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SCAPE

POWERING E-MOBILITY

D8.3 – Dissemination and Exploitation Strategy
(DES) Update M27

SWITCHING-CELL-ARRAY-BASED POWER ELECTRONICS CONVERSION FOR FUTURE ELECTRIC VEHICLES

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Executive Summary

This deliverable presents an update (at M27) of SCAPE's Dissemination and Exploitation Strategy (DES) initially delivered at M3 and updated at M15. The document offers a comprehensive overview of the Communication, Dissemination, and Exploitation activities carried out during the second year of the project. It outlines the specific actions undertaken and the valuable insights gained, which have played a pivotal role in informing and enhancing the DES strategy. Building upon these experiences, including feedback and expectations collected from project partners, this deliverable also outlines the planned steps for the project's third year. These steps aim to leverage the tangible outcomes that are now available to refine further, implement, and monitor SCAPE's engagement with stakeholders in research and innovation, EV industry markets, and society at large.



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List of Acronyms and Abbreviations

AB	Advisory Board
DES	Dissemination and Exploitation Strategy
EB	Executive Board
EC	European Commission
EIB	Exploitation and Innovation Board
EV	Electric Vehicle
GA	General Assembly
IPR	Intellectual Property Rights
TRL	Technology Readiness Level
USP	Unique Selling Point
WP	Work Packages



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1. Introduction

1.1. About SCAPE – Powering e-mobility

Towards the standardization, cost reduction, and increased performance of power electronics for next generation electric vehicles.

As a promising player in e-powering sustainable mobility and promoting zero-emission transport, SCAPE brings together nine expert and inspired partners for a 4-year leap in power electronics application to e-mobility. The ambitious project sets out to revolutionise the design and implementation of power converters for electric vehicles. Moving away from traditional approaches in powering e-mobility, SCAPE aims to build and validate a novel, standardisable, and modular design and architecture for the EVs' powertrain, coupled with an integration of advanced control systems.

SCAPE's challenge

In power electronics, the traditional design approach of power converters involves a range of power semiconductor devices with different ratings, optimized to operate at different conditions and with several requirements for ancillary circuitry and power circuit topologies. This dispersion in power devices and circuits leads to significant engineering efforts to ensure production and, thus, little resources left to improve performance at this level. In the electric vehicle (EV) market, this void translates into EV OEMs investing billions of euros to develop their own e-powering solutions to counter the lack of standardization on the EV power conversion system designs across the different models and types of vehicles available.

SCAPE's solutions

SCAPE sets out to address this structural inability to take full advantage of scale economies to reduce costs by developing a cost-efficient production chain in power converter development for next generation electric vehicles.

SCAPE's 3 in 1 multilevel approach involves:

- A new, standardizable, modular design for EV power converters,
- A highly compact and integrated building-block implementation architecture for EV power converters,
- intelligent modulations and control strategies with online diagnosis and digital twin for predictive maintenance combined with machine learning.

SCAPE's impact

A successful implementation of SCAPE's e-powering 'solutions' for the EV market will enable reducing costs for powertrain elements thanks to scale economies, while also improving its performance features (reliability, efficiency, power density, etc.), and enabling enhanced functionalities through advanced power-electronics integration techniques and advanced controls.

A win-win scenario starring:



Empowered OEMs – with access to a cost-efficient and quality-improved power converter production chain;

Happy Drivers – benefitting from more affordable and better performing zero-emission vehicles;
Cleaner Planet* – a greater penetration of the sustainable EV market and an accelerated up-take and acceptance of e-mobility will lead to reduced green-house gasses emission.

**An environmental impact assessment of the SCAPE process will be performed in a specific task within WP8.*

...and a Competitive European e-mobility market – pursuing independence, industry leadership and reputation in EV components’ systems and emerging technologies.

Models, simulations, digital twins and prototypes will help SCAPE’s team validate its approach and share project assets with the power electronics community, the EV components’ industry and all climate-sensible long haul transport companies and vehicle drivers out there!

SCAPE will put substantial efforts in generating impact though a well-structured approach to communication, dissemination and exploitation to make sure any potential innovation, knowledge and tech transfer reaches all actors and market players involved in increasing the automotive value chain in the crucial field of electromobility.

1.2. The Dissemination and Exploitation Strategy (DES)

This Dissemination and Exploitation Strategy (DES) document details **SCAPE’s Communication, Dissemination and Exploitation approach**, including an account of its implementation through an activity plan. The DES also outlines an integrated **IP ownership evaluation** and features an **exploitation strategy** aimed at identifying needs and opportunities for in-project and post-projects activities to maximise the impact and transfer of project-generated innovation and outputs.

The document will cover in detail **WHAT** is being communicated, disseminated, and exploited (project assets), **WHO** are the desired receivers (target groups) and **HOW** each activity/measure is carried out (tools, channels, procedures, strategies, etc.). The overall goal behind the communication, dissemination and exploitation strategy is to create an **accessible, comprehensible and long-lasting echo for the project**, able to carry any exploitable results to (and well beyond) EV and power electronics market players, and within the larger EV community.

Key objectives and actions of SCAPE’s DES include:

- **promote the SCAPE project widely and effectively** within Europe and internationally through a communication/dissemination plan involving all partners,
- develop and feed an attractive project **website**, lively **social media** profiles, and **stakeholder-specific channels**,
- identify **project stakeholders** and **primary target groups**,
- share project results at **conferences** and in targeted **scientific publications**, among public **media** and stakeholder-related media,
- **monitor the efficacy and impact** of communication and dissemination activities and identify strategic moves to **improve engagement**,



- **outline business strategies** identifying potential commercial opportunities for exploitation of project outputs,
- provide framework and support to partners involved in the **iterative patenting process** and **IPR Management** during the project (as addressed in detail in the Consortium Agreement),
- ensure that any knowledge, guidelines, recommendations, toolkits, and insights generated from the project are **fully transferred to relevant stakeholders**.

1.3. Deliverable purpose

As planned in the description of the work, the DES will be annually updated for the duration of the project and will serve as a living document to reflect the periodic assessment review of the activities performed. The strategy is regularly updated (with annual status analysis) to adapt to any evolving outreach needs and project requirements, and to support the project's research development, collaboration network building, patenting matters, and market entry strategies. **The present D8.3 contains an update at M27.**

2. Communication activities

2.1. Reflection on the communication strategy – Year 2

Following an intense first year during which most of the tasks concerning the set-up for the core communication channels, tools, and activities took place, SCAPE's communication activities have reflected the pace of the project's technical research.

The last twelve months have been very busy for the technical WPs who have been at work in their labs to deliver the first prototypes, albeit with a few minor delays due to component availability. As such, communication has been limited to "house-keeping" and its apparent impasse is gaining momentum as the project is ready to uncover its prototypes and move to the advanced controls testing in this second part of the project.

2.2. Communication overview for Year 2

2.2.1. Activities performed

According to the tasks allocated, the following communication activities and actions were carried out:

- Management and periodic update of the project [Website](#).
- Periodic feeding of the project's Social Media channels ([LinkedIn](#) and [Twitter](#)).
- Development of two issues of the project Newsletter ([January 2024](#) and [September 2024](#))
- Clustering activities involving regular meetings with the E-VOLVE Cluster and Nextgeneration EV components buddy projects to find synergies in work plans and join forces in communication and dissemination activities (including the joint application to the HRB programme with the request for support in organising joint dissemination events and developing policy briefs).

2.2.2. Insights collected

Consolidating & Facilitating



Now that the ice is broken, and a regular collaboration is in place there is an ongoing **productive dialogue between WP8 and the technical partners** to discuss, test, and validate effective ways of communicating the project’s tangible outputs. Through the coordinator’s facilitation efforts, a prototype-related communication and dissemination strategy will be carried out in Year 3 (detailed in 2.3. and 3.3.).

The power of LinkedIn

The M15–M27 interval has confirmed a trend that was already visible during the last DES update (M15): LinkedIn is the **best-performing social media in terms of visibility and interaction** with the academia/research ecosystem and the industry/manufacturing audience. At the same time, it provides an excellent boost to networking opportunities within the EC research framework (other research projects, EC Dissemination bodies, etc.). With its current 248 followers, halfway into the project, SCAPE has reached its target number of followers (set at 250 by the end of the project), exceeding expectations.

The X route continues to prove harder to manage and cannot leverage the large community that has developed around LinkedIn, also because most project partners don’t have active company profiles. The show-and-tell video clips that will be produced during Year 3 might provide a type of content that aligns better with X’s fast, microblogging nature.

Content creation

The newsletters had their debut during the project’s second year to benefit from SCAPE’s growing audience and the completion of the prototype building and integration phases. The issues were released at a 6-month interval matching the last two project GAs to enable the collection of updated content from project activities. The newsletter template is designed to provide a balanced selection of information, including updates on project activities, insights from events, and industry trends connected to the power electronics and NextGen EV components landscape. By **providing detailed progress reports and positioning SCAPE within the broader developments and needs of the EV tech industry**, we enhance project visibility, foster industry integration, and strengthen stakeholder engagement. This approach promotes transparency, encourages collaboration, and drives interest in SCAPE’s potential to shape the future of EV power electronics.

2.3. Planned steps for Year 3

Taking on board the first-hand experiences collected up to the project’s midpoint, during the project’s third year the focus of communication efforts will be on:

- Providing partners with a formatted template (including heading, subheadings, length guidelines, etc.) for a **one-page article** condensing the findings of their research outputs (Deliverable reports). Articles will be edited and tweaked by the WP8 leader to ensure consistency and effective communication.
- Producing a series of **“Show-and-Tell” video clips** (2 minutes) to present two main aspects of SCAPE’s research:
 - SCAPE’s Core Concepts – Videos of project partners explaining the basics of SCAPE’s approach (i.e. Switching Cell, Chip-embedding, Thermal Management, etc.).



- SCAPE's Prototypes – Videos with verbal explanation blended with visual storytelling showing footage/photos of the prototypes.

The videos will be promoted via project channels (social media, website, and newsletter).

- Encouraging partners to share updates, report events in their Countries, provide comments, and share views to make SCAPE a knowledgeable source of information.
- Invite partners to regularly report their communication/dissemination activities in the tracker.

3. Dissemination activities

3.1. Reflection on the dissemination strategy – Year 2

At this crucial turn point in the project, dissemination activities have begun to concentrate on SCAPE's tangible outputs. Ongoing discussions with partners focus on which aspects should be highlighted and which editorial activities to prioritise.

3.2. Dissemination overview for Year 2

3.2.1. Activities performed

Following an intense scientific dissemination activity during the first 15 months of the project, with the submission of several conference papers and the publication of two journal articles, lab activities have taken over during the second year of the project reducing the number of editorial materials produced.

- Conference Papers submitted during M15-M27
 - Shared poster with other EU-funded projects working on similar topics at the *17th SET Plan Conference – Energy Research and Innovation for a Competitive Europe* (Barcelona, November 13-14, 2023). The event was organized under the Spanish Presidency of the Council of the European Union in collaboration with the European Commission. It focused on accelerating the development and deployment of clean energy technologies, fostering competitiveness, and enhancing the EU's sovereignty in energy innovation.
Presentation of SCAPE's scope and workplan.
- Dissemination events during M15-M27
 - *More than PCB* – Within the framework of the IMBCNMTalks series promoted by the project partners at the Institut de Microelectrònica de Barcelona's (IMB-CNM, CSIC), SCAPE's Advisory Board member, Thomas Gottwald (Chief Technology Officer at SCHWEIZER Electronic AG), offered participants an in-depth look into the cutting-edge PCB technologies developed by SCHWEIZER, Europe's largest PCB manufacturing plant. The event was particularly relevant for SCAPE as the project collaborates with SCHWEIZER to incorporate this custom PCB service into its chip-embedding activities, which are critical for the development of project prototypes. The session emphasized the increasing importance of chip-embedding in the e-mobility industry, highlighting its benefits in achieving high power density, reducing energy losses, and enabling more



compact designs – a crucial consideration in the future electrification of the automotive sector.

3.2.2. Insights collected

Narrating SCAPE

As project outputs come to life and SCAPE studies effective ways of sharing its progress, new potential narratives for the project develop. The upcoming year will be the chance to refine SCAPE's storytelling by emphasising its **LEGO-like approach** to power converter architecture to highlight its adaptive design, flexible use, and efficient scalability. Making complex power converter architecture based on building blocks easily relatable and understandable to a wider audience can enhance the impact of dissemination by engaging audiences through a familiar concept.

Spotlight on the Environmental Sustainability of SCAPE's Technology

Following the tasks' progress, the time is mature to highlight SCAPE's work in the **environmental impact assessment**. This will build on the findings related to the environmental impact of materials and manufacturing processes required for the proposed power converters using chip-embedded integration technology, as well as on the initial insights from the eco-design approach currently being explored. Sharing SCAPE's "field" experience and framing it within the wider policy and regulation frameworks on the topic under development at the EC level (i.e. EU rules on Eco-design for Sustainable Products – July 2024) will empower the project's message and place its research the wider context of decarbonisation goals and sustainable transport technologies.

The Industry Connection

The SCHWEIZER-led talk and the presence of industry actors in SCAPE's Advisory Board who actively take part in the project's GAs (alongside distinguished representatives of academia) highlight the importance for the project to connect with components producers and technology providers that can help deliver more sustainable and better-performing products to the EV industry. Keeping the **powertrain value chain** involved in the project at all stages is a clear asset for SCAPE to build a knowledgeable network able to support the project in identifying industry needs and supporting future market routes and exploitation.

3.3. Planned steps for Year 3

As the project enters its third year with a number of prototypes on the table (including the final chip-embedded converter leg by the end of 2024) and the intensification of the advanced controls tasks, partners will strive to document and share their research through scientific channels, including conferences and publications.

As such, future dissemination actions will concentrate on:



- Supporting technical WPs in delivering sound and powerful dissemination outputs, grounded on project activities and results, as these become available. This includes showcasing project outcomes both via scientific dissemination routes (conference papers, journal articles, etc.) and through the production of tailored content for audiences within and beyond the power electronics community, in line with the activities proposed in 2.3 (articles, video pills series) and 3.2.2 (narratives).



- Delivering Workshop #2, ideally in parallel with SCAPE’s GA n.6 (Summer of 2024). The preliminary agenda includes a focus on prototype demos and a session on advanced systems controls that will be implemented in the second part of SCAPE.
- Continued participation at events within the framework of the E-VOLVE cluster, including a shared journey in the Horizon Results Booster services where some members of the E-VOLVE Cluster (including SCAPE) will benefit from support in organising joint dissemination events and in developing shared policy recommendations regarding electro-mobility.
- Promoting informal knowledge-sharing sessions with other projects and within the working groups of the E-VOLVE cluster.

4. Monitoring of Communication & Dissemination activities

Based on the type of communication/dissemination activity involved, different monitoring tools are used to assess the success/effectiveness of the performance and consider adjustments to meet the targets set out. Table 1 illustrates and briefly comments on the engagement trends up to M27.

KPIs	Target*	M27 snapshot	Comments
Website	250 visits/month of unique visitors	75 visits/month on average**	There was a 5-month tracking ‘black-out’ due to a Google Analytics plug-in update that went wrong, so correct tracking was restored from January 2024.
Social media impressions	500+ social media interactions over the project’s lifetime	 12,000+ unique impressions** 300+ reactions** 13 reposts** Engagement rate*: 7.3%** *calculated as clicks + reactions + comments + shares + follows/ Impressions.	In-built insight tools available from the social media platforms selected are used to monitor the performance on social media in terms of both engagement and interaction.
		 1,000 unique impressions** 85 engagements** Engagements are the total number of times users have interacted with posts, including reposts, replies, follows, and likes.	



LinkedIn	250 followers	248 followers	Best-performing social media channel
X	125 followers	23 followers	A new strategy to enhance performance is in place for Year 3.
Project Leaflets	400 project leaflets handed out/downloaded from website	50 printed and distributed 80+ downloaded/opened from the website	
Workshop 1	20 participants	35 participants	Turnout was higher than expected and the expert audience was highly engaged with the topics
Workshop 2	20 participants	NA	Summer 2025 in parallel with GA#6
Newsletters	200 subscribers	51 subscribers	Subscribers do not reflect the actual reach of the Newsletter since it is also shared via social media and partners' contact lists.
Scientific Articles	10+ articles accepted for publication in peer-reviewed journals	2	
Events/Conferences participation	15+ active participations in external conferences/seminars/exhibitions	8	
Final Conference	50+ participants	NA	Scheduled for M48
<p>* Target numbers refer to performance by the end of the project (June 2026) ** Metrics refer to the 1 October 2023 – 25 September 2024 interval</p>			

Table 1 – SCAPE's Communication/Dissemination KPIs at M27

5. Exploitation activities

5.1. Reflection on the exploitation strategy – Year 2

Throughout the second year, the SCAPE exploitation activities have continued according to the SCAPE exploitation strategy. While a lot of progress was made in the more technical work packages, exploitation activities focused on continued market monitoring, an updated DES survey, and delivering an exploitation workshop. All these efforts are geared to maximising the exploitation of the project results that are being developed. This section reflects on the project's exploitation strategy, the actions undertaken, and the next exploitation steps.

5.2. Exploitation activities up to Year 2

In the first year of the project, exploitation efforts mainly revolved around market monitoring activities. Additionally, efforts have been made to integrate exploitation into the project's technical developments by presenting and discussing the gathered market knowledge at bi-monthly executive board meetings. The effect of this integration on actual technical developments is still to be evaluated. Of course, the Grant Agreement has already provided an agreed-upon workplan that is already directed towards market needs, reducing potential pivots needed for exploitation of the projects results.



As stated on the SCAPE website, “SCAPE aims to revolutionise the design, architecture and implementation of power converters for electric vehicles to counter the lack of standardisation across different vehicles”. There is a solid base of exploitation interest in the consortium from both commercial and knowledge partners alike, with a desire to make project results ready for follow-up steps.

Through additional organised workshops, interaction with the Advisory Board, EIB meetings, and external stakeholder conversations, different exploitation routes and support services are being discussed to maximise the exploitation of the SCAPE results.

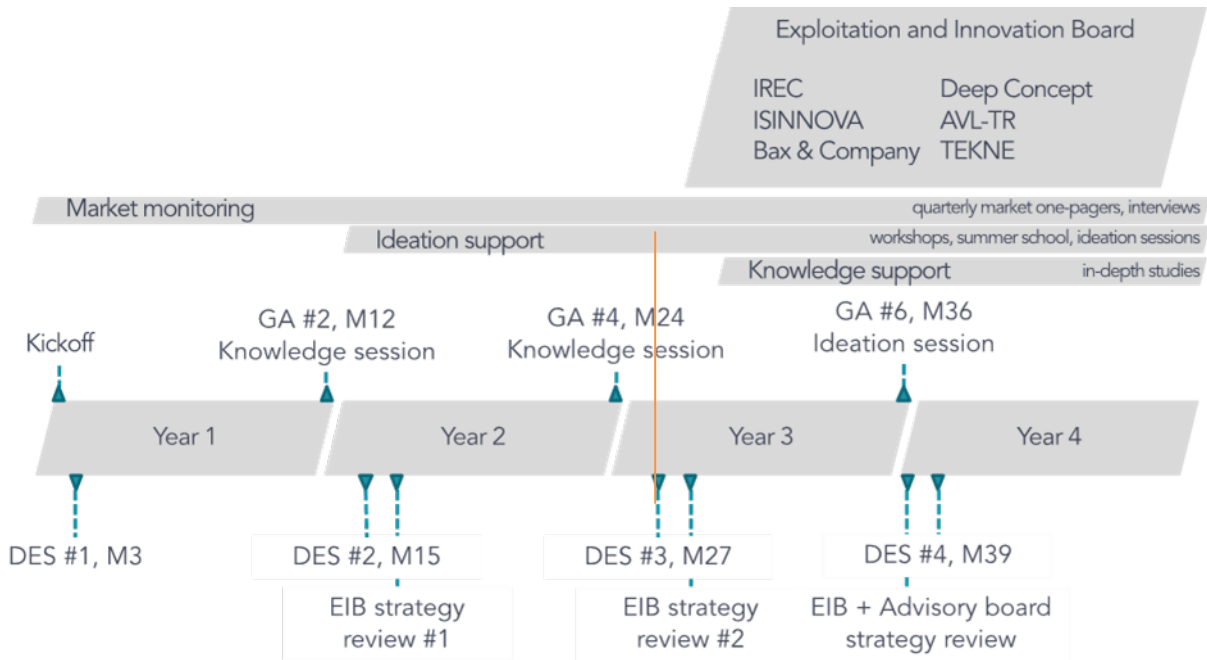


Figure 1 - The SCAPE Exploitation Strategy

5.3. Exploitation activities performed and insights collected

- *Quarterly Scape-to-Market Reports*

Starting in the first quarter of 2023, five [Scape-to-Market reports](#) have been written and presented within the executive board meetings, mostly on a quarterly basis.

The quarterly reports have shown several trends in the relevant environment that are useful to keep an eye on: V2G automotive designs and development funding opportunities, GaN/SiN uptake in different industries, modular EV platforms and designs. This **continuous collection of market developments** will allow for an iterative and well-informed exploitation strategy throughout the project.

- *Advisory Board members, 2 SCAPE Workshops, and sector deep dives*

The SCAPE Advisory Board members are delivering useful contributions, both during the SCAPE workshop at AEIT Automotive 2023 and as participants in the internal workshop at the GA in Barcelona (July 2024). Additionally, the follow-up deep dive interviews have provided valuable insights into exploring various application sectors. Although SCAPE's main focus lies in the automotive sector, it is deemed worthwhile to explore surrounding application areas for SCAPE results. The input from AB members originated from the aerospace and maritime industries and



was complemented by SCAPE’s partner TEKNE’s input on the power machine industry. The resulting insights from interaction with Advisory Board members and others at the AEIT Automotive 2023 revolved around: cost sensitivity, technical replicability, industry trends, manufacturing & economic feasibility. The workshop held in Barcelona (July 2024) focused more on exploitation routes, potential customers, and the unique selling proposition of the different exploitation results. This workshop provided useful content for future exploitation activities.

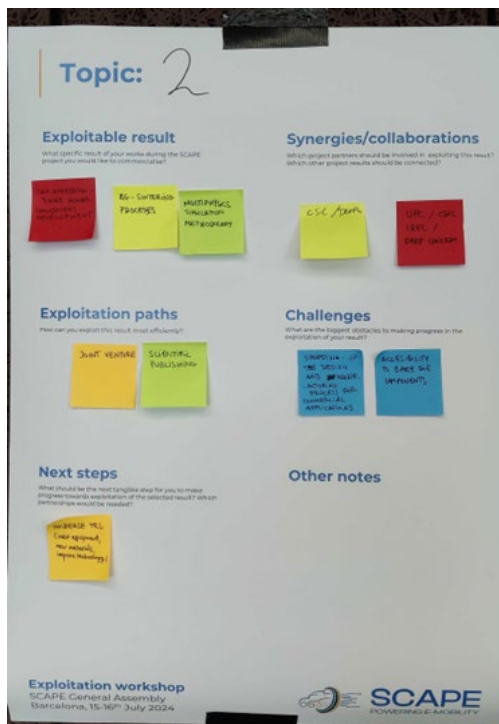


Figure 2 - Poster of the Exploitation Workshop Session

- *Exploitation Monitoring Survey*

The yearly exploitation monitoring was sent out to SCAPE partners after the workshop at the AEIT conference and the next one is in the making to be sent out in October 2024. The first survey asked for additional data points besides the ones already presented in the Grant Agreement (see Table 2).

Some takeaways from the past exploitation monitoring survey include the confirmation of the strong exploitation interest of partners, the need to engage and involve industrial partners to progress with the low TRL, and the **wider view on potential market applications, beyond the EV sector**.

- *Building the SCAPE Legacy – Collaborative Exploration of Exploitation Routes*

As part of SCAPE’s commitment to building a long-lasting impact route for the outcomes of project research in terms of commercial, environmental, and social benefits, partners have touched base at the project’s turning point to reconsider initial ideas for project exploitation routes and update strategies based on the project’s progress. An Exploitation Workshop (led by BAX) took place as a side event of the General Assembly in Barcelona bringing together Consortium and Advisory Board members to discuss the implications and possible future applications of SCAPE’s powertrain

technology. The workshop focused on advancing key topics, including modular and scalable powertrain architecture, converter building-block implementation, advanced control systems for optimized performance, and powertrain implementation.

Using a world-café format, participants engaged in collaborative discussions, aiming to identify potential exploitation routes for the project's innovative developments. Among the primary outcomes was the emphasis on the need for further collaboration with Original Equipment Manufacturers (OEMs) and Tier 1 suppliers to explore commercialization possibilities.

The workshop highlighted several challenges, particularly the need for further development to increase the Technology Readiness Level (TRL) of various SCAPE developments. Notably, the modular and scalable powertrain architecture, while promising for its potential to reduce costs and simplify production, requires a paradigm shift in design and further refinement.

Key outcomes from the brainstorming sessions include **potential routes for exploitation through joint ventures, patenting, and collaboration with industry**. However, significant technical challenges and the slow pace of current processes were identified as barriers to commercial application.

Exploitation routes for most results in SCAPE will therefore continue within the academic world (follow-up research projects, publications, etc.) but thinking beyond academia is important with possibilities for patents, etc.

Special attention was placed on the importance of defining the following aspects from each exploitable result:

- **Potential end-user(s)**: Communication—and ideally collaboration—with end-users will be necessary for further developments and final implementation. Ideally, initial contact with potential end-users should begin during the project.
- **Advantages or unique selling propositions compared to current/traditional solutions**: These should be clearly explained in simple, non-technical terms to ensure full understanding.

Planned steps for Year 3

After the exploitation strategy update (DES#3) is delivered following year 2 (in the present report), the third year of exploitation activities will kick off with the yearly EIB strategy meeting. The main goal of this meeting is to follow up on the exploitation workshop in Barcelona and focus on the project's potential customers and unique selling propositions.

The next steps of SCAPE's exploitation journey involve defining end-users for the project's results, clarifying the unique selling propositions (USPs), and initiating communications with potential industry partners. The goal is to ensure that the project's innovative developments not only advance within the academic sphere but also find practical applications in the industry as future innovations in powertrain technology.

6. Conclusions

In conclusion, SCAPE's communication, dissemination, and exploitation activities in Year 2 have laid a strong foundation for engaging both internal and external audiences while aligning the project with market needs. Communication efforts have effectively supported the technical developments by keeping stakeholders informed through newsletters, social media, and collaborative efforts within the E-VOLVE cluster. LinkedIn has proven to be the most successful platform for interaction



with academia and industry, while future strategies aim to boost engagement on X through new formats like video content.

Year 3 will see intensified communication efforts with the production of video clips, collaborative articles, and further involvement of project partners to share updates and insights.

For dissemination, SCAPE's efforts in Year 2 have centred on highlighting tangible project outputs, especially prototypes and advanced technical achievements. The involvement of industry players, such as SCHWEIZER Electronic AG, and the integration of knowledge sharing around real-world applications, like PCB chip-embedding for EV components, have strengthened SCAPE's industry connections and relevance.

Year 3 will build on these foundations by focusing on broader scientific outreach, with plans for conferences, journal publications, and targeted workshops. The emphasis on SCAPE's modular and sustainable technology will highlight its potential impact, aligning the project's goals with industry needs and environmental sustainability objectives.

The exploitation strategy, focusing on market monitoring and refining commercialization pathways, has also shown significant progress. Quarterly Scape-to-Market reports, workshops, and collaboration with the Advisory Board have provided valuable insights into potential application sectors and technical replicability. These efforts are paving the way for effective exploitation routes as the project prepares to showcase its tangible outputs, including prototypes. Feedback from the exploitation monitoring survey highlighted the need for further funding and technical development to bring SCAPE's innovations to higher technology readiness levels (TRL 5+).

Moving into Year 3, SCAPE will continue to refine its exploitation strategies, with a focus on market adoption, customer engagement, and ensuring a strong connection between technical developments and commercialization pathways. This holistic approach ensures that SCAPE's results are not only communicated effectively but are also strategically positioned for long-term industry impact and sustainability.

In all communication, dissemination, and exploitation efforts, the open dialogue and commitment of SCAPE's technical partners to continually refine strategies and expectations will remain invaluable in shaping the project's lasting legacy.



Table 2 – Current Exploitation Strategies Foreseen per Project Result

IREC	Methodology to translate comprehensive multiphysics models of the powertrain elements to compact models capable of real time execution into off-the-shelf automotive computers.	Provide consulting services to relevant stakeholders to incorporate it into their products. Use the proposed solutions in future research.	Using them in further research activities (outside the project). Creating and providing a service	No market study performed yet	The multiphysics models are a key component and we need a deep knowledge of them to properly come up with the compact version. Thus, academic and industrial partners with profound knowledge of the powertrain elements are required.	None, open access	Funding from Horizon Europe R&I actions and Spanish and Catalan government calls intended to TRL increase of low-maturity technologies.
CSIC	Improvement of metal plating solutions of bare-die terminals to allow packaging methods with higher levels of integration.	Provide these solutions to relevant stakeholders (mainly, EU power electronics companies). Use the proposed solutions in future research projects.	Using them in further research activities (outside the project). Creating and providing a service	Semiconductor manufacturers can provide chips metallized with the right metals but only for big productions.	Basically, companies or institutions dealing on power systems integration are required as end users of metallized dies.	The method was already patented. Improvements could be protected by industry secret.	Next EU projects can use this method for achieving new power systems integration solutions. Direct exploitation as a service is also foreseen.
UPC	Modular and scalable architecture and design methodology for power conversion systems.	Provide consulting services to relevant stakeholders to incorporate it into their products.	Using them in further research activities (outside the project). Further developing the concept in new R&D projects	Competing technologies are traditional power electronics converters usually with less transistors, well accepted by industry, but with similar or lower performance and, definitely, with less potential for scale economy development.	In order to support the development of the SCA concept, we will need industrial partners who are willing to pilot our solutions beyond a controlled environment into a manufacturing pipeline to prove the industrial viability of the concept, both in terms of performance and potential for scale economy.	None, open access	Seeing the interest of our Catalan regional innovation fund into EV powertrain developments, we are looking to apply for a small grant to fund our personnel cost in the further development of consulting services. We also see this fund as a facilitator in funding the collaboration with an industrial company and, eventually, a consulting company.
UPC	Online method to assess the battery bank SoH, based on a specific operating strategy of the multilevel power converter connected to the battery bank.	License the use of the method to suppliers and other relevant end-users.	Using them in further research activities (outside the project). Creating and providing a service	SoH estimation methods based in the measurement of the operation of the battery.	In order to support the development of consulting services we will need industrial partners who are willing to pilot our solutions beyond a controlled environment into a manufacturing pipeline to derive interesting insights.	None, open access	Since the SoTA after the project will be around TRL 5, a Horizon Europe (or similar EU instruments) follow-up project is foreseen.
UNIMORE	Online method to assess the windings SoH based on a specific operating strategy of the multilevel power converter.	License the use of the method to suppliers and other relevant end-users.	Using them in further research activities (outside the project). Developing, creating or marketing a product or process	1. there are not competing technologies in the market	1. partner able to provide experimental data of voltage and current supplying electrical motors	Copyright	1. Since the SoTA after the project will be around TRL 5, a Horizon Europe follow-up project is foreseen.
UNIMORE	Gate driver circuit and associated switching strategy for reduced dv/dt and improved winding lifetime.	License to relevant stakeholders to incorporate it into their products.	Using them in further research activities (outside the project). Developing, creating or marketing a product or process	2. conventional gate driver circuit for power converters based on WBG devices	2. In order to support the development of consulting services we will need industrial partners who are willing to pilot our solutions	Copyright	1. Since the SoTA after the project will be around TRL 5, a Horizon Europe follow-up project is foreseen.
DEEP CONCEPT	Increase of the expertise in power module packaging, with a differentiating technology.	Provide the CE technology to future products of DC.	Using them in further research activities (outside the project). Developing, creating or marketing a product or process	Competing technologies are innovative integrated technologies for semi-conductors	For the chip embedded technology, we will need a strong collaboration with Schweizer.	Industry secret	linked to the TRL5, a new Horizon Europe follow-up project is foreseen
BAX	Consulting methodology for commercialisation strategies in R&I environments.	Provide consulting services to industrial partners regarding their R&I strategy and commercialisation strategies.	Using them in further research activities (outside the project). Developing, creating or marketing a product or process	Internal consulting or full-time dedicated staff.	In order to exploit this service, relevant contacts in R&I environments are needed to further develop the service and commercialise it for commercial assignments.	None, open access	Next EU or nationally funded projects to further develop the service.
AVL	Improved approaches and reduced costs in the area of power converters and concrete validation results of these newly designed e-drive elements.	After an analysis of the innovations resulting from the project is conducted, the exploitation plan will be applied considering several objectives such as: technological advancements, academic collaboration potential and business impact. To do so, 3 major approaches will be practiced: (1) making project results and their impact visible by spreading the results among stakeholders from automotive industry in order to keep technology ready to be improved more; (2) preparing academic publications and organizing events to discuss with local academic institutions and universities; (3) enhancing existing services provided for customers and increasing business potential, accordingly.	No commercial exploitation expected as AVL has worked on the systems engineering part of the project.	n/a	n/a	n/a	n/a
TEKNE	Short term: (1) on-line monitoring and control system and advanced control for EV; (2) improved integration and verification processes (battery, converter, e-axis, powertrain). Medium term: (3) more efficient, compact, and reliable powertrain based on the new power converter design approach.	TEK is an Italian medium enterprise that produces special vehicles for professional applications, and the demand for EV is increasing also in this market. The industrial growth stands on three factors: (a) the product, EV in this case, which can benefit from the on-line monitoring and control system and, in the medium term, from a better power supply system; (b) the industrial process, in which integration and verification play a key role; (c) the individual technical skills, which will grow (knowledge and experience) thanks to the participation in SCAPE	Using them in further research activities (outside the project). Developing, creating or marketing a product or process	Not applicable at the moment.	No partner puts directly in the project its expertise of e-drive manufacturer: such a cooperations could be very useful.	Industry secret	TEKNE will continue the cooperation with SCAPE partners, to bring the new inverters to a higher maturity level, from the TRL6 at the end of the project, on the basis of the "road to market" task that the latter includes.





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