

DVN GLOBAL MARKET STUDY ON NEW LIGHTING FUNCTIONS 2020-2030



DVN study will be ready for publication in September 2020. Price: 5 000 Euros

For ordering or more information

Contact Salomon Berner Driving Vision News sberner@drivingvisionnews.com +33 607 64 05 02 The last decade was very rich in innovation for Lighting with the launch of the breakthrough ADB followed by its Matrix beams version, the democratization of LED Lighting, the introduction of new sources with Laser and OLEDs and the emergence of a ambiant interior lighting.

In this year 2020, following the general trend for Autonomous, Connected, Shared and Electric vehicles, the research in Lighting has begun to explore new functions with high definition systems, road projection, displays for exterior lighting as well as new functionalities for interior lighting.

But the Coronavirus crisis has moderated this impulse. Nevertheless, everybody knows that calm always follows the storm, and the lighting community must prepare what will be the major innovations during the decade 2020-2030. These innovations will be mainly oriented towards improved safety for exterior lighting with new functions of communication by light and new styling approaches, and towards a new user experience with interior lighting preparing a more futuristic connected and cocooning passengers' cabin. With the help of many experts, DVN has realized this study to provide insight into these major innovations to come, evaluating their interest, risks, chance to succeed and to be allowed by regulation.

The study is titled:

66 NEW LIGHTING FUNCTIONS 2020-2030 TO IMPROVE SAFETY, COMMUNICATION, COMFORT, AND STYLING **99**

To bring this study together, DVN have been working in three directions:

- Face-to-face and video interviews with key people round the world representing industry, universities, institutes, regulators, and other relevant experts. Among them:
- OEMs: Audi, BMW, Ford, Honda, SAIC Volkswagen, PSA, Renault, Volvo cars.
- Lighting suppliers: AL, Hella, Koito, Mind (Great Wall), Valeo, ZKW, Everlight, Lumileds, Osram.
- Tier 2 suppliers: Ansys, Inova Semiconductors, Weidplas
- Universities and regulation organisations: ELS, ICAT, KIT Karlsruhe, L-Lab Lippstadt, LRC, THM Giessen, TU Darmstadt, UMTRI,
- Literature review.
- Meetings between six veterans in the Automotive Lighting field with each more than 30 years of experience: Hector Fratty, Ralf Schaefer, Leo Metzemaekers, Rainer Neumann, Jean-Paul Ravier, Geoff Draper, Carsten Befelein, Daniel Stern.



DVN GLOBAL MARKET STUDY ON NEW LIGHTING FUNCTIONS 2020-2030



CONTENT

- > Preface
- > Acknowledgements

> Executive summary and DVN Best Bets

> Market view and business opportunities

- Introduction
- Automotive industry in transformation
- A cocktail of Covid-19 and Industry Transformation
- What next?
- A bright view for the automotive lighting market?
- Summary and conclusion

> Lighting and Traffic-Related Fatalities

- Road Traffic Fatalities Around the World
- Road Traffic Fatalities by Region
- Lighting and Road Fatalities
- Summary and conclusion

> New Lighting Functions to improve safety

- Introduction
- Communication functions: Interest and Challenges
- Summary and conclusion

Overview of technologies for new safety and communication lighting functions

- Base Lighting functions
- ADB and HD Systems
- Road Projection
- Analog Signals
- Displays
- Digital Light Coded Communication LiFi
- Holography
- Summary and conclusion

> Importance of Styling for Exterior Lighting

- Introduction
- Impact from styling for lighting safety functions
- Impact of design-driven lighting functions
- Regulatory implications
- Summary and conclusion

> New functions for Interior Lighting

- Introduction
- Safety- and communication-driven lighting functions
- Styling, comfort and use case driven lighting functions
- Welcome and Farewell Lighting
- Interior Lighting as Brand Identifier
- New Lighting Technologies
- Market trends, take rates, and changes in value chain
- Regulatory Status of Interior Lighting
- Summary and vision for future Interior Lighting

> Regulatory Impacts and Considerations

- Regulatory Barriers to Innovation
- How to address the barriers
- Summary and conclusion

> Research Studies on New Functionalities

- Driving through construction zones
- Optical Safety Zone
- Projection of Symbols
- Parking and Deparking
- Cultural Aspects of Communication with Symbols
- Summary and Outlook