

StoRIES: Creating an Eco-System for Innovation in Energy Storage

StoRIES (Storage Research Infrastructure Eco-System), a €7 million worth H2020 project, coordinated by [Karlsruhe Institute of Technology](#) (KIT, Germany), will kick-off next 1st November 2021.



StoRIES will address the "European Green Deal" objective to ensure that the EU achieves climate neutrality by 2050 focusing on the energy sector, which is to be transformed with a consistent shift towards electricity generation based on renewable energies.

In particular, StoRIES will work on the development of innovative energy storage methods and on defining the current and future needs of the energy systems regarding the energy storage.

The [StoRIES consortium](#) includes a total of 17 partners, which are technology institutes, universities and industry representatives, and 31 associated participants from 17 countries. All involved entities have an extensive background in energy storage technologies (electrochemical, chemical, thermal, mechanical and superconducting magnetic storage). Two of them, the [European Energy Research Alliance](#) (EERA) and the [European Association for Energy Storage](#) (EASE), are the largest research and industry associations dealing with energy storage in Europe and they will form the core of the new ecosystem.

BENEFICIARIES

Partners and RI providers:

KIT (DE)	EDF (FR)
AIT (AT)	ENEA (IT)
CIEMAT (ES)	ENI (IT)
CNR (IT)	FZJ (DE)
CSIC (ES)	SINTEF AS (NO)
DTU (DK)	SINTEF EN (NO)

Partners:

EASE (BE)	EERA AISBL (BE)
CLERENS (BE)	UNIPG (IT)
ECCSEL ERIC (NO)	

RI providers:

CENER (ES)	CERTH (GR)
TBU (CZ)	CICe (ES)
TNO (NL)	CyI (CY)
BGS (UK)	FHa (ES)
BRGM (FR)	HSLU (CH)
ISTO (FR)	HMU (GR)
SOTACARBO (IT)	IREC (ES)
EMPA (CH)	KTH (SE)
LUT (FI)	LNEG (PT)
RSE (IT)	NIC (SI)
UNIBO (IT)	UDL (ES)
UNIPA (IT)	UoB (UK)
UNIPD (IT)	RINA (IT)
VTT (FI)	

Linked Third parties:

IFE (NO)	RTE (FR)
HVL (NO)	



The main task of StoRIES is to bring together scientific institutions, such as technology institutes and universities, with industrial partners in order to jointly develop storage solutions for new technology and energy markets. According to the project coordinator, Stefano Passerini, the focus is on transdisciplinary cooperation: "The pooling of know-how within science and industry opens up synergies that are often underestimated. At the same time, we would like to make energy storage research more holistic and add socio-technical and ecological aspects. With the European Green Deal until 2050, politics gives us an immense homework that we can only manage together."

StoRIES will offer training for industry and research institutions as well as courses for young scientists developing the innovative hybrid solutions of the future. The purely technical training around energy storage systems is to be complemented by the ecological, legal, economic and social aspects surrounding energy storage systems. StoRIES intends to break down the barriers between research fields that today often operate in a very closed manner in order to enable mutual understanding and cooperation. The [ecosystem of experts](#) from different energy, social, and economic research, industry and consumer representatives is intended to outlast StoRIES and enable an effective and sustainable exchange on the topic of energy storage.

The most important technological goal of StoRIES is the development of future energy storage systems of all kinds. Through shared access to [64 world-class research infrastructures](#) and services gathered in StoRIES, the aim is to drive research and innovation. Energy storage is essential for the energy transition; but no single storage technology available today that can meet this challenge on its own. Rather, a combination of different energy storage technologies is required to deliver the expected performance in terms of capacity, flexibility and sustainability. The StoRIES consortium brings together all the main areas of energy storage research that will focus on the hybrid solutions idea.

To optimise hybrid energy storage solutions, StoRIES will focus on improving material properties for current and future applications. A system of modern supercomputers, automation technologies and the use of artificial intelligence (AI) will enable targeted material development for innovative energy storage devices. Such joint platforms will make the energy storage research more efficient, sustainable and cost-effective, but the goal is also to shorten the development times for new technologies by a factor of 10, to bring new innovations to market faster, so that renewable energy technologies also become competitive more quickly.

In StoRIES, new materials, devices and technologies will be analysed with respect to the socio-technical and ecological aspects. StoRIES will promote a fair transition to carbon neutrality by supporting the product development process, especially in the early stages of design, and aiming to optimise the use of raw materials and increase recyclability. This will help to reduce environmental impacts and maximise social benefits. Issues of public approval, regulatory frameworks and economics for the application of the new solutions will be analysed, the ways to unlock the potential of energy storage will be explored and the bottlenecks that prevent this will be identified.