

startup
radar
madri+d

Madrid Region

Semiconductor Startups

Q4 2022

 **fundación** para el
conocimiento
madri+d

Industry
Report

In partnership with:

 **dealroom.co**

Information Sources

- + [Startup Radar madri+d](#) the Madrid Region innovative entrepreneurial ecosystem platform including two Databases (Dealroom and Fundación madri+d) unique in size and representativeness of innovative startups, incubators, accelerators, venture capital investments,...
- + 2022 Report [Semiconductors and Electronics Forecast Database](#), Gartner
- + 2022 Report [Semiconductor industry outlook](#), Deloitte
- + 2022 Report Ministerio de Asuntos Económicos y Transformación Digital
- + 2022 Report [Europe's urgent need to invest in a leading-edge semiconductor ecosystem](#), Kearney
- + 2022 [Semiconductor industry pulse report](#), KPMG
- + 2022 [Russia-Ukraine war: Impact on the semiconductor industry](#), KPMG



Microelectronics sector in the world: sector on the rise, sustained growth

➕ Growth in the sector is expected to reach 13.6% in 2022

Semiconductor Revenue Forecast, Worldwide, 2021-2023 (Billions of U.S. Dollars)

	2021	2022	2023
Revenue (\$B)	595.0	676.0	700.5
Growth (%)	26.3	13.6	3.6

Source: 2022 Report Semiconductors and Electronics Forecast Database, Gartner



The great challenge : the shortage of components and their manufacture

- ⊕ Shortages in the sector can be one of the great challenges of the 21st century at a global level:
 - ⊕ Semiconductors have become a truly essential industry. Together with other traditionally essential industries such as food, energy, or logistics, the chip shortage of 2020 and 2021 and its potential consequences revealed the importance of the sector
 - ⊕ The semiconductor industry will experience strong growth, as steps are taken to address chip and manufacturing shortages, manage lead times, hire specialized engineering and design, and strengthen supply

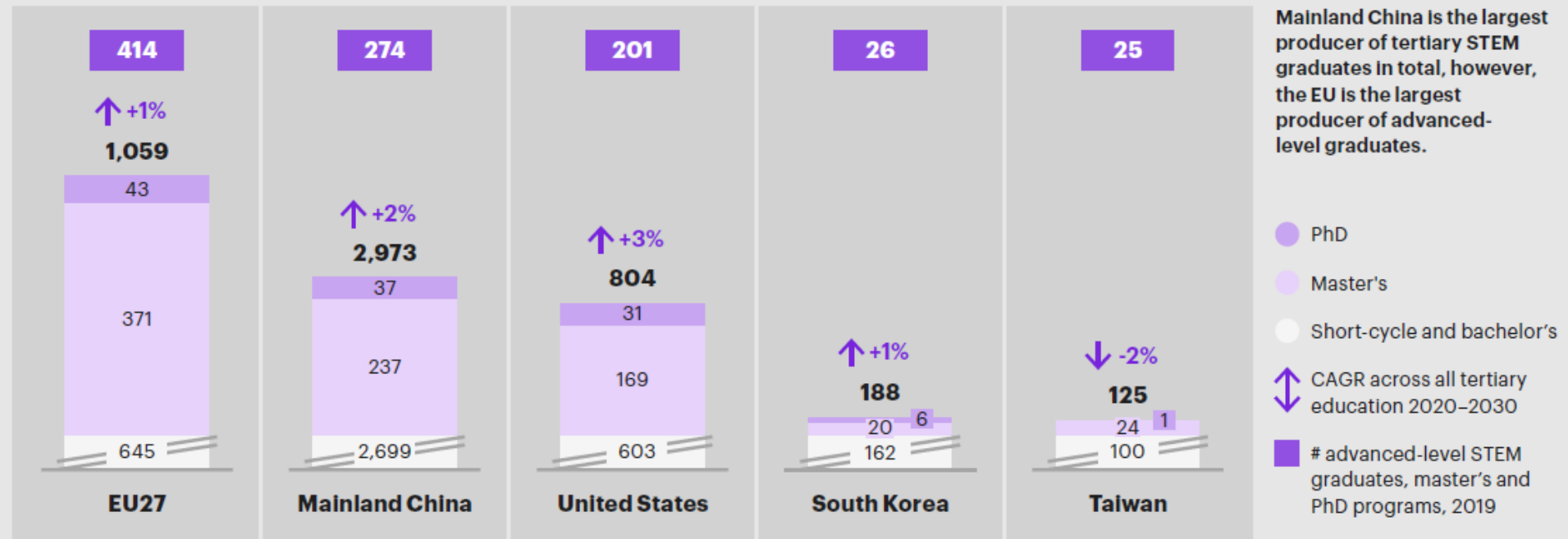


Microelectronics in Europe: an ambitious bet for the talent

⊕ Europe leads the generation of highly qualified professionals in the sector

Access to advanced STEM talent will be crucial to power the high-tech sector in the next decade; EU is a leading global supplier of advanced talent

Advanced-level STEM graduates forecast by country¹



Some data about the sector, globally and in Spain

- ⊕ Global semiconductor shortages triggered by supply bottlenecks stemming from the pandemic have highlighted the need to accelerate autonomy in chip manufacturing.
- ⊕ The key for the sector is price stability, which is expected to stabilize in 2023.
- ⊕ Europe leads the generation of talent in the sector, although its great challenge is production capacity of microelectronic components, dominated by Asian markets.
- ⊕ In Spain, the large market for microchips is in electric vehicles whose sales are booming.
- ⊕ The implementation of the PERTE for Microelectronics and Semiconductors is a timely response to the need to increase the production capacity of semiconductors and achieve great strategic autonomy.



The microelectronics sector in Spain: PERTE opens up many possibilities to make Spain a leading actor

- ✚ Spain is committed to the sector and to its new framework of opportunities, which can be summarized as:
 1. **Budget:** 12.2 million euros to be invested until 2027 - the highest investment of the ten strategic projects approved to date.
 2. **Objectives:** to develop design and production capacities of the microelectronics and semiconductor industry in Spain and promote national and EU strategic autonomy in this sector.
 3. **4 axes PERTE:** scientific capacity, design, manufacturing plants, ICT industry.



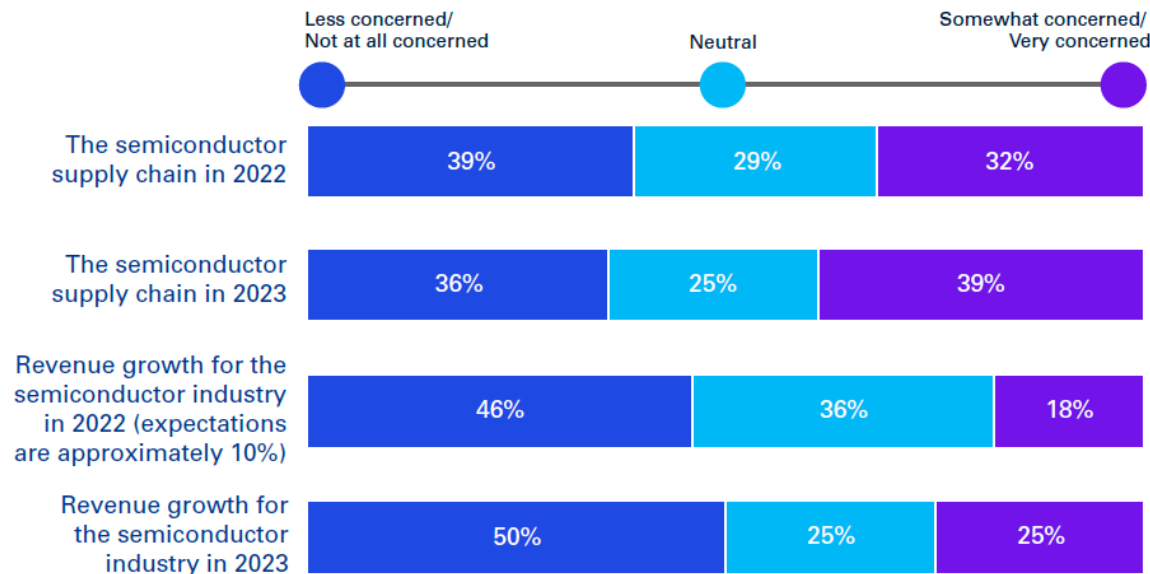
The microelectronics sector in Spain: PERTE opens up many possibilities to make Spain a leading actor

- 3. Actions:** in all the levels of the value chain, from design to manufacturing.
- 4. Strategy:** reinforce R&D and innovation capacities, chip design, construction of semiconductor manufacturing plants and revitalization of the electronics and information technology (ICT) industry. The participation of Spanish companies in strategic projects developed at European level (IPCEIs) will be supported.
- 5. Creation of the Microchips Fund:** initially endowed with 200 million euros to finance startups and scaleups in the sector in Spain and strengthen their position in the National and European markets.



Russia-Ukraine war impact in the semiconductor and microelectronics industry

Concern that the Russia-Ukraine war will materially impact the semiconductor supply chain and revenue growth



Source: KPMG/GSA semiconductor pulse survey 2022

Expectations when the semiconductor supply shortage will ease

2022 Outlook survey (fourth quarter 2021)



2022 Pulse survey (second quarter 2022)



Sources: KPMG Global Semiconductor Industry Survey findings 2022 and KPMG/GSA semiconductor pulse survey 2022
Percentages do not sum to 100% due to rounding.

Source: [Semiconductor industry pulse report](#) (KPMG)



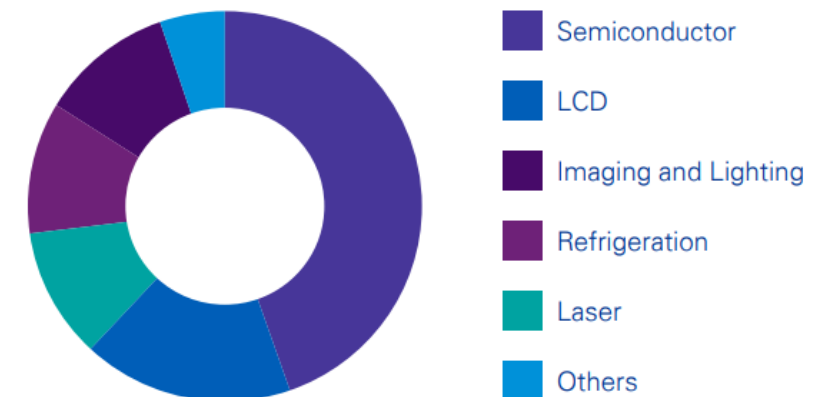
Russia-Ukraine war impact in the semiconductor and microelectronics industry

Level of concern about the impact of geopolitical matters on the global semiconductor industry and ecosystem

(averages on a 1–5 scale with 1=not at all concerned and 5=very concerned)	Percentage of respondents somewhat/very concerned	Average score: Second quarter 2022	Average score: Fourth quarter 2021
The prominence of Taiwan in the supply chain	50%	3.5	4.1
The nationalization of semiconductor technology and intellectual property	50%	3.5	3.9
Potential long-term geopolitical uncertainty, especially in Europe, due to the Russian government's invasion of Ukraine	46%	3.4	N/A
Tariffs and new/renegotiated trade deals	29%	2.9	3.6
Global tax reform	29%	2.5	3.2
The sanctions against, and potential decoupling of, Russia from the global economy	14%	2.5	N/A
Climate change legislation and reporting regulation	18%	2.4	3.1

Sources: KPMG Global Semiconductor Industry Survey findings 2022 and KPMG/GSA semiconductor pulse survey 2022

Global neon usage by application



Source, EMR, "Global Neon Gas Market Outlook"

Source: [Semiconductor industry pulse report](#) (KPMG)

[Russia-Ukraine war: Impact on the semiconductor industry](#) (KPMG)



Nr. of semiconductor startups and scaleups and employment (2022_{YTD})



🇪🇺 Europe

2,673 startups

Employment created: 200 K

🇪🇸 Spain

164 startups (6,1% of Europe)

Employment created: 1,6k (0,8% of Europe)

🇪🇸 Madrid Region

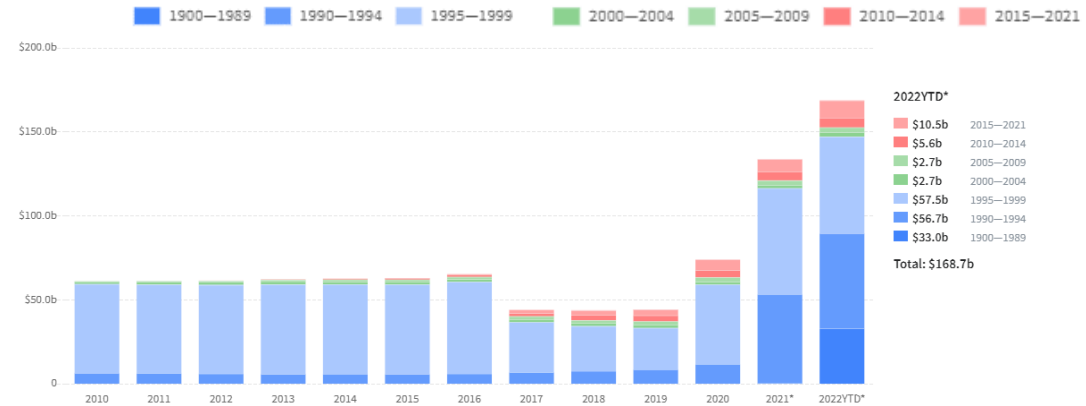
50 startups (30,5% of Spain)

Employment created: 616 (38,5% of Spain)

Total Value of Semiconductor Startups and Scaleups created between 2015 and 2021 (2022_{YTD})

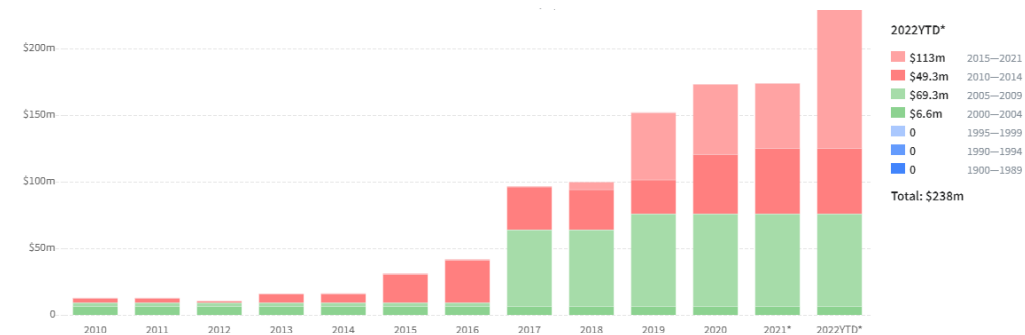
🇪🇺 Europe

\$ 168 b



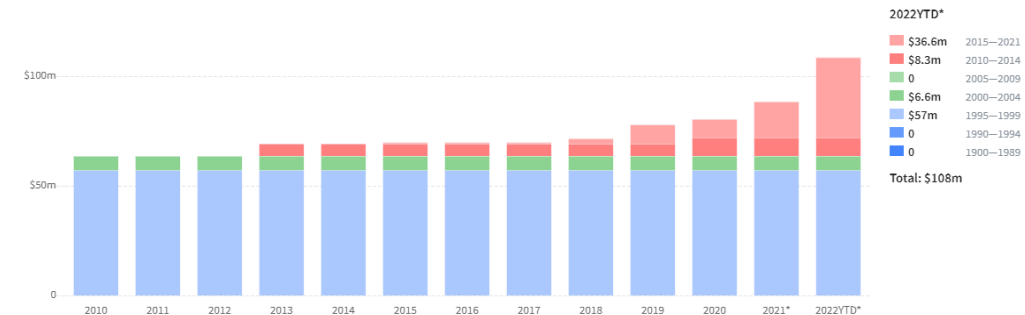
🇪🇸 Spain

\$ 238 M (0.15 % of Europe)



🇪🇸 Madrid Region

\$ 108 M (45 % of Spain)



SEMICONDUCTOR STARTUPS IN MADRID REGION

BY TYPE OF PRODUCT OR SERVICE

Sensing, Photonics & Nanodevices

Combined funding € 8.4M



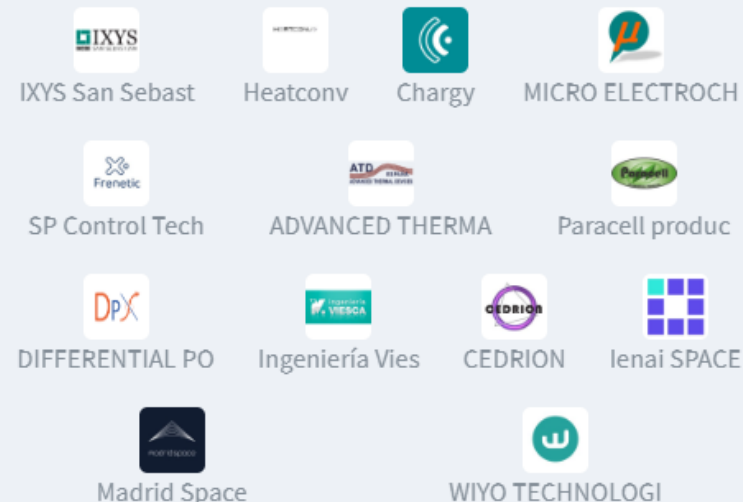
Safety, Security and Connected Devices

Combined funding € 2M



Power electronics, Thermal control and Propulsion

Combined funding € 5.2M



Communication chips and devices

Combined funding € 2.2M



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SEMICONDUCTOR STARTUPS IN MADRID REGION BY INDUSTRY

energy



CEDRION



Next-Tip



MICRO ELECTROCH



DIFFERENTIAL PO



Heatconv



Elytt



Sensia



DASEL

telecom



SIDSA

semiconductors



Multispectral M



Chargy



Ommatidia LIDAR



SP Control Tech



Alteria Automat



Madrid Space



SIGNALS



ADVANCED THERMA



SIGFOX

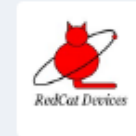


Luz wavelabs

space



Airelectronics



RedCat Devices

transportation



Autodrive Solut



Relogable



Paracell produc

health



Alcyon Photonic



A4Cell



Cyclomed Techno



VidaApp



PLANE LIGHT

enterprise software



NIT






















Pirus Networks




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SEMICONDUCTOR STARTUPS IN MADRID REGION BY TECHNOLOGY













deep tech

 Multispectral M	 Chargy	 Cyclomed Techno	 Next-Tip
 VidaApp	 MICRO ELECTROCH	 Ommatidia LIDAR	 SP Control Tech
 DIFFERENTIAL PO	 Alteria Automat	 ADVANCED THERMA	 NIT
 Autodrive Solut	 SIGFOX	 Luz wavelabs	 Sensia
 Electrocreative	 Kdpof	 Keysight Techno	

nanotech

 Nanostine	 Phi4tech	 NANO4ENERGY SL
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hardware

 Madrid Space	 SCIGNALS	 Elytt	 Airelectronics	 DASEL
 IXYS San Sebast	 SIDSA	 Pirus Networks	 Que SSD	
 BHDynamics	 Luz wavelabs	 RedCat Devices		

iot internetofthings

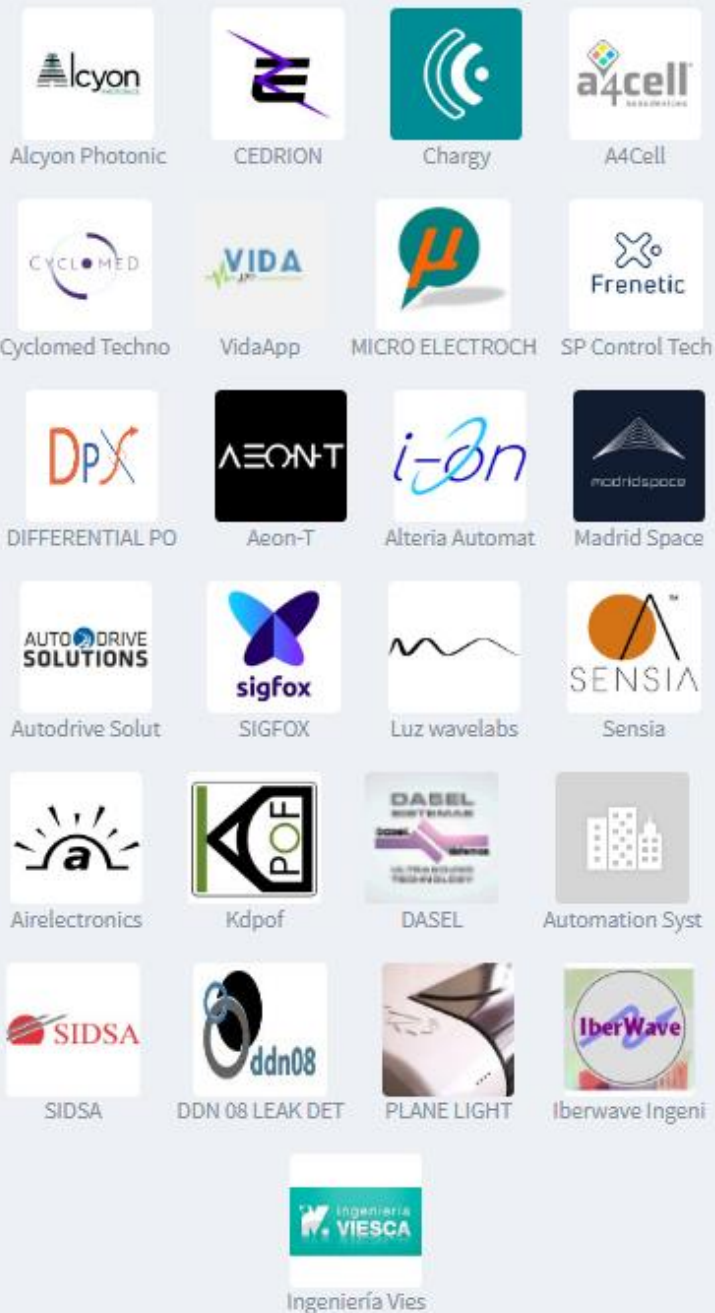
 WIYO TECHNOLOGI	 Iberwave Ingeni	 ADVANCED THERMA
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SEMICONDUCTOR STARTUPS IN MADRID REGION BY INCOME STREAMS

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commission



subscription



advertising













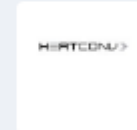



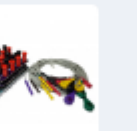









selling own inventory






SEMICONDUCTOR STARTUPS IN MADRID REGION

BY BUSINESS MODEL



manufacturing

 Alcyon Photonic	 CEDRION	 Chargy	 A4Cell
 Cyclomed Techno	 Next-Tip	 VidaApp	 MICRO ELECTROCH
 SP Control Tech	 DIFFERENTIAL PO	 Heatconv	 Aeon-T
 Alteria Automat	 Madrid Space	 SCIGNALS	 ADVANCED THERMA
 NIT	 Autodrive Solut	 Elytt	 SIGFOX
 Luz wavelabs	 Sensia	 Airelectronics	 Tecnitest

saas




























 Ommatidia LIDAR	 Ienai SPACE	 Netin
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marketplace & ecommerce








 Electrocreative	 Que SSD
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SEMICONDUCTOR STARTUPS
IN MADRID REGION
BY EMPLOYEES RANGE

 Multispectral M	 Alcyon Photonic	 Chargy	 Cyclomed Techno
 Next-Tip	 VidaApp	 Ommatidia LIDAR	 Aeon-T
 Alteria Automat	 Madrid Space	 NIT	 Autodrive Solut
 Luz wavelabs	 Electrocreative	 Airelectronics	 Gnc laser
 DASEL	 IXYS San Sebast	 Colfeed	 Enkoa
 Ingeniería Viesca	 Que SSD	 Netin	 Dynamics BHDynamics
 Heatconv	 RedCat Devices	 Paracell produc	

11-50

 CEDRION	 A4Cell	 MICRO ELECTROCH	 Elytt
 Sensia	 Tecnitest	 Kdpof	 SIDSA
		 Phi4tech	
	 Iberwave Ingeni		

51-200










 Frenetic	 SIGFOX	 Pirus Networks
SP Control Tech		

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SEMICONDUCTOR STARTUPS IN MADRID REGION

LAST FUNDING ROUNDS

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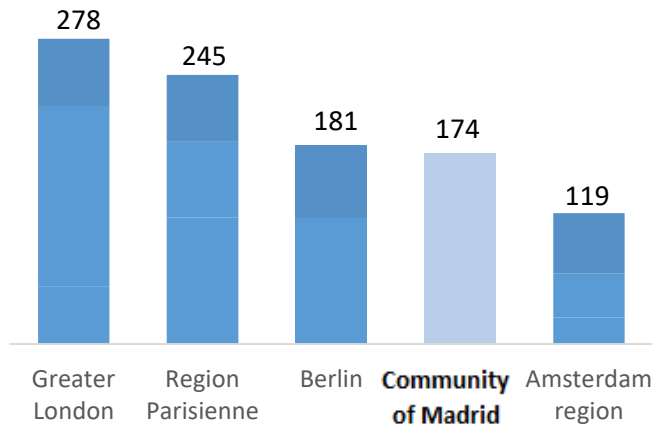
NAME	VALUATION	LAST ROUND	DATE
 Alcyon Photonics Alcyon Photonics designs high-per...	\$9—13m	€2m EARLY VC	Jul 2022
 Chargy Focuses on design and develops h...	\$5—7m	€1.1m SEED	Apr 2022
 A4Cell Develops New technology named ...	\$5—8m	€1.3m EARLY VC *	Dec 2021
 Cyclomed Technologies A Spanish deeptech company exp...	-	€100k	Sep 2021
 A4Cell Develops New technology named ...	\$5—8m	€1.2m SEED	Jan 2021
 Next-Tip Designs, develops, scales-up and ...	\$2—3m	€400k SEED	Dec 2020
 Cyclomed Technologies A Spanish deeptech company exp...	-	€170k	2020
 SP Control Technologies A power electronics company spe...	\$6—9m	€1.3m SEED	Aug 2019
 A4Cell Develops New technology named ...	\$5—8m	€345k SEED *	Jul 2019

Key features

Madrid Region stands out for the breadth and quality of its support ecosystem

The Community of Madrid is 4th in Europe in nr. of entities supporting innovative entrepreneurship: universities & academia, corporates, R&D Centers, accelerators, events, workspaces,... make up one of the most attractive environments for startups.

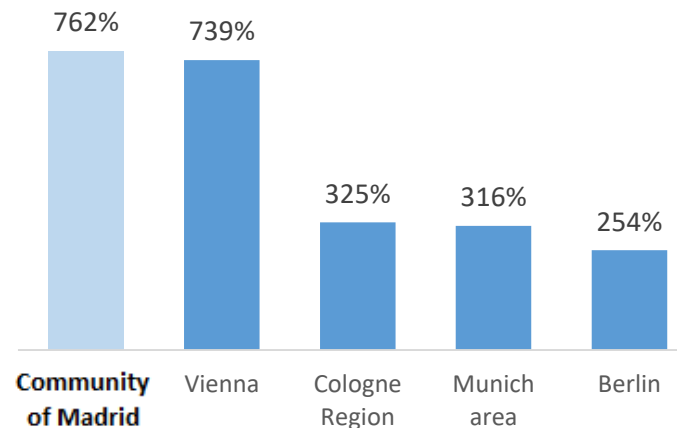
Nr. of Supporting Entities



The highest increase in VC & investment growth in Europe last year

Madrid Region startups raised over €2.3B in 2021, an increase of 4.8x since 2020. Relative growth has been especially important in new funds raised, nr. of investment rounds, venture capital, B2B and series C, D and E.

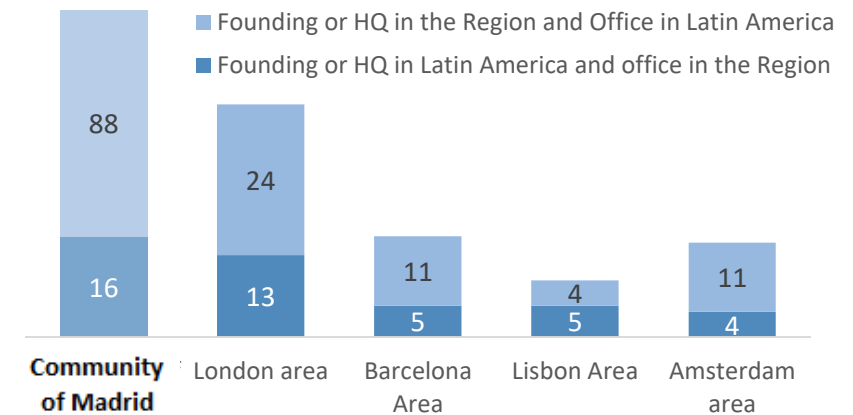
12 Months change in funding



One of the most promising prospects for start-ups, technology and innovation investment

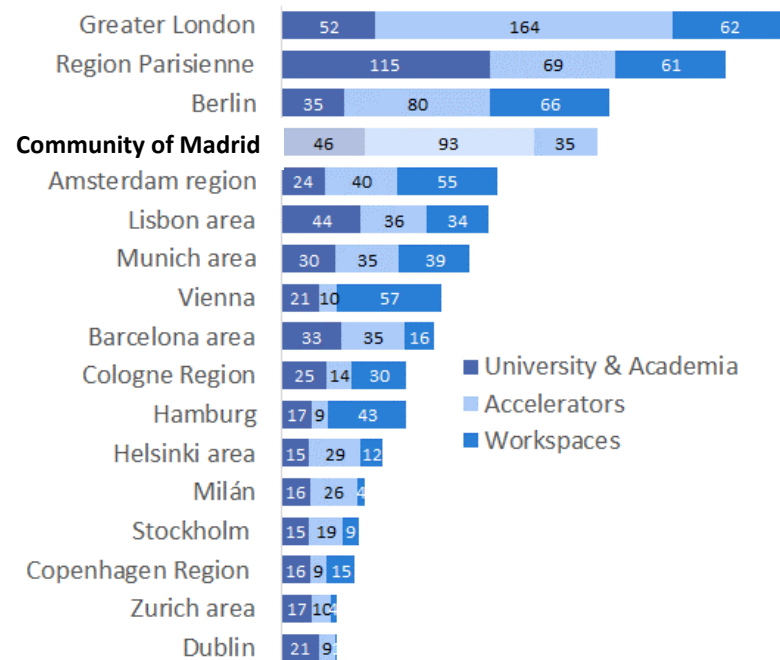
International connections are especially important in Madrid both attracting talent and in search for new markets, being the 2nd European region for employment in the high-tech sector and the main startup bridge between Europe and Latin America.

LATAM connections of Startups in European hubs

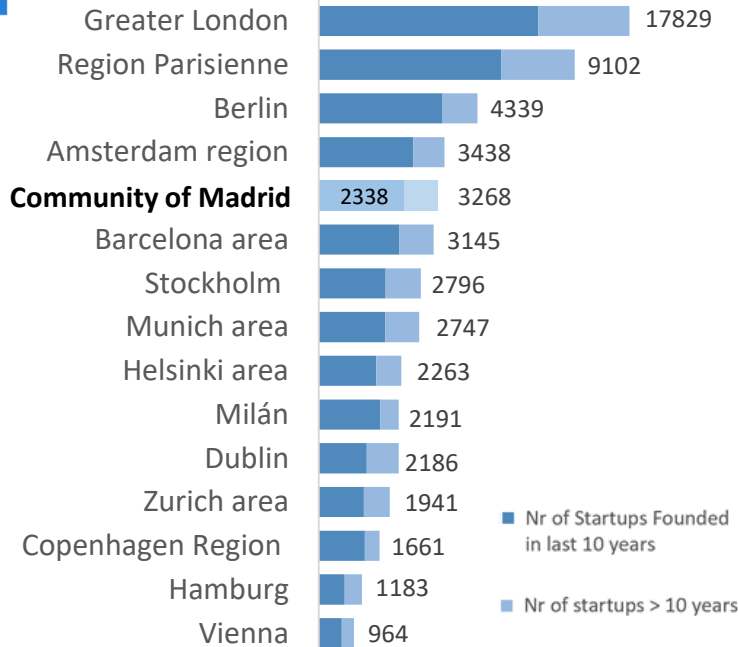


Madrid Region ranks #4 in Europe by size of its support ecosystem, #5 by nr. of startups and growing investment continues to boost its value, with great growth potential

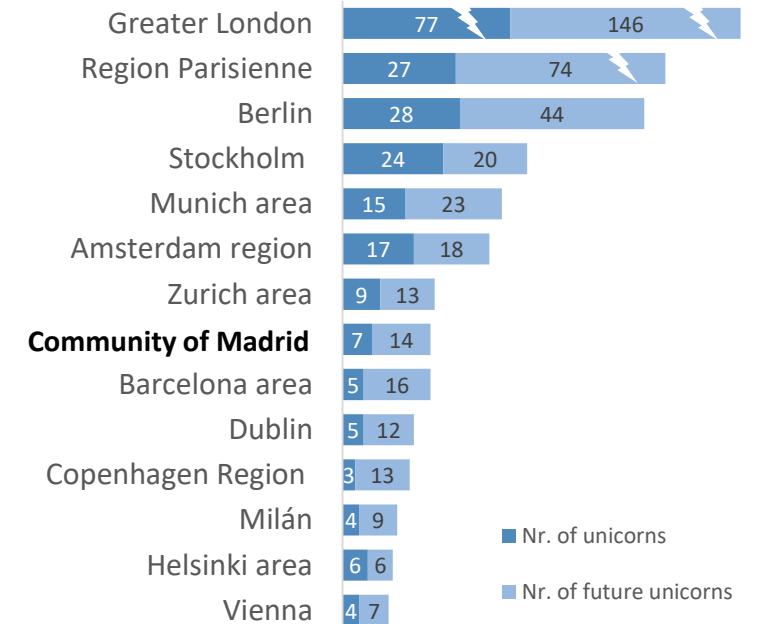
Nr. of Ecosystem support entities



Total Nr. of tech companies and of those founded in last 10 years



Nr. of unicorns & future unicorns



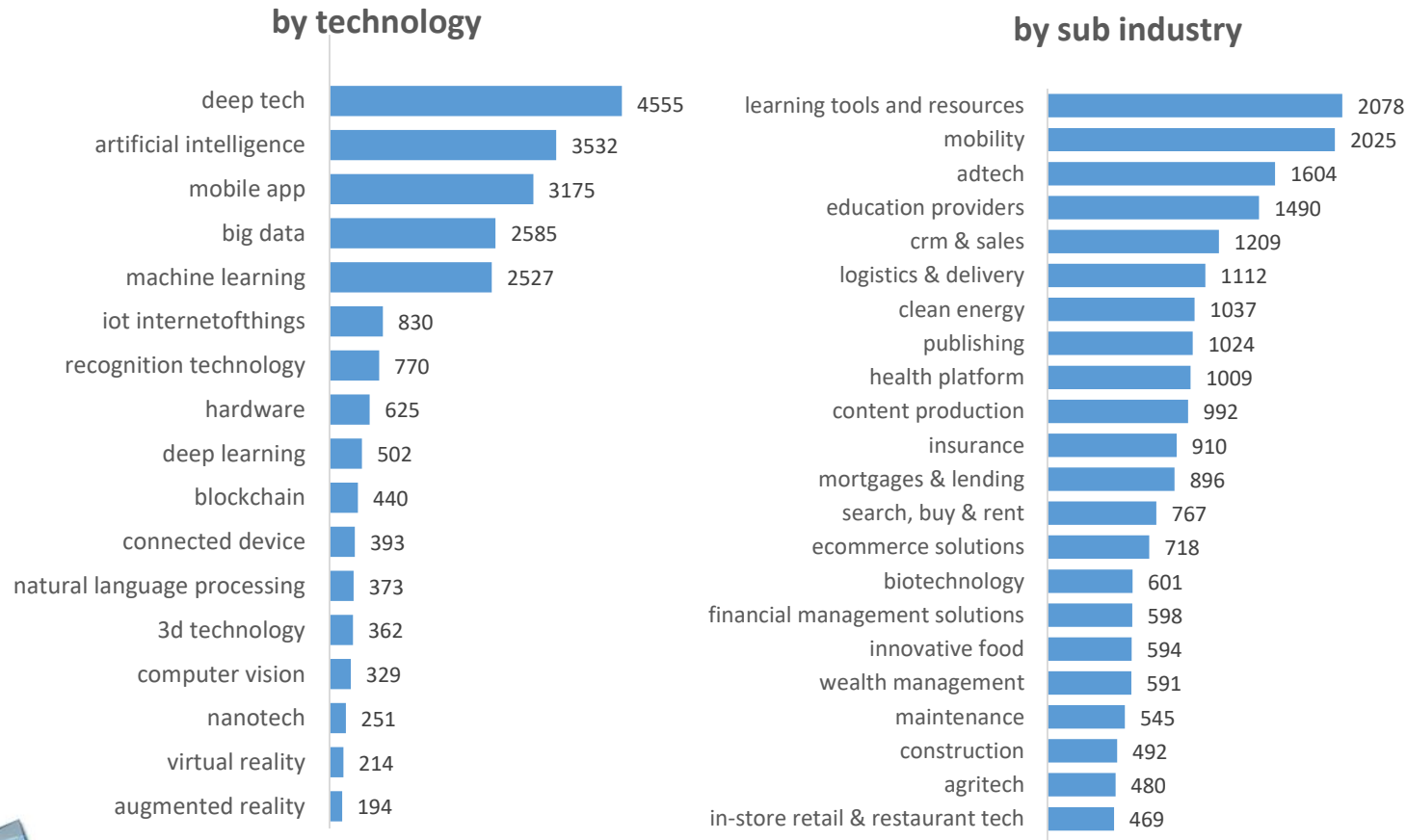
Find here the [Ecosystem Metrics](#) of main European startup hubs

Source: Startup Radar madri+d & Dealroom.co



Deep tech, AI, mobile app, big data, machine learning,... strongly boost startup employment

Total Nr. Of Jobs



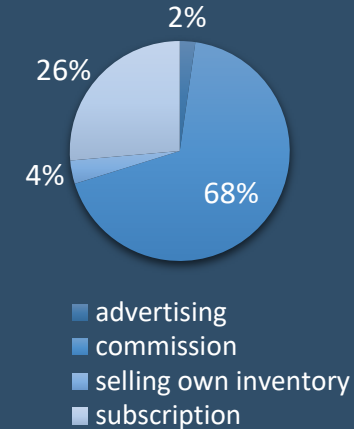
Find Madrid Region tech companies with more than one employee founded since 1995 [here](#)

Source: Startup Radar madri+d & Dealroom.co

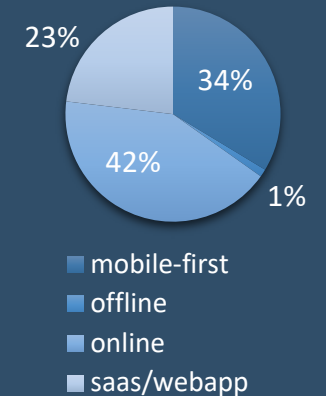
Distribution of Jobs

By business type

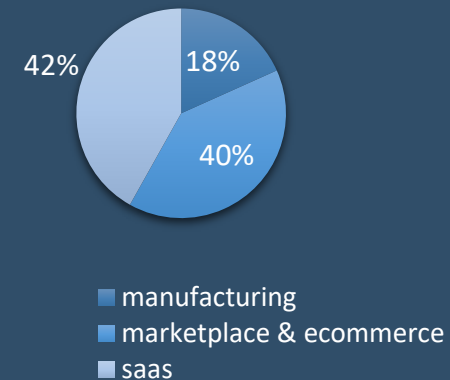
by Income stream



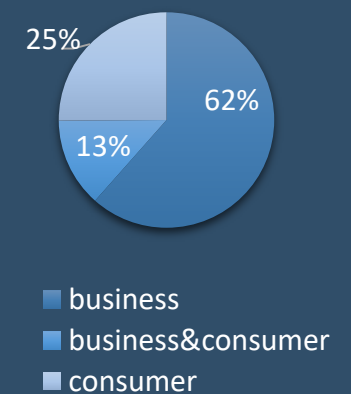
by Delivery Method



by Revenue Model



By client focus



Madrid is home to major corporations, corporate VC funds and accelerators...

Nr. of new startups supported*

<p>>10</p>		
<p>5 - 10</p>		
<p><5</p>		
<p>Selected corporate Accelerators</p>		<p>Selected private Accelerators, Builders & Spaces</p>

*Only startups founded 2016-YTD, with HQ in Madrid Region

Find all Madrid Region-based corporate and private accelerators by choosing “Corporate” and “Private accelerators” categories [here](#)

Source: Startup Radar madri+d & Dealroom.co



... universities, research organisations and public incubators & accelerators

Nr. of new startups supported*

>30			>15
10-30			10-15
<10			<10
Universities, R&D & Health Institutions		Public Incubators, Accelerators & Spaces	

*Only startups founded 2016-2021 to date, with HQ in Madrid Region

Find all Madrid Region-based universities and public accelerators by choosing “Academia & Research” and “Public accelerators” categories [here](#)



The most complete and detailed picture of Madrid Region's tech ecosystem

<https://www.madrimasd.org/emprendedores/startup-radar-madrid>

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Knowledge partners

Startup Radar database is kept up-to-date with the support of a growing number of Knowledge Partners:

SPIN OFF DATA

- Madrid Region Universities
- R&D Institutions
- Science Parks & hospitals (ITEMAS Network)

INDUSTRIES & TECHNOLOGIES

Knowledge Partners to date are:

- AI & Cybersecurity: EIT Digital
- PropTech: Sacyr iChallenges
- Deep Tech: Cyclomed Technologies
- Education: Sek Lab
- Fashion: Atelier
- Food & Agritech: Bloomium
- Health: EIT Health
- Scaleups: Empresa y Sociedad
- Las Rozas Innova