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Report on annual networking events

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Executive summary

As the Coordination and Support Action (CSA) that drives the Mobility.E Lighthouse, an inter-project network and collaboration platform established to accelerate the deployment of electric, connected and automated (ECA) mobility, the dissemination and communication activities of the COSMOS project are focused on strengthening the Lighthouse. As the second core component of the project, which complements the strategy process, the network support actions are designed to contribute to the Lighthouse objectives of

- fostering dialogue between technical and non-technical stakeholders along and beyond the automotive value chain, e.g. to ensure that societal factors are taken into account when defining research priorities, and of
- finding collaborative approaches to the main challenges for the introduction of ECA.

This report summarises the two ECA2030 conferences held each year under the title “Networking and Collaboration to Strengthen the ECA Ecosystem”, which included networking sessions and interactive workshops for expert consultation on COSMOS results (research priorities and action plan) that provided key input to the strategy development process.

The annual networking event of the Mobility.E Lighthouse, the ECA2030 series, has provided a platform for exchange throughout and beyond the automotive/mobility value chain and has brought stakeholders together to collaborate and discuss research priorities as well as next steps. The two editions of the event series during and by the COSMOS project have successfully continued this dialogue while adding new links to the national level (e.g. project presentation in 2019 or panel discussion in 2020), and between projects.

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1 Introduction

The Coordination and Support Action (CSA) “COherent Support for MObility.E Strategy” (COSMOS) aims to support and accelerate the deployment of clean and automated road mobility solutions and the realisation of the associated socio-economic benefits. This is primarily achieved by supporting the ECSEL Lighthouse Initiative Mobility.E, strengthening collaboration between stakeholders and assisting the Lighthouse Initiative Advisory Service (LIASE) for Mobility.E in the continuous identification and prioritisation of research topics.

The network development component of the project includes WP6: “Stakeholder Engagement & Collaboration” which should:

- Provide a platform for networking amongst stakeholders on regular basis
- Offer regular networking opportunities for the stakeholders of the Lighthouse ecosystem

This report provides a summary of the annual networking events organised as part of the COSMOS project.

2 Networking Event 2019

On September 23rd and 24th 2019 the ECA2030 conference – “Networking and Collaboration to Strengthen the ECA Ecosystem” took place. The conference was aiming at bringing together all stakeholders along the automotive value chain as well as non-technical stakeholders and to initiate collaborations that can accelerate the introduction of vehicle electrification, connectivity and automation (ECA). Active communication between the electronic components and systems (ECS) community and the application side of the value chain is essential and the objective of the Mobility.E Lighthouse of the ECSEL JU, an inter-project and stakeholder collaboration platform that was core of the event. The stakeholder exchange was serving to prioritise research topics, to define concrete and joint R&D activities and to capture the requirements for future funding programmes.

After elucidating and discussing the perspectives and priorities of the European Commission (Anton Chichkov, ECSEL JU), the ECS/supply chain (Reiner John, Infineon), OEMs (Stefan Deix, EUCAR) as well as the user-centric design perspective (Ovidiu Vermesan, SINTEF) and with two illustrative project presentations of PRYSTINE and UNICARagil from inside and outside the Mobility.E Lighthouse, respectively, the main focus of the conference was the content-related discussion of the urgent research topics and the corresponding prioritisation. The agenda of the event can be seen in Figure 1.

Monday, September 23 rd	13.00 – 13.15	<u>Welcome</u> Welcome – Mobility.E Lighthouse, Expectations from the conference <i>Bert de Colvenaer and Anton Chichkov, ECSEL JU</i>
	13.15 – 13.30	Perspective of the European Commission on Vehicle Electrification and Automation
	13.30 – 14.00	The Mobility.E Lighthouse, the COSMOS project and its activities <i>Benjamin Wilsch, VDI/VDE-IT</i>
	14.00 – 14.30	<u>ECAD 2030: Vision & Strategy</u> Keynote: ECS/Supply Chain Perspective <i>Reiner John, Infineon</i>
	14.30 – 15.00	Keynote: OEM Perspective for ECAD 2030 <i>Stefan Deix, EUCAR</i>
	15.00 – 15.30	Lighthouse Project Presentation: PRYSTINE <i>Georg Stettinger, VF</i>
	15.30 – 16.00	Networking Coffee and Poster Walk Around
	16.00 – 16.30	National Funded Project Presentation: UNICARagil <i>Timo Woopen, ika, RWTH Aachen</i>
	16.30 – 17.00	Panel: ECS Research Topics in Smart Mobility <i>Jochen Langheim, STMicroelectronics; Patrick Pype, NXP Semiconductors; Reiner John, Infineon</i>
	17.00 – 18.00	Reception
Tuesday, September 24 th	8.30 – 9.00	Welcome Coffee
	9.00 – 9.15	Introduction <i>Carolin Zachäus, VDI/VDE-IT</i>
	9.15 – 9.45	Keynote: User-Centric Design of ECA Vehicles <i>Ovidiu Vermesan, SINTEF</i>
	9.45 – 9.50	<u>Break-Out Sessions on Urgent Research Priorities</u> Introduction <i>Jakob Michelmann, VDI/VDE-IT</i>
	9.50 – 10.30	Urgent Research Priorities Interactive Session
	10.30 – 11.00	Coffee Break
	11.00 – 11.30	Summary & Prioritization of Results <i>Gereon Meyer, VDI/VDE-IT</i>
	11.30 – 12.00	<u>Closing plenum</u> Panel: Research Priorities and Collaboration for ECAD <i>Lighthouse Initiative Advisory Service</i>

Figure 1: Agenda for the ECA2030 Networking and Collaboration Event 2019.

The following seven urgent research topics have been expanded with technical R&D needs, categorised and rated with respect to their urgency:

- **Data availability and sharing:** *Data sets for training*
- **Decarbonisation:** *Energy efficiency*
- **Intelligence on board:** *Brain structure*
- **Connectivity:** *Performance, efficiency & reliability*
- **Sensors and sensor fusion:** *Sensor fusion*
- **Infrastructure and services for smart personal mobility and logistics:** *Services*
- **Safety, security and validation:** *Artificial intelligence*

Besides the discussions of technical challenges, it was pointed out that different stakeholders of the electronics and the automotive sector need to be brought together and non-technical factors such as legal and societal aspects need to be included in the discussion. Therefore, a co-design of hardware and software with additional considerations of new services as well as the user perspective is needed. This mindset was reflected during the whole ECA2030 conference.



Figure 2: Interactive breakout session to define and prioritise urgent research needs.

Furthermore, the Mobility.E Lighthouse projects were presented and invited the audience to further discuss, network and collaborate during and beyond the event.

3 Networking Event 2020

		Virtual conference October 27 th and 28 th 2020
Networking and Collaboration to Accelerate the Development of Electric, Connected and Automated Driving		AGENDA
Tuesday, October 27 th		Wednesday, October 28 th
13:00	13:05 Introduction and technical details	13:00 13:05 Introduction
13:05	13:15 Welcome <i>Bert de Colvenaer; ECSEL JU</i>	13:05 13:20 ECS/Supply Chain Perspective <i>Anna Rossi; Faurecia</i>
13:15	13:30 Mobility.E Lighthouse <i>Carolin Zachäus; VDI/VDE-IT</i>	13:20 13:35 OELM Perspective <i>Remi Bastien; Renault</i>
13:30	13:45 AutoDrive project <i>Christian Thuiffaut; Bosch</i>	Panel: Mobility SRA Chapter and Research Priorities <i>Michael Paulweber; AVL</i> <i>Patrick Pype; NXP</i> <i>Jochen Langheim; ST</i> <i>Gereon Meyer; VDI/VDE-IT</i>
13:45	13:50 Break	13:45 13:50 Break
13:50	14:05 Urgent Priority: Decarbonization <i>Jean-Luc Di Paola-Galloni; Valeo/EGVIA</i>	Panel: National Research Priorities <i>Michael Nikowitz; BMK (AT)</i> <i>Tereza Čížková; MDCR (CZ)</i> <i>Maarten Amelink; Rijkswaterstaat (NL)</i>
14:05	14:20 Urgent Priority: Validation <i>Georg List; AVL</i>	14:20 14:55
14:20	14:35 Urgent Priority: Connectivity <i>Maciej Muehleisen; Ericsson</i>	14:55 15:00 Break
14:35	14:40 Break	15:00 16:00 Interactive Sessions on Urgent Actions
Panel: Connecting European Partnerships in the Field of Mobility <i>Philippe Froissard; DG RTD</i> <i>Claire Depré; DG MOVE</i> <i>Bert de Colvenaer; ECSEL JU/KDT</i> <i>Stefan Deix; EUCAR for CCAM</i> <i>Wolfgang Dettmann; Infineon for 2ZERO</i>		

Figure 3: Agenda for the ECA2030 Networking and Collaboration Event 2020.

On October 27th and 28th 2020, the next annual edition of the ECA2030 conference – “Networking and Collaboration to Strengthen the ECA Ecosystem” was held online. The event had to be switched to a virtual format due to travel restrictions implemented in response to the COVID-19 pandemic. Figure 3 shows the agenda of the event.

The conference served to bring together all stakeholders along the automotive/mobility value chain as well as non-technical stakeholders to exchange ideas and initiate collaborations that can accelerate the introduction of ECA mobility. Active communication between the electronic components and systems (ECS) community and the application side of the value chain is essential and the objective of the Mobility.E Lighthouse of the ECSEL JU, an inter-project and

stakeholder collaboration platform that was core to the event. The stakeholder exchange served to prioritise research topics, to define concrete and joint R&D activities and to capture the requirements for future funding programmes.

After elucidating and discussing the perspectives and priorities of the European Commission (Bert de Clovenaer, ECSEL JU), the Mobility.E Lighthouse (Carolin Zachäus, VDI/VDE-IT) and results of one of the Lighthouse projects AutoDrive (Christian Thulfaut, Bosch) were presented. Following this, three of the urgent research priorities of the Mobility.E Lighthouse, Decarbonisation (Jean-Luc Di Paola-Galloni, Valeo), Validation (Georg List, AVL) and Connectivity (Maciej Muehleisen, Ericsson) were highlighted. The first day was rounded off by a vivid panel discussion on “Connecting European partnerships in the field of mobility” with panellist from the European Commission (Philippe Froissard, DG RTD; Claire Depré, DG MOVE and Bert de Colvenaer, ECSEL JU) and representatives from the relevant partnerships (Bert de Colvenaer, KDT; Stefan Deix, EUCAR for CCAM and Wolfgang Dettmann, Infineon for 2ZERO).



Figure 4: Virtual panel on “Connecting European partnerships in the field of mobility”.

The second day of the ECA2030 conference started off with the ECS/supply chain perspective (Anna Rossi, Faurecia) and the OEM perspective (Remi Bastien, Renault), followed by a panel discussion on the mobility SRIA chapter and the respective research priorities (Michael Paulweber, AVL; Patrick Pype, NXP; Jochen Langheim, STMicroelectronics; Gereon Meyer, VDI/VDE-IT) as well as a panel discussion on national research priorities with contributions from the Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (Michael Nikowitz), the Czech Ministry of Transport (Tereza Čížková) and the Dutch Ministry of Transport (Maarten Amelink).

Main focus of the second day of the conference was, further, the content-related discussion of urgent research topics and the corresponding prioritisation. The following seven urgent research topics were expanded with technical R&D needs and rated with respect to their urgency: The following seven sub-topics were voted as most urgent with respect to each of the seven UPs:

- **Data availability and sharing:** *Real-time sharing*
- **Decarbonisation:** *CO₂ footprint of mobility, infrastructure and V2X*
- **Intelligence on board (car brain):** *Brain structure – architecture (integrated software/hardware platform)*
- **Connectivity:** *Connectivity continuum and redundancy*
- **Sensors and sensor fusion:** *Sensor fusion systems*

- **Infrastructure and services for smart personal mobility and logistics:** *Physical and digital infrastructure – edge computing*
- **Safety, security and validation:** *Validation of artificial intelligence – test cases, completeness, virtual vs. physical.*

The annual networking event of the Mobility.E Lighthouse, the ECA2030 series has provided a platform for exchange throughout and beyond the automotive/mobility value chain and has brought stakeholders together to collaborate and discuss research priorities as well as next steps. The two editions of the event series during and by the COSMOS project have successfully continued this dialogue while adding new links to the national level (e.g. project presentation in 2019 or panel discussion in 2020), and between projects. This kind of exchange will prove even more interesting and fruitful in the future, as the complexity and diversity of the ECA mobility ecosystem continues to grow. Most importantly, the input obtained throughout these events have been pivotal for the key results of the COSMOS strategy development process.