SHared automation Operating models for Worldwide adoption

SHOW

Grant Agreement Number: 875530

D3.4: SHOW updated Ethics manual & Data Protection Policy and Data Privacy Impact Assessment

This report is part of a project that has received funding by the European Union's Horizon 2020 research and innovation programme under Grant Agreement number 875530

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Executive Summary

The SHOW project aims to support the migration path towards effective and persuasive sustainable urban transport through technical solutions, business models and priority scenarios for impact assessment, by deploying shared, connected, electrified fleets of automated vehicles in coordinated Public Transport (PT), Demand Responsive Transport (DRT), Mobility as a Service (MaaS) and Logistics as a Service (LaaS) operational chains in real-life urban demonstrations. Demonstration and evaluation activities will be done in 17 sites throughout Europe. SHOW is a user-oriented project where the participation of humans is essential for a successful outcome. A sound and correct ethical treatment of participants and their safety is therefore of great importance for SHOW.

To assure continuous monitoring and control of the project, an Ethics Board (EB) has been established, led by VTI, including Local Ethics Representatives by the Demonstration sites. This deliverable is the second version of the Ethics Manual and Data Protection Policy for SHOW.

The objective with this update is to improve the first version of the Ethical Manual and Data Protection Policy. In addition, this deliverable shall also contain information about carrying out Data Privacy Impact Assessments (DPIA), when deemed necessary, in accordance with the GDPR, providing also the first version of it.

Document Control Sheet

Start date of project:	01 January 2020
Duration:	48 months
SHOW Del. ID & Title:	Deliverable 3.4: SHOW Updated Ethics manual & Data Protection Policy and Data Privacy Impact Assessment
Dissemination level:	PU (for Public)
Work package:	WP3
Lead authors:	Anna Anund (VTI)
Other authors involved:	Louise Dahlgren (VTI), Katerina Touliou (CERTH/HIT), Matina Loukea (CERTH/HIT), Maria Gkemou (CERTH/HIT)
Internal Reviewers:	Sami Koskinen, VTT Tarique van Rooijen, TNO
External Reviewers:	NA
Due submission date:	31/12/2020
Actual submission date:	15/01/2021
Status:	SUBMITTED
File Name:	SHOW_D3.4_SHOW Ethics manual_SUBMITTED

Document Revision History

Version	Date	Reason	Editor
0.1	14/09/2020	First draft ready	Anna Anund (VTI) Louise Dahlgren (VTI)
1.0	14/09/2020	Update of D3.2:	Anna Anund (VTI) Louise Dahlgren (VTI)
1.1	15/12/2020	Update taking into consideration the reviewers' comments.	Anna Anund (VTI) Louise Dahlgren (VTI)
1.2	21/12/2020	Update of DPIA and user involvement in Annex.	Matina Loukea (CERTH/HIT) and Maria Gkemou, (CERTH/HIT)
1.3	13/01/2021	Input received on DPIA and current status on ethics across the sites received by CERTH.	Matina Loukea (CERTH/HIT) and Maria Gkemou, (CERTH/HIT)
2.0	15/01/2021	Final send to UITP	Anna Anund (VTI)
2.1	15/01/2021	Preparation for submission	Henriette Cornet (UITP)

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Abbreviation List

Abbreviation	Definition
ADAS	Advanced Driver Assistance Systems
AEE	Advisory Ethical Expert
CCAV	Collaborative Connected Autonomous Vehicle
CEN	European Committee for Standardization
DMP	Data Management Plan
DPA	Data Protection Authority
DPIA	Data Protection Impact Assessment
DPO	Data Protection Officer
DPP	Data Protection Policy
DRT	Demand Responsive Transport
EB	Ethics Board
ECHR	European Court of Human Rights
EEA	the European Economic Area
EGE	European Group on Ethics in Science and New Technologies
EM	Ethical Manager
ETSC	European Telecommunications Standards Institute
GDPR	Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)
ICO	Information Commissioner's Office
ID	Identification
IF	Incidental Findings
ISO	International Organization for Standardization
IT	Information Technologies
ITS	Intelligent Transport System
KPI	Key Performance Indicator
LaaS	Logistics as a Service
LER	Local Ethics Representatives
MaaS	Mobility as a Service
OEM	Original Equipment Manufacturer
PIA	Privacy Impact Assessment
POPD	Protection Of Personal Data
PT	Public Transport
QM	Quality Manager
SES	Socio Economic Status
SME	Small and Medium-sized Enterprise
SSL	Secure Sockets Layer
TC	Traffic Control
UC	Use Cases
UN	United Nations
VEC	Vehicle Electric Centre

1 Introduction

1.1 Purpose and structure of the document

The Ethics Manual, here named D3.4: SHOW updated Ethics Manual & Data Protection Policy and Data Privacy Impact Assessment, describes the Ethical Code of Conduct for all actions and activities related to evaluations within SHOW.

The Ethics Manual is intended to be a “living document” to which references can be made throughout the duration of the project. The objective with this document is to improve the first version of the Ethical Manual and Data Protection Policy (D3.2). In addition, this document shall also contain information on how to handle Data Privacy Impact Assessment (DPIA) in accordance with the GDPR providing also the first attempt to complete it in the project.

A sound and correct ethical treatment of participants is of great importance for SHOW, any relevant processes and administered documents are monitored and managed by the SHOW Ethics Board (EB).

The Data Protection Policy describes how data in general terms are supposed to be handled within SHOW. The policy focuses mainly on compliance with mandatory Data protection regulation regarding personal data such as the GDPR and complimentary local Data protection obligations. The aim is to make sure a sound and correct ethical treatment of participants that will be involved in the evaluation at Demonstration sites.

Data Controllers or Data Processors must know when and how to carry out a Data Privacy Impact Assessment (DPIA). The Data Protection Policy provides guidance. There is also a template for carrying out the assessment successfully. For further understanding of informed consent, data protection officers and their roles and the data management plans, see Chapter 1.3.

After a brief overview of the project and the ethical process (Chapter 1) the ethics manual is described (Chapter 2). The Ethics Manual describes the Ethical Code of Conduct for all actions and activities within SHOW. The Ethics Manual is intended to be a “living document” to which references can be made throughout the duration of the project. The Data Protection Policy (Chapter 4) describes how data are supposed to be processed within SHOW. The Data Protection Policy focus mainly on compliance with mandatory Data protection regulation. The Data Protection Policy also contains the guidelines and template for carrying out the DPIA (Chapter 5).

Annex I provides an Ethics checklist for Ethics responsible partners at each demonstration to ensure that all necessary steps are taken to abide with the SHOW Ethics policy, Annex II provides the SHOW questionnaire on ethical and legal issues, Annex III presents an overview of various activities, apart from Pilots, which entail data collection, Annex IV includes the Data Privacy Impact Assessment (DPIA) template that has been completed in this issue for the first time and will be further updated in the project, following its progress (to be also reported in future issues of this Deliverable).

Finally, for further understanding of informed consent, data protection officers and their roles and the data management plans, see Chapter 1.3.

1.2 Intended Audience

This deliverable addresses the members of the Consortium of SHOW, as well as the European Commission and other externa participants that has an interest of ethics of SHOW.

The requirements set out in this document shall also be applicable for third parties involved in SHOW.

1.3 Interrelations

The document is the Ethical manual for SHOW and together with EC Ethics requirement described in D18.1 (POPD – H – Requirement No. 1) that is about informed consent and information to participants and D18.2 (POPD – Requirement No. 3) that is about Data Protection Officer details, but also point at issues related to the "data minimisation" principle, security measures and informed consent procedures, it sets the basic for the work in pre-pilots (WP11) and Demonstrations activities (WP12), but also in other developments were humans are involved. The following diagram (Figure 1) presents the most distinct interrelations. Connections between other WP activities imply communication and sharing of data, results, and reports. The work related to services (WP5 and WP6), vehicle systems (WP7) and infrastructure (WP8) are not directly related to the Ethics, however, any conduct with external service providers should remain ethical and any data provision for the functioning of the systems should comply with the data protection policy of the project. The same holds true with the internal sharing of data, namely with WP10 and WP13.

The early connection to the Data Management Plan (D14.2) and the technologies for large-scale data collection (WP5) in Figure 1 allows for harmonization of efforts. Apart from the tests with humans, it sets the foundation for any type of interaction with humans inside and outside to the project to be ethical (e.g. collection of input during dissemination activities, WP1 survey, social media feedback). It also identifies any data collection processes and activities within the project and pinpoints that the SHOW Ethical policy applies to them.

These user and stakeholder groups have been identified and is defined in D1.1 and in D1.2 'SHOW Use Cases' (M9), where the Use Cases (UCs) will be described.

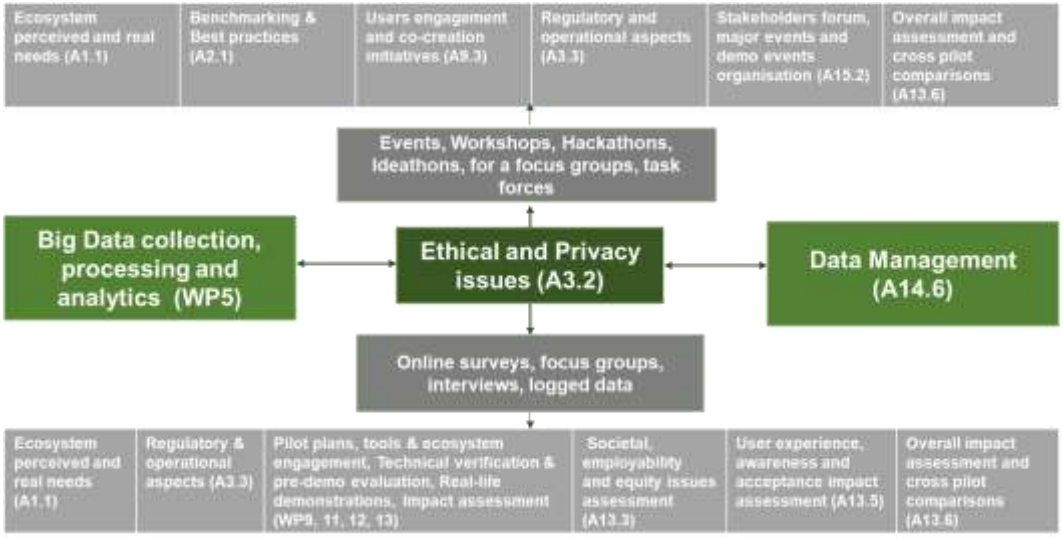

Figure 1: SHOW Ethical and Privacy issues interrelationships.

1.4 About SHOW

The SHOW project aims to support the migration path towards effective and persuasive sustainable urban transport through technical solutions, business models and priority scenarios for impact assessment, by deploying shared, connected, electrified fleets of automated vehicles in coordinated Public Transport (PT), Demand Responsive Transport (DRT), Mobility as a Service (MaaS) and Logistics as a Service (LaaS) operational chains in real-life urban demonstrations.

SHOW aims to demonstrate and evaluate a complex System of Systems (SoS). The SHOW ecosystem includes system and services as: Traffic Management Control (TMC) controlling AV fleet, Advanced Logistic vehicles, Connected bike sharing, Automated charging and parking depot, Roadside charging, Automated MaaS, Automated Maas Stations, Automated DRT.

Comprehensive frameworks to be used for evaluations of such an ecosystem, with layers of safety, energy and environmental impact, societal impact, logistics and user experience, awareness and acceptance are not yet available. Especially when taking into consideration several stakeholder perspectives, described in SHOW D1.1: "Ecosystem actors' needs, wants & priority users experience exploration tools". The list of stakeholders for SHOW consists of the following groups:

- Vehicle users (end users, drivers, and remote operator)
- Public interest groups and associations
- Decision-making authorities or regulators
- Operators (e.g., public transport operators, private fleet operators)
- Mobility service providers
- Industry (e.g., AV manufacturers)

The generic aim with the ethics manual is to make sure SHOW partners have a sound and correct ethical treatment of participants across all relevant activities of the project.

1.4.1. The Pilot Sites

In total 15 countries and 17 cities will be involved in Demonstrations activities. The following table (Table 1) presents the countries and cities included in the Mega, the Satellite and the Follower sites.

Table 1: Countries and cities per Site type.

Mega	Satellite	Follower
• France, Rouen and Rennes • Spain, Madrid • Austria, Graz, Salzburg, Carinthia[1] • Germany, Karlsruhe, Braunschweig[2], and Aachen. • Sweden, Linköping and Kista	• Finland, Tampere • Denmark, Copenhagen • Italy, Ispra • Greece, Trikala • Netherlands, Eindhoven (Brainport) • Czech, Brno	• Belgium, Brussels • Greece, Thessaloniki • Switzerland, Geneva

[1] As a replacement for Vienna, amendment in preparation

[2] As a replacement for Mannheim, amendment in preparation

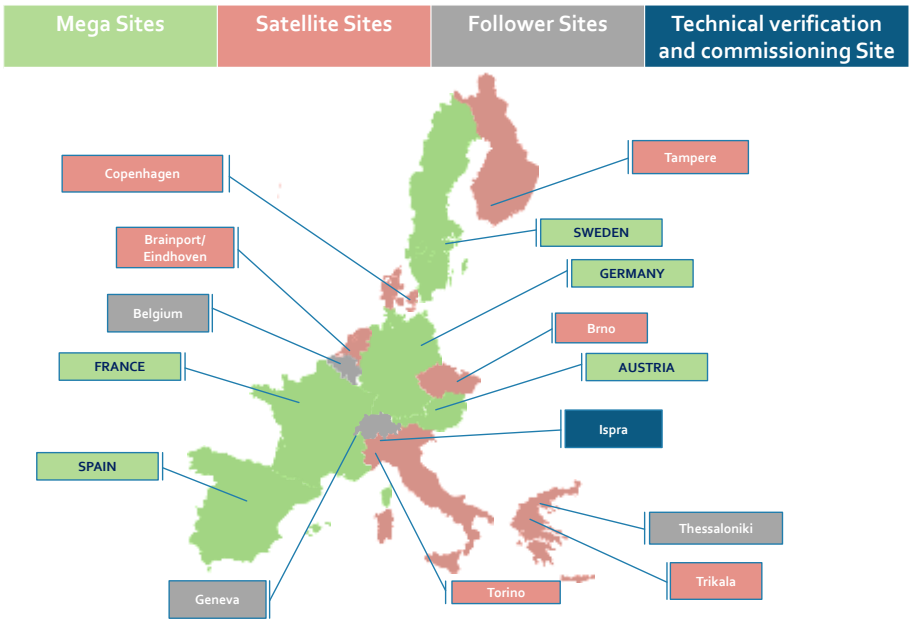

Figure 2: Mega Sites, Satellites and Parallel sites in SHOW.

All countries abide to relevant EU legislation, directives, and guidelines (see Chapter 2). There might also be certain Demonstration site specific regulations that needs to be applicable.

The evaluations are divided into two phases. The pre-demonstration where no end users from general public are involved in general. In some cases, participants will be involved and receive an incentive. For the evaluation during the Demonstration, public citizens will be targeted.

1.4.2. End users and stakeholders

SHOW targets a wide variety of stakeholders and end users, as follows.

Stakeholders:

- Vehicle users (end users, drivers, and remote operator)
- Public interest groups and associations
- Decision-making authorities or regulators
- Operators (e.g., public transport operators, private fleet operators)
- Mobility service providers
- Industry (e.g., AV manufacturers)

End users:

- All types of travellers using public and private transport, including people with special needs.
- Employees at pilot sites (for pre-demo activities)
- Target groups at sites: commuters, Residents, Students, Children, Elderly, Tourists/ visitors, Hospital/ visitors, Vulnerable Road Users (VRU), Persons with reduced Mobility (PRM).

2 Ethics Manual

2.1 Aim

This deliverable (D3.4) is an update of D3.2: SHOW Ethics Manual & Data Protection Policy. It pinpoints crucial international and local regulations that must be considered when dealing with ethical issues. It also contains its own codex, which is set out in the Ethics Code of Conduct.

The established Ethics Board (EB) has been revised. This updated Ethics Manual will give further clarifications about the inner workings of the EB and the relations between the local ethics representatives, the partner of SHOW and the EB.

The Ethics Manual touches upon issues concerning ethics in relation to children, incidental findings, incentive schemes and gender.

Furthermore, the updated Ethics Manual takes the Covid-19 pandemic into account when it comes to health and safety procedures.

2.2 Regulations

In Annex 4 of Grant Agreement the legislation and non-binding instruments to be considered by SHOW's Ethics Board are described. Specific Laws and Directives to be considered per area are summarised in the Table 2.

Table 2: Legislation and non-binding instruments to be considered by SHOW's Ethics Board.

Ethical & social issue	Ethics area	Law/directive
Human Dignity and integrity of user	Human rights	• Universal Declaration of Human Rights (United Nations) • Convention for the Protection of Human Rights and Fundamental Freedoms (Council of Europe) • European Charter of Fundamental Rights • Draft recommendation of the Council of Europe on the promotion of the human rights of older persons • European Charter of the Rights of Older People in need of Long-term care and assistance
Privacy	Data protection	• The Regulation (EU) 2016/679 (General Data Protection Regulation - GDPR) (replacing the Directive 95/46/EC of the European parliament and the Council (1995)), on the protection of individuals about the processing of personal data and on the free movement of such data. • Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending Directive 2002/58/EC. • Directive 2002/58/EC of the European Parliament and of the Council, concerning the processing of

Ethical & social issue	Ethics area	Law/directive
		personal data and the protection of privacy in the electronic communications sector. Take into account developments of Reform of the legislative framework for personal data protection (In January 2012, the European Commission proposed a reform of the Directive 95/46/CE, which constituted until now the basic instrument for personal data protection, in the form of a global Regulation on data protection 2012/001 (COD), supplemented by Directive 2012/0010 (COD) concerning the processing of personal in the area of police and judicial cooperation in criminal matters. • Art.29 Data Protection Working party: Working Document on Privacy on the Internet.
New Technologies	Liability and Safety	• Directive 85/374/EEC on liability for defective products as amended by Directive 1999/34/EC, hereinafter "the defective products Directive" • Directive 2011/24/EU on the application of patients' rights in cross-border healthcare • Directive 90/385/EEC on active implantable medical devices and Directive 93/42/EEC on medical devices and Directive 98/79/EC on in vitro diagnostic medical devices • RoHS Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. • Directive 98/34/EC of the European Parliament and of the Council of 20 July 1998 amended by Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on information society services.
Safety and Certification of Autonomous systems/ vehicles		• Existing technologies adhere to all current and relevant standards in the area (of Application Requirements and Services, ISO TC 204 - Intelligent transport systems CEN TC 278 - Intelligent transport systems, etc.). • All the technologies will be verified before actual implementation for the pilot activities.

2.3 Partners role and responsibilities

Within the project development the following regulations related to compliance, approvals, privacy, personal health information and collaboration should be applied for all partners involved in user related activities, such as evaluation activities, focus groups, etc., see also Consortium agreement

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1. Each party shall be responsible for ensuring its own compliance with all laws and regulations applicable to its activities. Such laws include, but are not limited to, those in respect of rights of privacy, intellectual property rights and healthcare.
2. Any party which provides any data or information to another party in connection with the project will not include any personal information relating to an identified or identifiable natural person or data subject.
3. To this end, the providing party will anonymise all data delivered to other parties to an extent sufficient to ensure that a person without prior knowledge of the original data and its collection cannot, from the anonymised data and any other available information, deduce the personal identity of individuals (see CA for further information).
4. Each party shall be solely responsible for the selection of specific database vendors/data collectors/data providers, and for their performance (see CA for further information).
5. Partners supplying special data analysis tooling, shall have the right on written notice and without liability to terminate the license that it has granted for such tooling to be used in connection with the project, if the supplying partner knows or has reasonable cause to believe that the processing of particular data through such tooling infringes the rights (including without limitation privacy, publicity, reputation and intellectual property rights) of any third party, including of any individual.

2.4 Ethics Code of Conduct

2.4.1 Code of Conduct for Research Integrity

ALLEA is the European Federation of Academies of Sciences and Humanities, representing more than 50 academies from over 40 EU and non-EU countries. ALLEA has created the European Code of Conduct for Research Integrity. The Code serves the European research community as a community as a framework for self-regulation [3]. The European Commission has recognised the Code as a reference document for research integrity for all EU-funded research projects and as a model for organisations and researchers across Europe.

The members and third parties of SHOW are therefore obliged to ensure that the conditions for research Integrity set out in the Code is fulfilled. The Code will be used as a framework for dealing with ethical and professional issues within SHOW.

Good research practices, according to the Code, are based upon the following fundamental principles of research integrity:

Reliability in ensuring the quality of research, reflected in the design, the methodology, the analysis and the use of resources.

[3] https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf

Honesty in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair, full and unbiased way.

Respect for colleagues, research participants, society, ecosystems, cultural heritage, and the environment.

Accountability for the research from idea to publication, for its management and organisation, for training, supervision, and mentoring, and for its wider impacts.

2.4.2 Code of Conduct for various ethical issues

The procedures and criteria that will be used to identify/recruit participants will be kept on file and submitted on request. Furthermore, the informed consent procedures (see D18.1) that will be implemented for the participation of humans will be kept on file and submitted on request.

The members of SHOW shall especially focus on:

Abide to the Ethics Manual and Data Protection Policy of SHOW.

Protect private and sensitive information and ensure that participants will not be harmed during the pilots. The Data Protection Policy is found in Chapter 3.

Respect participant's free will and treat them as intelligent beings who decide for themselves about any type of gathered data that are indeed outcomes of their participation.

Inform in full about which data will be collected and how data will be collected, processed, shared, and disposed before signing the consent form. For informed consent and withdraw recommendations are made in D18.1.

Communicate ethical issues to the Ethics Board and the project management team to ensure these issues will be timely and effectively addressed, managed and resolved.

Ensure ethics approval (wherever is applicable) is obtained on time and relevant documents are shared with the EB.

Communicate results their findings through open-access journals to other researchers and academic communities (especially true if it is requested by the funder). Personal data, unless separately agreed with the person, will not be published.

Ethics control and monitoring within SHOW is carried out by the EB.

Incentive strategies will be decided and described within WP9 Deliverable 9.2.

Transparency at each Demonstration site should explain the following to recruited participants:

- general scope of SHOW and short reference to its objectives,
- scope and short description of the Pilot and the respective study,
- value of participation (benefits for the participant and the public in general),
- acknowledgement of research results, and
- role of participants in the Pilots.

Acknowledgement to the participants of SHOW studies will be done by the local to to each site evaluation teams. The Evaluation team members will during testing ensure that the participants feel comfortable and not coerced or tired. Questions are allowed during testing, in designated times. Participants should be informed about this

possibility beforehand. The contact person details will be provided to the participant along any information and contacts in case the participants have any questions after the end of the testing session.

Risk assessment See Chapter 2.6.

Communication with participants should abide with fundamental human rights principles. Participants should not feel coerced, threatened or stressed by researchers. The researchers must make sure that their behaviour towards participants is not deceitful and that the participants has been given sufficient information about the project. The concept of deception and debriefing is discussed below.

- **Deception.** Researchers do not deceive by any means prospective participants about research that is reasonably expected to cause physical pain or severe emotional distress. Researchers explain any deception that is an integral feature of the design and conduct of an experiment to participants as early as feasible, preferably at the conclusion of their participation, but no later than at the conclusion of the data collection, and permit participants to withdraw their data. No deception will take place in SHOW Pilots and the user will be informed at all evaluation stages about the objectives and the procedures related to the pilots and how their data will be handled, processed, and stored. In the case a functionality of a service is emulated, they will be informed beforehand (in the context of "Scope and short description of the Pilot and respective study"), but they will be asked to perform and react as the situation was real.
- **Debriefing.** Researchers provide a prompt opportunity for participants to obtain appropriate information about the nature, results and conclusions of the research, and they take reasonable steps to correct any misconceptions that participants may have of which the researchers are aware.

2.5 The SHOW Ethics Board

2.5.1 Overview

In general, the Consortium shall implement the research project in full respect of the legal and ethical national requirements and code of practice. The Local Ethics Representatives (LER) will be used as a contact point to achieve this aim.

Ethics Board (EB) consist of Core Ethics Board (CEB) and the Local Ethics Representatives (LER), see Figure 3.

CEB is led by the Ethics Manager (VTI) in collaboration with the Coordinator (UITP), the Technical and innovation Manager (CERHT/HIT) and the WP9 leader (VTI).

All SHOW Pilot sites and cross-test site entities that will participate in the project have nominated a Local Ethics Representative that will be supervised by the Ethics Board of the project.

The name of the representatives in both CEB and LER are found in Annex V and on the Cooperative tool in folder WP3. Name and contact information will be continuously updated.

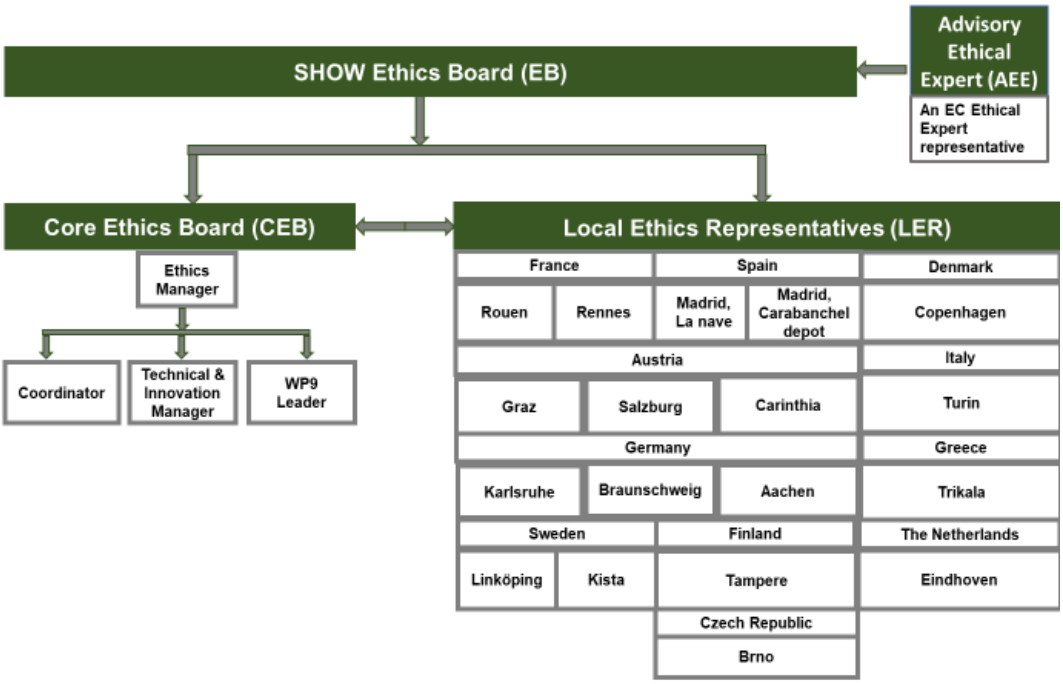

Figure 3: The Ethical board organisation.

2.5.2 Main responsibilities of the EB

- Ensure the project's Ethics policy complies with European and national regulations.
- Ensure all project activities are conducted in line with SHOW Ethics Manual and Data Protection policy (this document).
- Resolute any potential ethics related conflicts and mitigate risks.
- Address any potential issues and risks.
- Raise any ethics issues related to automation and resolve in collaboration with pilot site responsible partners.

The SHOW Ethics Board (EB) will be responsible for the project's ethics management and will act as supervisors of the ethical activities of the project. They will do so considering both European and national ethical and legal requirements. They will also collaborate with external members (e.g. regional/municipality authorities) to ensure the Board is making decisions that are in harmony with the ethical profile and agenda of the cities and areas that will act as a Pilot sites.

The EB is obliged to obey the national and European legislation and code of practices and has to fully support and scrutinize any plans, operational documents, and research protocols to guarantee that the Ethics policy is applied in all activities and foremost when and where users are involved. Partners should ensure timely submission of research protocols based on their previous experience with relevant bodies to avoid any delays in the pilot's instantiation.

2.5.3 Local Ethics Representatives (LER)

The profile of a member of the LER is defined as follows:

- Responsible for a demonstration site;
- Experience in data collection and/or data management with humans involved;

- Experience in preparation and submission of ethical proposals and handling of approvals including compliance to GDPR in relation to vehicle testing.

The LER are required to report to Ethics Board about all relevant activities, their compliance as well as any problems that may arise (see Annex I for support purposes and Chapter 2.5 in this document).

The means to do so will be the Ethics Controlling Reports, a template is annexed to this document (see Annex II). A summary of each pilot site will be obtained, and the information will become the Ethics profile of each pilot site. In addition to the SHOW Controlling Report, ethical approvals will be obtained in the Demonstration sites if they have obligation to do so.

The LER will be the main contact point for any ethics related issues (e.g. submission of research/test protocols for approval, by the Institutional/National Ethics Committees, GDPR, etc.) from the pilot site point of view. Their role will be to comply with the Ethics Manual (this document) and report back after each pilot round by means of an Ethics Controlling Report (see Annex II) across all issues that will be defined by EB and will tackle user involvement, ethical and data protection issues. In addition, one of the main tasks of the nominated persons will be to coordinate and be responsible for obtaining approval by the local/regional/institutional ethics committee before any pilot related activities take place (e.g. even before recruitment starts), if needed. Any required or requested authorisations and approvals remain official project documents at any time.

2.5.4 The Advisory Ethical Expert

The role of the AEE is to support and provide input to the EB and to make sure that considerations made are in line with the work done by the dedicated EC Expert Group addressing specific ethical issues raised by driverless mobility, specifically connected and automated driving related to road transport (see https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3659).

The work of Ethics of Connected and Automated Vehicles and they 20 recommendation will be used as a starting point in this work (https://ec.europa.eu/info/news/new-recommendations-for-a-safe-and-ethical-transition-towards-driverless-mobility-2020-sep-18_en).

2.6 Ethical Management in SHOW

The diagram in Figure 4 presents the procedure of ethical considerations from planning to realisation of a demonstration activity or an evaluation. The LER of SHOW is the one responsible for keeping track of the process through a dedicated checklist (see Annex I).

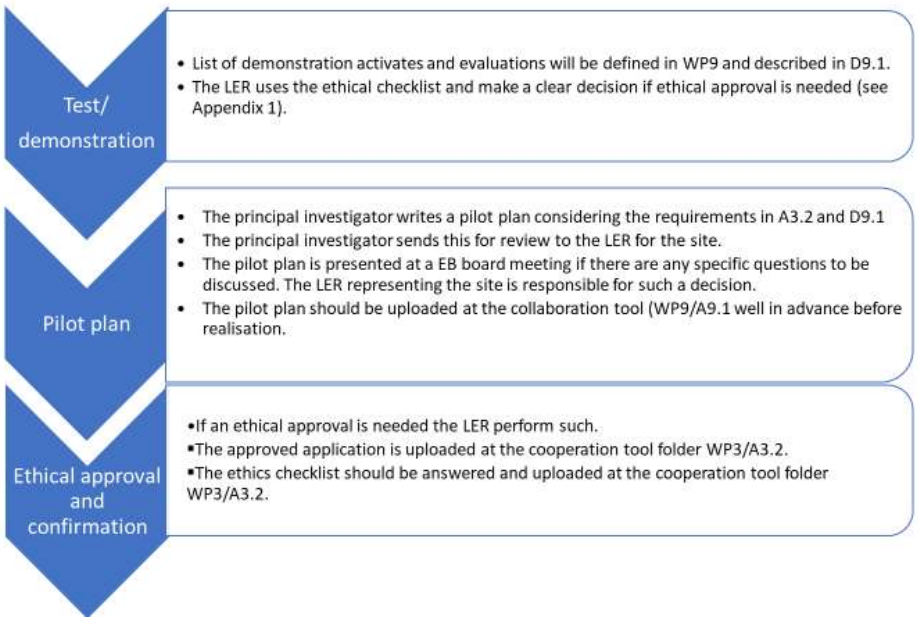

Figure 4: The procedure and flow of information from Ethics Board to Demonstration site.

2.7 Risk assessment and mitigation strategy

The risk assessment includes the plans to ensure no harm will be brought upon the participants and pre-testing activities will ensure that this will stay the case. None of the Pilot related tasks (either in pre-demo or real-life Pilots) is anticipated to have any (side-) effects on the physical or mental integrity or health of the participant, other than the ones existing in their everyday travelling activities. As diverse user groups are addressed (travellers including potentially disabled, older citizens, young people, and various stakeholders) all sites will internally review the Pilot plans and will reach a decision on the inherent risks for all possible addressed user groups.

To minimise risk the LER ensure that the participants has received proper information. Also, when there are safety related issues (i.e. in-vehicle information and scenarios of use) all necessary precautions will be taken. In all cases, the Demonstration sites will abide with the internal and/or national safety regulations applying in their sites. All the Demonstration site leaders has established internal company quality assurance procedures, which will be adopted to guarantee high level quality in SHOW activities.

It is not possible to conceive a procedure, investigation, or process which would be without any risk. One of the most important factors in the assessment of risk is the perception of the prospective participant of the importance of risk. The participant's life situation may substantially influence the way in which a risk is perceived. The end point of the process is the consent given by the person to be part of the research project, having considered all aspects of the process and asked all relevant questions.

All relevant information will be given to the participants. This means that the project SHOW will be carefully explained. The choice that is made and the consent that is given will be without coercion or undue pressure being applied.

Categories of risk take into consideration:

- **Physical risks** stemming from traffic safety issues will be minimised and is expected to be at the same level as that experienced by the average traveller throughout their daily driving when in a hurry, fatigued, stressed, etc.
- **Psychological consequences** will be carefully examined and considered.
- **Social inconveniences** will be minimised (no additional stress or different from stress experienced during daily living/driving/travelling conditions, cost reimbursement for additional transport costs, etc.).

A preliminary risk analysis is presented in Table 3.

Table 3: Preliminary considerations regarding Ethical Risk Management in SHOW.

Ethical & Social risks	Description	Ethical Risk Management in SHOW
Application of overarching Ethical and legal framework	All relevant legislation, regulation and ethical codes will be considered; they are defined how they are met in terms of processes, timing and responsibilities	SHOW EB will oversee the ethical concerns involved in the project and the ethics approval processes at project level. Annex I include the information required to be addressed and included in an Ethics application form partners will be required to obtain prior any evaluation takes place.
Transparency and consent of the travellers	The informed consent administration ensures that the user accepts participation and is informed about the project and demonstration/evaluation objectives. Written consent, if needed, is obtained after travellers are informed. Information provided is clear and understandable about their roles (tasks and rights), research objectives and methods applied, duration of study and participation (if they differ), confidentiality, safety and risk related issues as well as the benefit for them and the project. These aspects are managed in the next column (on the right) and are depicted in the informed consent form template (annexed in D18.1).	The basic parts of the SHOW informed consent will include: 1. The possibility to decline the offer and to withdraw at any point of the process (and without consequences) 2. Information about the data controllers, processors and data manipulation in general; 3. Identification of data controllers and processors; 4. Contact person identification.

Ethical & Social risks	Description	Ethical Risk Management in SHOW
Privacy and data protection	Only anonymised or pseudonymised data will be processed and used in the evaluations and, therefore, no personal data will be processed in relation to specific user. The name will not be connected to other characteristics (e.g. age, gender, nationality, health and/or mobility profile). To avoid risks related to the processing of personal data such as identity theft, discriminatory profiling or continuous surveillance, the principle of proportionality has to be respected. Data can be used only for the initial purpose for which they were collected. Anonymisation or pseudonymisation is a way to prevent violations of privacy and data protection rules. Processing has to be limited to what is truly necessary and less intrusive means for realising the same end have to be considered.	This is in detailed describe in Chapter 3. In general, the project identifies which data protection rules apply and establishes a list of risks and potential solutions; taking due account of the following: - What kind of data will be processed? - What is the purpose of the processing? - Will the data exceed the purpose of the study? - Are there procedures ensuring that data is processed only for the originally identified purposes? - Who is the owner of the data? - Is data connected to other information? - Will data be commercially exploited? - What is the duration of the storage of the data? - Where will the data be stored and according to which national legislation? - Who will access the data? Are they secured? - Will the user be recorded? - Which metrics will be implemented? - Who will supervise the data protection? The collected information will consequently feed the data private impact assessment (DPIA) process that will be managed by ERTICO within A14.6 and its updates.
Safety & certification of autonomous systems/vehicles	Data collection and evaluation activities should not entail any undue risk for participants other than the ones they will encounter in their everyday travelling and living activities.	Existing technologies adhere to all current and relevant standards in the area (of ETSI TC ITS - Application Requirements and Services, ISO TC 204 - Intelligent

Ethical & Social risks	Description	Ethical Risk Management in SHOW
		transport systems CEN TC 278 - Intelligent transport systems, etc.) as they be collected and listed within A15.5. Further standardisation and certification aspects will be handled in the aforementioned activity. SHOW technologies will be verified, validated before actual deployment to pre- and real-life demonstrations within D11.1 'Technical validation protocol and results' and D11.2 'Demos safety, reliability and robustness validation and commissioning', respectively.
Participants' **engagement**	Evaluation is expected to be inclusive and representative of different traveller types, especially in a dynamically shaped real-life context. The selection and recruitment of participants is a crucial part of the involvement process, as it will impact on the quality of the outcomes and the sustainability of the research outcomes. At this stage a satisfactory number of users and combination of travellers' characteristics is sought (i.e. to reflect and accommodate the needs of the chosen UCs); gender balance and equality are addressed.	SHOW will target specific travellers' groups. Adequate number of travellers will ensure sample representativeness, even at pre-Demonstration level, including: i) different age groups, ii) balanced female/male ratio iii) various social, cultural, and socio-economic (SES backgrounds). The EB will oversee the selection of participants. Participant engagement will be governed by the guidelines defined by the Responsible Research and Innovation Framework*. *https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation

Further criteria and procedures regarding participants' recruitment might apply depending on the elaborated pre-Demonstration plans. These further criteria and procedures will be described in detail in a dedicated chapter of D9.2 'Pilot experimental plans & impact assessment framework for pre-demo evaluation'.

2.8 Health and safety procedures

For SHOW it is of high importance that during evaluation and demonstration activities appropriate Health and Safety (H&S) procedures on departmental/institutional abut

also on regional/national level are followed. This includes staff as well as external participants. The overview of the respective regulations for SHOW test sites is provided Chapter 5.1.5 of the Grant Agreement. It is up to each site to follow those regulations and provide evidence for thin upon request.

Due to the Covid-19 pandemic health and safety procedure must take local and national provisions and recommendations into account and adapt accordingly.

2.9 Ethics in relation to participants

All research should follow the Data Protection Policy of SHOW (see Chapter 3).

As SHOW demonstrations operate under real environments (with an estimated total of 1,500,000 passengers participating in them over the course of the 12 months, across all 20 cities in Europe), they cover the needs and consider the preferences of all types of travellers.

Nevertheless, specific use cases and test environments (around schools, universities, hospitals, airports, warehouse depots, etc.) take place; to research specifically the needs and wants of target user clusters including among other commuters, tourists, students and the elderly and people with mobility restrictions. Finally, the integrated transportation chain nature of SHOW Pilots and their connections to major city hubs (rail stations, etc.) allow for proper coverage of multimodal travellers' needs.

Traveller groups and involved stakeholders will be recruited and invited, respectively to participate in dedicated and controlled activities during the conduction of the pre-demonstration tests, as they will be defined within D9.2. All participants will have the competence to understand the informed consent information.

Recruitment of participants will take place only in the pre-pilots and vulnerable road users will probably participate depending on the pilot plans, specifications, requirements and criteria. Vulnerable road users (VRUs) are considered "by the amount of protection in traffic (e.g. pedestrians and cyclists) or by the amount of task capability (e.g. the young and the elderly). Vulnerable road users do not usually have a protective 'shell', and also the difference in mass between the colliding opponents is often an important factor. Vulnerable road users can be spared by limiting the driving speed of motorized vehicles and separating unequal road user types as much as *possible"* (SWOV Vulnerable Road Users Fact Sheet, 2012).

Vulnerable users (i.e. homeless, drug and alcohol users and abusers, immigrants, etc.) will not be recruited to participate in any controlled demonstration evaluation across demonstration sites that are conducted by the SHOW Consortium. However, during the demonstration activities, participants will not be recruited, and people will freely use the vehicles, as they would normally do during their daily and/or frequent mobility activities. The SHOW Consortium will have no control and will not be aware of who is using the vehicles; still, in any case, no personal data will be collected by the passengers. For real operation in demonstration activities, the same regulations that already stand and are applied by the operators (concerning the protection of human rights, etc.) will be also in force for the case of SHOW.

The substantial number of users will ensure a wide trial perspective, including: i) different age groups, ii) balanced female/male ratio, and iii) various social backgrounds. The EB of SHOW will oversee the selection of participants.

2.9.1 Ethics in research with children

According to the United Nations Convention on the Rights of the Child, the term child refers to every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier. The term child will have the same meaning in this document.

Children are addressed as a user group within SHOW, hence partners must familiarise with and abide ethical guidelines pertaining specifically to children, which have been developed by a number of organizations. These guidelines vary somewhat, depending on the value basis for the research in different organizations. The core principles are as follows:

- Having a commitment to children's well-being **(Beneficence)**;
- Having a commitment to doing no harm **(Non-Maleficence)**;
- Having a commitment to children's rights including the right of individuals to take responsibility for him or herself **(Autonomy)**;
- Being child-centred in its approach to research, listening to children, treating them in a fair and just manner **(Fidelity)**;

These principles have implications for decision-making in several key areas, including consent and confidentiality, but also in the general manner in which children are treated in any research encounter. D 18.1 describes the procedure for information and consent regarding children.

2.9.2 Not included in SHOW

SHOW will not touch any of the following fields of research:

- research activity aiming at human cloning for reproductive purposes;
- research activity intended to modify the genetic heritage of human beings which could make such changes heritable;
- research activities intended to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer.

Furthermore, SHOW does not include any research involving

- the use of human embryonic tissue, human foetuses, human foetal tissue, other human tissues;
- genetic information;
- pregnant women;
- animals.

2.10 Incidental findings

They are defined as the findings that maybe by-products or outcomes of the study that were not necessarily collected to answer the main research questions and objectives but could be of importance for the physiological, psychological and metal wellbeing of

the participant. The number and type of incidental findings could be different for each site and valuable for both the person and the other stakeholder groups.

Any findings that are related to driver's traffic rules' violations during the tests will not be communicated to 3rd parties (including insurances, authorities, etc.); as the driver is driving "as he/she will do when along" and assumes fully legal responsibility on his/her acts. Written exception will be made for deliberate criminal acts on behalf of the driver or/and related to an eventual accident during the tests.

Health decrements identified in a person during a test will be communicated in writing to the test participant and only, supporting them to contact medical support if needed.

2.11 Reimbursement

The participants may receive a reimbursement (incentive) as compensation for their participation. It will not be conditional based on performance or restricted to finalisation of the actual test. However, for surveys you need to go to the end to get the question if you want to participate in the lottery as an example. The incentive will be in line with the performing partners' general practice. Two levels of incentivisation are expected to be applied:

a) Incentives for real-life travellers, not specifically recruited by SHOW: Real-life travellers will be incentivised to use the services provided in SHOW through discounts that will be offered to them by the respective operators. This discount has been anticipated to be covered by the project in the sense of "compensation for evaluation activities' and has been allocated in the different pilot leaders of the corridor.

b) Incentives for participants specifically recruited by SHOW: As previously mentioned, evaluations will take place both during pre-demonstrations and during the demonstrations. In both cases there will be two (2) key clusters of evaluation participants across the pilot rounds of SHOW; recruited participants in pre-demo activities and stakeholders. During pre-pilots both participants and stakeholder will receive an incentive as compensation for their participation. It will not be conditional based on performance or restricted to finalization of the actual test. In general, it is not envisaged to give money to the demonstration evaluation participants. The reimbursement mechanisms will be revisited by the EB and approved. Each Demonstration site will define the incentives appropriate for the participants to be recruited according to the thresholds imposed by their national and institutional regulations.

Many participants are anticipated in the Demonstration and ensuring participation and attendance at follow-up sessions is, at least in in some occasions, critical for not only the success but the everyday running of demonstrations. It is a fine line between creating a culture of incentives when recruiting people and the EB will oversee and approve (or not) the incentive schemes chosen by each pilot site, apart from the research protocol approval by the LER. Therefore, based on the evaluation plans appropriate incentives will be chosen. . As commitment is essential for the success of the project, users will receive some form of reimbursement. In case of recruiting employees, incentives are not used as people are already paid for their time. Participants should be informed of the presence/absence of incentives when recruited and a statement needs to be added in the consent form. In case of legal restrictions or policies, the ethics responsible at each pilot site should inform the EB. An alternative to cash is using vouchers; sometimes it is easier for evaluation moderators to carry/use and they should be representative of the demographics (i.e. have an added value for older citizens). It is upon the discretion of each partner to decide the incentive scheme

to use (if not to use). Other options include sharing the results of the study, making charitable donations, creating a prize draws and offer nonmonetary gifts.

2.12 Gender

The gender level of participation within the SHOW activities will be monitored. Equal opportunities and equal treatment between men and women will be guaranteed.

Over the years, the European Parliament has supported and called for measures to improve the position of women. This work continues through the activities of the Women's Committee. In detail, several specific European and UN Policies have been adopted to promote the equity of gender. Those will be fully respected within the project. The monitoring of the gender level of participation within the project activities is important for SHOW.

In more detail, there are several specific European and UN Policies that will be adopted to promote the equity of gender (i.e. Council Directive 75/117/EEC, etc.).

SHOW will ensure that during all its phases, and as much as possible equal gender participation will be maintained, this addresses research and development phases, as well as evaluation phases. The gender will be one of the Pilots and other test/evaluations participants' characteristics that will be tracked and statistically processed (to come up with any correlations if applicable).

3 Current status on ethics across the sites

3.1 SHOW Questionnaire on ethical and legal issues

In this project phase (in view of the pre-demo phase launch), the "Questionnaire on ethical and legal issues" has been completed by each LER (Local Ethics Representative), responsible for conducting trials involving human participants with a twofold scope: a) to capture the current status of ethical aspects/issues at each pilot site and b) to serve as a checklist reminding the researcher to consider all relevant ethical aspects before conducting any evaluation activities within SHOW, in view of the pilot phase. The form itself is divided into 6 different subsections (e.g. participants and informed consent, ethical control instruments, privacy, safety, risk assessment and reimbursement).

From the questionnaires, it has emerged that all collected data will be kept entirely confidential and their anonymity will be protected in full across all sites. In this report the respective feedback from the Salzburg site is not included due to COVID-19 related delays in collecting all necessary information concerning their relevant sites operation. Moreover, the sites of Manheim and Vienna has been withdrawn from the SHOW project and are currently under replacement from the sites of Braunschweig (Germany) and Carinthia (Austria) respectively. But this is still an on-going process and is still to be approved and confirmed by the Project Officer and the EC. Thus, all the information missing from the sites will be included in an intermediate internal version, in time for the pre-demo phase, and will be reported in the updated version of this report (D3.5), with due date M24 (December 2021). In this Deliverable, updates from all demo sites with be also included if needed.

Demonstration data management will be carried in all pilot sites according to General Data Protection Regulation (GDPR) (Regulation EU 2016/679) and the project data management procedures identified already in the D14.2: Data Management Plan (DMP) and as will be further elaborated in its update D14.3: DMP – final version on M24 of the project. Furthermore, all the Local Ethics site representatives in continuous collaboration with their entity's Data Protection Officer (DPO), when existing, who will guarantee the compliance of the project data related activities with the GDPR regulations.

In the following paragraphs, the questionnaire's results have been summarised for each subsection and for different demo sites of the project.

3.1.1 Participants and informed consent

The GDPR sets a high standard for consent, while also 9 of the SHOW sites that completed this questionnaire (e.g., Rouen, Karlsruhe, Braunschweig[4], Linköping, Brainport, Brno, Copenhagen, Trikala, Turin) are also obliged according to their national/regional/institutional regulation to obtain the consent of pilot activities participants. Therefore, informed consent is required by the persons to be part of the project, having considered all aspects of the process, asked all relevant questions and ensured that they have understood what the experimentation activity consists of. To this extent, all relevant information will be given to the participants. This means that the project SHOW will be carefully explained and the choice that is made and the consent provided will be without coercion or undue pressure being applied.

[4] As a replacement for Mannheim, amendment in preparation

Each demonstration site will edit the required templates of the informed consent/assent forms and information sheets, according to their main research objectives per pilot phase and will define the procedures regarding the collection, storage, and protection of personal data, in compliance with the European and national legislation but also in correlation with the project established processes and mechanisms. The templates can be found in Annexes I to VI of D18.1 and will be revisited before the pre-demo phase launch. The signed forms will be kept locally and will be available upon request.

All demo sites representatives have confirmed that the informed consent will be provided in common language to be understood by "the man/woman in the street", while also all participants will be given sufficient time to reflect their decision of giving or withholding consent. Other than that, only 2 of the demo sites anticipated to conduct tests with individuals without having the necessary cognitive capacity to consent, for example children in Linköping and/or users with special needs and mental disabilities in Tampere. In such cases, the provisions of the consent will be handled through their parents (or other person/ adult legal representative of their interests) and they will of course also be informed and consent.

The informed consent form will be translated into the national language of all pilot sites. Following the approval of the informed consent for by respective bodies, its translated version will be used with a small group of project participants to validate that the included information and the chosen form of presentation is appropriate and understood by the participants.

Moreover, 6 of the demo sites (Aachen, Brno, Linköping, Rouen, Tampere, Trikala) stated that they expect to also have participants, who for any reason, will be unable to read the form by themselves (e.g. children or participants with severe visual impairments) and/ or illiterate participants. Thus, in all sites, participants not able to read will give oral consent, which will be witnessed at least by one person, whose name will be also recorded when recording the individual's grant of consent. In addition, 9 of the demo sites (Graz, Karlsruhe, Linköping, Rennes, Rouen, Brno, Tampere, Trikala, Turin) also declared that the oral consent of an illiterate participant in the presence of a witness adequate/appropriate is also in accordance with their national legislation and/or institutional protocols.

The summary of the ethics controlling process in each SHOW demo site is provided below. Any information missing, changes and/ or updates will be included in D3.5: Final SHOW Ethics manual, Data Protection Policy and Data Privacy Impact Assessment (M24), where the ethics control process will be repeated in view of the final demo phase. Final notes/findings respectively will be reported in D12.9: "Real-life demonstrations pilot data collection and results consolidation" (M44).

Among the SHOW sites that completed this questionnaire, 5 (Karlsruhe, Linköping, Rouen, Copenhagen, Trikala) stated that there is an international or national legislation (or institutional regulation), which they must follow when performing tests within SHOW project, involving healthy human participants, the same 5 demonstration sites stated that there is respective legislation/regulation for the involvement of participants with cognitive impairments/learning difficulties and 4 of them (Rouen, Copenhagen, Trikala, Turin) for involving illiterate or with co-morbid conditions participants.

3.1.2 Ethical control instruments

For 6 of the demo sites (Graz, Kista, Brainport, Copenhagen, Tampere, Turin) there is no ethics controlling body or controlling committee necessary to be contacted and get approval (on national/regional/local/institutional level) for the experimental procedures prior to the tests, while some of them (e.g. Brainport) have internal review board on human research.

Moreover, some demo sites stated auditing their ethical controls at division or department level (e.g. Madrid, Rennes, Rouen, Brainport, Copenhagen) and/or on a laboratory or workgroup level (e.g. Tampere). However, the Local Ethics Responsible persons will be contacted by the SHOW Ethics Board to ensure that the processes are conducted in line with the project's ethics policy and that no further action is necessary to be taken in relation to ethics approvals from regional bodies. An overview of the answers for project pilot site reported in the "Questionnaire on ethical and legal issues" for the "Ethical control instruments" session has been reported in Table 4.

Table 4: Overview of the "Ethical control instruments" session by demo site.

If there is a local ethics controlling committee that your organization will be obliged to get approval from for the experimental procedures before beginning with the experiment, will you obtain this approval?	**Yes**	**No**
Graz		x
Kista		x
Linköping	x	
Madrid		x
Rennes	x	
Rouen	x	
Brainport		x
Brno	x	
Copenhagen		x
Tampere		x
Trikala	x	
Turin		x
Aachen	To be added	
Salzburg	To be added	

3.1.3 Privacy

Overall, the demonstration sites will record no personal data during the SHOW field testing unless it will be otherwise anticipated by the data collection requirements of the project. In that case they will be anonymous and with no association enabler in order to retrieve them. There might cases that in for the accommodation of traveller services (e.g. on-demand services), there will be data storage of personal info; that will be however anonymously stored, coded as will be instructed in the context of the project data processing mechanisms.

This is the case for subjective data collection during field trials that may contain personal data (e.g. demographics, etc.) but will be associated with no contact details or any other info that may infer associations revealing traveler identities. Also, in some sites that aim to recruit travelers, such as Linköping, banking and other financial information will have to be collected for payment or invoicing purposes. In this case, such info will be kept strictly locally by the respective department of the managing entity and will for no reason shared with any other department of the entity itself and, furthermore, with the project other entities. All in all, in all cases, participants will be informed that their data will be kept entirely confidential and that their anonymity will be protected.

The Local Ethics Responsible (see Annex V) and a priori identified persons (available upon request) will be the only contacts having access to full contact details of the participants as well as to their consent forms that will be signed in all cases. Moreover, all sites have stated that there is a Data Protection Authority on national/regional level, as presented in Table 5 below:

Table 5: National/ Regional Data Protection Authorities in SHOW Demo Sites

SHOW demo site	Data Protection Authority
French sites (Rennes & Rouen)	CNIL - https://www.cnil.fr/
Swedish sites (Linköping & Kista)	Swedish Authority for Privacy Protection (Datainspektionen) - https://www.imy.se/other-lang/
Graz	dsb – Datenschutzbehörde: https://www.data-protection-authority.gv.at/
Aachen	Datenschutz-Grundverordnung (DSGVO) - https://dsgvo-gesetz.de/
Karlsruhe	Landesbeauftragte für den Datenschutz und die Informationsfreiheit Baden-Württemberg https://www.baden-wuerttemberg.de/de/header-und-footer/datenschutz/
Madrid	Agencia Española de Protección de Datos - https://www.aepd.es/es
Brainport	Autoriteit Persoonsgegevens - https://autoriteitpersoonsgegevens.nl/en

SHOW demo site	Data Protection Authority
Brno	The Office for Personal Data Protection (CZE: Úřad pro ochranu osobních údajů) - https://www.uoou.cz/en/
Copenhagen	Datatilsynet - https://www.datatilsynet.dk/generelt-om-databeskyttelse/lovgivning
Tampere	The Office of the Data Protection Ombudsman - https://tietosuoja.fi/en/home
Trikala	Hellenic Data Protection Authority (HDPA) - https://www.dpa.gr/portal/page?_pageid=33,40911&_dad=portal&_schema=PORTAL
Turin	Garante per la protezione dei dati personali, https://www.garanteprivacy.it/home_en

A Data Protection Officer (DPO) is also appointed at the respective organisation of almost all sites that have completed this questionnaire. The contact details of those DPOs have been also collected and are included in Table 6 below.

Table 6: Data Protection Officer in SHOW Demo Sites

SHOW demo site	Data Protection Officer	Contact Details
Aachen	**Christina Fitzner** (Project manager) **Wilfried Sterck** (Teamleader)	Christina.fitzner@mail.aachen.de wilfried.sterck@mail.aachen.de
Graz	**Mario Rumpf,** Head of IT. Since Virtual Vehicle is a research organisation, the Data Protection Officer takes care of GDPR compliance of the company and research projects. The SHOW tests are in this context a research project.	mario.rumpf@v2c2.at
Karlsruhe	**Jochen Rill**	datenschutz@fzi.de
Kista	**Stig Persson**	stig.persson@ericsson.com
Linköping	**Louise Dahlgren:** Personuppgiftsansvarig	vti@vti.se
Madrid	**Alejandro Cuerpo Platero**	alejandro.cuerpo@emtmadrid.es

SHOW demo site	Data Protection Officer	Contact Details
Rennes	**Isabelle Dussutour**	Isabelle.dussutour@id4car.org
Rouen	Transdev Group has appointed a DPO (**Martial Michaux**) and because Transdev Group has more than 300 subsidiaries, numerous people are responsible for the implementation of Transdev Group policies locally. For Transdev Group Innovation: Mihai CHIRCA and Valerie AICHOUN are in charge of the questions relating to GDPR.	martial.michaux@transdev.com mihai.chirca@transdev.com
Brainport	**Remy van den Boom LL.M**	https://www.tno.nl/en/about-tno/contact/corporate-legal/privacy-statement/
Brno	**Tomáš Habán** (Head of legal department)	tomas.haban@cdv.cz
Copenhagen	**Tina Cort Pedersen** (Datasafety)	tcp@moviatrafik.dk
Tampere	**Reijo Kukkonen** (Quality and Safety Director)	Reijo.Kukkonen@sitowise.com.
Trikala	**Loukas Vavitsas** (Data Protection Officer)	lvavitsas@e-trikala.gr
Turin	A DPO has not been designated.	

The only exception so far is Turin, where a DPO is not designated. Following the evaluation, the Data Controller decided not to re-enter in the specific cases for which it is required to designate a Data Protection Officer, pursuant to Article 37, paragraph 1 and 4, of GDPR (EU) 2016/679. In GDPR the DPO is foreseen for all public authorities and it does not apply to Fondazione LINKS.

3.1.4 Safety

The majority of the SHOW demo sites (8 out of 13) have stated that they will not provide information to the SHOW participants about any participant's illness that is detected, mainly due to the fact that no medical data will be recorded or collected in any way. Some of them excluded though the cases of COVID-19 infections (that may turn to be a European regulation in any case).

Moreover, their vast majority (11 out of 13) stated that their pilot implementation will be evaluated for any side-effects and that they will have written procedures for safety for employees and volunteers within their own group or institution, mainly governed by the

internal safety and quality protocols, while some of them also made distinction between general safety procedures and special safety regulations regarding COVID-19.

3.1.5 Risk assessment

Regarding the risk-assessment, concerning breach of privacy and / or breach of safety in the different sites, all sites stated that they will perform one. In Table 7 below, a brief outline and/or justification for each demo site is presented.

Table 7: Overview of the risk assessment" performance per demo site

SHOW demo site	Yes	No	Brief outline/ Justification
Graz	x		A risk assessment concerning safety will be performed. This assessment covers systematically all sections of the test area and assesses the safety hazards, probabilities and corrective actions by the safety driver. A risk assessment concerning privacy will not be conducted, since no personal data will be recorded.
Karlsruhe	x		We will perform a risk-assessment, if necessary, according to established risk-assessment policies by internal guidelines and guidelines created by data protection authorities.
Kista	x		We will do GDPR and Privacy audits as well as Information security audits before starting test on the site.
Linköping	x		A local risk assessment is done as a part of the permission and is then continuously followed up.
Madrid	x		To be considered, according to the project practices and requirements
Rennes	x		The cyber security of the site and of data will be assessed through a protocol to be drafted during the pre-demo period.
Rouen	x		A clear policy is realised in order to deal with eventual breach problems.
Brainport	x		To be considered, according to the project practices and requirements.
Brno	x		It is a standard procedure done according to our institutional policies.
Copenhagen	x		Part of the national test-approval that have to be obtained in order to conduct the test.

SHOW demo site	Yes	No	Brief outline/ Justification
Tampere	x		To be considered, according to the project practices and requirements.
Turin	x		A periodic review of the entire plant and individual legal obligations is envisaged, with reference to the As-Is and the indication of the measures deemed necessary in order to mitigate the risks to the rights and freedoms of data subject.
Trikala	x		To be considered, according to the project practices and requirements.

Moreover, half of the demo sites (Graz, Linköping, Rouen, Brno, Copenhagen, Tampere) stated that their organisations are insured against risks as a result of breach of privacy and safety, while 11 sites stated also that they will not need to involve other organisations (entity, unit, division, department, etc.) for conducting research and management of the risks.

3.1.6 Compensation and Reimbursement

Pilot sites may set up incentives to be offered to participants in field trials but these will be subjected to approval of the SHOW Ethics Board. Instead of cash, reimbursement may be in the form of vouchers, the possibility to share results of the study, charitable donations, etc.

However, the vast majority of the SHOW demo sites (9 out of 13) have stated that reimbursement practices are allowed in their country/region/institution, while 8 of them also stated that no financial or in kind payments (including reasonable expenses and compensation for time of participation) will be offered to participants for participating to their field trials in the context of SHOW. Moreover, 1 demo site so far (Copenhagen) stated that compensation for participation will be in the form of small cash payments (> 40 euro) and Rouen representative also stated that this needs to be defined.

4 Data Protection Policy

Personal Data must be processed in compliance with applicable data protection laws. The exact requirements and due diligence for Processing Personal Data will need to be scoped and defined within the relevant jurisdictions.

All parties and third parties to SHOW must comply with all applicable data protection laws and adapt routines continuously so that the Processing of Personal Data for which the parties are responsible does not violate the rights and freedoms of individuals. Each one is responsible for complying with SHOW Data Protection Policy (this document).

Throughout this Data Protection Policy, A Party or third party to SHOW which are Processing Personal Data will be referred to as Controller and/or Processor.

There are checklists provided by the ICO throughout this Data protection policy, which are supposed to help the Controllers/Processors (see Chapter 3.1), to meet the obligations under the GDPR. In case of uncertainty concerning the Controllers/Processors ability to meet the requirements of the GDPR, it is recommended that the Controller/Processor use these checklists. Be aware that there might be other regulations to comply with as well, for example complimentary national regulations to the GDPR.

The Personal Data that is or will be processed with in SHOW will fall into one of the following categories:

- Personal Data collected in the context of participation in a research study,
- contact information such as name, address, telephone number and email address,
- banking and other financial information for payment or invoicing purposes,
- information about how one uses websites, for the purpose of making them more user-friendly, for example via cookies,
- information about participation in conferences or courses, and
- Personal Data needed for employment purposes.

The Data Management Plan for SHOW (see D.14.2 and its subsequent updates) further explains how the parties must process information to fulfil their obligations.

The following excerpt is from SHOW Consortium Agreement.

“The Parties agree that any Background, Results, Confidential Information and/or any and all data and/or information that is provided, disclosed or otherwise made available between the Parties during the implementation of the Action and/or for any Exploitation *activities (“Shared Information”), shall not include pers*onal data as defined by Article 2, Section (a) of the Data Protection Directive (95/46/EEC) (hereinafter referred to as *“Personal Data”) or under Article 4.1 of the GDPR. Accordingly, each Party agrees that* it will take all necessary steps to ensure that all Personal Data is removed from the Shared Information, made illegible, or otherwise made inaccessible (i.e. de-identify) to the other Parties prior to providing the Shared Information to such other Parties.”

4.1 Terminology for Data Protection Policy

- Anonymisation means the process of removing personal identifiers, both direct and indirect, that may lead to an individual being identified. Once data is truly anonymised and individuals are no longer identifiable, the data will not fall within the scope of the GDPR.
- Data Protection laws mean EU Data Protection regulations and, to the extent applicable, the data protection or privacy laws of the demonstration site country.
- Data Protection Policy means this document
- DPO means Data Protection Officer
- DPIA means Data Protection Impact Assessment
- GDPR means the General Data Protection Regulation (EU) 2016/679
- ICO means Information Commissioner's Office
- Pseudonymisation means the Processing of Personal Data in such a manner that the Personal Data can no longer be attributed to a specific Data Subject without the use of additional information, provided that such additional information is kept separately and is subject to technical and organisational measures to ensure that the Personal Data are not attributed to an identified or identifiable natural person.
- Special Category Data means Personal Data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data, data concerning health (also known as Sensitive Data).

The terms, "Controller", "Data Subject", "Personal Data", "Personal Data Breach", "Third countries", "Processing", "Processor" and "Supervisory Authority" shall have the same meaning as in the GDPR, and their cognate terms shall be construed accordingly.

A party Processing Personal Data will in this Data Protection Policy be referred to as a Controller or a Processor. The terms Controller and Processor will be used somewhat interchangeable in this Data Protection Policy depending on the regulation to which it refers to.

The initial letter of the terms defined in this paragraph (3.1.) will be written with a capital letter indicating the terms specific meaning.

4.2 Data protection officer

In general, each Controller/Processor is obliged to appoint a Data protection officer (DPO) unless the duty is not mandatory under the GDPR.

It is a necessity to appoint a DPO if a DPIA must be carried out before a lawful processing of Personal Data can begin.

The list of DPO contact points per pilot site can be found in D18.2.

Position of the DPO

☐ Our DPO reports directly to our highest level of management and is given the required independence to perform their tasks.

☐ We involve our DPO, in a timely manner, in all issues relating to the protection of Personal Data.

☐ Our DPO is sufficiently well resourced to be able to perform their tasks.

☐ We do not penalize the DPO for performing their duties.

☐ We ensure that any other tasks or duties we assign our DPO do not result in a conflict of interests with their role as a DPO.

Tasks of the DPO

☐ Our DPO is tasked with monitoring compliance with the GDPR and other Data Protection Laws, our data protection policies, awareness-raising, training, and audits.

☐ We will take account of our DPO's advice and the information they provide on our data protection obligations.

☐ When carrying out a DPIA, we seek the advice of our DPO who also monitors the process.

☐ Our DPO acts as a contact point for the Supervisory Authority. They co-operate with the Supervisory Authority, including during prior consultations under Article 36, and will consult on any other matter.

☐ When performing their tasks, our DPO has due regard to the risk associated with Processing operations, and takes into account the nature, scope, context and purposes of Processing.

Accessibility of the DPO

☐ Our DPO is easily accessible as a point of contact for our employees, individuals and the Supervisory Authority.

☐ We have published the contact details of the DPO and communicated them to the Supervisory Authority. [5]

4.3 Record of Processing activities

Unless the duty is not mandatory under the GDPR, each Controller/Processor is obliged to keep a record of Personal Data Processing activities under its responsibility.

4.4 Rights for individuals

Rights for individuals under the GDPR:

[5] Information Commissioner's Office, published at the ICO website 2020-02-28, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/accountability-and-governance/data-protection-officers/, licensed under the Open Government Licence

- The right to be informed
- The right of access
- The right to rectification
- The right to erasure
- The right to restrict Processing
- The right to data portability
- The right to object
- Rights in relation to automated decision making and profiling.

Each Controller/Processor must ensure that the requirements regarding these rights are met, for example when Processing Personal Data related to participants.

4.5 Principles

The GDPR sets out seven key principles:

- Lawfulness, fairness and transparency
- Purpose limitation
- Data minimisation
- Accuracy
- Storage limitation
- Integrity and confidentiality (security)
- Accountability

These principles should lie at the heart of each Controller´s/Processor´s approach to Processing Personal Data.

4.5.1 Lawfulness, fairness and transparency

Each Controller/Processor must identify valid grounds under the GDPR (known as a 'lawful basis') for collecting and using Personal Data and ensure that there is not a breach of any other laws while Processing the data.

Each Controller/Processor must use Personal Data in a way that is fair. This means not to use data in a way that is unduly detrimental, unexpected or misleading to the individuals concerned.

Each Controller/Processor must be clear, open and honest with individuals from the start about how their Personal Data will be used.

Lawfulness

☐ We have identified an appropriate lawful basis (or bases) for our Processing.

☐ If we are Processing Special Category Data or criminal offence data, we have identified a condition for Processing this type of data.

☐ We don't do anything generally unlawful with Personal Data.

Fairness

☐ We have considered how the Processing may affect the individuals concerned and can justify any adverse impact.

☐ We only handle individual's data in ways they would reasonably expect, or we can explain why any unexpected Processing is justified.

☐ We do not deceive or mislead individuals when we collect their Personal Data.

Transparency

☐ We are open and honest and comply with the transparency obligations of the right to be informed. [6]

4.5.2 Purpose limitation

The Controller/Processor must from the start decide the purpose of processing is, keep a record of the purpose and specify the purpose in the Controller´s/Processor´s privacy information for individuals.

It is only allowed to use the Personal Data for another purpose if either this is compatible with the original purpose, the Controller/Processor gets a consent, or there is an obligation or function set out in law.

4.5.3 Data minimisation

The Controller/Processor must ensure that the Personal Data that are being processed is adequate, relevant and limited to what is necessary. With "adequate" means that the data Processing is sufficient to properly fulfil the defined purpose of the Processing (see purpose limitation above). With "relevant" means that the data Processing has a rational link to the defined purpose for the Processing. With "limited to what is necessary" means that the Controller/Processor is not allowed to hold more Personal Data than is needed for the defined purpose for the Processing.

In addition, aggregated data and/or inferences-mainly related to consolidated estimations will be shared with researchers outside the SHOW-consortium only upon agreement to do so, as the project participates in the Open Research Pilot.

[6] Information Commissioner's Office, published at the ICO website 2020-02-28, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/principles/lawfulness-fairness-and-transparency/, licensed under the Open Government Licence

4.5.4 Accuracy

The Controller/Processor should take all reasonable steps to ensure the Personal Data that is processed is not incorrect or misleading as to any matter of fact and if deemed necessary keep the data updated.

☐ We ensure the accuracy of any Personal Data we create.

☐ We have appropriate processes in place to check the accuracy of the data we collect, and we record the source of that data.

☐ We have a process in place to identify when we need to keep the data updated to properly fulfil our purpose, and we update it as necessary.

☐ If we need to keep a record of a mistake, we clearly identify it as a mistake.

☐ Our records clearly identify any matters of opinion, and where appropriate whose opinion it is and any relevant changes to the underlying facts.

☐ We comply with the individual's right to rectification and carefully consider any challenges to the accuracy of the Personal Data.

☐ As a matter of good practice, we keep a note of any challenges to the accuracy of the Personal Data. [7]

4.5.5 Storage limitation

The Controller/Processor must not keep Personal Data for longer than needed.

☐ We know what Personal Data we hold and why we need it.

☐ We carefully consider and can justify how long we keep Personal Data.

☐ We have a policy with standard retention periods where possible, in line with documentation obligations.

☐ We regularly review our information and erase or anonymise Personal Data when we no longer need it.

☐ We have appropriate processes in place to comply with individuals' requests for erasure under 'the right to be forgotten'.

☐ We clearly identify any Personal Data that we need to keep for public interest archiving, scientific or historical research, or statistical purposes. [8]

4.5.6 Integrity and confidentiality (security)

The Controller/Processor must ensure that there are appropriate security measures in place to protect the Personal Data that are being Processed. With security measures

[7] Information Commissioner's Office, published at the ICO website 2020-02-28, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/principles/accuracy/, licensed under the Open Government Licence

[8] Information Commissioner's Office, published at the ICO website 2020-02-28, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/principles/accuracy/, licensed under the Open Government Licence

means technical and organisational actions. The security measures of the Personal Data include protection against unauthorised or unlawful Processing and against accidental loss, destruction or damage. This means that each Controller/Processor must have proper security to prevent Personal Data to accidentally or deliberately be compromised.

The Controller/Processor must choose employees with relevant professional qualifications providing enough guarantees in terms of technical expertise and personal integrity to ensure such confidentiality.

Note that information security is more than just cybersecurity (the protection of your networks and information systems). It also covers, and therefore requires, other actions like physical and organisational security measures.[9]

☐ We undertake an analysis of the risks presented by our Processing and use this to assess the appropriate level of security we need to put in place.

☐ When deciding what measures to implement, we take account of the state of the art and costs of implementation.

☐ Where necessary, we have additional policies and ensure that controls are in place to enforce them.

☐ We understand that we may also need to put other technical measures in place depending on our circumstances and the type of Personal Data we process.

☐ We use encryption and/or pseudonymisation where it is appropriate to do so.

☐ We understand the requirements of confidentiality, integrity and availability for the Personal Data we process.

☐ We make sure that we can restore access to Personal Data in the event of any incidents, such as by establishing an appropriate backup process.

☐ We conduct regular testing and reviews of our measures to ensure they remain effective, and act on the results of those tests where they highlight areas for improvement.

☐ Where appropriate, we implement measures that adhere to an approved code of conduct or certification mechanism.

☐ We ensure that any data processor we use also implements appropriate technical and organisational measures. [10]

Below are some examples of actions that each Controller / Processor should consider and, if necessary, implement.

Pseudonymisation and Encryption

- Encrypted data transfer through server (SSL).

[9] Information Commissioner's Office, published at the ICO website 2020-02-28, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/security/ , licensed under the Open Government Licence

[10] Information Commissioner's Office, published at the ICO website 2020-02-28, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/security/, licensed under the Open Government Licence

- Pseudonymisation of personal data for both development, integration and testing
- Protective measures against infiltration
- Physical protection of core parts of systems and access control
- Logging of systems and mechanisms as well as appropriate auditing of the peripheral components

Confidentiality

- Access to data is restricted and password protected.
- Access is documented and system controlled with permission and with potential for access removal.
- Anti-virus software protected with automated updates and firewalls usage of systems and solutions
- Automatically activated and password-protected computer locking.
- Password-protected access to all data and to a limited number of partners.
- Prevention of forced password entry attempts.
- Restriction to account access.
- Logging of all access attempts and those who are failed to data storage.
- Separated data handling.

Integrity

- Detailed tracking of accessing and interacting with data (e.g. uploads, changes, versions, access times, etc.).
- Frequent backups to ensure data are not corrupted.
- Ensuring utilised S/W, applications, systems involved are regularly updated and properly configured.

Availability and Resilience

- Deletion procedures are established and documented.
- The controller has a clearly defined process of data handling.

Restoring data access

- Documented and regularly tested failover procedures.

Evaluation of technical and organizational measures

- Ensuring partners are informed about the Data Protection Policy (this document)
- The EB supervises the partners of SHOW (See Chapter 2).

4.5.7 Accountability

The accountability principle requires the Controller/Processor to take responsibility for what is being done to Personal Data and how the Controller/Processor comply with the other principles. There must be appropriate measures and records in place to be able to demonstrate compliance.

Compliance

☐ We take responsibility for complying with the GDPR, at the highest management level and throughout our organisation.

☐ We keep evidence of the steps we take to comply with the GDPR.

Technical and organisational measures

☐ adopting and implementing data protection policies (where proportionate);

☐ taking a 'data protection by design and default' approach - putting appropriate data protection measures in place throughout the entire lifecycle of our Processing operations;

☐ putting written contracts in place with organisations that process Personal Data on our behalf;

☐ maintaining documentation of our Processing activities;

☐ implementing appropriate security measures;

☐ recording and, where necessary, reporting Personal Data Breaches;

☐ carrying out data protection impact assessments for uses of Personal Data that are likely to result in high risk to individuals' interests;

☐ appointing a data protection officer (where necessary); and

☐ adhering to relevant codes of conduct and signing up to certification schemes (where possible).

☐ We review and update our accountability measures at appropriate intervals. [11]

4.6 Lawful processing

The Controller/Processor must have a valid lawful basis to Process Personal Data. The GDPR sets out six lawful bases. At least one must be applicable whenever a Controller/Processor Process Personal Data. Most lawful bases require that processing is 'necessary' for a specific purpose. If the Controller/Processor can reasonably achieve the same purpose without the Processing, the Controller/Processor can't claim to have a lawful basis at hand. The Controller/Processor must determine which lawful basis is applicable before beginning Processing. The decision should be documented.

The lawful bases we need to follow in SHOW are the following:

- Consent
- Contract
- Legal obligation

[11] Information Commissioner's Office, published at the ICO website 2020-02-28, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/accountability-and-governance/, licensed under the Open Government Licence

- Vital interests
- Public task
- Legitimate interests

If the Controller/Processor are Processing Special Category Data, criminal conviction data or data about offences the Controller/Processor need to identify both a lawful basis for general Processing and an additional condition for Processing this type of data.

4.6.1 Consent

The GDPR sets a high standard for consent. But the Controller/Processor often won't need consent. If consent is difficult, it is recommended to look for a different lawful basis. If the Controller/Processor deems consent to be the best option for lawful basis, be aware of the strict requirement for the procedure.[12]

Asking for consent

☐ We have checked that consent is the most appropriate lawful basis for Processing.

☐ We have made the request for consent prominent and separate from our terms and conditions.

☐ We ask individuals to positively opt in.

☐ We don't use pre-ticked boxes or any other type of default consent.

☐ We use clear, plain language that is easy to understand.

☐ We specify why we want the data and what we're going to do with it.

☐ We give separate distinct ('granular') options to consent separately to different purposes and types of Processing.

☐ We name our organisation and any Third-party controllers who will be relying on the consent.

☐ We tell individuals they can withdraw their consent.

☐ We ensure that individuals can refuse to consent without detriment.

☐ We avoid making consent a precondition of a service.

☐ If we offer online services directly to children, we only seek consent if we have age-verification measures (and parental-consent measures for younger children) in place.

Recording consent

☐ We keep a record of when and how we got consent from the individual.

☐ We keep a record of exactly what they were told at the time.

[12] Information Commissioner's Office, published at the ICO website 2020-03-03, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/consent/, licensed under the Open Government Licence

Managing consent

☐ We regularly review consents to check that the relationship, the Processing and the purposes have not changed.

☐ We have processes in place to refresh consent at appropriate intervals, including any parental consents.

☐ We make it easy for individuals to withdraw their consent at any time and publicise how to do so.

☐ We act on withdrawals of consent as soon as we can.

☐ We don't penalise individuals who wish to withdraw consent.[13]

Furthermore, the consent procedure for SHOW has been described in D.18.1.

4.7 Pseudonymisation and Anonymisation

4.7.1 Pseudonymisation

Pseudonymising Personal Data aims to reduce the risks to the Data Subjects and helps the Controller/Processor to meet the data protection obligations. It is a form of security measure.

Pseudonymisation is a technique that replaces or removes information in a data set that identifies an individual. Pseudonymisation may involve replacing names or other identifiers which are easily attributed to individuals with, for example, a reference number. The Controller/Processor can tie that reference number back to the individual if the Controller/Processor have access to the relevant information. This additional information shall be held separately and under lock.

Pseudonymised Personal Data remains Personal Data and within the scope of the GDPR.[14]

To mitigate the risks involved with processing Personal data, Personal Data should be encrypted (i.e. pseudonymisation and coding) to the extent reasonably possible, so that individual cannot be identified. Pseudonymisation is preserved by consistently coding participants with unique identification codes.

Only one person at each pilot site will have access to personal identifiers (if any). A Test ID will be issued for each of the participants, whereas the pilot site person that will collect and issue them will not have participated in the evaluation and will have not meet the test participants and their performance in the tests.

[13] Information Commissioner's Office, published at the ICO website 2020-03-03, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/consent/, licensed under the Open Government Licence

[14] Information Commissioner's Office, published at the ICO website 2020-03-03, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/what-is-personal-data/what-is-personal-data/ licensed under the Open Government Licence

4.7.2 Anonymisation

Anonymisation is a method of limiting risk of Processing data. Anonymising data wherever possible is therefore encouraged.

The GDPR does not apply to Personal Data that has been anonymised, i.e. information which does not relate to an identified or identifiable natural person or to Personal Data rendered anonymous in such a manner that the Data Subject is not or no longer identifiable.

In order to be truly anonymised under the GDPR, the Controller/Processor, must strip Personal Data of sufficient elements that mean the individual can no longer be identified. However, if the Controller/Processor could at any point use any reasonably available means to re-identify the individuals to which the data refers, that data will not have been effectively anonymised but will have merely been pseudonymised.[15]

4.8 International Transfer of Personal Data

It might be necessary for a Controller/Processor to transfer Personal Data to a Third country, although it should be avoided if possible. Controller/Processor must make special care to ensure compliance with the GDPR before the transfer take place. The transfer is not allowed if the Controller/Processor are unable to make the transfer in accordance with the GDPR

The GDPR primarily applies to Controllers and Processors located in the European Economic Area (the EEA) with some exceptions. Individuals risk losing the protection of the GDPR if their Personal Data is transferred outside of the EEA. On that basis, the GDPR restricts transfers of Personal Data outside the EEA, or the protection of the GDPR, unless the rights of the individuals in respect of their Personal Data is protected in another way, or one of a limited number of exceptions applies. A transfer of Personal Data outside the protection of the GDPR (which we refer to as a 'restricted transfer'), most often involves a transfer from inside the EEA to a country outside the EEA.[16]

1. Are we planning to make a restricted transfer of Personal Data outside of the EEA?

If no, you can make the transfer. If yes go to Q2

2. Do we need to make a restricted transfer of Personal Data in order to meet our purposes?

If no, you can make the transfer without any Personal Data. If yes go to Q3

3. Has the EU made an 'adequacy decision' in relation to the country or territory where the receiver is located or a sector which covers the receiver?

[15] Information Commissioner's Office, published at the ICO website 2020-03-03, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/what-is-personal-data/what-is-personal-data/ licensed under the Open Government Licence

[16] Information Commissioner's Office, published at the ICO website 2020-03-02, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/international-transfers/, licensed under the Open Government Licence

If yes, you can make the transfer. If no go to Q4

4. Have we put in place one of the 'appropriate safeguards' referred to in the GDPR?

If yes, you can make the transfer. If no go to Q5

5. Does an exception provided for in the GDPR apply?

If yes, you can make the transfer. If no you cannot make the transfer in accordance with the GDPR.

If you reach the end without finding a provision which permits the restricted transfer, you will be unable to make that restricted transfer in accordance with the GDPR.[17]

4.9 Data Protection Impact Assessment

A Data Protection Impact Assessment (DPIA) is a process to help the Controller identify and minimise the data protection risks of a project. The DPIA helps identifying the risks, foresee problems and bringing forward solutions.

The Controller must conduct a DPIA if the Processing is likely to result in a high risk to individuals. It is also good practice to do a DPIA for any other major project which requires the Processing of Personal Data.[18] In SHOW it is mandatory for all demonstration sites to consider if a DPIA is needed, and if yes perform such. If the Controllers at SHOW demonstration sites might already have established a process within its organisation and access to relevant template to conduct a DPIA in a satisfying way. Otherwise, the requirement for the process is described below and a template is provided in Annex IV.

[17] Information Commissioner's Office, published at the ICO website 2020-03-02, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/international-transfers/, licensed under the Open Government Licence

[18] Information Commissioner's Office, published at the ICO website 2020-03-02, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/accountability-and-governance/data-protection-impact-assessments/, licensed under the Open Government Licence

DPIA awareness

☐ We provide training so that our staff understand the need to consider a DPIA at the early stages of any plan involving Personal Data.

☐ Our existing policies, processes and procedures include references to DPIA requirements.

☐ We understand the types of Processing that require a DPIA, and use the screening checklist to identify the need for a DPIA, where necessary.

☐ We have created and documented a DPIA process.

☐ We provide training for relevant staff on how to carry out a DPIA.

DPIA screening

☐ We consider carrying out a DPIA in any major project involving the use of Personal Data.

☐ We consider whether to do a DPIA if we plan to carry out any other:

☐ evaluation or scoring;

☐ automated decision-making with significant effects;

☐ systematic monitoring;

☐ Processing of sensitive data or data of a highly personal nature;

☐ Processing on a large scale;

☐ Processing of data concerning vulnerable Data Subjects;

☐ innovative technological or organisational solutions;

☐ Processing that involves preventing Data Subjects from exercising a right or using a service or contract.

☐ We always carry out a DPIA if we plan to:

☐ use systematic and extensive profiling or automated decision-making to make significant decisions about individuals;

☐ process special-category data or criminal-offence data on a large scale;

☐ systematically monitor a publicly accessible place on a large scale;

☐ use innovative technology in combination with any of the criteria in the European guidelines;

☐ use profiling, automated decision-making or Special Category Data to help make decisions on someone's access to a service, opportunity or benefit;

☐ carry out profiling on a large scale;

☐ process biometric or genetic data in combination with any of the criteria in the European guidelines;

☐ combine, compare or match data from multiple sources;

☐ process Personal Data without providing a privacy notice directly to the individual in combination with any of the criteria in the European guidelines;

☐ process Personal Data in a way that involves tracking individuals' online or offline location or behaviour, in combination with any of the criteria in the European guidelines;

☐ process children's Personal Data for profiling or automated decision-making or for marketing purposes, or offer online services directly to them;

☐ process Personal Data that could result in a risk of physical harm in the event of a security breach.

☐ We carry out a new DPIA if there is a change to the nature, scope, context or purposes of our Processing.

☐ If we decide not to carry out a DPIA, we document our reasons.

DPIA process

☐ We describe the nature, scope, context and purposes of the Processing.

☐ We ask our data processors to help us understand and document their Processing activities and identify any associated risks.

☐ We consider how best to consult individuals (or their representatives) and other relevant stakeholders.

☐ We ask for the advice of our DPO.

☐ We check that the Processing is necessary for and proportionate to our purposes, and describe how we will ensure compliance with data protection principles.

☐ We do an objective assessment of the likelihood and severity of any risks to individuals' rights and interests.

☐ We identify measures we can put in place to eliminate or reduce high risks.

☐ We record our decision-making in the outcome of the DPIA, including any difference of opinion with our DPO or individuals consulted.

☐ We implement the measures we identified, and integrate them into our project plan.

☐ We consult the Supervisory Authority before Processing, if we cannot mitigate high risks.

☐ We keep our DPIAs under review and revisit them when necessary.[19]

[19] Information Commissioner's Office, published at the ICO website 2020-03-02, https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/accountability-and-governance/data-protection-impact-assessments/, licensed under the Open Government Licence

5 Data Privacy Impact Assessment

5.1 Data Controllers and Processors in SHOW

According to GDPR principles:

- **Data controller** means the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data. In SHOW this role is undertaken by the following entities:
    - **VTI**, being the lead Partner coordinating the project evaluation framework and experimental plans subsequent issues (in the context of WP9), which implies that defines among other the data that needs to be collected for the assessment of SHOW.
    - **VUB,** being the lead Partner coordinating the project impact assessment work (in the context of WP9 and WP13) in collaboration with the other WP13 activity leaders, namely **NTUA**, **TNO**, **BAX&CO** and **CTLup** that monitor different aspects of the impact assessment.
    - **IDIADA,** being the lead Partner coordinating the project technical validation work in WP11.
    - **VIF,** being the lead Partner coordinating the project simulation work (in the context of WP10) in collaboration with the other WP10 activity leaders, namely **FZI, AIT and NTUA** that monitor different aspects of the simulation work.
    - **CERTH** in collaboration with **RISE,** being the lead Partners that will actually make the final decision, collect, classify, visualise and process in a centralised way all the data originated from the demonstration sites of the project and different ends of their cooperative context (vehicles, digital and physical infrastructure, services, terminals) in the context of WP4, WP5 and WP6.
    - Other than them, more controllers may be identified during the progress of the project; the list will be updated in future issues of this Deliverable.
- **Data processor,** on the other hand, is a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller and under its guidance. In SHOW, data processors are all entities participating in field trials or contributing to them. This entails the pilot sites entities, as well as the OEMs of the project for the vehicles part. It may be also the case that external to SHOW parties are involved here, e.g. the holders of the physical infrastructure.

5.2 Why do we need a DPIA in SHOW (Step 1)

SHOW is a large-scale Innovation Action that aims to bring together a vast array of technologies in the CCAV sector, deploy a series of passenger and logistics services and, at the end, assess the impact of its solutions across a series of aspects enabling also their projection to wider populations through further simulation studies. As it is natural, in order to achieve those goals, and primarily answer its KPIs (a first elaborated list can be found in D9.2: Pilot experimental plans, KPIs definition & impact assessment framework for pre-demo evaluation) it will collect a series of data for different purposes. To our current knowledge – that is definitely not reflecting the final picture – and,

according to what is described in D4.1: Open modular system architecture and tools - first version and D5.1: SHOW Big Data Collection Platform and Data Management Portal, the types of data that will be exchanged for SHOW services are included (but are not limited) to the following groups:

- **Subjective data,** basically encompassing:
    - demographics (age, gender, preferences, etc.) that will be asked in the context of the project stakeholder acceptance studies and interviews (see D9.2 for more) or even in the project overall in the context of other user related activities, such as focus groups, workshops, etc. (see the project calendar at Annex III);
    - general views on CCAV;
    - assessment of SHOW solutions;
    - feedback for co-design of SHOW solutions or other mechanisms enabling SHOW solutions;
    - contact details or personal data of participants (e-mail, banking details of participants for invoices or other reasons, etc.).
- **Static data**: name, manufacturer, model, seating capacity, standing capacity, energy type
- **Dynamic data**: connection status, location, energy level, soc, speed, odometer, occupancy, door status, dispatch status, orientation, heading, acceleration, navigation mode, steering angle, GNSS connection
- **Event based data**: emergency notifications time, emergency notifications location, incident notification time, incident notification location, vehicle is driving in reverse, vehicle is braking, strong braking, severe braking, shuttle switched to manual mode, dui: klaxon triggered, dui: buzzer triggered
- **Service data**: stops, lines, routes of each line, service area, timetable planned, timetable actual, operation hours
- **Booking/ride data**: load, vehicle availability, desired pickup location, desired pickup time, desired drop-off location, desired drop-off time, planned pickup location, planned pick-up time, planned drop-off location, planned drop-off time, actual pickup location, actual pickup time, actual drop-off location, actual drop-off time, planned booking route, actual booking route, direct ride distance, direct ride duration, actual ride distance, actual ride duration
- **External data**: temperature, feels like, pressure, humidity, temperature min, temperature max, wind deg, wind speed, weather main, weather description
- **Other digital infrastructure data**: video - internal cameras, magnetic loops, lidar sensor, camera installed on traffic lights or bridges, video - external cameras, radar sensor, radio frequency sensor, Bluetooth sensor, sensors for capturing wireless internet traffic, network traffic metadata, simulation data

The full list of data is made available in D5.1 current issue and will be further updated and continuously evolve during the project and until the final version of the services and modules is reached.

The reason for conducting a DPIA lies basically in the identification of any potential of tracking and processing, in any way, of personal data. To the current knowledge of the Consortium, this might be the risk in collecting subjective data and booking/ride data

during services deployment. Also, data coming from the internal and external cameras, Network traffic data, Bluetooth sensor, Wheelchair on board and Passengers with special needs. Network traffic data include Username, Password, IP address, MAC address, session and, maybe, cookies. The exact data that might be personal or include personal attribute will become clearer in the next 6 months of the project during the iterative development of the project in the context of SP2.

5.3 Describe the processing (Step 2)

During the project, a centralized data collection will be managed with regard to the activities to be held in the field trials of the two rounds. This will be handled through the data collection platform of A5.1 and will be visualized through the Dashboard that will be developed in WP4.

As mentioned above, data collection and processing will serve a series of scopes as follows:

1. Feeding and visualization of the project KPIs and other key metrics that will be determined during the project. Visualisation aims to be dynamic and address all pilot sites of the project.

2. Feeding the actual operation of the operational modules and services of the project (WP5, WP6).

3. Feeding the technical validation of the project in the context of WP11, according to the protocol that will be defined therein.

4. Feeding the assessment of the project in the context of WP11 and WP12 and according to the evaluation and experimental protocols that are/will be defined in WP9.

5. Feeding the impact assessment of the project across all layers specified in the context of WP13 and as determined in the impact assessment framework of WP9.

6. Feeding the simulation studies of WP10.

Final processing will be held by the respective Partners in the dedicated Activities according to the work allocation anticipated in the project. Still, first level processing of most data will take place in the data collection platform of A5.1 (see D5.1 for its description). Data collected – either on the central data collection platform of the project or in the respective data platforms of the project – will be encrypted and be protected further by the cybersecurity mechanisms that will be developed, as they are described in D4.1 and D5.1. Access to them will be anyway revealed only to the administrators of the platforms, which again will not be able to have full access to the actual content of those data or perform any identification. Still, as defined in D5.1, those type of data adhere to the Privacy Policy that is described in D5.1.

Other than that, the rest subjective data that will be collected during focus groups, workshops, etc. that do not constitute part of the field trials will be managed on local level on an anonymisation manner and only the processed aggregated results will be communicated further to the Consortium. Personal data in this end (e.g. e-mail, banking details) will be treated as described above in the Deliverable with only one person per entity having access to them.

5.4 Consultation process (Step 3)

Annex III calendar lists all the user related activities of the project that individuals' views will be sought for different purposes; not strictly associated always to the field trials per se. Processors in most cases are the processors of the local demo communities, as the target audience in reality comes from them. In other cases, not associated with the pilot sites ecosystems per se but with wider audience groups (such it is the case for workshops, Ideathons, etc.) will be the respective work leaders denoted in the project workplan. The principles defined in this Deliverable and its subsequent updated on how to treat personal information in such cases will be applied in all cases.

5.5 Assess necessity and proportionality (Step 4)

GDPR compliant informed consent forms (provided in D18.1) on one hand and the Privacy Policy described in D5.1 on the other hand are the key mechanisms that will be applied. The processing described above is vital to the project needs and cannot be skipped; any aspect of it.

Data minimisation will be achieved in first place by creating a unified data requirement list in the project that will substantiate all project data needs in an aggregated manner. As such, data minimization involves limiting data collection to only what is required to fulfil a specific purpose. This means also that any processing that will follow (the analysis of data to produce meaningful insight) will only use the least amount of data necessary. Within SHOW this feature is available through narrow data collection along with User verification and screening. Moreover, a progressive data management is adopted that is associated with a strategic deletion of data when they are no longer required. A data allocation procedure allows also for optimum utilisation within the SHOW ecosystem.

Information to be given to both passengers and SHOW pilot sites is summarised already in the Terms and Conditions of the Privacy Policy of D5.1. Also, during any evaluation or other activity involving user feedback, an information sheet will accompany the informed consent forms where the purpose of the survey will be presented as well as the way the collected data will be treated by SHOW.

The processors will operate under the auspices of the Data Manager of the project (ERTICO; WP14), their controllers (defined in section 5.1) and their LER which operated under the auspices of the Ethics Board of the project. Also, whenever applicable, the processors will have to collaborate with their DPO. International transfers are applicable in the context of the project and according to Regulation EU 2018/1725, which states that international transfers may take place when there is an adequate level of protection to the fundamental right of individuals (data subjects) to data protection. Adequacy assessments will be carried out by those wishing to transfer data outside the European Economic Area (EEA) in collaboration with the DPO. Special safeguards are foreseen to ensure that the protection travels with the data. Specifically, the reform of EU data protection legislation offers a diversified toolkit of mechanisms to transfer data to third countries: adequacy decisions, standard contractual clauses, binding corporate rules, certification mechanism, codes of conduct, so-called "derogations" etc.

5.6 Identify and assess risks (Step 5)

Risks related specifically to DPIA objectives deal with data breach – and not tackled above in the context of ethics related risks – are presented in Table 8. . Further risks may be identified and added in future.

Table 8: DPIA related risks in SHOW.

#	**Privacy issue**	**Risk to individuals**	**Compliance risk**	**Associated organization / corporate risk**	**Likelihood of harm** [remote, possible or probable]	**Severity of harm** [minimal, significant or severe]	**Overall risk** [low, medium or high]
1.	Risk that the security of the data is compromised (i.e. data breach).	Risk that sensitive personal data is lost or stolen or destroyed causing distress or damage to the data.	Risk of breach of data protection legislation.	Risk of reputational damage to the project overall and the entity/entities involved and of enforcement action being brought. Risk to delivery of research objectives both current and in the future. Risk of complaints or litigation from affected individuals.	Remote	Significant	Low
2.	Risk that due to a data breach, the true identity of a user will be identified.	Risk that the real identity of a user will be identified. This means that, for example, the stored locations will be matched with a user and, thus, the locations of the places they most frequently visit (i.e. home, work, etc.) will be identified.	Risk of breach of data privacy legislation.	As above.	Remote	Significant	Low

#	**Privacy issue**	**Risk to individuals**	**Compliance risk**	**Associated organization / corporate risk**	**Likelihood of harm** [remote, possible or probable]	**Severity of harm** [minimal, significant or severe]	**Overall risk** [low, medium or high]
3.	Risk that personal data is retained for longer than is necessary.	Risk that individual's data is held for longer than is required and that security and other organisational methods applied to the personal data lapse.	Risk of breach of data protection legislation.	As above.	Remote	Minimal	Low

5.7 Identify measures to reduce risks (Step 6)

Measures so far identified are presented in Table 9.

Table 9: Measures to reduce DPIA related risks in SHOW.

Risk	**Options to reduce or eliminate risk**	**Effect on risk** [eliminated; reduced; accepted]	**Residual risk** [low; medium; high]	**Measure approved** [Yes/No]
1,2	All identity data (i.e. emails, etc.) will be encrypted before stored in the data repositories. Therefore, even in the event of a data breach, an attacker will not be able to de-hash the encrypted information (at a reasonable time) and identify the user's true identity or other info. The cybersecurity mechanisms of the project will further prevent data breach.	Accepted	Low	Yes
3	A process of completely deleting all stored personal data will be designed and developed, and it will be triggered by the system administrators at the end of the project.	Accepted	Low	Yes

5.8 Future work

This chapter stands for the first version of the project DPIA and it aims only to reflect the condition of the centralised processes and mechanisms that are going to be implemented/applied in the project and imply the collection, processing and utilisation of several types of data, some of which may turn to be personal data and, as such, applying to GDPR principles and the reason for the conduct of a DPIA.

Still, following this that will further evolve and get updated during the project, the following activities will take place in this respect to be reported in future issues of this Deliverable:

1. All demonstration sites of SHOW will explore any reasons to conduct DPIA in the context and for the specificities of their site, according to the data related mechanisms and processes that will take place in their context, other than the ones above mentioned (as they are going to be updated) for the whole project. This, for example, is heavily dependent on personal data that may be collected for site specific reasons and are not foreseen, however, to be collected in the central infrastructure of the project. It is also heavily dependent on whether traveller services will be deployed that will inevitably require the collection, in first place, and then processing and utilisation of traveller personal data, that will be stored, apart from the central digital infrastructure of the project, in the distributed data management platforms/repositories, if and when any. This will be done under the auspices of the Data Manager of the project (ERTICO) and the data controllers of the project (as listed above), but also in collaboration with the local sites DPOs using the template provided in Annex IV of the current Deliverable.

2. The current version of DPIA for the whole of the project will be updated reflecting the progress but also the better knowledge that will be obtained in the project with regard to data collection in any end and by any means. The final DPIA of the project will aim to reflect the actual – and not intended – data that will be indeed collected by the sites and will be managed centrally by the project for different purposes and/or locally as well.

Conclusions

In this deliverable the SHOW Ethics manual & Data Protection Policy and Data Privacy Impact Assessment is specified. This manual shows the aim and roles of the Ethical board. The name of the persons is continuously updated and find on the Cooperation tool in WP3 folder.

D3.4 also provides the code for conduct of research integrity and includes the Data Protection Policy for SHOW but also the Data Privacy Impact Framework and the DPIA template to be used. In Chapter 2 the legislation and non-binding instruments to be considered by SHOW's Ethics Board are described.

All this information is mandatory to follow when involving humans in the work with pre-demonstrations and demonstration activities within SHOW.

A template is prepared in order to collect the ethics requirements related to any activities involving gathering data from users/participants/respondents and it will be circulated to partners involved in data collection and/or processing during the lifetime of SHOW project (Annex II) This form will be additionally shared with the WP leaders to further investigate which activities might require user involvement (e.g. WP1 surveys). The completed forms aim to capture the current Ethics profile of involved partners with reference to the following categories:

A) Participants and informed consent
B) Ethical control instruments
C) Privacy
D) Safety
E) Risk assessment
F) Reimbursement

As the project progresses and the evaluation plans are drafted, these forms will be re-visited and recirculated to partners to investigate if anything has changed in relation to Ethics guidelines/legislation at an organization/regional/national level.

Moreover, ethical issues in vehicle automation will be addressed after the project Key Performance Indicators (KPIs) (WP13, WP9) and evaluation framework (WP9) are set and will be presented in the updated version of this Deliverable. In addition, based on the technological developments, further automation focus ethical issues, risks and aspects will be addressed in the future update (D3.5)

The ethics approvals, if needed according to local regulation, and final DPIA will be included in the final Ethics Manual (D3.5). The main data clusters and some of the evaluation material for the activities mentioned above will be available and any ethical treatments and data protection mechanisms will also be included in this version, on pilot and project level.

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Annex I SHOW Ethics checklist

Names of the investigator responsible for this project: (Name, email address)

1. Who is conducting the Pilot?

2. Title of the study

3. What is the purpose of this research study?

4. Who can take part in this study?

5. Why should a person consider joining this study?

6. If a person joined the study, can he/she change his/her my mind and drop out before it ends?

7. What exactly will be done to with a person, and what kinds of treatments or procedures will he/she receive?

8. What kinds of harm can a person experience in this study, and what will the investigators do to reduce the risk of harm?

9. What will the investigators do to make sure that the information collected on persons will not get in wrong hands?

10. What kinds of benefits can person expect from taking part in this study?

11. What kinds of benefit to others can come out of this study?

12. Will the persons get paid for taking part in this study?

13. Will the person or the persons health insurance company be charged for any of the costs of this study?

14. What can a person do if he/she wants to find out more about the study, or to complain about the way he/she is treated?

15. Will personal information be shared with any other partner of third party?

16. What will happen to any information given by a person and how will it be stored?

17. How long will personal information be stored?

18. Will the data possibly be commercially exploited?

19. Is SHOW Data Protection Policy regarded?

20. Is there any reason to conduct a DPIA?

	Please circle as necessary	
Is there a need for ethical approval?	Yes	No
If yes, has it been approved?	Yes	No
If yes, has it been uploaded to the Collaboration tool WP3/A3.1	Yes	No
Is the proposed research adequately designed, so that it will be of informational value?	Yes	No
Does the research pose risks of physical or psychological harm to participants by using deception, obtaining sensitive information or exposing them for risks in terms of safety and/or security hazards?	Yes	No
If risks exist, does the research adequately control these risks by including procedures, such as debriefing, removing or reducing risks of physical harm, or obtaining data anonymously? If that is not possible, will the research procedures guarantee that information will remain confidential?	Yes	No
Will participants receive adequate feedback at the completion of the study, including a debriefing if that is necessary?	Yes	No
Have I as part of the project informed the Ethics Board about the ethical issues I have identified and of which I am aware?	Yes	No

Annex II: SHOW Questionnaire on ethical and legal issues

This questionnaire on ethical and legal issues will be filled in by the LER (Local Ethics Representative), responsible for conducting trials involving human participants. It is a checklist reminding the researcher to consider all relevant ethical aspects before planning and then conducting any data collection activities within SHOW. The questionnaire is divided into five subsections: Informed consent, Ethical control instruments, Privacy, Safety, Risk assessment and Reimbursement.

Questionnaire on Ethical and Legal issues

A) Participants and informed consent

1. **Are you (so far) obliged according to national/regional/institutional regulation to obtain the consent of pilot activities participants?**

   ❑Yes ❑ No

   If **yes**, briefly explain which specific aspects of trials you currently obtain informed consent for: _____

2. **Do you intend to conduct pilots in SHOW with individuals who might not understand the informed consent forms that will be used in SHOW?**

   ❑Yes ❑ No

   If **yes**, briefly explain the procedures you currently follow in order to obtain informed consent in such cases: _____

3. **Is there any doubt about the anticipated SHOW pilot trials individuals' cognitive capacity to consent (if known already)?**

   ❑Yes ❑ No

   If **Yes**, please clarify who will provide consent in such instance: _____

4. **a) Will the informed consent provided in common language to be understood by "the man/woman in the street"?**

   ❑Yes ❑ No

   If **no**, why not?

   b) Will the participant be given sufficient time to reflect their decision of giving or withholding consent?

   ❑Yes ❑ No

If **no**, why not? Please indicate the time to be given to the participant.

5. **Do you believe that any of the participants will be unable to consent in any way for any reason?**

❑Yes ❑ No

If **yes**, **no experiment should be performed since these participants are excluded from SHOW trials. Please list here each excluded case.**

6. **Do you believe that there will be participants, for any reason, unable to read the form by themselves (there is a range of people who are unable to read the consent form; these include those who have severe visual impairments, e.g. cataract, glaucoma)?**

❑Yes ❑ No

If **yes**, be advised that any participant that will not be able to read must give oral consent which has to be witnessed at least by one person. If that will be the case, please ensure that you will record the name of the witness when recording the individual's grant of consent.

7. **Do you believe that there will be illiterate participants??**

❑Yes ❑ No

If **yes**, be advised that an illiterate participant has to give oral consent which has to be witnessed at least by one person. If that is the case, please name the witness (in case of controlled trials):

8. **Is the oral consent of an illiterate participant in the presence of a witness adequate/appropriate in accordance with your national legislation (and/or institutional protocols, if any)?**

❑Yes ❑ No

9. **Is there an international or national legislation (or institutional regulation), which you must follow when performing tests within SHOW project?**

a) involving healthy human participants?

❑Yes ❑ No

If **Yes**, please give details (reference number and short description of how you will assure compliance):

b) involving participants with cognitive impairments / learning difficulties?

❑Yes ❑ No

If **Yes**, please give details (reference number and short description of how you will assure compliance):

c) involving illiterate or with co-morbid conditions participants?

❑Yes ❑ No

If **Yes**, please give details (reference number and short description of how you will assure compliance):

B) <u>Ethical control instruments</u>

10. Is there a local ethics controlling committee/ controlling body (on national/regional/local/institutional level) that your organisation will be obliged to get approval from for the experimental procedures before beginning with the experiment, will you obtain this approval?

❑Yes ❑ No

If **Yes,** will you **obtain this approval?**

❑Yes ❑ No

If **Yes,** please give details of the relevant body and shortly describe the specific procedure:

If **No**, please explain what is your current practice respectively:

11. At which level of your organization / enterprise, ethical controls are audited?

❑ laboratory or workgroup

❑ division or department

❑ institution

❑ regional

❑ national

12. If there is an established ethical control procedure which you must follow before performing tests, please explain how you will assure compliance when performing tests with:

a) healthy participants:

b) participants with cognitive impairments/ learning difficulties:

c) illiterate or with co-morbid conditions participants:

C) <u>Privacy</u>

13. What personal data of pilot participants will be recorded as part of the trials? Please list them here and explain how they will be recorded:

14. Is there any Data Protection Authority on national/regional level?

❑Yes ❑ No

If Yes, please provide its name and url to it (if any):

15. **If there is an established Data Protection Authority issuing procedures / standards you must follow before performing tests with human participants and their personal data:**

    a) Please state if they are applicable for SHOW trials:

    ❑Yes ❑ No

    b) If Yes above, please explain here how you will assure compliance (according to current practice):
    c) If Yes above, please give a url to them (if any) and provide a short summary of them:
    d) If No above, explain why they are not applicable in SHOW case and how you plan to deal with data protection issues (according to current practice):

16. **If there is an appointed Data Protection Officer at your organization, please share here the contact details (name, position, e-mail) of that person:**

17. **If there is not an appointed Data Protection Officer at your organisation, please explain why it is the case:**

18. **Will you follow or are you aware of any official national or international guidelines on protecting privacy?**

    ❑Yes ❑ No

    If **Yes**, please give a brief outline and provide references:

19. **Do you intend to clarify to the SHOW participants that all data collected in the activities they are participating in will be kept entirely confidential and that their anonymity will be protected in full?**

    ❑Yes ❑ No

20. **Will you identify persons (in your entity) and their professions/positions who are authorised to have access to the data collected and / or who have access to any data storage devices, both, paper-based and electronically?**

    ❑Yes ❑ No

    If Yes, please give a list of those persons contact details (names, position, e-mails):

    If No, please explain why you are not doing so:

D) <u>Safety</u>

21. Will you provide information to the SHOW participants about any participant's illness that is detected (if relevant)?

❑Yes ❑ No

22. Will the pilot implementation at your site be evaluated for any side-effects?

❑Yes ❑ No

If **Yes**, please give a brief outline of it:

23. Will you have written procedures for safety for employees and volunteers within your own group or institution?

❑Yes ❑ No

If **Yes**, please give a brief outline of it:

If **No**, please explain the reasons briefly or what corrective actions you take:

E) <u>Risk assessment</u>

24. Will you perform a risk-assessment concerning breach of privacy and / or breach of safety at your site?

❑Yes ❑ No

If **Yes**, please give a brief outline of it:

If **No**, please explain the reasons briefly refer to any corrective actions you will take:

25. Is your organisation insured against risks as a result of breach of privacy and safety?

☐Yes ☐ No

If **Yes**, please give a brief outline of it and state the insurer, if possible:

If **No**, please explain the reasons briefly and state who would cover any insurance-related costs:

26. For conducting research and manage the risk, do you need to involve other organisations (entity, unit, division, department, etc.) that might influence your research activities and/or your ethical and legal conduct?

❑Yes ❑ No

If **Yes**, please give a brief outline of it:

F) Reimbursement

27. Is reimbursement practices allowed in your country/region/institution?

❑Yes ❑ No

28. If Yes, will financial / in kind payments (including reasonable expenses and compensation for time of participation) be offered to participants for participating to your demonstration trials in the context of SHOW (applicable only for pre-demonstration phase or in-depth controlled trials part of final demonstration phase)?

Another factor that may cloud the judgement of a potential participant when deciding whether or not to participate in research is whether money or payments in kind (e.g. gift vouchers) will be offered. It is reasonable for expenses and compensation of time to be offered. However these should not be so large that a participant is more concerned about what s/he will be receiving rather than the risks involved with the research. If children will be involved, then the researchers might consider the fact that what an adult considers to be a reasonable expense/compensation might be very *different from a child's perspective (i.e. a child may consider 10 Euros* to be a huge reward and, therefore, the 10 Euros might unduly influence a chil*d's decision as* regards whether or not to participate).

❑Yes ❑ No

If **Yes**, please give a brief outline of it:

Annex III: Project calendar for interviews, surveys, focus groups & workshops

A. Calendar for interviews and surveys

Table 10: Calendar for interviews and surveys

Activity	Description	When to be addressed	Target audience	Relevant deliverable and Month
1st year (M1-M12)				
A2.1: Benchmarking of existing business / operating models and best practices	**Dedicated interviews** for expanding and enriching the benchmarking activity. Aim is to focus on thoroughly understanding the innovation factors for success and failure of current examples of CCAV solutions, especially from a user-centric perspective, but also taking into account technical and organizational aspects (e.g. deployment environment).	Months 1-7	At least 100 relevant external stakeholders, also involving AB.	D2.1: Benchmarking of existing business /operating models & best practices, Month 9
A3.3: Regulatory and operational aspects	**Online survey**, which will be developed in coordination with WP17 partners (UITP, IESTA and the City of Bremen) and **complemented by targeted interviews** organised in the framework of EUROCITIES Mobility Forum and Knowledge Society Forum Meetings and other relevant events.	Months 1 -12	Public and regional authorities, linked to the SHOW demo sites, but also engaging local and regional (transport) authorities beyond the project consortium.	D3.1: Analysis report on legal, regulatory, institutional frameworks, M12

2nd year (M13-M24)				
A1.1: Ecosystem perceived and real needs in conjunction with **A13.5: User experience, awareness and acceptance impact assessment**	**On-line surveys** that will be realised in each SHOW Mega and Satellite site during the Pilots focusing on user acceptance, user experience and awareness.	Twice; Once before and once during the pre-demo (M14-M24) activities.	Around **330 stakeholders per Mega Site** and **100 ones per Satellite site** (covering all stakeholders and travellers cohorts) - "Observers"	• D1.3: Stakeholder & travellers' needs evolution through Pilots, M42 • D13.5: SHOW impact assessment on user experience, awareness and acceptance, M44
3rd year (M25-M36)				
A1.1: Ecosystem perceived and real needs in conjunction with **A13.5: User experience, awareness and acceptance impact assessment**	**On-line surveys** that will be realised in each SHOW Mega and Satellite site during the Pilots focusing on user acceptance, user experience and awareness.	In the mid-term of final demo (M24-M36) activities.	Around **330 stakeholders per Mega Site** and **100 ones per Satellite site** (covering all stakeholders and travellers cohorts) – actual participants.	• D1.3: Stakeholder & travellers' needs evolution through Pilots, M42 • D13.5: SHOW impact assessment on user experience, awareness and acceptance, M44
4th year (M37-M48)				
A1.1: Ecosystem perceived and real needs in conjunction with **A13.5: User experience, awareness and acceptance impact assessment**	**On-line surveys** that will be realised in each SHOW Mega and Satellite site during the Pilots focusing on user acceptance, user experience and awareness.	At the end of final demo activities.	Around **330 stakeholders per Mega Site** and **100 ones per Satellite site** (covering all stakeholders and travellers cohorts) – actual participants.	• D1.3: Stakeholder & travellers' needs evolution through Pilots, M42 • D13.5: SHOW impact assessment on user experience, awareness and acceptance, M44
A13.3: Societal, employability and equity issues assessment	**Dedicated interviews** aiming to link with other project and initiatives outside Europe (through the training activities of WP16), as well as the concertation mechanism of WP14.	M30-M44	At least 30 external stakeholders and international experts.	D13.3: SHOW impact assessment on society, M44

A13.6: Overall impact assessment and cross pilot comparisons	**Tailored surveys** with pre-selected user profiles.	Months 30-44	All types of (future) users of shared CCAV.	D13.6: Overall impact assessment and cross pilot comparisons, M46

B. Calendar for workshops and focus groups

Table 11: Calendar for workshops and focus groups

Activity	Description	When to be addressed	Target Audience	Relevant deliverable and month
1st year (M1-M12)				
A1.1: Ecosystem perceived and real needs (CERTH) (also in context of A15.2)	**UCs prioritisation and optimization workshop**.	Month 8 in Thessaloniki	At least 30 external experts, covering all key types of stakeholders.	D1.2: SHOW Use Cases, M9
A2.1: Benchmarking of existing business / operating models and best practices	**One dedicated workshop in each Mega/Satellite site** (involving the local ecosystem), to foster a multi-stakeholder debate and generate a deeper understanding about the implications of each business model to all stakeholders.	M1-M9	All types of stakeholders; local ecosystem of Mega and Satellite sites.	D2.1: Benchmarking of existing business / operating models & best practices, M9
A3.3: Regulatory and operational aspects	**Focus group meetings** that will be organised in the framework of EUROCITIES Mobility Forum and Knowledge Society Forum Meetings and other relevant events to complement the on-line survey and interviews.	M1 - M12	Public and regional authorities, linked to the SHOW demo sites, but also engaging local and regional (transport) authorities beyond the project consortium.	Focus group activities reported in **D3.1**: Analysis report on legal, regulatory, institutional frameworks, M12.
2nd year (M13-M24)				

Activity	Description	When to be addressed	Target Audience	Relevant deliverable and month
A3.3: Regulatory and operational aspects	**2 taskforce meetings** organised in the framework of EUROCITIES Mobility Forum and Knowledge Society Forum Meetings.	M12 – M24	Public and regional authorities, linked to the SHOW demo sites, but also engaging local and regional (transport) authorities beyond the project consortium.	Recommendations on the basis of surveys, focus groups and taskforce meetings in **D3.3**: Recommendations for Adapting Regulatory and Operational Strategies for CCAV deployment at Local and Regional Level, M30
3rd year (M25-M36)				
A15.2: Stakeholders forum, major events and demo events organisation	At least 5 local demo Events.	During 3rd year of the project.	All types of stakeholders in project sites.	D15.6: SHOW dissemination and communication activities, M48
4th year (M37-M48)				
A13.6: Overall impact assessment and cross pilot comparisons	**Physical Open Innovation workshops**, including dedicated working sessions.	Last year of the project.	Potential future users of shared CCAV.	D13.5: Overall impact assessment and cross pilot comparisons, M46
A15.2: Stakeholders forum, major events and demo events organisation	**Local demo events** **in at least** **80% of the sites**.	During 4th year of the project.	All types of stakeholders in project sites.	D15.6: SHOW dissemination and communication activities, M48
A15.2: Stakeholders forum, major events and demo events organisation	**Closing pan-European** **workshop of SHOW and live demo** (in a selected pilot site).	4th year of the project	All types of stakeholders – at least 50 external participants.	D15.6: SHOW dissemination and communication activities, M48
Whole (or more than 1 year) project duration				

Activity	Description	When to be addressed	Target Audience	Relevant deliverable and month
A9.3: Users engagement and co-creation initiatives	**3 Hackathon events for developers,** where designers, developers and scientists of diverse backgrounds will work closely with business analysts and user representatives (transport services operators, travellers, etc.) to develop the relevant services **AND 3 Ideathons for citizen** **Engagement** organised on ideas stemming from citizens and local stakeholders, as brainstorming processes to get solution oriented ideas, recognize gaps or SHOW solutions limitations.	• **M1-M12:** 1 Ideathon • **M12-M24:** 1 Hacathon & 1 Ideathon • **M25 – M36:** 1 Hacathon & 1 Ideathon • **M37 – M48:** 1 Hacathon	• **Hacathons:** Developers from the project, as well as externals from each Pilot site and beyond. • **Ideathons**: Citizens & local stakeholders.	D9.4 : Users engagement and co-creation initiatives, M42
A16.3: Exploitation plans per partner and stakeholder group	Generic business exploitation models and strategies per cluster and roadmaps for large-scale deployment **through stakeholder workshops with podium discussions** and **break out focus groups/ interviews** will be developed.	M13-M48	Involving **all mobility stakeholders** (local authorities, mobility providers established and newcomers) as well as **mobility users**. Will engage with **each of the pilot sites** in SHOW to provide personalised assessment.	+ Additional preliminary version requested by the EC for M18. D16.2: First version of business and exploitation plans, M30 D16.3: Final business and economic assessment and exploitation plans, M48
A17.2: Automation and SUMP assessment, scenarios and DSS	**A minimum of 8 interactive workshops back to back with SHOW events**, **EUROCITIES Mobility Forum Meetings and**	M25-M48	Stakeholder representatives, policy makers.	D17.1: First issue of best practices and decision making mechanisms for different

Activity	Description	When to be addressed	Target Audience	Relevant deliverable and month
	other relevant conferences at EU level offering a mix of best practices and applied methodologies, peer-to-peer exchange, scenario development and testing of decision support tools.			stakeholder groups, M35 D17.3: Cities and Authorities decision making mechanisms, M46

Table 12: Overview of activities per year

SHOW YEAR	Activities							Coupling opportunities
	A	B	C	D	E	F	G	
1st year (M1-M12)	Interviews to external stakeholders, business issues, A2.1, Months 1-7	Online survey and targeted interviews on regulatory and operational aspects with public and regional authorities, linked to the SHOW demo sites, A3.3, Months 1 -12	1st project Pan-European workshop on UCs prioritisation and optimization with all key types of stakeholders, Thessaloniki, M8	One dedicated workshop in each Mega/Satellite site on business issues, with all types of stakeholders involving the local ecosystem, M1-M9	Focus group meetings on regulatory and operational aspects with public and regional authorities, linked to the SHOW demo sites to complement survey and interviews, A3.3, M1 - M12	1 Ideathon for citizen Engagement with citizens & local stakeholders, A9.3, 1st year of the project.		- Combination of E focus groups & B interviews - Combination of C workshop and part of D workshops - Combination of Ideathon with 1st Pan-European workshop?

SHOW YEAR	Activities							Coupling opportunities
	A	B	C	D	E	F	G	
2nd year (M13-M24)	User acceptance on-line surveys with stakeholders and travelers in Mega and Satellite site, A1.1 & A13.5, once before and once during the pre-demo (M14-M24) activities	2 taskforce meetings with public and regional authorities, linked to the SHOW demo sites organised in the framework of EUROCITIES Mobility Forum and Knowledge Society Forum Meetings on regulatory and operational aspects, A3.3, M12 – M24	1 Ideathon for citizen Engagement with citizens & local stakeholders, A9.3, 2nd year of the project.	1 Hackathon for developers from the project, as well as externals from each Pilot site and beyond, A9.3, 2nd year of the project.				- Combination of C Ideathon & D Hackathon in the same site (though not the optimal solution necessarily)

SHOW YEAR	Activities							Coupling opportunities
	A	B	C	D	E	F	G	
3rd year (M25-M36)	User acceptance on-line surveys with stakeholders and travelers in Mega and Satellite site, A1.1 & A13.5, in the mid-term of final demo (M24-M36) activities.	At least 5 local demo Events in project sites with all types of stakeholders, A15.2, 3rd year of the project.	1 Ideathon for citizen Engagement with citizens & local stakeholders, A9.3, 3rd year of the project.	1 Hackathon for developers from the project, as well as externals from each Pilot site and beyond, A9.3, 3rd year of the project.				- Combination of C Ideathon & D Hackathon in the same site (though not the optimal solution necessarily) - Combination of the above with the local events of B (in one or two sites depending in the Ideathon and Hacathon will be held in one or two different sites)
4th year (M37-M48)	User acceptance on-line surveys	Dedicated interviews with external stakeholders	Tailored surveys with pre-selected	Physical Open Innovation workshops,	Local demo events in at least	Closing pan-European	1 Hackathon for developer	- C surveys and final A user acceptance

SHOW YEAR	Activities							Coupling opportunities
	A	B	C	D	E	F	G	
	with stakeholders and travelers in Mega and Satellite site, A1.1 & A13.5, at the end of final demo activities.	and international experts on societal, employability and equity issues, A13.3, M30-M44	user profiles with all types of (future) users of shared CCAV for overall impact assessment, A13.6, Months 30-44	including dedicated working sessions on overall impact assessment with potential future users of shared CCAV, A13.6, 4th year of the project.	80% of the sites with all types of stakeholders, A15.2, during 4th year of the project.	workshop of SHOW and live demo with all types of stakeholders and travellers, during 4th year of the project.	s from the project, as well as externals from each Pilot site and beyond, A9.3, 4th year of the project.	- surveys could be combined. - D open innovation workshops, E local demo events, D Hacathon and F closing Pan-European workshop could and should be combined in the final "demoweek" of SHOW.
Whole (or more than 1 year) project duration	Mobility stakeholder workshops with podium discussions and break out focus groups/	8 interactive workshops back to back with SHOW events, EUROCITIES Mobility Forum						- A and B workshops could be combined. Some of them could be combined with local

SHOW YEAR	Activities							Coupling opportunities
	A	B	C	D	E	F	G	
	interviews on exploitation issues, A16.3, M13-M48	Meetings and other relevant conferences at EU level with stakeholder representatives, policy makers, A17.2, M25-M48						demo events and the closing Pan-European workshop of 3rd and 4th year.

Annex IV: Data Privacy Impact Assessment (DPIA template) for SHOW

Submitting controller details

Name of controller	
Subject/title of DPO	
Name of the LER person	
Name of controller contact /DPO (delete as appropriate)	

Step 1: Identify the need for a DPIA

Explain broadly what aims to achieve and what type of processing it involves. You may find it helpful to refer or link to other documents, such as relevant deliverables and other supportive documents that reside in SharePoint. Summarize why you identified the need for a DPIA.

Step 2: Describe the processing

Describe the nature of the processing

Describe the scope of the processing

Describe the context of the processing

Describe the purposes of the processing

Step 3: Consultation process

Consider how to consult with relevant stakeholders **describe when and how you will seek individuals' views – or justify why it's not appropriate to do so. Who else do you need to involve within your organisation? Do you need to ask your processors to assist? Do you plan to consult information security experts, or any other experts?**

Step 4: Assess necessity and proportionality

Describe compliance and proportionality measures: **what is your lawful basis for processing? Does the processing** achieve **your purpose? Is there another way to achieve the same outcome? How will you prevent function creep? How will you ensure data quality and data** minimization**? What information will you give individuals? How will you help to support their rights? What measures do you take to ensure processors comply? How do you safeguard any international transfers?**

Step 5: Identify and assess risks

Describe source of risk and nature of potential impact on individuals. Include associated compliance and corporate risks as necessary.	Likelihood of harm **(Remote, possible or probable)**	Severity of harm (**Minimal, significant or severe**)	Overall risk **(Low, Medium or High)**

Step 6: Identify measures to reduce risk

Identify additional measures you could take to reduce or eliminate risks identified as medium or high risk in step 5				
Risk	**Options to reduce or eliminate risk**	**Effect on risk** [eliminated; reduced; accepted]	**Residual risk** [low; medium; high]	**Measure approved** [Yes/No]

Step 7: Sign off and record outcomes

Item	**Name/position/date**	**Notes**
Measures approved by:		Integrate actions back into project plan, with date and responsibility for completion
Residual risks approved by:		If accepting any residual high risk, consult the ICO before going ahead
DPO advice provided:		DPO should advise on compliance, step 6 measures and whether processing can proceed
Summary of DPO advice:		
DPO advice accepted or overruled by:		If overruled, you must explain your reasons
Comments:		

Consultation responses reviewed by:		If your decision departs from individuals' views, you must explain your reasons
Comments:		
This DPIA will kept under review by:		The DPO should also review ongoing compliance with DPIA

Annex V: Name of LER by 20201221

Date: 20201104	**Advisor Ethical Expert (AEE)**	
	Person	**Email:**
EC – Expert panel	Suzanna Kraak	Suzanna.KRAAK@ec.europa.eu

Date: 20201104	**Core Ethical Board (CEB)**	
Role	**Person**	**Email:**
Coordinator	Henriette Cornet	henriette.cornet@uitp.org
Technical and Innovation manager	Maria Gemou	mgemou@certh.gr
Technical and Innovation manager	Matina Loukea	mloukea@certh.gr
WP9 leader	Anna Anund	anna.anund@vti.se

Date: 20201215	**Local Ethical Representatives (LER)**			
Site number	**Country**	**City**	**Person**	**Email:**
1	France	Rouen	Sam Lysons	sam.lysons@transdev.com
2	France	Rennes	Isabelle Dussutour Florent Poiret	isabelle.dussutour@id4car.org florent.poiret@chu-rennes.fr
3	Spain	Scenario 1	Lucía Isasilucia.isasi@tecnalia.com	
4	Spain	Scenario 2		
5	Austria	Graz	Joachim Hillebrand	joachim.hillebrand@v2c2.at
6	Austria	Salzburg	Markus Karnutsch	markus.karnutsch@salzburgresearch.at

Date: 20201215	Local Ethical Representatives (LER)			
Site number	**Country**	**City**	**Person**	**Email:**
7	Austria	Carinthia[20]	Alexander Fürdös	Alexander.Fuerdoes@austriatech.at
8	Germany	Karlsruhe	Juergen Weimer	Juergen.Weimer@dlr.de
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10	Germany	Aachen	Helen Winter	Helen.Winter@mail.aachen.de
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18	Czech Republic	Brno	tomas.haban@cdv.cz	tomas.haban@cdv.cz

[20] As a replacement for Vienna, amendment in preparation

[21] As a replacement for Mannheim, amendment in preparation