

E-VECTOORC
Electric Vehicle Control of Individual Wheel Torque for On- and Off-Road Conditions
FP7-INFSo-284078

Deliverable D8.2

Year 1 Dissemination Report

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List of E-VECTOORC Participants

| Participant short name | Participant organisation name |
|------------------------|--|
| SURREY | University of Surrey (Coordinating Institution) |
| TUIL | Technische Universität Ilmenau |
| JLR | Jaguar Land Rover |
| FDRIVE | Flanders DRIVE |
| INV | Inverto |
| CIDAUT | Fundacion CIDAUT |
| ITA | Instituto Tecnológico de Aragón |
| SKODA | Škoda Auto A.S. |
| VIF | Kompetenzzentrum - Das virtuelle Fahrzeug, Forschungsgesellschaft mbH |
| TRW | TRW Automotive |

1 Introduction

The following document describes the external, public communication and presentation activities carried out during the first year of the E-VECTOORC project. The report is divided into 6 sections. Section 2 outlines the activities in relation to the management and planning of the dissemination activities. Section 3 provides a brief overview on the project design (including logo) and the project website. Further information about the webpage is provided in Deliverable 8.1. The technical presentations and publications prepared in the first year are detailed in section 4. Section 5 describes the activities to promote and increase the visibility of E-VECTOORC project, and section 6 reports on the engagement with stakeholders which will receive first-hand information about the project results. Section 7 provides an outlook on the dissemination activities planned for year 2.

2 Coordination of dissemination activities

The coordination of the dissemination activities in the E-VECTOORC consortium are planned to achieve the widest possible dissemination by targeting different audiences, including researchers, general public and media, and potential stakeholders (see following sections). The leader of the corresponding Work Package (WP) 8 “Dissemination and Exploitation” is the project partner TUIL (Ilmenau University of Technology). All consortium partners are involved in the tasks of WP 8.

In the first year, the dissemination activities were discussed and ratified during the following formal consortium meetings:

- The kick-off project meeting, Guildford (UK), 01.09.2011 – introduction and approval of the dissemination plan for the first year of the project;
- Three-month review meeting in the form of a conference call, 02.12.2012 – identification of the potential project stakeholders;
- The six-month review meeting, Lommel (Belgium), 20.03.2012 – adjustment of the dissemination plan for the first year of the project to achieve more recognition of the first research and technology results of the project;

- Nine-month review meeting in the form of a conference call, 13.06.2012 – intermediate report about performed dissemination activities, refinement of the publication plan related to scientific journals.

The next sections introduce the main dissemination activities carried out in the first year of the project.

3 E-VECTOORC project design and website

The main objects of the E-VECTOORC project design are the project logo and graphical representation of the project promotion car (Figures 1-3). These elements are being used by all the project partners in reports, posters, presentations and other E-VECTOORC documentation. The design of logo and generic car was carried out by Mr. Dzmitry Savitski (TUIL).



Figure 1 – a) E-VECTOORC project logo; b) E-VECTOORC project logo with description

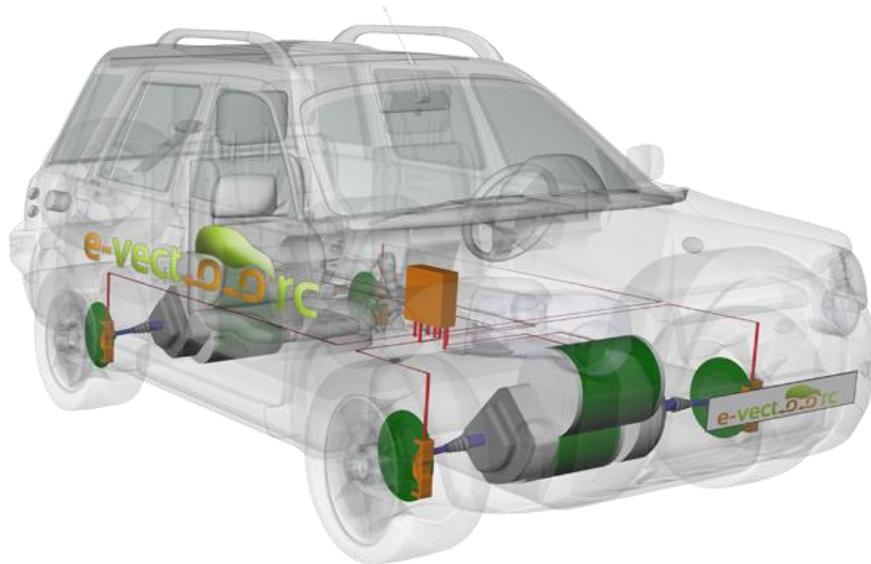


Figure 2 – The E-VECTOORC generic car, version for documents



Figure 3 – The E-VECTOORC generic car, version for promotion materials

The project website has been created during the pre-project stage and launched under the <http://www.e-vectoorc.eu> on 01.09.2011. The website is registered by TUIL in the eu-domain area. In addition to a public domain, the E-VECTOORC website contains an access-restricted

area available only to the project partners. The restricted area is designated to place all the project documents in a secure server as well as to organize the document exchange between the partners. The secure server is (physically) located at the Ilmenau University of Technology. A detailed description of the project website is given in Deliverable 8.1.

4 Research and technology dissemination activities

The research and technology results of the first year were made available through peer-reviewed publications in leading scientific journals and at international conferences as outlined in the next two sections.

4.1 Conference papers and presentations

As outlined in Table 1, E-VECTOORC results of the first year were (and will be) presented at international conferences.

Table 1 – Conference papers and presentations in the first year

| No. | Authors, Title | Event and status | Partners involved |
|-----|---|--|-------------------|
| 1. | M. Dhaens, "Recuperative Braking in EVs: Flemish and European Initiatives" | The 4th IQPC Congress December, 2011, Berlin, German | FLANDERS |
| 2. | L. De Novellis, A. Sorniotti, P. Gruber, L. Shead, V. Ivanov, K. Höpping, "Torque Vectoring for Electric Vehicles with Individually Controlled Motors: State-of-the-Art and Future Developments," | EVS 26 conference, 2012, May 26-29, Los Angeles | SURREY TUIL |
| 3. | L. De Novellis, A. Sorniotti, P. Gruber, "Optimal Wheel Torque Distribution for a Four-Wheel-Drive Fully Electric Vehicle" | SAE 2013 World Congress (abstract accepted) | SURREY |
| 4. | B. Knauder, F. Pözlbauer, J. Zehetner, „Modellierung von Informationskanälen für den Einsatz in Simulationsumgebungen“ | SIMVEC 2012, Baden-Baden, Germany, 20.-21.11.2012 (in press) | VIF |
| 5. | V. Ivanov, K. Augsburg, D. Savitski, J. Plihal, P. Nedoma, J. Machan, "Advanced cost functions for evaluation of lateral vehicle dynamics" | FISITA 2012 World Automotive Congress, 27-30.11.2012, Beijing, China (in press) | TUIL SKODA |
| 6. | V. Ivanov, K. Augsburg, D. Savitski, J. Torque vectoring for improving the mobility of all-terrain electric vehicles. | The 12th ISTVS European Regional Conference, Pretoria, South Africa, 24-28.09.2012 (abstract accepted) | TUIL |

4.2 Journal publications

Journal publications are primarily planned for the second and third years of the project. However, interesting research results were obtained in the first year and two articles have been submitted to leading journals, as shown in Table 2.

Table 2 – Journal publications in the first year

| No. | Authors, Title | Journal and status | Partners involved |
|-----|---|---|-------------------|
| 1. | L. De Novellis, A. Sorniotti, P. Gruber, “Objective Comparison of the Handling and Energy Efficiency Characteristics of Different Electric Vehicle Layouts” | Vehicle System Dynamics (under review) | SURREY |
| 2. | L. De Novellis, A. Sorniotti, P. Gruber, “An Off-line Design Procedure for the Optimal Wheel Torque Distribution for Fully Electric Vehicles with Multiple Drivetrains” | IEEE/ASME Transactions on Vehicular Technology (under review) | SURREY |

5 Promotion and outreach activities

The promotion activities of the consortium are geared towards wider audiences, including the general public and media. The first promotion activity was the preparation and publication of the press release informing a wide audience about the start of the E-VECTOORC project and its objectives. To reflect the many nationalities of the different project partners the press release was prepared in the four main languages of the consortium: English, German, Czech, and Spanish. The text of the press release can be downloaded from the project website. The press release and information about the start of the E-VECTOORC project was also widely distributed in professional media sources during the first months of the project. The links to the project website are also placed on EU internet resources related to FP7 programme:

- Official Internet portal of the European Green Car Initiative, <http://www.green-cars-initiative.eu>
- Coordination Action in the framework of the European Green Cars Initiative ICT4FEV, www.ict4fev.eu
- The Virtual Press Office of the EU Sustainable Surface Transport research, <http://www.press4transport.eu>

A number of other important promotional and outreach activities were performed during the reporting period. These were:

1. Attendance and presentation at the “3rd European Green Cars Initiative” projects clustering event, 11-12 July 2012, Brussels;
2. Publication in FISITA Insidetrack – Newsletter of the International Federation of Automotive Engineering Societies, Issue 14, December 2011, <http://www.fisita.com/publications/insidetrack/issue14.pdf>;
3. E-VECTOORC: E-Fahrzeuge sicherer und besser machen, Article in “Virtual Vehicle Magazine“ (VVM), Nr. 11, 01.2012;
4. Introduction of the project during the official visit of Mrs. Christine Lieberknecht, Minister President of Thuringia, to Ilmenau University of Technology, 25.07.2012;
5. Introduction of the project on the FISITA Education Committee Meeting, London , UK, 12-13.07.2012.
6. Publication in “Neue Mobilität” – Magazine of the German Federal Association for eMobility, Januar 2012, p. 104.
7. Official website of the International Society for Terrain-Vehicle Systems (ISTVS), 09.11.2011, <http://www.istvs.org/news/general-news/single-view/datum/2011/11/09/european-green-cars-initiative-e-vectoorc.html>;
8. Introduction of the project in the Virtual Vehicle news, ‘Startschuss für EU Projekt E-VECTOORC’, 01.10.2012, <http://vif.tugraz.at/news-media/newsarchiv/detail/article/startschuss-fuer-eu-projekt-e-vectoorc>;
9. Autos schneller konstruieren, Article in newspaper “Die Presse“ (Forschung – Magazin für Technologie und Innovation), Austria, 2011;
10. Project information, Virtual Vehicle website, <http://vif.tugraz.at/forschung/ee-software/projects/e-vectoorc/>;
11. Project introduction, Automobil-Cluster website, http://www.automobil-cluster.at/1869_1937_DEU_HTML.php;
12. ATZonline, 12.10.2011, <http://www.atzonline.de/index.php;do=show/id=14676/alloc=1>;

6 Engagement of stakeholders

The engagement of potential stakeholders is an important component of the dissemination activities in the E-VECTOORC project. For this purpose, a preliminary list of the expected project stakeholders has been collated by month three of the project. To target project stakeholders directly, the consortium members have attended a number of professional events to introduce the E-VECTOORC project activities. In particular, the following events were attended:

1. The 3rd European Green Cars Initiative” projects clustering event, 11-12.07.2012, Brussels, Belgium.
2. MOBILIS 2011 Conference and Exhibition, Belfort, France, 15-16.11.2011.
3. Eurobrake 2012, Conference and Exhibition, Dresden, Germany, 16-18.04.2012.
4. Hannover Messe 2012, Hannover, Germany, 23-27.04.2012.
5. Vehicle Dynamics Expo 2012, Stuttgart, Germany, 12-14.06.2012.
6. chassis.tech Symposium, Munich, Germany, 21-22.06.2012.

The project stakeholders will be invited to the E-VECTOORC workshop to be held in year 2. This will allow the stakeholders to obtain first-hand information of the project results and to discuss the findings with the relevant consortium partners. This workshop will be organized in connection with 6th Grazer Symposium Virtuelles Fahrzeug (14 - 15 May 2013). The invitations for the stakeholders to attend the E-VECTOORC workshop will be sent in December 2012. The list of the stakeholders will be reviewed on a regular basis as the research activities of the consortium members progresses. Also, stakeholders can be added upon recommendation of the EC. In addition, the coordinators of projects funded through the European Green Cars Initiative will be invited to the E-VECTOORC workshop.

7 Dissemination activities for year 2

The preliminary plan of the dissemination activities for the second year of the project is subject to approval by all the consortium members during the annual review meeting in October 2012. In detail, the following dissemination activities are planned:

1. Project workshop with the participation of stakeholders and coordinators of other European Green Cars Initiative projects, Summer 2013. (responsibility - all partners)
2. Organization of special scientific session “Computational Methods for Electric Vehicles” during the 2013 IEEE Symposium Series on Computational Intelligence, IEEE SSCI 2013, 15-19 April 2013, Singapore. (responsibility - SURREY, TUIL, SKODA, VIF)
3. Presentation of the project results at the following events:

- FISITA 2012 World Automotive Congress, November 2012, Beijing, China (responsibility – SURREY, SKODA, TUIL);
 - The 12th ISTVS European regional conference, September 2012, Pretoria, South Africa (responsibility – TUIL, SURREY);
 - SAE 2013 World Automotive Congress, April 2013, Detroit, USA (responsibility – SURREY);
 - Eurobrake 2013 Conference, June 2013, Dresden, Germany (responsibility – TRW, TUIL);
 - SAE 2013 Brake Colloquium, October 2013, USA (responsibility – TUIL, TRW).
4. Publications in leading scientific journals with focus on the following project results:
- Optimization methods (responsibility – SURREY);
 - Cost functions for evaluation of vehicle dynamics (responsibility – TUIL, SKODA);
 - Methods for assessment of the brake pedal feel and steering feel (responsibility – TUIL, TRW, VIF);
 - Vehicle dynamics control (responsibility – SURREY, TUIL, ITA).