

Deliverable D9.2 Dissemination, Communication and Exploitation Plan

Rita Clancy EURIDA



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Horizon Europe. Neither the European Union nor the granting authority can be held responsible for them. No 101092080



Grant agreement Number	Project 101092080 — MUSIC	
Deliverable No.	MUSIC D9.2	
Related WP	WP 9 – Project Management & Scientific Coordination	
Deliverable Title	Dissemination, Communication and Exploitation Plan	
Deliverable Date	2023-06-30	
Deliverable Type	R – Report	
Dissemination level		
Written By	Rita Clancy (EURIDA)	2023-06-12
Checked by	Jon Ajuria (CICE)	2023-06-19
Reviewed by (if applicable)		
Approved by	Ignacio Castillo (CIC energiGUNE)	2023-06-30
Status	Final	2023-06-30

Disclaimer / Acknowledgment



Copyright O, 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 MUSIC Consortium. Neither the MUSIC 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 MUSIC 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 Europe programme for research and innovation under grant agreement No. 101092080. This document reflects the views of the author and does not reflect the views of the European Commission. While every effort has been made to ensure the accuracy and completeness of this document, the European Commission cannot be held responsible for errors or omissions, whatever their cause.





Publishable summary

This document provides the basis for MUSIC outreach and exploitation activities by (i) outlining the MUSIC dissemination, exploitation and communication strategy, by (ii) defining the communication and exploitation roles and responsibilities and (iii) by summarising the contractual requirements as set out in the Grant Agreement (GA), complemented by the Consortium Agreement (CA).

This Dissemination, Communication and Exploitation Plan (DEP) complements deliverable D9.1 *MUSIC online presence and visual identity kit*, submitted on 30th March 2023, which focused on the part of dissemination and communication that deals with visual ID and branding, social media activities and associated roles and responsibilities.

This DEP presented in this deliverable report will be further advanced throughout the project term and used as a working document until the end of MUSIC and beyond. The resulting advanced DEPs will apply the strategy and principles outlined in this deliverable to verified project results and outputs achieved during the term of MUSIC. This will allow for the systematic implementation of the MUSIC outreach strategy throughout the project.

The advanced DEP will further include detailed timelines, dissemination channels, exploitation roadmaps and selected events and networks at work package, deliverable and milestone level and define partners' responsibilities at task level for each project period.

The advanced DEP will be continuously assessed for its effectiveness and adapted as the project progresses. To this end, Key Performance Indicators (KPIs) will be defined for the key activities in dissemination, communication and exploitation, which will serve as benchmarks for success and failure of implemented and planned measures.

This will build the basis of the MUSIC dissemination and communication action plan and the exploitation roadmap. The DEP will provide the framework of what will be disseminated why, to whom, how and when and will define the:

- Dissemination and communication aims, target groups and appropriate formats;
- Strategy, content and timeline of the dissemination and publicity measures;
- Responsibilities for the implementation of the dissemination and publicity measures;
- The overall MUSIC exploitation strategy and project results that may be subject to exploitation
- Evaluation concept for dissemination, publicity and exploitation measures

The DEP will ensure that all project partners have a joint idea and understanding of dissemination and exploitation, and the IP protection measures.





Contents

1 Di	issemination, communication and exploitation in MUSIC	6
1.1	The overall MUSIC dissemination, communication and exploitation strategy	6
1.2	The MUSIC terminology	7
1.3	The MUSIC key stakeholders and target groups	8
1.4	The MUSIC dissemination and communication strategy	8
1.4.7	1 Goals and objectives	9
1.4.2	2 Strategy focus throughout the project phases1	0
1.4.3	3 MUSIC Key messages for the wider public1	1
1.4.4	Dissemination and communication target groups and tailored messages and content1	1
1.4.	5 Plan for the dissemination of MUSIC results1	2
1.4.6	6 Plan for the communication of MUSIC1	5
1.4.7	7 Plan for the exploitation of MUSIC results1	7
1.4.8	8 Financing avenues for exploiting MUSIC2	0
1.4.9	9 Key Exploitable Results and initial exploitation plans – MUSIC partners2	0
2 Ro	oles and responsibilities2	2
	egal obligations and requirements for dissemination, communication and exploitation (as pe Agreement Article 17 and Annex 5)2	
3.1	Communication – Dissemination – Promoting the action2	2
3.2	Visibility – European flag and funding statement2	2
3.3	Quality of information – Disclaimer2	3
3.4	Open Science	3
4 A	cknowledgement2	5
5 Aj	ppendix A – Quality Assurance2	6





List of Figures

Figure 1 MUSIC dissemination and communication goals	9
Figure 2 MUSIC Overall Exploitation Road Map	.18

List of Tables

Table 1: MUSIC Key Exploitable Results	21
Table 2: Project Partners	25





1 Dissemination, communication and exploitation in MUSIC

MUSIC will create a first lab prototype (TRL6) of a novel supercapacitor technology based on advanced materials. The project will further set benchmarks and standards which will live on after the project ends.

To be able to stimulate the emergence of a European innovation ecosystem around supercapacitors, well beyond the world of research alone, it is essential to ensure that the widest possible group of stakeholders is reached with the results and products of MUSIC.

To achieve this goal, the draft plan for the dissemination, communication and exploitation (DEP) as presented in the project Grant Agreement and Descriptions of Action (DoA) has been elaborated and developed into an Advanced DEP at the start of MUSIC and is presented in this deliverable report. The Advanced DEP will be continuously assessed and adapted as the project progresses.

The DEP provides the strategic framework of what will be disseminated and exploited why, to whom, how and when and describes the:

- Dissemination and exploitation aim target groups and appropriate formats;
- Strategy, content and timeline of the dissemination and exploitation strategy and publicity measures;
- Responsibilities for the implementation of the dissemination and exploitation measures;
- Evaluation concept for dissemination and exploitation measures.

The DEP will ensure that no ad hoc dissemination, communication or exploitation activities will occur, but that all project partners have a joint idea and understanding of strategic dissemination and exploitation, and the Intellectual Property (IP) protection measures throughout MUSIC. As Intellectual Property Right (IPR) issues will have to be respected, dissemination activities will be designed and implemented in close cooperation with the consortium partners that individually or jointly created knowledge and results and that are responsible for their exploitation.

Activities in MUSIC are based on the principles of Responsible Research and Innovation (RRI). This is one of the key priorities in the 'Innovation Union' Flagship Initiative of the European Commission which aims to maximise projects' impacts by engaging the civil society in Research and Innovation activities and making know-how as openly accessible as possible to wide user groups.

1.1 The overall MUSIC dissemination, communication and exploitation strategy

MUSIC targets advanced materials for novel supercapacitors (SIC) with the overall goal to achieve a technology that reaches an energy density comparable to that of power batteries, but still recharges within a few seconds and offers a long cycle life with minimum efficiency loss over time. These new supercapacitors will be of high relevance for a range of





application sectors, among them transport, industrial machinery, renewable power and the grid as well as consumer electronics.

While it is essential to ensure that the widest possible group of stakeholders is reached with the results of MUSIC to secure the biggest possible scientific, economic and societal impact in Europe, MUSIC SICs clearly have a strong market potential. To secure this market potential and the future commercialisation of SICs in Europe, newly created and previously existing intellectual property will have to be protected. Therefore, dissemination activities will be designed and implemented in close cooperation with the exploitation partners who are responsible for exploiting the SICs after the project end (Beyonder), who are implementing the MUSIC use case 'Electromobility' (Talgo) and all private sector and public partners who will exploit innovation along the MUSIC value chain, either as products or services or as novel technology that can be licensed out. No dissemination or communication of results may take place before a decision is made regarding their role in the exploitation plan and the possible protection through IPR. In advance of any dissemination, communication and exploitation activity all project partners have therefore to be contacted for their authorisation. The MUSIC dissemination, communication and exploitation will oversee the action.

Dissemination, exploitation and communication activities in MUSIC are based on the principles of Responsible Research and Innovation/RRI. This is one of the key priorities in the 'Innovation Union' Flagship Initiative of the European Commission which aims to maximise projects' impacts by engaging the civil society in Research and Innovation activities and making know-how openly accessible to wide user groups.

Dissemination, communication and exploitation activities are targeted at well identified groups with appropriate and well-defined goals as outlined in the following plan for the dissemination, communication and exploitation of results. Activities and means are chosen based on these goals and are divided in 'dissemination and communication' and 'exploitation' activities.

1.2 The MUSIC terminology

In line with the European Commission's understanding and the rules and obligations to promote the project, its actions and its results by providing targeted information to multiple audiences (including the media and the public), in a strategic, coherent and effective manner, MUSIC uses the following definitions for the terms 'dissemination', 'exploitation' and 'communication':

- Dissemination' is defined as the one-way sharing and transfer of results to indentified users of MUSIC results and peers from research, technology, industries, regulations and standardisation and policy. It involves conveying information, data and knowledge through publications, presentations at conferences, social media, the project website, and similar dissemination channels. The language is mostly scientific and content and materials show deep scientific and/or technological details.
- Communication' is defined as two-way activity, targets a more intense knowledge exchange, discussions with a wide range of stakeholders and focuses on project processes, challenges, opportunities and impact rather than on scientific or technological results. Communication involves channels and means like workshops, round-tables, stakeholder meetings and panel discussions. The used language is less





scientific than for dissemination activities, so non-experts can understand project concepts and results. Content and materials are tailored for a non-scientific community and include visuals, comics and elements of story-telling.

'Exploitation' is defined as the use of results in commercial products or services, further research, development and/or innovation activities after the end of MUSIC, the scale-up of processes, or standardisation activities. Actions cover the use of results either via commercial routes or as knowledge exploitation, for example as input for policymaking or for future standards. Exploitation activities include results and innovation screening, managing intellectual property, building exploitation pathways and business plans.

1.3 The MUSIC key stakeholders and target groups

MUSIC aims to maximise its impact by knowing the project's target groups and potential users and understanding their needs. MUSIC has a wide variety of stakeholder groups, among them industrial end-users deploying SICs for mobility, grid, power and industrial applications, scientists, investors, policy makers, regulators, suppliers, civil society and citizens. MUSIC fosters stakeholder relationships to understand their different interests and requirements through regular and systematic forms of dialogue: i.e. meetings, conferences, workshops, and a demonstration round at the end of the project to boost future application potentials. By including stakeholders' knowledge and concerns, engaging in serious discussions, and striving for transparency in all activities, MUSIC aims to develop innovation that - although being at lower TRL levels - meets the demands of the industry and therefore maximises the chances for future market uptake.

A thorough stakeholder analysis provides the basis for all activities aimed to maximise MUSIC's impact and serves as the foundation for the project's dissemination and communication plan as presented in this report and annual activities.

The most important stakeholders sub-divided into their levels of influence and interest in MUSIC are:

- Key Stakeholders: Industries and end users of the target applications (mobility, power & grid, industrial machinery, consumer electronics), networks and expert communities in supercapacitors and batteries and their advanced materials, related projects, EU stakeholder platforms, technology investors and suppliers.
- Facilitators or risks: Policy makers, regulatory and standardisation bodies, competitors.
- Multipliers & wider target groups: Scientific community, technology platforms, specialised media, interested citizens.
- **Potentially interested parties**: Potential end-users (outside the MUSIC immediate target sectors), general media, passive citizens.

1.4 The MUSIC dissemination and communication strategy

The main approach towards dissemination is the use of research results generated during the project to create value within the supercapacitor and energy storage communities and initiatives in the EU. This includes the scientific and technology expert communities as well as related industries, policy, standardisation and other peers in the field or specific technology aspects.





This approach ensures that public funding will result in strong progress and a competitive position of European innovation and industries as key players in the global marketplace. In line with the nature of each partner, their roles and dissemination activities will be designed and tailored during the project.

The MUSIC communication strategy aims to intensify stakeholder dialogues with industries, end-users, and the general public to increase the visibility of and acceptance towards innovative energy storage and SCs for industry, grid, and transport applications, gathering and understanding requirements, opinions, expectations and ideas, and considering these in project concepts and activities. This approach is based on innovative Open Science concepts that put stakeholder, end-user and citizen involvement and dialogues at the centre instead of one-way technology transfer, and the principles of Responsible Research and Innovation (RRI).

1.4.1 Goals and objectives

The immediate goals and objectives of MUSIC dissemination and communication can, depending on the project phase the activities are planned for, be summarised as shown in Figure 1.

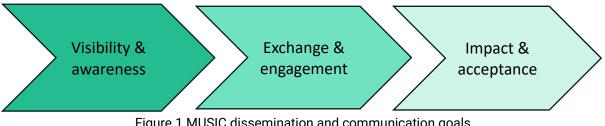


Figure 1 MUSIC dissemination and communication goals

In a longer term, the outcomes expected from dissemination and communication activities can be summarised by impact and/or target group:

Visibility and exchange for applicability and industrial feasibility

Although working at lower TRLs (TRL3-6), MUSIC puts a strong focus on disseminating and communicate project results and newly created know-how to and with commercial endusers, technology adopters and potential investors for future market uptake.

A specific communication objective in MUSIC is to intensify stakeholder dialogues with the aim of gathering and understanding needs, expectations and ideas, and considering these in project concepts and activities. A number of the key stakeholders 'industries' and 'end users' are already members of the MUSIC consortium (Beyonder, E-LYTE, Talgo) and an (Industrial) End User Panel will be established which guarantees a demand-driven innovation approach throughout all phases of the project.

S Knowledge exchange for a European SIC ecosystem

Engaging with the scientific community, especially with other funded projects in the field of supercapacitors and advanced energy storage materials will be crucial for knowledge exchange and increase the project's impact with regard to transferring know-how beyond the project's own community. In return, new perspectives from innovators in the field can be included in MUSIC concepts and activities.

Communication and engagement for public acceptance

As MUSIC in their target applications touches the consumer-sensitive areas of mobility, energy and consumer products, engaging with the public will generate trust among future



end users, consumers and the wider public and remove potential barriers to acceptance. This aspect is of particular importance as ethical concerns towards artificial intelligence, data confidentiality, privacy and digital security have led to controversial discussions, including concerns about the transparency of citizens and consumers.

In a nutshell, the specific objectives of all dissemination and communication tasks within MUSIC are:

• Enhance the project visibility at the local, national and international level

Show how outcomes are relevant to public, e.g. by creating jobs, positive environmental impacts

➡ Work towards a strong European energy storage community and supercapacitor ecosystem and the knowledge base on SICs for mobility, transport and other applications via targeted knowledge and data transfer

Ensure that the project results are taken up by decision-makers to influence policymaking, by industry to secure market uptake and sustainable growth of the European energy storage sector

Connect with the scientific community to ensure intense knowledge exchange and project follow-up

Contribute to skills development of a future research and innovation workforce via trainings and seminars

Maximize support and acceptance and minimize risks towards project outputs via stakeholder and public engagement

1.4.2 Strategy focus throughout the project phases

Within the first six months of the project, the focus in our strategy has been put on raising awareness about our project within the scientific and technology community that is relevant for MUSIC as well as to inform interested citizens and policy makers about our activities, aims and expected results and outcomes. This aim has been achieved by establishing the project's online presence (e.g. project website and social media presence) and by introducing MUSIC to the energy storage and supercapacitor community. The MUSIC online presence and visual ID as key component for dissemination and communication is described in detail in deliverable report D9.1 'MUSIC Online Presence and Visual Identity Kit' (submitted on 30th March 2023), which complements this deliverable report D9.2.

After the end of the first project year the focus of dissemination and communication will shift more and more towards sharing and presenting results in conferences and publications (dissemination) and discussing results alongside critical issues and impacts with the scientific and non-expert community (communication).

In the final project phase (M37-M48) the focus will be put on knowledge transfer towards technology adopters, policy input via policy briefs and other proven formats and intense dialogues with the dedicated end user panel, which will culminate in a demonstration round of MUSIC SICs in the final month of the project.





1.4.3 MUSIC Key messages for the wider public

Effective dissemination and communication strategies require a clear idea about the key messages that wish to be conveyed to the stakeholders. MUSIC has identified the following messages for the first period of the project. As the project progresses and expected results are achieved or unexpected results or challenges or development in the scientific or industrial ecosystems occur, additional key findings, messages and lessons learnt will be identified, formulated and shared with suited target groups.

- Key Message #1: MUSIC supercapacitors as innovative energy storage solutions alternative and/or complementary to batteries, and their contribution to a European net zero industry and transport.
- Key Message #2: End-user applications of MUSIC SICs 'passenger electromobility', 'hydrogen mobility' and 'renewable energy' and how SICs aim to reach required performance and cost targets.
- Key Message #3: MUSIC SIC performance parameters and how they compare to stateof-the-art.
- Key Message #4: Novel advanced materials used for MUSIC SICs and expected sustainability performances.
- Key Message #5: Smart Management Systems, LCA and recycling pathways as innovative components that come with MUSIC SICs and how they increase their industrial applicability.
- Key Message #6: MUSIC synergies with European projects and initiatives, such as the EU Graphene flagship, and how the collaboration can drive EU energy transition.

In addition to those messages, outreach and will aim to promote project publications, conference participation and MUSIC events.

1.4.4 Dissemination and communication target groups and tailored messages and content

Based on the stakeholder analysis results shown in Section 1.3 a range of key audiences and target groups have been identified for dissemination and communication activities with defined objectives, tailored content and expected benefits per stakeholder group.

Target Group	Reason for outreach and expected benefit			
SIC Manufacturers	Raise awareness and transfer knowledge about novel carbonaceous materials, electrolytes, and proven concepts for SICs (e.g. pre-sodiation) with superior performances, especially in energy density terms.			
LIC Manufacturers	Transfer results about innovative management system designs, incl. H/W and S/W development based on refined experimental protocols.			
	Introduce novel SIC concepts without use of CRMs for improved sustainability of products.			
Car Manufacturers – Electric Vehicles	 Increase visibility of SICs as aid technology for acceleration, kinetic energy recovery when braking or start-stop systems in EV improving LIB cycle life. 			
Transport sector (electrified buses, trams and trains,				
heavy-duty vehicles) Share knowledge and demonstrate how SICs can result in lower vehicle weight, increase fuel efficiency, and reduce CO2 emissions.				
Fuel cell vehicle (car,	Share knowledge about how SICs can help to improve existing			
train, forklift, heavy	train, forklift, heavy disadvantages in fuel cells (they cannot utilize regenerative energy, have			
duty machinery)	slow response to load fluctuations and cannot accelerate as EVs do) t by			
manufacturers	using SICs in combination with FCs.			





Renewable, power	Show how SICs can help control emergency power fluctuations in the wind		
generation and grid	sector and can increase energy harvesting of solar farms.		
	Knowledge transfer on how SICs can help power grids to operate at full		
	capacity which is currently limited to 85 % because of power burst lack of		
	batteries.		
Consumer	Share knowledge about how SICs could improve volume and weight of		
electronics/IoT	consumer electronics such as laptops, mobile phones, wearable		
	electronica, LED flashlight RFID tags, owing to their higher gravimetric and volumetric performance.		
Industrial Machinery	Show how novel supercapacitors with higher energy can be used as storage		
	system for elevators, cranes etc.		
Composites	Share information about market applications for recycled carbon fibres.		
community			
Policy Makers	Share key findings, provide evidence and give recommendations to public		
	strategies and policies for novel supercapacitors as important contributors		
	for the decarbonisation of transport and for increasing the shares of		
	renewables in various sectors.		
Investors	Raise awareness about investment options in novel and sustainable		
	industrial value chains for SICs and target applications in Europe.		
Citizens and civil	Raise awareness and achieve an improved understanding of the benefits of		
society	sodium-ion capacitors as sustainable technology for mobility and energy		
	transformation, resulting in a wider public acceptance of SICs.		

1.4.5 Plan for the dissemination of MUSIC results

1.4.5.1 MUSIC dissemination channels, media and materials

Website, blog and social media.

To ensure an immediate visibility of the project, a project website has been set up in M1 of the project. It will continuously be maintained and extended. A blog will be created to inspire and facilitate continuous interest and dialogue in the MUSIC project. Contributors will be members of the consortium and experts within the field. Social media campaigns, e.g. via LinkedIn, Twitter, and ResearchGate will complement the online presence of the project.

Newsletter/e-Bulletin.

For the interested public there will be a newsletter, delivered on a semi-annual basis starting in month 6 (if appropriate the frequency will be increased to quarterly). The newsletter will, among other relevant issues, contain information on achievements in the project, reports from conferences and announcements of upcoming events and end-user engagement events. The newsletter will also be published on the website.

Leaflet, poster & brochures.

Leaflets, brochures and posters with details on the project and contact information will be produced. The material will also be placed on the website for download. A first set of digital brochures and flyers will be developed by M9 the latest and made available for download from the project website, aiming to raise awareness among the target groups and end-users. A second set of brochures (digital and print) will be designed once relevant project results will be available (between M24 and M36) with first publishable results, a third set towards the end of the project (M46), highlighting the project achievements and future applications for MUSIC technology.





1.4.5.2 MUSIC dissemination by specific stakeholder groups

Dissemination to the scientific community – conferences and publications

Publications

MUSIC partners are expected to publish their work and results (unless results are flagged for IP protection) in peer-reviewed scientific journals or disseminate them as patent applications. All scientific articles will be published via Open Access using 'Gold' access and deposited in digital repositories linked to OpenAire (institutional or Zenodo). That way scientific content and underlying data will be accessible and usable free of charge straight after publication. In addition, open access publications will be made accessible via ResearchGate and the project website as download. Knowledge and data flagged by the Exploitation and IP Manager or by partners as IP sensitive and 'confidential' will be assessed and, if deemed relevant for exploitation, excluded from publications. Realistically, about 1-2 publications can be expected for the first year of MUSIC. For the remaining project phases, at least 6-8 publications per year are anticipated. Relevant peer reviewed scientific journals, available as Open Access, include:

- Power Sources
- Advanced Energy Materials
- Energy Storage Materials
- Nature Sustainability
- Electrochemical Society
- Electrochimica Acta
- Journal of Materials Chemistry A
- Energy & Environmental Science

Potential content for scientific publications has already been identified per partner and compiled in a preliminary list which will be assessed and updated if required by MUSIC partners:

Responsible partner	Possible content for publishing	
CICE	Materials development and interface characterizations, components processing and SIC performance, post-mortem analysis.	
KIT	Sustainability aspects of new materials and SIC cells and potential application fields. New polymeric binders and electrode processing methods.	
CNRS-IMN	New materials for pre-metalation strategies influence of activation treatments on carbon fibers performance, in-situ/operando investigations of Na-ion capacitor cell.	
JVI	Use of recycled CF for other type of applications than for composites applications.	
FSU	Development of electrolytes and interface characterizations, SIC performance and post-mortem.	
ELY	Development of novel electrolyte components and additives for the use in SICs (except IP-sensitive results)	
BYD	SIC development and large-scale production (except IP-sensitive results).	
BCARE	Experimental protocols and diagnosis models for LIC/SIC regarding SoC and SoH estimation,	
UPS	Development of the dilato-eqcm setup and new polymeric binders and novel electrodes.	

Conferences, symposia and other events with science and technology focus

To increase the project visibility and to extend the project network beyond the consortium, MUSIC results will be presented at relevant conferences and fora. Applying for dedicated sessions on project topics will be assessed for selected events. Conferences that have been previously identified for participation are listed below and will be selected and other conferences added as the project progresses:





- International Symposium on Enhanced Electrochemical Capacitors (ISEECAP)
- International Society of Electrochemistry (ISE)
- The Electrochemical Society (ECS)
- Materials Research Society (MRS)
- Power our Future (POF) conferences
- Ecobalance
- Electrochemical Society
- MRS
- Battery2030plus
- BEPA
- The Battery Show Europe
- AABC Europe
- GrapheneCore3
- MoMa-STOR, HEROES and LOLABAT workshops

During the first six months of the project MUSIC partners have attended the following conferences:

Conference	Partner and contribution
17th Society and Materials Conference	KIT, MUSIC Poster
May 9-10, 2023, in Karlsruhe, Germany	
Materials Research Society Spring Meeting	CICE, MUSIC Presentation
April 10-14, San Francisco, USA	

Control Con

MUSIC will proactively exchange knowledge with and towards the supercapacitor and related communities, including relevant European Technology Platforms, clusters and knowledge groups. Knowledge exchange activities planned here are complementing actions described therein.

Initiatives that are of particular interest are:

- Alistore-ERI
- COIMBRA
- EU Stories
- EUNIWELL
- EERA Energy Storage
- BEPA
- European Battery Alliance
- Battery 2030+
- Batteries Europe

Further platforms will be researched and addressed during the course of the project.

Providing a knowledge base for policy makers and regulators

Actions planned in the scope of policy input will entail knowledge exchange and policy recommendations based on MUSIC findings to lower potentially existing obstacles for mature SIC technologies on the way to market, e.g. due to existing knowledge gaps, generally conflicting or unsuitable regulations or the lack of European standards. Activities will be targeted towards policymakers at various levels of government. This includes, depending on the level of knowledge to be provided, policy makers at international, national, regional and local levels. Where possible MUSIC will also consider targeting intermediaries with policy-related information, such as expert groups, Innovation Hubs or clusters, and stakeholder platforms that involve policy makers (e.g. the EU stakeholder





platforms listed above). MUSIC will also target mass media, Research and Technology Organisations (RTOs) and individuals with good multiplier capacities for policy making. Policy Briefs will be utilized as a proven means of knowledge provision for policy makers.

1.4.6 Plan for the communication of MUSIC

MUSIC aims to intensify stakeholder dialogues with industries, end-users, related projects and initiatives and the general public to increase visibility of and acceptance towards innovative energy storage and SCs for industry, grid, and transport applications, gathering and understanding requirements, opinions, expectations and ideas, and considering these in project concepts and activities. This approach is based on innovative Open Science concepts that put stakeholder, end-user and citizen involvement and dialogues at the centre instead of one-way technology transfer, and the principles of Responsible Research and Innovation (RRI).

The following materials, channels and formats for communication and stakeholder engagement are planned:

1.4.6.1 MUSIC Communication materials

MUSIC plans to develop content, visuals, short videos and other communication material that translates technical aspects into easy-to-understand content:

Materials will include:

- A Comic on SIC technology, in which our hero 'SuperSIC' helps batteries and SCs for efficient development of EV and FCV, renewables, and grid for climate neutrality).
- Fact Sheets in which technical knowledge is presented and visualised in nontechnical language, highlighting selected aspects of MUSIC
- **Videos** which explain the MUSIC concept, target applications, expected societal and economic impacts and other aspects that are in accordance to our key messages listed in Section 1.4.3.
- **Press releases** about key achievements and milestones within the MUSIC project.
- Various content, including short news items and snippets, graphic presentations of MUSIC aspects and short clips.

1.4.6.2 MUSIC Communication channels and formats

Channels for communication will be selected according to the target groups that shall be reached in each communication activity and include:

MUSIC website

The MUSIC Project website is a channel and meeting place for all stakeholders, including the media and general public. It is the entry point for external stakeholders to look for general project information, its concept and goals, specific activities, results and events. It will further make project materials easily accessible and that way serves as public digital repository for a wide audience.

Social media channels

Similar to the project website, MUSIC's social media accounts will serve as channels with a wide reach towards multiple stakeholders. Twitter, LinkedIn and YouTube are at the centre of MUSIC social media activities and respectively allow to convey different types of messages, visual materials and videos (esp. YouTube) -as a repository of videos and with a more general audience reach- have been identified as the most appropriate.

Ceneral media

To reach a wide general public, MUSIC will contact the general media via press releases and target broadcasts on national TV and radio. The overall responsibility will lie with the





coordinator CICE, but also individual media campaigns will be organised in the MUSIC consortium partner countries through the respective partners. At the project end a larger campaign is planned with a comprehensive promotional video, a project documentary of sorts. As media partner, MUSIC will approach the Horizon science format 'Futuris', which is developed and broadcast in cooperation with Euronews.

Public events

Alongside scientific conferences and for a that target an expert audience, MUSIC will organise and participate in public and impact-focused events. Aim is to connect with non-expert stakeholders such as policymakers, civil society and NGOs, and the wider public. This type of events will also allow to engage with science, technology and industry stakeholders who come from disciplines other than energy storage and supercapacitors, which will be relevant for increasing the impact that MUSIC results have beyond its own community and to access external knowledge that could be of relevance for MUSIC. Public events will include Open Days at partner organisations, the European Researchers Night, the European Sustainable Energy Week/EUSEW and other formats like the EU Citizen Hacks.

C Inter-project exchange

Complementing the dissemination activities towards the scientific target groups, MUSIC will organize meetings and knowledge exchange with EU funded projects, national initiatives and/or clusters or stakeholder platforms to discuss selected critical topics in the field of supercapacitors or energy storge. Those aspects can include technical or scientific questions, challenges and breakthroughs as much as transversal issues like standards, regulations, applicability or user acceptance.

C Industrial End-user Panel

The planned panel aims to be a consultative body of end-users to identify and discuss industry priorities, concerns, market needs, and barriers for the scale-up and market introduction of MUSIC supercapacitors. Envisaged members for this Panel will go beyond the MUSIC key target sectors of transport and renewable energy and comprise representatives of grid applications, the industry 5.0 (human-robot interaction), industrial machinery (elevators, cranes etc.), and the medical and care sector (electrified medical devices). The Industrial end-user Panel will help MUSIC to formulate sound exploitation and follow-up strategies for SICs and further, be a crucial part of the MUSIC risk contingency plan that will allow to collect more comprehensive data for the sustainability assessment. Potential members will be reached through the project partner network. To facilitate the participation of panel members various ways of communication (*e.g.*, virtual meetings, demonstration rounds and face-to-face during project progress meetings near their home locations) will be offered.

C Training and skills development

MUSIC will contribute to creating a future workforce for the highly innovative field of SICs, to skills development and sharing best practice with energy storage value chains, and to overcome the risk of a local skills gap in emerging industries. The content of the training will include 3 basic elements: academic, industrial trainings and transferable skills that will be carried out continuously throughout the project and that will culminate in a workshop that will take place in the last year. The aim of this workshop will be to provide academic and industrial technology developers with knowledge about novel SICs, performance breakthroughs, sustainability performances, and key applications. An open webinar is planned for policy makers and regional authorities to identify opportunities emerging from SICs.





1.4.7 Plan for the exploitation of MUSIC results

MUSIC will focus on developing novel concepts and credible exploitation pathways for the targeted supercapacitors and processes to market those as energy storage solutions for promising value chains. Novel business models will consider the inclusion of potential environmental and societal benefits, i.e., by reducing the burden of ecological and climate impacts associated with fossil resources or emissions from transport, boosting a European industrial 'energy storage' value chain.

A comprehensive Exploitation Plan and individual partner business models will be established in MUSIC, focusing on how the project outcomes can be exploited and further used in the future. The development of the plan will be coordinated by the Exploitation and Communication Managers in close cooperation with all private sector consortium partners, contributing their entrepreneurship, innovation management and marketing expertise to ensure the best strategic positioning. However, a draft exploitation strategy and initial individual business opportunities can already be outlined at this stage.

MUSIC will show the great potential of novel SICs for a range of market segments, among them transport, renewable energy/grid, consumer electronics and industrial machinery. MUSIC will result in SIC prototypes. These prototypes, and additional results and outcomes of MUSIC's research and development activities can be of significant value for a diverse set of stakeholders. As a result, the exploitation and business planning of MUSIC is based on a 'road-map' that outlines the different paths of future exploitation of the project during its development cycle.

The MUSIC results that are expected to be relevant for exploitation can be classified in six types as summarised in **iError! No se encuentra el origen de la referencia.**

- (I) **the MUSIC concept and prototypes,** which will be upscaled and deployed at pilot scale,
- (II) the novel materials and individual components of the MUSIC SICs that potential future end users will be able to adopt for novel energy storage systems,
- (III) the services that result from MUSIC, for example **databases and intelligent SMS**,
- (IV) the **best practices** that will emerge from the MUSIC prototypes,
- (V) the **policy recommendations** that are based on the key findings of MUSIC, the identified best applications cases and the sustainable performance targets of the technology and
- (VI) **the scientific knowledge** that will have been generated through the R&D activities.

The above set of results show clear exploitation benefits for both the consortium members of MUSIC and external stakeholders who are part of the energy storage and renewable energy community in the widest sense.

On the one hand, exploitation targets key actors in the fields of renewable energy, on the other hand exploitation addresses end users of novel applications for which SICs represent a promising alternative to conventional energy storage systems.

The MUSIC consortium includes RTOs, large industry and SMEs who represent the supplier, innovation developer and end user sides that are relevant for the exploitation diversity required to achieve maximum impact for the project. However, the final TRL level that will be reached for the majority of results will not exceed TRL6, so the consecutive upscaling





in follow-up activities and the uptake of results by the market and by actors outside the project consortium is pivotal for the success and sustainability of concepts and results. Therefore, attention during the project will be given to engaging with all the relevant stakeholders whose interest in and influence on the success of MUSIC had and will have effects on exploitation strategies and action plans (this will be investigated further and referred to in *D9.5 & D9.6 Exploitation Road-Map and MUSIC mid-term exploitation strategy*).

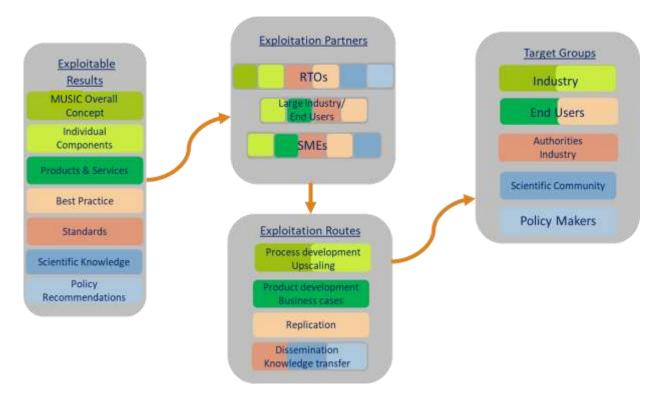


Figure 2 MUSIC Overall Exploitation Road Map

The overall MUSIC Exploitation Road Map as presented here foresees different routes for exploiting the different result categories, respectively. The exploitation paths are:

(I) Process development, optimisation and upscaling

The key outcome of MUSIC, its SIC prototypes, and the individual components of the technology will be scaled up in a follow-up full-scale demonstration project and brought to TRL levels 7-8 in an industrial setting. Upscaling activities will be mapped during the MUSIC mid-term, refined during the final project year and outlined in detail in the mid-term and final exploitation roadmaps (D9.5 & D9.6) Financing and partnership needs will be further assessed. For a successful scale-up and industrial integration large industry partners will be pivotal, so process development and upscaling plans will include networking and teaming activities with promising partners from the industry, especially in the targeted application sectors.

(II) Product development & business cases

MUSIC will result in products and services that can be directly exploited by the producers of the results. This relates to the SMEs and industry partners who will include MUSIC innovation in their existing portfolios (BCARE, BYD, TALGO, ELY). This will be realised either by optimising an existing product/service and/or adding a new product/service. Results with innovation potential have been identified and are summarised in Table 1

In the final phase of MUSIC, individual business models for each relevant partner will be developed. Exploitation actions will be performed by each of those partners independently



after the end of the project. For example, during the project, Beyonder will obtain valuable experience with producing the developed sodium-ion capacitor cells, so the barrier for subsequent industrial production and commercialization will be relatively small. Access rights to exploitation of any results obtained in the project and needed for exploitation, *i.e.* cell production, will be negotiated under fair and reasonable conditions with the partners who own such results. This will benefit both Beyonder and the owners of the results to be exploited, as well as system integrators and end users due to a better fit for specific applications. Beyonder is already collaborating with industrial integrators regarding demonstrating high-power energy storage cells in real applications, so these integrators will readily be able to adopt the sodium-ion capacitors developed in the MUSIC project in real systems and applications.

1.4.7.1 Overall MUSIC exploitation strategy & industrialisation of novel SICs

Preconditions for the successful optimization, scale-up and industrialization will be the enhancement of product robustness, to secure industrial integrators and to secure financing avenues. MUSIC plans in this context are as follows:

- Enhance product robustness, securing industrial integrators, and securing financing avenues

Product robustness: Inconsistencies in performance of sodium-ion capacitor packs can be introduced by various sources that might affect their robustness. Variations from materials to processes can affect final product robustness. From the materials point of view, production of big batches in terms of kilograms will ensure that there are no batch-to-batch variations in performance. On the manufacturing side, sodium-ion capacitors will be manufactured by BEYONDER, a battery manufacturing company that incorporates a battery manufacturing line capable to tolerate the expected variability of raw materials, operating conditions, process equipment, environmental conditions, and even human factors. Finally, the sodium ion capacitors manufactured will be monitored individually using the diagnosis tools developed by BCARE that will be capable to identify performance variations, if any.

- Securing industrial integrators: In addition to the MUSIC project, Beyonder is also involved in other projects which demonstrate high-power energy storage cells in real applications, and which include industrial integrators, for example Elring Klinger, Siemens, and Nordic Batteries. In this way these industrial integrators will get valuable experience with high-power cells, both in terms of system requirements and technical advantages. This experience will be transferable to the sodium-ion capacitors developed in the MUSIC project, whereby more integrators than those already involved in the MUSIC project will be able to readily adopt the technology.

1.4.7.2 Roles and responsibilities for exploitation in MUSIC

The exploitation responsibilities will mainly lie with the private sector involved in MUSIC as they hold responsible for the SICs (several patents have been filed by Beyonder (two patent families, i.e. WO2018186747A1 and WO2021086198A1 on activated carbon production and have the facilities and capacity to bring the technology to pre-market levels, also in cooperation with international large industry partners. Beyonder has entered cooperation with industrial integrators Elring Klinger, Siemens, and Nordic Batteries.

Underlying knowledge will be brought to the project by RTOs and academia. CNRS/IMN holds patent ES2765230 (T3): FUNCTIONALIZED CURRENT COLLECTOR FOR ELECTROCHEMICAL DEVICES, WITH INCREASED RESISTANCE TO CORROSION. CIC energiGUNE holds patent WO2021/140149 A1 METAL ION CAPACITOR BASED ON HARD CARBON AS NEGATIVE ELECTRODE AND A MIXTURE OF ACTIVATED CARBON AND SACRIFICIAL SALTS AS THE POSITIVE ELECTRODE CNRS-IMN further has a partnership





with EDF, the energy company in France, for developing devices with intermediate performance between supercapacitors and batteries as those envisioned for SICs issued from MUSIC project.

1.4.8 Financing avenues for exploiting MUSIC

Financing avenues for scale-up and industrialisation of MUSIC SICs target a robust mix of public and private funds and include the following:

Public funding (e.g. for demo project to mature technology readiness levels to TRL7):

- European funding programmes & initiatives:
 - Circular Bio-based Europe Joint Undertaking (CBE JU)
 - Fuel Cells and Hydrogen Joint Undertaking
 - cPPPs
 - European green vehicle initiative
 - Factories of the futures
 - EIC Innovation fund
 - Just transition fund
- National funding programmes & initiatives:
 - **ADEME** (Agence de la transition écologique) in France is supporting the development of demo project implementing new energy storage technologies, especially with regard to environmental impact. There are also local initiatives such as in Region Pays de la Loire (France) to support the coupling of renewable energies with new energy storage technologies (such as CLEAN ENERGY TRANSITION PARTNERSHIP (CETP) PAYS DE LA LOIRE).
 - **Toulouse Technology Transfer Acceleration Company (TTT)** is highly committed to providing financial support for the development and transfer of technologies from public research to companies, and in particular to SMEs. It could support the project at some point for upscaling or the research of end-users, as TTT can handle the technological and financial risk in the process.
 - Strategic Project for the Recovery and Economic Transformation (PERTE) of Renewable Energies, Renewable Hydrogen and Storage in Spain.
- Private investors:
 - The invest EU portal that matches EU based projects with worldwide investors
 - Traditional investors such as Energy Technology Ventures. Equinox ventures
 - Industrial corporations investing into energy storage companies: Iberdrola, Siemens Technology to Business, Engie, BASF venture.

1.4.9 Key Exploitable Results and initial exploitation plans – MUSIC partners

Although MUSIC represents a new technology with TRLs that are still several steps from commercial maturity levels the project envisages at least initial exploitation plans and business cases for each participant. Those include the full range of potential uses and corresponding exploitation pathways (e.g. research, commercial, investment, social, environmental, policymaking, setting standards, skills and educational training where relevant) and the potential users of results.

Key exploitable result (Partners involved)	Exploitation potential	Target Group	Exploitation Pathway
Novel carbonaceous materials (CICE -IMN- CNRS -JVI)	Novel carbon materials that can also be integrated in other ESS technologies	Material Scientists, Battery manufacturers	Scientific publication IP Protection/ licensing





			Sodium-Ion Capacitors
Solution processable	Novel pre-metalation	Electrode	IP Protection/
pre- metalation	strategy that can be manufacturers, battery		licensing
strategy (CICE -IMN-	incorporated in electrode	manufacturers	
CNRS)	manufacturing process		
Dry processing	Novel dry electrode Electrode		IP Protection/
method (CICE)			licensing
	materials	manufacturers	
MUSIC designed in-situ	Innovative in-situ and	Companies in	IP
and operando cells	operando	electrochemistry &	protection/lice
(CNRS-IMN)	cells that can be fabricated	chemical analysis	nsing
	and sold under licence to	(Biologic, Metrohm,	
	European research labs	Dropsens)	
Knowledge in LIC and	Increase the product	Industrial target groups;	Industrial
SIC systems, H/W and	portfolio in terms of	Cells, modules and	projects/
S/W development and	technologies	systems with metal ion	Consultancy
mechanical e-co	advisory/consultancy and	capacitors	business line/
design of module	improve energy storage	manufacturers	IP protection
(BCARE)	modelling databases		
Eco-design module	Eco-friendly design of the	Cells, modules and	IP protection/
casing (BCARE)	casing of the LIC and SIC	systems with Metal Ion	licensing
3 ()	modules	Capacitors	5
		manufacturers	
Sensor for distributed	Sensingstrategy design and	Cells, modules and	IP protection/
acquisition data	multivariable measurement	systems with	licensing
(BCARE)	sensor	electrochemical cells	5
(,		Or capacitors	
		manufacturers	
Knowhow and	Production and sale of SIC	Heavy industries	IP protection
experience in large-	cells for contribution to a	involved in	and sales of
scale SIC	more sustainable transition	electrification of society	cells either
manufacturing	of society. MUSIC partners	via battery pack	directly to the
optimization (BYD)	will be compensated with	developers.	end-user or via
	royalties where applicable.		a battery pack
			developer.
Novel bio-derived	Electrode manufacturing with	Electrode	Scientific
aqueous binders (KIT)	reduced cost and increased	manufacturers,	publication IP
	sustainability	battery manufacturers,	Protection/
	sustainability	capacitors	Protection/ licensing
	sustainability		
Novel electrolytes for	sustainability Development of innovative	capacitors	
Novel electrolytes for SIC (FSU)		capacitors manufacturers Electrolyte manufacturers, battery	licensing Scientific publication IP
	Development of innovative	capacitors manufacturers Electrolyte	licensing Scientific
	Development of innovative electrolytes for SIC and	capacitors manufacturers Electrolyte manufacturers, battery	licensing Scientific publication IP
SIC (FSÚ)	Development of innovative electrolytes for SIC and understanding of degradation processes	capacitors manufacturers Electrolyte manufacturers, battery manufacturers	licensing Scientific publication IP Protection/lice nsing
	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers.	licensing Scientific publication IP Protection/lice
SIC (FSU) Novel electrolyte formulations and	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers. Battery and	licensing Scientific publication IP Protection/lice nsing Commercializa tion of
SIC (FSU) Novel electrolyte formulations and identification of	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising electrochemical properties to	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers.	licensing Scientific publication IP Protection/lice nsing Commercializa tion of electrolytes/
SIC (FSU) Novel electrolyte formulations and identification of promising electrolyte	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers. Battery and supercapacitor	licensing Scientific publication IP Protection/lice nsing Commercializa tion of
SIC (FSU) Novel electrolyte formulations and identification of	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising electrochemical properties to	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers. Battery and supercapacitor	licensing Scientific publication IP Protection/lice nsing Commercializa tion of electrolytes/ Acquisition of new
SIC (FSU) Novel electrolyte formulations and identification of promising electrolyte	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising electrochemical properties to	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers. Battery and supercapacitor	licensing Scientific publication IP Protection/lice nsing Commercializa tion of electrolytes/ Acquisition of new customers/
SIC (FSU) Novel electrolyte formulations and identification of promising electrolyte additives (ELY)	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising electrochemical properties to expand the product portfolio	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers. Battery and supercapacitor manufacturers	licensing Scientific publication IP Protection/lice nsing Commercializa tion of electrolytes/ Acquisition of new customers/ IP protection
SIC (FSU) Novel electrolyte formulations and identification of promising electrolyte additives (ELY) Development of a	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising electrochemical properties to expand the product portfolio Allows the simultaneous	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers. Battery and supercapacitor manufacturers Companies in	licensing Scientific publication IP Protection/lice nsing Commercializa tion of electrolytes/ Acquisition of new customers/ IP protection IP protection/
SIC (FSU) Novel electrolyte formulations and identification of promising electrolyte additives (ELY)	Development of innovative electrolytes for SIC and understanding of degradation processes Novel electrolyte and additives with promising electrochemical properties to expand the product portfolio	capacitors manufacturers Electrolyte manufacturers, battery manufacturers Electrolyte producers. Battery and supercapacitor manufacturers	licensing Scientific publication IP Protection/lice nsing Commercializa tion of electrolytes/ Acquisition of new customers/ IP protection

Table 1: MUSIC Key Exploitable Results





2 Roles and responsibilities

The Communication Manager, Miriam Gutierrez (CICE), Rita Clancy (EURIDA) as Exploitation Manager and leader of WP9 'Impact Maximisation', and and Aloña Salazar (CICE) as Industrial Property Manager of project coordinator CICE and IP project responsible will plan and implement all dissemination, communication and exploitation activities in close collaboration with all partners.

The MUSIC SME and large industry partners – Beyonder, E-LYTE and Talgo will mainly hold responsible for coordinating their individual business plans and market exploitation strategies as well as IP protection measures. The CICE IP Manager will provide support in IP Management.

Partners' internal Business Developers are respectively responsible for managing generated IPR and business-internal exploitation roadmaps. This will be performed in close collaboration with the Project Management Team, comprising the Project Coordinator (Jon Ajuria/CICE), the Project Manager (Ignacio Castillo/CICE) and the Exploitation Manager and WP Leader for Impact Maximisation (Rita Clancy, Eurida).

All partners have the responsibility to proactively contribute to dissemination and exploitation of project results via scientific publications, the protection and exploitation of relevant results and the contribution of content to the project website, dissemination material, MUSIC's social media groups and other project formats.

3 Legal obligations and requirements for dissemination, communication and exploitation (as per Grant Agreement Article 17 and Annex 5)

3.1 Communication — Dissemination — Promoting the action

As per Grant Agreement, all beneficiaries must promote the project and its results by providing targeted information to multiple audiences (including the media and the public), in accordance with the proposal and the 'Description of Actions' and in a strategic, coherent and effective manner.

Before engaging in a communication or dissemination activity that is expected to have a major media impact, the beneficiaries must inform the granting authority.

3.2 Visibility — European flag and funding statement

Communication activities of the beneficiaries related to the project (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must acknowledge EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):







Funded by the European Union

The emblem must remain distinct and separate and cannot be modified by adding other visual marks, brands or text.

Apart from the emblem, no other visual identity or logo may be used to highlight the EU support. When displayed in association with other logos (e.g. of beneficiaries or sponsors), the emblem must be displayed at least as prominently and visibly as the other logos.

For the purposes of their obligations under this Article, the beneficiaries may use the emblem without first obtaining approval from the granting authority. This does not, however, give them the right to exclusive use. Moreover, they may not appropriate the emblem or any similar trademark or logo, either by registration or by any other means.

3.3 Quality of information — Disclaimer

Any communication or dissemination activity related to the action must use factually accurate information. Moreover, it must indicate the following disclaimer (translated into local languages where appropriate):

"Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them."

3.4 Open Science

Open science: Open access to scientific publications

The beneficiaries must ensure open access to peer-reviewed scientific publications relating to their results. In particular, they must ensure that:

- at the latest at the time of publication, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications

- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC BY-ND) and





- information is given via the repository about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication.

Beneficiaries (or authors) must retain sufficient intellectual property rights to comply with the open access requirements.

Metadata of deposited publications must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles (in particular machineactionable) and provide information at least about the following: publication (author(s), title, date of publication, publication venue); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the publication, the authors involved in the action and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication.

Only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement.



4 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

#	PARTICIPANT SHORT NAME	PARTNER ORGANISATION NAME	COUNTRY
1	CICE	CENTRO DE INVESTIGACION COOPERATIVA DE ENERGIAS ALTERNATIVAS FUNDACION, CIC ENERGIGUNE FUNDAZIOA	Spain
3	KIT	KARLSRUHER INSTITUT FUER TECHNOLOGIE	Germany
4	CNRS	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS	France
4.1	IMN	NANTES UNIVERSITE (Affiliated)	France
5	UPS	UNIVERSITE PAUL SABATIER TOULOUSE III	France
6	FSU	FRIEDRICH-SCHILLER-UNIVERSITAT JENA	Germany
7	IRT-JV	INSTITUT DE RECHERCHE TECHNOLOGIQUE JULES VERNE	France
8	ELY	E-LYTE INNOVATIONS GMBH	Germany
9	BYD	BEYONDER AS	Norway
10	BCARE	BATTERYCARE S. L.	Spain
11	TALGO	PATENTES TALGO SL	Spain

Table 2: Project Partners





5 Appendix A – Quality Assurance

The following questions should be answered by all reviewers (WP Leader, peer reviewer 1, peer reviewer 2 and the technical coordinator) as part of the Quality Assurance Procedure. Questions answered with NO should be motivated. The author will then make an updated version of the Deliverable. When all reviewers have answered all questions with YES, only then the Deliverable can be submitted to the EC.

NOTE: For public documents this Quality Assurance part will be removed before publication.

Question	WP Leader	Peer reviewer 1	Peer reviewer 2	Technical Coordinator
	Ignacio Castillo (CICE)	Rita Clancy (EURIDA)		Jon Ajuria (CICE)
1.Do you accept this deliverable as it is?	Yes	Yes		Yes
2.Is the deliverable completely ready (or are any changes required)?	Yes	Yes		Yes
3.Does this deliverable correspond to the DoW?	Yes	Yes		Yes
4.Is the Deliverable in line with the MUSIC objectives?	Yes	Yes		Yes
a. WP Objectives?	Yes	Yes		Yes
b. Task Objectives?	Yes	Yes		Yes
5.Is the technical quality sufficient?	Yes	Yes		Yes



This project has received funding from the European Union's Horizon Europe programme for research and innovation under grant agreement No. 101092080.

This document reflects the views of the author and does not reflect the views of the European Commission. While every effort has been made to ensure the accuracy and completeness of

this document, the European Commission cannot be held responsible for errors or omissions, whatever their cause.

