



PROGRAMME



International Conference and Exhibition

# SIA VISION 2021

Vehicle and Infrastructure Safety  
Improvement in Adverse Conditions

17 - 18 MARCH 2021

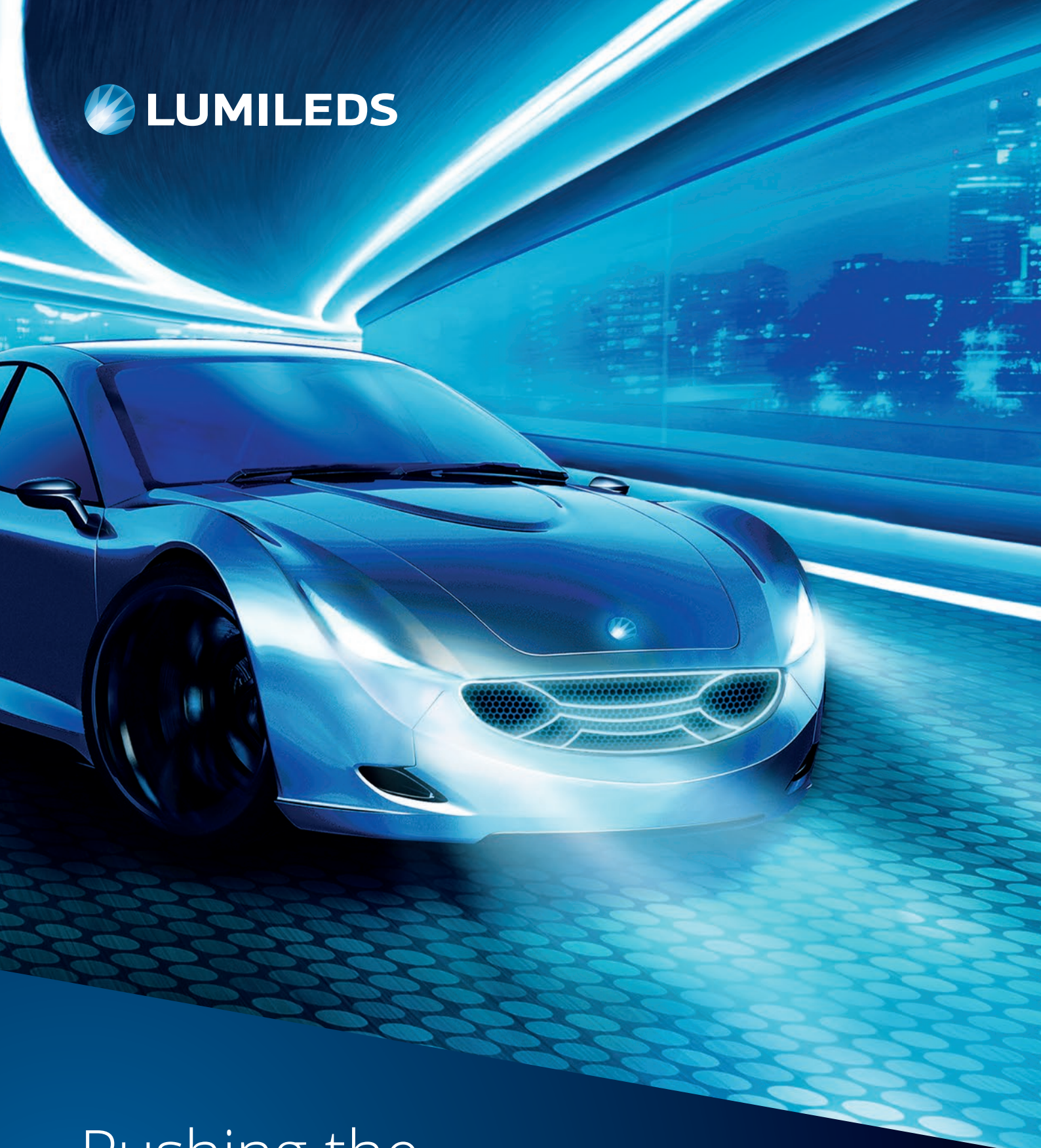
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**Hector Fratty,**  
Conference Chair,  
Driving Vision News

## The Tall Challenges Of SIA VISION 2021

The SIA VISION 2018 congress was highly satisfactory: the congress had taken place in an admirable manner with 27 exhibitions, 31 conferences, a panel discussion bringing together the greatest experts, and above all more than 600 participants from 24 countries on four continents—a growth of more than 20%. It was a terrific success, and the target for the subsequent 2020 congress was very ambitious, to build on that growth.

Then came the pandemic and forced a change of plans. But the ambition remains the same, even though the congress was shifted from an in-person Autumn 2020 event to an online event. So how does that work? How do we keep our targets and goals despite such a major shift? Here's how: we carefully adjusted the time schedule of the program to allow participants all over the world to follow the congress as conveniently as possible — we will start later in the morning and will stop earlier in the afternoon, from the European perspective. We've made the conference in two parallel sessions.

We've enticed Marie Gautier-Melleray, the French Interministerial Delegate for Road Safety, to open the congress together with future Valeo CEO Christophe Perillat. We've organised a panel discussion to talk about challenges, benefits, and drawbacks of sensor integration into headlamps and front ends, with four top experts: Stellantis ADAS Research and Innovation expert Matthieu Dabek; Valeo ADAS CTO Joachim Mathes, Volvo Cars Exterior Lighting Technical Leader Paul-Henri Matha, and Marelli Automotive Lighting's VP of Research and Development, Andrea Stella.

And—best of all—we've convinced all the originally-scheduled speakers to present their lectures as expected! So our ambitious targets are the same, and we fully expect to meet them with a grand, successful VISION 2021 that will serve the entire Lighting & DA communities.

We are glad to (virtually) see you there!

Enjoy the conference & networking opportunities.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'H. Fratty'.

## COMMITTEES

### Conference Chair

Hector FRATTY, DRIVING VISION NEWS

### Steering & Organising Committee

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Matthieu DABEK, Stellantis

Jean-François DACQUAY, Groupe Renault

Whilk GONCALVES, Stellantis

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Antoine LAFAY, Valeo

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Motohiro KOMATSU, Koito Manufacturing  
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Rainer NEUMANN, Varroc Lighting Systems  
Benoît REISS, Valeo  
Ralf SCHAEFER, RS Consult  
Ingolf SCHNEIDER, Stellantis  
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Benazouz BRADAI, Valeo  
Matthieu DABEK, Stellantis  
Laurent DAZIN, Robert Bosch  
Hector FRATTY, DVN  
Gil GONCALVES, Michelin  
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# INNOVATIVE LIGHTING SOLUTIONS

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Marelli Automotive Lighting is one of worldwide leading vendors of headlamps, rear lamps and lighting electronics. Our expertise in intelligent light systems makes us the partner of choice for innovative vehicle lighting and future sensor-based solutions for automated driving. With plants in 16 countries on 5 continents we are always close to our customers.

## PROGRAMME 17 MARCH 2021

08:00 > OPENING OF THE PLATFORM // FEW TIPS FOR THE ATTENDEES

### OPENING PLENARY SESSION

09:45 > **Welcome Introduction**  
Frédéric CHARON, Chief Executive, *Société des Ingénieurs de l'Automobile*

09:50 > **Opening address by the SIA VISION Conference Chair**  
Hector FRATTY, *Driving Vision News*

09:55 > **KEYNOTE SPEECH**  
Marie GAUTIER-MELLERAY - Interministerial Delegate for Road Safety, *French Government*

10:10 > **KEYNOTE SPEECH**  
Christophe PERILLAT - Associate CEO, *Valeo*

### SESSION 1 • HEADLAMP TECHNOLOGIES Chairman: Paul-Henri MATHA, Volvo Cars

10:30 > **How the expansion of lighting and the integration of sensors will change vehicles perception and near field communication**  
Benoit REISS & Benoist FLEURY, *Valeo*

10:50 > **High definition pixelated-LED-based headlamp modules: major challenges and state-of-the-art development methods**  
Reza LARIMIAN, *ZKW Group*

11:10 > **The head and taillamp concepts of the new BMW 5 Series**  
René ÜBLER, *BMW*

11:30 > **Phabulops: Freeform micro-optics for automotive applications**  
Benjamin WILLEKE, *HELLA*

11:50 > **RENAULT LED Front Lighting for Economic Vehicles**  
François BEDU, *Groupe RENAULT*

12:10 > **PANEL DISCUSSION • SESSION 1**

12:40 > VIRTUAL LUNCH BREAK

### SESSION 2 • ADB TECHNOLOGIES Chairman: Christophe LE LIGNE, Valeo

14:00 > **Mockup and Demonstrator of a High Resolution Active Pixel-LED headlamp with 100k Pixel Performance**  
Stefan GROETSCH, *OSRAM*

14:20 > **A strategy for the integration of ADB headlamps and HD headlamps**  
Whilk GONCALVES, *Stellantis*

14:40 > **MEMS Laser Head Lamp**  
Yuto KANBE, *Stanley Electric Co.*

15:00 > **Detection rate of projected light signals by lighting condition and activation modes**  
Yuichi SHIBATA, *Koito*

15:20 > **PANEL DISCUSSION • SESSION 2**

15:40 > VIRTUAL COFFEE BREAK

### ROUND TABLE

16:10 > **Challenges, benefits and drawbacks of Sensors integration in the Headlamp & Front End**  
**Moderator: Gilles LE CALVEZ, VALEO**  
Matthieu DABEK - ADAS Expert Research & Innovation Department, *Stellantis*  
Joachim MATHES - CTO, *Valeo*  
Paul-Henri MATHA - Technical leader Exterior lighting, *AB Volvo*  
Andrea STELLA - VP Research and Development, *Marelli Automotive Lighting*

### CLOSING SESSION DAY 1 Chairman: Hector FRATTY, SIA VISION Conference Chairman

16:55 > **Closing remarks Day 1 by the Conference Chairman**  
Hector FRATTY, *Driving Vision News*

17:05 > END OF DAY 1 LECTURES • NETWORKING AFTERNOON

## PROGRAMME 18 MARCH 2021

|       |   |   |  |
|-------|---|---|--|
| 08:00 | > | OPENING OF THE PLATFORM • IMPORTANT NOTIFICATION DAY 2  |  |
|       |   | <b>OPENING PLENARY SESSION</b><br>Chairman: Hector Fratty, SIA VISION Conference Chairman   |  |
|       |   | KEYNOTE SPEECH  |  |
| 09:40 | > | Fifty years of road safety worldwide with the Human in the loop: from prevention of failures to resilience assessment<br>Stéphane BUFFAT, Director, <i>Le LAB</i>   |  |
|       |   | <b>SESSION 3 • LIGHTING COMMUNICATION FUNCTIONS</b><br>Chairman: Wolfgang HUHNN, <i>Driving Vision News</i>   | <b>SESSION 4 • EXPANDING SENSORS VISIBILITY</b><br>Chairman: Benazouz BRADAÏ, <i>Valeo</i>   |
| 10:00 | > | Priorities in realizing safety relevant improvements in light performance<br>Rainer NEUMANN, <i>Varroc Lighting Systems</i>   | High Definition Lighting solutions to complement camera and improve AEB Effectiveness at Night<br>Sophie CLADE, <i>Valeo Lighting Systems</i>                        |
| 10:20 | > | Contrast Requirements of Road Projections for Situational Awareness: Field tests versus Virtual Reality testing<br>Sheherazade AZOUIGUI, <i>ELS Chair / Institut d'Optique Graduate School</i>  | Centricam: The solution for ADAS and Automated car reliability under Rain and Snow. Technologic and Optics aspects<br>Frédéric GIRAUD, <i>Valeo</i>                  |
| 10:40 | > | Benefits of Adaptive Driving Beam Headlights for Visibility of Road Pavement Markings<br>John D. BULLOUGH, <i>Lighting Research Center</i>  | Infrastructure assistance for autonomous mobility: AI-based cooperative perception on highways<br>Amir NAKIB, <i>Cyclope AI</i>                                      |
| 11:00 | > | Micro-LED and Matrix-LED, a hybrid light source architecture for high resolution headlighting<br>Mark URLAUB, <i>Lumileds</i>   | A Study of ADAS Sensor Integrated Head Lamp System - What is the benefit? What conditions are necessary?<br>Jungsub LIM, <i>Hyundai Mobis</i>                        |
| 11:20 | > | Digital light for safety and communication<br>Michael KRUPPA & Stephan BERLITZ, <i>AUDI</i>   | Headlamp Integrated 6D LiDAR advances safety for ADAS and AVs<br>Ralf MUENSTER, <i>SILC Technologies</i> & Luc BRISSON, <i>Varroc Lighting Systems</i>               |
| 11:40 | > | PANEL DISCUSSION • SESSION 3  |  |
|       |   | PANEL DISCUSSION • SESSION 4  |  |
| 12:10 | > | VIRTUAL LUNCH BREAK   |  |
|       |   | <b>SESSION 5 • STYLING &amp; SAFETY</b><br>Chairman: Jean-Paul RAVIER, <i>Driving Vision News</i>   | <b>SESSION 6 • DEVELOPMENT &amp; ARCHITECTURE</b><br>Chairman: Matthieu DABEK, <i>Stellantis</i>   |
| 13:30 | > | Hip but Risky? New studies about the influence of small light emitting areas on headlamp glare<br>Christian SCHMIDT, <i>Hella</i>   | The road to driving automation: potential integration of sensors in headlamps and impact on E/E architecture<br>Pierrick BOULAY, <i>Yole Development</i>             |
| 13:50 | > | Visionary technology for new possibilities in headlight styling<br>Gerald BOEHM, <i>ZKW Group</i>   | Automated validation toolchain for autonomous driving functions<br>Franck DESAULTY, <i>ELEKTROBIT</i>  |
| 14:10 | > | How thin can a lighting module be VS. eye safety?<br>Arnaud PERROTIN, <i>Valeo</i>  | Tackle challenges of automated driving development with versatile software tools<br>Nicolas DU LAC, <i>Intempora</i>   |
| 14:30 | > | A Study on New MLA Design Method for Headlamps<br>Hyunsoo LEE, <i>Hyundai Mobis</i>   | Real-time Multi Task Network based Object Detection, Semantic Segmentation and Soiling Detection for Automated Driving Applications<br>Flora DELLINGER, <i>Valeo</i> |
| 14:50 | > | PANEL DISCUSSION • SESSION 5  |  |
|       |   | PANEL DISCUSSION • SESSION 6  |  |
| 15:10 | > | VIRTUAL COFFEE BREAK  |  |
|       |   | <b>SESSION 7 • SIGNAL LAMP TECHNOLOGIES</b><br>Chairman: Jean-François DACQUAY, <i>Groupe Renault</i>   | <b>SESSION 8 • SYSTEM ADAS</b><br>Chairwoman: Caroline ROBERT-LANDRY, <i>ZF Group</i>  |
| 15:40 | > | V2P interaction at crosswalks: A field observation study to investigate behavioral sequences and vehicle-pedestrian relative positionst<br>Guoqin ZANG, <i>ELS &amp; Laboratoire Hubert Curien / Institut d'Optique Graduate School</i> | Remote sensing techniques to recognize road surface conditions for autonomous vehicles<br>Hongyi ZHANG, <i>ELS Chair / ESTACA</i>                                    |
| 16:00 | > | Floating light sculptures<br>Thorsten HORNUNG, <i>ODELO</i>   | Renommer Hybrid Objects Sensors Fusion<br>Thomas HEITZMANN, <i>Valeo</i>   |
| 16:20 | > | Behaviour of automated vehicles in critical situations with pedestrians - Accident prevention through additional light signals<br>Timo SINGER, <i>TU Darmstadt</i>  | GMFNet: Gated Multimodal Fusion Network for Visible Thermal Pedestrian Detection<br>Emmanuel BERCIER, <i>Lynred</i>  |
| 16:40 | > | PANEL DISCUSSION • SESSION 7  |  |
|       |   | PANEL DISCUSSION • SESSION 8  |  |
|       |   | CONGRESS CLOSING SESSION  |  |
| 17:20 | > | Closing Remarks by the Conference Chairman<br>Hector FRATTY, <i>Driving Vision News</i>   |  |
| 17:30 | > | END OF CONGRESS LECTURES • NETWORKING AFTERNOON   |  |