APRIL 2023

2BoSS Newsletter

Toward sustainable batteries based on silicon, sulfur, and biomass-derived carbon

Let's connect!

#sustainability #circulardesign #energytransition

Dear readers,

We are happy to share the first 2BoSS project newsletter with you! The first newsletter introduces you to our project and presents our activities over the past ten months.

The European Union is actively seeking for a European battery manufacturing value chain which facilitates the transition to e-mobility. The impressive acceleration of electri vehicle adoption in recent years requires battery technologies with improved performances, low dependence on critical raw materials and a more circular design. The concept behing 2BoSS is to develop an innovative, durable, and more sustainable battery technology, whichovercomes barriers and limitations from current Li-ion batteries and improves the processing of its raw materials and their associated recycling strategies.

In the coming two-year period, we will be closely working with stakeholders and interested parties as we would like to build a knowledge community which supports the product development, experimentation, and business uptake towards full-scale manufacturing. We are looking forward to our collaboration for making the 2BoSS project a success to accelerate the transition to electric vehicles!

The 2BoSS team

2BoSS has received funding from the European Research & Innovation programme on raw materials to foster circular economy under ID:235

2BoSS consortium

Discover 2BoSS

2BoSS carries out cutting-edge materials and technology research and development, generating solutions to major challenges faced by the electric vehicles industry and focusing on:

Silicon sulfur battery
Developing and validating a silicon-lithium sulfide battery technology designed to minimize the use of CRMs, provide optimized performance, and enhance the circular use of materials.

Recycling strategies
Defining and validating effective recycling strategies that allow separation and recirculation of material resources.

Product design
Designing high performance products and their scaled-up manufacturing.

Life cycle assessment
Assessing the cost, and environmental and social life cycle impacts, as well as health and safety aspects.

Meet our partners!

2BoSS is built on a consortium of researchers and technical partners from research centres, academia, and SME that bring together expert knowledge on materials science, energy storage, environmental assessment, and business modelling, among others. It involves partners from four EU countries: **IREC** (Spain), **CEA** (France), **Politecnico di Torino** (Italy) and **Cleopa GmbH** (Germany).

Andreu Cabot
ICREA Research Professor

Paulina Martínez
Assistant Professor

Jordi Jacas
Scientific Researcher

Cristhyan Alarcón
Engineer

Chaoqi Zhang
Predoctoral Student

Pascale Chenevier
Senior Scientist in Nanosciences

Michael Carboni
Research Scientist

Denis Diengouila
Postdoctoral Researcher

Gian A. Blengini
Associate Professor

Isabella Bianco
Researcher

Amin Khoshvaght
Sustainable Consultant

Detlef Olschewski
CEO

Alessandra Manzini
Researcher in Innovation & Development

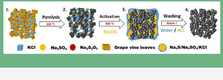
Laura Martínez
Design & Communication

Pauliina Harrivaara
Innovation Manager

Learn about our progress

WP1. Biomass-derived carbon and cathode assembly

- Biomass processing into electrically conducting porous carbon for optimized anode and cathode composites.
- In depth physicochemical characterization of the produced materials.
- Sulfur-based composites preparation and optimization as cathode materials.

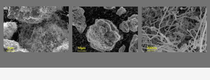


WP2. Silicon anode development

- Synthesis of silicon nanowire carbon composites
- Finding of proper electrolytes/additives/coatings for cathode and anode materials.

WP3. Battery assembly and validation

- Compatible electrolyte development with proper impurities to improve capacity and boost rate performance.



Join our events!

EU Sustainable Energy Week
June 2023

2BoSS & Robocoast Living Lab event
June 2023

MAT-SUS Symposium Barcelona
October 2023

IRTC Conference Torino
February 2024

Stay tuned on our **social media!**

Let's work together!

2BoSS brings together the knowledge of different stakeholders (industrial users, battery makers, recycling firms, manufacturers, battery European partnerships... providing a space for a multi-actor and multi-dimensional learning process. It aims to build a knowledge community with a plurality of interests, roles, and perspectives, hence keeping the 2BoSS battery development in real-life context. **Join us in the race to the next generation of batteries!**

→ acabot@irec.cat | 2boss@cleopa.de

How much do you know...?

About Lithium-Sulfur batteries?

We would like to gather feedbacks in order to prepare our first Living Lab, thus we kindly invite you to participate in one of these short surveys, whether you are an end-user of Electric Vehicles or a professional/researcher from the energy storage and battery fields. Your insights will help us to better understand the current expectations, opportunities and challenges in relation to this emerging technology.

→ Survey for end-users

→ Survey for experts & researchers

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