On 31.03.2025 the **"Acad. Evgeni Budevski" Institute of Electrochemistry and Energy Systems** - BAS (leading organisation) and the partners: **Joint Innovation Center** - BAS, **Institute of Engineering Chemistry** - BAS, **Institute of Catalysis** - BAS**, Institute of General and Inorganic Chemistry** - BAS, **Institute of Polymers** - BAS, **Central laboratory for Solar Energy and New Energy Sources** - BAS, **Southwest University "Neofit Rilski"**, **Association "CoC HITMOBIL"** signed an Administrative Grant Agreement (AGA) No. BG16RFPR002-1.014-0009 for the implementation of project **"Development and sustainability of the Centre of Competence HITMOBIL"** under procedure No. BG16RFPR002-1.014 "Sustainable Development of Centers of Excellence and Centers of Competence, including specific infrastructures or their associations from the National Research Infrastructure Roadmap", under the Program "Research, Innovation and Digitalization for Smart Transformation" 2021-2027, with the Managing Authority Executive Agency " Program Education".

Overall budget: 9 044 237,00 BGN

Grant: 9 044 237,00 BGN of which 6 961 665,72 BGN European funding and 2 082 571,28 BGN national contribution

Project duration: 57 months

Brief project description: The HITMOBIL Center is a research infrastructure that unites the national research potential in the field of contemporary clean energy technologies. The center has modern equipment and provides training for highly specialized personnel for industrial research and experimental development. It consists of 6 laboratories, 4 of which: "Batteries", "Photovoltaic Modules and Generators", "Hydrogen and Fuel Cells" and "Bioenergy", are an innovation hub in which proven scientific ideas are developed into laboratory prototypes. The "HIT for Energy Storage and Electromobility" laboratory is equipped with a complex hybrid energy system, battery and hydrogen electric vehicles, primarily for educational and training activities. In the field laboratory "Integrated Energy Systems" on an area of 8 decares, photovoltaic park, wind generator emulator, energy storage systems of various types, electric charging stations, green hydrogen generator and mobile hydrogen charging station are installed. Studies, analyses and demonstrations of the most suitable combinations of systems for production, storage and use of renewable energy are carried out in regard to application, scale and climatic conditions.

Main objective: through effective use of the infrastructure, conducting focused research on innovative systems for storage and use of renewable energy and electromobility in cooperation with the industry, analyzing the state of the market for research services, and expanding activities at the regional, European and international levels, to create conditions for long term sustainability of the CoC HITMOBIL and its recognition as a leading test and innovation center in the field of green energy in the region, competitive at the European level.

Specific objectives:

- ✓ Development of new energy related materials, systems and technologies through the research activities included in the Center's Work Program
- ✓ Conducting feasibility studies to analyze energy consumption in the transport sector in Bulgaria and the potential for transition to non-carbon energy solutions

✓ Implementation of large-scale projects and evaluation of their performance indicators, thus demonstrating the practical applications of research using the Center's comprehensive testing infrastructure

✓ Dissemination of research results, training in cooperation with various educational institutions, raising public awareness and interest in the new green energy solutions

✓ Increasing research capacity through staff mobility to established research centres in the EU and beyond with a similar field of activity, establishing partnerships, building international expertise and strengthening the quality of research

✓ Strengthening the research-innovation-business nexus through effective cooperation, research services, technology transfer and commercialization of research results

✓ Implementing measures to improve the legal status and increase visibility at European level through participation in the initiatives of the European Battery Alliance, the European Energy Research Alliance and the European Clean Hydrogen Partnership

Main activities:

1. Research and dissemination of scientific results
2. Construction and/or modernization of research infrastructure and equipment necessary for conducting scientific research
3. Training and mobility of researchers

Expected results: through research and innovations, implemented collaboration, demonstration and training activities, the CoC HITMOBIL will contribute to accelerated implementation of cutting-edge environmentally friendly energy technologies and systems in various sectors of the economy and public life, the integrity of the national scientific and research ecosystem, and the sustainable transition of Bulgaria to a low-carbon economy.