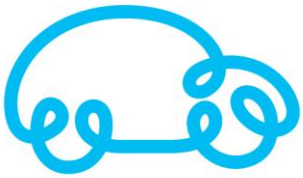
Dream-like simulation abilities for automated cars



DREAMS4CARS

Grant Agreement No. 731593

Deliverable:	D6.2 – Dissemination and communication materials
Dissemination level:	PU-Public
Delivery date:	30th June 2017
Status:	Final

Deliverable Title	Dissemination and communication materials			
WP number and title	WP6 Dissemination and number and title			
Lead Editor	Hermann Heich, Heich Consult			
Contributors				
Creation Date	15th June 2017		**Version number**	1.0
Deliverable Due Date	30th June 2017		**Actual Delivery Date**	30th June 2017
Nature of deliverable	**X**	R - Report		
		DEM – Demonstrator, pilot, prototype, plan designs		
		DEC – Websites, patents filing, press&media actions		
		O – Other – Software, technical diagram		
Dissemination Level/ Audience	**x**	PU – Public, fully open		
		CO - Confidential, restricted under conditions set out in MGA		
		CI – Classified, information as referred to in Commission Decision 2001/844/EC		

Version	Date	Modified by	Comments
0.9	15th June 2017	Hermann Heich	Draft text and annexes
1.0	27th June 2017	Hermann Heich	Final version with screenshots

Executive Summary

This deliverable 6.2 provides all Dissemination and Communication materials in line with the guidance provided in D6.1 Dissemination and Communication Plan. These materials are needed to support the dissemination and communication activities. This first revision of D6.2 comprises the materials that were ready as of Month 6 of the project lifetime. The deliverable will be updated as additional material becomes available.

Table of Contents

1 Dissemination and Communication Materials

During the first six month of the project a limited number of materials have been prepared.

Annex 1 shows the Dreams4Cars Brochure that introduces the objectives and approach of the project

Annex 2 contains some screenshot of a Dreams4Cars movie that aims to raise interest among non-scientific target group. This Video is part of the project website www.dreams4cars.eu and is available as stand-alone file.

Not covered by this deliverable is the project website which is described in deliverable 6.3

As the project develops additional materials will be prepared. This might be Posters, Roll-ups, fact sheets covering dedicated themes and parts of the project.

Annex 1 – Dreams4Cars Borchure

DREAMS4CARS

www.dreams4cars.eu
info@dreams4cars.com

Partners

The consortium is multidisciplinary with a good balance of the competencies that are needed for the project. Partners complement each other, and together cover the project needs. Each partner brings international level expertise to its assigned tasks.

The partnership comprises seven partners from five countries (Italy, Sweden, United Kingdom and Germany) comprising Four 4 universities, which covers the research and development of the artificial driver.

UNIVERSITY OF TRENTO - Italy

UNITN has expertise in the design of driver assistance systems, developed the co-driver idea for the EU FP7 interactIVe project and is specialized in Optimal Control.

UNIVERSITY OF SKÖVDE

HiS has significant expertise in cognitive robotics, in particular with models and automation.

Middlesex University

MU's background is on Perception-Action (PA) hierarchies, and how these can be produced from first principles.

The University Of Sheffield.

USFD's background is on layered control architecture with action selection in humans and robots, and also on the modelling of forward emulators in the cerebellum.

Deutsches Forschungszentrum für Künstliche Intelligenz GmbH

DFKI plays the key role of linking research to applications. This group will provide the means and infrastructure for the training phase of the artificial driver, providing flexible research grade vehicles and a test site.

CRF CENTRO RICERCHE FIAT

CRF assesses that the simulation technology developed in Dreams4Cars is exploitable and demonstrates with a real vehicle the achievement of TRL 6. CRF also leads the Product Quality Assurance of the artificial driver.

HighConsult

Consulting - Research - Project Management

HC has a track record in EU-Project management, dissemination and communication and acts as technical- and dissemination manager.

As a true European Project Dreams4Cars is eager to liaise with interested parties from the automotive and robotics community. To get in contact please write an email to info@dreams4cars.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731593.

DREAMS4CARS

The future of traffic shall be automated, connected and clean. Autonomous driving shall improve safety by significantly reducing accidents, and shall also improve traffic coordination and flow for a more efficient and cleaner transport system. Beyond the societal impacts, autonomous driving is also a major economic factor for Europe.

Aim

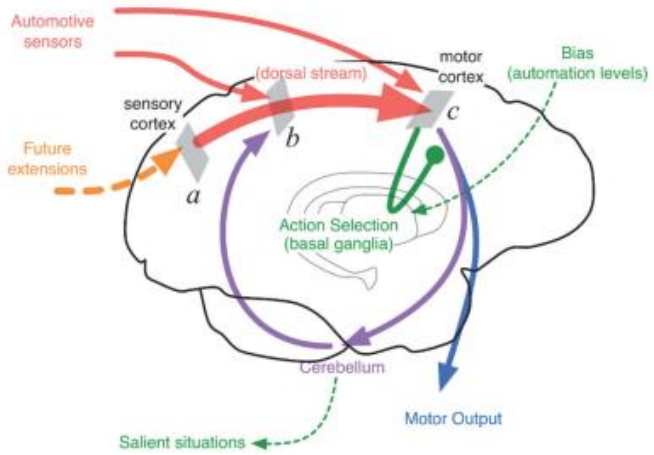
Dreams4Cars will develop an artificial driving agent with a bio-inspired sensorimotor architecture. Like humans in the wake state, the agent will note novel and salient situations while driving and build these scenarios into its own model of the world. Like humans in the dream state, the agent will then rehearse salient driving scenarios offline, develop imaginary variations of actions, and learn to act in these scenarios in a way that optimizes safety and efficiency.

The dream-like technology developed by Dreams4Cars will be a step change in cognition abilities of agents for automated driving. Dreams4Cars will provide a mechanism to discover critical situations and optimize the vehicle control, contributing to the achievement of the high levels of reliability required for market introduction.

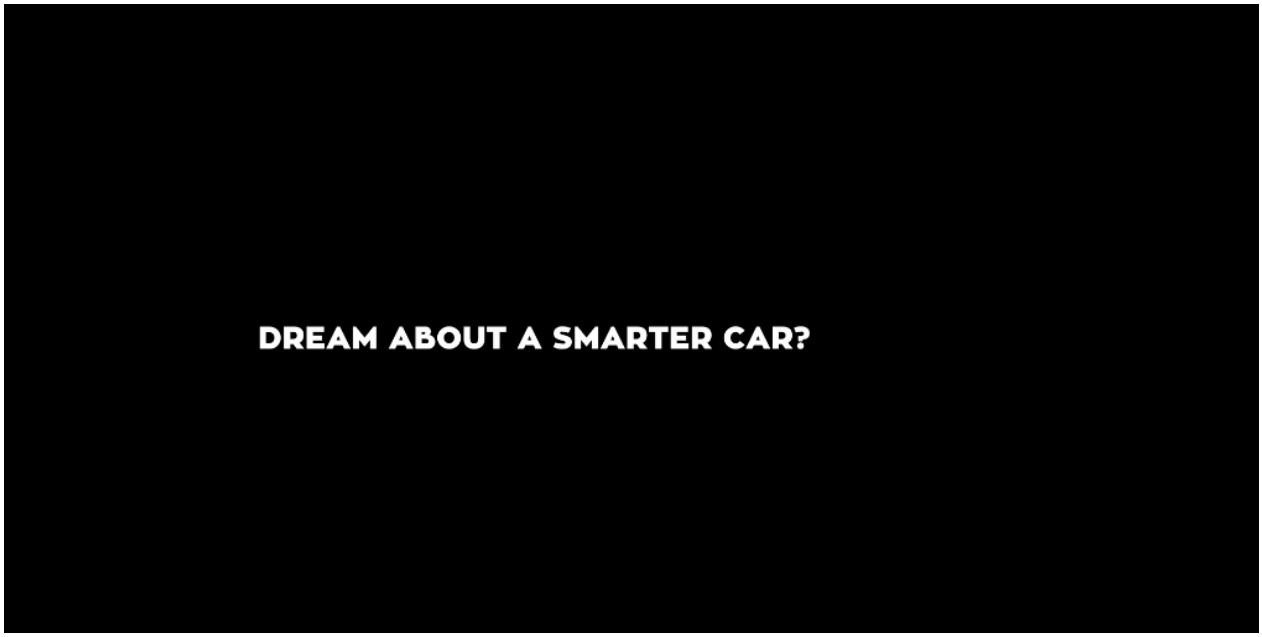
While human drivers make, on average, one fatal accident every 100 million driven miles, automated vehicles will have to significantly outperform this figure. Automated vehicles should produce optimized behaviors in all the rare nuanced situations that may happen in billions of miles.

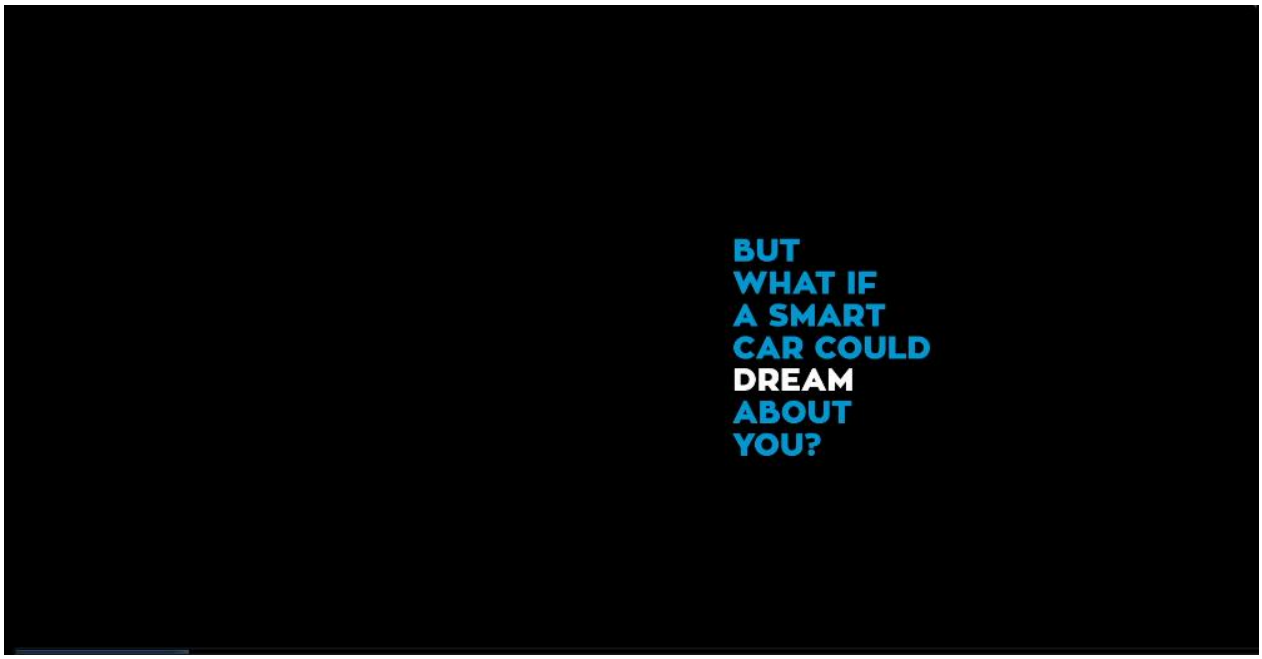
Proving the safety of driverless cars is a challenging task, but even more challenging is discovering and optimizing vehicle control for all the situations that may happen in real world driving.

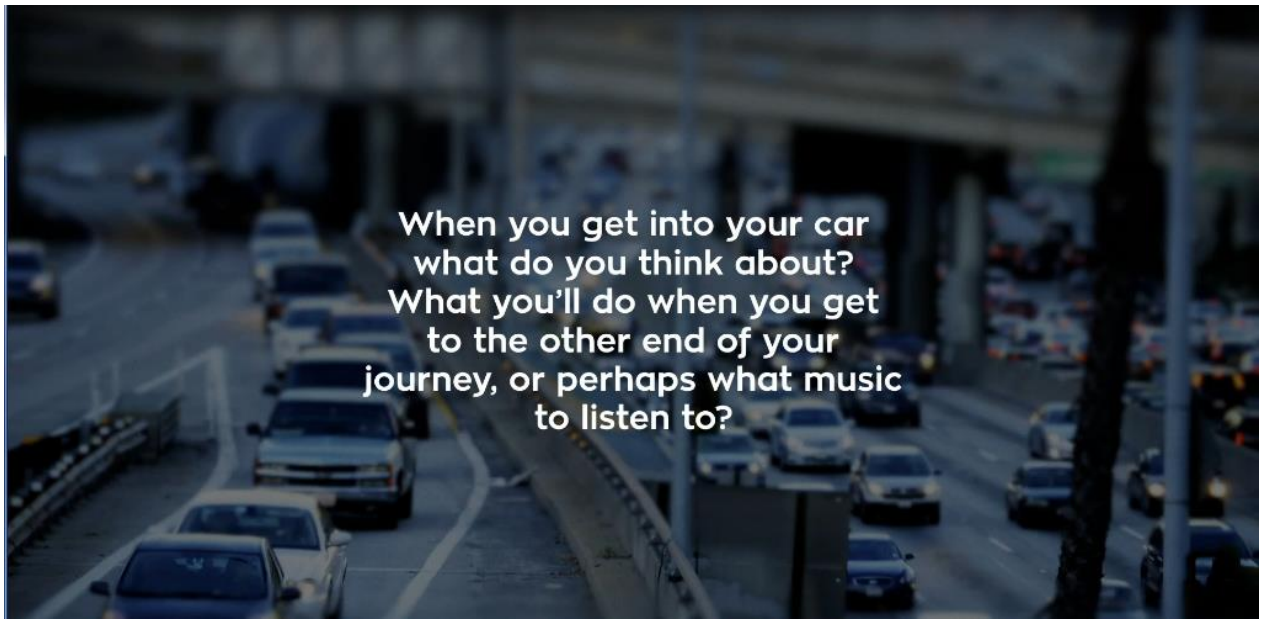
The Agent architecture follows the main loops of the human sensorimotor system. It has a layered control architecture (the dorsal stream) that instantiates affordance from the input of off-the-shelf automotive sensors; the agent has an action selection mechanism enabling adaptive behavior, as well as mechanisms to learn forward models that are used for detecting novelty online, and discovering and optimizing behaviors offline.

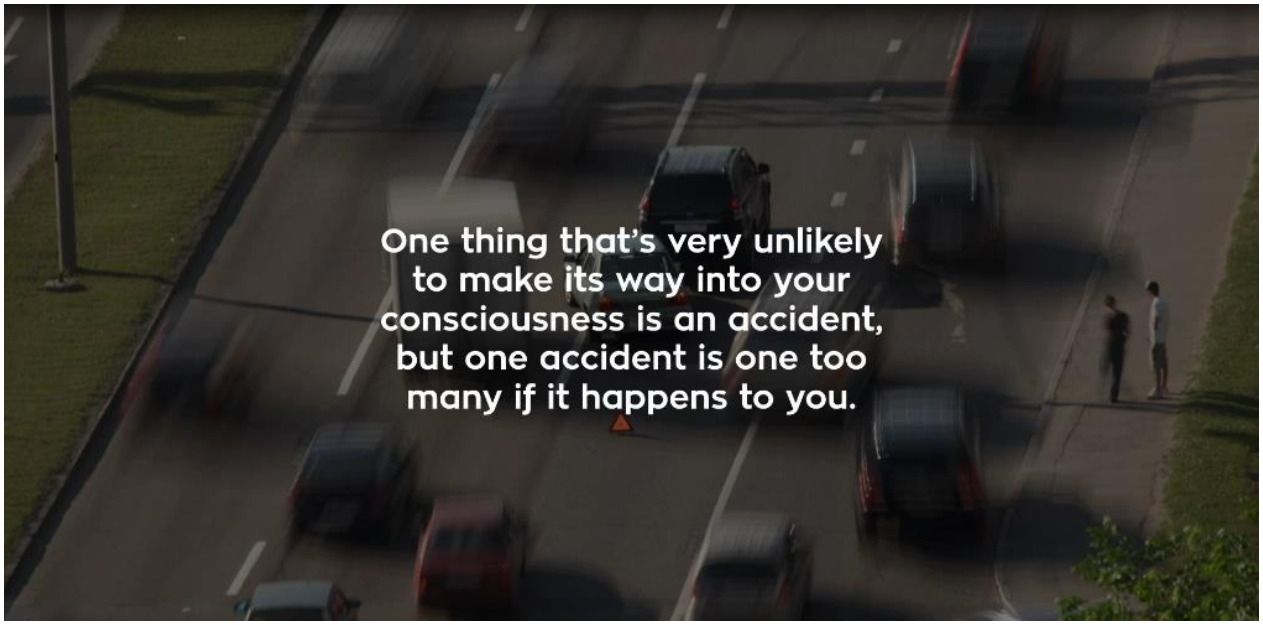


Annex 2 – Dreams4Cars Video (selected sequences)

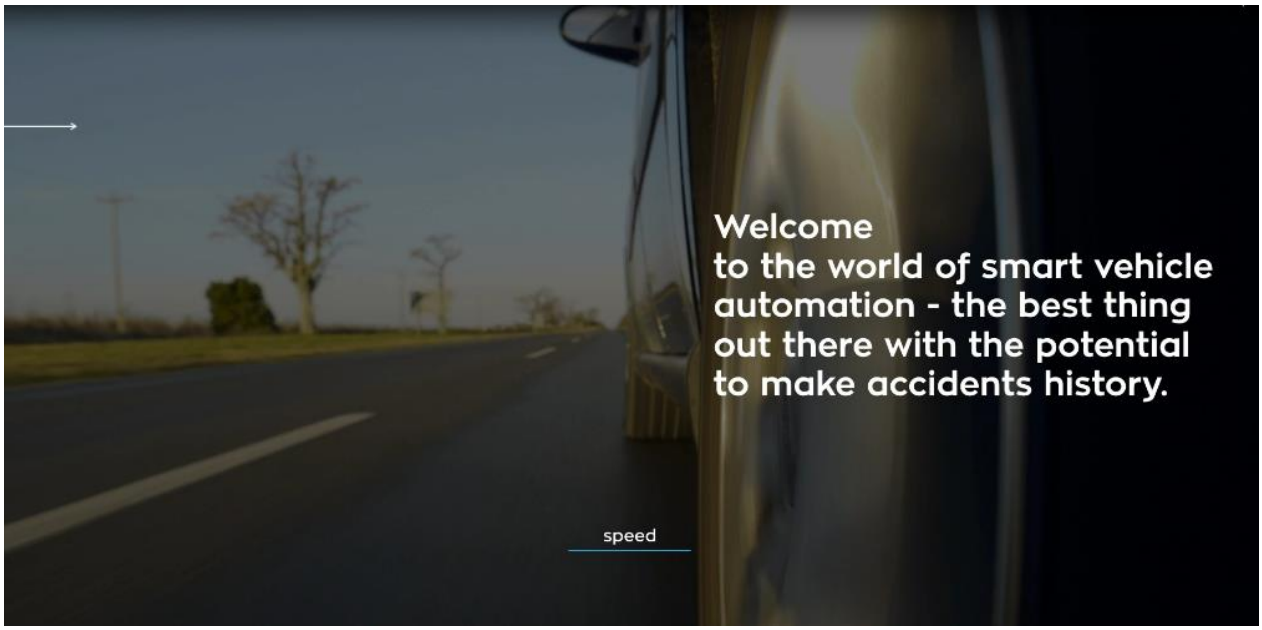





When you get into your car
what do you think about?
What you'll do when you get
to the other end of your
journey, or perhaps what music
to listen to?


One thing that's very unlikely
to make its way into your
consciousness is an accident,
but one accident is one too
many if it happens to you.


However, what traffic regulations
fail to prevent, technology's
resources are now beginning
to take on.


Welcome
to the world of smart vehicle
automation - the best thing
out there with the potential
to make accidents history.
speed