



SPINMATE

Meet the SPINMATE Partners!

MEET: **TOYOTA**



Introducing Toyota Motor Europe (TME): Toyota Technical Centre in Zaventem (BE) is home to TME's Research & Development (R&D) division counting around 20 members doing leading-edge research in Europe for the Toyota group in the field of batteries, fuel cells, catalysts, solar cells, materials modelling and advanced analysis. Besides its in-house activity (mostly related to battery and fuel cell evaluation), TME has several R&D projects with European universities and research institutes related to the different technologies enumerated above.

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Hello Laurent Castro and Aurélie Guéguen! Thank you for this opportunity to meet you and talk about SPINMATE. To kick-off, could you give us, in your own words, a short introduction to TME, and your role there?

We are part of R&D department of **TME** contributing to the Research on new materials for batteries cells supporting mobility applications. Our activities in **SPINMATE** are mainly focused on leading the Work Package regarding "Specification Requirements and standardization for new SSBs" and actively participating in the evaluation/ assessment/ testing of the developed prototype cells. The goal of the WP2 activity is to define and to follow up the cells requirements providing guidelines on testing protocols for final prototype cells in order to harmonize different tests.

To someone reading this who is still not familiar with SPINMATE, how would you describe it in simple terms, and how do you distinguish it from other projects or initiatives?

SPINMATE not only aims to develop new Solid State Battery cells but also to actively contribute to the industrialization of the different processes thanks to a digital driven approach. This original approach proposed in **SPINMATE** distinguishes it from other projects.

TME is the leader of the specification of requirements and standardisation for new SSBs. Can you describe the importance of this initial work package for the SPINMATE pilot line? Which will be main aspects needed to be covered for defining accurate pilot line requirements??

Define the pilot line requirements based on the KPIs the battery cells will achieve is essential to ensure a proper industrialization process of cell manufacturing. Optimization of all **SPINMATE** pilot line parameters from the beginning based on a well designed battery cell will allow to align all the different cursors on the right position and provide an accurate control of the battery cells production in the road of industrialization.

In more detail, how the Key Performance Indicators will be fully aligned with the current technological challenges of Gen 4b SSB cells, ensuring that these will be aligned with the EV industry requirements?

Energy density is a key performance indicator for mobility applications. The low thickness of Li foil used as a negative electrode allows to significantly increase the expected volumetric energy densities. Contributing of the development of lightweight electrolyte is essential for the gravimetric energy densities. The association of these 2 major contributions makes the promise to deliver a prototype Gen 4b SSB cells very attractive.

What are you personally most enthusiastic about achieving during SPINMATE?

SPINMATE with its eclectic team made by different actors of the batteries value chain makes possible a close communication between all partners looking at the same direction for a common ambitious target. Well defined and prepared for the race for the new SSBs able to provide accurate performances of future electrical mobility **SPINMATE** makes us very enthusiastic toward a real breakthrough.

TME is a main player in the automotive sector leading-edge centre in EU in the field of batteries for the automotive sector. Which will be the main benefits of TME by participating in this collaborative project?

Supporting the development of pilot line for all solid batteries in Europe is important for TME as batteries are key elements towards the "beyond zero" commitment set for 2050, carbon neutrality means reducing CO₂ emissions to zero throughout the entire life cycle of a product, starting from procurement of raw materials, manufacturing, and transportation to use, recycling, and disposal. **SPINMATE** is fully aligned with this vision.

Certainly, there will be readers interested to meet you and discuss your experience in SPINMATE. Which events will be possible to meet TME in the upcoming months?

Our team is joining different events dedicated to the research on material for battery such as ECS in Gothenburg (Sweden) (Homepage | 244th ECS Meeting (electrochem.org) from 8th to 12th of October 2023.



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INOVA+ – responsible for implementing the communication and dissemination activities in SPINMATE – conducted a series of interviews to the SPINMATE partners. If you would like to know more about the project partners, visit our online channels.

SPINMATE Website: www.spinmate.eu

SPINMATE Social media channels:



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