Click here to visit the Webversion

NEWSLETTER ISSUE 1

Welcome…

… to the NanoBat newsletter. This is the 1st edition of a series of newsletters that will be published every few months in the course of the next 2.5 years. We will introduce you to our project, show you the people behind the acronym and give you some insight into what we do and what we plan for the upcoming years.

The NanoBat project & consortium

The NanoBat project started in April 2020. It is funded by the EC under the H2020 framework programme for a duration of 36 months with the aim of reducing the environmental footprint of battery production, supporting the evolving clean energy transition and increasing the competitiveness of the e-mobility battery sector in Europe.

Find out more about NanoBat

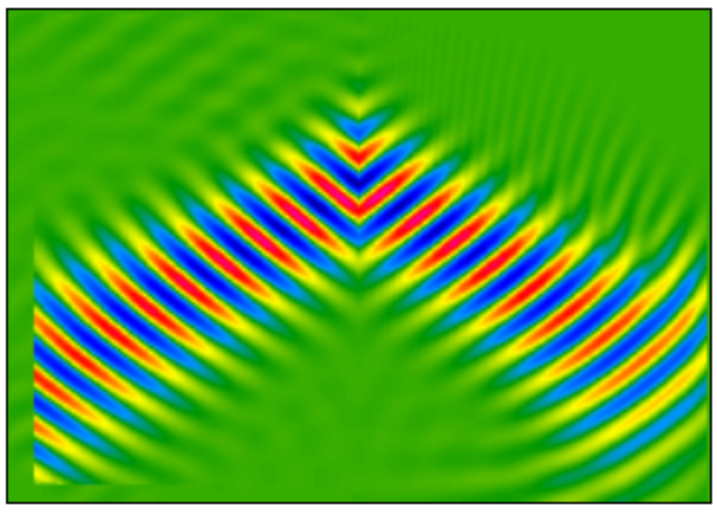
With this in mind, the 13 project partners collaborate to develop a novel nanotechnology toolbox for quality testing of Li-ion and beyond Lithium batteries which will be faster and more accurate than existing methods.

Meet our project partners

Open Access modelling platform

QuickWaveTM software by QWED has a rich history of applications with regard to the modelling of materials and material measurement test-fixtures at GHz frequencies The studies range from photonic crystals, typically obtained with nano-inclusions to the investigation heating non-uniformities in microwave applicators.
In NanoBat, not only new models for energy materials are developed, but also an Open Platform is established for teaching and diseemination purposes.

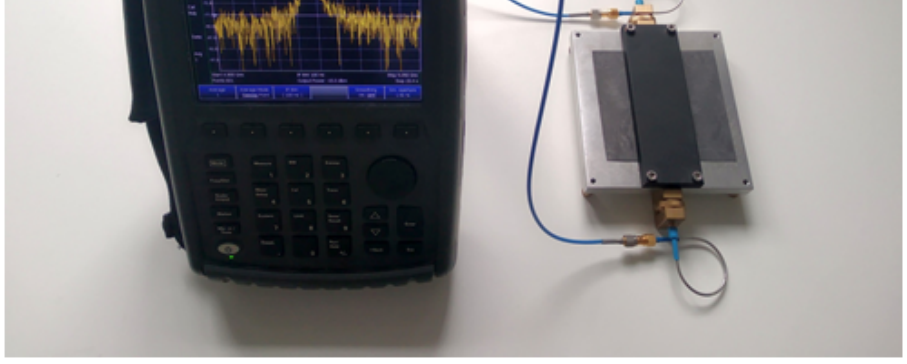
Check out QWED's modelling platform



First measurement campaign with printed layer samples

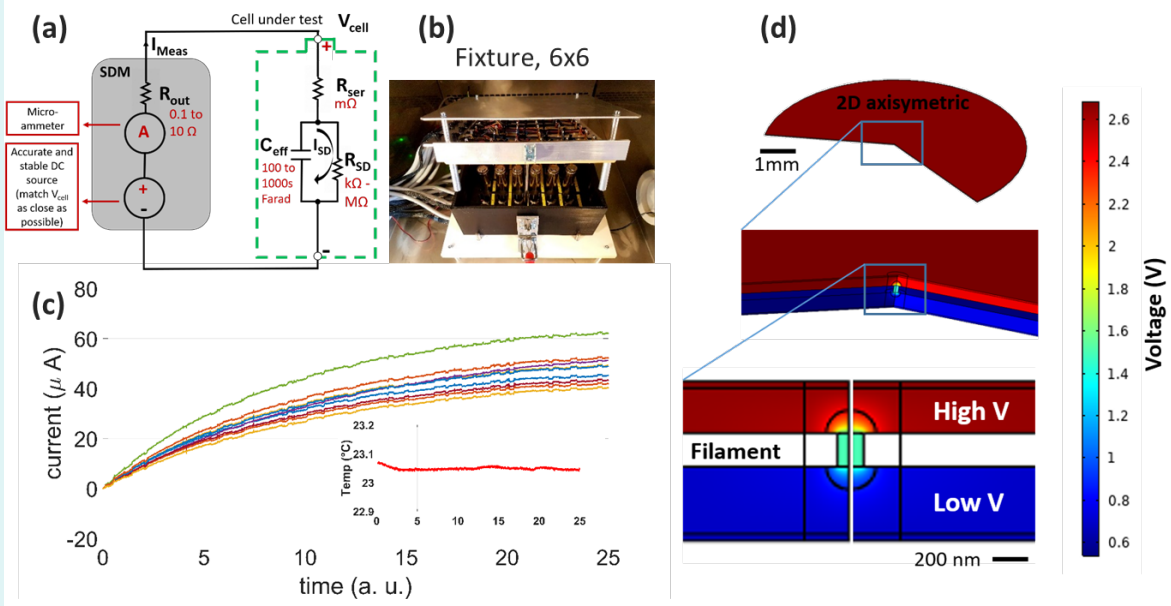
The NanoBat team at QWED has run an initial measurement campaign of NanoBat partner PLEIONE's printed layer samples. Those samples are foreseen to serve as graphene anodes in battery cells.

Visit QWED's website to find out more



Self-discharge current measurements at Keysight and JKU

To detect and model defects that can occur in battery cells, self-discharge current measurement (SDM) is applied. Several defects can appear in cells during the electrode production, electrolyte filling, defects introduced by dendrite formation, or due to formation or aging factors.
Accurate self-discharge current measurements (SDM) are performed (see Fig. a) with a 16x16 cell fixture set in a controlled ambient temperature (Fig. b) to detect the self-discharge current in cells. The cell voltage is accurately matched and kept constant during the SDM. The current fed to the battery due to the “µV to mV” drop of cell voltage is sensed and logged. Self-discharge currents from the cells measured saturate at a specific value with a time-constant that depends on the battery effective capacity and the SDM resistance values (Fig c).
A self-discharge in a battery cell due the formation of dendrites within the separator is modelled and the change in the potential distribution within the cell is illustrated in Fig. d.



MIKON conference – NanoBat was there!

With only a few conferences actually taking place on site this year, MIKON conference, which took place in Warsaw, Poland on October 5-7, 2020, was one of the rare opportunities for NanoBat to be present. And we are excited to say that it won’t be the last time. Interested to find out more?

Read about NanoBat at MIKON conference

Upcoming Events

- **1st NanoBat workshop "Nano- and microelectrochemical tools in battery research":** Throughout the project duration, NanoBat is organising workshops open to the scientific community. These events will focus on different aspects covered by the NanoBat workplan including presentations from NanoBat partners as well as external experts in the respective field.

  The 1st NanoBat workshop entitled “Nano- and microelectrochemical tools in battery research” will take place virtually on November 27, 2020.

Register now! It's for free!

We hope that you enjoyed the 1st issue of our newsletter and we look forward to sharing our exciting journey with you.

Connect with us:

Facebook **Homepage**

Contact **Privacy Policy**

The NanoBat project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 861962.