

Morgan: Auto lighting, Ext. and Int., has a Great Future

LIGHTING NEWS



SASCHA KLAPPER



TODD MORGAN

Last week, Sascha Klapper, Lighting Senior Analyst at IHS Markit discussed with Todd Morgan, Chief Technology and Innovation Officer at Lumax Industries, how vehicle lighting is influencing the automotive design in the coming years.

Todd first made a great summary of the main steps of automotive lighting, clear lenses, then HID, DRL, AFS functionalities, LED, and now ADB, all these technologies oriented to safety but also to styling differentiation.

Then he talked on the future of lighting. There were not breaking news but an interesting status of the lighting technologies and functions arriving very fast in the Premium cars before extension few years later in the medium size cars and also in the emerging countries.

In the new functions, Todd mentions lighting communications as Welcome/Farewell, signs to the drivers, to the pedestrians, to the environment, displays and new lights in logos and grills in front of the car.

With the DRL, the dynamic lights, the personalization, the ADB, the OLEDs, “Lighting is becoming more than the new chrome for designers. Lighting is the intelligent chrome” while is improving safety. Automotive lighting, exterior and interior has a great future and the arrival of EV and AV combined with subscription service are opportunity to grow the market.

Follow all the interview in the link below

<https://autotechinsight.ihsmarket.com/podcasts/42/lighting-ahead-staging-the-future-vehicle-design>

To continue the interview, DVN asked 4 missed questions to Todd Morgan, one of the greatest experts in automotive lighting.

DVN: 2 years after your arrival at Lumax, what is your feedback on Lumax and on the Indian market?

Todd Morgan: Lumax, as well as the entire Indian market, is packed full of opportunity. We see the Indian market craving new innovative technologies, and although there are definitely cost barriers, that doesn't prevent us from developing and delivering cost-effective and high value solutions. Electric vehicles (EV) are appearing at most major OEM's and there are some exciting startups coming into the market as well. We also can't neglect the 2-wheeler market in India, and you will see some very interesting technologies appearing there as well. Bringing new innovation to the interior of vehicles is an interesting opportunity too.

To make this happen, we already have a very strong technology partner with Stanley, and their connection to the JOEM's is invaluable. Our development center in Taiwan also brings an excellent connection in Asia (customers, prototyping and tooling). We are now opening our European office in the Czech Republic, where we will develop and adapt innovations for the Indian market, act as a window to our European based customers, and aggressively develop our technical competency across the organization, particularly in our two engineering centers in India (Delhi and Pune). I'm truly excited about the plans we have in place with Lumax, and the response from our customers have been nothing but positive.

DVN: You presented the bright future of ADB. which technologies will be dominating in the next five years and with which penetration? (Matrix, HD, scanning, LCD with which type ?

Todd Morgan: It goes without saying that ADB brings an unparalleled improvement in performance and safety, and our goal is clearly to provide this technology on all levels of vehicles. To drive down the cost, we need to look at efficiency, and I believe the micro-LED technologies that several Tier2's are developing is the path forward. Competition in the market is always good for cost but will also drive efficiency improvements. This will allow the premium segments to bring even more amazing functionality and it open the doors to the mainstream market. I think the fact that the USA will FINALLY allow ADB will also help drive down cost and bring focus to cost-effect ADB technologies. We are already developing ADB

systems for Indian OEM's, so that speed of technology migration continues to accelerate. I don't think we are going to see 20k pixel solutions in the emerging markets very soon, but I'm confident you will quickly see cost-effective ADB designs on the road.

DVN: in front lighting, which main trends for style or marketing do you see in the premium cars, Generalist cars and in emerging countries. How the technology need to evolve to prepare that?

Todd Morgan: As we all know, the studio are using lighting to define the signature of the vehicle, and as a lighting guy, I always enjoy the vehicle unveilings, because what do you see first? The lighting! We will continue to see the lighting being dispersed on the front of the vehicle as opposed to being 2 "simple" headlamps, for example into the fascia. Lit grille is a great canvas to play now, particularly for EV's. The animation and personalization effects seem to be without limits, and clearly, we will see more and more effort in that direction. These effects can also be combined to act as a communication tool, for example using it to communicate charging status.

Unsurprisingly the premium segment will lead the way in bringing new functionality on the road, and also push for any regulatory revisions that are necessary. But I see the generalists and even the emerging markets putting more budget into lighting. Also as EV continues to grow, studios want their vehicle to look like an EV.

As a lighting community we need to continue to look for ways to develop compact modules, to make room for all of the styling elements. We also need to find the sweet spot between standardization and customization. Lastly, I can only repeat that the focus needs to stay fixed on efficiency and maximize the Lumens/watt KPI. This will also drive improvements in cost, weight and package space.

DVN: After two troubled years due to the pandemic, how do you see the future of lighting What could be the most important challenges for the Lighting industry during the next five years?

Todd Morgan: Between the pandemic and the semiconductor shortage, it's been a tough couple years for the entire automotive industry, but I remain optimistic that we will come out of both stronger than ever. I think the announcement of several OEM's moving to become purely EV is significant, so the challenge to provide more and more functionality and features, and at the same time lower power consumption will be interesting. I think also the ability of the regulations to keep pace with the evolution of what is technically possible (and affordable) will be something we need to take very seriously. Image projections is a great example of this and finding the balance over what is a safety enhancement, but not a distraction to other drivers is a subject of debate. ADAS is another area of great interest to all of us, and not only how we can better integrate sensors and cameras around the vehicle, but also how we can enhance our beam patterns (visibly and invisibly) to improve the performance of these sensors. All of this will continue to accelerate the need for us to develop our capacity and competency in electronic hardware and software. Definitely exciting times ahead!