



Project Marketing Basics and Webpage

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1. Executive Summary

This deliverable contains the dissemination and communication basics such as project flyers, project roll-up as well as the **HiPE** webpage and the **HiPE** LinkedIn Channel for the digital marketing of the project.

Keywords: **HiPE** webpage, **HiPE** dissemination basics, flyer, roll-up, LinkedIn-Channel

2. Introduction and Objectives

Dissemination and communication of the project, its results (simulations, prototypes, demonstrators, innovative methodologies and research work) and all relevant information regarding integrated wide bandgap power electronics using SiC and GaN technologies to build-up innovative components, subsystems and systems like inverter (400V or 800V), but also DC/DC converters for an e-axle or advanced chassis actuators and efficient powertrain of the next generation are a relevant part of the project.

This deliverable contains the relevant dissemination and communication basics for the physical and digital dissemination and communication activities within **HiPE**.

2.1 Structure of this Deliverable

The structure of this deliverable is a clear and simple one: it is a listing of all relevant project dissemination and communication basics as well as the webpage and LinkedIn channel appearance within an own sub-chapter.

2.2 Objectives

The deliverable acts as a list of dissemination material and information platform available for dissemination and communication activities on partner and project-level.

2.3 Approach

The approach for the dissemination and communication material can be concluded in the following:

- The dissemination basics are developed at the very early beginning of the project and will be updated on a yearly base.
- The webpage will be designed at the beginning of the project and will be updated on a quarterly base (the update process is linked to the quarterly status meetings in WP7, where current and planned activities will be inquired and then used for the update).
- The LinkedIn-Channel will be designed at the beginning of the project and will be updated on a quarterly base (the update process is linked to the quarterly status meetings in WP7, where current and planned activities will be inquired and then used for the update).
- All dissemination materials will be reviewed by all project partners and must be accepted by all of them.
- The dissemination materials will be stored on the HiPE SharePoint (digital format) and stay digital as long as possible.

If basics will be printed for a dissemination event, the amount must be clearly defined (including a small safety amount). This should help to protect the environment by minimising material costs for paper as well as of energy costs.

3. HiPE Dissemination Basics

Every following sub chapter shows the developed dissemination basics for the project dissemination and communication. This includes:

- The HiPE Logo
- The HiPE project folder/flyer
- The HiPE roll-up
- The HiPE webpage
- The HiPE LinkedIn

3.1 The HiPE Logo

Within the proposal phase, the logo of HiPE was created representing the short and long name of the project as well as the ambition to show our contribution to the efforts within Europe to reach the targets of the EU Green Deal [1] [2]. The “green ambition” is represented by the green colour and elements in the logo, whereas the elements in black build a convenient contrast.



Figure 3-1: HiPE Logo

3.2 The HiPE Project Folder/Flyer

Taking the content of HiPE into account, the most relevant and interesting project goals, methodologies such as the four Use Cases and results (methods, simulations, components, and demonstrators) were used to create the project folder/flyer.

Figure 3-2 and Figure 3-3 show the final design accepted by all project partners:

The Project HiPE at a glance

HiPE Vision
The development activities of HiPE will imply significant research and innovation in terms of circuit topologies, electro-magnetic interference filters, integrated double-side pin-fin and immersion/impingement/two-phase cooling, stray inductance reduction, DC-link capacitors, materials, manufacturing techniques, as well as intelligent model-based and data-driven control, achieved through simulation and optimisation methodologies.

HiPE Mission
The project mission will be an unprecedented level of functional integration, e.g., the HiPE smart power electronics solutions will include intelligent and predictive controllers to optimise performance, innovative and computationally efficient data-driven approaches to monitor the state-of-health of the relevant hardware, as well as novel self-adaptive digital-twin-based methodologies to tailor the component- and vehicle-level algorithms to the specific condition of the hardware installed on each individual BEV, and actively improve reliability and availability of the electronic parts during field use.

HiPE project objectives

- **Objective 1:** Improve the efficiency of integrated WBG-based power electronics components and systems
- **Objective 2:** Reduce the cost of power electronics components and systems
- **Objective 3:** Reduce size and weight of power electronics and electric powertrains
- **Objective 4:** Increase reliability and dependability through integrated design and intelligent control
- **Objective 5:** Implement WBG-based power electronics meeting automotive quality levels

Ambition of HiPE

Integrated WBG-based electric drive
HiPE ambition is to research and develop the next generation of highly efficient and affordable integrated electric drives for BEVs resulting in electric drive power density values in electric drive power density in excess of 25 kW/L, specific power values in excess of 6 kW/kg, and >23% inverter cost reduction with respect to the current best-in-cost WBG-based inverters, meet and exceed the quantitative performance and cost indicators set by the US DRIVE and UK APC roadmaps.

Integrated bidirectional WBG-based OBC and HV/LV DC/DC converter
HiPE will create a knowledge base on the potential of: a) using Gallium Nitride (GaN) for on board charger (OBC) applications, and comparisons with more conventional silicon-carbide (SiC)-based implementations; b) integrating the OBC and HV/LV DC/DC; and c) selecting the most appropriate bidirectional OBC topology, depending on the BEV requirements, to achieve high power ratings (e.g., 22 kW) with at least 98% efficiency and 5 kW/L power density.

Smart electric drives for chassis actuators and auxiliaries
HiPE will research a paradigm shift in the development of actuation systems for BEVs, by proposing 400V and 800V active electro-hydraulic suspension actuators, with smart GaN-based electric drives including predicting health management (PHM) and connectivity functionalities, as well as reduced number of solenoids, compensated by enhanced controllability of the hydraulic pump.

Advanced cooling and predictive thermal and energy management
HiPE aims to design direct cooling systems that can significantly increase heat transfer rates and cooling performance by integrating technologies not yet investigated for automotive PE components, i.e., jet impingement cooling, phase changing materials, immersion cooling, new pin-fin designs as well as heat-pipes, with implementation costs that are lower or at least the same as with current cooling technologies.

Predictive health management
HiPE aims at assuring the car user reaches its current destination and will be achieved by implementing compact versions of the digital twins directly into the real-time electronic systems. This new "mission guarantee" idea will boost customer satisfaction, as it offers not only a safe journey, but also promises no more breakdowns before the destination is reached.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101056760.

Figure 3-2: HiPE Project Folder/Flyer Front Page

The HiPE consortium brings together 13 participants from industrial and research backgrounds, covering the whole relevant value chain, to develop a new family of highly energy-efficient, cost-effective, modular, compact and integrated wide bandgap (WBG) power electronics solutions for the next generation of battery electric vehicles (BEVs), and to facilitate a significant market penetration of WBG in the automotive sector.

HiPE results will be:

- i) a scalable and modular family of WBG-based traction inverters
- ii) a family of integrated WBG-based bidirectional on-board chargers (OBCs) and high-to-low voltage (HV/LV) DC/DC converters
- iii) integrated, fault-tolerant and cost-effective Gallium Nitride (GaN)-based power electronics for high-voltage ancillaries and chassis act
- iv) Demonstration and evaluation

Coordinated by
virtual vehicle

Partners

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101056760.

HiPE

High Performance Power Electronics Integrations

UC1: Integrated WBG-based traction inverters, HV/LV DC/DC converters and electric motors for high volume passenger vehicle up to 150 kW

UC2: Integrated WBG-based traction inverters, HV/LV DC/DC converters and electric motors for light commercial vehicles

UC3: Integrated WBG-based on-board chargers and HV/LV DC/DC converters

UC4: Integrated and fault-tolerant power electronics (PEs) for auxiliaries and chassis components

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www.hipeproject.eu
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- **Duration:** 36 months
- **Project Start:** 1st November 2022
- **Consortium:** 13 partners
- **Project Budget:** 5,481,274 Euro
- **Project Funding:** 5,481,274 Euro

Figure 3-3: HiPE Project Folder/Flyer Rear Page

3.3 The HiPE Roll-up

The **HiPE** roll-up is based on the folder/flyer design and content but focusses on the front page of it to present the most valuable information and provide a better overview. Figure 3-4 shows the final design accepted by all project partners:

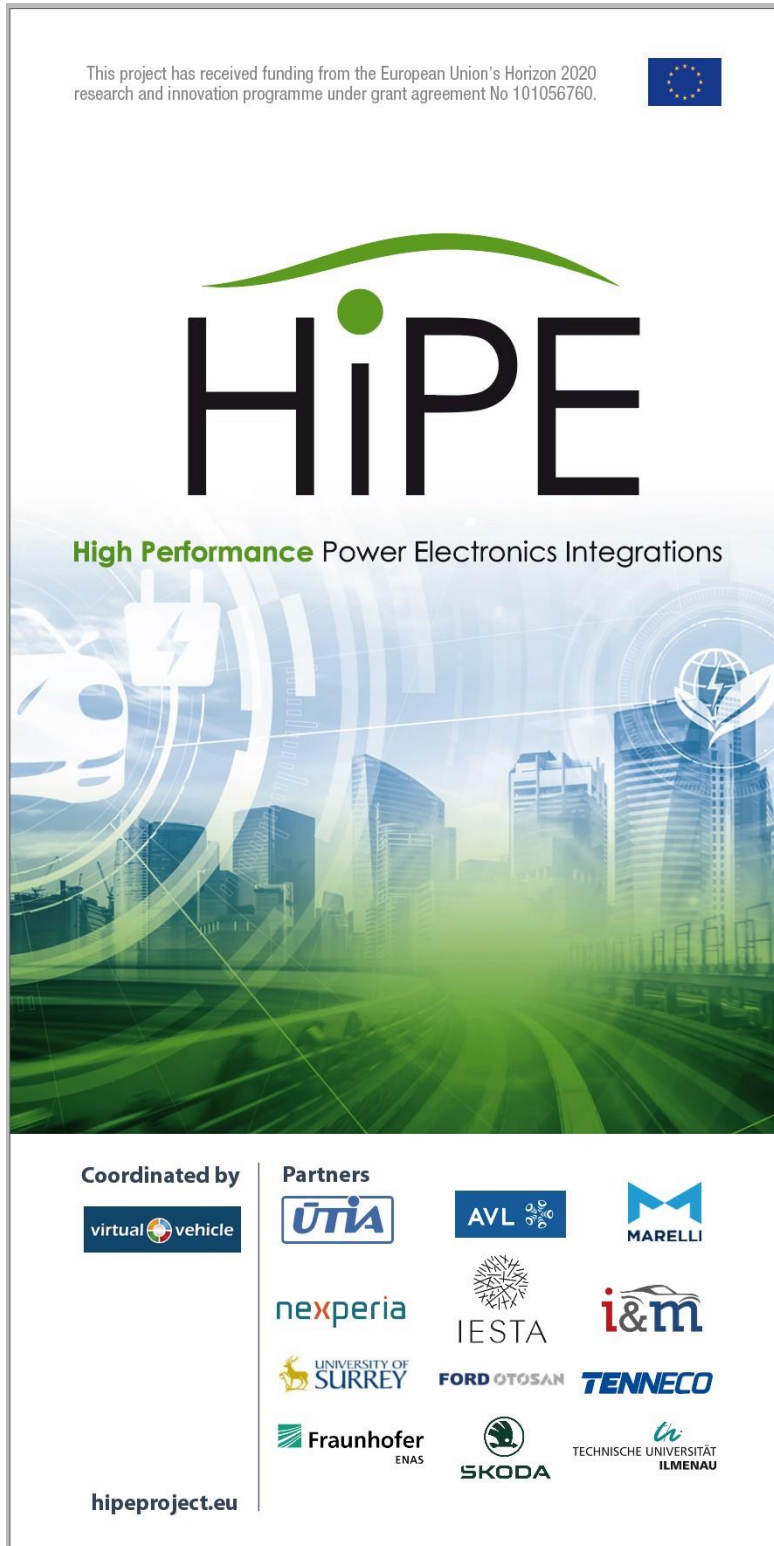


Figure 3-4: HiPE Roll-up

3.4 The HiPE Webpage

The webpage was designed by using current modern standards for webpages, the content of the HiPE project and an experienced external graphic design company to ensure a fast and state-of-the-art implementation including all legal relevant regulations as well as a content updating process of the webpage.

The webpage itself, which can be found under www.hipeproject.eu, contains the following main pillars (see also Figure 3-5):

- HOME for the welcome and first entry to the project.
- PROJECT describing the main targets and the WP structure of the project.
- PROJECT PARTNERS listing all project partners of **HiPE**.
- RESULTS giving access to the public results and public deliverables of the project.
- CONTACT including the contact details for more details or cooperation with the project.
- “LinkedIn™” as link to the LinkedIn platform of the project.

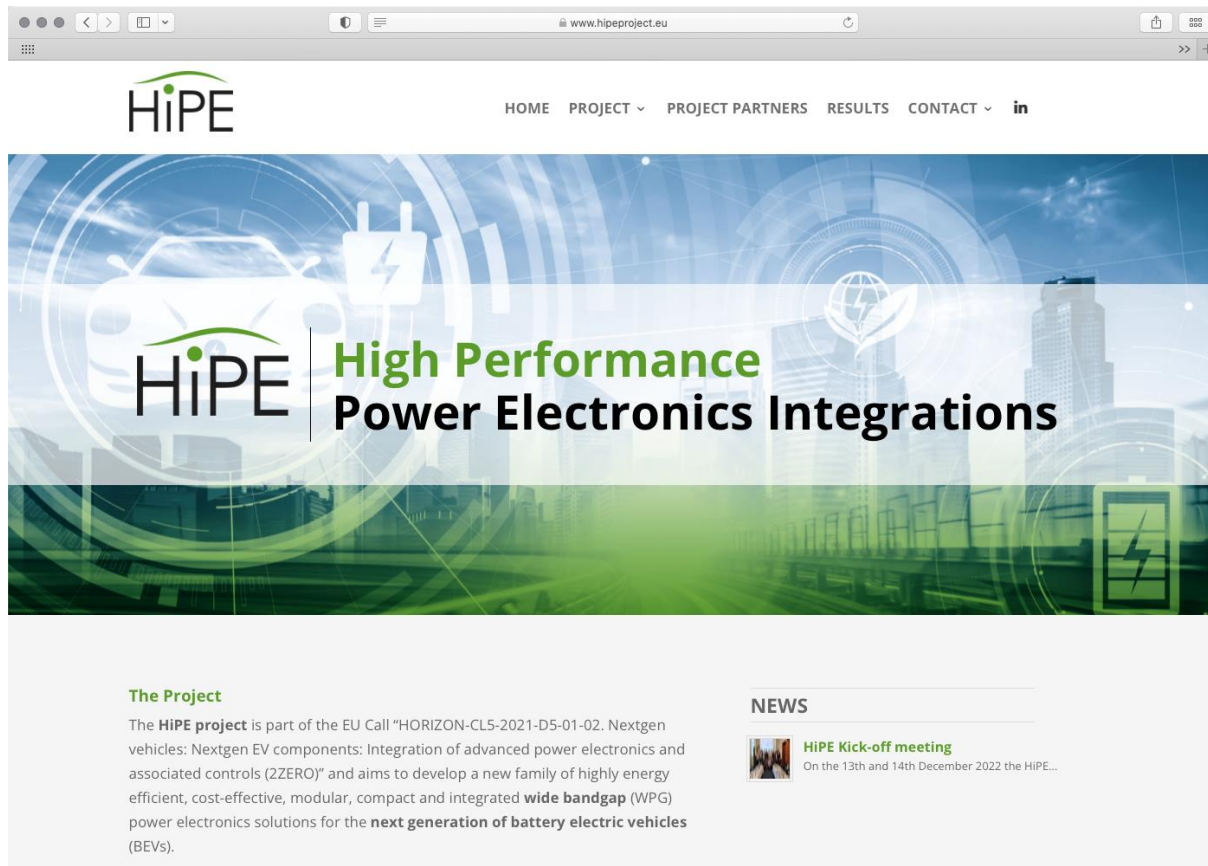


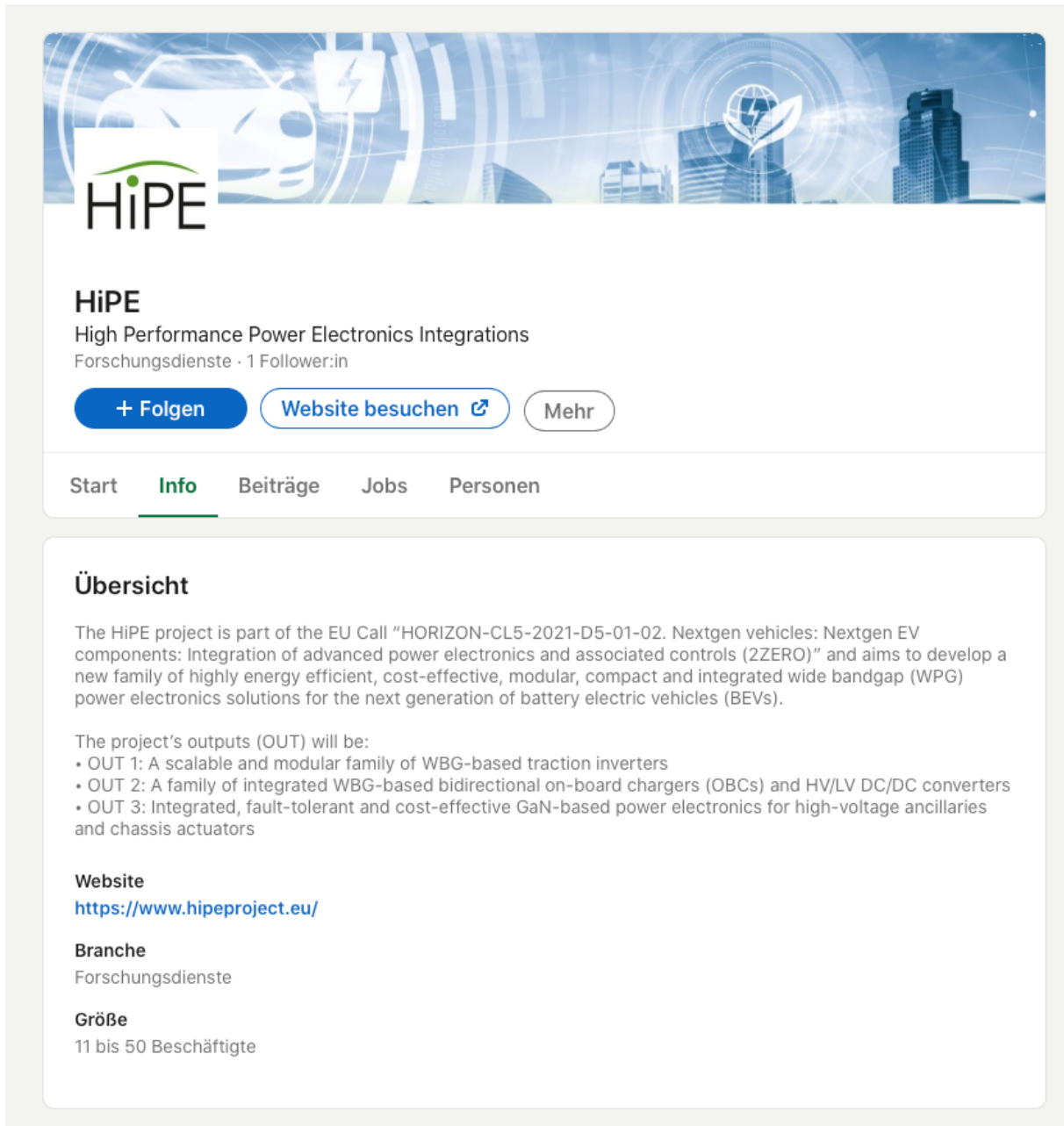
Figure 3-5: HiPE Webpage

Additionally, you can find the project description in a nutshell (“The project”) and the news section – which will be continuously aligned with the LinkedIn channel (see next chapter) – showing actual results or events from the project and its activities.

3.5 The HiPE LinkedIn Channel

The LinkedIn channel was designed using the tools of LinkedIn itself and will be updated using the input of the partner or other dissemination and communication activities, like with the E-VOLVE Cluster or the other ongoing EU Cluster 5 projects.

The following figure (Figure 3-6) shows the LinkedIn page of **HiPE**:



The screenshot shows the LinkedIn profile for HiPE. The header features a blue banner with a futuristic cityscape and a car. Below the banner is the HiPE logo and the text 'HiPE High Performance Power Electronics Integrations Forschungsdienste · 1 Follower:in'. There are three buttons: '+ Folgen', 'Website besuchen' (with a link icon), and 'Mehr'. Below these are navigation tabs: 'Start', 'Info' (selected), 'Beiträge', 'Jobs', and 'Personen'. The main content area is titled 'Übersicht' and contains a paragraph about the project's goals, a list of outputs (OUT 1, 2, 3), and a website link: <https://www.hipeproject.eu/>. It also lists the industry as 'Forschungsdienste' and the size as '11 bis 50 Beschäftigte'.

Figure 3-6: HiPE LinkedIn Channel

4. Conclusion

Chapters 3.1 to 3.5 present the dissemination basics at the beginning of project, which can be used by the partners or the project to disseminate and communicate the results of the research, development and evaluating work of **HiPE**.

All basic materials will be continuously monitored and update and especially the web site and the LinkedIn channel will be reviewed and adapted to maximise the impact of the dissemination and communication activities of **HiPE**.

5. Abbreviations

Term	Definition
DEC	Websites, Patent Filings, Videos etc.
HiPE	High Performance Power Electronics Integrations
PU	Public
WP	Work Package

6. References

- [1] REGULATION (EU) 2021/1119 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law')
- [2] REGULATION (EU) 2018/1999 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council