

News letter

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VRA is a support action funded by the European Union under the Seventh Framework Programme.

Editorial

Dear Readers,

I'm happy to present the third newsletter of the Vehicle and Road Automation (VRA) support action. The project successfully completed its second period of activity, continuing to raise interest among European and international stakeholders as interface between different research and stakeholder's communities.

More than 45 Associated Partners (research centres, public authorities, car manufactures and cities) expressed their willingness to participate to the VRA activities. VRA has created bridges with several on-going European projects (such as Companion, iGame, Autonet 2030, CityMobil2) in order to foster cooperation between the EC funded projects, national and international activities on the topic of vehicle and road automation.

In the past months, several initiatives have been organised to support this collaboration at European and international level. One of the events that received more attention was the ITS European Congress in Glasgow, where Automated Road Transport had a stand in the exhibition and several sessions dedicated to the topic.

I invite you to have a look at the short report provided in this newsletter and on the [VRA website library](#) to access the presentations!

VRA was very active also at international level, supporting the trilateral EU-US-Japan Automation in Road Transport Working Group. A successful meeting was held prior to the TRA Conference in Warsaw, in April and in San Francisco, in July.

VRA will be actively supporting the 23rd ITS World Congress (Melbourne, October 2016) organising several Special Interest Sessions on Automation. Some of the topics highlighted include challenges and achievements of international collaboration, digital infrastructure, trilateral collaboration and certification. To receive all the updates we invite you to subscribe to the VRA mailing list on the [VRA website homepage](#).

In this issue of the Newsletter, we provide a short summary of the VRA achievements of the past months followed by an overview of the various ongoing activities on the topic of automation.



Enjoy your reading!

Myriam Coulon-Cantuer
European Commission –
DG CONNECT – UNIT H2
VRA Project Officer

Read about Automation at the ITS
World Congress in Melbourne on
page 3



Trilateral EU-US-Japan WG on Automation in Road Transportation

The mission of the Trilateral EU-US-Japan WG on automation is to exchange regional information to address, develop and disseminate relevant documentation, and monitor needs for harmonization and standardization. Several meetings were held in 2016. (*More information on page 7*)



CityMobil2

After nearly four years of demonstrating fully automated road transport systems across Europe, the CityMobil2 partners shared the project results and their thoughts on the future deployment of these systems at a final event that took place in Donostia / San Sebastian (Spain) on 1st and 2nd June 2016. (*Continued on page 8*)

VRA Achievements

VRA, Support Action for Vehicle and Road Automation, successfully organised its second Periodic Review at the beginning of November 2015 after 27 months of activity.

During the second period of activity a total of 26 networking, concertation and coordination meetings have been organised (18 European and 8 international ones) actively contributing to the exchange of information with international partners, in particular USA and Japan.

The public deliverables released during this second period are available in the [VRA Website Library](#).

They include a detailed summary on the networking activities and a report on the activities of several Working Groups working on the following topics: deployment needs; regulation; certification and standardisation; connectivity;

human factors; evaluation of benefits; digital infrastructure; decision and control algorithms.

The following associated partners have been included in the VRA Consortium as beneficiaries:

- 1) DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV (DLR) - Germany
- 2) TRL LIMITED (TRL) – United Kingdom
- 3) RHEINISCH WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN (IKA) - Germany



VRA Website Library
Deliverables

VRA Networking Activities

The VRA network is based on the interaction with:

- EU funded projects on Vehicle and Road Automation (see updates at the end of this Newsletter)
- The already established network and activity of the iMobility Forum Automation Working Group
- The activity and network of the Trilateral EU-US-JAPAN Working Group on Automation in Road Transportation in the framework of the EU-US-JAPAN ITS Cooperation.

The VRA partners met on January 2016 in Brussels to discuss the different ongoing projects in the EU and how to connect their results. The harmonization and complementarity inputs from sub-working groups and their contribution to European projects as well as the areas of future cooperation were also discussed.

Several VRA partners participated to the TRA Transport Research Arena 2016 that took place in Warsaw under the theme “Moving Forward: Innovative Solutions for Tomorrow’s Mobility”. The event gathered the different stakeholders of the transport research community: researchers, experts, operators, industry and policy-makers.

Some of the VRA partners participated in the Trilateral meeting in 17/04/2016 which took place in Warsaw, before the TRA conference. Topics for cooperation were discussed including impact assessments, digital infrastructure, human factors, road worthiness and cyber security.

VRA also participated at the ITS European Congress in Glasgow, organized by ERTICO-ITS Europe. The team supported several activities that took place during the Congress among various topics related to automation including stakeholder workshops and special interests sessions. See detailed report on page 4.



Above: Trilateral EU-US-JPN ART WG meeting in April 2016

VRA participated to the **2nd SIP-Adus Workshop** on Connected and Automated Vehicle that was held in Tokyo (27-28/10/2015) where the discussion included technologies, human factors, legal issues, and integrated applications of automated driving technologies, such as reduction of traffic injuries and next generation transportation services.

All the information on the mentioned meetings and workshops are available on the [VRA Website Library](#).



VRA Website Library

Several VRA partners will participate in the **3rd SIP-Adus Workshop** on Connected and Automated Vehicle that will be taking place in Tokyo (27-28/10/2016).

More details on this event are available on the [VRA Website Event](#)

New Associated Partners

The following Associated Partners have recently joined VRA in the last months:



OECD- International Transport Forum recently reported on modelling of urban impacts and on regulatory issues relating to vehicle automation. Next year it will organise a Roundtable meeting on the issue.



Drive Sweden is initiated and funded by the Swedish government to coordinate and stimulate research and deployment of automated road transport systems, and gathers all relevant stakeholders in Sweden.



DICeA – Dipartimento di Ingegneria Civile e Ambientale of the University of Florence (UNIFI) is currently working on automated road transport system design, prototyping,

urban integration, demonstration and evaluation.

All the VRA associated partners are listed on the [VRA website Partners](#) page.



VRA Website Partners



Automation at the ITS World Congress in Melbourne

One of the hottest topics in ITS today is automated vehicles and their role in the transport ecosystem. VRA will be hosting several sessions at this year's ITS World Congress in Melbourne focusing on the challenges and achievements of international collaboration in a variety of topics from digital infrastructure through trilateral collaboration to certification.

SIS 26 - Digital Infrastructure for Automated Vehicles: challenges and international collaboration

Wednesday 12 October 2016 (1400 – 1530 AEST)

The focus of the session will be on how to create a Digital Infrastructure framework between public authorities and map providers including governance, role and responsibilities, roadmap towards a digital infrastructure and regulations. The issue of impact, benefits and investment shifts will also be considered in the discussion.



ITS World Congress Melbourne

SIS 32 - Tri-lateral Automation in Road Transportation WG: achievements and next challenges

Wednesday 12 October 2016 (1600 – 1730 AEST)

This session will showcase the activities of the tri-lateral automation working group discussing topics of accessible transportation, digital infrastructure, human factors and roadworthiness testing. Relevant representatives will provide presentations highlighting their point of view and the common conclusions will be drafted considering the achieved results.

SIS 46 - Certification of automated road vehicles: challenges ahead

Thursday 13 October 2016 (1400 – 1530 AEST)

The challenges for the certification of automated road vehicles will be presented, focusing on both operational and infrastructural constraints and requirements along with the system versus device-level testing/certification, while the benefits of a global testing framework will be illustrated.

For more details have a look at [VRA @ ITS WC 2016](#).



VRA Website Events

Future Relevant Events

- 21-22/09/2016 EU EIP 4.2 workshop on Automated Driving and ITS -DGT Servicios Centrales de Dirección General de Tráfico (Madrid, Spain)
- 10-14/10/2016 23rd ITS World Conference 2016 (Melbourne, Australia)
- 27/10/2016 Autonet 2030 Final Event (Sandhult, Sweden)
- 14-15/09/2016 COMPANION Final Project Conference (Santa Oliva, Spain)

- 15-17/11/2016 3rd SIP-ADUS Workshop on Connected and Automated Driving Systems (Tokyo, Japan)
- 19-22/06/2017 12th ITS European Congress, Strasbourg Convention Exhibition Centre (Strasbourg, France)

All the relevant events are updated on the [VRA website Events](#).

Webinars

In the past months, VRA organised several webinars on topics related to automation.

VRA Webinar – 7: “Vehicle Automation: Challenges and Opportunities for Cities”



Vehicle Automation:
Challenges and
Opportunities
for Cities

Under the theme “Vehicle Automation: Challenges and Opportunities for Cities”, this Webinar discussed cities’ experiences on deployment of automated vehicles with a particular focus on challenges and opportunities

Research work has been carried out to develop and demonstrate the concept of autonomous vehicles. In the EU, as part of the framework of EC co-funded cooperative project this topic has been promoted since the 1980 with large-scale projects. The concept of fully automated vehicles has been explored, ranging from private vehicles through buses to Heavy Goods Vehicles (HGV) and other specific vehicles. But, why have these technologies not taken off ‘in the real world’ yet?

Many demonstrations of these technologies have been carried out proving their effectiveness. More recently Google developed a self-driving car and aims to market it as a consumer product for the general public. In 2015, the UK government launched a large scale demonstration of driverless cars in a number of British cities. Despite these efforts, the exploitation of these technologies and their integration into urban transport schemes remains a challenge.

This webinar reflected upon the challenges cities need to tackle when deploying automated vehicles, and the mechanism by which they might face these challenges.

This webinar focused particularly on driver state assessment.

VRA webinar 8 – “Traffic Management in the Era of Vehicle Automation and Communication Systems (VACS)”



Traffic Management
in the Era of Vehicle
Automation and
Communication
Systems (VACS)

Traffic congestion on urban road and motorway networks has a strong economic and social impact. A significant and growing interdisciplinary effort by the automotive industry has been devoted in the last decades to planning, development, testing and deployment of a variety of Vehicle Automation and Communication Systems (VACS) that are expected to revolutionise the features and capabilities of individual vehicles. If exploited appropriately, the emerging VACS may enable sensible novel traffic

management actions aiming at mitigating traffic congestion and its detrimental implications.



Glasgow, Scotland | 6-9 June 2016

VRA at the ITS Glasgow European Congress

VRA supported several activities during the 2016 ITS European Congress held in Glasgow, 6-9 June on various topics related to automation including stakeholder workshops and special interests sessions. Below, you will find a short summary of the key sessions the project has initiated or participated in.

SIS 36 - Digital Infrastructure for Automated Vehicles

Digital Infrastructure indicates the static and dynamic digital representation of the physical world with which the automated vehicle will interact to operate. Find out about the framework of creating a digital infrastructure between public authorities and map providers including governance, role and responsibilities, and roadmap towards a digital infrastructure and regulations.

SIS 41 - Vehicular connectivity and challenges in the era of automation

Dedicated to the latest developments of connected automation and the challenges awaiting to be tackled, the session discussed the ongoing standardization activities in the field of connected automation, and the needed extensions to accommodate for the needs of automated vehicles.

SW6 – Stakeholder Workshop Standardisation and certification for automated vehicles.

The workshop focused on current drivers of standardisation in automation along with discussing the expected needs in the short and long term. In addition, certification procedures for European Member states who currently allow driverless vehicles on public roads were assessed.



11th ITS European
Congress, Glasgow

WIKI

The **VRA Wiki** offers a catalogue of all national, European and international activities concerning vehicle and road automation providing in-depth information and contact details in order to keep the stakeholders informed of the past, current and future initiatives and experiences.

During the last period of activity, the content of the VRA Wiki have been enriched and integrated thanks to the contribution of several partners. Building the catalogue in the form of a Wiki makes it a collaborative effort, easily accessible by the community and ensures it is possible to gather a large number of information considering that the aim is to deliver a catalogue of the vehicle and road automation worldwide that is as complete as possible. Further it ensures that the catalogue is dynamic and can be constantly updated when information become available (as opposed to a static offline deliverable that becomes rapidly outdated). A community of people, who feel the need to not only write articles, but also correct, and in many cases argue, constantly enhancing

the quality and completeness of articles, is clearly the main lever of the concept behind the success of Wikis such as Wikipedia.

Members of the community should feel the need to have free access to information from the community, and feel the responsibility for the quality of this information. This is what the VRA team wants to achieve with the Wiki in the VRA project.

Different sections (Testing Scenarios, Glossary, Level of Automation, etc...) are currently available for organising the articles of the Wiki and others are planned to be integrated in the coming months.

The following projects have been included in the past months: Cloud-LSVA, inLane, SCOUT, RobustSENSE, PEGASUS or UP-Drive between others, and information on published projects was updated.



VRA Wiki

Left: Wiki main page



Right: VRA catalogue

Highlights on National Projects

Gateway (UK)

The GATEway project, led by TRL in the UK and part-funded by the UK Government, has announced which vehicles are to be used for one of the three public trials of automated vehicles to be undertaken in Greenwich, London. A consortium consisting of Westfield Sportscars; Heathrow Enterprises and Oxbotica will deliver adapted versions of the automated pods that, since 2011, have been in operation between the business car park and Terminal 5 at London's Heathrow international airport where they run on dedicated infrastructure.



Above: Vehicles in use at Heathrow airport to be used in the GATEway project.

The adaptations for the GATEway project will see the vehicles fitted with the mobile perception, autonomy and navigation capabilities from Oxbotica, a spin-off company from the University of Oxford's internationally acclaimed Mobile Robotics Group. This will enable the vehicles to drive safely in a fully automated manner on the streets of Greenwich without the need for dedicated infrastructure.



Gateway website

The routes upon which the vehicles will operate for the trials are to be finalised but the primary testing site will be the Greenwich peninsula, in the heart of London and home to the O2 Arena, which will commence in summer 2016. First there will be a period of formal testing where participants from a range of different demographic groups will be invited to take

a journey on the vehicle and their pre- and post-trip opinions will be recorded to understand how the system meets their needs. In the second informal testing period where any member of the public can use the vehicle and adaptation to their use can be assessed. The other two trials within the project will be autonomous valet parking and a demonstration of automated vehicle for goods delivery.



UK Autodrive (UK)



UK Autodrive is the largest of three separate consortia that are currently trialling automated vehicle technology as part of the government's "Introducing driverless cars to UK roads" competition launched to support the introduction of self-driving vehicles into the UK.

UK Autodrive brings together leading technology and automotive businesses, forward thinking local authorities and academic institutions to deliver a major three-year UK trial of autonomous and connected vehicle technologies.



Autodrive

Other related national initiatives and projects

Drive Me: A large-scale autonomous driving pilot project in which 100 self-driving Volvo cars will use public roads in everyday driving conditions is scheduled to start in 2017 in Gothenburg, Sweden. Visit the [official project website](#).

PEGASUS: The project was recently launched with the aim of establishing generally accepted quality criteria, tools and methods as well as scenarios and situations for the release of highly automated driving functions.

www.pegasus-projekt.info

12th ITS EUROPEAN CONGRESS
ITS BEYOND BORDERS
Strasbourg, France | 19-22 June 2017

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International Cooperation Activities

Tri-Lateral EU-US-JP Automation in Road Transportation Working Group

The Tri-Lateral EU-US-JP Automation in Road Transportation Working Group, consists of representatives of the European Commission Directorate-General for Communication Networks, Content and Technology, Smart Cities and Sustainability (DG-CONNECT), the United States Department of Transportation (USDOT) and the Road Bureau of Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

The mission of the ART WG is to:

- exchange regional information so that all parties stay up to date with one another's research programs and policy developments
- address vehicle and road transport automation issues that apply to the public authorities in relation to all stakeholders
- develop and disseminate proceedings or reports that advance understanding of the impact, policy, and operational issues of increasingly automated vehicles
- monitor needs for harmonization and standardization in order to support international developments and deployment.

The working group is focused on connected automation as a mean of achieving maximum benefits in safety, mobility and environmental impacts.

Meeting 14 January 2016

A Trilateral EU-US-JPN ART WG meeting was held in Washington DC, USA, on 14 January 2016. Over 30 attendees representing US, Japan, and EU viewpoints participated.

Maxime Flament, representing the European side gave a short overview of activities prioritized by the European Union. Kevin Dopart, from US DOT gave a brief overview on activities in the US. One of the highlights was the Smart City Challenge launched in December. Hajime Amano, Japan, provided a short summary of the most recent SIP-adus workshop held in October.

Extensive discussions were held on the various co-operation areas such as impact assessment and digital infrastructure.

Meeting 17 April 2016

The Trilateral WG on Automation in Road Transport (ART) met in the spring of 2016 on 17 April, prior to the TRA conference taking place in Warsaw.

The meeting started off with updates from the three regions: Japan focusing on SIP-adus activities from the prior year and plans for the current one; US giving a brief update on projects and information updates from the NHTSA and Europe presenting progress in EU-projects, the Dutch EU presidency, and updates from a handful of member states. The afternoon session gave place to more interactive

discussion on topics for cooperation such as: impact assessment, digital infrastructure, human factors, road worthiness and cyber security.

The activity of the Trilateral Working will continue mainly on the following areas of cooperation:

- **Impact assessment**
to establish a unified list of potential direct and indirect socio-economic impacts and share efforts in an attempt of quantifying them
- **Digital infrastructure:**
to identify the role of digital maps for automation
- **Human factors:**
to identify solutions for driver and other road user interactions
- **Roadworthiness Testing:**
to define the necessary or appropriate tests required to allow the safe and reliable operation of automated vehicles on public roads
- **Connectivity (V2V / V2I / I2V):**
to identify additional requirements on C-ITS

Meeting 22 July 2016

The Trilateral WG on Automation in Road Transport (ART) met in the summer of 2016 on 22 July following the **Automated Vehicles Symposium** ([learn more](#) about the event) that took place in San Francisco. Read about the details of the meeting [here](#).

Recently launched EU funded projects

The following projects on the topic of vehicle automation have been recently initiated under the call MG -3.6 2015.

SCOUT

(Safe and Connected Automation in Road Transport)
The project aims to identify pathways for an accelerated proliferation of safe and connected high-degree automated driving, taking into account user needs expectations, technical gaps and risks while helping the automotive, telecommunication and digital sectors to follow a common roadmap.

AutoMate

(Automation as accepted and trustful teammate to enhance traffic safety and efficiency).

MAVEN

(Managing Automated Vehicles Enhances Network):
The project will develop infrastructure-assisted platoon organization and negotiation algorithms.

ADASANDME

(Adaptive ADAS to support incapacitated drivers mitigate effectively risks through tailor made HMI under automation).

VI-DAS

(Vision Inspired driver assistance systems).

More information on the [VRA Wiki](#) (see page 5)



CityMobil 2

Trikala Demonstration

As a site of a large demonstration, a fleet of six Robosoft vehicles was launched in the Greek city of Trikala, serving a route of 2.5 km which was integrated in the main city road network. Over the summer of 2015, the city authorities prepared their city to the demonstration by constructing a dedicated newly-asphalted lane, installing a control centre and finalising technical details for the demonstration that took place between September 2015 and January 2016.



CityMobil in Trikala large-scale demonstration.



Final Event

After nearly four years of demonstrating fully automated road transport systems across Europe, the CityMobil2 partners shared the projects results and their thoughts about the future deployment of these systems in a final event that took place in Donostia/San Sebastian (Spain) on 1st and 2nd June 2016. People from the ITS and automated driving scene were invited to attend the conference where they had the opportunity to learn about the final project results, to discuss and debate with CityMobil2 partners, and to visit the last CityMobil2 demonstration site in Donostia/San Sebastian.



Above: CityMobil2 at the final event demonstration, Miramon Technology park of Donostia/San Sebastian

The CityMobil2 solution was also demonstrated during a showcase at the Transport Research Arena (TRA) conference which took place in Warsaw from 18th to 21st April 2016. Presentations on the project results were also given at the TRA Conference.

Additional information on the current activities is available on the [CityMobil2 website](#).



Above: CityMobil2 at the final event demonstration, Miramon Technology park of Donostia/San Sebastian



City Mobil 2 website





AdaptiVe

In the second year of AdaptiVe the focus was on the development of the demonstrator vehicles. In the first half of 2016 the equipment of the demonstrator vehicles was completed. In the second half, the tests for the evaluation of the functions will start based on the plans prepared by the "Evaluation" subproject.



Above: Volkswagen Demonstrator vehicle at the EUCAR conference

The AdaptiVe subproject "Human Factors" carried out a number of experiments in vehicle simulator environments. To date, six different experiments have been carried out covering various topics. In total more than 150 people participated in the first

round of simulator studies. Around 2000 people answered an online survey and 10 people attended a qualitative focus group organized by Ford.



Above: Timeline in AdaptiVe

On April 21st and 22nd AdaptiVe organized an intermediate technical workshop in Athens, Greece focusing on automation related technical aspects with internal and external experts. 110 experts joined the "Developing Automated Driving" workshop, where the latest developments in sensor technologies and advanced sensor fusion, automated applications and human factors were presented and discussed.

The information here reported are available on the [AdaptiVe website](#).



AdaptiVe official website

COMPANION



The focus of the COMPANION project during last year has been on system integration. The main objective was to demonstrate that two transport assignments can be registered into the COMPANION off-board system, optimizing the routes and speed profiles of the associated trucks in order for them to merge, platoon, split and arrive on time at their final destination.

This was demonstrated around the area of Södertälje, Sweden on the 13th of October. The assignments were driven 3 times, the



Above: Companion Vehicles

first time without any deviations. The second time with a short "unplanned" stop in order for the system to report the deviation, do a recalculation of the assignments resulting in new speed profiles still enabling the vehicles to merge at the planned merging point and still arrive on time. The third time the "unplanned" stop was longer making it impossible to merge at the planned merging point and the vehicles had to continue on their own. The vehicle without the deviation would arrive on time but the vehicle with the deviation would not.

During this last period, 6 deliverables were published. Two of them concerned the architecture and well defined interfaces for all the components of the system and how they should interact. Two deliverables were the result of the evaluation of the on-board system and the off-board system respectively evaluated at Applus+ IDIADA proving ground. The results from these tests show that platooning with 2 vehicles at 80km/h results in 8% of saved fuel regardless of the distance between them. On the other hand, platooning with 3 vehicles at 80 km/h allows the second vehicle to save almost 10% of fuel at a distance of 12 meters and the third will save up to 7.2 % at 20 meters. The evaluation of the off-board system was done via a simulation environment.

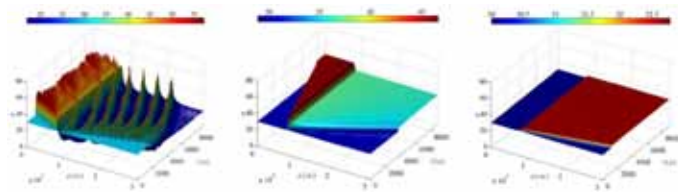
A data-driven fuel consumption model affecting the overall cost of the transportations was implemented. Computational Fluid Dynamics (CFD) simulations were carried out to predict the aerodynamic resistance of heavy vehicles. All the deliverables are public and available on the [project website](#).



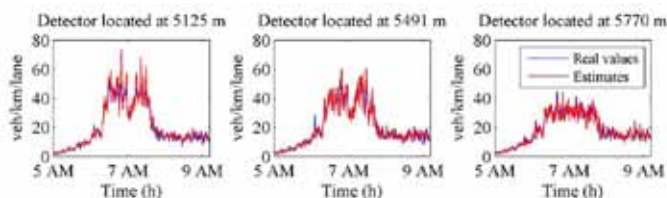
COMPANION official website

TRAMAN21

TRAMAN21 (Traffic Management for the 21st Century) is an ERC Advanced Investigator Grant hosted by the Technical University of Crete, Chania, Greece, and running over 2013-2018. The project's main objective is to develop fundamental concepts and tools towards a new era of future motorway traffic management research and practice, which is indispensable in order to accompany, complement and exploit the evolving deployment of VACS (Vehicle Automation and Communication Systems).



Above: Macroscopic simulation of traffic flow (spatio-temporal evolution of traffic density) to assess the impact of vehicle automation on traffic flow. Left: manual cars. Middle: ACC equipped cars. Right: CACC-equipped cars]



Above: Results of real-time estimation of traffic density using speed information from connected vehicles

During the last 3 years, TRAMAN21 has been producing a number of significant relevant results, including:

- An extensive review has established the set of VACS features relevant from a motorway traffic management perspective
- Microscopic, multi-lane and macroscopic traffic flow models and software tools, which enable the assessment of the impact of VACS
- Various traffic management architectures exploit the novel opportunities offered by the presence of connected and automated vehicles
- Efficient traffic state estimation schemes based on connected vehicles, which minimise the need for conventional traffic detectors
- A variety of control strategies and algorithms at different levels: Vehicle-based, bottleneck-based, network-wide. The developed strategies exploit the new communication channels and vehicle-based actuators offered by VACS
- Field demonstration of a local control system, using conventional VSL signs that mimic individual speed commands under VACS. The field test is in its implementation phase at the M80 motorway in Melbourne, Australia.



TRAMAN21
official website

AutoNet 2030

AutoNet2030, the EU-funded research project on co-operative automated driving has recently concluded the implementation work (WP4) and now invests more efforts towards the validation (WP5) of both the developed components and their successful vehicle integration. Along this line the most recent updates come essentially from an integration session in the CRF facilities at Trento:



- Work on the interface between the convoy-based controller and a motion-planning middleware both to be integrated into the AutoNet2030 Maneuver Controller
- A number of sensors of each prototype vehicle has been integrated into the AutoNet2030 perception system and tested from a functional viewpoint on the road
- Communication hardware has been integrated into the prototypes and verified in terms of sending CAM messages.

Moreover, the consortium has shown intensive interaction with a SME that has offered the use of a SW tool to verify and visualize AutoNet2030 V2X communications and therefore increase the project's expected impact.



Above: Autonet fiat 500 car

In terms of liaison with other research projects a recent development relates to the AdaptIVe project. HITACHI has proposed a CAM-message extension to be used in the AutoNet2030 communication stack. Lately, CRF, a common partner in both consortia, has accepted the extension and will use it in their vehicle offered to the AdaptIVe project.

Further work was carried-out in the recent spring testing sessions that seek to validate the AutoNet2030 system towards the open final event scheduled for 27 October 2016 at the AstaZero test-track in Sweden.

More information on the official website: www.autonet.eu

i-GAME



The Grand Cooperative Driving Challenge 2016

was one of the highlights of i-GAME, a European research project, which takes cooperative automation of vehicles to the next level and help speeding-up real-life implementation.

The GCDC 2016, which took place 28-29 May, was an innovative and competitive demo event on the A270 highway between Helmond and Eindhoven, in which 10-15 teams competed for the best combination of vehicle automation and vehicle-to-vehicle and vehicle-to-infrastructure communication.

The results of the i-GAME research project were made available to the teams so that they can be demonstrated, according to three scenarios: merging vehicles or joining a line of vehicles, known as platoons, automated crossing and exiting a junction and automated space-making for emergency vehicles in a traffic jam (not part of the competition).

Apart from the communication technology itself, it is the application in the vehicles that is key to enabling good manoeuvrability through automated acceleration, braking and steering.

GCDC 2016 Public Day- Saturday 28 May

At this event, organised for the general public, experts from TNO, Eindhoven University of Technology and ANWB informed the public to make them more aware of the benefits of cooperative driving.

Mobility experts day, Sunday 29 May 2016, Automotive Campus Helmond

Sunday, 29 May was mainly focused on mobility experts, (international) invitees, students and press. A special programme was compiled including a series of automated driving demos, a live GCDC demo on the A270, a tour around the Automotive Campus and an awards ceremony.

International Congress, Monday 30 May 2016, Eindhoven University of Technology

The International congress on Monday, 30 May focused on presenting and disseminating the scientific and technological results of the i-GAME project, embedded in a comprehensive programme of adjoining topics. On Tuesday 31 May, a masterclass for automotive and technology students was also organized.



Above: iGame tests in Helmond

For more info visit www.gcdc.net.



Promoting the research of vehicle and road automation

VRA promotes the research on vehicle and road automation activities in Europe and beyond using a series of tools:

- **VRA wiki** aggregates information and catalogues existing research or deployment activities. The catalogue lists more than 40 projects with abstract, contact point, website, sponsor, budget, funding and outcome.
- **VRA website** contains comprehensive information about all VRA activities i.e. AWG, trilateral, concertations and events.
- **VRA Twitter** (@vra_info) updates you on vehicle automation news around the world.
- Webinars on vehicle and road automation open to volunteers.



VRA website

Everyone interested in VRA activities can register via vra.info@mail.ertico.com or use the RSS feeds for VRA news and events.

Why YOU should join as Associated Partner

- To get updated on all the latest developments in the area of Vehicle and Road Automation in Europe and around the globe.
- To share your knowledge, opinions, issues on a regular basis with a global network of experts and stakeholders.
- To shape policy by participating in series of discussions groups that will shape the future of vehicle and road automation in Europe.
- To promote vehicle and road by taking part in the spreading of excellence and the dissemination of knowledge worldwide.

Facts & Figures

Project acronym:	VRA	Coordinator:	ERTICO – ITS Europe
Project name:	Support Action for Vehicle and Road Automation Network	Start date:	1 July 2013
Project type:	Coordination and Support Action (CSA)	End date:	31 December 2016
Programme:	7th EU Framework Programme	Budget:	€ 1.685 mio.
		EU funding:	€ 1.319 mio.

VRA Partners

VRA is open to active participation from expert community in vehicle and road automation.



Contact us

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