



# Battery production and strategy in Hungary

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REMOBILISE



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# About ZONE Cluster



ZONE Cluster was created with the cooperation of leading Hungarian info-communication, energy, automotive and aviation companies. Our goal is to turn Hungary into a significant professional European base for "smart mobility" solutions both in terms of the development of future regulations and the development of business cases. Our mission is to become a major European professional base for future mobility solutions and infrastructural developments, which we will achieve based on the following pillars.

## Main activities for our members:



SUPPORTING  
REGULATORY AND  
METHODOLOGICAL ACTIVITIES



ESTABLISHING HUNGARY'S  
SMART SPECIALIZATION AND  
INNOVATION ECOSYSTEM



IMPLEMENTATION OF  
DEMONSTRATION AND  
PILOT PROJECTS



EDUCATION, TRAINING  
AND AWARENESS RAISING

## European project activities and fundings:



EIT UM's Energy and Public Realm Accelerator



Anti-Trash



NEMZETI  
KUTATÁSI, FEJLESZTÉSI  
ÉS INNOVÁCIÓS HIVATAL

Innovacity



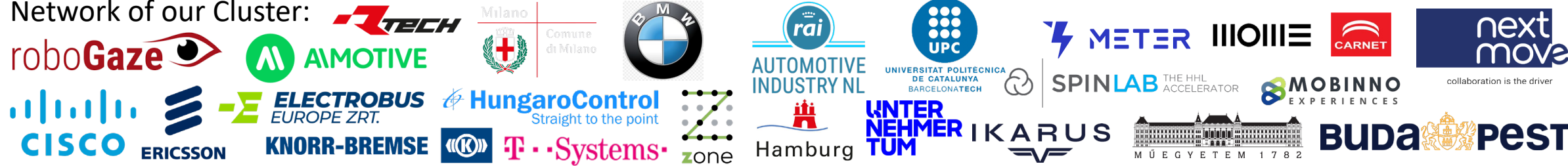
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# The partners of ZONE Cluster

Network of our Cluster:



## INDUSTRY PARTNERS

- Volánbusz (Hungary)
- HUMDA (Budapest, Green Bus Programme)
- Ikarus (Székesfehérvár)
- BMW (Hungary)
- R-Tech E-Mobility Cluster (Regensburg)
- NextMove (Paris)
- RAI Automotive NL (Eindhoven)
- MOBINOV (Porto)
- Centre Technologique de l'Automobile de Galice (Vigo)
- Skoda Auto (Prague)
- SEAT (Zaragoza)
- TomTom (Berlin)
- Ferrovial (Madrid)
- Business Upper Austria (Linz)
- Forum Virium (Helsinki)
- CARNET (Barcelona)

## CITIES

- Zalaegerszeg
- Hamburg
- Milano
- Barcelona
- Helmond
- Helsinki
- Prague
- Budapest
- ERRIN - European Regions Research and Innovation Network (Brussels)
- Instituto Aragonés de Fomento (Zaragoza)

## ACADEMY PARTNERS

- Budapesti Műszaki és Gazdaságtudományi Egyetem
- Moholy-Nagy Művészeti Egyetem
- Unternehmer Technical University of Munich (München)
- Universitat Politècnica de Catalunya (Barcelona)
- Eindhoven University of Technology (Eindhoven)
- Aalto University (Helsinki)
- Spinlab (Leipzig)
- NFF - Niedersächsische Forschungszentrum Fahrzeugtechnik (Braunschweig)
- Okan University (Istanbul)



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# ZONE Cluster's steps towards e-mobility



## Electrobus

IKARUS, which has more than 120 years of bus manufacturing history, started developing a fully electric bus in 2018. Ikarus is engaged in the production of electrics, chassis and compatible electric chargers, as well as customized energy solutions designed and manufactured exclusively in Hungary. They are available to their partners with flexible constructions and modular electromobility solutions.



## Competence Development

The purpose of the service is to manage the competence gaps and skill needs in the automotive industry. In the areas affecting the automotive industry, in addition to the stricter climate policy regulations, a number of other trends can be identified - digitalization, generation change, etc. - which influence the operation of automotive supply chains. The subject of the trainings is a complex competence development program that responds to the challenges listed above, which also takes into account the specifics of the industry - and is able to effectively assist in the management of changes.



## Battery alliance

The creation of the Hungarian Battery Association, founded with the participation of the ZONE Cluster, was the first significant step towards the realization of the strategic objectives of the domestic battery industry. The aim of the Association is to represent the interests of the companies operating in the Hungarian battery industry value chain, to promote the development and European integration of the Hungarian battery industry, and to cooperate for the benefit of its members in the implementation of the National Battery Industry Strategy 2030 by ensuring professional cooperation between the companies operating in the battery industry value chain and the responsible government bodies.



# Current status, strategic focus

Hungary is in an ideal location on the battery map of Europe: with its **central location**, presence of **large automotive brands** and continuous **government support**, the aim is to become the second largest player in the European market in terms of battery production (following Germany).

- **Hungarian Battery Strategy (2022): primary goals:**

- Developing a **socially and environmentally responsible battery value chain** in Hungary
- Developing a **new industry** in the country with **value added services** and creation of new workplaces
- Making Hungary **one of the largest European centres** for battery production
- Focus on **lithium-ion batteries**

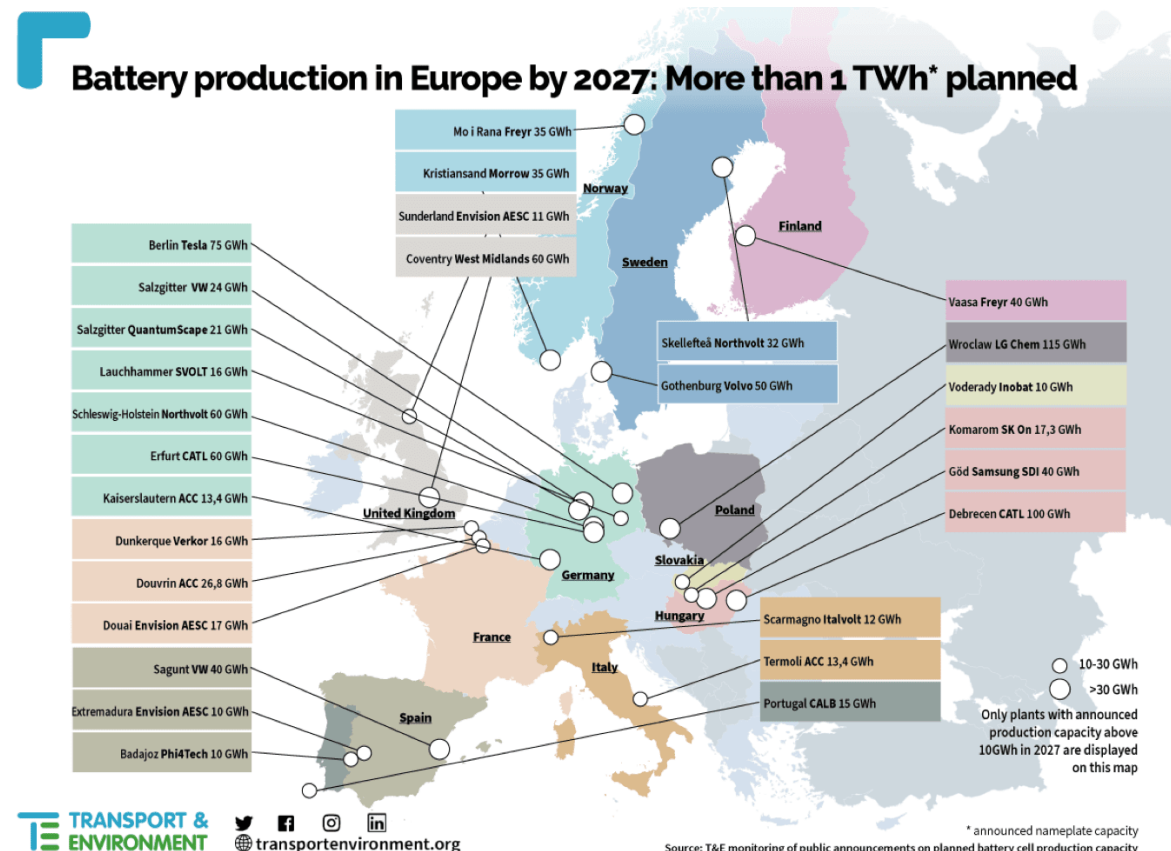


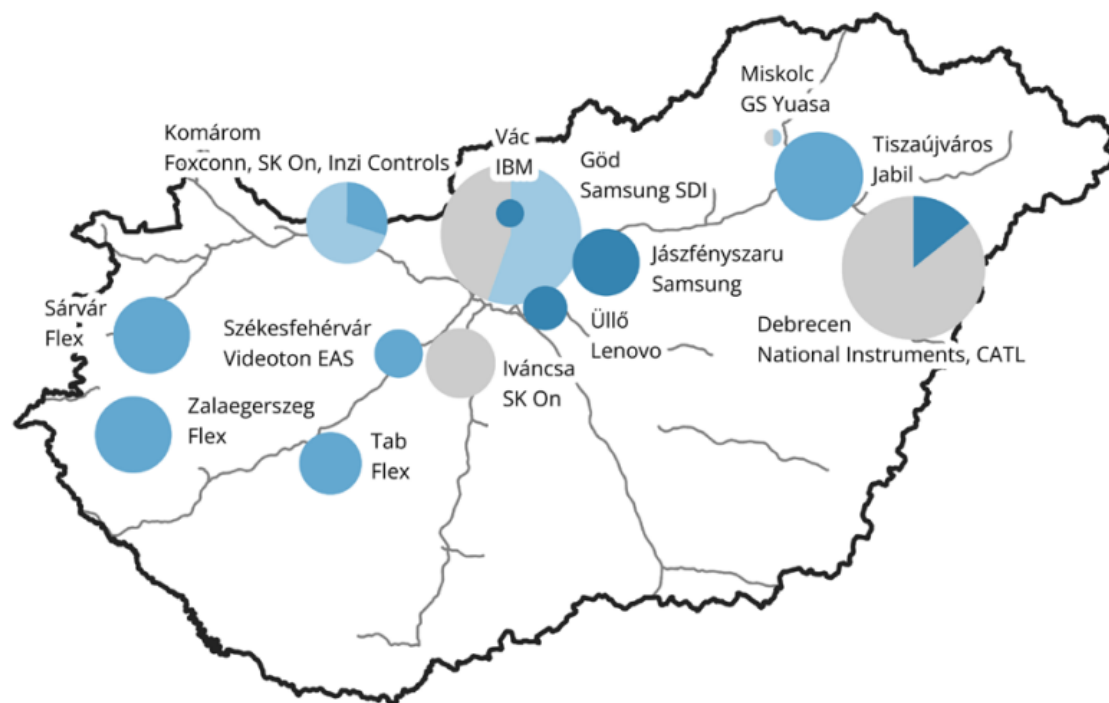
Figure 3: Battery cell manufacturing plant in Europe in 2027



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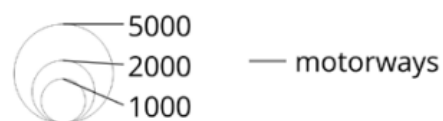


Figure 1: Major ICT and OEM battery-producing factories in Hungary



Approximate number of workplaces

- ICT brand
- Contract manufacturer
- OEM battery manufacturer
- OEM battery manufacturer (forthcoming)



## Currently operating facilities:

- **SK ON** in Komárom (South Korea)
- **Samsung SDI** in Göd (South Korea, currently the 4th largest battery factory in Europe)
- **GS Yuasa** (Japan) in Miskolc
- Together with the battery facilities, the **component manufacturers/suppliers** also established their facilities in the country.



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# Upcoming investments

- **CATL (China)** giga factory near **Debrecen**: investment of 7.34 billion euros, with 9000 new workplaces. CATL is a supplier of Mercedes-Benz, BMW, Volkswagen and Stellantis, out of which three already has manufacturing activity in the country.
- **Debrecen is becoming the centre** for battery production in the country: another investment by EVE Power (China) has been made recently, the factory will open in 2026. The aim is to support the BMW factory (also located in Debrecen) with batteries.
- **Ivánca**: SK ON second factory is due to be opened this year
- According to the expectations, Hungary will have a battery manufacturing capacity of 194 GWh output by 2027, which will be the **fourth largest** in the world following China, the United States and Germany.



# Challenges

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- Most of the **investments are coming from Asia**, specifically China, which can create a dependency
- Not much added value: need to **localize R&D activities** of these companies
- **Recycling**: still no clear strategy for the recycling of batteries and its parts
- **Lack of trust** from local communities: fears of contamination of water supplies, noise pollution



# Opportunities

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- **Local lithium extraction:** currently under investigation, could possibly provide supply at least for the Hungarian factories
- Possibility of **international integration** and cooperation among actors of the battery industry, as well as the automotive industry in Europe
- **Re-educating workforce** to support the new industry: it can bring along higher value-added activities into the value chain



# Thank you for your attention



<https://remobilise.eu/>



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