



Scalable European Powertrain Technology Platform
for
Cost-Efficient Electric Vehicles to Connect Europe

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1 Executive summary

This document is intended to give an overview of the web portal used for the public presentation and the internal communication mechanism and data exchange for the 1000kmPLUS project. The data exchange portal provides a cloud file sharing for all partners. Furthermore, we are using mailing lists for the communication within the project. The information provided at the web portal is an outcome of all 1000kmPLUS project partners' contributions.

2 Publishable summary

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3 Non publishable information

Not applicable

4 Introduction & Scope

4.1 Purpose and target group

The work about the 1000kmPLUS-website represents the 1000kmPLUS project and provides information for the general public, experts in the field, related projects, other research programs, and relevant authorities. It supports the exchange of information within and outside the project and displays the work status and results of the project.

The data exchange portal is used within the project and allows the live exchange of files; furthermore, the mailing lists are used project internal for communication purposes.

4.2 Contributions of partners

Explain which partner were involved and their activities in their various sections

TABLE 1: CONTRIBUTIONS

Chapter	Partner	Contribution
All sections	OTH-AW	Heike Lepke Main author, elaboration and completion



4.3 Relation to other activities in the project

The website is built from information gathered from all of 1000kmPLUS Work Packages and Supply Chains. The users of data exchange and the members of the mailing lists are frequently updated according to the input from the project members.

All information is represented within the project or for the public on the website depending on the kind of information.



5 1000kmPLUS web access

The 1000kmPLUS website is divided in two parts. The public website www.1000kmPLUS.eu with the official web content and the project internal data exchange realized through the platform Nextcloud <https://1000kmplus-cloud.automotive.oth-aw.de> [NXC].

The 1000kmPLUS website was immediately online after the start of the project. The mailing lists and data share were already in use before the project started, to enable the communication and coordination between the project partners.

5.1 1000kmPLUS public website

The 1000kmPLUS website is a useful tool to provide in a practical and user-friendly way the project work and dissemination material. Using the www (world wide web) grants access to every member of the project and also gives the public audience a fast and easy way to receive project information. The website is divided in two parts, public information ([www. 1000kmPLUS.eu](http://www.1000kmPLUS.eu)) and a project internal data exchange.

Both parts of the website are setup within a flowing process through the project members and will frequently updated with new input, e.g. news of the project, meetings, participation in events, and developments. The website will also be used to provide downloads of the dissemination material.

5.1.1.1 Project logo

The 1000kmPLUS logo depicts the title of the project combined with the state of charge progress bar, showing four different states, with the full charge state in the letter U of the word PLUS. Furthermore the S in PLUS is formed as a charging cable. Together with the green coloring these elements imply a better energy level of the battery and easy charging reached due to the work of the 1000kmPLUS project.



FIGURE 1: 1000kmPLUS Logo

5.1.1.2 Website layout

The layout of the website is derived from a responsive template. It adapts and resizes itself to desktop and mobile devices and provides an optimal handling in viewing and interaction. It is comfortable in its usage for reading, navigation, resizing, panning and scrolling and works with the commonly used range of devices, from desktop monitors.

5.1.1.3 Website access

The website is accessible through the URL <https://www.1000kmPLUS.eu>. The domain name 1000kmPLUS.eu is chosen to connect to the project name 1000kmPLUS and the top-level domain .eu, which shows the reference to the European Union (EU).



5.1.2 Public Web Content

The public web content is based on the project contents and its activities. It provides details about the project information as an outcome of the project dissemination and derived from meetings and discussions among consortium members. The intention of the web site is to inform both the public and project members. The supposed visitors will vary from experts in the field, public authorities, industry representatives, researchers, and the general public.

5.1.2.1 Menus and submenus

The website has the following menu entries on the top site of the web site: Home, News, Project, Consortium, **Contact**, and **'Datashare'** below, to navigate to other parts of the website.

5.1.2.1.1 Home (first page)

The public first page of the website (Figure 2 and Figure 3) shows the project overview, with the most important project information, the latest news and featured articles, which are the current most important articles, e.g. the "Kick-off meeting". Other featured articles will be latest news or project information.

In the middle part of the website, overall information about the project is shown within half-page module.

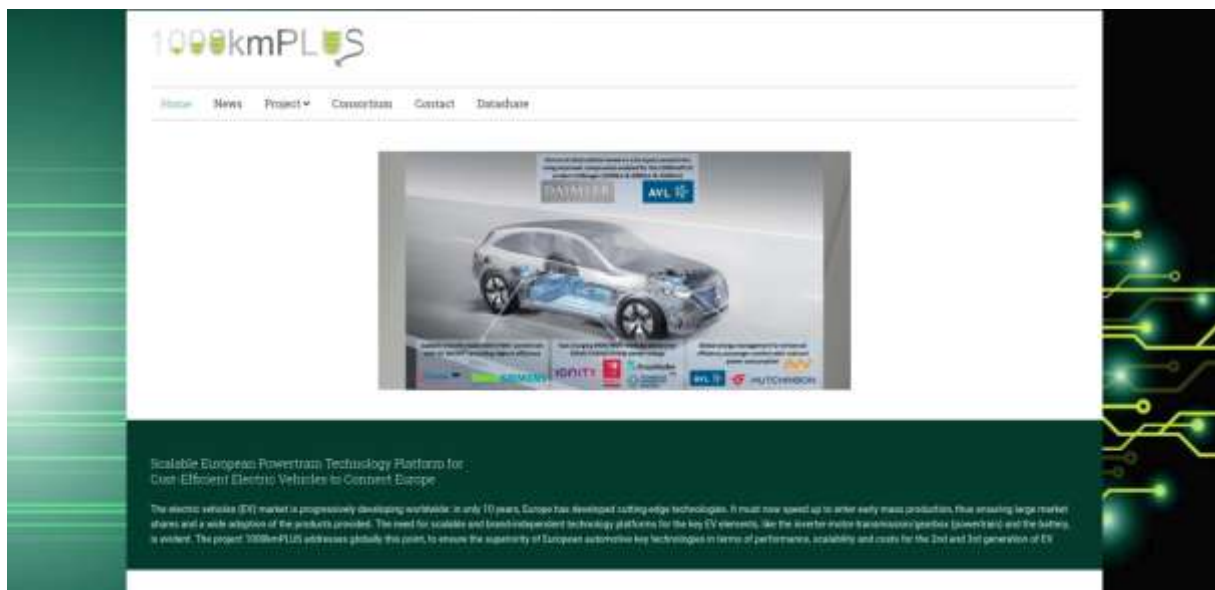


FIGURE 2: SCREENSHOT OF THE HOME SITE FOR 1000KMPLUS.EU

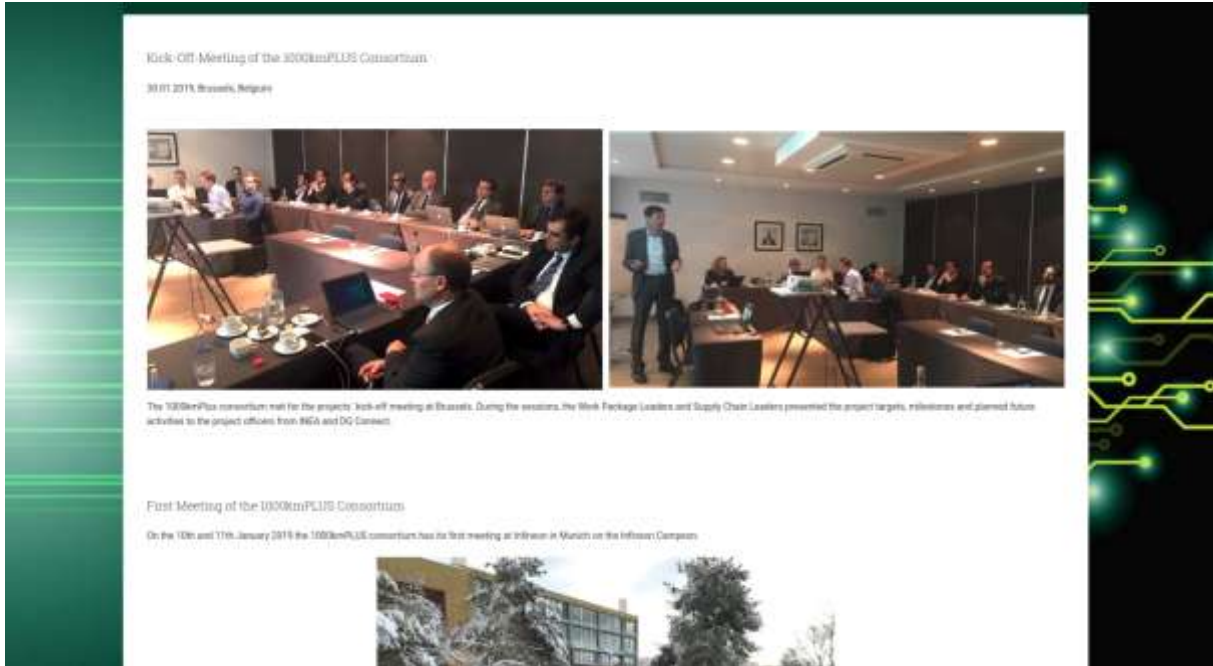


FIGURE 3: SCREENSHOT 2 OF THE HOME SITE FOR 1000KMPLUS.EU

In the bottom part of the site a funding acknowledgement is included. It is shown as the funder of the project and the flag of the European Union is displayed.



5.1.2.1.2 News

The latest news of the project are listed here.

5.1.2.1.3 Project Submenus

The project-menu has several submenus with the structure of the three supply chains of the project, see Figure 4, leading to deeper information about the supply chains, e.g. Supply Chain 1 see Figure 5.

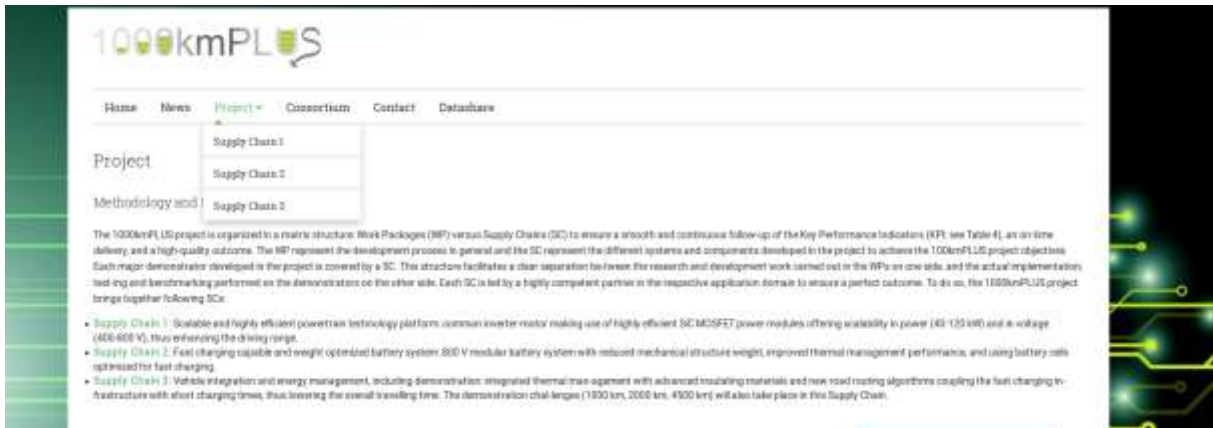


FIGURE 4: GUIDANCE TO PROJECT INFORMATION



FIGURE 5: EXEMPLARY INFORMATION ABOUT SUPPLY CHAIN 1

5.1.2.1.4 Consortium

The consortium tab shows the single partner and the function in the 1000kmPLUS project, see Figure 7 (Figure 6). The list of partners comprises a description of their work and a link to their web presentations.



FIGURE 6: PARTNERS AND THEIR FUNCTION IN THE 1000KMPLUS PROJECT

	Infineon Technologies AG	Infineon makes the world safer, safer and greener. Barely visible, semiconductors have become an indispensable part of our daily lives. Chips from Infineon play an essential role wherever electric energy is generated, transmitted and used efficiently.
	AVL, Ltd.	AVL is the world's largest independent company for development, simulation and testing technology of powertrains (hybrid, combustion engines, transmission, electric drive, batteries and software) for passenger cars, trucks and large engines. AVL has around 3900 employees in Graz (over 1000 graduate engineers) and a global network of 45 representations and affiliates resulting in a total of 9200 employees worldwide.
	Braunschweig University of Technology	Braunschweig University of Technology (Vysoké učení technické v Braunschve, www.vutbr.cz) is the largest technical university in the Czech Republic and is one of Europe's elite technical and research universities. Braunschweig University of Technology has very rich tradition as it was founded in 1809.
	Daimler AG	Daimler AG is one of the world's most successful automotive companies. With its divisions Mercedes-Benz Cars, Daimler Trucks, Mercedes-Benz Vans, Daimler Buses and Daimler Financial Services, the Daimler Group is one of the biggest producers of premium cars and the world's biggest manufacturer of commercial vehicles with a global reach.
	Fraunhofer IISB	The Fraunhofer Gesellschaft (FG) is the leading organization of institutes for applied research in Europe, undertaking contract research on behalf of industry, the service sector and the government. At present, Fraunhofer maintains more than 80 research establishments at more than 40 locations throughout Germany.
	OTH Amberg - Weiden	The OTH-AW (Ostbayerische Technische Hochschule Amberg-Weiden) is a young and innovative university, providing a qualified and future oriented education. OTH-AW provides at the location Amberg different Bachelor and Master courses in the field of mechanical engineering, electrical engineering and computer sciences.
	SAFT Batteries	SAFT is a world specialist in the design and manufacture of high tech batteries for industry. SAFT batteries are used in high performance applications, such as industrial infrastructure and process, transportation, space and defence.
	Technische Universität Dresden	The Technische Universität Dresden (TUD) has gained its excellent reputation through achievements in engineering and the natural sciences. The university offers a wide spectrum of studies in scientific fields, humanities, social sciences and in medicine.
	Valeo Siemens eAutomotive Germany	Valeo Siemens eAutomotive GmbH (VSiEA) is a joint venture between Valeo and Siemens AG based on long experience in the field of electric motors, power electronic devices and components for passenger cars. Combining more than 150 years of experience in motor development and production from Siemens with long experience in the automotive business from Valeo.
	Hutchinson S.A.	Hutchinson S.A., a Tech. Company that is a subsidiary of TOTAL, and the privileged partner of big industrial firms, is providing comfort and safety functions for all transportation means and industry, sharing the future through innovation.
	IONITY GmbH	IONITY is the joint venture of BMW Group, Daimler AG, Ford Motor Company and the Volkswagen Group with Audi and Porsche. We are here to build a network of reliable and powerful charging stations along major routes across Europe.

FIGURE 7: DESCRIPTION OF THE PARTNER AND LINKS TO THEIR INTERNET PRESENTATIONS

5.1.2.1.5 Contact and Data share

Furthermore a contact tab enables the contact with the project lead and the data share tab holds a direct link to the project share.

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5.1.3 Website platform

The used Content Management System (CMS) is Joomla! [JOO] (Version 3.9.6 continuously updated), which is a widespread system to setup editorial contents. It is based on the programming language PHP [PHP] (version PHP 7.2.13) and the database system MariaDB [MRD]. As Joomla! is under steady enhancements the framework will be always up to date and secure through often updates. The used template is designed for Joomla! and well-integrated. It is possible to change the layout templates if wished to create a different design. A lot of developed extensions [EXJ] for the front end and the administrative back end allow extending the web site with different functionalities. The user management is integrated in the back end of the Joomla! installation.

The website is tested on all commonly used browsers on desktop computers, laptops, and mobile phones. These are mainly Internet Explorer, Firefox, IE11, Opera and Chrome.



5.2 Data Exchange

In EU-projects like 1000kmPLUS, it is important to enable a smooth operation and data exchange among the members. The project uses a cloud platform for the data-exchange, where the confidential sharing of files is possible without restrictions.

5.2.1 Data Exchange Platform Nextcloud

The used cloud software is the so called “Nextcloud” [NXC], (see Figure 8: Screenshot of the 1000kmPLUS datashare Nextcloud), installed on a server and hosted from the OTH-AW.

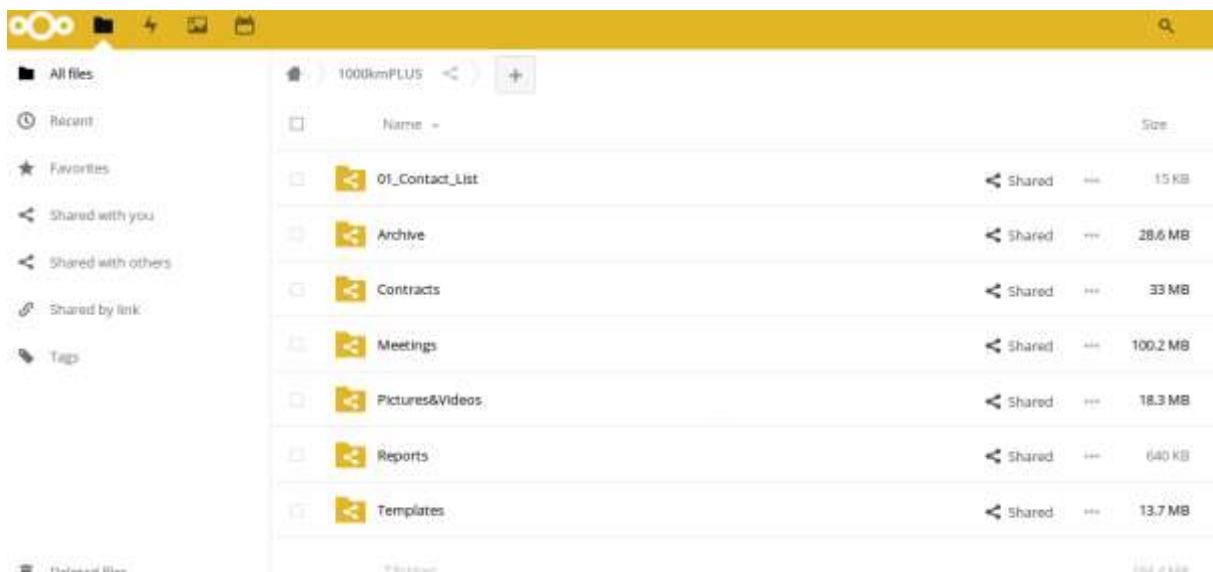


FIGURE 8: 1000KMPLUS DATASHARE NEXTCLOUD

5.2.1.1 Access

The Nextcloud-server software supports fully the WebDAV protocol, so users can connect to the server and synchronize their working data. This is possible with every standard browser like, Firefox, Internet Explorer, Opera or Chrome, through the link <https://1000kmPLUS-cloud.automotive.oth-aw.de/> so no additional software is needed to install for the users. It is also possible to access by client applications, which are available for all common Windows, Mac and Linux and furthermore by mobile apps for iOS and Android. It is not necessary to install the apps, but they facilitate the working with files, so they are automatically synchronized properly after saving. The client can be configured to store the data on any local directory.

The files are shared within the project 1000kmPLUS, but it is also possible to create personal data, which is not shared.

The file size is partly limited to 512 MB, but can be extended to bigger files if necessary. There are no restrictions for the upload/download speed of the connected users



5.2.1.2 Safety and Security

Within the Nextcloud a version control allows to access to older versions of the files. The Nextcloud software is updated frequently to keep the system up-to-date.

A daily backup is made from all data, which are physically separated from the server. The server is located in Germany at the OTH-AW.

The access to the files is only allowed through the https-protocol [HTTPS]. After the login to the Nextcloud all communication is protected through an SSL encrypted access, verified by a CA-certificate.

5.2.2 Mailing lists

Mailing lists for the efficient communication among project partners were set-up; the following lists are available:

entire Consortium:

members@1000kmPLUS.eu

and the single supply chains, via:

SC1@1000kmPLUS.eu

SC2@1000kmPLUS.eu

SC3@1000kmPLUS.eu

The members@1000kmPLUS.eu list is the largest list, with more than 60 users and is therefore restricted in sending for project management team members to avoid the spamming with reply-mails to the users. All other lists are free in the usage and all members can post mails to it.

The members of all lists are daily updated to keep the lists up to date.

5.3 Server configuration

The web site and the data-exchange platform are hosted on a server located at the OTH-AW (Ostbayerische Technische Hochschule Amberg-Weiden) in Germany, Amberg. The connection provides all needed features like unlimited file upload, not restricted by size or speed. The server has a 1Gbit/s uplink, which is guarded against failure by a 1Gbit/s secondary backup link. The server is driven by a containerized structure with access through reverse proxies for Nextcloud and Joomla!. All systems are frequently updated.

The member management for the Nextcloud is combined within the Joomla! backend.



6 Conclusion

6.1 Contribution to overall picture

The content of the website is easily accessible to the public, easy to navigate, informative, and often used. The data exchange Nextcloud is very well integrated and accepted in the project. The website and the data exchange provide therefore a good working basis for all 1000kmPLUS partners and support the project's communication and dissemination goals.

6.1.1 Overview of the contributions and main activities done

Implementation of the project website, data share and mailing lists.

6.1.2 Contribution to the main objectives of the report and its effect on other parts of the project

The project partners are able to inform the public audience through the website. The working together in the project is highly encouraged due to the possibility of sharing project data together via the platform and share information via the mailing lists.

The deliverable outcome fulfils its objectives through the combination of these three elements.

6.2 Relation to the state-of-the-art and progress beyond it

The platforms Joomla! and Nextcloud are well known and widespread software tools, which are state-of-the-art. The sources are very well cared by the respective community.

6.3 Impacts to other WPs, Tasks and SCs

The website, Nextcloud, and mailing lists are the key platforms for information sharing, dissemination efforts, planning, and effective communication. They therefore enable the leaders and contributors of all Work Packages, all Supply Chains, and all Tasks to execute their work and share the results.

6.4 Contribution to demonstration (what aspects of the work that will be demonstrated)

The website itself demonstrates the project and the project outcomes during the project live time. Demonstrators of the project will be shown on the website, either through links to the project partners or integrated films in website articles.



7 References

[NXC]	https://nextcloud.org/
[ECS]	http://www.ecsel.eu/web/index.php
[JOO]	http://www.joomla.de/
[PHP]	http://www.php.net/
[MRD]	https://mariadb.com /
[EXJ]	http://extensions.joomla.org/
[HTTPS]	https://tools.ietf.org/html/rfc2818

8 Abbreviations

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