SCALE

Capacity Building Plan

Project deliverable D6.4

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1.1 Legal Disclaimer

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Table of Contents

List of figures

List of tables

2 List of abbreviations and acronyms

Acronym	Meaning
BRP	Balance Responsible Party
CPO	Charge Point Operator
DSO	Distribution System Operator
EU	European Union
EV	Electric Vehicle
FSP	Flexibility Service Provider
GA	Grant Agreement
MSP	Mobility Service Provider
OEM	Original Equipment Manufacturer
SCALE	Smart Charging Alignment for Europe
TSO	Transmission System Operator

V2H / V2B / V2G	Vehicle to Home / Vehicle to Business / Vehicle to Grid
V2X	Vehicle to Everything
WG	Working Group

3 Executive Summary

The deliverable “D6.4 Capacity Building Plan” is a **living and foundational guide** for all of SCALE’s activities in terms of **training, learning, and upscaling activities**. It focuses on creating momentum for the project’s outputs, fostering interest by a multitude of stakeholders, and identifying channels and tool to share the project’s results and findings. More broadly, the plan aims to establish a precise framework for the capacity-building activities that shall occur throughout the project's implementation, ensuring that relevant groups of stakeholders acquire the **knowledge, skills, and capacities** required to successfully implement e-mobility actions within their ecosystems.

4 Introduction

4.1 About SCALE

SCALE is a **three-year Horizon Europe project** that explores and tests **smart charging solutions for electric vehicles**. It aims to **advance smart charging and V2G ecosystems** to shape a new energy system wherein the flexibility of EV batteries is harnessed. The project tests and validates a variety of smart charging and V2X solutions and services in **13 use cases** in real-life demonstrations in **7 European contexts:** Oslo (NO), Rotterdam/Utrecht (NL), Eindhoven (NL), Toulouse (FR), Greater Munich Area (GER), Budapest/Debrecen (HU) and Gothenburg (SE). Going further, project results, best practices, and lessons learnt will be shared across EU cities, regions, and relevant e-mobility stakeholders.

SCALE aims to create a system blueprint for user-centric smart charging and V2X for European cities and regions. SCALE's **consortium comprises 29 cutting-edge European e-mobility actors** covering the entire smart charging and V2X value chain (equipment and charging manufacturers, flexibility service providers, research and knowledge partners, public authorities, consumer associations, etc.). It is led by **ElaadNL**, one of the world's leading knowledge and innovation centres in smart charging and charging infrastructure.

4.2 Purpose and structure of the document

The primary goal of the **Capacity Building Plan**, which is part of the SCALE WP6 (Communication, replication and European take-up), is to establish a detailed outline for the project's capacity-building activities. These are carried out during the project's execution, ensuring that relevant groups of stakeholders develop the knowledge, abilities, and capabilities needed to successfully replicate SCALE results within their mobility ecosystem. All associated training and knowledge-sharing initiatives are conceptualised and produced through this deliverable, which functions as a dynamic resource that shall be updated as the project is carried out.

4.3 Capacity building objectives

SCALE devises capacity-building initiatives, aiming to enable members of the European V2X Alliance to incorporate project outcomes into their routine operations. The goals of the capacity-building activities of the project are numerous, with the most prominent being to **build capacity within the smart charging professional communities, focusing on local stakeholders**. A secondary goal is to enhance the establishment of synergies with projects, initiatives, and organisations to enable V2X intersectoral cooperation through these capacity-building activities, as well as support use case pilot partners in local stakeholder outreach and end-user communication.

Although other partners may be encouraged to join and participate, these events and modalities are, first and foremost, intended for members of the European V2X Alliance. Prerequisites for smart and bi-directional charging, collaborative city procurement methods for charging infrastructure, legal and technological integration of bi-directional charging in the future energy network, spatial integration strategies, etc., are just a few of the topics that are covered.

4.4 Reference/related documents

The following documents function as points of reference in the drafting of the present document and/or are/will be matured through concepts developed herein:

- SCALE project Grant Agreement - No 101056874

- SCALE deliverable “D1.1 Report on consumer behaviour”
- SCALE deliverable “D1.2 Stakeholder analysis report”
- SCALE deliverable “D1.3 Report on city needs & challenges in integrated planning for smart charging and V2X services”
- SCALE deliverable “D1.4 Smart charging and V2X system architecture”
- SCALE deliverable “D2.6 Tool implemented and tested on at least 1 pilot/city”
- SCALE deliverable “D3.4 Lessons learnt report”
- SCALE deliverable “D4.5 Training material and assessment”
- SCALE deliverable “D5.3 Legal & policy recommendations”
- SCALE deliverable “D5.4 Guidelines for a Joint Procurement program”
- SCALE deliverable “D5.5 Standards and protocols gap analysis”
- SCALE deliverable “D5.6 SCALE Blueprint for integrated G2X-V2X cross-sector planning”
- SCALE deliverable “D6.1 Communication, Dissemination & Exploitation Plan”
- SCALE deliverable “D6.2 Local Communication Plans”
- SCALE deliverable “D6.3 V2X Alliance Terms of Reference of the network”
- SCALE deliverable “D6.5 Best practice, recommendations on end user communication”
- SCALE deliverable “D6.6 Final Dissemination, Communication and Exploitation plan”

5 Capacity-building approach

5.1 Aims

The **European V2X Alliance**, the key target group of capacity building activities, will receive a comprehensive capacity building framework thanks to the capacity building methodology. Additionally, the aim is to focus on specific groups of **key stakeholders**, such as government authorities (and more specifically, local and regional authorities), transport operators and logistics-related industry, suppliers and operators (TSOs, DSOs, and CPOs, as well as automotive, electricity, and energy suppliers), manufactures (OEMs, battery, electronic components, and system manufacturers), civil society (especially NGOs but also end-user associations), and the research and innovation community (academia, RTOs, universities, etc.).

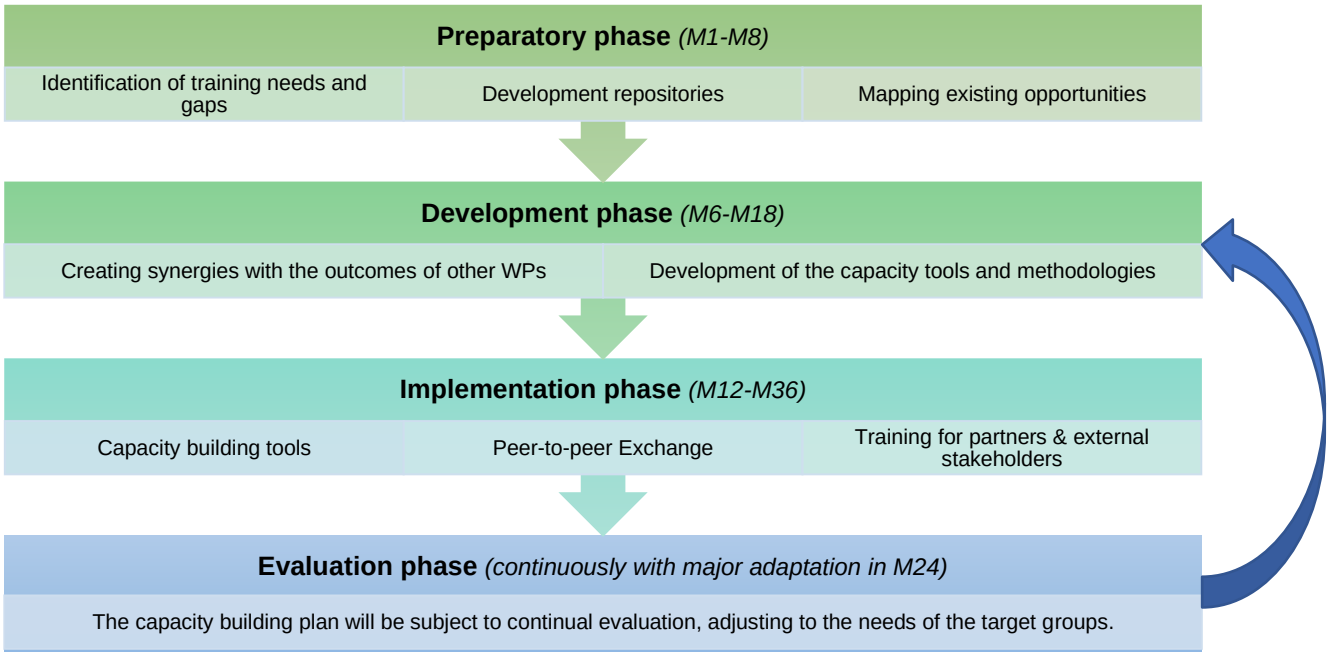
Women are prioritised in different types of planned capacity building activities as trainees or trainers, with **gender balancing and gender mainstreaming** in the capacity-building and networking activities given special priority. Additionally, the gender component is horizontally addressed in the conceptualisation of capacity-building activities in all of its forms to empower women.

To this end, "Task 6.3: Local Communication, Diversity and Mentoring", will focus on the **diversity of the local innovation ecosystem and end-user groups**, by selecting and coaching up to 2 young female researchers/professionals for each demonstration site for cross-site discussions, with 6-monthly meetings of the young female professionals/researchers from all pilot sites with partners for networking and exchange.

5.2 Phasing

The capacity building approach embedded in the next chapters of this document is presented in the figure below, divided in four phases.

Figure 1 - SCALE's capacity building approach and phasing



5.2.1 The preparatory phase

The submission of this deliverable is a major step for the completion of the preparatory phase. This step was initiated with the kick-off meeting in June 2022 and further developed with the 1st consortium meeting in September 2022. The definition of consumer behaviours (D1.1), stakeholder needs (D1.2), and cities/regions and operators needs and challenges (D1.3), shall permit the finalisation of this phase. These will be outlined and submitted as deliverables of WP1.

A repository that organises trainings and courses will be created by POLIS, along with the consortium partners. Furthermore, already existing training opportunities and tools will be mapped. This overview, that is essentially a collaboration between all consortium members, will culminate on M8 (end of January 2023).

Demonstration Implementation Plans will go into further depth about the training requirements for the 13 use case pilots' demonstrations in the 7 different European contexts. These shall be grouped in the 4 different innovation clusters. This will provide a direct connection between the demonstration activities and associated training requirements, taking into account factors pertaining to other WPs.

5.2.2 The development phase

The results from the preparatory phase will be further developed in the development phase. The existing capacity development tools and procedures will be adapted to the needs of the participating partners and stakeholders in the SCALE project, based on the findings concerning training needs. Additional tools and approaches will be created based on the gaps found among the targeted stakeholders.

A single blended learning approach package will be used to convey all the tools and techniques created during this phase. Engagement with other WPs is essential and will be regularly ensured during this phase and the next ones. The results of the WP1 deliverables, mentioned above, will be crucial in the creation of the blended learning strategy. Refinements and updates will be made to the repository produced in the preparatory phase.

5.2.3 The implementation phase

During this phase, the tools and processes that were created and developed in the earlier phases will be put to use. The targeted audience (described in chapter 5.6) will have the chance to make use of all available resources during this phase of capacity-development activities, and they will receive trainings that are specifically tailored to the courses that are being prepared, as well as according to each site (WP3). Peer-to-peer interactions, workshops, trainings, as well as specific knowledge-sharing and exchange events between the partners from the consortium and beyond, including external stakeholders and key-market actors, will receive a lot of focus during this phase.

5.2.4 The evaluation phase

The capacity-development evaluation framework serves the objectives of improving the knowledge and expertise of the participating partners and making sure that the capacity-building tools and methodologies are transferable and applicable to external stakeholders. Through continuous monitoring, evaluation, and improvement of the capacity-building activities inside the project, the legacy for future activities once the project's lifetime is over will be optimised.

5.3 Partners' roles to the capacity building

The partners of the SCALE project are expected to build on their deliverables' outcomes and, thus, develop key responsibilities in the capacity-building activities. These partners and responsibilities can be grouped as follows:

- Learning manager: As the Task 6.5 "Capacity Building" leader, **Rupprecht Consult** coordinates all capacity-building efforts and activities and is in charge of the Mobility Academy. Rupprecht Consult, shall also make use of previous capacity-building experience in other (completed and ongoing) projects, as well as its expertise as main author and concept developer for Sustainable Urban Mobility Planning (SUMP) Topic Guide on electrification, further developing it by integrating smart charging and V2G planning aspects.
- Research and technical providers of content: **ElaadNL**, **Enervalis**, and **We Drive Solar**, shall build on previous experience and capacities for the entire ecosystem development. Along with **CERTH**, **Equigy**, and **Trialog**, they shall also build on additional experience of working at the cross-section of the energy and transport sectors. **ElaadNL** is already instrumental in defining the needs of the stakeholders (D1.2) and the smart charging and V2X architecture (D1.4), while spearheading this joint effort. **FIER** is in charge of setting up, evaluating, and exploiting the results of the 13 use-cases. All WP3 deliverables that shall be prepared and submitted by FIER will be essential to understand the challenges and practicalities of the use-cases, with the most important of them being D3.4 "Lessons learnt report". This report shall contain all the lessons deriving from implementation of use-cases in SCALE, grouped in the 4 innovation clusters. Lessons learnt are expected to be further developed as one of the main project outcomes to be used by European smart charging and V2X practitioners. They are also expected to contribute to research on the scalability potential (WP5) of the project's outcome where, most notably, **CERTH** shall examine the impacts, usability, and user experience of the project's outcome, presenting the training content that will be prepared, along with its assessment results by selected end-users (D4.5). Furthermore, **RISE** shall draft the legal and policy recommendations (D5.3), **Utrecht** shall draft the joint procurement guidelines (D5.4), and **Trialog** shall explore protocols and standardization gaps (D5.5). The aforementioned deliverables are expected to feed into the capacity-building training material.
- Communication and dissemination manager: **POLIS**, leading WP6 "Communication, replication, and European take-up", is in charge of the communication, dissemination, and exploitation activities by making use of the appropriate channels and tools. It shall also liaise with use-case leaders to operationalise local communication plans tailored to each site, including appointing a local communication manager per site (in line with D6.1), while equally relating to site-based end-user training (WP3).
- Networks: **POLIS** and **AVERE** shall make use of their respective networks, as well as working groups, policy coalitions and involvement in platforms, to share SCALE's innovations and outcomes for uptake, also, with the aim of gearing the current legislative framework towards the smart charging and V2X ecosystem. The audiences targeted will comprise city/regional/local governments and TSOs and DSOs, seeing their involvement in knowledge exchange and capacity-building activities. **UEMI** shall also develop a policy paper on international cooperation needs and opportunities, thus extending the outcomes of the project to a wider market, beyond the European territory. In this light, a training course for decision makers in developing regions outside of Europe is planned, taking into account the level of awareness and potential needs of the targeted regions. The targeted regions will be identified in the upcoming months.

5.4 The capacity-building channels

SCALE's stakeholder and user-centric approach determine the storytelling in the project's **communication, dissemination, and capacity-building channels**, also represented in the (formerly called "Reference Group" in the GA) Advisory Board / V2X Alliance.

SCALE's website, which was launched in August 2022, outlines the project's goals, overarching methodology, consortium members, showcases the 13 use cases amounting to the 4 innovation clusters, congregates the latest news items, as well as upcoming and past events, and contact details. It also features e-brochures and training material, available in both PDF and online video formats. SCALE's Youtube channel, shall be used to share webinars, recorded events, and videos. This visual material will equally instantly feature on the project's website.

An active **social media** presence is key for the project's communication and dissemination success, as well for showcasing its capacity-building activities. It provides a quick and direct way to engage a wide external and targeted audience, while also functioning as an internal central online repository. Twitter and LinkedIn are SCALE's main social media channels. The former will focus on quick and instantaneous updates on the project, sharing concise project results, photographs, and tagging partners and relevant EU bodies. The latter, LinkedIn, will feature similar content but with a broader and longer scope in a more professional environment. Both social media platforms will be instrumental in promoting upcoming training events, webinars, site visits, as well as in disseminating the capacity-building material produced.

Finally, SCALE's integrated e-learning programme will be organised on the **Mobility Academy**, an international moodle-based learning platform developed and coordinated by Rupprecht Consult: Mobility Academy (mobility-academy.eu) The Mobility Academy already features a multitude of online courses from several different EU and international projects, covering a wide range of mobility-related topics, such as: active transport, traffic management, e-mobility, public transport, city logistics, eco-driving, and SUMPs. The most recent capacity building programme that has been taking place on the Mobility Academy and that is related to SCALE is the ambitious SOLUTIONSplus Global Learning Programme on Electric Mobility: Mobility Academy: All courses (mobility-academy.eu). This will serve as main reference point for the SCALE Capacity Building activities.

5.5 SCALE's blended learning approach

SCALE's main ambition is that all major actors should be given the tools they need to manage and implement new electric mobility technologies, compatible to shifting conditions and local settings. SCALE's **blended learning approach** reflects this ambition by undertaking numerous educational and training initiatives with the goal of giving local and national policymakers, consultants, practitioners, businesspeople, decision-makers and administrative personnel, as well as operators the abilities and information necessary to create, put into practice, and successfully manage cutting-edge urban electric mobility solutions. The audience shall also be expanded to include academics and researchers, as well as the general public. The goal is to establish enduring competencies and capabilities at all levels and for all significant stakeholders to successfully facilitate the transition to electric mobility.

The topics covered will touch a variety of subjects, including the use-case demonstrations, new ecosystems, business models, funding choices, foresight, and legislative and policy frameworks. The ultimate goal is to offer a **welcoming, flexible learning environment that combines online and offline components**, otherwise called blended learning, in accordance with SCALE's objective of transitioning to urban electric mobility. A summary of the various learning components and exchange opportunities can be seen in the list below:

- **face-to-face trainings, events, and workshops** (per the GA, at least 3 physical workshops and the Bidirectional City events in Utrecht), bringing together experts, practitioners, decision-makers, and operators with the goal of not only enhancing learning, but also exchanging and network building;
- **moderated e-learning courses on the Mobility Academy** (at least 4, per the GA), outlined in chapter 7.2. These courses shall include detailed content, examples, best practices, tools, tasks, and a moderated forum for discussion and exchange;
- **webinars** (at least 8, per the GA), to kick-off the capacity building activities and in relation to the contents of the e-courses;
- **online events** (at least 3, per the GA), directed at members of the European V2X Alliance, although others may be invited to join;
- **best practice sessions**, showcasing successful examples and results from SCALE;
- **demonstrations factsheets**, describing the use cases to inform local stakeholders;
- **take-up brochures** (per the GA, one for each of the 4 innovation clusters), containing the identification of success factors and barriers for each use case and innovation cluster, as well as the recommendations deriving for relevant stakeholders;
- **e-brochure**, compiling the lessons learned from the 4 innovation clusters;
- **peer-to-peer exchange**, including pilot site visits, site-based and end-user training (accompanied by capacity-building events/workshops and publicly available factsheets), as well as participation in conferences and joint publications;
- **database of expert trainers** from within the SCALE partnership, and beyond, indicating regional availability and thematic expertise;
- **tools, methodologies, and solutions** from within the SCALE partnership, and beyond, indicating regional availability and thematic expertise

5.6 Target group: the V2X Advisory Board

To validate SCALE's research results, address, and discuss institutional and regulatory barriers that need to be solved to accelerate the deployment of smart charging and V2X, the project will set up the SCALE Advisory Board. This group will be consisting of 30 external key smart charging actors and will be built through existing partnerships, Innovation Clusters, EU projects, as well as networks with cities, regions, and operators. The key tasks of the Advisory Board shall include the ensuring of the acceptability, validity, and maximal uptake of SCALE's outcomes.

This group will be invited to validate SCALE's results and discuss with the SCALE partners. It will serve as a source of information and feedback, when defining user needs and designing the use-case demonstrations. Its feedback will be included in the project's policy recommendations and will feed the definition of standards and protocols, as well as the exploitation and business plans. The Advisory Board will also participate in meetings, use-case tests, and knowledge-exchange activities (webinars and e-courses), and will create a movement outside of SCALE by promoting the project's smart charging and V2X solutions to European stakeholders across the value chain.

Representatives of the different target groups SCALE aims to reach, have been contacted by partners and have expressed their interest in joining the Advisory Board, as shown in the table below:

Table 1 - Overview of representatives that have shown an interest in joining the SCALE V2X Advisory Board, grouped by target groups

Stakeholder target groups	Potential SCALE Advisory Board member
Cities/Regions/Local authorities	Leuven, BKK: Centre for Budapest Transport, Madrid, Jerusalem, Noord-Brabant Province, Ravenna, Transport Authority of Thessaloniki, Business region Gotheborg, Copenhagen
Academia/Research centres	Breda University of Applied Sciences, Transport Research Centre CDV, Roma Tre University
DSOs	Stedin
Public transport entities	KMG Klagenfurt Mobil GmbH
Commercial entities	Volvo, Jibe company
Branche organisations	VCB
Protocol enablers	Linux Foundation, EVRoaming

Representatives from additional target groups that will be contacted by the SCALE partners include protocol enablers, such as CHARIN for ISO15118-20 and OCA for OCPP, as well as regulators, such as ACER (Agency for the Cooperation of Energy Regulators).

The Advisory Board will also debate the terms of reference for a structured V2X Alliance in the second half of the project (in line with D6.3). The V2X Alliance, backed by AVERE and POLIS, is intended to continue operating after the project is over. The V2X Alliance's objective is to continue gaining support for SCALES's principles and solutions through knowledge exchange and to make SCALE's solutions easier to adopt.

5.7 Unprecedented events mitigation measures

5.7.1 General approach

During the last years, current events feature terrorist attacks, pandemic waves, extreme natural phenomena, and other unpredictable events, often hindering both the organization of physical capacity-building activities and the physical presence of participants in these activities. Adopting a resilient approach that comprises mitigation measures, enables the SCALE consortium to adapt and be adaptive to new and continuously changing realities, aiming at preparedness. This approach consists of identifying the risks and adopting corresponding measures in case of (1) a light impact scenario, during a normal external context, (2) a medium impact scenario, for disruptive threats with short-term impacts, and (3) a heavy impact scenario, for profound threats with longer-term impacts.

5.7.2 Light impact scenario

In this scenario, there are no foreseen risks from an existing or impending threat and the project is not significantly impacted by the external context. On-site capacity-building activities are carried out as planned

and travelling is feasible, although online and hybrid activities are still being privileged since they constitute an addition to physical activities.

5.7.3 Medium impact scenario

This scenario presupposes the existence of a significant risk posed by a disruptive threat. In this situation, travel is either not advised or even not authorised, due to elevated uncertainty. The 13 use case pilots' demonstrations and the testing of the 20 innovative charging concepts and solutions that are planned in the 7 different European contexts, however, run regularly. The physical capacity-building activities might be scaled back and delayed till the situation stabilises, especially as far as it concerns the site visits. In this light, whenever possible, physical activities are replaced by online ones, which are then anticipated and planned in an enhanced manner.

5.7.4 Heavy impact scenario

External factors, in this scenario, make it impossible to complete the project itself and jeopardise the 13 use case pilots' demonstrations and the testing of the 20 innovative charging concepts and solutions. In this situation, capacity-building activities are not conducted until the project can be executed regularly. The Capacity Building Plan becomes then adjusted accordingly, in case one or more use case demonstration locations are negatively impacted while others remain unaffected. In this case, the capacity-building activities are concentrated on the locations where physical events are still taking place, even if -most probably- the organisation of online activities are required as a necessity.

6 Capacity-building needs assessment

6.1 Assessment of stakeholder needs

E-mobility market growth essentially depends on the degree of user centricity in regard to the provided services. Ideally, the charging of an EV should be as seamless as refuelling a fossil-fuel vehicle. According to the deliverable "D1.2 Stakeholder analysis report", this requires a high level of interoperability, both in terms of hardware and software, the development of the appropriate standards and protocols, as well as improvements in the cybersecurity and privacy domains. These shall be key topics on which SCALE's capacity-building activities shall focus.

The stakeholder analysis report comprises a preliminary mapping and overview of the stakeholders relevant for the SCALE project, assessing their needs, objectives, and barriers. Further assessment of the needs and barriers towards a large-scale adoption of smart charging and V2X will -most probably- lead to the identification of other vital stakeholders in the smart charging ecosystem that shall be incorporated in the project. For the moment, the list of the stakeholders that were mapped is as follows:

- EV drivers
- Fleet operators
- Local and regional authorities
- European and national regulators
- RTOs and universities
- CPOs
- e-mobility service providers
- DSOs
- TSOs
- Energy suppliers
- BRPs
- Aggregators and FSPs
- EV manufacturers
- Battery manufacturers
- Charge point manufacturers

A large number of these stakeholder play a significant role in unlocking the flexibility of EV charging and a growing number of stakeholders across the ecosystem have a clear interest in accelerating the adoption of large-scale smart charging and V2X. Furthermore, the assessment of the stakeholders' needs shows the importance of cross-sectoral collaboration and knowledge exchange. The SCALE project, by building its Advisory Board and, later on, its V2X Alliance with interested stakeholders from different value chains, shall encourage synergies and improve collaboration across the entire ecosystem, through capacity-building activities.

The findings of the stakeholder analysis report shall serve as fundamental input for future SCALE topics such as data requirements, business case development, and standardisation of smart charging and V2X, translating the output of the corresponding tasks in webinars, e-learning courses, and topical factsheets. More advanced in-depth research, which is expected to be undertaken in future deliverables, shall further enhance the contents of the capacity-building activities relating to the stakeholders' needs.

6.2 Result of surveys on local governance and TSOs & DSOs

In SCALE, the implementation of V2X services and infrastructures is focused on local and regional stakeholders, meaning local administrations and operators. SCALE is expected to create synergies with other projects, initiatives, and organisations to ensure a long-lasting adoption of the project outputs, particularly for knowledge, policy, and innovation transfer, in order to facilitate future V2X intersectoral collaboration.

The identification of the overarching needs and challenges of cities and operators, in terms of integrated planning and regulation of mobility and energy systems, complements the assessment of the stakeholders' needs, objectives, and barriers. The findings of this report shall complement the stakeholder analysis report, serving as fundamental input for future SCALE deliverables, while feeding the planned webinars, e-learning courses, and topical factsheets.

A survey and focus group interviews will be conducted to collect data on needs and challenges of at least 30 stakeholders (city and regional planners, local government decision-makers and policy-makers, experts and professionals in the DSOs and TSOs, etc.) and added value of V2G and smart charging in different cities, in line with the deliverable "D1.3 Report on city needs & challenges in integrated planning for smart charging and V2X services". The report will explore and seek to receive input mainly (but not only) on the following questions:

- the dynamics, regulations, and strategies between cities/regions and national government;
- the relationship between municipal/regional governments and other stakeholders (civil society, but also sector representatives like CPOs, businesses advocacy groups, DSOs/TSO, etc.);
- the already existing potentials concerning joint planning, joint procurement, and regional/national strategies;
- the potential existing best practice regulations, incentives, and policies related to cities reducing the weight of EVs on the grid;
- the financing issues relating to charging costs and potential revenues from charging fees;
- the interoperability concerns;
- the interest, needs, and trends related to private and shared mobility;
- the charging infrastructure capacities and needs (amount, location, etc.);
- the tools necessary for city and grid planning

6.3 Target groups according to learning needs

Apart from the stakeholder needs analysis of cities' and operators' needs and barriers, SCALE's deliverable "D1.1 Report on consumer behaviour" with its intermediary reports, as well as the defining of the smart charging and V2X system architecture (in line with D1.4), shall provide additional input for future SCALE deliverables, while feeding the planned webinars, e-learning courses, and topical factsheets.

7 SCALE's integrated e-learning programme

7.1 Overview of the e-learning programme

The e-learning programme will get its input both from informal interactions with SCALE's partners, as well as from formal user-need assessment for knowledge gaps, information, and capacity building, resulting from the formal project milestones and deliverables.

For SCALE, a separate wing shall be created on the Mobility Academy platform, specifically designed in the project's visual identity, thus ensuring easy access and navigation for participants. Rupprecht Consult shall develop an **e-learning course guidance document** for partners developing courses and shall supervise and coordinate the e-courses development processes. This will ensure consistency among different materials to be developed, while guaranteeing the inclusion of all relevant partners.

7.2 Outline of potential e-courses

SCALE is expected to develop several training courses with different aims and target groups each. A first outline of what the topics of the e-learning programme in SCALE could cover follows hereby:

- V2X system architecture and operational implementation;
- V2G charging approaches and technologies, cost savings and revenue potentials, as well as market penetration;
- Outcomes & lessons learnt of the 4 innovation clusters and the various use cases;
- Regulatory and legal challenges, as well as on uptake barriers;
- Planning blueprint and SUMP integration of bidirectional charging
- Course for decision-makers (in developing regions outside Europe).

This outline is non-exhaustive and will be updated, detailed, and refined, as the project progresses. In principle, the aim is to have a large number of SCALE's milestones and deliverables exploited in the form of an e-learning format, i.e. webinar/e-course/training module. These capacity-building tools will be developed with the aim to have them accessible beyond the project's lifetime.

7.3 The Mobility Academy

Rupprecht Consult shall include SCALE's e-courses in the widely-established Mobility Academy and, with the help of other partners, shall actively promote them on well-established and widely-used dissemination channels (e.g. ELTIS, CIVITAS, etc.), as well as through the SCALE partners to attract a wide audience.

The e-courses will have an active runtime of roughly 1 month, depending on the actual number of modules. This refers to the runtime in which an active moderation will be provided, whereas the e-courses will be accessible beyond that, even after the project's lifetime. The e-course modules are expected to be released on a weekly basis. While e-courses are running, they will be actively moderated by SCALE experts, both within the project's consortium and within the Advisory Board / V2X Alliance.

Rupprecht Consult will be responsible for the quality control of e-course contents and coordinate the organisation of e-courses with the SCALE partners. The e-courses will be designed in a way ensuring high user interactivity. Specific tasks will be given to course participants in each module, with the aim for users to reflect upon the e-course contents and relate them to their own contexts. An e-forum will allow for e-course

participants to interact with each other and to react to others' questions and inputs. This will ensure the project's community building.

Rupprecht Consult shall include user surveys at the end of each e-course, assessing user satisfaction and collecting feedback relevant to the further improvement of the project's e-learning activities. Statistical analyses and visual usage overviews will also be provided, regarding how the courses have been running and how active learners have participated. Based on user feedback, Rupprecht Consult shall also provide lessons learnt reports. After completion of each e-course, the SCALE project shall provide certificates of course completion to incentivise active participation and attract a wider audience.

7.4 Webinars

At least 8 webinars are predicted, as per the GA. Webinars will be primarily used to present tools developed by knowledge take-up partners (such as, CERTH, Bayern Innovativ, UEMI, Elbil, Equigy, ENEDIS, Trialog, We Drive Solar, SONO, and Renault) and scientific partners (CERTH, the University of Utrecht, Chalmers, and RISE). Furthermore, the targeting of end users, as well as of external stakeholders, shall include awareness activities related to the demonstrations activities in the use-case locations. Webinars will be a key instrument to raise awareness and showcase the demonstrations taking place at use-case locations.

7.5 SCALE's factsheets, brochures, and publications

The use-case demonstrations shall be described in demonstrations factsheets, aiming at informing local stakeholders and external participants at the use-case demonstration workshops. Take-up brochures (per the GA, one for each of the 4 innovation clusters), containing the identification of success factors and barriers for each use case and innovation cluster, as well as recommendations deriving for relevant stakeholders, shall be developed towards the end of the demonstration events. In addition, a summarising e-brochure, compiling the lessons learned from the 4 innovation clusters, shall be published and disseminated. All this material shall also be made available on the SCALE website and communicated through SCALE's communication platforms. Finally, additional reading material is expected to be made available by research and technical partners. This material, shall also be made available through the appropriate channels.

7.6 SCALE's tools

SCALE's solutions and tools developed in the research and technical WPs will be feeding into the eMobility Toolbox under development in SOLUTIONSPlus and the CIVITAS tool inventory listing. The tools, methodologies, and solutions from within the SCALE partnership, and beyond, are expected to showcase regional availability and thematic expertise. They will primarily consist of an inventory of state of the art and openly accessible simulation models to address strategic transport and energy systems, business plans, good practice examples, operation, planning, and management tools, as well as methodologies for decision support for EV infrastructure.

8 Peer-to-peer exchange programme

The SCALE project aims at establishing mechanisms for exchange, transfer, and uptake of innovative e-mobility and e-charging solutions by facilitating mutual learning between peers. The SCALE partners shall benefit from an intense and focused peer-to-peer exchange programme that will allow the development of a deeper understanding of challenges, barriers, and practical skills, through experience-building activities and exchange between peers dealing with the same challenges. The role of the SCALE Advisory Board members and, later on, of the V2X Alliance members will be instrumental in these peer-to-peer exchanges.

8.1 Site visits

Site visits to the use-case locations and on-the-job training by experienced partners, stakeholders participating in the Advisory Board, and/or other external experts, shall be a centrepiece of the peer-to-peer exchange programme. The visits will be coupled by capacity-building demonstration evens, training events/workshops, and publicly available demonstrations factsheets, describing the use cases to inform local and external stakeholders. With the help and the input of the Advisory Board / V2X Alliance members, a demand-driven approach will be adopted to define the contents, the format and the focus of the activities.

8.2 WG workshops

SCALE's partners are active in diverse fields and have participated or still participate in numerous relevant national and EU/international projects and initiatives. As such, SCALE members dispose of their own WGs in relevant to the project topics, while also participating in relevant working groups of platforms and initiatives operating at the European and international level. Therefore, SCALE has access to knowledge from throughout the e-mobility, smart charging, and V2X value chains, which can be used to develop the necessary capacity-building activities. This will benefit the showcasing and exploiting of the project's outputs and solutions.

SCALE is expected to appoint experts to the four WGs of BRIDGE, to tackle issues related to the mass-deployment of smart EV charging and V2G. POLIS shall also ensure the presence and involvement of SCALE in its "Clean Vehicles & Air Quality" WG workshops, where POLIS members share best practices and exchange knowledge on reducing transport-related emissions and accelerating the adoption of clean vehicles. Furthermore, POLIS shall organise 2 Bidirectional Cities workshops in Utrecht and the final project conference. AVERE is also expected to include and involve SCALE in all 4 of its thematic WGs. Finally, UEMI shall organise the interaction with areas outside Europe.

9 Capacity building for SCALE partners and stakeholders

9.1 Exchange in the 4 innovation clusters

SCALE will demonstrate 13 use-case pilots, testing a total of 20 innovative charging concepts and solutions within the 4 innovation clusters that have been validated with the involvement of 800 pilot users. The innovation clusters outputs shall be communicated and discussed among the project's partners during specific meetings held twice per year.

Following the development of SCALE's Open Architecture, which ensures interoperability in the system, the viability of the system shall be demonstrated on site at the use-case locations, via workshops testing the innovative V2X solutions, within the framework of SCALE's 4 innovation clusters. Each demonstration site shall have a local communication manager appointed, relating to site-based end-user training (WP3) and the preparation of communication material in local languages. Furthermore, as per the Task 6.3 "Local communication, diversity, and mentoring", young female professionals and researchers in the field of energy and electric mobility shall be targeted and offered the opportunity to meet across use-case pilot sites with professionals from the project. After the use-case implementation and validation, the project shall prepare the mass-deployment across Europe, through the V2X Alliance.

SCALE's innovation cluster leaders will play a crucial role in the validation of use-case procedures and outcomes. They shall serve as knowledge experts within each cluster and are expected to coordinate across the different demonstration sites. The cluster leaders will be responsible for identifying training needs, capacity-building activities, ensuring knowledge exchange, regularly assessing implementation risks, validating results, and identifying lessons learnt. Lessons learnt from SCALE's four Innovation Clusters, shall be showcased in relevant brochures and extended to mass market covering the expected 30 million EVs by 2030. With the drafting of the blueprint for integrated G2X-V2X cross-sector planning and with the organisation capacity-building programmes with city authorities and local stakeholders, in terms of training courses for the use of SCALE integrated planning tool, the project will facilitate the scaling-up of knowledge transfer, securing impact beyond the project lifetime.

9.2 Exchange with external stakeholders

SCALE seeks to create synergies with other projects, initiatives, and organisations, aiming at ensuring a long-lasting adoption of the project's outputs. Particular attention is given to knowledge-sharing, policy uptake, and innovation transfer, in order to facilitate future V2X intersectoral collaboration.

Open Science practices, as they are defined in Horizon Europe guidelines, will be used for SCALE's research and technical outputs. These publications shall be published in Open Access Journals and be available in Open Access Repositories. SCALE's research and technical partners are also expected to participate in relevant conferences, showcasing the project's outputs and interacting with their peers.

Furthermore, the active involvement of the general public and the non-professional scientists shall be centrepiece in all project phases, especially during the use-case demonstrations. Finally, through SCALE's communication channels, e-courses, webinars, factsheets, brochures, and other capacity-building material shall be disseminated to the wider public.

10 Complementary resources of the capacity-building ecosystem

As previously detailed, SCALE's capacity-building plan is built following a blended learning approach. The implementation of a blended learning approach will allow for fully seizing the potential of different resources and learning methodologies, exploiting to the maximum each of the training modules, within the pre-defined thematic issues and clusters.

However, the suitability and full potential of the blended learning approach is further enabled thanks to its inclusion in the ecosystem where it is conceptualised and deployed. Specifically, the capacity-building plan relies and capitalises on the exploitation of synergies and resources within (and beyond) the SCALE thematic network.

The exploitation of synergies with completed Horizon 2020 and ongoing Horizon Europe sister projects shall be actively sought. Additional synergies with other complementary initiatives will be explored (2ZERO/EGVIAfor2Zero, BRIDGE, STF, Platform for Electromobility, EAFO, EU Smart Cities Marketplace, Mission on 100 Climate Neutral Cities, etc).

11 Conclusion

The development of a capacity-building plan constitutes an integral part of SCALE's WP6. It has been meticulously prepared through the preliminary stakeholders' needs and barriers identification, as well as based on experience working previously on similar projects. As mentioned before, throughout the document, the planned capacity-building activities will take place throughout the project's implementation, ensuring that various target groups of stakeholders acquire the knowledge, skills, and capacities needed to successfully integrate and implement SCALE's outputs in their ecosystems. The capacity-building activities will be enriched as more feedback and input is received from the stakeholders, the partners, and the Advisory Boards / V2X Alliance members. Once they are completed, several deliverables mentioned above will also enrich and streamline the content of the capacity-building activities and material.

The capacity-building tools and methods developed under SCALE are transferable and applicable to stakeholders, but also outside of the consortium, and are subject to continuous evaluation, monitoring, and improvement based on the needs of the target groups. This deliverable is a living resource that is expected to be constantly updated during project implementation.

12 Annex

Figure 2 - SCALE's use cases and demonstration locations

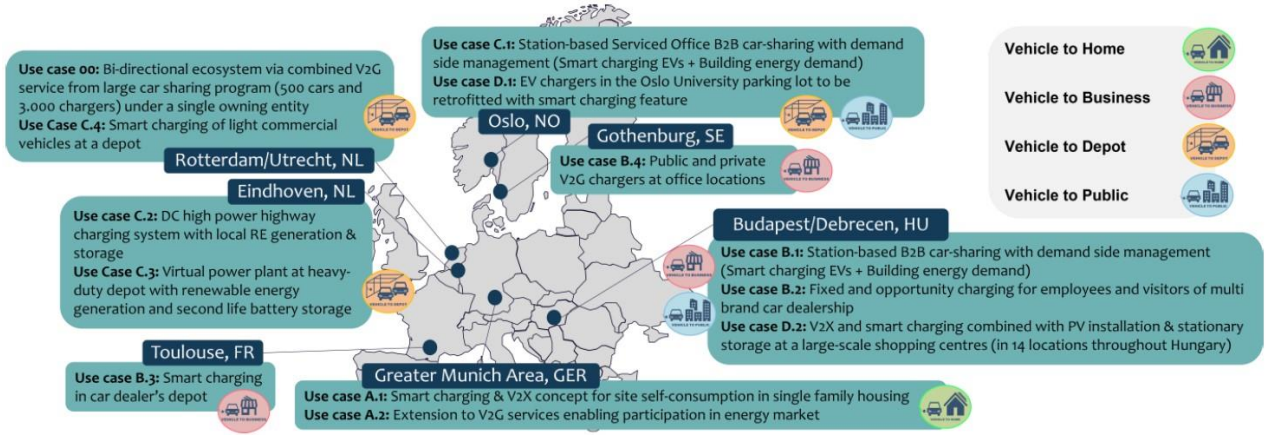


Figure 3 - SCALE's innovation clusters

Figure 4 - SCALE's Gantt chart