LYON, France – March 8, 2016: “OLED technology has a potential for innovative lightweight, very thin, even flexible and transparent lighting sources,” explains Pars Mukish, Business Unit Manager, LED/OLED and sapphire activities at Yole Développement (Yole). However the situation is not quite that simple: the multiplicity of OLED technologies makes the selection difficult and many challenges including high manufacturing costs, a non-structured supply chain… must be overcome.

For a long time, OLEDs have been living in the shadow of the LEDs revolution and today, OLEDs market is just 100 times smaller than the established LEDs sector. Under its new report entitled OLED for lighting – Technology, industry and market trends, the “More than Moore” market research and strategy consulting company Yole, announces a US$ 1.5 billion market by 2021. According to Yole’s analysts, the future of OLED lighting is still uncertain. Indeed the added-value of OLED technologies have to be demonstrated towards the end-users.

OLED for lighting – Technology, industry and market trends report is a comprehensive overview of OLED solutions for lighting applications. Yole’s analysts propose a detailed description of current technologies, their lighting applications and future trends. Including an overview of the OLEDs structures and materials, a high added-value value analysis of industry landscape and the evolution of its supply chain, this report also reviews the manufacturing aspects including roadmaps, R&D activities and costs. Since its 1st edition published in 2014, the market research company acquired further important knowledge in OLED devices and manufacturing techniques area. Within this new edition, Yole highlights the market opportunities in the automotive lighting, flexible OLEDs and also niche applications (medical, food …).

OLED revenues are mainly driven by display applications especially by smartphones. But the OLED industry has also been
trying to target lighting applications for several years, based on the technology specifics in terms of design or form factor and efficiency.

On this new battleground, OLEDs are competing with LED technology, which has already paved the way with a revolution in Solid State Lighting drawing attention away from OLED over the last 10 years. Added to that, the high cost of OLED technology is not making market penetration easier, current low efficacy is slowing adoption and the advantages claimed by OLED lighting companies are not necessarily perceived by the customers. OLEDs will therefore have to find niche or “spark” markets to develop production scale momentum and create a marketing window allowing them to demonstrate the advantages and possibilities of the technology to customers.

“Automotive lighting could represent one of the first “spark” markets for OLED lighting technology”, announces Dr Milan Rosina, Senior Technology & Market Analyst at Yole. “Indeed, with the recent integration of LED technology, lighting has evolved from a basic, functional feature to a distinctive feature with a high value potential in automotive.”

OLEDs have a real potential to differentiate themselves from LEDs and offer new added value. And the following recent developments confirm clearly the market evolution:

- In January 2013, the German-based company HELLA, through the OLED project called “So-Light”, has collaborated with Fraunhofer FEP to develop an OLED rear lamp prototype. Mid-2014, the OLED project So-Light successfully concluded.

- In March 2014, Hella proposed rear lamps with mixed technologies bent and curved OLED. This project was a
collaboration between Hella, LG Display and the car manufacturer BMW. The BMW M4 GTS, commercialized in 2016, is the first commercial car to adopt OLED technology in rear lamps. “It is now a question of understanding what level of interest the technology will generate from automotive OEMs/Tier-1s,” comments Dr Rosina.

To access traditional general lighting segments including commercial lighting and office lighting applications, OLED technology will have to combine enough different niche or “spark” markets to achieve the economies of scale that will allow for a decrease in cost. In this field, several niche lighting applications are being investigated by the OLED lighting industry: medical lighting and embedded lighting among them.

“At Yole, we estimate that OLED lighting panels have reached a market size of nearly $30 million in 2015”, announces Pierrick Boulay, Technology & Market Analyst at Yole. And he adds: “The OLED market will grow to nearly $1.5 billion by 2021.” Although more difficult to access, general lighting markets could drive this growth, provided that:

- Enough niche markets are identified to create a minimum production scale, and allow for further price reduction in OLED lighting panels/systems.
- Advantages of OLEDs, as claimed by OLED lighting companies, are demonstrated to customers.

Yole’s report presents all OLED lighting applications and associated market metrics for the period 2013-2021, providing details about drivers and challenges, the status of OLED integration, volume and market size per application. A detailed description of this report is available on i-micronews.com, LED reports section.
About OLED for Lighting - Technology, Industry and Market Trends report:
Despite a projected $1.5B business opportunity by 2021, the future of OLED lighting is still uncertain.
Rates: Euros 6,490.00 (Full report - Multi user license).
Contact David Jourdan - Phone: +33 472 83 01 90

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**Pierrick Boulay** works as Market and Technology Analyst in the fields of LED, OLED and Lighting Systems to carry out technical, economic and marketing analysis at Yole Développement. He has experience in both LED lighting (general lighting, automotive lighting…) and OLED lighting. In the past, he has mostly worked in R&D department for LED lighting applications. Pierrick holds a master degree in Electronics (ESEO - France).

**Pars Mukish** holds a master degree in Materials Science & Polymers (ITECH - France) and a master degree in Innovation & Technology Management (EM Lyon - France). He works at Yole Développement. As Senior Market and Technology Analyst in the fields of LED, OLED, Lighting Technologies and Compound Semiconductors to carry out technical, economic and marketing analysis. Since 2015, Pars has also taken on responsibility for developing LED/OLED and sapphire activities as Business Unit Manager at Yole Développement. Previously, he has worked as Marketing Analyst and Techno-Economic Analyst for several years at the CEA (French Research Center).

**Dr. Milan Rosina** works as a senior analyst in the fields of energy conversion and emerging materials. Before joining Yole Développement, he worked as a research scientist and a project manager in photovoltaics, microelectronics and LED. He has more than 15 years of scientific and industrial experience with prominent research institutions and a utility company.

- Companies cited in the report:

About Yole Développement – [www.yole.fr](http://www.yole.fr)
Founded in 1998, Yole Développement has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole Développement group has expanded to include more than 50 collaborators worldwide covering MEMS, Compound Semiconductors, LED, Image Sensors, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Nanomaterials, Power Electronics and Batteries & Energy Management.

The “More than Moore” company Yole and its partners System Plus Consulting, Blumorpho and KnowMade support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to develop their business.

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