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Strongly improved, highly performant and safe all solid-state batteries for electric vehicles.

GRANT AGREEMENT No. 875189

SAFELiMOVE – Deliverable Report

D10.7 Newsletters

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Introductional summary

The overall aim of WP10 - Dissemination, exploitation strategy & business plans is to increase the visibility of SAFELiMOVE and support the impact of the project. To ensure this aim is achieved, dissemination and communication activities have been undertaken. The overall aim of the dissemination activities within the SAFELiMOVE-project is to maximise the dissemination of results and to express them in terms that are readily understandable. This is in order to not only address experts in the field of high energy density batteries, but also stakeholders at governments, industry and suppliers, in order to accelerate the implementation of the research findings.

This document shows on overview of the achievements of the dissemination activities and tools performed as part of Task 10.1 and as described in D10.1 – Dissemination tools and D10.2 – Dissemination plan. It includes an overview of the electronic newsletters throughout the project time-line, as well as the other dissemination activities (website, social media (Twitter/X), cluster event, SAFELiMOVE videos), including audience reached.

This deliverable shows that most of the KPIs related to these activities have been met. It also shows that the activities have reached a worldwide audience.

There were no deviations from planned timings nor from planned objectives.

Contents

Figures

Tables

1 Newsletters

This chapter contains two sections. The first section gives an overview of the newsletters sent, the second section shows an analysis of the audience reached.

1.1 Newsletters sent

Until now, seven SAFELiMOVE newsletters have been prepared and sent. These are shown below including a link where they are shown in more detail. The eighth and last deliverable will be sent in January 2024 and is currently under preparation. It will include an overview of the major SAFELiMOVE achievements.

Newsletter 1 – Click here

Newsletter 2 – Click here

Newsletter 3 – Click here

Newsletter 4 – Click here

Newsletter 5 – Click here

Newsletter 6 – Click here

Newsletter 7 – Click here

Figure 1: Overview of SAFELiMOVE newsletters (status November 2023)

In addition to the SAFELiMOVE-newsletters, LCBAT12019 cluster newsletters were also sent. The first cluster newsletter was prepared by SAFELiMOVE-partners. The three newsletters sent are shown below.

LCBAT12019 cluster Newsletter 1 – Click here

LCBAT12019 cluster Newsletter 2 - Click here

LCBAT12019 cluster Newsletter 3 - Click here

Figure 2: Overview of LCBAT12019 newsletters

1.2 SAFELiMOVE newsletter audience

The SAFELiMOVE newsletter has 142 subscribers (status November 2023). Next to the consortium partners, these are partners from the LCBAT12019 cluster, including AIT, MIMITech, Solvay and IMEC

Other subscribed organisations include a wide variety companies and research organisations:

- **Ampcera**: Innovator in high performance solid-state electrolyte materials and scalable manufacturing technology for next-gen lithium batteries.
- **Baikowski:** Industrial manufacturer of high purity alumina, Spinel, YAG, Zirconia & Ceria.
- **Fondazione Bruno Kessler**: Research institute with 11 centres dedicated to technology and innovation and to the humanities and social sciences.
- **JRC**: Provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society.
- **LG chem**: A chemical manufacturer, subsidiary of LG Corp. The company manufactures and markets petrochemicals, IT and electronic materials, and energy solutions.
- **Ola Electric**: Ola Electric Mobility is an Indian electric two-wheeler manufacturer.
- **Pipistrel**: Pipistrel by Textron eAviation is a company in electric aircraft and is focused on sustainable flighing.
- **Tecpetrol**: Tecpetrol explores and produces oil and gas in Argentina, Bolivia, Colombia, Ecuador, Mexico, Peru and Venezuela.
- **ZEON**: Zeon is a chemicals manufacturer that produces raw materials for a wide variety of products.

The figure below shows an overview of the worldwide distribution of the organisations subscribed to the newsletter outside the consortium and cluster.

Figure 3: Distribution of organisations subscribed to the newsletter outside the consortium and cluster

The table below shows some statistics for each newsletter sent, including date sent, amount of people the newsletter was sent to, the percentage of people that opened the newsletter and the percentage of people that clicked on an item. Newsletter 5 was opened and clicked on the most in comparison with the others. As the content was pretty much the same as the newsletters before and after, the special Christmas appearance might have been the reason for more receivers to read & click it.

Table 1: Newsletter statistics

Newsletter No	Date sent (dd-mm-yyyy)	Sent to	Opened by	Clicked on input	Most clicked item
1	16-06-2020	97	38%	10%	Kick Off Meeting
2	09-03-2021	100	28%	8%	SAFELiMOVE the Movie
3	09-12-2021	103	31%	9%	MS3
BAT-1	27-01-2022	100	38%	10%	SAFELiMOVE the Movie
4	20-09-2022	107	36%	15%	Electrochemical model of all solid-state LiM battery
BAT-2	29-11-2022	106	48%	30%	TRA Conference
5	20-12-2022	140	49%	34%	High Throughput Test Cell
6	13-06-2023	139	29%	17%	D3.3
7	17-10-2023	144	35%	16%	MS7
BAT-3	14-12-2023	142	23%	6%	YouTube link to event

2 Website

The SAFELiMOVE website - https://safelimove.eu/ - was live as from May 2020, M5 in the project.

The project website has been updated regularly with new items regarding:

- results, including the newsletters
- visited conferences
- consortium meetings
- publications
- interviews with partners about their work within the project

These updates were all indicated on the "news and events" page. The figure below shows the news & events page with the updates for the period August- October 2023.

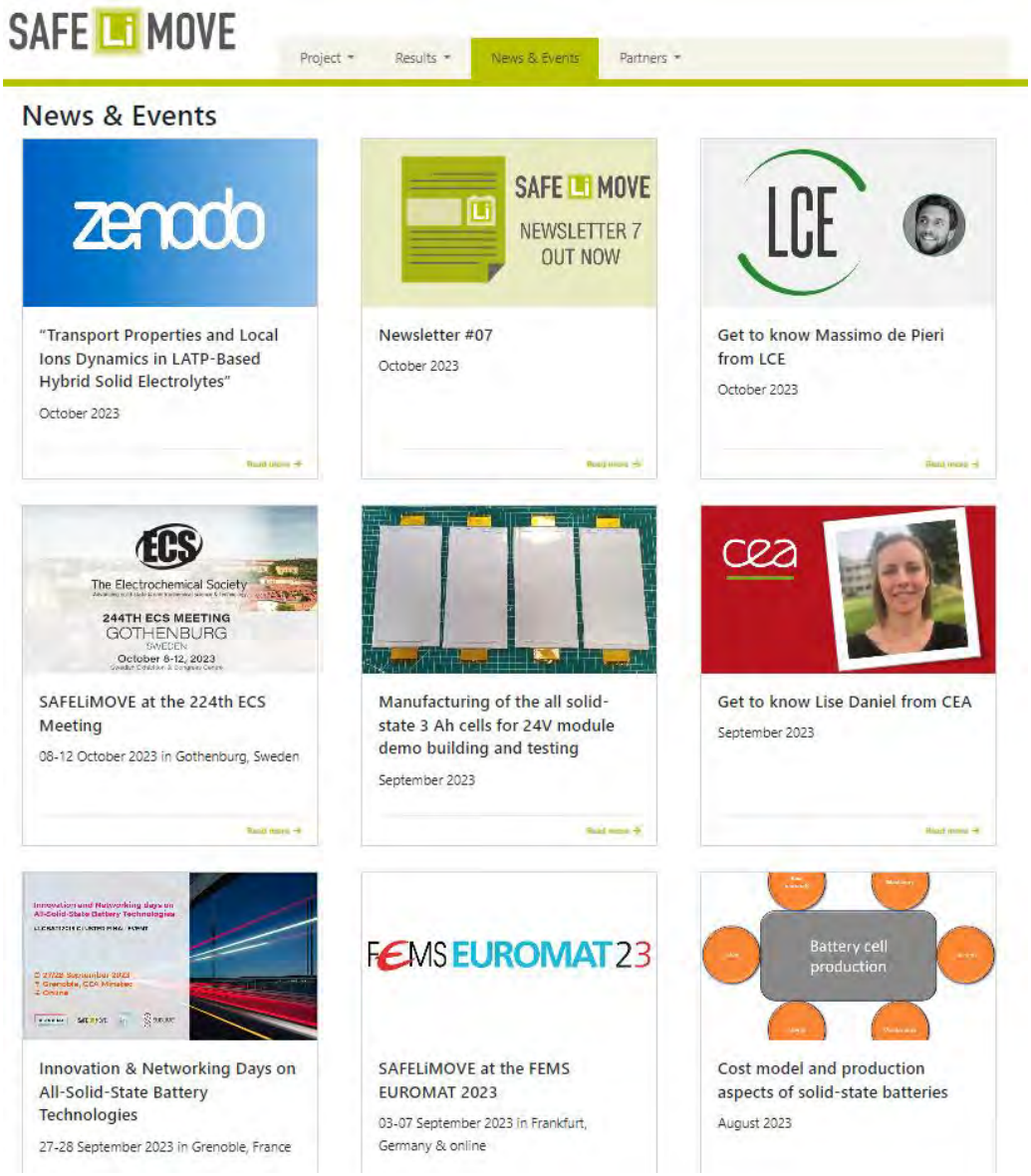


Figure 4: Overview of the News/Events page on the website for the period Aug-Oct 2023

Next to the News & Events page, a timeline with results (page “Results)” was regularly updated as well, see figure below for period Sep 2022 - Oct 2023.

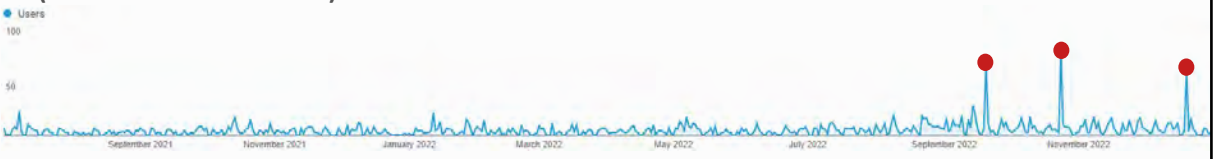
Figure 5: Overview of the ‘Results Timeline’ on the website for the period Sep 2022 - Oct 2023

The figures below show the amount of visitors to the website (based on Google Analytics). In this figure, an analysis was made of the possible reasons for peaks in website visits. This clearly shows the positive interaction between attracting visits to the website and sending tweets and newsletters.

P1 (1 Jan 2020 – 30 Jun 2021):

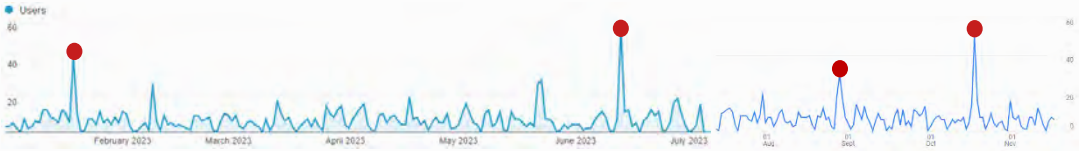
- 29 Jan 2021: The SAFELiMOVE Movie on the website was shared with the consortium

P2 (1 Jul 2021 – 31 Dec 2022):



- 20 Sep 2022: Newsletter 4 was sent + shared via Twitter
- 27 Oct 2022: Tweet about the partner interviews on the website
- 20 Dec 2022: Newsletter 5 was sent + shared via Twitter

P3 (1 Jan 2023 – 31 Dec 2023):



- 17 Jan 2023: Tweet about GA07 @RWTH in Aachen
- 13 Jun 2023: Newsletter 6 was sent + shared via Twitter
- 29 Aug 2023: Tweet about final phase: link to planned & achieved results on website
- 17 oct 2023: Tweet about LCBAT12019 cluster event including link to recordings on website

Figure 6: Amount of visitors to the SAFELiMOVE website

In addition, also an analysis was made of the total amount of visitors per page (figure below) which shows that the homepage is visited most and the pages with planned & achieved results the least.

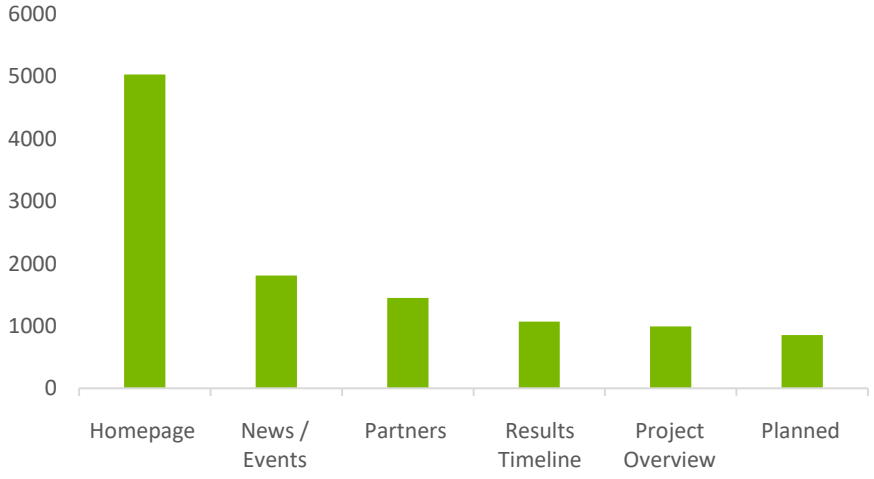


Figure 7: Overview of the amount of visitors on different pages on the website

Next to this, an overview was made of the origin of website users, see two figures below. These figures show that the majority of the users is coming from the USA and Spain. In addition, they also show that users come from all continents and therefore we can state that there is a truly worldwide audience for the SAFELiMOVE-website.

	Country	Users	% Users
1.	United States	654	15.37%
2.	Spain	544	12.78%
3.	France	397	9.33%
4.	Germany	340	7.99%
5.	Netherlands	262	6.16%
6.	Belgium	260	6.11%
7.	Italy	223	5.24%
8.	Canada	168	3.95%
9.	India	141	3.31%
10.	Finland	112	2.63%

Figure 8: Overview of the top 10 countries of website users

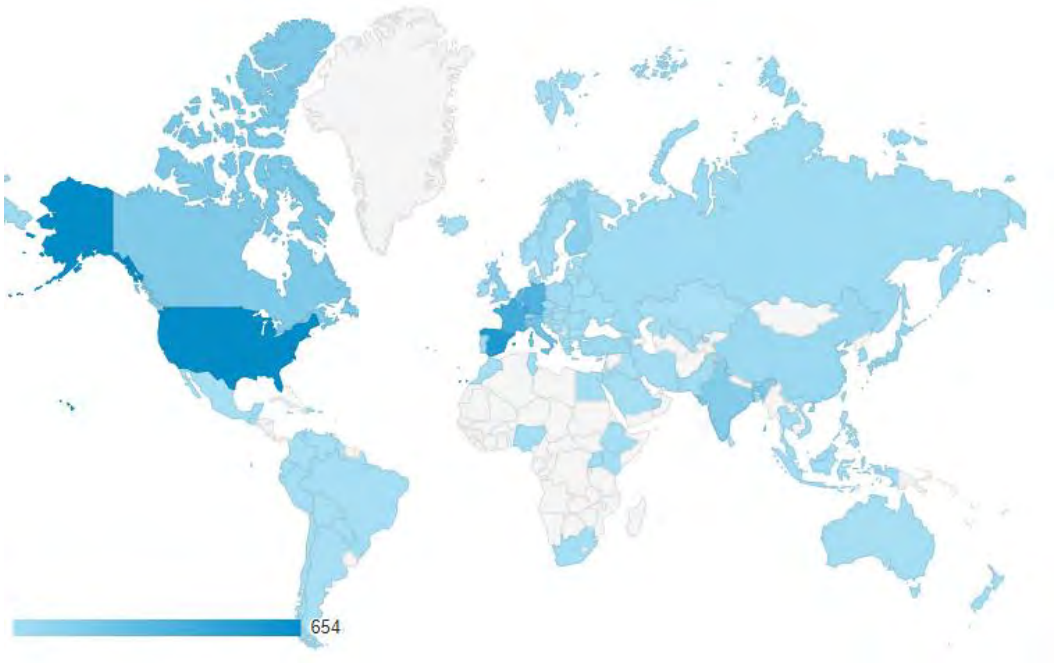


Figure 9: Overview of the countries of website users (a darker blue indicates more users)

3 Twitter / X

X (formerly known as Twitter) has been used to regularly share SAFELiMOVE related topics. By tagging project partners, it was easy for the SAFELiMOVE partners to share or repost the tweets.
At the end of the project (November 2023) the SAFELiMOVE twitter-account had 180+ followers, of which:

- **Various stakeholder organisations and companies**, including; BEPA, Battery Pollution Technologies (Australia), Blue Horizon Capital, EARPA, 2ZERO Emission and many others.
- **Several other EU-projects**, like; THORbatteries, NGTriageEU, EnergeticEU, EuRhinoceros, OPERA, ZABAT, MAXIMA, LEVIS, aerosolfd, am4bat, ev4eu_eu, HEAdvagen, TwinVectorEU, HIDDEN, Marbel.
- **Individual persons outside the SAFELiMOVE consortium**, of which Philippe Jacques from EMIRI, Marja Vilkman from VTT, Sandru Marius from SINTEF, Battaglia Corsin from EPFL and many others.

In total over 140 SAFELiMOVE tweets have been posted. The figure below shows some top tweets; these tweets either have a high amount of impressions or engagements/engagement rate.
Impressions on Twitter are a total tally of all the times the Tweet has been seen. This includes not only the times it appears in a one of the followers' timelines but also the times it has appeared in search or as a result of someone liking the Tweet. The engagement is the total number of times a user interacted with the tweets you sent. Engagements include all clicks on the Tweet, including Retweets, replies, likes and hashtag clicks. The engagement rate is the number of engagements divided by impressions.

Tweets | Top Tweets | Tweets and replies | Promoted

	Impressions	Engagements	Engagement rate
SAFELiMOVE @SAFELiMOVE · 24 Feb 2021 We finalised our first animated video about #SAFELiMOVE project goals! We work to develop the next generation #batteries for #ElectricVehicles and #sustainableMobility in the road trasport Battery Oncoming automobile. Watch the video here: youtube.com/watch?v=hYfVcu… pic.twitter.com/UL5zYZLsS9	202	13	6.4%
SAFELiMOVE @SAFELiMOVE · 8 Jun 2021 Did you know that #SAFELiMOVE is one of the partners of the#LCBAT12019? Here the global interest in #solidstatebatteries as an alternative battery technology to ensure higher performance is addressed together with @astrabat @sublime_project safelimove.eu/bat-1-cluster/ pic.twitter.com/ETCDTufPrO	2	5	250.0%
SAFELiMOVE @SAFELiMOVE · 13 Oct 2021 Face-2-Face workshops are happening again, and it is great! Last week our coordinator presented the SAFELIMOVE project during the @AMAPOLA_project workshop in Madrides #batteries #polymers #sustainable #Safe pic.twitter.com/8FlgNov2z4	4	14	350.0%
SAFELiMOVE @SAFELiMOVE · 28 Jan 2022 Collaboration alert The @astrabat, @sublime_project, SOLiDIFY and SAFELiMOVE projects, are proud to announce that the first cluster newsletter is out now The newsletter includes our activities on the next generation of electro #mobility in #Europe uniresearch.email-provider.nl/web/rn2kgvd51e pic.twitter.com/26dNfOFX88	37	30	81.1%

Tweets | Top Tweets | Tweets and replies | Promoted | Impressions | Engagements | Engagement rate

SAFELiMOVE @SAFELiMOVE · 20 Sep 2022 📢Our September newsletter is available! 🔋Have a look at the highlights of 2021 #solidstate #battery technology development for🚗#electricvehicles in SAFELiMOVE! 🆕uniresearch.email-provider.eu/web/rn2kgvd51e… pic.twitter.com/JX1MOdLhem	14	19	135.7%
SAFELiMOVE @SAFELiMOVE · Dec 20 📢Our X-mas newsletter is available! 🔋Have a look at the highlights of the last few months. #solidstate #battery technology development for 🚗#electricvehicles in #SAFELiMOVE! 🆕shorturl.at/mqtyS @cinea_eu @TUBerlin @CIDETEC_ @lifecycle_eng @RWTH pic.twitter.com/VRzRB59Rki	1,000	31	3.1%
SAFELiMOVE @SAFELiMOVE · Jan 17 The #SAFELiMOVE #consortium is together @RWTH in Aachen, discussing the progress of all tasks and work packages. @energigune_brta @SCHOTT_AG @UmicoreGroup @hydroquebec @Saft_batteries @renaultgroup @toyota_europe @IKERLANofficial @cidetec_ @tuberlin @lifecycle_eng @_Uniresearch_ pic.twitter.com/NGyFQzRva6	782	63	8.1%
SAFELiMOVE @SAFELiMOVE · Apr 17 📢Save the date for the Innovation and Networking Days on All-Solid-State Batteries! 🔋 Open and free attendance for all interested 📅 27-28 September 2023 📌 Grenoble (France) 🇪🇺Organised by @astrabat and the #LCBAT12019 cluster #batteries #EVs. Details to be announced soon. pic.twitter.com/yzFGQA3mEc	1,343	68	5.1%
SAFELiMOVE @SAFELiMOVE · Jul 11 The #SAFELiMOVE #consortium is together at @TUBerlin @Fraunhofer_IZM in Berlin, discussing the progress of all tasks and work packages at General Assembly 08. @cinea_eu pic.twitter.com/F1Ja5zC98a	1,148	57	5.0%
SAFELiMOVE @SAFELiMOVE · Aug 21 🚀 Exciting news! #Register now for #LCBAT12019 Innovation & Networking days. Join us on 27-28th Sept 2023 at CEA Minatec Building in Grenoble. Don't miss out! Visit the Event Website 👉 lcbat12019-cluster-event.eu @energigune_brta @cinea_eu @2030Battery @sublime_project @astrabat pic.twitter.com/za2nel4BXv	1,182	34	2.9%
SAFELiMOVE @SAFELiMOVE · Nov 14 📷NEW JOINT PUBLICATION BY #SAFELiMOVE PARTNERS: Study reveals effects of Li-conducting filler in hybrid solid electrolytes; enhances mechanical properties. 🔋🔬#BatteryTech #Electrolytes @energigune_brta @SCHOTT_AG @hydroquebec 👉safelimove.eu/24102023/	383	8	2.1%

Figure 10: Overview of top tweets

4 Scientific publications and presentations at conferences

The tables below give an overview of the conferences at which SAFELiMOVE results were presented as well as an overview of publications with SAFELiMOVE results. These tables show the information available at the time of writing this deliverable (November 2023). A full and complete overview will be given in the final periodic reporting (in technical report as well as SYGMA).

Table 2: Overview of events at which SAFELiMOVE results were presented (November 2023)

Conferences and Exhibitions	Year	Partner responsible/ involved
244th ECS meeting	2023	SAFT, CICe
ESPE 2023	2023	CICe
FEMS EUROMAT 2023	2023	CICe
LCBAT12019: Cluster Innovation and Networking days	2023	ALL
Advanced Materials Sciences and Engineering AMSE	2022	CICe
Battery Expert Forum	2022	SCHOTT
Electromobility Technology Workshop: Driving a Greener Value Chain	2022	CICe
EMIRI Tech Talks	2022	SCHOTT
GEP-SLAP 2022	2022	CICe
International Battery Power Conference	2022	RWTH
MEET Akademie – web conference	2022	SCHOTT
Oslo Battery Days	2022	SAFT
Road Transport Research in Horizon 2020 project: H2020RTR21 conference	2022	CICe
72nd Annual ISE Meeting (Online)	2022	CICe
Swiss battery days 2022	2022	CIDETEC
Transport Research Arena TRA	2022	CICe, LCE
International Battery Power Conference	2021	RWTH
International Society of Electrochemistry 2021	2021	CICe
AMAPOLA project workshop	2021	CICe
LISA Innovation Workshop	2021	CICe

Table 3: Overview of publications with SAFELiMOVE results (November 2023)

Journal	Year	Partner responsible/ involved	Subject/Title
Advanced Energy Materials	2022	CICe	Are Polymer-Based Electrolytes Ready for High-Voltage Lithium Battery Applications? An Overview of Degradation Mechanisms and Battery Performance
Small (Wiley - V C H Verlag GmbbH & Co.)	2023	CICe / HQ, SCHOTT	Transport Properties and Local Ions Dynamics in LATP-Based Hybrid Solid Electrolytes
IOP Publishing	2023	CiCe	Solid-state electrolytes for safe rechargeable lithium metal batteries: a strategic view
Journal of energy storage	2023	RWTH	Development of a cell design environment for bottom-up estimation of performance parameters for lithium-ion batteries and virtual cell design – ISEA Cell & Pack Database (ICPD)

Journal	Year	Partner responsible/ involved	Subject/Title
Advanced Energy Materials	Q1 2024 (under revision)	CICe / CEA, CID	Hybrid Composite Polymer Electrolytes Enabling Long Cycling in Practical 1 Ah-Class High-Voltage Solid-State Batteries with Li Metal Anode

5 Cluster event

The LCBAT12019 cluster organised a joint event; the "Innovation & Networking Days on All-Solid-State Battery Technologies", which were held at 27-28 September 2023 in Grenoble, France.

The Innovation & Networking days were a unique two-day event aiming to connect the LCBAT12019 EU-funded projects and show the results to the public including key European and international stakeholders and associations in the field of All-Solid-State Battery Technologies. The program of the event is shown below.

Figure 11: Programme of Cluster event

Around 50 people joined the event on location and approximately 40 people joined online each day. CICe took part in organising the event on behalf of SAFELiMOVE. SAFELiMOVE-partners CICe, CIDETEC as well as LCE gave a presentation.

A video of the event can be found on
https://youtu.be/XAiV3dyPPD0?list=PL8E47y8polV9Vlc6o8zru8IXHuB_YnsTA.

6 SAFELiMOVE videos

A video has been made to introduce the SAFELiMOVE project. This video can be found on the introduction page of the SAFELiMOVE-website (https://safelimove.eu/) and on Youtube (https://www.youtube.com/watch?v=hYfVcuJt8-g) and has been viewed over 200 times on Youtube.
In addition, CIDETEC has made a video on its activities regarding MS2 which has also been put on Youtube (https://www.youtube.com/watch?v=RG5biUTg-gA) and has been viewed over 400 times.

7 Quantification of dissemination and communication activities

The table below gives the status on the dissemination KPIs. As can be seen from this table, the project website and the newsletters are on target. Several partners are disseminating the SAFELiMOVE results through Twitter (e.g., CICe, CIDETEC, LCE, IKERLAN).

Table 4: Quantification of dissemination and communication activities (status November 2023)

Audience	Objectives	Key Performance indicators	Key Performances reached
Project website			
Policy makers, professionals, research community, industry and general public	Make target groups aware of the progress of SAFELiMOVE, results and their availability.	≥ 1000 views/year; ≥ 8 updates/year	> 5000 views/year; At least monthly updates
Conferences, exhibitions, trade shows			
Automotive sector professionals, research community	Show results, receive feedback	≥ 20 presentations	18 presentations
Scientific publications			
Researchers in battery and automotive disciplines	Knowledge dissemination	5-10 peer reviewed publications	5 peer reviewed publications. One of them currently under revision, to be published in 2024.
Electronic newsletter			
General public and automotive industry professionals and stakeholders	Keep interested parties informed of the project progress and results.	≥ 6 newsletters	7 (SAFELiMOVE) 2 (Cluster)
Final event			
Automotive sector professionals, car manufacturers, policy makers, research community	Expand the results beyond the consortium; leverage the project results within the industry.	≥ 100 attendees	50 attendees in person 40 attendees online
Social media (LinkedIn, Twitter)			
Automotive sector professionals, policy makers, research community	Expand the results beyond the consortium.	≥ 10 updates/month through partners	> 4 tweets/ month by SAFELiMOVE

8 Conclusions and Recommendations

This deliverable gives an overview of the performed dissemination and communication activities as performed within SAFELiMOVE, including the newsletters. It was shown that most of the KPIs related to these activities have been met.
Next to this, the audience reached has been evaluated for the several activities. It has been shown that the activities have reached a worldwide audience.

Appendix A- 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	Partner Full Name
1	CICe	CENTRO DE INVESTIGACION COOPERATIVA DE ENERGIAS ALTERNATIVAS FUNDACION, CIC ENERGIGUNE FUNDAZIOA
2	SCHOTT	SCHOTT AG
3	UMICORE	UMICORE
4	HYDRO-QUEBEC	HYDRO-QUEBEC
5	SAFT	SAFT
6	RENAULT SAS	RENAULT SAS
7	TME	TOYOTA MOTOR EUROPE NV
8	IKERLAN	IKERLAN S. COOP
9	CEA	COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES
10	CIDETEC	FUNDACION CIDETEC
11	TUB	TECHNISCHE UNIVERSITAT BERLIN
12	RWTH AACHEN	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN
13	ABEE	AVESTA BATTERY & ENERGY ENGINEERING
14	LCE Srl	LIFE CYCLE ENGINEERING SRL
15	UNIRESEARCH BV	UNIRESEARCH BV