



# ENSEMBLE

## EUROPEAN COMMISSION

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### ENSEMBLE

ENabling SafE Multi-Brand pLatooning for Europe

<b>Deliverable No.</b>	D6.17	
<b>Deliverable Title</b>	Proceedings of ENSEMBLE final event	
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<b>Written By</b>	Anna Zanetti, Ertico	25-03-2022
<b>Checked by</b>	Milica Zizic, Ertico	30-03-2022
<b>Approved by</b>	Marika Hoedemaeker, TNO	31-03-2022
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**Disclaimer:**

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## 1.1. Revision history

Version	Date	Author	Summary of changes	Status
1.0	25/03/2022	Anna Zanetti (Ertico)	Changes	Prepared
2.0	28/03/2022	Milica Zizic	Checked	Revised
3.0	30/03/2022	Marika Hoedemaeker	Coordinator review	Approved

## 2. EXECUTIVE SUMMARY

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### 2.1. Context

Platooning technology has made significant advances in the last decade, but to achieve the next step towards deployment of truck platooning, an integral multi-brand approach is required. Aiming for Europe-wide deployment of platooning, 'multi-brand' solutions are paramount. It is the ambition of ENSEMBLE to realise pre-standards for interoperability between trucks, platoons and logistics solution providers, to speed up actual market pick-up of (sub)system development and implementation and to enable harmonisation of legal frameworks in the member states.

### 2.2. Project scope

The main goal of the ENSEMBLE project is to pave the way for the adoption of multi-brand truck platooning in Europe to improve fuel economy, traffic safety and throughput. This has been demonstrated by driving up to seven differently branded trucks in one (or more) platoon(s) under real world traffic conditions across national borders. During the years, the project goals were:

- Year 1: setting the specifications and developing a reference design with acceptance criteria
- Year 2 and 3: implementing this reference design on the OEM own trucks as well as perform impact assessments with several criteria
- Year 4: focus on testing the multi-brand platoons on test tracks and international public roads

The technical results will be evaluated against the initial requirements. Also, the impact on fuel consumption, drivers and other road users has been established. In the end, all activities within the project aim to accelerate the deployment of multi-brand truck platooning in Europe.

### 2.3. Abstract of this Deliverable

ENSEMBLE organized its final event in two parts. First, a public demo was organized to show the actual implementation of the multi-brand platooning in real traffic conditions. In this event also the technical results of the project were presented. Second, a final event was organized to present the impact results of the project and discuss the outcomes with European Commission representatives and external stakeholders. Both events were successful.



## 3. INTRODUCTION

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### 3.1. Background

In the context of the ENSEMBLE project, two final events have been organised. The first part was planned in Spain, in the Barcelona area in September 2021 and a live demonstration of a seven-brand platoon on the road was organised. Then, high-level speakers and local authorities intervened in the discussion about the actual implementation of truck platooning technology. The second part of the final event was planned on 17 March 2022 in Brussels. On this occasion, experts presented the final results of their impact studies which have been carried out in the final months of the project. In parallel, the technical speeches were alternated with a roundtable with European Commission representatives and with a panel composed of external stakeholder representatives. Considering the COVID-19 restrictions in Spain and Belgium at the time of the two events, both were organised in a hybrid format, thus allowing more participation from invitees.

### 3.2. Aim

The aim of this report is to describe the two final events that were organized by ENSEMBLE. It gives a summary of the messages and presentations, the statistics from the audience and pictures.

### 3.3. Structure of this report

Chapter 3 describes the first part of the ENSEMBLE final event which has taken place in Barcelona on 23 September 2021. Then, in Chapter 4, the second part of the final event occurred on 17 March 2022 will be described. Both chapters will describe the type of event, the agenda, information about the audience and pictures of the day.

## 4. ENSEMBLE PUBLIC DEMO 23-09-2021

This section describes what happened during the ENSEMBLE public demo in the Barcelona area on 23 September 2021. First, the event will be described considering the information inserted in the Press Release sent out to press contacts. Then, the agenda of the event, together with attendance numbers and other communication statistics are described. Finally, some pictures are attached.

### 4.1. Description

On 23 September 2021, the ENSEMBLE project successfully deployed its multi-brand platooning technology. Seven trucks from the major European truck manufacturers (OEMs), joined and drove together in a fully coordinated platoon on the Spanish public roads. At the ENSEMBLE Public Demonstration event that took place at the Fira Congress Barcelona Hotel, participants experienced a live broadcast of a platooning demonstration on the Spanish highways in real-time, as well as an interesting program of presentations about the technical implementations and further standardization opportunities of platooning.

### 4.2. Agenda

**ENSEMBLE**  
Public Demo, 23 September 2021  
Hotel Fira, Barcelona, Spain

**Program**

With live stream of the platoon

Online event starts at noon

Multi-brand platooning with 7 trucks

09:30 am	Registration and coffee
10:00 am	Opening speech
10:15 am	Introduction to ENSEMBLE M. Hoedemaeker
10:30 am	Start of platoon driving
10:45 am	Live streaming platoon/Q&A; Z. Jeftic
12:00 am	Start online event; G. Sarros, EU project officer
12:15 pm	Multi-brand Specifications and Communication Protocols; E. Mascali and J. van Doorn Implementation & achievements; D. Willemssen
13:30 pm	Arrival of trucks
14:00 pm	Lunch
15:00 pm	Standardisation; P. Schmitting/K. Sjöberg Impact of platooning on roads & bridges; F. Schmidt
16:30 pm	Networking & drinks

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 768115

### 4.3. Attendants and other statistics

The invitees to the ENSEMBLE public demonstration in Barcelona belonged to several different categories. ENSEMBLE partners, industry representatives, European policymakers, technical experts and engineers and press-related contacts received the invitation to join the hybrid event.

Considering the Covid-19 regulations in place at the time of the demonstration in Spain, the adopted format of the event was hybrid. Invitees were able to take part to the discussion both online and, for a limited number, in person. Most of the ENSEMBLE experts and Consortium partners were able to join the public demonstration event in person, counting 70 participants physically present in the venue (See Appendix 1).

### 4.4. Pictures of the public demo event











## 5. ENSEMBLE FINAL EVENT 17-03-2022

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This section describes what happened during the ENSEMBLE final event in the Brussels on 17 March 2022. First, the event will be described considering the information inserted in the Press Release sent out to press contacts. Then, the agenda of the event, together with attendance numbers and other communication statistics are described. Finally, some pictures are attached.

### 5.1. Description

On 17 March, Thursday, the ENSEMBLE consortium held its final public event in Brussels, marking the end of the 46-month project, which closes officially on 31 March, with discussions of the project's achievements and results. Experts and high-level speakers contributed to the debate about the adoption of multi-brand platooning in Europe at the online event with over 200 invitees connected to follow the livestream.

Joost Vantomme, CEO at ERTICO-ITS Europe, and Marika Hoedemaeker, ENSEMBLE project coordinator, opened the event underlining the insights and the achievements that the ENSEMBLE project delivered in technology and innovation, strengthening the collaboration between the relevant market actors and associations.

Four European Commission representatives, Ewa Ptaszynska, Deputy Head of Unit, Road Transport Unit, DG Move; Patrick Mercier-Handisyde, Senior Policy Officer, Future Urban & Mobility Systems, DG RTD; Antony Lagrange, Team Leader Automated/Connected Vehicles and Safety, DG GROW; and Georgios Sarros, Project Officer, Horizon Europe Transport, CINEA, kicked off the first panel of the day discussing the European perspective on the development of truck platooning technology.

An important high point of the discussion was Antony Lagrange's confirmation that the next logical step for the European Commission would be to recognise ENSEMBLE's harmonised V2V protocol format enabling truck platooning via an implementation measure of the General Vehicle Safety Regulation 2019/2144.

Kristof Rombaut, from the Flemish Road Operator Agency - Agentschap Wegen en Verkeer - acknowledged the importance for Flanders to become a digital road operator in support of connected and automated driving.

The event moved to more technical speeches welcoming the experts from TNO, Université Gustave Eiffel, Applus IDIADA, and all ENSEMBLE partners. First, the impact of multi-brand truck platooning was discussed from different angles starting with Dehlija Willemsen (TNO) who presented the results from real life testing. Then, Nico Deschle (TNO) analysed the impact of multi-brand truck platooning on fuel consumption, Kinjal Bhattacharyya (Université Gustave Eiffel) discussed the impact on traffic flow and Christoph Jallais (Université Gustave Eiffel) closed the morning session with a presentation of the impact on road users.



After the break, the future of multi-brand truck platooning became the main topic of the afternoon sessions. Francois Combes (Université Gustave Eiffel) opened the debate introducing the economic business case of ENSEMBLE, followed by Ernst-Jan van Ark (TNO) who focused on platoon matching. Carlos Lujan (Applus IDIADA) concluded the technical speeches with his work about future regulations.

Future implementations of the platooning technology were the key topic of the panel discussion with external stakeholders. Carin ten Hage successfully moderated the talk between Stefan Deix, Director EUCAR/CCAM Association, David Storer, Director Research Innovation & New Mobility – CLEPA, Steve Phillips, Secretary General, CEDR, Carlo Giro, Manager-EU Goods Transport IRU and Marika Hoedemaeker, ENSEMBLE Project Coordinator.

The live stream can be viewed on the ENSEMBLE website: [Events | Platooning Ensemble](#).

## 5.2. Agenda

ENSEMBLE FINAL EVENT AGENDA		
<b>10:00</b>	<b>Start</b>	<b>Carin ten Hage</b> , executive coach Off the Map
	<i>Opening session</i>	
<b>10:05</b>		<b>Joost Vantomme</b> , CEO ERTICO -ITS Europe
<b>10:15</b>	ENSEMBLE intro movie	
<b>10:25</b>	Introduction to ENSEMBLE	<b>Marika Hoedemaeker</b> , TNO, project coordinator
<b>10:40</b>	<i>European Commission Keynote round table</i>	
	<b>Ewa Ptaszynska</b>	Deputy head of unit Directorate-General for Mobility and Transport - DG Move - Road Transport Unit
	<b>Patrick Mercier-Handisyde</b>	Senior Policy officer, Future Urban & Mobility Systems, DG RTD, European Commission
	<b>Antony Lagrange</b>	Team Leader Automated/Connected vehicles and Safety DG GROW, European Commission
	<b>Georgios Sarros</b>	Project manager, Horizon Europe Transport, CINEA, European Commission
<b>11:10</b>	Ambitions of the Flanders region on multi-brand truck platooning	<b>Kristof Rombaut</b> , MOW
	<i>The Impact of multi-brand platooning</i>	





<b>11:20</b>	Results from real life testing	<b>Dehlia Willemsen</b> , senior scientist TNO
<b>11:40</b>	Impact on fuel consumption	<b>Nico Deschle</b> , TNO
<b>12:00</b>	Impact on traffic flow	<b>Kinjal Bhattacharyya</b> , Université Gustave Eiffel
<b>12:20</b>	Impact on other road users	<b>Christoph Jallais</b> , Université Gustave Eiffel
<b>12:40</b>	Q&A session	<b>Christoph Jallais</b> , Université Gustave Eiffel
<b><i>The future of multi-brand platooning</i></b>		
<b>13:45</b>	Economic Business case	<b>Francois Combes</b> , Université Gustave Eiffel
<b>14:05</b>	Platoon matching	<b>Ernst-Jan van Ark</b> , TNO
<b>14:25</b>	Q&A session	<b>Ernst-Jan van Ark</b> , TNO
<b>14:30</b>	Future regulations	<b>Carlos Lujan</b> , APPLUS IDIADA
<b><i>External Stakeholder Panel discussion</i></b>		
<b>14:50</b>	<b>Stefan Deix</b> <b>David Storer</b> <b>Steve Phillips</b> <b>Carlo Giro</b> <b>Marika Hoedemaeker</b>	Director <b>EUCAR / CCAM Association</b> Director Research Innovation & New Mobility - <b>CLEPA</b> Secretary General, <b>CEDR</b> Manager - EU Goods Transport <b>IRU</b> Project coordinator <b>ENSEMBLE</b>
<b>15:20</b>	ENSEMBLE final movie	

### 5.3. Attendants and other statistics

The invitees to the ENSEMBLE final event belonged to several different categories. Industry representatives, European policy makers, technical experts and engineers and press-related contacts received the invitation to join the event online.

The total amount of registered invitees is 310 (updated on the day of the event). In total, 175 unique IP addresses followed the live stream. The average watching time was 01 hour and 32 minutes. Total watching time: 787 hours and 18 minutes. In parallel, the invited high-level speakers, the ENSEMBLE experts and the organisers of the event joined the event in person, counting 26 people who attended the event in person in Brussels (see Appendix 2).

The press release, which has been shared with press contacts has been re-proposed by the journals below:

- [Transport Media](#) (The Netherlands)
- [Diario de transporte](#) (Spain)
- [Camion actualidad](#) (Spain)
- [Nexotrans](#) (Spain)
- [Transporte3](#) (Spain)
- [Kamioni](#) (Bulgaria)
- [Logistra](#) (Germany)
- [Devirsaati](#) (Turkey)
- [VadoeTorno](#) (Italy)

#### 5.4. Pictures from the final event







## 6. SUMMARY AND CONCLUSION

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This document is a short report about the two ENSEMBLE final events: the first one organised in September 2021 and the second organised in March 2022. In the first event in Barcelona, multi-brand truck platooning has become a reality because the major European truck manufacturers (OEMs) joined and drove together in a fully coordinated platoon. On 17 March 2022, experts from the Consortium presented the latest results from the ENSEMBLE impact studies. What they presented are the summaries of the deliverables submitted to the European Commission. Technical speeches alternated firstly the European Commission round table that allowed to debate about the implication of truck platooning technologies on European roadways. Then, a panel composed of external stakeholder representatives discussed the same implications but from truck manufacturers' and road authorities' points of view. Both events engaged not only a technical audience but also policy makers and industry representatives.



# APPENDIX 1 – ENSEMBLE FINAL EVENT 23-09-2021

ENSEMBLE Signature List																																																																																																							
ENSEMBLE PUBLIC DEMONSTRATION SEPTEMBER 23, 2021 Signature List																																																																																																							
<p>With signing this signature and presence list, I hereby authorize the ENSEMBLE Consortium the right and permission to use and/or publish, reproduce or otherwise use the videos, photographs and other audio-visual recordings taking during the day of this event.</p> <p>I acknowledge and understand that these materials of me may be used for purposes of disseminating the ENSEMBLE Project. I understand my participation is voluntary and that I may, at any time, discontinue my involvement before signing this document. By signing this form, I acknowledge that I have completely read and fully understand the above consent and release and agree to be bound thereby. I hereby release any and all claims against any person or organization utilizing this material for marketing, educational, promotional, and/or any other lawful purpose other than for ENSEMBLE disseminating purposes.</p>																																																																																																							
<p><i>US Meeting</i></p> <table border="1"> <thead> <tr> <th>Surname</th> <th>Name</th> <th>Organization</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>Houdemont</td> <td>Maria</td> <td>TNO</td> <td>[Signature]</td> </tr> <tr> <td>Willemsen</td> <td>Debra</td> <td>TNO</td> <td>[Signature]</td> </tr> <tr> <td>Zuic</td> <td>Mica</td> <td>ERTICO</td> <td>[Signature]</td> </tr> <tr> <td>Vuchobaynikov</td> <td>Armand</td> <td>ENADA</td> <td>[Signature]</td> </tr> <tr> <td>de Jongh</td> <td>Jan</td> <td>TNO</td> <td>[Signature]</td> </tr> <tr> <td>Mangraviti</td> <td>Sandesh</td> <td>TNO</td> <td>[Signature]</td> </tr> <tr> <td>Aboukarem</td> <td>El Mehdi</td> <td>LEF</td> <td>[Signature]</td> </tr> <tr> <td>Elfers</td> <td>Arne</td> <td>ZF/Navis</td> <td>[Signature]</td> </tr> <tr> <td>Timmerman</td> <td>Gerrit</td> <td>SCANSIA</td> <td>[Signature]</td> </tr> <tr> <td>Mollenber</td> <td>Ben</td> <td>Berkley</td> <td>[Signature]</td> </tr> <tr> <td>Shawcross</td> <td>Steven</td> <td>Berkley</td> <td>[Signature]</td> </tr> <tr> <td>Bishop</td> <td>Richard</td> <td>Bishop Consulting</td> <td>[Signature]</td> </tr> <tr> <td>Pezam</td> <td>Alexander</td> <td>IDADA</td> <td>[Signature]</td> </tr> <tr> <td>Daems</td> <td>Frank</td> <td>ERTICO</td> <td>[Signature]</td> </tr> <tr> <td>Albert de Chalendar</td> <td>Dalle</td> <td>Univ. F. Hef</td> <td>[Signature]</td> </tr> <tr> <td>Arts</td> <td>Guus</td> <td>DAF</td> <td>[Signature]</td> </tr> </tbody> </table>				Surname	Name	Organization	Signature	Houdemont	Maria	TNO	[Signature]	Willemsen	Debra	TNO	[Signature]	Zuic	Mica	ERTICO	[Signature]	Vuchobaynikov	Armand	ENADA	[Signature]	de Jongh	Jan	TNO	[Signature]	Mangraviti	Sandesh	TNO	[Signature]	Aboukarem	El Mehdi	LEF	[Signature]	Elfers	Arne	ZF/Navis	[Signature]	Timmerman	Gerrit	SCANSIA	[Signature]	Mollenber	Ben	Berkley	[Signature]	Shawcross	Steven	Berkley	[Signature]	Bishop	Richard	Bishop Consulting	[Signature]	Pezam	Alexander	IDADA	[Signature]	Daems	Frank	ERTICO	[Signature]	Albert de Chalendar	Dalle	Univ. F. Hef	[Signature]	Arts	Guus	DAF	[Signature]																																
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David	Mario-Peter	ERTICO	[Signature]																																																																																																				
de Nuijn	Albert	ABO Global Sales	[Signature]																																																																																																				
de Jongh	Jan	TNO	[Signature]																																																																																																				
Elfers	Arne	ZF	[Signature]																																																																																																				
Espin	Jordi	European Shippers	[Signature]																																																																																																				
Gruel	Samuel	ERTICO	[Signature]																																																																																																				
Hallstrom	And	Scania	[Signature]																																																																																																				
<table border="1"> <thead> <tr> <th>Surname</th> <th>Name</th> <th>Organization</th> <th>Signature</th> </tr> </thead> <tbody> <tr> <td>Mineel</td> <td>Michael</td> <td>ERTICO</td> <td>[Signature]</td> </tr> <tr> <td>Kalender</td> <td>Stephan</td> <td>ZF</td> <td>[Signature]</td> </tr> <tr> <td>Uge</td> <td>Valerio</td> <td>CNH Industrial</td> <td>[Signature]</td> </tr> </tbody> </table>				Surname	Name	Organization	Signature	Mineel	Michael	ERTICO	[Signature]	Kalender	Stephan	ZF	[Signature]	Uge	Valerio	CNH Industrial	[Signature]																																																																																				
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Hartmannsperger	Marika	TNO	<i>[Signature]</i>
Huehner	Werner	Datt Trucks	<i>[Signature]</i>
Hogg	Bernd	IFP	<i>[Signature]</i>
Jacob	Bernard	Universitat Gustave Eiffel	<i>[Signature]</i>
Jelic	Zeljko	ERTICO	<i>[Signature]</i>
Kabot	Theory	Datt Trucks	<i>[Signature]</i>
Koranne	Violeta	ERTICO	<i>[Signature]</i>
Ladino	Andros	Universitat Gustave Eiffel	<i>[Signature]</i>
Lakinen	Tooni	VECO	<i>[Signature]</i>
Liga	Valerio	CN Hard	<i>[Signature]</i>
Lisch	Xavier	IVECO	<i>[Signature]</i>
Lopez	Ricardo	GenCat	<i>[Signature]</i>
Mirapalau	Sandra	TNO	<i>[Signature]</i>
Morero	Daniel	GenCat	<i>[Signature]</i>
Mc Kenna	Ben	Berkley	<i>[Signature]</i>
Menzel	Michael	Bosch	<i>[Signature]</i>
Moser	Andreas		<i>[Signature]</i>
Nordin	Hans	Scania	<i>[Signature]</i>
Oliveira	Ana	Peugeot & Mercedes	<i>[Signature]</i>
Ortuno	Jordi	ICI	<i>[Signature]</i>
Pella	Jean		<i>[Signature]</i>
Perez	Marc	IDIADA	<i>[Signature]</i>
Phillips	Steve	C+UK	<i>[Signature]</i>
Pugharnon	Louise		<i>[Signature]</i>
Prato	Lorena		<i>[Signature]</i>

Rodriguez Corbecho	Pablo	IDIADA	<i>[Signature]</i>
Sanchez	Jaine	IVECO	<i>[Signature]</i>
Schmeitz	Antoine	TNO	<i>[Signature]</i>
Schmidt	Franziska	Universitat Gustave Eiffel	<i>[Signature]</i>
Schmitting	Peter	ERTICO	<i>[Signature]</i>
Spieling	Nico	AG Transport	<i>[Signature]</i>
Steven	Shladover	Path Berkley	<i>[Signature]</i>
Svensson	Tommy	Volvo	<i>[Signature]</i>
Tarnbrant	Magnus	Volvo	<i>[Signature]</i>
Tonnalm	Gunnar	Scania	<i>[Signature]</i>
Umiyama	Hideo	Isuzu	<i>[Signature]</i>
Vermeulen	Robin	TNO	<i>[Signature]</i>
Villalba	Raul	IDIADA	<i>[Signature]</i>
Voskoboinikov	Armand	IDIADA	<i>[Signature]</i>
Wegemans	Anita	TNO	<i>[Signature]</i>
Willemsen	Dehila	TNO	<i>[Signature]</i>
Xu	Wen	Volvo	<i>[Signature]</i>
Zakizadeh	Hossein	Volvo	<i>[Signature]</i>
Zizic	Milica	ERTICO	<i>[Signature]</i>
MAAßen wu	Gerrit	DAF	<i>[Signature]</i>
Weis	Patrick	MAN	<i>[Signature]</i>
Naia	Vivanco		<i>[Signature]</i>
Pont	Jordi	IDIADA	<i>[Signature]</i>
Anago	Jose J.	IDIADA	<i>[Signature]</i>

Figuerola Susi IZCAT *[Signature]*

Roma Jonvik		<i>[Signature]</i>
Andrei Vrensen		<i>[Signature]</i>
Timmo Virmann		<i>[Signature]</i>
Sakari Viikari		<i>[Signature]</i>
Alexander Wilson		<i>[Signature]</i>
Arado Martorell		<i>[Signature]</i>

Naia Vivanco Bonamusa  
Alvaro Arede *[Signature]*



## APPENDIX 2 – ENSEMBLE FINAL EVENT 17-03-2022

Surname	Name	Signature
Alpeit de Chalendar	Odile	
Bhattacharyya	Kinjal	
Combes	Francois	
Daems	Frank	
Deix	Stefan	
Deschle	Nico	
Giro	Carlo	
Hoedemaeker	Marika	
Jallais	Christoph	
Lagrange	Antony	
Lujan	Carlos	
Mercier-Handisyde	Patrick	
Phillips	Steve	
Ptaszynska	Ewa	
Rombaut	Kristof	
Sarros	Georgios	
Schmitting	Peter	
Storer	David	
Ten Hage	Carin	
Van Ark	Ernst-Jan	
Vantomme	Joost	
Weggemans	Anita	
Willemsen	Dehila	
WASSCHUM	EDARDO	

  

Zanetti	Anna	
Zizic	Milica	

