



Market Roadmap Batteries and Energy Storage

European
Innovation
Council



Funded by
the European Union

Partners:



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Introduction and group overview



Objectives and targets

This report was made through **multiple interactions** with EIC Scaling Club stakeholder members, including scaleup companies, investors, corporates and public institution representatives.

It provides a **snapshot of the stakeholder members' visions and insights** on the state of the batteries and energy storage market in Europe.

It is designed to help professionals, especially entrepreneurs, grasp meaningful insights to help build their scaling strategies.

The following topics were explored by participants:

1. Technology barriers
2. Market barriers
3. Strategic partnerships
4. Geography focus
5. Market risks
6. Competition and scaling

The report is designed to...



... **Help companies and entrepreneurs assess current market positioning** to define future roadmaps, by comparing with their peers' positions and considering expert insights

And was achieved thanks to...

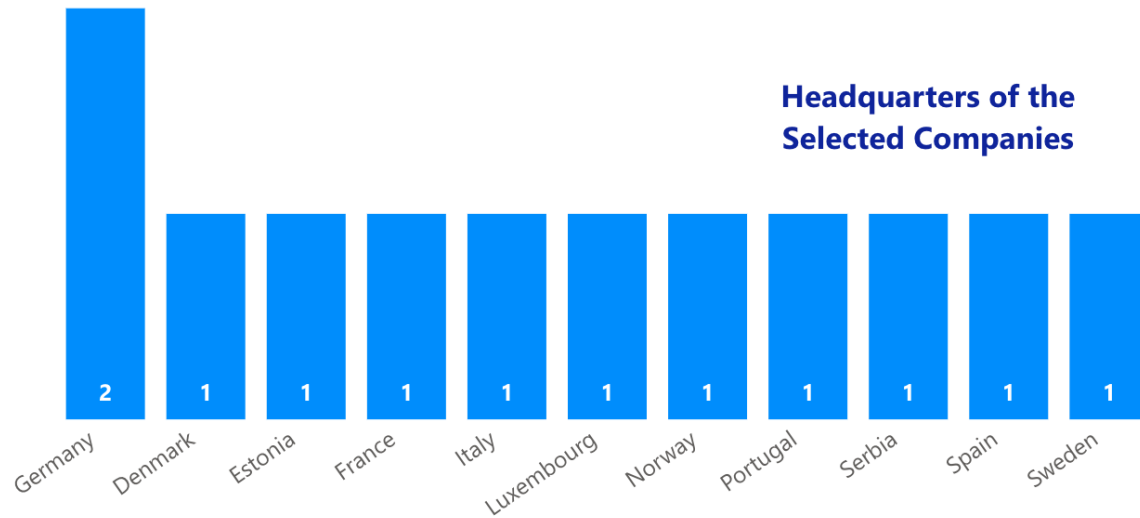


... **A mix of data-driven inputs in conjunction with qualitative insights** obtained from live surveys, online and onsite workshops as well as dedicated interviews with club members

Highlights report – Summary

12

Number of Selected Companies



84

Active Investors Backing Companies



Total Amount Raised

428.0M



Average Raised per Company

38.91M



Companies with Women in Executive Positions

9



Number of Employees

618

Members of the Batteries & Energy Storage group

Referred to as **Stakeholders** in this report

Investors



Corporates & Institutions



Companies



*Please refer to **page 18** for the detailed methodology of the report.

Program mentors



**Aarzo
Sharma**



**Michał
Maćkowiak**



**Łukasz
Skarka**



**Cristina
Vicini-Rademacher**



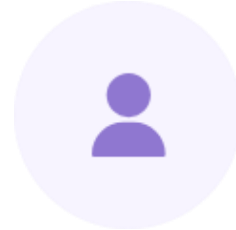
**Christina
Melkonian**



**Jasmina
Popovska**



**Francesco
Matteucci**



Florin Paun



**Antonio Marco
Pantaleo**



**Pavel
Calderon**














**Julia
Poliscanova**



**Birgit
Thoben**

Companies selected in the Batteries & Energy Storage group

Following nominations from stakeholder members for the most promising European scaleups, companies have been selected based on their applications to the program. Various criteria were taken into consideration, including technology maturity, management experience, go-to-market strategy, competitive positioning and investment potential. Moreover, geography and gender balance were also considered to guarantee a fair representation of European diversity.

 <p>ElevenEs: Large-scale LFP (Lithium Iron Phosphate) battery cell manufacturer</p>	 <p>Hyme Energy: Develops a molten salt energy storage solution based on hydroxide salts</p>
 <p>UP Catalyst: Batter-grade graphite and carbon materials produced from upcycled CO₂ emissions</p>	 <p>Basquevolt: Solid and semi-solid polymer electrolyte for next generation of lithium-ion batteries.</p>
 <p>C2C NewCap: Develops long-duration energy storage solutions with a breakthrough supercapacitor technology</p>	 <p>Circu Li-ion: Automated battery upcycling solution enabling the reuse or creation of clean recycling streams of batteries</p>
 <p>Cylib: Raw materials recovery from battery packs, black mass, or production scraps recycling</p>	 <p>Accure: Improves the safety, reliability and longevity of battery systems through cloud computing</p>
 <p>Mecaware: Metal carbonated or hydroxides recovery from battery waste recycling</p>	 <p>Enerpoly: A next-generation zinc-ion battery manufacturer</p>
 <p>Energynest: Thermal energy storage for power generation, energy-intensive manufacturing and renewables industries</p>	 <p>Energy Dome: Developing long duration energy storage solution based on a CO₂ thermodynamic process</p>

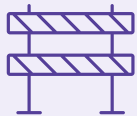
Key Results and Insights



BESS solutions are tapping into a vast growing market, but face a strong global competition and challenges to scale

\$64.4 Bn

Were raised by energy storage startups & scaleups companies globally in the last 4 years*



European regulatory challenges, cost competitiveness of the production and access to large-scale funding will remain the key market barriers.



Technical limitations to solve are **Battery life cycle degradation** and **global supply chain dependencies**, which offer strong differentiation opportunities for newcomers in the market.



China is viewed the most competitive region, while North America, Middle East and India are still promising markets for expansion.

Introduction from the Group President

“ The battery sector offers immense opportunities, from grid upgrades and advancing net-zero goals to scaling diverse chemistries with pragmatic, flexible, and modular approaches. Exciting prospects also lie in financing end-of-life batteries, with startups needing to align with regulations and corporate strategies from the start.



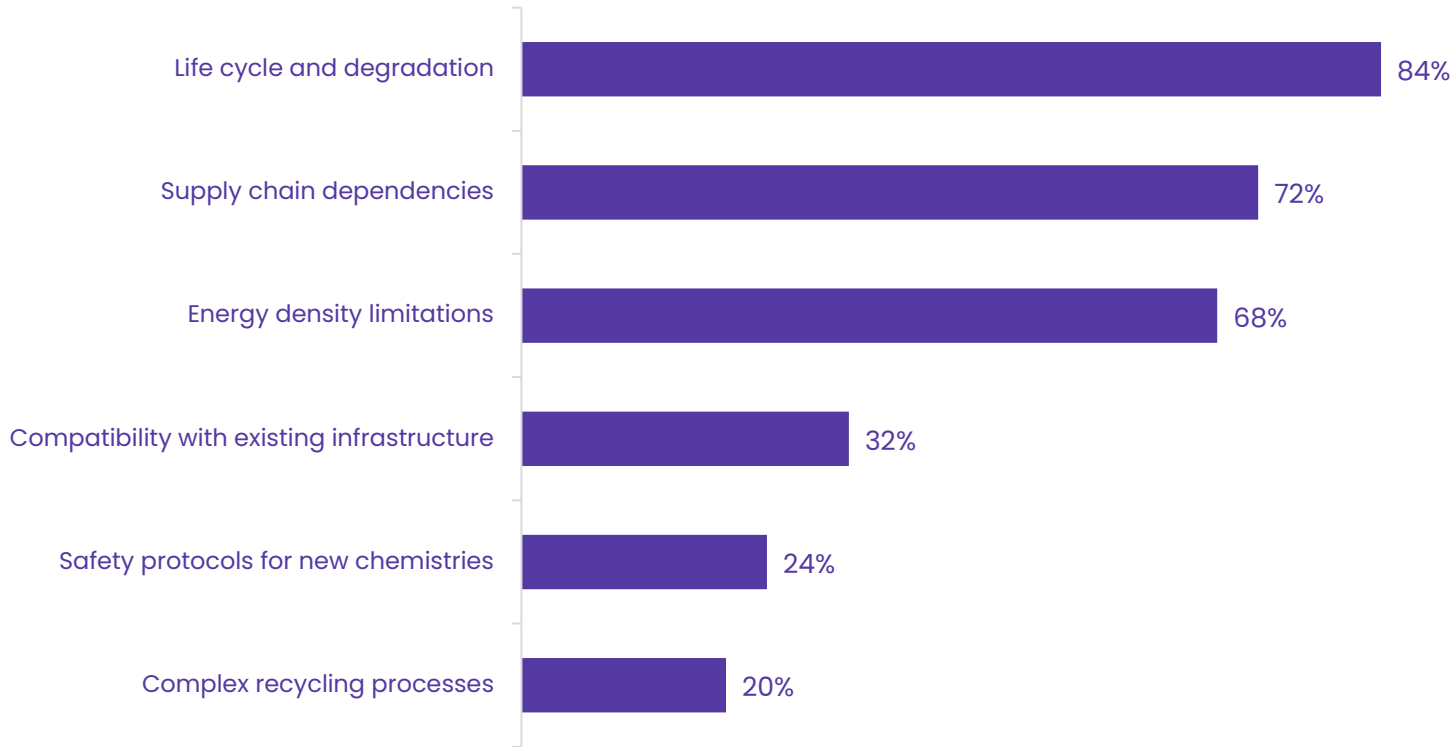
Aarzo Sharma
Maersk Growth

*Source: Dealroom

The battery life cycle and global supply chain threats constitute key technical barriers for European scale ups

According to club members, increasing batterie's durability and energy density while reducing the supply chain risks are key areas to develop

Answers to "Top 3 technical barriers in the BESS market"*



*25 answers collected from survey questions
Multiple choice question

“The trade-off between energy density and degradation is key. If you optimize for energy density (increasing voltage), the life cycle will typically suffer. Smarter design for gentler cycles can help provide longer-lasting batteries.”



Charles Stuyck
Battery Value Chain expert, Independent

“By relying on an existing European supply chain for materials like zinc, we ensure stability and mitigate risks. Zinc prices remained stable during the 2022-2023 volatility, highlighting the resiliency of zinc-ion batteries.”



Eloisa de Castro
CEO of Enerpoly

“Europe's limited access to certain raw materials opens opportunities for next-generation batteries, such as those incorporating silicon or sulphur derived from by-products of the paper and wood industries”

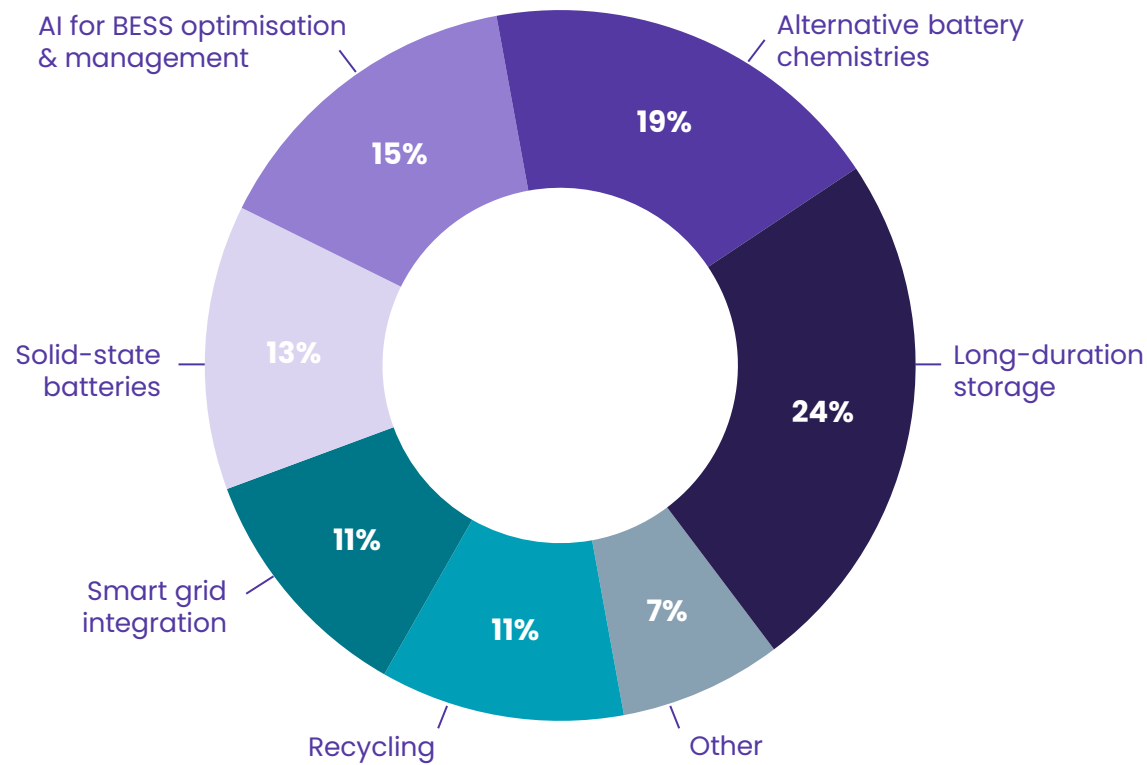


Michał Mackowiak
Executive Board Member at Harmony Energy Poland

Long-duration, new chemistries, solid-state batteries and AI are amongst key new technologies to answer technical challenges

Multiple next-generation battery technologies are needed to answer identified technical challenges

Answers to "Key developing technologies in the BESS market"*



*25 answers collected from survey questions

“ **Sustainability, cost-effectiveness, and safety** are key priorities. For alternatives to Li-ion batteries, only those delivering significant breakthroughs will gain traction over established technologies, otherwise people will stick to what they know. ”



Peter Vanlaeke
Partner at Syensqo Ventures

“ **Sodium-ion batteries show promise** for storage and low-voltage applications, while zinc-ion is appealing for its volumetric density potential. ”

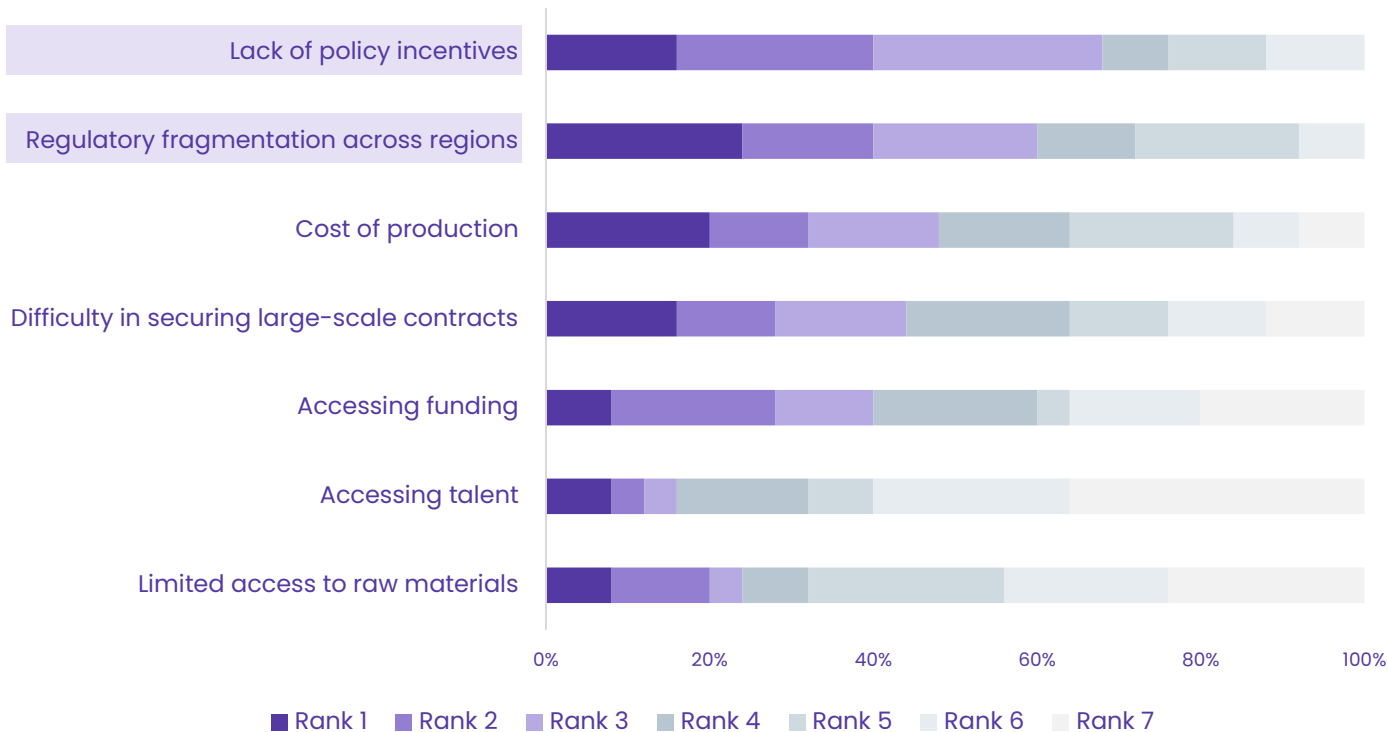


Aarzo Sharma
Senior Associate at Maersk Growth

Regulatory fragmentation and lack of policy incentives at the European level are key barriers in the BESS market

Policy & regulations issues are identified as the most critical market barriers to scale

Answers to "Ranking of the most critical market barriers in the BESS market"*



*25 answers collected from survey questions

“ Business viability is a challenge for European recyclers – as material sent in China is recycled under less strict legislation, pushing down costs. For European recyclers to be competitive, we need to **impose stricter regulations on exporting black mass** and introduce the **consideration of recycled materials** in the battery regulation, **only the waste produced in Europe.** ”



Benoît Samanos
COO of Mecaware

“ Fragmentation of regulation is not the core issue for us – it’s rather about **finding the right information**, which can be challenging to access across countries. ”

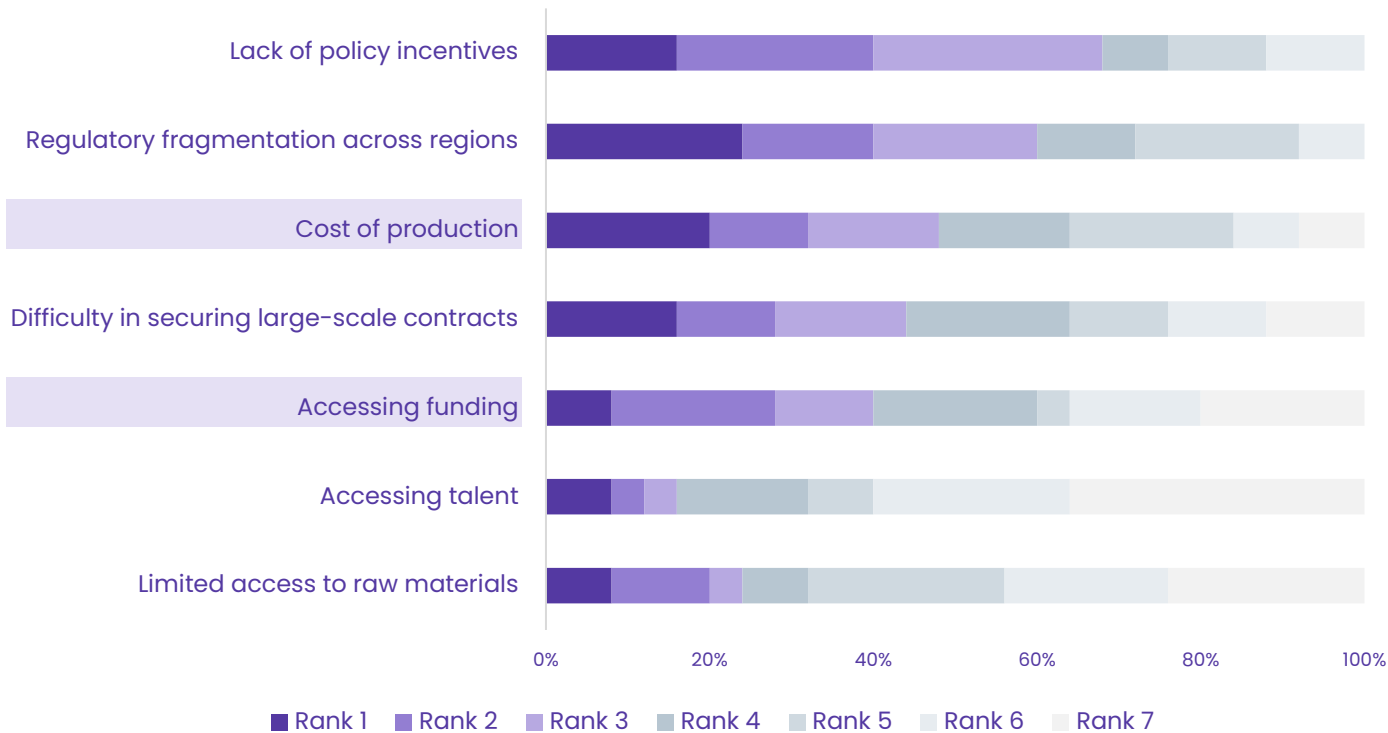


Eloisa de Castro
CEO of Enerpoly

The cost of production and access to funds is also key concern for European scale-ups

Cost-competitiveness and access to funds are also identified as critical market barriers to scale

Answers to "Ranking of the most critical market barriers in the BESS market"*



*25 answers collected from survey questions

//

Securing multiple suppliers for each component of production can effectively mitigate supply chain risks and manage cost fluctuations. //



Nikola Kostic
Senior Associate at ElevenEs

//

Once technology is validated through pilot projects, financing should be project finance-based. Developing **the right business model** is vital to share costs and risks across the value chain. In the scale up phase, **articulating uniqueness of value proposition** is crucial for attracting investment. //

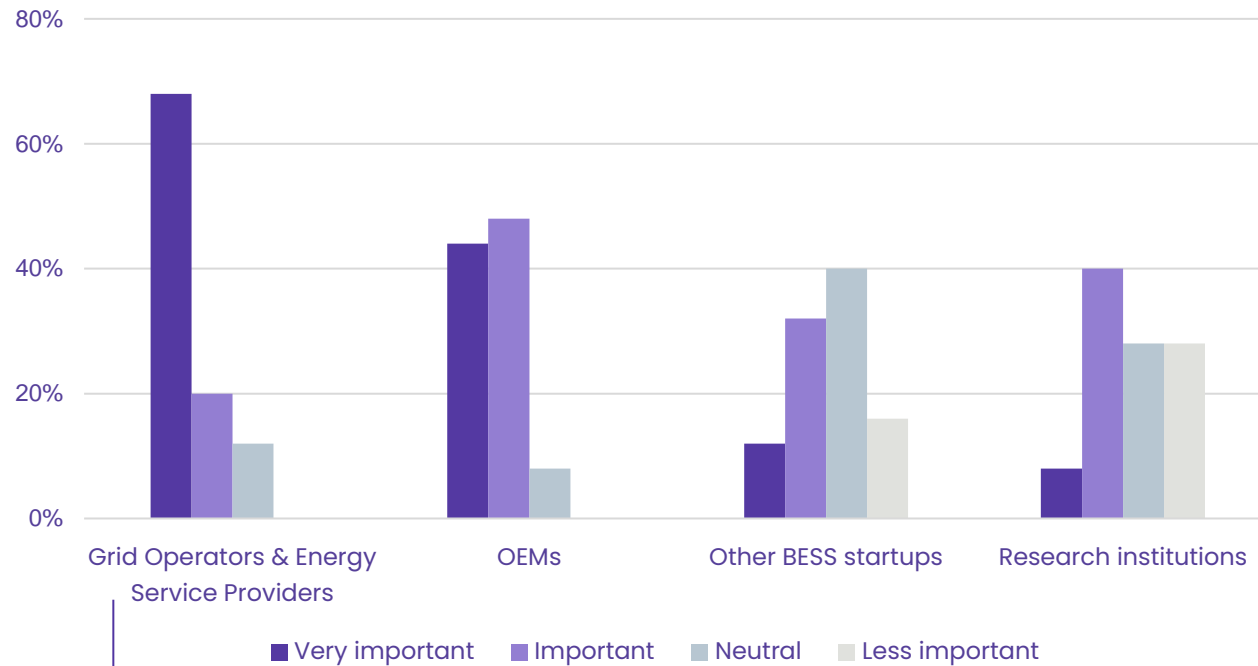


Aarzo Sharma
Senior Associate at Maersk Growth

While partnering with corporations are vital for scaling technologies, there are challenges in addressing long-term collaborations and securing contracts

Scaleups are looking to collaborate with industry players for scaling but face difficulties in establish long-term relationships

Answers to "Importance of strategic partnerships to scale by type of actor"*



70% of scaleups consider the difficulty to secure long-term partnership as one of their **top 3 risk** for scaling

*25 answers collected from survey questions

Building trust with corporates through **joint feasibility studies** or consulting projects can pave the way for partnerships. **Having an internal champion** within the partner organization to advocate for the solution is key.



Aarzo Sharma
Senior Associate at Maersk Growth

Strong governance and an **effective advisory board** are crucial, particularly with advisors who can open doors to challenging markets and provide high-level access to corporate and public sector leadership.

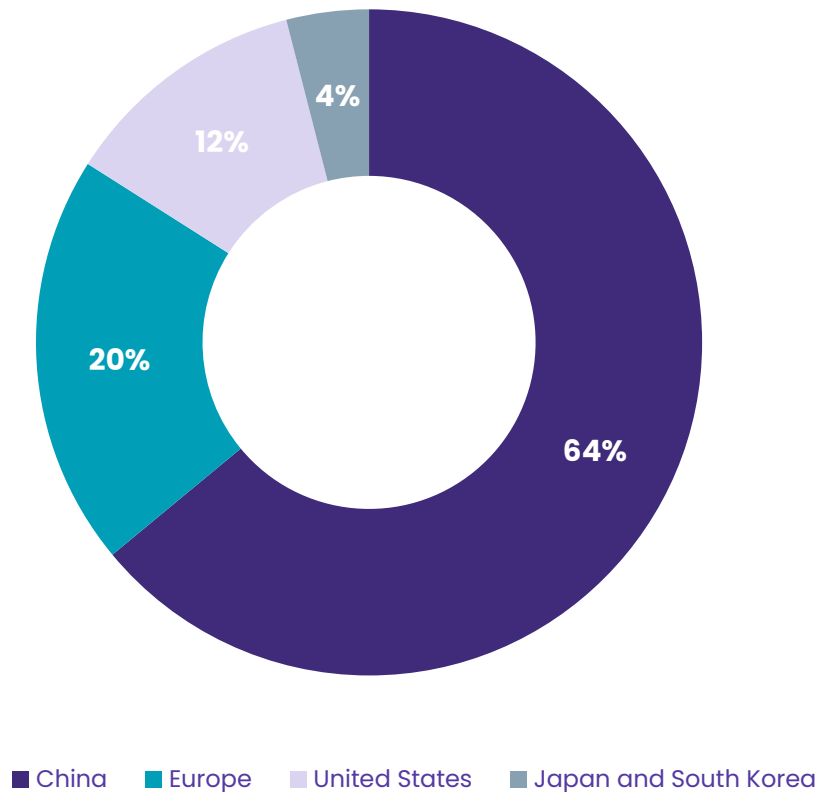


Cristina Vicini-Rademacher
Founder of Vicini Strategy

China is considered the most competitive region for Batteries and Energy Storage but opportunities for collaboration and learning from best practices exist

China is identified as the main competitor in the BESS market

Answers to "Most competitive region / country in the BESS market"*



*25 answers collected from survey questions

// Batteries are just one piece of the puzzle; there **are many opportunities also in software, asset management, and optimization for trading**. While China plays a significant role in batteries, **Europe also holds advantages**, and collaboration with Asian companies could become a promising avenue" //



Michał Mackowiak

Executive Board Member at Harmony Energy Poland

// Asian battery manufacturers excel by focusing on fundamentals and scaling efficiently. **De-risking is a key** to remain competitive - our approach ensures lower material costs at scale, a robust, local, supply chain, and reduced CAPEX and OPEX to minimize risks. //



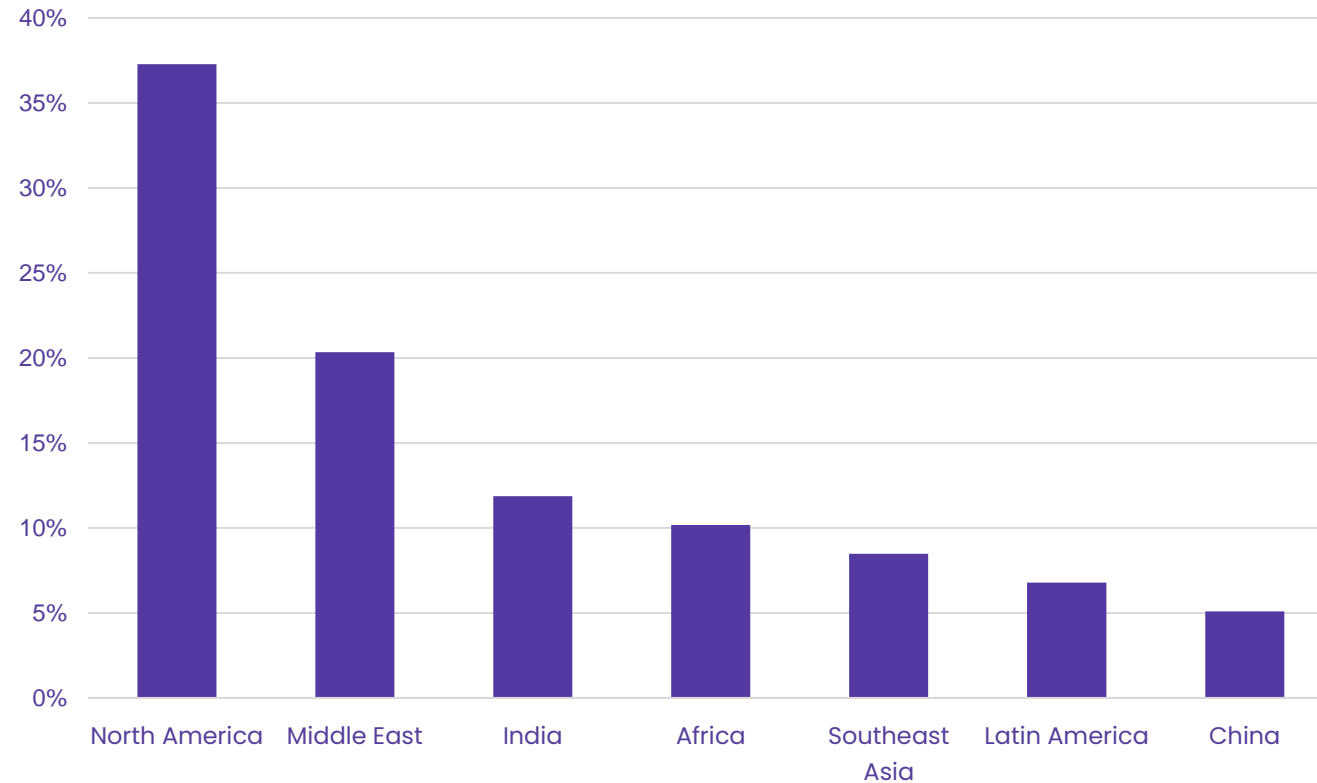
Eloisa de Castro

CEO of Enerpoly

North America is viewed as the target market for Batteries and Energy Storage, while Middle East and India are also highlighted

North America and the Middle East are the most attractive market for global expansion

Answers to "markets outside Europe where European scaleups should focus on"*



*25 answers collected from survey questions

//

International expansion will depend on the market segments.

If you cover China, Europe, and North America, you're already addressing about **80% of the battery market**.

The **Middle East** has been gaining attention recently, especially **for stationary applications**. Energy storage has become cheaper due to LFP prices dropping in China and the region is looking at gigawatt-hour systems to help manage the intermittency of increasing amounts of renewable sources like solar and wind.

India is **shifting rapidly from lead-acid batteries to lithium-ion**, especially in **micro-mobility applications** like electric two- and three-wheelers. //



Charles Stuyck

Battery Value Chain expert, Independent

Methodology, authors and EIC Scaling Club contacts



Methodology: Data Collection and Analysis Approach

The research used a **quantitative methodology** based on the approach advocated by the consortium members.

This study was conducted by a combination of **live surveys and open discussions**. The questions and answers were designed in advance through interviews with industry experts to ensure to the right information was grasped. Open-ended responses for additional comments were also available.

The survey was **voluntary and not anonymous**.



Additional references and reports from the EIC Scaling Club

Go further with these additional reports

[1- IEA – Global Mineral Outlook, 2024](#)

[2- McKinsey – Battery 2030](#)

[3- IEA – Batteries and Secure Energy Transitions](#)

[4- European Council – Fit for 55](#)

[5- The Climate Brick – The missing Manual for scaling climate tech](#)

Market Roadmaps from the EIC Scaling Club

Explore key market roadmaps designed to address emerging challenges and opportunities:

Agri & Food Tech

Cardiovascular Therapies

New Space

Clean Fuels & Hydrogen

Digital Security & trust

New Biotech Platforms

Next-Generation Computing

Renewable Energies

Smart Mobility

Scaling Challenges Roadmap from the EIC Scaling Club

The EIC Scaling Club has produced targeted roadmaps to support companies in overcoming specific growth challenges. These include:

Go-to-Market Strategy

Strong Board

Investment Thesis

Lead Investor

Authors, acknowledgments and expert contributions

Authors



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Expert interviews



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Thank you!

