

Meet the SPINMATE Partners!

MEET:  Cerpotech



Introducing Ceramic Powder Technology AS (Cerpotech): a SME based in Trondheim, Norway, with broad experience in many areas involving ceramic materials. We are developing and manufacturing advanced high quality ceramic oxide powders for various applications worldwide. Our core technology is manufacturing by use of spray pyrolysis to achieve high purity, homogeneous sub-micron powder. Cerpotech has an industrial scale production line and equipment for characterization and post processing.

<https://cerpotech.com/>

Hello Anne Dalager Dyrli and Leif Olav Jøsang! 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 Cerpotech, and your role there?

Cerpotech specializes in manufacturing advanced ceramic oxide powders by spray pyrolysis. The main participants for Cerpotech are production manager Leif Olav Jøsang and CEO Anne Dalager Dyrli. Leif is mainly involved in the technical and production side of the project and Anne handles project management, legal and financial activities.

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?

In **SPINMATE** we aim to develop manufacturing technologies towards industrialization of solid-state batteries. The project has a broad focus towards a pilot line for manufacturing rather than a broad development of materials. Cerpotech will develop our innovative manufacturing method for the cathode material towards the industrialization of solid-state batteries for automotive applications.

SPINMATE project starts with the development and optimisation of cell components from 1 Ah to 10 Ah. Cerpotech will take a key role on the raw material optimisation, particularly in the fabrication of high-capacity Ni-rich layered oxide active material. Could you tell us more about this task, and which will be the main challenges?

A central challenge for Cerpotech will be to adapt our powders from a morphology that has mainly been used to sinter dense materials with a focus on sub-micron particles and high sinterability into a morphology that the partners producing the cathodes are able to work well with. Here we will have to look into adjustments in our method and also new equipment.

Cerpotech is the leader of cathode active material upscaling in SPINMATE. Could you tell us more about the processing and large-cell manufacturing process in this activity? Which resources will be used in this activity?

The spray pyrolysis production method we use is well suited for production over a broad range of scale. The process is continuous, and work well from a few kg up to 100's of tons scale. We will work with what we have learned for similar compositions in former projects such as COBRA to improve the material. Previous work has shown some agglomeration after milling the powders that need to be improved. Initial experiments have indicated that the required heat treatment to achieve sufficient crystallinity in the materials leads to agglomerates which are hard to remove. Finding a drying process that does not lead to an excess of large drying agglomerates will be key and several options are under evaluation.

What are you personally most enthusiastic about achieving during SPINMATE?

We are very enthusiastic about collaborating with the partners in developing the whole value chain for manufacturing of solid-state batteries and prove the functionality of the materials. We are of course most enthusiastic about developing our own part and to be ready for industrialization for such powders.

Cerpotech is an expert company on high quality complex oxide powders fabrication. How will SPINMATE mainly contribute to address the Cerpotech mission?

Starting out as a company focused on SOFC and SOEC materials we have gradually expanded our scope to ferroelectrics, thermo-electrics, lead free piezo materials and more recently oxide-based battery materials. **SPINMATE** will provide us with further experience in production of battery cathode materials and enables us to test out methods to modify our powder morphology. Connecting with battery expertise is also very good for the company towards industrialization of these materials.

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

We will be present at the ECS meeting in Boston for the SOFC XVIII symposium. Unfortunately, we do not have any plans for specific events with focus on batteries yet. But when we decide, we will announce it on our website. www.cerpotech.com.



Anne Dalager Dyrli

CEO



Leif Olav Jøsang

Production Manager



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:



Contact info: info@spinmate.eu

