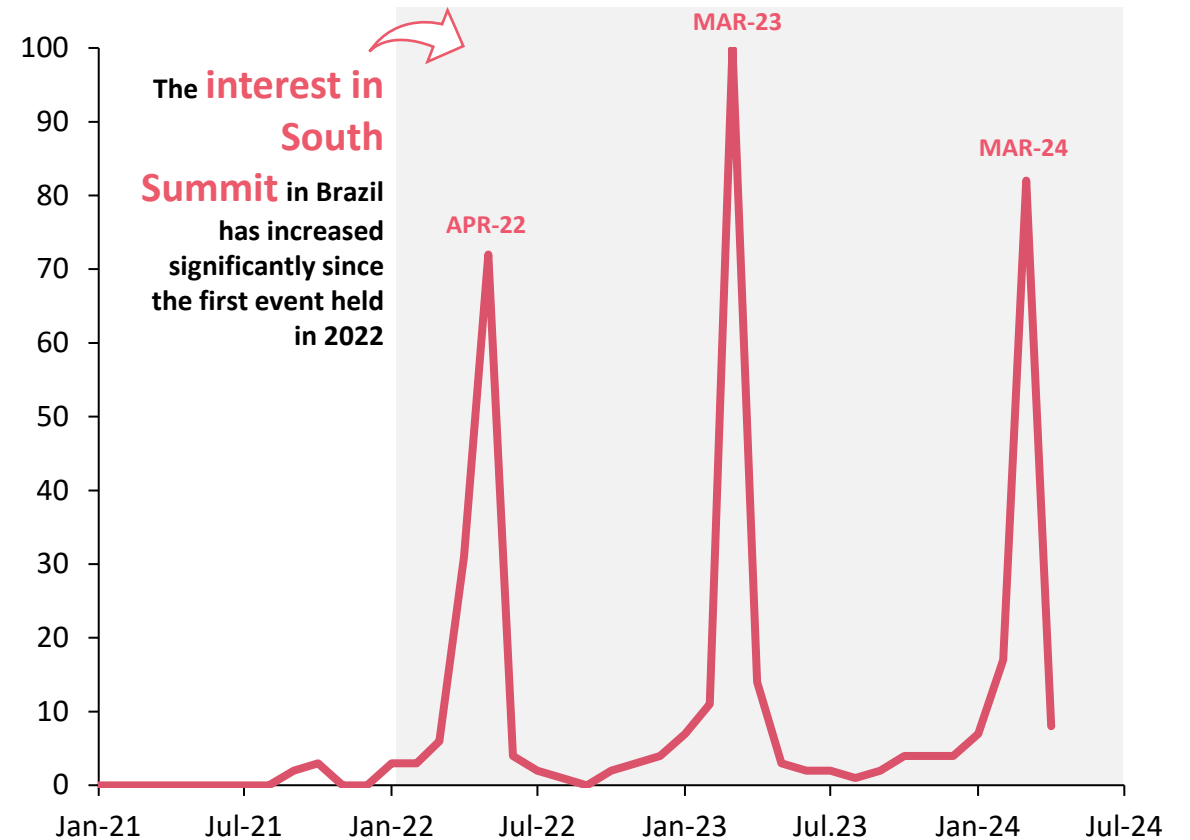
Note: Numbers represent search interest relative to the highest point in the graph for a region in a given period, i.e. a value of 100 indicates the highest peak of popularity in Spain at the time represented.

With a growing international impact, as demonstrated by the data from the latest edition of South Summit in Brazil

Summary of Media Impact from the South Summit Event in Brazil in 2024 (March 20th-22th)



Number of Google searches in Brazil for 'South Summit'



Sources: South Summit and Google Trends.

Note: The numbers represent search interest relative to the highest point on the chart for a given region and time. A value of 100 indicates the peak popularity for the term "South Summit" in Brazil for the specified period.

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CONTRIBUTION OF SOUTH SUMMIT

3.1 IMPACT ON THE ECONOMY AND EMPLOYMENT

3.2 IMPACT ON IMAGE AND REPUTATION

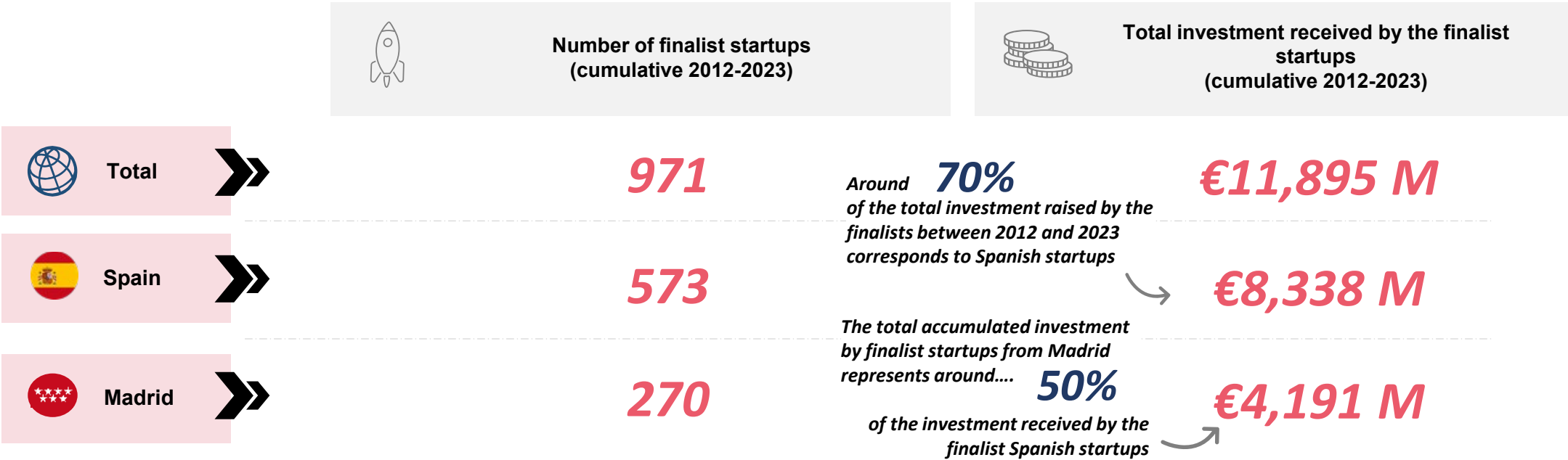
3.3 IMPACT ON THE ENTREPRENEURIAL ECOSYSTEM

3.4 GROWTH CONSOLIDATION: SOUTH SUMMIT
BRAZIL

80% of the startups participating in South Summit 2023 are international, creating a hub for global talent attraction that raises investment and generates an increasing impact in the entrepreneurial ecosystem

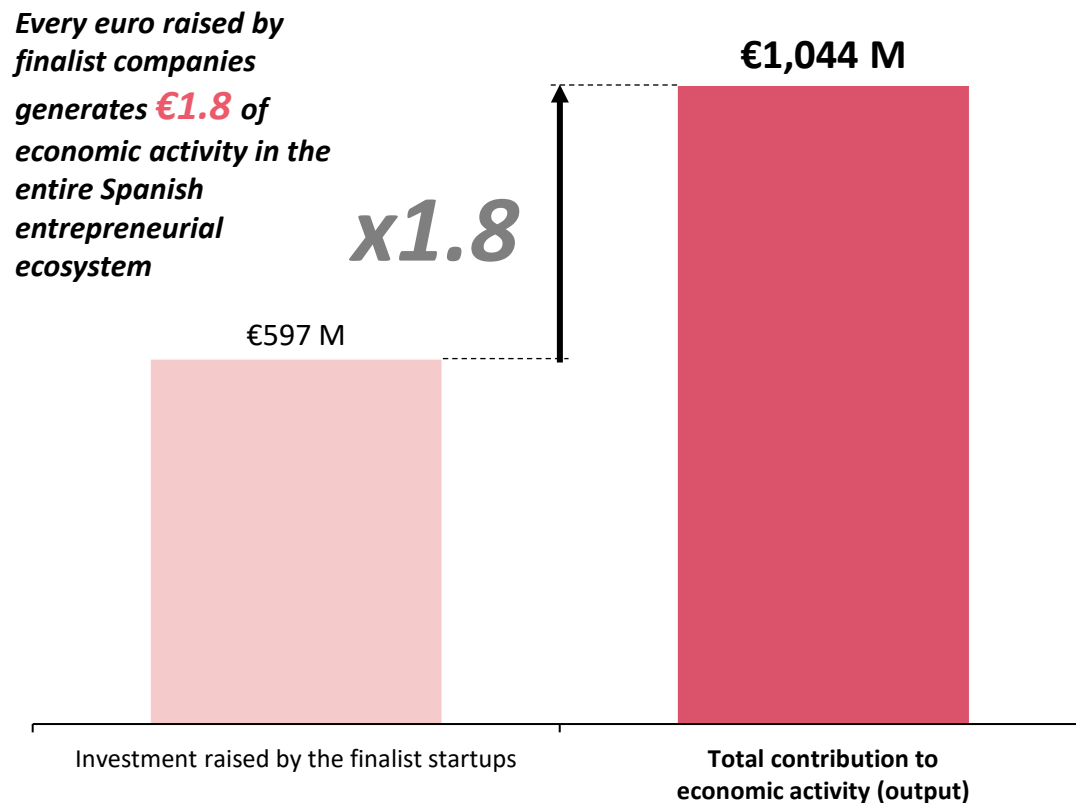
8 out of 10 startups participating in South Summit 2023 were international, subsequently representing around 40% of the finalist startups

Number of South Summit finalist startups and their total received investment (2012-2023)



The investment raised by the finalist Spanish startups in 2023 was €597 M (\$645 M), which produced an increase in economic activity in Spain of €1,044 M

 Contribution of all finalist startups from the South Summit editions in 2023



26%

The investment raised in 2023 by all Spanish finalist startups in all editions of South Summit represents 26% of the total investment volume in Spain in 2023

9,073 jobs






The investment raised by the **finalist startups contributed** indirectly and induced the creation of approximately **9,073 absolute jobs** in the Spanish business network

For every million euros of investment raised, **9 jobs** are generated in the overall Spanish business network

Of this total contribution from Spanish finalist startups, around 46% of the impact, €481 M, was generated by startups based in Madrid

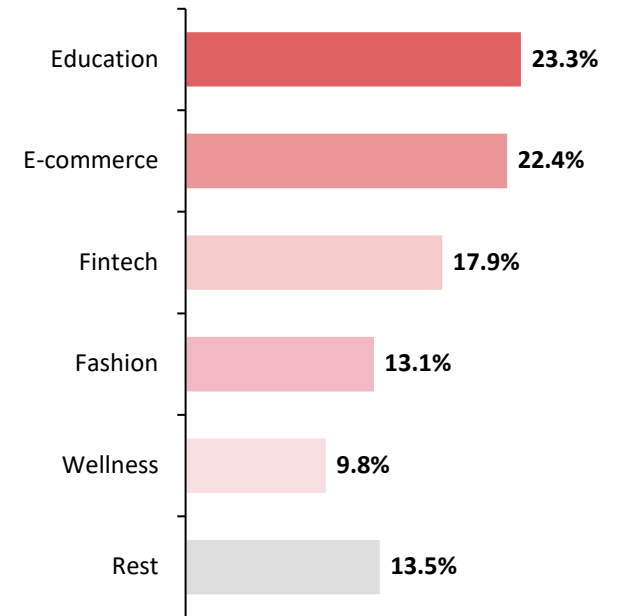
 Contribution of all finalist startups from the editions of South Summit in 2023

€302 M The total investment raised by all finalist startups based in Madrid reached €302 M in 2023

	€ Economic impact (output)	 Employment impact (absolute, annuals)
 Spain 	€1,044 M	9,073
 Madrid 	€481 M	4,089

Compared to the total number of Spanish finalist startups, the finalist startups based in Madrid generate **46%** of the total contribution to **economic activity** and **45%** of **employment**

Primary sectors of finalist startups based in Madrid in 2023 (% of total)



/03

CONTRIBUTION OF SOUTH SUMMIT

3.1 IMPACT ON THE ECONOMY AND EMPLOYMENT

3.2 IMPACT ON IMAGE AND REPUTATION

3.3 IMPACT ON THE ENTREPRENEURIAL ECOSYSTEM

**3.4 GROWTH CONSOLIDATION: SOUTH SUMMIT
BRAZIL**

South Summit has established itself as one of the leading global events within the entrepreneurial and innovation ecosystem

South Summit is an **international platform** that brings together all stakeholders of the entrepreneurial ecosystem. It is **continuously growing and expanding**, representing one of the main events in the sector at a **European level** and confirming its position in **LATAM**



Startup Competition

Strong participation of international startups



Benchmark in Europe

It is one of the largest events in Europe within the entrepreneurship and innovation sector



Open and Global Innovation

This event promotes the global interaction of all actors within the innovation ecosystem



South Summit Brazil

Three successful editions of South Summit Brazil as a key hub for entrepreneurship in Latin America



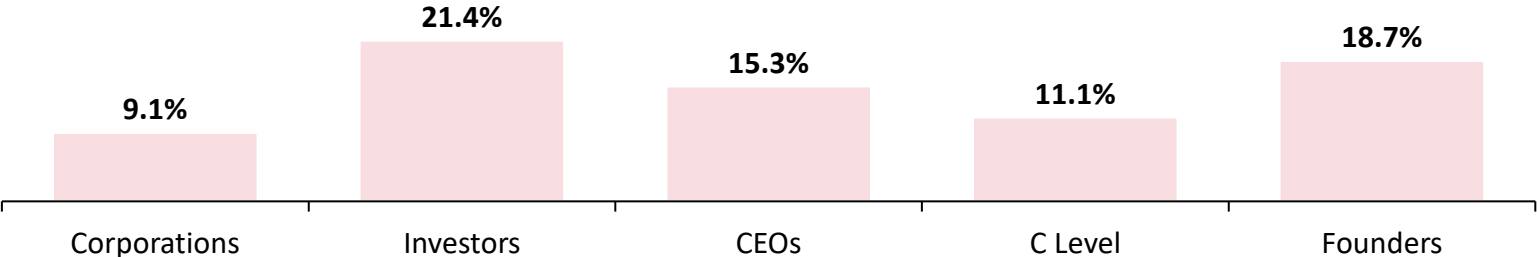
Participating startups South Summit 2023



- 20% Spain
- 24% Europe
- 21% LATAM
- 13% Asia-Pacific
- 12% USA and Canada
- 10% Africa



Percentage of international attendees relative to the total at the 2023 edition (%)





The third edition of South Summit Brazil in March 2024 continues to reflect the international position of this event, with an increasingly significant impact on the international entrepreneurial ecosystem

 Key figures for South Summit Brazil 2024



Increased attendance and international participation with a positive impact on the region...

+ 23,500 attendees
➡ **+1,500** participants compared to 2023
+90% hotel occupancy



Increase in the number of participating investors and focus on attracting international investment...

+900 investors
➡ **+300** investors compared to 2023
+81% international funds compared to 2023



Primary gathering of the entrepreneurial ecosystem in Latin America...

55 countries participating among the attendees
+17% international speakers compared to 2023



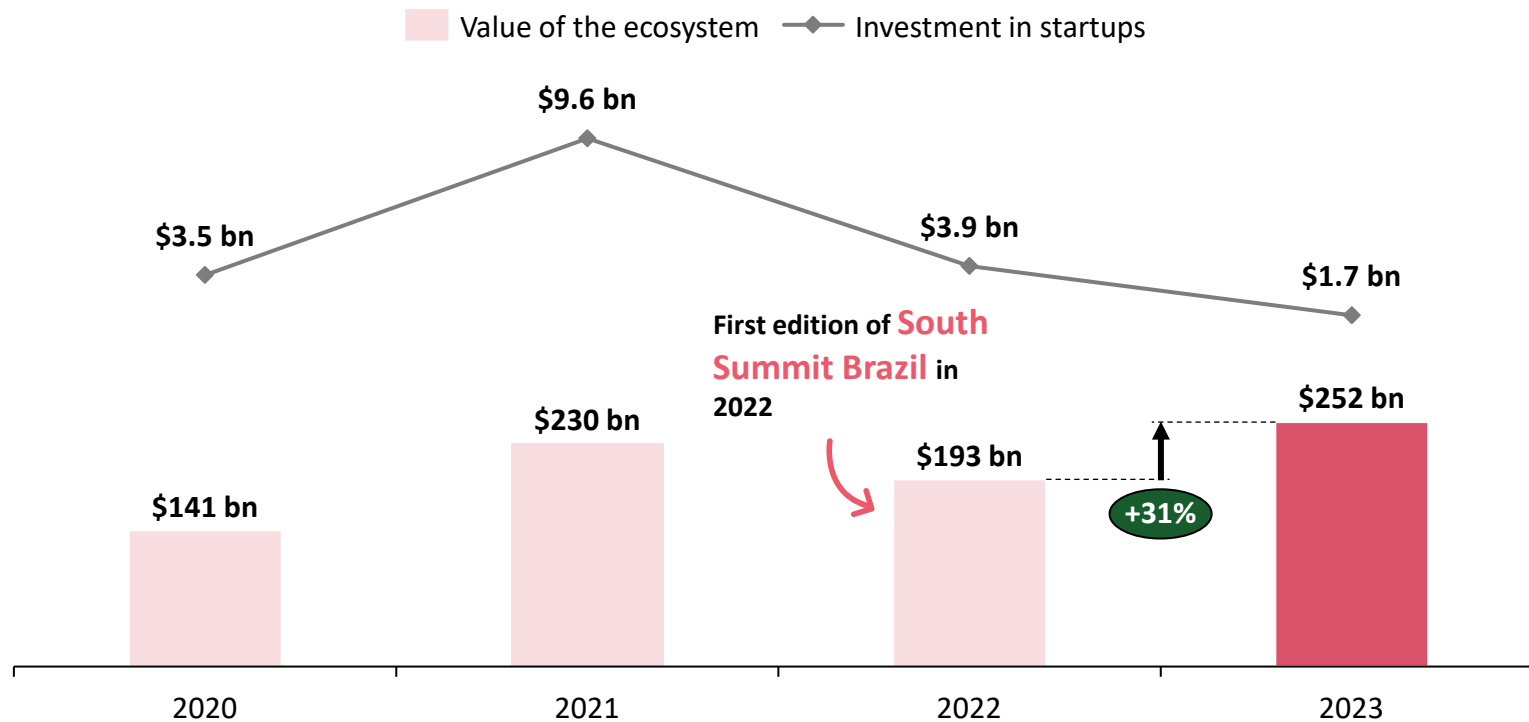
Among the participating startups, there is a strong international presence

+144% startups LATAM (except Brazil)
Presence from over **+80** different countries



The value of the entrepreneurial ecosystem in Brazil has increased significantly in recent years (CAGR¹ of +22% between 2020-2023), representing around 52% of the total value of the ecosystem in Latin America in 2023

Evolution of investment and the value of the entrepreneurial ecosystem in Brazil (\$bn)



7%
906 Brazilian startups participated in South Summit Brazil in 2024, representing **7%** of the **total startups in Brazil** (13,365 startups)

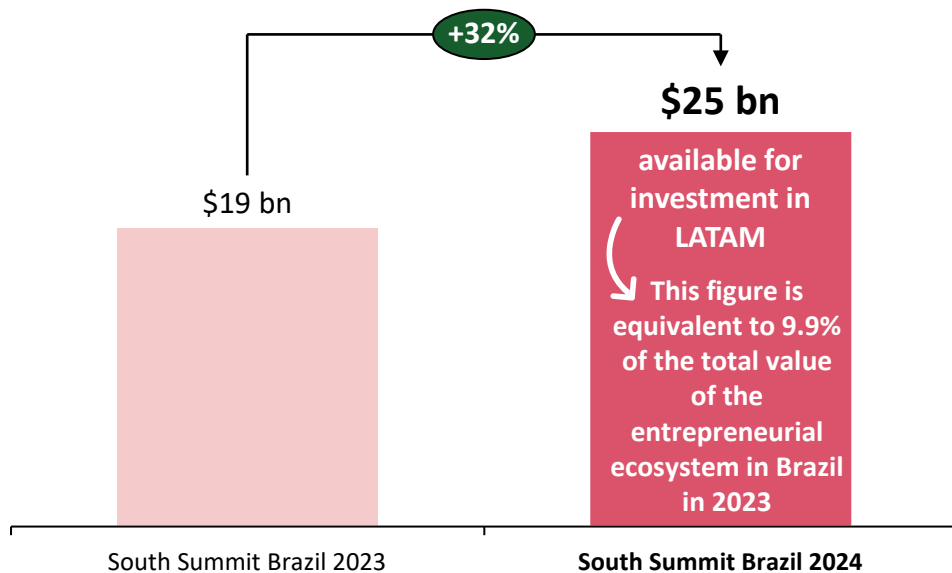
+31%
 Since the **first edition of South Summit Brazil**, the **entrepreneurial ecosystem** of Brazil has **increased by 31%** in 2023



South Summit Brazil 2024 had a total of \$25,000 M available for investment in LATAM, which is equivalent to almost 10% of the entire value of the entrepreneurial ecosystem in Brazil in 2023

✦ Contribution of the South Summit Brazil event to the economy and the entrepreneurial ecosystem

Funds available for investment in LATAM (\$bn)



\$12.2 M

The available funds per startup participating in South Summit Brazil reach \$12.2 M, attracting the best startups and entrepreneurs from the international landscape



x1.8

For every \$ finally raised in Brazil in terms of investment by startups, an average of \$1.8 of economic activity is generated in the Brazilian business network

The increasing relevance of South Summit Brazil also has very positive effects for Spain, both due to the investment raised by Spanish startups participating in the event, and the strengthening of Spain's image as a hub of innovation and entrepreneurship



 **METHODOLOGICAL ANNEX**

Methodological Annex: The Input-Output Model (1/2)

The impacts on economic activity and employment in Madrid generated as a result of organizing and hosting the event are calculated using the input-output model, constructed from data from the Regional Accounting of the Community of Madrid. Additionally, for the calculation of the impact of the finalist companies of South Summit in Spain, the input-output model, built from data from the National Accounting of Spain, has been used.

Input-output models are a standard and widely used technique to quantify the economic impact of economic activities and investments in infrastructure. They are based on the *Leontief* production model, in which the production requirements of an economy equal the intermediate demand for goods and services by productive sectors plus final demand, as shown in the following expression:

$$X = AX + y$$

where X is a column vector representing the production requirements of each sector of the economy (a total of 66 in the Regional Accounting of the Community of Madrid and 63 in the National Accounting of Spain), y is a column vector representing the final demand of each sector, and A is a matrix (66 rows x 66 columns in the Regional Accounting of the Community of Madrid and 63 rows x 63 columns in the National Accounting of Spain), called the technical coefficients matrix. This matrix, by rows, indicates for each specific sector the percentage of its production that is destined for each of the other sectors of the economy, and by columns, it also indicates for each sector the weight of the goods and services it demands from each of the other sectors of the economy. The previous expression can also be seen in the following way:

$$\begin{bmatrix} X_1 \\ X_2 \\ X_3 \\ \dots \\ X_{66} \end{bmatrix} = \begin{bmatrix} a_{11} & a_{12} & a_{13} & \dots & a_{166} \\ a_{21} & a_{22} & a_{23} & \dots & a_{266} \\ a_{31} & a_{32} & a_{33} & \dots & a_{366} \\ \dots & \dots & \dots & \dots & \dots \\ a_{661} & a_{662} & a_{663} & \dots & a_{666} \end{bmatrix} \begin{bmatrix} X_1 \\ X_2 \\ X_3 \\ \dots \\ X_{66} \end{bmatrix} + \begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \\ \dots \\ Y_{66} \end{bmatrix}$$

where, for example, X_1 represents the production needs of sector 1, y_1 is the final demand for sector 1, and $a_{11}, a_{12}, a_{13}, \dots, a_{166}$ are the percentages of sector 1's production that are allocated to sectors 1, 2, 3, ..., 66, respectively, while $a_{11}, a_{21}, a_{31}, \dots, a_{66}$ are the weights on sector 1's production of the goods and services demanded respectively from sectors 1, 2, 3, ..., 66.

Methodological Annex: The Input-Output Model (2/2)

Reordering the previous expression, the production needs of an economy (X) can be calculated from the final demand (y) that it must meet as follows:

$$X = (I-A)^{-1} y$$

Where $(I-A)^{-1}$ is the *Leontief* inverse matrix or production multipliers matrix used to calculate the impacts.

The production multiplier matrix used in our analysis has been calculated from data published by the National Institute of Statistics of the Community of Madrid. This matrix allows us to determine, for every euro spent or invested in various sectors of the Regional Accounting (i.e., for every euro of final demand), the impact in terms of gross production (i.e., production needs). Additionally, for estimating the national impact of the South Summit finalists, we used the production multiplier matrix calculated from data published by the National Statistics Institute of Spain. This matrix enables us to determine, for every euro spent or invested in various sectors of the National Accounting (i.e., for every euro of final demand), the impact in terms of gross production (i.e., production needs).

From the production multiplier matrix, we proceed to calculate employment multipliers. To do this, using data from the National Institute of Statistics of the Community of Madrid and the National Statistics Institute of Spain, we first calculate the direct employment coefficients for each sector (the ratio between the number of employees and production). The employment multipliers are then derived by multiplying the production multiplier matrix by a column vector containing the direct employment coefficients calculated for each sector.

The multipliers for calculating induced effects are obtained from information about: *(i)* the share of household incomes (wages) in the production of each affected sector, *(ii)* the distribution of household consumption by sectors, and *(iii)* the estimated marginal propensity to consume for the Spanish economy (0.643).

Methodological annex: Estimation of assistant expenses

Given the lack of specific information on expenses incurred by attendees at the event, an approximation has been made using data on average spending by tourists, as well as the breakdown of these expenses by categories published by the National Institute of Statistics of the Community of Madrid and the INE. More specifically, for attendees at the event, the average expenses made by tourists from the rest of Spain and foreigners visiting the Community of Madrid have been used as a reference.

These average spending figures have been further adjusted specifically for South Summit to reflect only those expenses that would have an impact in Madrid and would not have occurred if the event had not taken place. Additionally, to avoid duplication in the estimated impacts, expenses incurred by attendees on event tickets have not been considered.

The adjustment of these figures has been carried out independently based on the origin of the attendees, as detailed below:

- Attendees from Spain (outside the Community of Madrid) and from outside Spain:
 - It has been assumed that 50% of transportation expenses were made in Madrid and the remaining 50% in their respective places of origin, except for air and sea transport where it was assumed to be 75%.
 - Expenses on travel agencies for foreign tourists have not been included assuming they were done at the place of origin.
- Attendees from Community of Madrid:
 - To account for only additional expenses incurred exclusively due to attending the event and would not have occurred in its absence, for Madrid residents, only transportation expenses to and from the event venue have been considered (mainly taxi and gasoline costs for those using their own vehicles). These figures have been estimated based on average gasoline prices and taxi trips from the venue to different points in Madrid (€50 for a round trip taxi ride with 2 people).

For estimating impacts, all average expenditure data has been further adjusted by removing the corresponding VAT for each expenditure category.

This document is based on public data and information provided by South Summit. The document is distributed solely for informational purposes, is not intended to be exhaustive in terms of the analysis conducted, and does not constitute recommendations. The information used for estimating impacts, both public and private, has not been audited by PwC and may be incomplete or inaccurate, and therefore completeness or accuracy is not guaranteed. PricewaterhouseCoopers Asesores de Negocios, S.L., its partners, employees, or collaborators do not accept or assume any obligation, liability, or duty of care regarding the consequences of actions or omissions by themselves or third parties, based on the information contained in this document or any decision based on it.

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LA STARTUP

THANK YOU