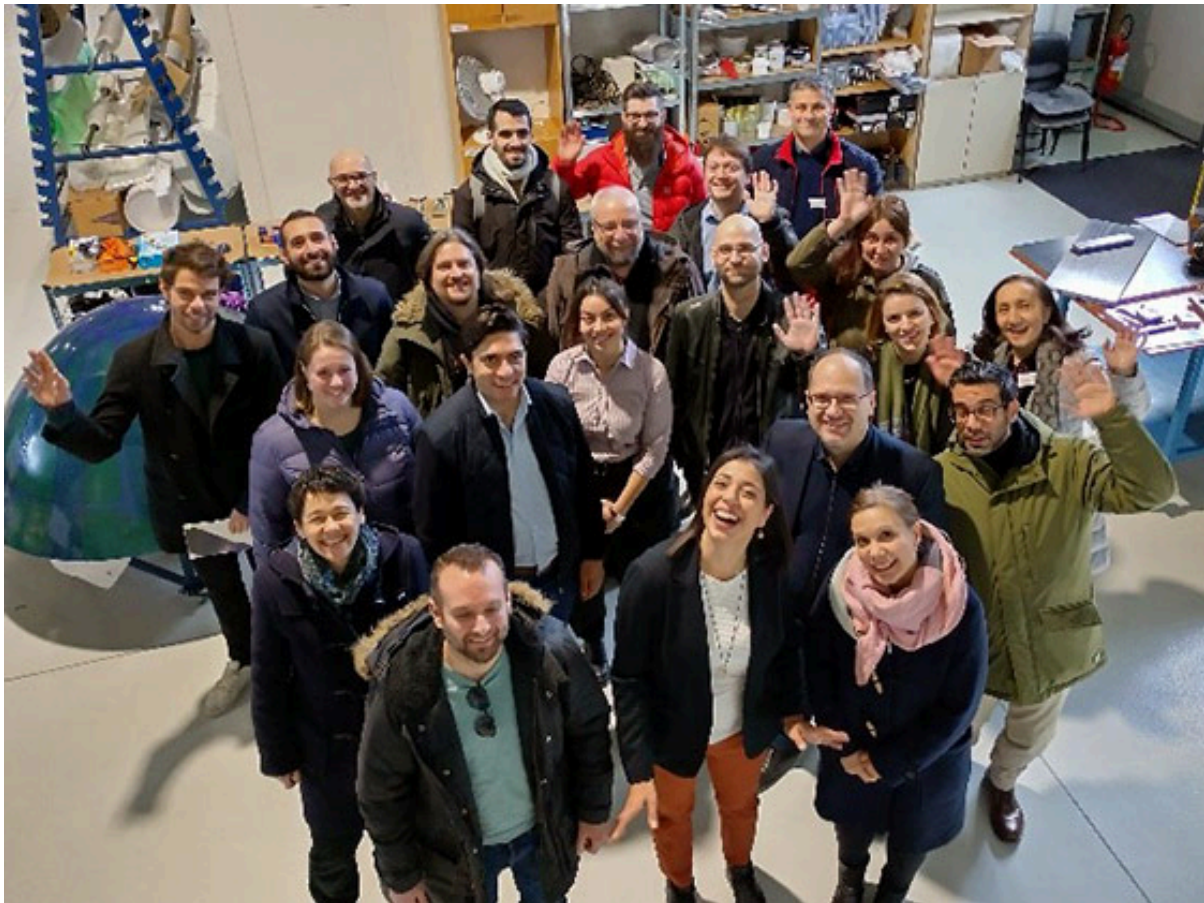




Newsletter Issue #1

Greetings and welcome to the **1st issue of our EMPHASIS newsletter!** In our newsletter series, we are thrilled to invite you along on our venture towards pioneering technology in the realm of eco-friendly energy storage. Each issue will provide you with a snapshot of our most recent endeavors, along with numerous links for deeper insights into our project. Enjoy your reading!



Meet the team

Interview series with young researchers

In our interview series, we will give researchers, who are just starting their career, the opportunity to tell us about their tasks in the project and share their experiences.



We started with **Dorela Hoxha from PLEIONE**, a senior materials and processes engineer focusing on developing electrodes and supercapacitor cells for textile and automotive applications. She leads the technical activities at **PLEIONE** and collaborates with her colleagues to drive efficient project execution, all while contributing to innovative technology development.

[Read the full Interview here.](#)

1st EMPHASIS Progress Meeting

On **18-19 October 2023** the **EMPHASIS** consortium gathered for their **1st Progress Meeting** hosted by The New-Aquitaine Composites & Advanced Materials Technology Center (CANOE) in Bordeaux, France. Besides discussing the progress in the project and preparing for upcoming activities, the CANOE team organized a visit to their facilities, where they showed their labs and provided details of the activities, they are involved in.



[Read the full report of our meeting here.](#)

[More about EMPHASIS: Media section](#)

You are interested in finding out more about **EMPHASIS**? Then we have something for you: On our website, you will find the electronic version of our leaflet and a fact sheet for download. We will stock this section throughout the project with useful and interesting material.

[Download the materials here.](#)

Events

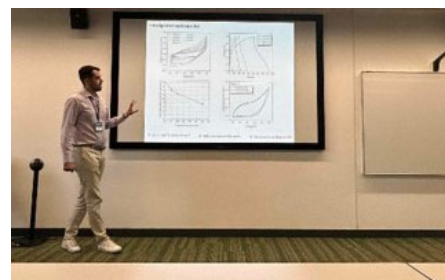
FORTH researchers presented preliminary findings at NN23 and Graphene Conferences



Researchers from the **Foundation for Research and Technology - Hellas (FORTH)** attended the NN23 Conference and the Graphene Conference in June-July 2023.

At these conferences, they shared preliminary research findings from the EMPHASIS project.

The presentations not only highlighted their cutting-edge work but also underlined their commitment to advancing scientific knowledge and fostering collaboration in these scientific communities.



[More about the events here.](#)

PLEIONE presenting EMPHASIS in Gdansk and Elche

PLEIONE participated in two important conferences in September-October 2023: the **ESA GSTP Event** in Gdansk, Poland, where they engaged with industry experts fostering meaningful discussions and collaborations.



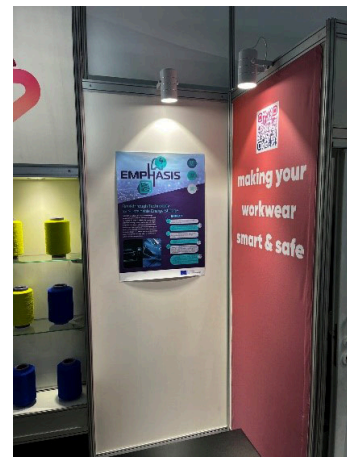


The second event was the **13th European Space Power Conference (ESPC 2023)** in Elche, Spain, where PLEIONE promoted the **EMPHASIS** project with a general poster to visually display the project for relevant stakeholders.

[Find out more here.](#)

BORN at A+A 2023: Trade Fair and Congress

BORN knitting engineers led E-Textile innovation by showcasing how supercapacitors revolutionized intelligent workwear at the **A+A tradeshow** in Düsseldorf, Germany. Supercapacitors, known for their rapid energy storage and release capabilities, transformed workplace safety and functionality. Those attending the **A+A tradeshow** had the opportunity to witness the future of workwear in action.



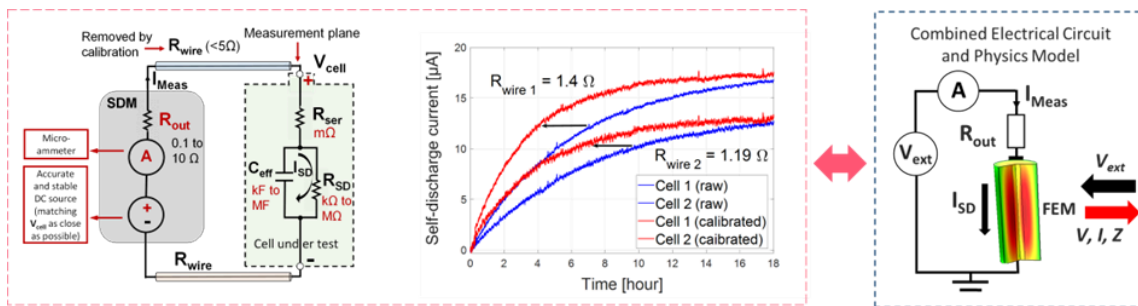
[Find out more here.](#)

Publications

Fast method for calibrated self-discharge measurement of lithium-ion batteries including temperature effects and comparison to modelling

The publication submitted by the **Keysight team** introduces a novel and efficient approach to measure and comprehend the self-discharge characteristics of lithium-ion batteries. This

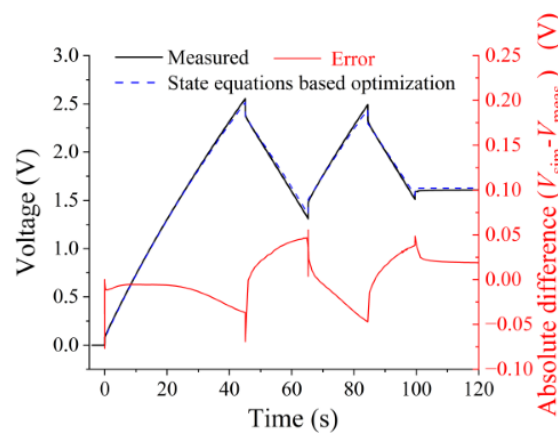
method takes into account various influential factors, such as **temperature variations** and **cell-to-cell differences**, while also delving into the underlying electrochemical mechanisms.



[Read the full publication](#)

Accurate Parameters Identification of a Supercapacitor Three-Branch Model

This paper submitted by the **INRIM team** introduces two novel ideas on **Supercaps (SCs)** characterization and modeling, 1) a novel measurement method for the determination of the non-linear leakage resistance of SCs, and 2) a novel approach for accurately modeling SCs by means of a Three-Branch circuit model. Through these two innovations the accuracy of the **SCs simulation reaches very high levels**. A new model identification method based on the state equations of the circuit is described in the paper and validated by measurements.



[Read the full publication](#)

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