= iSTORMY =

EUROPEAN COMMISSION

HORIZON 2020 PROGRAMME – TOPIC: Hybridisation of battery systems for stationary energy storage

Interoperable, modular and Smart hybrid energy STORage systeM for stationarY applications

GRANT AGREEMENT No. 963527



Deliverable Report

D2.3 – Hybrid battery pack prototype





Deliverable No.	iSTORMY D2.3	
Related WP	WP2	
Deliverable Title	Hybrid battery pack prototype	
Deliverable Date	31-05-2023	
Deliverable Type	Other (Prototype + Report)	
Dissemination level	Confidential – consortium members only (CO)	
Written By	Miguel Encabo (CEG)	25-05-2023
Checked by	Erik Hoedemaekers (TNO)	26-05-2023
Reviewed by	Tim Meulenbroeks (TNO)	26-05-2023
Approved by	Project Coordinator (VUB)	30-05-2023
Status	Final	31-05-2023

Disclaimer/ Acknowledgment



Copyright ©, all rights reserved. This document or any part thereof may not be made public or disclosed, copied or otherwise reproduced or used in any form or by any means, without prior permission in writing from the iSTORMY Consortium. Neither the iSTORMY Consortium nor any of its members, their officers, employees or agents shall be liable or responsible, in negligence or otherwise, for any loss, damage or expense whatever

sustained by any person as a result of the use, in any manner or form, of any knowledge, information or data contained in this document, or due to any inaccuracy, omission or error therein contained.

All Intellectual Property Rights, know-how and information provided by and/or arising from this document, such as designs, documentation, as well as preparatory material in that regard, is and shall remain the exclusive property of the iSTORMY Consortium and any of its members or its licensors. Nothing contained in this document shall give, or shall be construed as giving, any right, title, ownership, interest, license or any other right in or to any IP, know-how and information.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 963527. The information and views set out in this publication does not necessarily reflect the official opinion of the European Commission. Neither the European Union institutions and bodies nor any person acting on their behalf, may be held responsible for the use which may be made of the information contained therein.



Publishable summary

Based on the specifications defined in the project, obtained from the results of the system modeling, the batteries that make up the hybrid storage system are developed and manufactured.

This hybrid system consists of two types of batteries, one for energy and one for power:

The energy battery is composed of 7 modules with 7.7 kWh of energy and the power battery is composed of 20 modules of 2.5 kWh, so that the demonstrator is formed by approximately 50% of each battery type. Each group of batteries is controlled by a control and protection system and both will be connected to the power electronics for optimized management.

This document gives an overview of the prototypes manufactured.



Acknowledgement

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

Project partners:

#	Partner short name	Partner Full Name	
1	VUB	VRIJE UNIVERSITEIT BRUSSEL	
2	PWD	POWERDALE	
3	CEG	CEGASA ENERGIA S.L.U.	
4	CEA	COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	
5	MGEP	MONDRAGON GOI ESKOLA POLITEKNIKOA JOSE MARIA ARIZMENDIARRIETA S COOP	
6	ZIG	ZIGOR RESEARCH & DEVELOPMENT AIE	
7	EDF	ELECTRICITE DE FRANCE	
8	TNO	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO	
9	PT	PRODRIVE TECHNOLOGIES BV	
10	GW	GREENWAY INFRASTRUCTURE SRO	
11	AIT	AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH	
12	UNR	UNIRESEARCH BV	



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 963527