

A leap towards SAE L4 automated driving features

D7.3 Ethics, security and gender equality plan (Annex 3 to D7.1 Project Handbook)

28th April 2023





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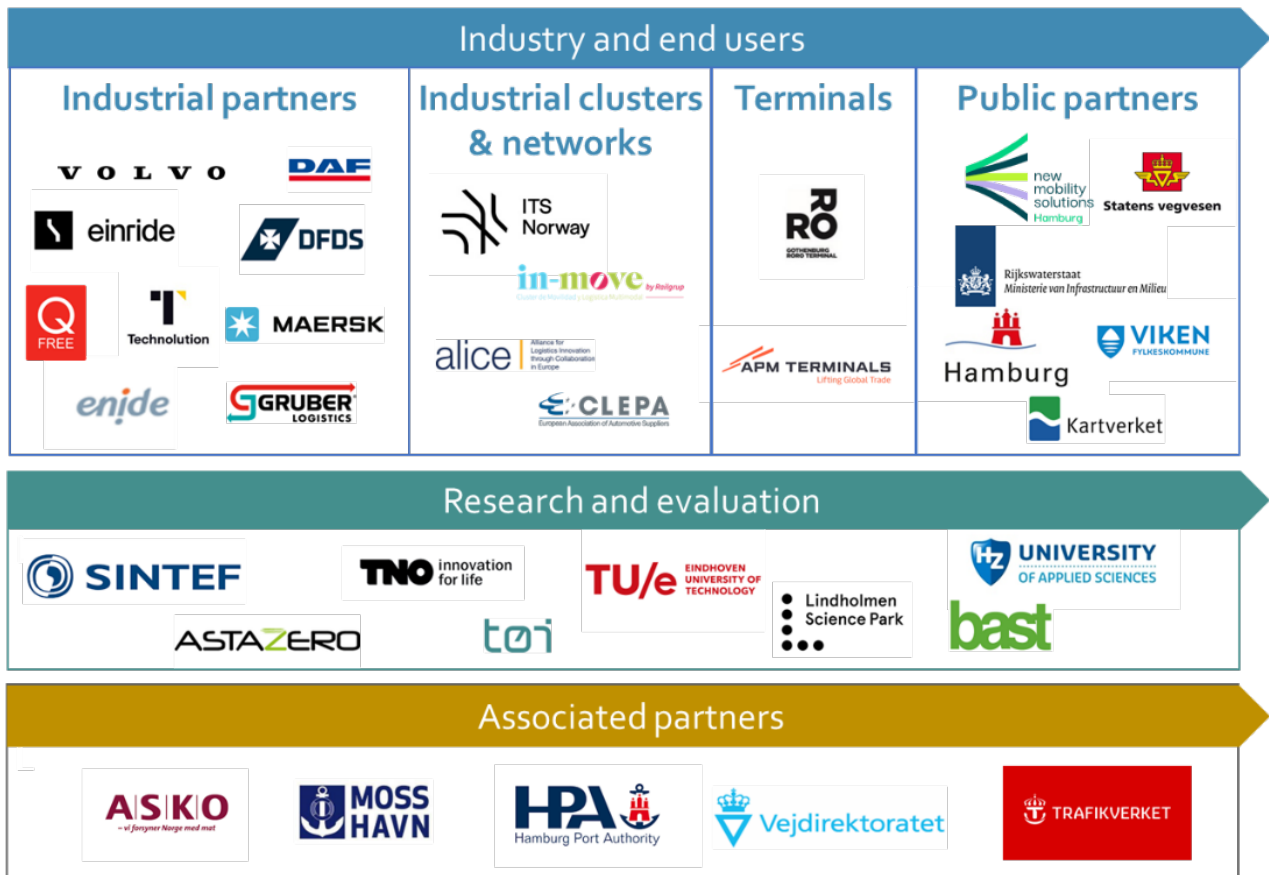
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Responsible Author(s)	Ragnhild Wahl (ITS NORWAY)		
Responsible Co-Author(s)	Lone-Eirin Lervåg (ITS NORWAY)		
WP leader	Ragnhild Wahl (ITS NORWAY)		
Technical expert peer reviewer(s)	All partners		
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Terms and abbreviations

Term / Abbreviation	Description
CCAM	Connected, cooperative and automated mobility
D	Deliverable
DMP	Data management plan
ESG	Ethics, security, and gender equality
GDPR	General data protection regulation
SAE L4	Vehicle capable of driving fully automated in proper settings without the assistance or intervention of a human driver
T	Task
UNDP	United Nations development programme
WP	Work package



Executive Summary

The ethics, security, and gender equality plan (ESG plan) substantiate the importance of ethical, security-related and gender-sensitive practices in the MODI project, by setting standards for the project activities and output – the “project ethical compass”. The ESG plan aims to identify and consider ethical, security and gender equality aspects and challenges and to outline the social principles that will be upheld throughout the project. Furthermore, the ESG plan describes the procedures and tools to address these challenges in line with the ethical standards to ensure that those standards are implemented and monitored.

A set of ethical and social principles to be upheld throughout the project is outlined:

- Ethical aspects, security issues and the protection of vulnerable groups shall be addressed in the technical development, business modelling and implementation of MODI results and solutions.
- All partners and organisations involved in the MODI project shall aim to obtain gender equality and inclusion, avoid discrimination, and ensure that all participants are treated with dignity and respect.
- The MODI project shall implement and monitor measures to avoid gender bias in the research team and among participants.

The potential risks associated with ethical, security and gender-related issues that may arise during the project research have been assessed. Relevant ethical issues have been identified and grouped into three main categories:

- Ethical issues of digitalisation and automation
- Ethical issues related to gender equality and inclusion of all
- Ethical issues related to traffic safety and security

The principles of ethics, security, and gender equality are implemented in the Project Handbook on the MODI SharePoint. Some principles can easily be translated to concrete activities, like gender-independent recruitment processes, while others are more related to culture.

The ESG plan is not a stand-alone document. It constitutes project deliverable D7.3 and serves as Appendix 3 to the D7.1 Project Handbook. Therefore, it is kept short and to the point to make it easier accessible as a guidance tool for the MODI project participants.



1 Introduction

1.1 Project summary

MODI Ambitions: A leap towards SAE L4 automated driving features

The MODI project aims to accelerate the introduction of highly automated freight vehicles through demonstrations and by overcoming barriers to the rollout of automated transport systems and solutions in logistics. The logistics corridor from the Netherlands to Norway has been chosen for demonstration activities as the Netherlands, Germany, Denmark, Sweden, and Norway are expected to be among the first movers to implement fully automated vehicles in Europe.

MODI comprises five use cases, each describing a part of the logistics chain in confined areas and on public roads. It identifies what is already possible on an automated driving level without human interaction and what is yet to be developed. The MODI objectives are to:

- Implement new technology within the CCAM spectrum.
- Define recommendations for the design of physical and digital infrastructure.
- Demonstrate viable business models for connected and automated logistics.
- Perform technical and socio-economic impact assessments.

Major challenges include regulatory aspects and standardisation, border crossings, access control, charging, coordination with automated guided vehicles, loading/unloading and handover from the public to confined areas.

MODI test sites include a CCAM test corridor from Rotterdam to Oslo with specific use cases at Rotterdam (The Netherlands), Hamburg (Germany), Gothenburg (Sweden), and Moss (Norway).

The ambition of MODI is to take automated driving in Europe to the next level by demonstrating complex real-life CCAM use cases while:

- Showing the local, national, and international context of freight transport with CCAM vehicles, both in confined areas and on public roads.
- Cooperating and co-creating with logistics companies, road operators, vehicle OEMs, providers of physical and digital infrastructure and other stakeholders to bridge the gap between R&D and market readiness.
- L4 solutions for long-distance operational design domains.
- Creating innovative business models and improved business models across the logistics chain.
- Proving that the technology can soon deliver on promised benefits at relatively high speeds and medium traffic complexity, including a coordinated CCAM system to support smart traffic management.
- Paving the way to enable highly automatic transport on important corridors, connecting main ports across Europe.
- Accelerating CCAM in Europe by setting examples of business-wise CCAM integration in logistics.



1.2 Aim of the deliverable

The ethics, security, and gender equality plan substantiate the importance of ethical, security-related and gender-sensitive practices in the MODI project, by setting standards for the project activities and output – the “project ethical compass”. The aim of the ESG plan is to identify and consider ethical, security and gender equality aspects and challenges, and to describe the procedures and tools to address these challenges in line with the ethical standards to ensure that those standards are implemented and monitored.

The ESG plan is not a stand-alone document. It constitutes project deliverable D7.3 and serves as Appendix 3 to the D7.1 Project Handbook. Therefore, it is kept short and to the point to make it easier accessible as a guidance tool for the MODI project participants.

1.3 Relation to MODI output

The ESG plan is related to all MODI tasks. The “project ethical compass” shall permeate all activities needed to fulfil the project goals and ambitions.

The D7.1 *Project Handbook* provides important input. It covers a detailed explanation of project governance, meetings, quality assurance, the work plan, risk management, reporting, communication, dissemination and exploitation rules, and confidentiality, which all must be considered when identifying ethics, security, and gender equality aspects. Furthermore, the ESG plan provides important input to the daily execution of these activities. In that aspect, the Project Handbook and the ESG plan are mutually dependent of each other,

The ESG plan provides specific input to all tasks, whereof a few are mentioned below.

- D7.2 *Data Management Plan (DMP)* and Task 2.3 *Development and utilisation of CCAM data sharing platform*. DMP describes tools and methodologies applied to the management of data that will be collected, generated, and processed in the frame of the project. Task 2.3 must comply with the DMP and ESG plan. The data in question are of three main categories:
 1. Data related to vehicles and their associated infrastructure
 2. Data related to the vehicle’s environment
 3. Data related to (test)-persons (this includes user and stakeholder requirements)
- Task 1.1 *User and stakeholder requirements* will conduct qualitative interviews and focus groups. Data gathered will be collected, analysed, and stored in compliance with the ESG plan.
- Task 1.2 *Safety and security requirements for use cases* aims at setting road traffic safety and security (terrorism, crime and cyber) requirements for the use cases in WP5.

1.4 Structure of the report

The next chapter describes the ethics, security, and gender equality plan itself. This chapter includes the EGS policy, ethical considerations and risks, and how the principles will be implemented and monitored during the project.



2 Ethics, security, and gender equality

2.1 ESG policy

One of the fundamental principles of human rights is the equal worth of all people. The MODI project recognises the importance of ethical aspects, security, and gender equality as a part of the project's strategic plan forward. MODI also recognises gender diversity and inclusion of different gender perspectives as key components in expanding and transforming future mobility and transport solutions at large.

Ethical and security aspects of digitalisation must be considered to ensure that technology development and implementation support a human-oriented and non-discriminatory use of innovative transport services, ensure data privacy, and avoid physical and cyber security threats.

The MODI project will act in compliance with the self-assessment on ethics and security, and the outcome of the ethics review report (Grant Agreement, annex 1 description of the action, part B). Moreover, the [European Code of Conduct for Research Integrity](#) will form the basic principles and guidelines for all research related activities within the project. Furthermore, the MODI project does not intend to use the project substances listed in annex 1 of council regulation No428/2009 in the project.

The MODI project has outlined a set of ethical and social principles to be upheld throughout the project:

- Ethical aspects, security issues and the protection of vulnerable groups shall be addressed in the technical development, business modelling and implementation of MODI results and solutions.
- All partners and organisations involved in the MODI project shall aim to obtain gender equality and inclusion, avoid discrimination, and ensure that all participants are treated with dignity and respect.
- The MODI project shall implement and monitor measures to avoid gender bias in the research team and among participants.

2.2 Ethical considerations and risks

The potential risks associated with ethical, security and gender-related issues that may arise during the project research have been assessed. Relevant ethical issues have been identified and grouped into three main categories:

- Ethical issues of digitalisation and automation
- Ethical issues related to gender equality and inclusion of all
- Ethical issues related to traffic safety and security

2.2.1 Digitalisation and automation

Risks and challenges related to digitalisation and automation must be considered in the technical development of MODI requirements and solutions for CCAM vehicles, infrastructure, communication interface, and business models in WP1, WP3, and WP4. The ethical aspects of digitalisation and automation will also be addressed in the Use Case definition, development, demonstrations, and impact assessment in WP2 and WP5. The most relevant issues identified include data protection



requirements, security requirements, responsibility and liability issues of automation, and the non-discriminatory use of digital tools.

Data protection and privacy require special attention in MODI research involving data collection activities and stakeholder involvement. Data privacy requirements are regulated by GDPR and described in MODI D7.2 Data Management Plan. Each cocreation arena leader is responsible for ensuring that personal data collected in the cocreation arenas have the necessary permits for collecting, storing, and managing such data. To facilitate genuine collaboration and cocreation between project partners, participants and stakeholders, the protection of trade secrets must be considered. Issues regarding confidentiality are regulated by the Consortium Agreement (between partners) and the mutual Non-Disclosure Agreements with associated partners and members of the Stakeholder Board Group.

Artificial intelligence (AI) has increasingly become the subject of national and international debate when it comes to ethics, security, and gender equality. Within the MODI project, as has also been identified in the Ethics and Security self-assessment in the proposal phase, AI will be used in the data collection of the edge cases on the adaptation of DAF vehicle (ST3.4.1) and when performing demonstrations for data collection in the Dutch use case (ST5.1.2). This is not foreseen to raise ethical concerns related to human rights and values, but it will be given specific attention in defining and conducting the pilots. In particular, for these and other activities that might use AI, we will encourage all project partners to use *the Ethics Guidelines for Trustworthy Artificial Intelligence (AI)* proposed by the European Commission as a reference point, to ensure that the AI used in the project is ethically sound. The requirements set out in the guidelines are: 1) Human agency and oversight, 2) Technical robustness and safety, 3) Privacy and data governance, 4) Transparency, 5) Diversity, non-discrimination, and fairness, 6) Societal and environmental well-being, 7) Accountability. [Click here](#) to read more about these requirements.

Non-discriminatory use of digital tools is an important aspect of the ESG plan within the MODI project. Because many digital tools will be used and developed within the project – for example the CCAM fleet management and traffic management tool developed within WP4 – it is important to offer guidelines on how to make sure the tools are inclusive and non-discriminatory. Within MODI, we implore all project partners to adhere to the following statement released by the United Nations Development Programme ([UNDP](#)):

“Non-discrimination and equity – Digital [...] technologies should not deliberately or unintentionally discriminate against individuals. Moreover, to ensure equity in implementation, these technologies should account for the needs of vulnerable and marginalized groups, including women, children, racial and ethnic minorities, migrants, [...] and other key populations. [...]”

2.2.2 Gender equality and inclusion of all

Risks and challenges related to gender equality and inclusion of all require special attention in the actual project performance and in the technical development, design, and implementation of the MODI solutions. The gender dimension will be emphasised in project management (WP7), communication activities, and stakeholder involvement (WP6). Relevant aspects to be considered include gender equality in leadership and decision-making, gender equality in organisational and project culture, integration of the gender dimension into research and development of digital solutions and taking into account the inclusion of vulnerable groups when designing innovative transport services and business models.



Consideration of gender equality in leadership and decision-making must be a priority as the MODI project represents a new and emerging industry based on technical developments that are traditionally male-dominated fields. Promoting women in leadership and decision-making must be emphasised in research teams and the project organisation. Although being led by a female Coordinator, the male participants are still over-represented on the Executive Board of MODI. The inclusion of female stakeholders will be emphasised in the setup and development of the MODI Stakeholder Board Group.

Gender equality in organisational and project culture requires special attention to the visibility of women in the project organisation and external communication activities. An important ambition of the MODI ESG policy is to represent the full spectrum of players within the CCAM and logistics industry regardless of gender identity. Thus, gender balance and inclusion of women will be considered in communication activities like presenting at seminars and conferences, participation in panel debates, scientific publications, and science and research activities in general. Inspiration could be taken from the “No Women No Panel” campaign initiated by Commissioner Mariya Gabriel in 2018 ([No Women No Panel](#)).

Using inclusive language in promotional materials, presentations, (scientific) publications and more, is also an objective within the MODI project. Language should be inclusive because it reflects and shapes our attitudes towards others. By using language that is inclusive of all people, regardless of their gender, race, ethnicity, sexual orientation, or other personal characteristics, we can create a more respectful and equitable society. Inclusive language can help to reduce stigma and discrimination and promote a sense of belonging and acceptance among diverse communities. Therefore, we implore all project partners to be conscious of the language they use (in papers, presentations, other communication activities) to be as inclusive as possible. For guidance on inclusive (English) language, please consult [this webpage](#) from the United Nations on inclusive English.

2.2.3 Traffic safety and security

Ensuring the safety of participants and the public will be of specific importance when carrying out demonstration activities. This comprises traffic safety and assessment of other risks related to the situation, participation, and activities on the demonstration sites. Information and mitigation measures must be considered in activities where safety risks have been identified. A safety assessment shall be carried out before site visits, inspections, and demonstration activities in confined and public areas. Adequate preventive and mitigating measures must be identified and implemented by the management of the activity in question.

2.3 Implementation and monitoring of ethics, security and gender requirements

The principles of ethics, security, and gender equality are implemented in the Project Handbook on the MODI SharePoint. Although the principles are clear, the concrete requirements and guidelines are somewhat vague. Some principles can easily be translated to concrete activities, like gender-independent recruitment processes, while others are more related to culture.



All partners are obliged to report on gender statistics for the researchers involved in the SygMa portal. The genders are categorized as Female, Male, and non-binary. In addition, the registration of communication and dissemination activities shall comprise information on gender issues (e.g., the gender of a specific speaker, panellist, author/co-author on publications, etc.).

All partners who already possess a Gender Equality Plan (mandatory for all research institutes, universities, and public partners) are obliged to comply with these.

MODI's activities are compliant with EU's ethical principles and relevant legislation. Personal data shall be processed in compliance with the GDPR regulations. Metadata shall not contain any personal data. D7.2 "Data Management Plan" specifies further requirements on data management in MODI activities.

Compliance with ethical and social principles will be monitored and reviewed throughout the project. A dedicated section on ethics, security, and gender equality issues will be implemented in the periodic reports. Moreover, the topics of ethics, security and gender will be addressed during the General Assembly meetings in the project (which are held each 6 months).

The Ethics, Security, and Gender Equality plan is a living document that evolves with the progress of the project activities.