Exploitation and sustainability plan

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Change History

Version	Date	Name/Organisation	Description
V0.1	2023-01-20	TREE	ToC and initial concepts.
V1.0	2023-02-10	TREE	First version to collect contributions from partners.
V2.0	2023-02-17	TREE, All partners	Consolidation of contributions from partners
V2.1	2023-02-20	TREE	Draft version for revision by Internal Reviewers
V2.2	2023-02-21	TREE	Reviewers' comments addressed
V3.0	2023-02-21	TREE	Final version for internal quality check and submission

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1. Executive Summary

Preparing the HEIDI results for exploitation, sustainability and future commercialization is an important goal within the project. For that reason, the HEIDI project aims to address these topics since the beginning of the project providing a plan and road map towards this goal. The present deliverable describes a general overview of the overall HEIDI Exploitation and Sustainability plan as well as the individual partners' exploitation and sustainability approaches, as well as actions towards the exploitation of HEIDI's results.

The HEIDI consortium is committed to produce results that will be sustainable after the project's completion, ensuring high quality and innovative outcomes to enrich the exploitation potential of HEIDI. To this end, emphasis is and will be placed on managing Intellectual Property Rights (IPRs) and mapping out the expected project assets, uses, and benefits to different target groups.

This initial version of the Exploitation and Sustainability Plan will serve as the basis for the activities to be implemented in the framework of Task 8.2, led by TREE, towards exploitation and sustainability of the project's results after the end of the grant, and to lay down the strategy and basic principles in this respect.

The structure of the main sections of the deliverable is the following:

Section 3 presents the general HEIDI exploitation overview, including the identified project assets, the analysis of the potential exploitation models that could be followed and the identification of main stakeholders that may be interested in the exploitation of the project results.

Section 4 describes the defined exploitation and sustainability plan, including: i) the exploitation and IPR management strategy; ii) the joint exploitation and sustainability plan; and iii) the individual exploitation and sustainability plan from partners.

Section 5 presents the status, at month 6 of the project, of the exploitation assets, including information about background IP and exploitation interests.

The plan described in the present report will be regularly updated and detailed in-depth in following reports (D8.7 - HEIDI Y1 exploitation, sustainability, and standardisation activities (M12); D8.8 - HEIDI Y2 exploitation, sustainability, and standardisation activities (M24); and D8.9 - HEIDI Y2 exploitation, sustainability, and standardisation activities (M36). Furthermore, future deliverables will also include information regarding the business strategy, market analysis and sustainability activities.

Keywords: exploitation, sustainability, strategy, plan, impact, intellectual property, key exploitable results.

2. Objectives

The primary objective of deliverable 8.3 is to report about the vision and paths for exploitation and sustainability of HEIDI outcomes. As part of WP8, this objective complements HEIDI's main objectives 1 and 4 related to the development and demonstration of fluid, cooperative Human Machine Interface (HMI) solutions and the elaboration of recommendations for regulation, standardisation, and development of adaptive internal and external HMIs, respectively.

To reach this objective, we have implemented an initial strategy and methodology by investigating the different exploitation models that could be followed, identifying the main stakeholders, stablishing a preliminary strategy regarding the joint and individual exploitation plans, and providing a strategy to analyse the main HEIDI's assets and their relationship with background IP, foreground IP, and partners exploitation interests.

The current report is the first version of HEIDI's exploitation and sustainability plan and will be regularly updated under WP8 activities. Furthermore, inputs of recommendations for standardisation will be collected from Task 5.4 and will be used to promote HEIDI on relevant standardisation workgroups. This information will be detailed in the next version of the current deliverable (D8.7-D8.9).

3. HEIDI exploitation overview

3.1 HEIDI identified assets

As stated in the Grant Agreement (GA), HEIDI expected assets can be summarised as follows:

- 3 unique HMI solutions (internal, external, cooperative HMI)
- 5+ technical innovation modules
- 1 unique multi-user simulation environment for effective validation of HMI solutions
- 3 catalogues targeting standardisation, ethical guidelines, and human-centred methodology.

Table 3-1 provides an overview and description of HEIDI's Key Exploitable Results (KERs), identified at this stage of the project. HEIDI KERs are owned by the beneficiary who generates them. 'KERs' means *any tangible or intangible output of the action (data, knowledge, information, whatever its form or nature, whether it can be protected or not) that is generated in the action, as well as any rights attached to it, including IPRs*.

The leading partner of the action is the main partner that leads to the KER. If there is no clear leading partner of the action the asset is considered as a joint result. In case of a shared KER, partners have to identify who are the other owners of the result, and which was their contribution to this result. Other KERs could arise and be added to the ones listed in this deliverable during the execution of project activities. This list will be update, if necessary, in future exploitation and sustainability reports.

Table 3-1: HEIDI identified assets

Key Exploitable Result (KER)	Short Description	Partners	WP
Osmotic Layer	Application Programming Interface (API) for the transmission of information via a wireless connection between the vehicle and the outside world.	BMW, NISYS	WP4
Fluid internal HMI (iHMI)	Concept for adaptive vehicle interface based on driver's state monitoring	BMW, NISYS, VIF	WP2
Fluid external HMI (eHMI)	An external HMI which can react adaptively to the different road users and will communicate to many groups (or only specifically one person out of a group) and may present more information.	MAR, RUAS, UAH	WP3
Integrated cooperative HMI with situation assessment, resolution, and decision module	Software system providing recommendation of optimal coordinated behaviour for driver and outside participants via iHMI and eHMI	VTI, RUAS, HRIEU, VIF	WP4
Situation resolution and tracking module	Algorithm that continuously evaluates behaviour of driver and outside participants, compares it to a recommended best joint behaviour and communicates deviations and criticality of deviations	HRIEU	WP4
Sensing & behavioural predictive models for ego-driver	Algorithms that detect driver's distraction and predict driver's intentions	VIF, UAH	WP2
Sensing & behavioural predictive models for pedestrians	Recognition of adult pedestrians and children pedestrians; recognition of pedestrian behavioural features and prediction of most likely future behaviours	RUAS, UAH	WP3
Unique multi-user simulation with driver and pedestrians (co-simulation)	Networked driving and pedestrian simulators of multi-user experiments	VTI, RUAS, HRIEU	WP5
Standardisation, ethical guidelines, and human-centred methodology	Catalogues targeting standardisation, ethical guidelines, and human-centred methodology coming from project activities, evaluation and produced know-how.	ALL	WP5

3.2 Exploitation models

Due to the nature of the HEIDI project as a Research and Innovation Action, there are two possible types of exploitation model that could be used by the HEIDI partners to exploit project's assets. The first one is the "research exploitation model" where the research know-how acquired during project activities is re-utilised in future research activities. The second model is the "technological exploitation model" where the technological know-how acquired during project activities is re-utilised for the development of innovative products and provision of advanced services.

The HEIDI consortium consists of 9 partners coming from industrial and scientific background with highly relevant and complementary know-how which is needed for the successful completion of the project. Specifically, the consortium includes:

- Industry partners with BMW, MAR, NISYS and TREE, which cover a broad range of the value chain (OEM, Tier-1 & SME).
- Research partners RUAS, UAH, HRI-EU, VTI, and VIF, with extensive know-how and experience in sensing vulnerable road users, cooperative decision modules, driving and pedestrian simulators, human-centred development of HMI solutions, internal sensing, and human-in-the-loop simulators.

The diversity of the members of the consortium and their different backgrounds and interests could lead to other possibilities for exploitation than the two main defined above, depending on the nature and exploitation interests of the partners, the background and foreground IP, the distribution model of the project assets, and the distribution of IPRs between the HEIDI consortium.

The two proposed exploitation models will be discussed in depth with project partners as part of the activities of Task 8.2. Nevertheless, an initial approach is presented in the following sections (section 4.2 and 4.3) to provide and initial overview of HEIDI's joint and individual plan towards exploitation and sustainability of project assets.

3.3 Exploitation stakeholders

The HEIDI consortium identifies the following stakeholders' categories that may be interested in the exploitation of the project results:

Table 3-2: HEIDI Exploitation stakeholders

Target group	Description	Time frame	Channel
A – Business stakeholders	Automobile operators, and other stakeholders who might use or receive benefits from HEIDI assets (e.g., significant increase in safety).	Last 12 months of the project	Website, digital press notes in specialised websites, workshops, B2B, etc.
B – IT technology providers; Industry associations and clusters	OEMs in partner network: As beneficiaries of HEIDI HMI solutions and guidelines regarding ethics and human-centred methodology.	Project life	Website, digital press notes, workshops, newsletters, exhibitions, etc.

	Raising awareness of the challenges in the field of technical/modelling and HMI; present the results; raise interest towards the project itself but also towards the developed technologies, build support.		
C – Policy makers and Standardization Organisations	Adopting the standardisation guidelines developed in the HEIDI project (e.g., like EuroNCAP and IEEE)	Last 12 months of the project	Uptake of standardisation guidelines resulting in improved legislation and standardisation, especially for external HMIs. Adaptation of ethical and human-centred guidelines by the broader community.
D – Scientific Community	Promoting the scientific developments of HEIDI in compliance with the Findable, Accessible Interoperable, and Reusable (FAIR) principle and the open science practices. Scientific publications and further evolving the state of the art.	From M6 until the end of the project	Academic conferences, scientific journals, exhibitions, social media, newsletter, final event, community work.
E – Related R&D projects and Networks	Involving or establishing networks to disseminate public project findings, and exchange knowledge.	Project life	HEIDI website, social media, workshops, exhibitions, international conferences, newsletter, final event.
F – End users (Road users)	Drivers and other road users, as main users of these technologies. Promotion of the HEIDI project to raise awareness and build support.	Project life	HEIDI website, social media, workshops, exhibitions, international conferences, newsletter, final event.

Dissemination and communication activities are viewed by the consortium as tightly linked to any planned exploitation activity as they would help in preparing the ground for HEIDI introduction into the market and create curiosity and expectation among its potential stakeholders. The overall goal of HEIDI dissemination and communication activities, linked to the exploitation and sustainability approach, is to raise awareness among the public and

specific target groups regarding the results, guidelines, generated knowledge and benefits of project outcomes. Detailed information about the dissemination actions performed during the project is described at the D8.2 – Dissemination and Communication plan and in its future updates within deliverables D8.4 to D8.6.

4. Exploitation & Sustainability plan

4.1 Exploitation and IPR management strategy

Special attention will be put on commercial pathways of tools, services, and enhanced solutions enabled by the new HEIDI solution to ensure its exploitation, continuation, and the possible replication in other vertical sectors. The non-commercial pathway of each result will be closely linked with dissemination and communication activities to maximise replication potential and enable the transition from projects' results to the endorsement and utilisation by all key stakeholders.

The HEIDI exploitation and IPR management strategy is based on setting a common understanding concerning the background, foreground, ownership (including joint ownership), access and usage rights, dissemination, and exploitation during and after the project development, of HEIDI assets. For this purpose, we have divided the strategy to be followed in three main phases:

- Grand Agreement & Consortium Agreement stage
- Project Implementation stage
- Post-project stage

Figure 4–1, summarises the planned activities under each phase. Detailed information is provided in the following sub-sections.
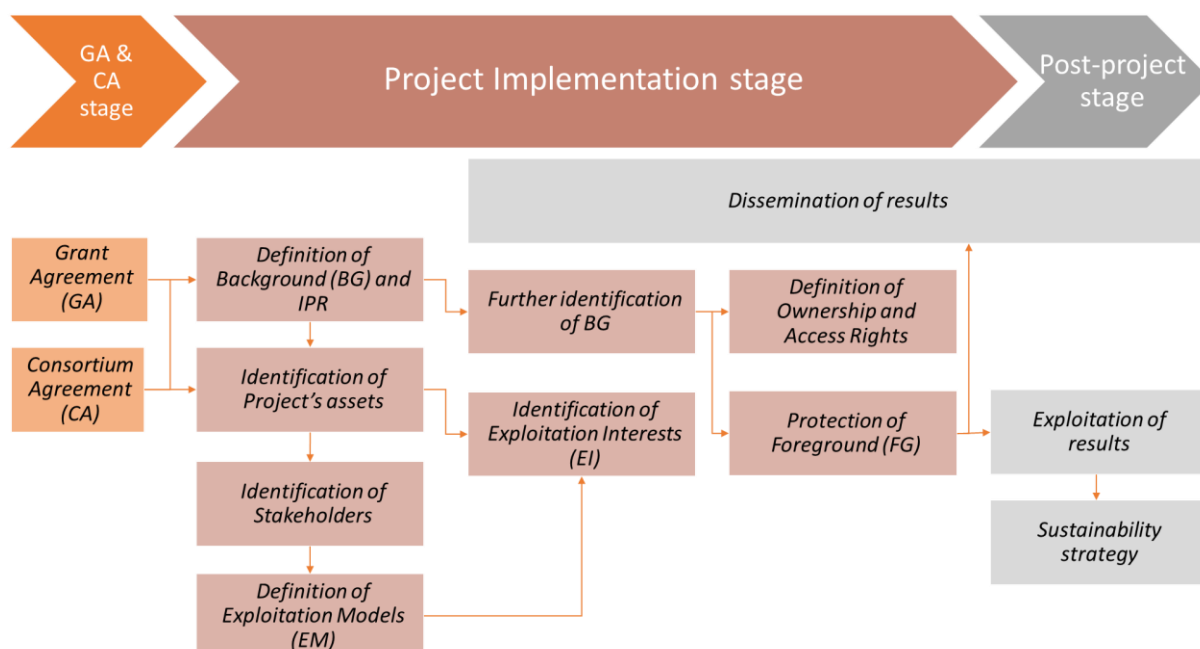

Figure 4–1: HEIDI strategy for exploitation and IPR management.

4.1.1 Grand Agreement & Consortium Agreement stage

The Grand Agreement (GA) and Consortium Agreement (CA) represents the main documents of reference for issues related to IPR and exploitation of HEIDI outcomes. The provisions included in these documents are agreed by the EC and the consortium, and the project partners respectively and, in this regard, any further addition to them coming from the execution of project activities will be facilitated under the basic provisions.

Due to the competitive industrial nature of HEIDI as such, not all data generated by the project can be made available to the public without affecting the legitimate interests of the industrial partners and thus dealing with IPR. Therefore, data that is crucial to commercial exploitation and whose release would limit the patentability of the developed technology will not be made accessible to the public.

The detailed description of all measures regarding IP and IPR management is defined in the Consortium Agreement. This document will play a primary role in ensuring that EC project management regulations are properly implemented, thus providing legal certainty.

As stated in the CA, ownership of results is assigned to "*the Party that generate them or on whose behalf such Results have been generated*". In the case of the joint ownership, the partners must follow the obligations stated in the GA (*Article 16: Intellectual Property Rights (IPR) – Background and Results – Access Rights and Rights of use*), with the following additions stated in the CA:

Unless otherwise agreed:

- each of the joint owners and their respective Controlled Entities shall be entitled to use their jointly owned Results for non-commercial research (including publicly funded research projects but excluding research on behalf of a third Party) and teaching activities on a royalty-free basis, and without requiring the prior consent of the other joint owner(s).
- each of the joint owners and their respective Controlled Entities shall be entitled to otherwise Exploit the jointly owned Results on a royalty-free basis, without requiring the prior consent of the other joint owners and to grant non-exclusive licenses to third parties (without any right to sub-license), if the other joint owners are given: (a) at least 45 calendar days advance notice; and (b) fair and reasonable compensation.

The joint owners shall agree on all protection measures and the division of related cost in advance.

Obligations regarding the transfer of results to third parties should be in line with the procedures of the Grant Agreement *Article 16.4 and its Annex 5, Section Transfer and licensing of results, sub-section "Transfer of ownership"*.

In future versions of the exploitation and sustainability deliverable (D8.7 – D8.9) a more mature and detailed IPR approach will be provided, as it will need discussions and agreements between HEIDI consortium partners, as part of Task 8.2, and should be based on project executed activities at the moment of delivery.

4.1.2 Project implementation stage

During the implementation stage of the project, the HEIDI consortium is committed to work together through exploitation activities to properly organise results/ assets management of the project. Recurrent meetings within WP8 will be organised to work together towards the

successful exploitation of project results, taking into consideration the specificities and exploitation models that can be applied to each result depending on its nature (e.g., know-how, technical development, data, etc.). HEIDI consortium will take advantage of the expertise and the intention of the partners, taking into consideration their implication in the different project activities, and will provide a detailed plan for keeping the knowledge generated by HEIDI activities and extend its impact and results on the targeted external stakeholders following the particularities of each project.

Next steps will be covered and described in future deliverables, specifically Year 2 (deliverable D8.8) and Year 3 (deliverable D8.9) reports of exploitation and sustainability. As the project implementation evolves, the focus will be placed on the detailed identification and definition of:

- Background IP
- Foreground IP
- Assets' ownership
- Access rights and protection
- The dissemination of results to key stakeholders through the different channels identified.

Annex 1 presents the complete instrument designed to gather this information during the project implementation stage. This instrument will be completed and updated as the project activities evolve. Following sub-sections (4.1.2.1 – 4.1.2.4) present each part of the instrument. Section 5 presents the current (M6) overview of the HEIDI exploitation assets using the instrument designed to collect the information from HEIDI partners.

4.1.2.1 Background IP

The HEIDI consortium will identify the background IP to be used during project activities. Table 4-1 presents the information to be collected to that end, including information regarding the partners' background related to the KER and if there are other partners or external entities that also share background IP related to it. In addition, the expected plan for access rights to the background, and if is the case, the conditions under this access will be granted to other party, will be collected through this table.

Table 4-1: HEIDI background IP per KER

Key Exploitable Result (KER)	Background IP in which the result is based	Access Rights to background
HEIDI result/outcome	- What is your background to that result? - Who else has any background IP (know-how, project IP) to that result? What is it?	- Are access rights to the background of another partner necessary for exploitation? - Under which conditions could they be granted (TBD with the other party)? OR - If you do not intend to exploit this result and it is necessary: Will you grant access to your background to another partner for this result's exploitation? Under which conditions

4.1.2.2 Foreground IP

Foreground refers to the results and assets that are generated through the implementation of the project activities, including pieces of information, materials, and knowledge. These results

comprise any tangible or intangible output of the project's actions which can be protectable or not. For foreground results a foreground IP can be stablished by project partners to protect and exploit them. This IP protection may include intellectual property rights such as copyrights, patents, etc., other forms of protections like data protection rights for databases and unprotected know-how that could be identified as confidential material.

4.1.2.3 Ownership, access rights and protection

The granting of access rights within a collaborative Horizon Europe project follows specific rules pre-defined in the Grant Agreement and the Consortium Agreement.

Section 9 "Access Rights", of the CA, clarifies the access rights governing principles along with the access rights for the exploitation and dissemination purposes of results generated by project activities.

It also states the specific background included (Attachment 1 of CA). Background not included in this preliminary table, shall not be object of Access Rights obligations. If additional background is provided during the project implementation phase, the Party will give written notices to the other partners and approval of the General Assembly will be needed to modify/add/withdraw a background.

4.1.2.4 Exploitation interest

HEIDI consortium will put together the exploitation interests per asset (Table 4-2) including information of the willingness of doing a commercial exploitation of the asset, the exploitation goal including:

- **Non-commercial**: new working line, new collaborative research.
- **Commercial, Internal**: new product, process or service internally marketed. How will you exploit it? (Selling the product directly, via supplier, service provider, etc.)
- **Commercial, External**: new product, process or service externally marketed (granting license to a 3rd party, transferring the result, etc.)

the main external stakeholders that may benefit (described in section 3.2), and selection of the access rights to results or joint exploitation, including:

- **Transfer of your result**: Do you intend to transfer your contribution's ownership to another partner and not to exploit it yourself? To whom?

  OR
- **Access to another partner's result**: Would you like to have access to the contribution developed by another partner? Under which conditions?

  OR
- **Joint exploitation**: In case of a joint result, do you want to exploit a result jointly? Which are the necessary agreements with the other owners of the result?

Table 4-2: HEIDI exploitation interest per KER

Key Exploitable Result (KER)	Do you want to do a commercial exploitation? Will you do a sustainable exploitation?	Exploitation goal	Main external stakeholders	Access Rights to result OR Joint exploitation
HEIDI result/outcome	"Sustainable" means you will maintain and update the result	- Non-commercial. - Commercial, Internal. - Commercial, External.	A – Business stakeholders B – IT technology providers; Industry associations and clusters C – Policy makers and Standardisation Organisations D – Scientific Community E – Related R&D projects and Networks F – End users (Road users)"	- Transfer of your result. OR - Access to another partner's result. OR - Joint exploitation

Table 4-3 presents the instrument to gather the interest of HEIDI consortium in the protection of the results in IP terms, together with the expected Technology Readiness Level (TRL). Discussions should be held during project execution.

Table 4-3: HEIDI IP result protection per asset

Key Exploitable Result (KER)	Expected TRL for this outcome	Do you want to protect the results in IP terms?
HEIDI result/outcome	TRL in the beginning and by the end of the project (Definition of TRLs by European Commission)	Patent, trademark, utility model, design, copyright, secret know-how, trade secret, etc.

4.1.3 Post-project stage

At the end of HEIDI project, the last version of the Exploitation, Sustainability and Standardisation activities report (D8.9) will be delivered, outlining the final strategy agreed by project partners regarding the use of HEIDI exploitable results and the related plans and time frame for their exploitation. Under this strategy, a detailed plan describing the further activities that need to be implemented to ensure sustainability of project results will be provided. The final report envisages the final exploitation and IPR management strategy overview, with information regarding IP, ownership, access rights and protection (using the instrument designed – see Annex 1), together with the sustainability plans after project end and the standardisation activities executed.

4.2   Joint exploitation and sustainability plan

The joint exploitation and sustainability strategy foreseen by the HEIDI consortium aims to innovate through science by:

* providing differential know-how and technology.

* supporting standardisation and current legal requirements (e.g., ECE regulation).

* evaluating the feasibility of latest advancements in the area through the research & business expertise and networks from research and business partners.

- investigate the possibility and opportunities for synergies with other organisations to jointly promote related developments as integrated product or marketing efforts via exhibitions, market initiatives to address new alliances, etc.

In the course of HEIDI, also workshops and webinars will be organised. The partners aim to ensure the sustainability of the HEIDI results also after the project end, which is why they also plan to continue the workshop/webinar series after the project ends.

HEIDI will offer the basis for potential spin-offs exploiting the infrastructure offering new service models in new eco-systems. The cognitive systems lab (part of RUAS facilities) is as well involved in know-how transfer activities (Steinbeis Transfer-Centre for Human-centred Artificial Intelligence) working closely together with industry, guaranteeing the transfer of know-how raised through HEIDI. Partners will commercialise the newly developed products and the generation of further knowledge will help to cater the customer needs and gain more market access and share. After the project evaluation phase, HEIDI will prepare guidelines for standardisation bodies in order to contribute with new knowledge coming from HEIDI mainly related with human-centred designs of HMI solutions for driving scenarios.

4.3 Individual exploitation and sustainability plans

The exploitation strategy is expected to support, facilitate, and guide individual and joint exploitation of results, with an approach that is both coherent and compatible with internal strategies of each project consortium partner. Nevertheless, all the partners participating in HEIDI have different plans for exploiting individually the outcomes of the project.

The individual exploitation plans refer to a situation in which a company or research centre exploits the HEIDI solution either in house or commercialises it independently, without relying on the resources or support of other partners. Importantly, the individual exploitation plans have to be undertaken within the framework agreed on between the consortium partners in the CA.

The following table summarises the exploitation interests of the participant partners:

Table 4-4: HEIDI partners' individual exploitation plan

Partner	Individual exploitation plan
RUAS (Research)	The results of HEIDI will directly feed into lectures and build the basis for novel workshops at annual conferences. Students from Human-centred-computing master course, but also others, will be involved into HEIDI at an early stage of their curriculum, and thus, HEIDI will attract potential PhD candidates. RUAS is a very strong partner for entrepreneurship programmes. HEIDI will offer the basis for potential spin-offs exploiting the infrastructure offering new service models in new eco-systems. The cognitive systems lab is as well involved in know-how transfer activities (Steinbeis Transfer-Center for Human-centred Artificial Intelligence) working closely together with industry, guaranteeing the transfer of know-how raised through HEIDI.
UAH (Research)	Results will feed into scientific publications and demonstrable prototypes. This will strengthen UAH's position to attract high quality PhD students and to provide advanced research services to the automotive industry. Among the expected research results to be attained in HEIDI, are the following: advanced road users' behaviour prediction system for anticipating pedestrian crossing actions, vehicles lane changes, and ego-driver

	behaviour; perception system for recognising the level of attention of pedestrians; recognition of pedestrians walking on crutches or walkers and pedestrians on wheelchairs; recognition of adult pedestrians and children pedestrians.
VIF (Research)	The focus is on scientific dissemination in peer-reviewed journals and international conferences to further strengthen the impact created in the scientific community. Cooperations with industry partners are being discussed and planned to increase bi-lateral transfer between industry needs and scientific solutions. The aim is to establish and strengthen further links to (industrial) partners.
VTI (Research)	VTI envisages three main exploitation channels for the project results achieved in HEIDI. Firstly, the activities undertaken in WP5 (coordinated by VTI) for the development of validation methods for HEIDI and similar systems will serve to provide guidance and recommendations to both regulators and standardisation bodies. Secondly, the developments carried out during the project at VTI (e.g., synchronisation of driving and pedestrian simulators, development of specific scenarios and test protocols for multi-user interaction analysis) will contribute to consolidate VTI's position as a leading research institute to address future interaction issues between VRUs and other vehicles. Finally, the results will be exploited by dissemination to the scientific and other industrial communities through publications in scientific journals and presentations at conferences, seminars and/or workshops.
TREE (SME)	TREE's research and business expertise will help to investigate the opportunity for synergies with other partners to jointly promote related developments as an integrated product, marketing efforts via exhibitions, specific marketing initiatives to address new customers and alliances by presenting the technology and possibilities of the whole system, and active participation in industrial seminars to communicate about exploitable results. HEIDI results bring differential know-how and technology to TREE business area and will favour alliances and network of contacts for future projects, commercialisation of products and services.
NISYS (SME)	NISYS plans to further extend their links to industry partners and establish new links to other partners outside of the HEIDI consortium. It will be possible to further develop existing products and work on new product developments. By cooperating with the HEIDI partners, NISYS plans to gain new knowledge and strengthen its market position by better understanding and meeting customer needs.
HRI-EU (Industry)	HRI-EU will evaluate the feasibility of HEIDI's advancements for potential future products, particularly focusing on European markets, and contribute the results to Honda R&D as well as the scientific community to demonstrate leadership in ADAS research.
MAR (Industry)	Gain knowledge, creating a prototype, research results will support standardisation and adaptation of legal requirements (ECE regulation), could lead to future products in vehicle lighting for safety improvement.
BMW (Industry)	BMW, representing a premium OEM, will assist in bringing the HEIDI results to the market. The collaboration with the HEIDI partners will support BMW in the creation of innovative and marketable solutions that are expected to

	be featured in one of their products in 2027, leading to the generation of IP and commercial exploitation. Thus, this will secure the sustainability of the HEIDI results and support not only the EU policies but also the creation of new standards in the automotive industry.

5. M6 overview of exploitation assets

Table 5-1 presents the information collected from HEIDI partners based on status of project activities (M6).

Table 5-1: M6 overview of HEIDI exploitation

RESULT						BACKGROUND		EXPLOITATION INTEREST				IP (RESULT PROTECTION)	
Key Exploitable Result (KER)	Description	Partner	Other owners of the result	Type of result (commercial/non commercial)	WP	Background IP in which the result is based	Access Rights to background	Do you want to do a commercial exploitation? Will you do a sustainable exploitation?	Exploitation goal	Main external stakeholders that may benefit	Access Rights to result OR Joint exploitation	Expected TRL for this outcome	Do you want to protect the results in IP terms?
Osmotic Layer	Application Programming Interface (API) for the transmission of information via a wireless connection between the vehicle and the outside world.	BMW, NISYS			WP4							TRL 5	
Fluid iHMI	concept for adaptive vehicle interface based on driver's state monitoring	BMW, NISYS, VIF	VIF is the owner of the original concept	non commercial results: knowledge, know-how; scientific publications. Commercial: service for evaluation of internal and coordinated hmi in simulation and real vehicles.	WP2	See Consortium Agreement (chapters 8,9, annex 1-party 1)	access right to the background of other parties not envisioned		non commercial; commercial external: new service for internal and coordinated hmi evaluation in simulation	A, D, E		TRL 6	No
Fluid eHMI	An external HMI which can react adaptively to the different road users and will communicate to many groups (or only specifically one person out of a group) and may present more information.	MAR, RUAS, UAH			WP3							TRL 6	
Integrated cooperative HMI with situation assessment, resolution, and decision module	software system providing recommendation of optimal coordinated behavior for driver and outside participants via iHMI and eHMI	VTI, RUAS, HRIEU, VIF		non commercial results: knowledge, know-how; scientific publications. Commercial: proof-of-concept of product	WP4	HRI-EU: Background IP around cooperative Risk Modelling	Access Rights to Background if Needed for Exploitation of another Party's own Results, shall be granted on Fair and Reasonable conditions.	no	HRI-EU: Commercial, Internal - pitch functionality to be included in future automotive products of related entity	A, D, F		TRL 4	

RESULT						BACKGROUND		EXPLOITATION INTEREST				IP (RESULT PROTECTION)	
Key Exploitable Result (KER)	Description	Partner	Other owners of the result	Type of result (commercial/non commercial)	WP	Background IP in which the result is based	Access Rights to background	Do you want to do a commercial exploitation? Will you do a sustainable exploitation?	Exploitation goal	Main external stakeholders that may benefit	Access Rights to result OR Joint exploitation	Expected TRL for this outcome	Do you want to protect the results in IP terms?
Osmotic Layer	Application Programming Interface (API) for the transmission of information via a wireless connection between the vehicle and the outside world.	BMW, NISYS			WP4							TRL 5	
Fluid iHMI	concept for adaptive vehicle interface based on driver's state monitoring	BMW, NISYS, VIF	VIF is the owner of the original concept	non commercial results: knowledge, know-how; scientific publications. Commercial: service for evaluation of internal and coordinated hmi in simulation and real vehicles.	WP2	See Consortium Agreement (chapters 8,9, annex 1-party 1)	access right to the background of other parties not envisioned		non commercial; commercial external: new service for internal and coordinated hmi evaluation in simulation	A, D, E		TRL 6	No

*In some cases, the information gathered at this stage regarding the HEIDI KERs protection, exploitation and sustainability is limited or not discussed yet between consortium partners. In these cases, specific meetings will be conducted in order identify the missing parts and provide the complete information later in deliverables D8.7 – D8.9.

6. Conclusion

This deliverable presented the initial approximation and strategy of the HEIDI approach towards the exploitation and sustainability of project results. The HEIDI consortium preliminarily identified and described the main exploitable assets and provided the information available at this stage of the project (M6), regarding the IP and exploitation interests of consortium partners, while also providing an overview of its Background and Foreground IP.

Following deliverables will provide more information and details of the HEIDI exploitation and sustainability approach and will also include information regarding the standardisation activities that will be executed in conjunction with WP5 activities. The HEIDI Consortium will constantly work to update the plan, if needed, considering the potential additions and changes that will come during and after executing the activities of the different technical and validation work packages. Strategic issues are still being discussed and modifications are needed to reflect changes in the market and well as some information gaps that are expected to be solved by the end of the project.

Regular updates on the HEIDI exploitation, sustainability, and standardisation activities (D8.7 – D8.9) will be provided in M12, M24 and M36. Furthermore, these deliverables will also include information regarding the business strategy, market analysis and sustainability activities. The results ownership list and access rights, taking into consideration all the discussions between HEIDI partners and the implication of the partners in project activities, will be included in the final project report.

7. Abbreviations

Please include any abbreviations, terms etc. used within the deliverable in alphabetical order.

Term	Definition
ADAS	Advanced driver-assistance systems
API	Application Programming Interface
B2B	Business to Business
BG	Background
CA	Consortium Agreement
D	Deliverable
eHMI	External Human Machine Interface
EC	European Commission
ECE	Economic Commission for Europe
EM	Exploitation Models
EU	European Union
EuroNCAP	European New Car Assessment Programme
FAIR	Findable, Accessible Interoperable, and Reusable
FG	Foreground
GA	Grant Agreement
HEIDI	Holistic and adaptivE Interface Design for human-technology Interactions
HMI	Human Machine Interface
IEEE	Institute of Electrical and Electronics Engineers
iHMI	Internal Human Machine Interface
IP	Intellectual Property Rights
IPR	Intellectual Property Rights
KER	Key Exploitable Result
M6	Month 6
OEMs	Original Equipment Manufacturer
PU	Public
R	Document, Report
R&D	Research & Development
SME	Small & Medium Enterprises
TRL	Technology Readiness Level
WP	Work Package
Y	Year

A. Annex 1 – HEIDI outcomes collector instrument

Key Exploitable Result (KER)	Description	Partner	Other owners of the result	Type of result (commercial/non commercial)	WP	Background IP in which the result is based	Access Rights to background	Do you want to do a commercial exploitation? Will you do a sustainable exploitation?	Exploitation goal	Main external stakeholders that may benefit	Access Rights to result OR Joint exploitation	Expected TRL for this outcome	Do you want to protect the results in IP terms?
HEIDI Outcomes Results are owned by the beneficiary who generates them. 'Results' means any tangible or intangible output of the action (data, knowledge, information, whatever its form or nature, whether it can be protected or not) that is generated in the action, as well as any rights attached to it, including IPRs.	Add short description of the asset.	Leading Partner of the action leading to this result. If there was no clear leading partner, it was a joint result	In case of shared result: - Who are the other owners? - Which was your contribution to this result?	- Product - Service - Training course - Standardisation - Input to new research - New line of work - Open source result - New business line - Knowledge, know-how. - Others (which?)	Work Package	- What is your background to that result? - Who else has any background IP (know-how, project IP) to that result? What is it?	- Are access rights to the background of another partner necessary for exploitation? - Under which conditions could they be granted (TBD with the other party)? OR - If you don't intend to exploit this result and it is necessary: Will you grant access to your background to another partner for this result's exploitation? Under which conditions	"Sustainable" means you will maintain and update the result	- Non commercial: new working line, new collaborative research. - Commercial, Internal: new product, process or service internally marketed. How will you exploit it? (Selling the product directly, via supplier, service provider, etc.) - Commercial, External: new product, process or service externally marketed (granting license to a 3rd party, transfering the result, etc.)	A – Business stakeholders B – IT technology providers; Industry associations and clusters C – Policy makers and Standardization Organisations D – Scientific Community E – Related R&D projects and Networks F – End users (Road users)	- Transfer of your result: Do you intend to transfer your contribution's ownership to another partner and not to exploit it yourself? To whom? OR - Access to another partner's result: would you like to have access to the contrbution developed by another partner? Under which conditions? OR - Joint exploitation: In case of a joint result, do you want to exploit a result jointly? which are the necessary agreements with the other owners of the result?	TRL in the begining and by the end of the project (Definition of TRLs by European Comission)	Patent, trademark, utility model, design, copyright, secret know-how, trade secret, etc.
Osmotic Layer													
Fluid iHMI													
Fluid eHMI													
Integrated cooperative HMI with situation assessment, resolution, and decision module													
Real-time situation assessment and decision module													
Situation resolution and tracking module													
Sensing & behavioural predictive models for ego-driver													
Sensing & behavioural predictive models for pedestrians													
Unique multi-user simulation with driver and pedestrians (co-simulation)													
Catalogues targeting standardisation, ethical guidelines, and human-centred methodology													