

startup  
**radar**  
madri+ed

Madrid Region

**Energy & Cleantech**

**Startups**

Q4 2022

 **fundación** para el  
**conocimiento**  
madri+ed

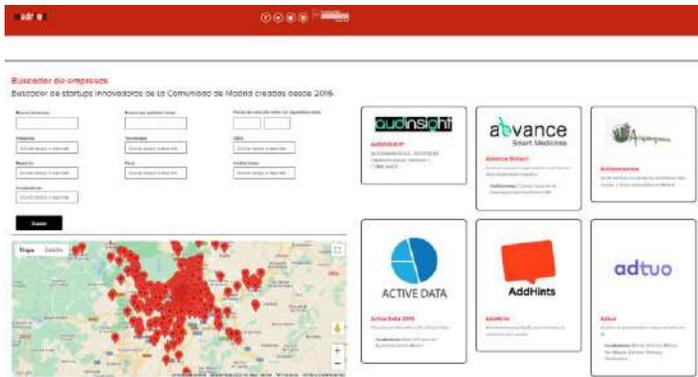
**Industry  
Report**

In partnership with:

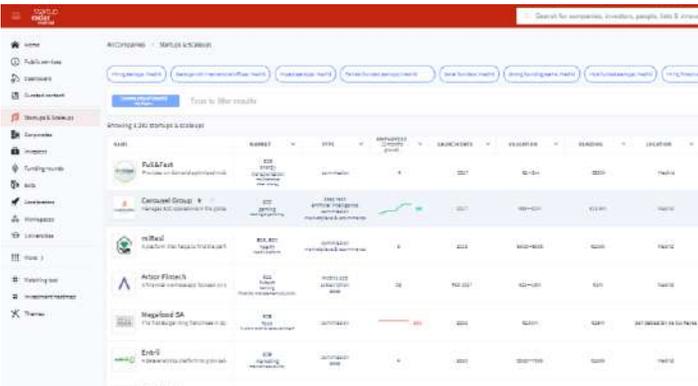
 **dealroom.co**

# The Madrid Region Startup Ecosystem Platform

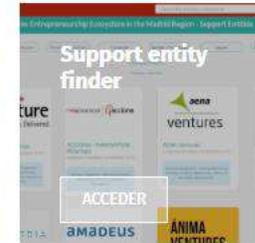
## Ecosystem Platforms: Tools, Maps and Databases



Platform on Dealroom



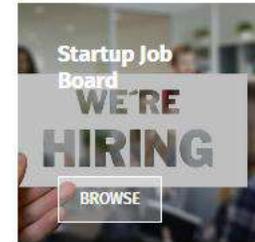
### Ecosystem Platforms



### Reports



### Startup Tools



## 2 Annual reports:

- Ecosystem Report (sectors, technologies,...)
- Investment Report

## + Sector Reports

## Tools for startups:

- Job search
- Investors
- Public Financing

# PESTEL Factors – Energy & Cleantech

## Political

- Green Deal for Climate ([see](#))
- PERTE ERHA NextGen Funds ([see](#))
- Affordable and clean energy ([see](#))
- Network decentralization
- Supply regionalization
- International energy instability
- Strategic political moves

## Economic

- Supply crisis
- Stagflation
- High inflation
- Rising energy cost
- Benefit regulation
- Aid through tax reduction

## Sociocultural

- Sustainable social awareness
- “Low emissions” lifestyle
- Sustainable habits
- Risk of disconnection and poverty
- Ecological social awareness
- Scratch to polluting factories

## Tecnological

- Expenditure on R&D for “clean” technological development
- Deployment of IoT in energy companies
- Cybersecurity in Energy Management
- Smart Grids, Smart Industries, Smart Cities

## Environmental

- Awareness against climate change
- Recycling culture
- Environmental policies
- Natural ecological risks
- Sustainable and low emission awareness
- NGO pressure

## Legal

- Regulation capable of favoring or blocking developments
- Technology susceptible to industrial and intellectual property
- Recycling standards, low emissions, carbon footprint...
- Interventionist regulations

# Challenges – Energy & Cleantech

## + Climate Neutrality

- Reduce greenhouse gas emissions and achieve “climate neutrality”
- Decarbonization
- Ecological transition
- Sustainability
- Circular economies
- Energy efficiency

## + Energy Autonomy and Clean Energy

- Renewable energy development (leadership in solar and wind)
- Marine renewable energy
- Energy storage for use and connectivity
- Backup clean energy (gas)
- Renewable Hydrogen Production

## + Development of Renewable Models

- PPA (Power Purchase Agreements)
- Insurance for investment in renewables
- Accessibility and promotion of self-consumption
- Technological developments and digitization
- R&D+innovation



Spain has proposed to achieve the decarbonization of its energy model in 2050. This challenge means making progress in alternative energies and an opportunity to generate employment and economic growth.



### 1st Phase / 2030

Reduce greenhouse gas (GHG) emissions by at least 20% compared to 1990 figures. Generate at least 74% of electricity with renewable energy. Ensure 35% of final energy consumption from alternative sources. Improve energy efficiency by 35%.



### 2nd Phase/ 2050

Achieve 100% renewable energy. Reduce the emission of greenhouse gases by 90%, based on the 2030 Agenda and the Paris Agreement against Climate Change.

## Framework of opportunities for startups in the sector

- + **Generation:** Growing number of small energy producers
- + **Market:** Decentralization of networks, regionalization of supply
- + **Transmission:** Increase of smart mini-grids with advanced controllers and control techniques, accommodating various energy sources, energy storage.
- + **Distribution:** Growing multidirectional flow of energy and information
- + **Consumer:** Increasingly active (Prosumer), increasing electrification

## Some opportunities for startups in generation, transmission & distribution

- + **New green investments (green bonds) financial attribution:** Mapping, identification, characterization and monitoring of energy assets (for example, geolocation with AI)
- + **Monitoring of environmental standards, especially emissions:** need for complete and objective data
- + **Modeling including long-term forecasts:** Integrate climate and metrological information, extend data to other regions, islands, developing areas,...
- + **Improvement of production systems:** solar, hydroelectric, wind, wave, biomass,...
- + **Smart grids, energy management by consumers:**  
Thermal analysis, wireless power transmission, apps, etc.  
de los activos energéticos (por ejemplo, geolocalización con IA)

# Energy & Cleantech startup support entities in Madrid Region

ECOSYSTEM ENERGY AND CLEANTECH

<p><b>Public Incubators, Accelerators &amp; R&amp;D Institutions</b></p>	<p><b>Selected corporate &amp; private Accelerators &amp; Facilitators</b></p>

>5 startups supported

Support to Madrid Energy & Cleantech startups

1 startup supported

**Incentives and State Aid**

[Financial instruments for Startups públicos para startups](#)  
[PERTE of Renewable Energy, Storage and Renewable Hydrogen](#)  
[Participation in innovative investment projects](#)



# Jobs created by startups in Energy and Cleantech (2022<sub>YTD</sub>)



## + Europe

8.620 startups

Jobs: 670 K

## + Spain

674 startups (7,8% of Europe)

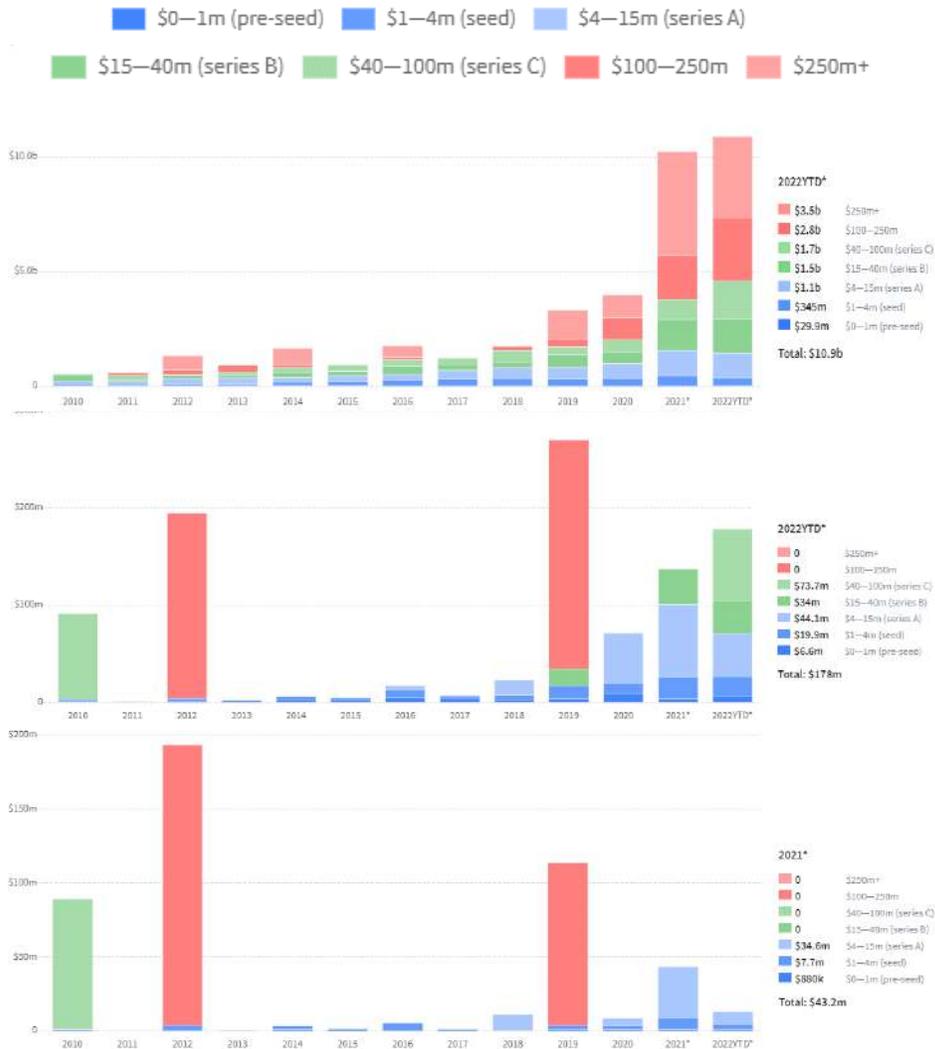
15k (2,5% of Europe)

## + Community of Madrid

153 startups (23% of Spain)

2,9k (20% of Spain)

# Investment obtained by Energy and Cleantech startups (2022<sub>YTD</sub>)



🇪🇺 Europe

\$ 10.900 M

🇪🇸 Spain

\$ 178 M (1,6% of Europe)

🇪🇸 Community of Madrid

\$ 43,2 M (31% of Spain in 2021)

\$ 12,7 M (7,1% of Spain in 2022YTD)

Source: Startup Radar madri+d data and Dealroom for [Europe](#), [Spain](#) and [Community of Madrid](#)

## Some investment data on startups in the sector in Madrid

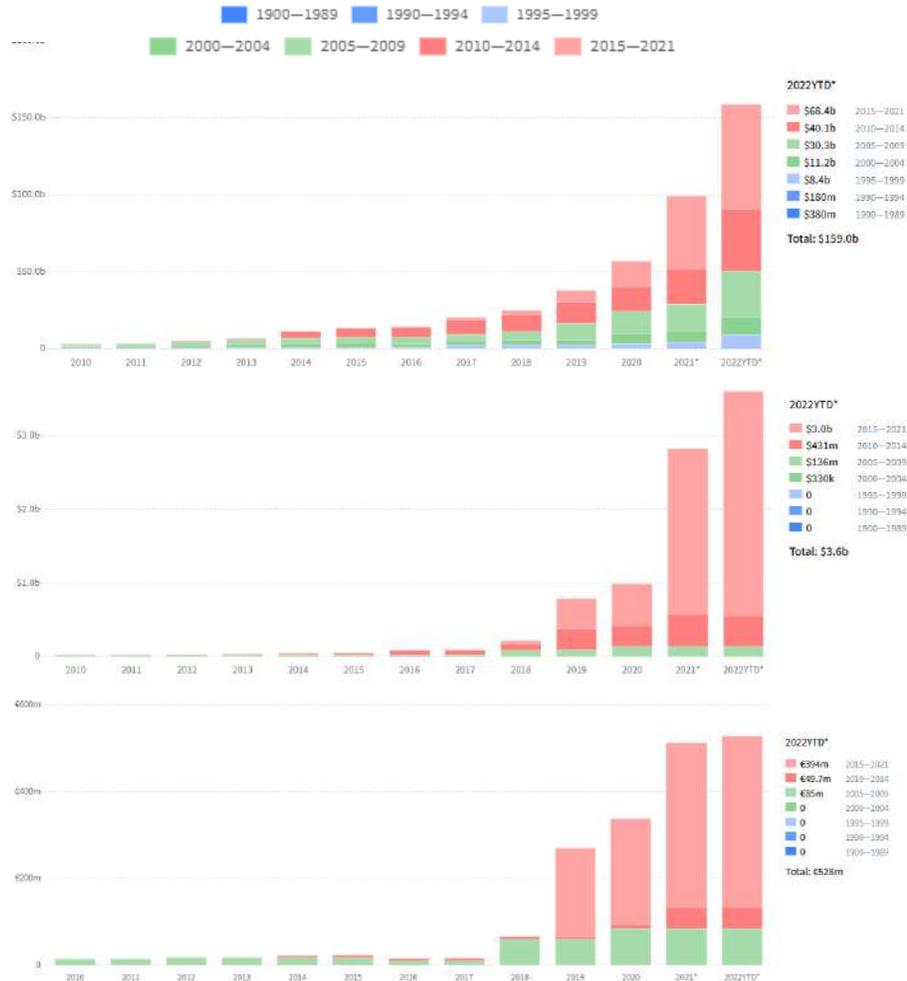
### List of Funding Rounds

NAME	LAST ROUND	VALUATION	DATE
Soto Solar Develops, finances, and manages L...	€100m EARLY VC	€200m	Sep 2019
WIVO TECHNOLOGIES SLU The identification of tomorrow is ...	\$14.3m EARLY VC	€52-78m	Apr 2021
Alga Energy A biotech company consolidating ...	€10m EARLY VC	€40-60m	Nov 2018
Energy Solar Tech Disrupting the energy industry to ...	€8m SERIES A	€30-45m	Jul 2021
Energy Solar Tech Disrupting the energy industry to ...	€7.5m SERIES A	€30-45m	Oct 2022
Alga Energy A biotech company consolidating ...	\$6.8m LATE VC *	€40-60m	Sep 2021
Beridi Maritime Provider of nautical engineering s...	€4.8m EARLY VC	€19-29m	May 2020
EZZINGSOLAR International company specialize...	€4.5m SEED	€18-27m	Oct 2021
Perfecta Energia Facilitates families' access to solar...	€3.5m EARLY VC	€14-21m	Jun 2021
Green Eagle Solutions Provides autonomous operations ...	€2.5m SERIES A	€10-15m	May 2021

[List of 102 Investors in the sector](#)  
[sector](#)

[List of Exits in startups in the sector](#)

# Total valuation of Energy and Cleantech startups (2022<sub>YTD</sub>)



🇪🇺 **Europe**

159.000 M\$

🇪🇸 **Spain**

\$ 3.600 M (2,5% of European startups valuation)

🇪🇸 **Community of Madrid**

\$ 581 M (16,2% of Spanish startups valuation)

## Some Madrid Region companies with higher valuations



Develops, finances and manages large-scale photovoltaic plants.

**200M €** Valuation



First IoT-based data platform, based on disruptive battery-free IoT technology using Wi-Fi only.

**65M €** Valuation



Biotechnology company that consolidates more than 4 decades of cutting-edge knowledge in the field of microalgae.

**50M €** Valuation



Design & manufacture of most efficient solar panels with a 25-year guarantee. Renewable solar self-consumption for industries.

**40M €** Valuation



Provider of nautical engineering services for the foundations of offshore wind turbines. Hollow, monolithic and highly resistant concrete platform.

**25M €** Valuation



Disruptive technology of control systems for the instrumentation and optimization of the control of power plants

**25M €** Valuation



Development of online tools for companies in the photovoltaic (PV) sector.

**25M €** Valuation

# Types of clients: B2B / B2C

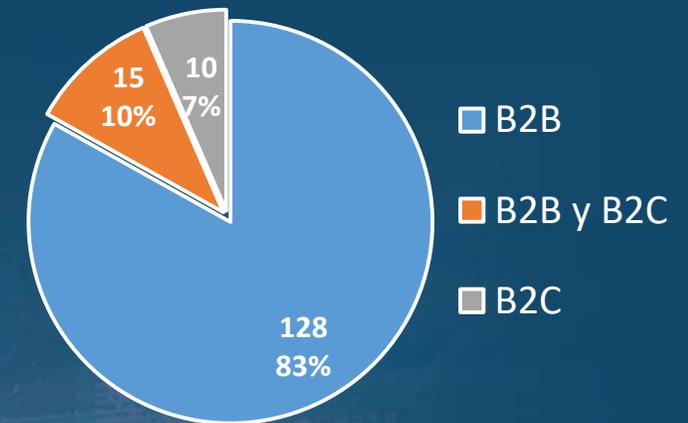
## Main B2B clients:

- **Companies and industries seeking to improve their energy efficiency, sustainability, emissions and carbon footprint.**
- **Electric companies, producers and marketers of renewable energy and other major players in the market.**
- **Infrastructure and maintenance companies, and other companies in the sector or from other sectors with implications for clean technologies and sustainability.**

## Main B2C clients

- **Individuals with interests in self-consumption, energy efficiency, sustainability, etc.**

TYPES OF CLIENTS



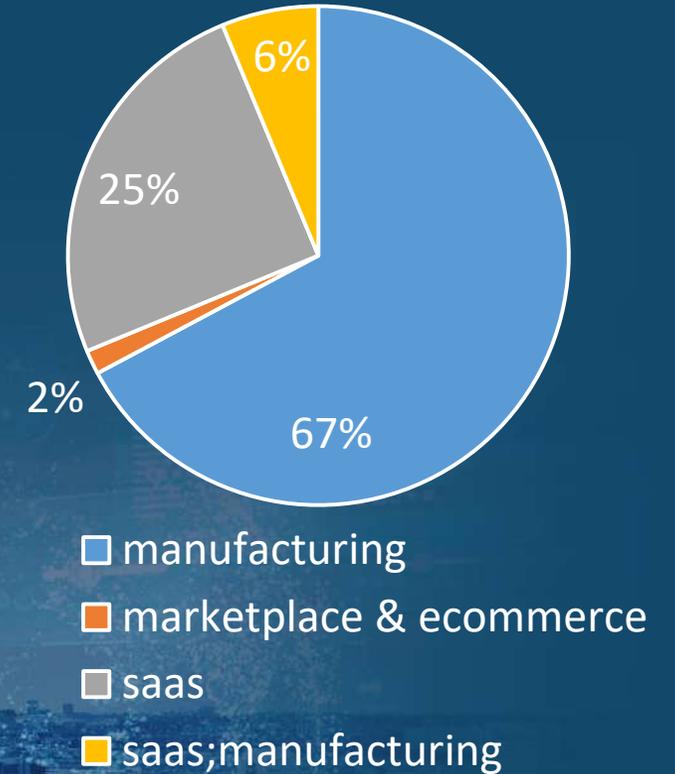
# B2B: Solutions, Industries and Revenue Models

- Reduce greenhouse gas emissions
- Decarbonization
- Ecological transition
- Sustainability
- Circular economies
- Energy efficiency

**B2B INDUSTRIES**  
(nr. of startups)



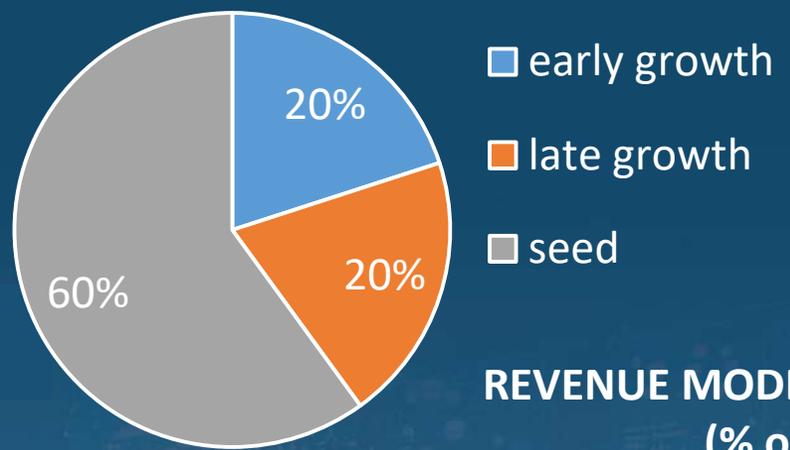
**B2B REVENUE MODELS**  
(% of startups)



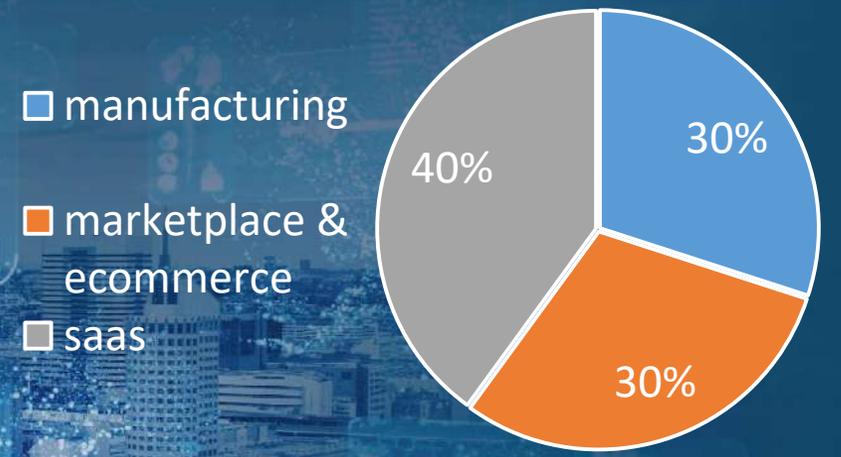
# B2C: Solutions, Sub-industries, Revenue Model and Growth phase of the startups

- Mobility solutions
- Renewable self-consumption
- Home automation and energy efficiency
- Sustainable food
- Sustainable textile industry
- Digitization of processes

GROWTH PHASE OF B2C STARTUPS



REVENUE MODELS OF B2C STARTUPS (% of startups)



B2C SUB INDUSTRIES (nr. of startups)



# ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID BY TYPE OF CLIENT (B2B, B2C)

[See Landscape on  
Startup Radar madri+d](#)

## B2B

Combined funding € 352M



ENERGY AND CLEANTECH STARTUPS  
OF THE COMMUNITY OF MADRID  
BY TYPE OF CLIENT (B2B, B2C)  
(cont.)

[See Landscape on Startup Radar madr+d](#)

**B2B**

Combined funding € 352M



**B2C**

Combined funding € 5.8M



**B2B / B2C**

Combined funding € 2.2M



manufacturing

 Stemy Energy	 Quixotic 360	 CEDRION	 Alga Energy
 WIYO TECHNOLOGI	 Vertex Bioenerg	 Ienai SPACE	 full&fast
 Vortex Bladeles	 Wenea	 Next-Tip	 Captoplastic
 Porous Inks Tec	 Nanostine	 Eolion Energia	 MICRO ELECTROCH
 Esasolar	 HELION TECHNOLOG	 Soto Solar	 Tewer
 Heatconv	 Xerolutions	 PURON	 Land Water and
 Qualifying Phot			

saas

 Clevergy	 EZZINGSOLAR	 Green Eagle Sol	 DETEKTIA
 ADEX	 Boscalia Techno	 Elaborarium	 Datary
 Exploded-view	 Bewego	 Eris Innovation	 Jaguar Path Ven
 OPERIT	 Solutz	 Watiofy	 iEnergy
 TECSOL SOLUTION	 Artificial Visi	 SEA: Smart Ener	 Multidomo Netwo

marketplace & ecommerce

 Samara	 Perfecta Energi	 Alma Mobility	 Bioseguridad In
 Alter5		 Smart House	

ENERGY AND CLEANTECH STARTUPS  
OF THE COMMUNITY OF MADRID  
BY TYPE OF BUSINESS MODEL

[See Landscape on  
Startup Radar madr+d](#)

# Types of products and services

## + RENEWABLE ENERGY GENERATION

- Solar photovoltaic
- Solar thermal
- Wind
- Biomass
- Aerothermal, Geothermal and Hydrothermal
- Marine renewable energy
- Network Integration
- Renewable Hydrogen Production

## + ENERGY STORAGE

- Thermal storage batteries and others
- Systems connectivity
- Reuse and circular economy
- New materials and Biomass

## + ENERGY EFFICIENCY AND SUSTAINABILITY

- Digitization – Enterprise software
- Carbon Footprint and Decarbonization
- Use of resources / circular economy
- Sustainability
- Smart networks for energy management by consumers
- New materials for different industries
- Mobility and transport
- Smart Cities
- Smart Industries
- Smart Grids

## + OTHER RELEVANT PRODUCTS

- Semiconductors
- Robots
- Sensors and automation
- Waste solutions
- New substitute products (food, textiles, other industries...)

# ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

## BY TYPE OF PRODUCT OR SERVICE

[See Landscape on  
Startup Radar madr+d](#)

### clean energy



FRV

### energy efficiency



### energy storage



ENERGY AND CLEANTECH STARTUPS  
OF THE COMMUNITY OF MADRID

BY TYPE OF PRODUCT OR  
SERVICE (cont.)

[See Landscape on  
Startup Radar madr+d](#)

oil & gas



water



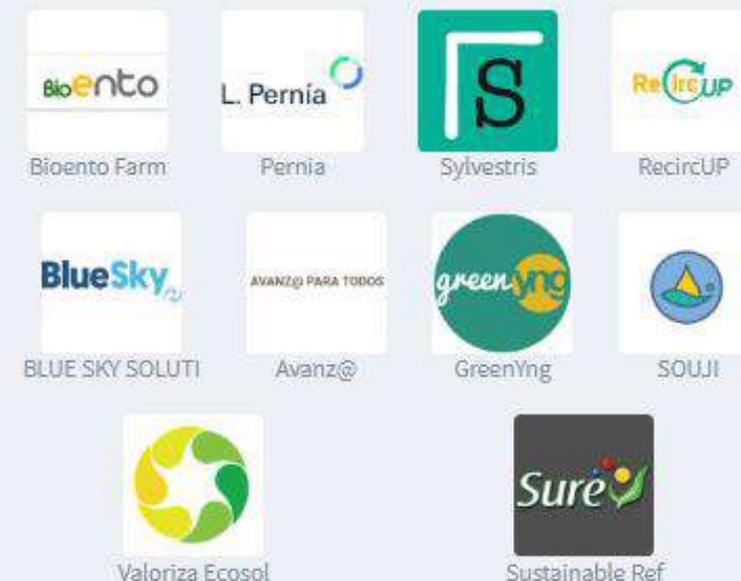
mobility



energy providers



waste solution



# Tecnologies – Energy and Cleantech

## BY ITS FIELD OF APPLICATION

- **STORAGE:** Microelectronics, sensors, semiconductors and new materials
- **SUSTAINABILITY, CIRCULAR ECONOMY:** Software, Aerospace Positioning, AI, Learning Machine, IoT
- **TRANSVERSAL CLEAN TECHNOLOGIES:** those that, when applied, do not produce any secondary effect or any transformation to the environmental balance or to the natural systems that it integrates.
- **MOBILITY AND TRANSPORTATION:** Microelectronics, IoT, AI, Machine Learning, Deeptech, sensors and automation, robotics
- **AGRICULTURE AND FOOD CHAIN:** Software, IoT, AI, Machine Learning, Robots, Sensors and automation

## BY TYPE OF RENEWABLE ENERGY

- **SOLAR PHOTOVOLTAIC:** Microelectronics, Sensors, Semiconductors, IoT, storage systems
- **SOLAR THERMAL:** Microelectronics, Sensors, Semiconductors, IoT, storage systems
- **WIND:** Wind turbines, new materials, semiconductors, sensors, IoT, storage systems, offshore
- **BIOMASS:** Biochemistry and biotechnology, new materials, semiconductors
- **AEROTHERMAL, GEOTHERMAL AND HYDROTHERMAL:** Semiconductors, Microelectronics, nanotechnology, new materials
- **RENEWABLE MARINE ENERGIES:** Wave (waves), Tidal (tides), Tidal (thermal temperature difference between the surface heated by the sun and the cold depths)
- **NETWORK INTEGRATION:** Storage, management software with machine learning, AI, robotics,
- **RENEWABLE HYDROGEN PRODUCTION:** Electrolysis, through solar energy, from biomethane

## deep tech



Ienai SPACE



Vortex Bladeles



Next-Tip



Captoplastic



Nanostine



MICRO ELECTROCH



ADEX



Xerolutions



PURON



Sensia



Gnanomat



Lpi



Mirubee



Jalvasub



Eris Innovation



OPERIT



DIFFERENTIAL PO



Artificial Visi



SEA: Smart Ener



Multidomo Netwo

## artificial intelligence



DETEKTIA



Datary



Alter5



Bewego



Watiofy



PiperLab S.L.



Nimbeo Estrateg



iCatalist

## iot internetofthings



WIYO TECHNOLOGI



Ortronic Global



Advantic Sistem

## autonomous & sensor tech



Ecometro



Grand Smart Box



Suncosystems

ENERGY AND CLEANTECH STARTUPS  
OF THE COMMUNITY OF MADRID

BY TYPE OF TECHNOLOGY

[See Landscape on  
Startup Radar madr+d](#)

hardware

mobile app

Stemy Energy Samara Wenea Polar Developme

EZZINGSOLAR Bat2go Alma Mobility ECOLAND ENERGÍA

LINCLAB Elytt DASEL Grupo Cybentia

FITTRAIN TECSOL SOLUTION

STIN Grupo St-In

W'WAVE W'wave

nanotech

Counterfog Counterfog

NANO4ENERGY SL

ENERGY AND CLEANTECH STARTUPS OF THE COMMUNITY OF MADRID

BY TYPE OF TECHNOLOGY (cont.)

[See Landscape on Startup Radar madr+d](#)

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

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

## 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
- Energy & Cleantech: EIT Innoenergy
- Fashion: Atelier
- Food & Agritech: Bloomium
- Health: EIT Health
- Scaleups: Empresa y Sociedad
- Las Rozas Innova

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