



# UDRIVE

European Naturalistic  
Driving Study



## Final conference

Deliverable 63.7

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# UDRIVE

## European Naturalistic Driving Study

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### **eUropean naturalistic Driving and Riding for Infrastructure and Vehicle safety and Environment**

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## Executive Summary

UDRIVE is a large-scale European Naturalistic Driving study that aims to collect in-depth knowledge about the behaviour of car drivers, truck drivers and motor riders in order to make road traffic safer and more environmentally friendly.

D63.7 “Final conference” is a report of the project final conference – the UDRIVE Experience – which took place on 7 June 2017, in the Hague, the Netherlands. The final event was organised in conjunction with the 6<sup>th</sup> International Naturalistic Driving Research Symposium. The goal of the final conference was to present the UDRIVE results to an audience of international researchers, public authorities and other stakeholders. A vehicle demonstration of an equipped car and motorcycle, was also organised to provide participants with the real feel of the project and to introduce them to naturalistic driving studies.

About 150 international participants from all over the planet attended the final conference. In order to make the final event engaging and interactive, the final results were presented to the public in a form of a quiz.

This deliverable contains a report of the conference, a list of participants, list of participating organisations, agenda of the event etc.

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## 2 Introduction

### 2.1 About UDRIVE

Road transport is indispensable for the exchange of goods and persons, but at the same time has severe negative consequences, among others for road safety and environment. To meet the European road safety and emission targets, a next generation of measures is needed based on a far more in-depth understanding of road user behaviour.

UDRIVE is the first large-scale Naturalistic Driving study in Europe and aims to provide a first step toward this in-depth knowledge in a number of areas, as well as data for further research. Cars, trucks and powered two-wheelers (motorcycles and scooters) will be equipped with sensors and cameras and will for more than a year and provide continuous and detailed information about the driver and the vehicle in interaction with other road users. This will result in a wealth of information about everyday trips on European roads in 6 different countries.

The UDRIVE integrated project started in October 2012, and after several preparatory activities, a first thematic workshop was organized on March 12, 2013 to discuss the UDRIVE research questions with the potential stakeholders. During the spring of 2017 4 regional workshops were organised in each of the OS with the goal to promote the UDRIVE project to local stakeholders and in particular to inform them about the project methodology, give them a taste of the project results with the preliminary analysis results and to promote the final event. The final event took place on 7 June in the Hague, the Netherlands and it was organised in conjunction with the 6<sup>th</sup> International Naturalistic Driving Research Symposium. The final results of the four work packages were presented at the event, while a vehicle demonstration of an equipped car and motorcycle took place in parallel.

### 2.2 Objectives of D63.7 “Final conference”

Deliverable D63.7 is a report of the UDRIVE final event – the UDRIVE Experience – which took place on 7 June 2017 in the Hague, the Netherlands. The main goal of the final conference was to promote the project's final results after 3 years of work and 18 months of data collection in 6 different operation sites. More specifically, promoting the final results is an opportunity for the project to exploit the research made and pursue the idea of creating a database with over 80 000 hours of data collected which could essentially contribute to further research or regulation in the field of road safety and sustainability.

### 3 Programme

#### 3.1 Agenda

08:30	<i>Registration &amp; coffee</i>
09:30	<b>UDRIVE – The Project</b>
	*Project Coordinator – Nicole van Nes
	*Chair advisory board – Fred Wegman
	*EU Project Officer William Bird
10:00	<b>UDRIVE – Introducing the Key Results</b>
11:30	<i>Coffee break</i>
12:00 - 16:00	<b>UDRIVE – TheExperience: special sessions á la Carte</b>
	Dive deeper in the results on specific topics that are most relevant to your work. Learn more and discuss the implications for research, industry and policy. You can participate in 4 different sessions, before and after the lunch break.
	<b>• Vehicle demonstration</b>
	How does the UDRIVE Data Acquisition System (DAS) look like and how is it intergrated in the vehicle?
	<b>• Demonstration of UDRIVE database</b>
	What is recorded and how can the data be accessed for further analyses?
	<b>• Risky driving</b>
	How often do people speed and do they wear their seat-belt?
	<b>• Distraction</b>
	What distracting activities do drivers undertake, how often, when and where?
	<b>• Vulnerable road users</b>
	Do drivers see cyclists and pedestrians? How do they adapt their speed and looking behaviour? Is there a difference in looking behaviour between countries?
	<b>• Eco-driving</b>
	How eco friendly is the driving behaviour across Europe? Is there a relation between eco-driving and personal driving style, infrastructure, congestion and vehicle technology? How does eco-driving relate to safe driving?
	<b>• Powered Two Wheelers</b>
	How fast do they ride and how do they adapt their speed to the situation?
	<b>• Trucks</b>
	How often do truck drivers actually check their blind spot and how often are they involved in distracting activities?
16:00	<b>UDRIVE – What's next?</b>



	Reflections from different perspectives and views on future steps
16:30 – 18:00	<i>Reception</i>
	<b>Evening Programme</b>
19:00	<u>Speed-dating in Europe's first Ferris wheel over the sea.</u>
	With whom would you like to share a ride on this Ferris wheel?
19:15-21:00	Dutch Pancake Experience on the North Sea

### 3.2 Summary

Around 150 participants attended the final event and participated in the interesting rotating sessions covering different naturalistic driving topics such as risky driving, distraction, cyclists and pedestrians, eco-driving, motorists and trucks. Two UDRIVE equipped vehicles – a motorcycle and a car – showed the participants the UDRIVE Data Acquisition System (DAS) and how is it intergrated in the vehicles.

The participants were very enthusiastic about the whole event which kicked off with keynote speeches by the project coordinator Nicole van Nes, Chair advisory board – Fred Wegman and project officer William Bird. The project results were presented in a form of a interactive pub quiz where the main results were shared as questions to the public by UDRIVE experts. The following topics were included:

- Recruitment of participants
- Data Acquisition System
- Collected data
  - Volume
  - Per vehicle type
  - Per country
  - Analysis efforts
- Results
  - Secondary tasks
  - Interaction with vulnerable road users (cyclists & pedestrians)
  - Truck driving
  - Eco-driving
  - Headway
  - Speeding
  - Industrial interest

The afternoon “a la carte” programme was a great way to accommodate cosy and interactive sessions on different topics. To allow each participant to learn more about topics they were particularly interested in, this element in the programme consisted of a carousel of several parallel sessions. Also, this allowed for smaller groups and more in-depth discussions. The day concluded with reflections and the views on the bright future of the project including thoughts on the data use after the project. Keynote speeches by Ann M. Brach, the Director of the Technical Activities

Division at the Transportation Research Board (TRB) and David Shinar, Professor Emeritus of Ergonomics and Human Factors Engineering at Ben Gurion University of the Negev, Israel wrapped up the succesfull day of interesting presentations.

## Appendix A – List of participants

First name	Last name	Organisation
Veneta	Vassileva	ACEM
Daisy	Beijersbergen	Achmea
Adriaan	Heino	Achmea
Toshihisa	Sato	AIST
Kevin	Liebrecht	ANWB
Robin	Maatjes	ANWB
Arjan	Rensen	Australian Road Research Board
Martin	Winkelbauer	Austrian Road Safety Board
Andrea	Leitner	AVL List GmbH
Kevin	Diependaele	Belgian Road Safety Institute
David	Shinar	Ben-Gurion University of the Negev
Lisa	Precht	BMW AG
Erik	Lubberding	Buck Consultants International
Jacqueline	Mathey	CBR
Martina	Hendrix	CBR
Jean Marc	BERSAC	CEESAR
Fabien	CROES	CEESAR
Lionel	BOULOMMIER	CEESAR
Karla	QUINTERO	CEESAR
Philippe	CHRETIEN	CEESAR
Clement	VAL	CEESAR
Dimitris	Margaritis	Centre for Research and Technology Hellas
Ales	Zaoral	Centrum Dopravniho Vyzkumu, v.v.i. CDV
Jonas	Bärgman	Chalmers University of Technology
Jordanka	Kovaceva	Chalmers University Of Technology
Erik	Svanberg	Chalmers University of Technology
Josef	Krems	Chemnitz University of Technology
Katja	Schleinitz	Chemnitz University of Technology
Maria	Kreusslein	Chemnitz University of Technology
Helen	Loeb	Children Hospital of Philadelphia
Ilse	Harms	Connecting Mobility
LUCAS	MORILLO	CTAG
Bram	Bakker	Cygnify BV
Vaclav	Jirovsky	Czech Technical University in Prague
Huib	De Ridder	Delft University of Technology
Haneen	Farah	Delft University of Technology
Dariusz	Cieslar	Delphi Poland S.A.
Fabian	Utesch	DLR
Florent	Pignal	Drust
Ana	Bakker	Dynamic Research Inc
Andrea	Hrzić	Ertico

Julie	Castermans	ERTICO - ITS Europe
Maxime	Flament	ERTICO-ITS Europe
William	Bird	European Commission
Roland	Schindhelm	Federal Highway Research Institute (BAST)
Benedikt	van den Boom	FIA
Óscar	Martín	Fundación CIDAUT
Eric	Stemmler	German Aerospace Center e.V.
Matthijs	Dicke	Goudappel Coffeng
Cäcilia	Von Lienen	Hochschule für Technik und Wirtschaft Dresden
Tsukasa	Sugino	Honda Research Institute Europe GmbH
Valentin	Nedkov	ICOM Ltd.
Helene	Tattegrain	IFSTTAR
Lars	Hergers	In Person
Miguel	Garcia Garcia	Innov+ and GIPSA-lab/Université Grenoble Alpes
Fridulv	Sagberg	Institute of Transport Economics
Rick	Schotman	Keypoint Consultancy
Anne	Guillaume	LAB
Nicolas	Bertholon	LAB Renault PSA
Laurette	Guyonvarch	LAB Renault PSA
Guido	Band	Leiden University
Evita	Papazikou	Loughborough University
Andrew	Morris	Loughborough University
Ruth	Welsh	Loughborough University
Sherif	Ishak	Louisiana State University
Edward Shinji	Otani	Mazda North American Operations
Robbert	Verweij	Ministerie van Infrastructuur en Milieu
Jude	Charlton	Monash University Accident Research Centre
Sjaan	Koppel	Monash University Accident Research Centre
George	Yannis	National Technical University of Athens
Ruben	Prins	Netherlands Enterprise Agency
Takayuki	Kondo	Nissan Motor Co., Ltd.
Ofra	Bigger	OR YAROK
Tsippy	Lotan	OR YAROK
Marco	Schreuder	Rijkswaterstaat
Paul	Schepers	Rijkswaterstaat
Tom	Alkim	Rijkswaterstaat
Michel	Lambers	Rijkswaterstaat WVL
Jacek	Malasek	Road and Bridge Research Institute
Matthias	Moerbe	Robert Bosch GmbH
Helena	Gellerman	SAFER
Etsuo	Horikawa	Saga University
Gianluca	Di Flumeri	Sapienza University of Rome
Frank	Anema	SD-Insights

Jonny	Kuo	Seeing Machines Ltd.
Angela	Baker	Shell
Peter	Van Duijvenbode	Siemens
Marjan	Hagenzieker	SWOV Institute for Road Safety Research
Ragnhild	Davidse	SWOV Institute for Road Safety Research
Mike	Schroten	SWOV Institute for Road Safety Research
Ellen	Van der Hijden	SWOV Institute for Road Safety Research
Ritwik	Swain	SWOV Institute for Road Safety Research
Peter	De Graaff	SWOV Institute for Road Safety Research
Simone	Wesseling	SWOV Institute for Road Safety Research
Rob	Eenink	SWOV Institute for Road Safety Research
Peter	van der Knaap	SWOV Institute for Road Safety Research
Nicole	Van Nes	SWOV Institute for Road Safety Research
Reinier	Jansen	SWOV Institute for Road Safety Research
Michiel	Christoph	SWOV Institute for Road Safety Research
Maura	Van Strijp - Houtenbos	SWOV Institute for Road Safety Research
Tineke	Togni	SWOV Institute for Road Safety Research
Fred	Wegman	SWOV Institute for Road Safety Research
Divera	Twisk	SWOV Institute for Road Safety Research
Alexandra	Harel	The Ran Naor Foundation
Rob	Aarse	TLN
Maartje	De Goede	TNO
Gerdien	Klunder	TNO
Lucie	Schotman	TNO
Veerle	Heijne	TNO
Marika	Hoedemaeker	TNO
Rino	Brouwer	TNO
Giancarlo	Caccia Dominioni	Toyota Motor Europe
Florent	Garnier-Follet	Toyota Motor Europe NV/SA
R.	Weijers	Transdev
Ann	Brach	Transportation Research Board
Felix	Dreger	TU Delft
Jork	Stapel	TU Delft
Bart	Van Arem	TU Delft, Civil Engineering and Geosciences,
Tibor	Petzoldt	TU Dresden
Paul	Haverkamp	TVM verzekeringen
Ernst	Verschragen	Uniresearch BV
Yvonne	Barnard	University of Leeds
Rashed	Ismaeel	University of Leeds
Oliver	Carsten	University of Leeds
Hilal	Al-Libawy	University of Liverpool
Shan	Bao	University of Michigan
Ann	Williamson	University of New South Wales
Raphael	Grzebieta	University of New South Wales

Martina	Risteska	University of Toronto
Birsen	Donmez	University of Toronto
Arie P.	Van den Beukel	University of Twente
Pedro	Valero	University of Valencia
Mohamed	Ahmed	University of Wyoming
Gildas	THIOLON	VEDECOM
Annie	BRACQUEMOND	VEDECOM
Laurent	BONIC	VEDECOM
Marilena	Di Stefano	VicRoads
Jon	Antin	Virginia Tech Transportation Institute
Suzanne	Lee	Virginia Tech Transportation Institute
Cameron	Rainey	Virginia Tech Transportation Institute
Alejandra	Medina-Flintsch	Virginia Tech Transportation Research Plaza
Fabio	Forcolin	Volvo GTT
Elham	Pirnia	Volvo GTT
Tania	Dukic Willstrand	VTI- Statens väg- och transportforskningsinstitut
Pascal	Nanninga	XLLease
Ralf	Timmers	XLLease
Ralph	De Brouwer	XLLease

## Appendix B – List of attending organisations

ACEM
Achmea
AIST
ANWB
Australian Road Research Board
Austrian Road Safety Board
AVL List GmbH
Belgian Road Safety Institute
Ben-Gurion University of the Negev
BMW AG
Buck Consultants International
CBR
CEESAR
Centre for Research and Technology Hellas
Centrum Dopravniho Vyzkumu, v.v.i. CDV
Chalmers University of Technology
Chemnitz University of Technology
Children Hospital of Philadelphia
Connecting Mobility
CTAG
Cygnify BV
Czech Technical University in Prague
Delft University of Technology
Delphi Poland S.A.
DLR
Drust
Dynamic Research Inc
Ertico
ERTICO - ITS Europe
ERTICO-ITS Europe
European Commission
Federal Highway Research Institute (BAST)
FIA
Fundación CIDAUT
German Aerospace Center e.V.
Goudappel Coffeng
Hochschule für Technik und Wirtschaft Dresden
Honda Research Institute Europe GmbH
ICOM Ltd.
IFSTTAR
In Person

Innov+ and GIPSA-lab/Université Grenoble Alpes
Institute of Transport Economics
Keypoint Consultancy
LAB
LAB Renault PSA
Leiden University
Loughborough University
Louisiana State University
Mazda North American Operations
Ministerie van Infrastructuur en Milieu
Monash University Accident Research Centre
National Technical University of Athens
Netherlands Enterprise Agency
Nissan Motor Co., Ltd.
OR YAROK
Rijkswaterstaat
Rijkswaterstaat WVL
Road and Bridge Research Institute
Robert Bosch GmbH
SAFER
Saga University
Sapienza University of Rome
SD-Insights
Seeing Machines Ltd.
Shell
Siemens
SWOV Institute for Road Safety Research
The Ran Naor Foundation
TLN
TNO
Toyota Motor Europe
Toyota Motor Europe NV/SA
Transdev
Transportation Research Board
TU Delft
TU Delft, Civil Engineering and Geosciences,
TU Dresden
TVM verzekeringen
Uniresearch BV
University of Leeds
University of Liverpool

University of Michigan
University of New South Wales
University of Toronto
University of Twente
University of Valencia
University of Wyoming
VEDECOM

VicRoads
Virginia Tech Transportation Institute
Virginia Tech Transportation Research Plaza
Volvo GTT
VTI- Statens väg- och transportforskningsinstitut
XLLease



## Appendix C – Photographs





