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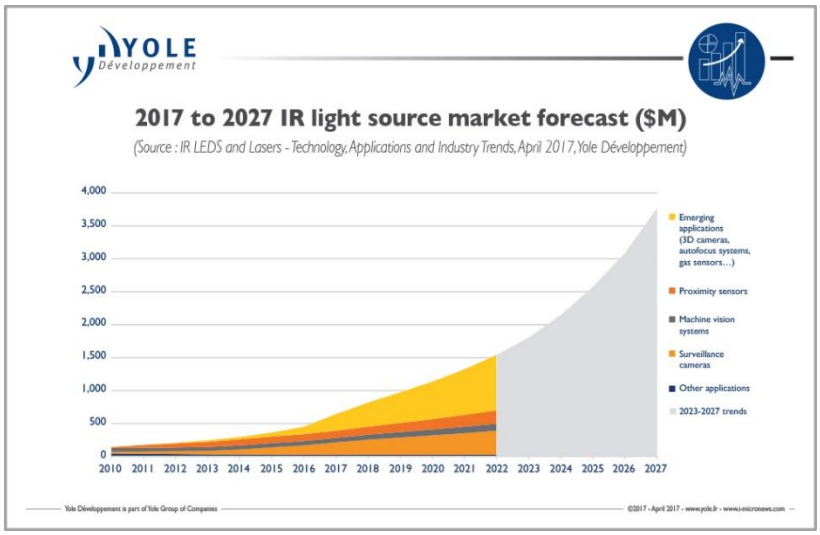
3D imaging, gas sensing and autofocus drive the Infra-Red (IR) light sources market

IR LEDS and Lasers - Technology, Applications and Industry Trends report – Yole Développement – April 2017

LYON, France – April 12, 2017: 3D imaging, gas sensing and autofocus will fuel the IR[1] light source market: Yole Développement (Yole), the More than Moore market research and strategy consulting company announces a US$1.5 billion opportunity in 2022 in multiple applications and potentially US3.8 billion in 2027. *"Some applications will generate large revenues and strong growth rates during the next 5 years"*, explains **Pars Mukish, Business Unit Manager at Yole**. *"Some others such as gas sensors, eye tracking systems or gesture recognition systems are just emerging and expected to boom in the next 10 years."*
Yole presents its vision of the IR light source market with a new report titled IR LEDs[2] & Lasers: technology, applications & industry trends. Under this new market & technology analysis, Yole's analysts enlarge their expertise toward the solid-state lighting technologies and are offering an in-depth analysis of all IR light source applications. This report includes basic principles, technology, trends, key players, and market size. It also highlights the global landscape for IR light sources, including classification of applications by wavelength, market segment and function. Moreover the consulting company proposes detailed market forecasts based on these classifications and with complementary analysis by light source for LEDs, edge-emitting lasers and VCSELs.



What is driving the IR light sources industry? Who is leading this industry? What are the key technologies? What are the main technical trends for IR light sources integration?... Yole's analysts invite you to discover market and technology trends related to IR LEDs and Lasers.

The market for LED and laser IR light sources is not new, but

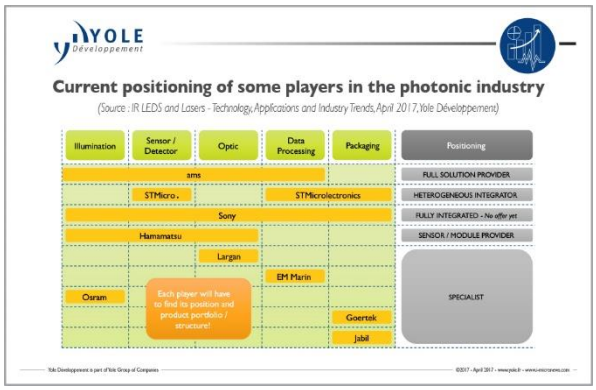
[1] IR : Infra-Red
[2] LED : Light Emitting Diode

has evolved rapidly with the SSL[3] recent development. Initially developed for optical communication applications, these technologies, mostly IR LEDs, started to be integrated into consumer applications like remote controls in the 1980s. Next, the market was driven forward by night vision applications such as surveillance cameras. But it's only recently, with the development of smartphones, that IR LEDs and lasers have come back to prominence. *"Now, the market is set for growth for the next 10 years,"* confirms Pars Mukish from Yole.

Today, these technologies are part of a new revolution, still driven by smartphone applications. Integration of breakthrough functionalities such as 3D imaging, autofocus, iris and face recognition is triggering a strong market pull for efficient, miniaturized and complex IR illumination.

"*This trend will also create strong market opportunities for IR lasers, mostly VCSELs",* comments **Pierrick Boulay, Technology & Market Analyst at Yole**. *"It allow more coherent and directional light than IR LEDs"*. In this context, Yole is expecting the IR light source market to grow from around US$450 million in 2016 to around US$1,550 million in 2022 with a 22.7% CAGR[4] during this period.

In addition, there are also several other applications that are emerging and for which a market boom is likely to happen in the next 10 years. These include gas sensors, LIDARs, driver monitoring systems and remote patient monitoring sensors. Yole is expecting this second wave of new applications to propel the IR light source market to around US$3,800 million in 2027.



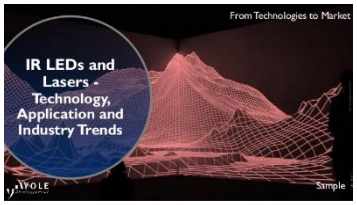
IR LED market is perceived as a potential new 'blue ocean' with attractive opportunities for LED players. According to Yole's report, more than 40 manufacturers are involved in IR LEDs and most ot them are located in China and Taiwan. Today, Osram and Vishay still lead the field. However some players, like Everlight or Epistar would like benefit from this opportunity and penetrate step by step the market with large investments.

"Since few years, the IR LED industry has strongly grown due to strong price pressure on visible LEDs," comments Pierrick Boulay from Yole. *"In the future, we expect more traditional LED manufacturers to try entering this business!".*

A detailed description of the IR LEDs and Lasers report is available on i-micronews.com, LED reports section.

[3] SSL : Solid State Lighting

[4] CAGR : Compound Annual Growth Rate



About IR LEDS and Lasers - Technology, Applications and Industry Trends report

3D imaging, gas sensing and autofocus will fuel the IR light source market to reach US$3.8B in 2027.

Authors:

Pars Mukish holds a master's degree in materials science and polymers from ITECH in France and a master's degree in innovation and technology management from EM Lyon in France. Since 2015, Mukish has taken on responsibility for developing LED, OLED and sapphire activities as Business Unit Manager at Yole Développement. Previously, he worked as Marketing Analyst and Techno-Economic Analyst for several years at the French Research Center, CEA.

Pierrick Boulay works as Market and Technology Analyst in the fields of LED, OLED and lighting systems, doing technical, economic and marketing analysis at Yole Développement, the "More than Moore" market research and strategy consulting company. He has experience in both LED lighting, including general lighting and automotive lighting, and OLED lighting. In the past, he mostly worked in R&D departments for LED lighting applications. Pierrick holds a master degree in Electronics from ESEO in France.

Companies cited in the report:

Alpha Sense, ams, Apple, Autoliv, Avago, Bosch, Bridgelux, Cambridge CMOS Sensor, Chronocam, Coherent, Continental, Delta ID, Epistar, Everlight, Excelitas, Finisar, Fujitsu, GSS, Hamamatsu, Harman, Hella, Heptagon, Hitachi, Infineon, Intel, IPG Photonic, Iritech, LG, Luminus Devices, Morpho, Nonin, Omnivision, Osram, Panasonic, Philips Photonic, pmd, Primesense, Princeton Optronics, Quanergy, Rohm, Samsung, Sharp, SMI Vision, SoftKinetic, Sony, STMicroelectronics, Stanley, Sumitomo Electric, Tobii, Valeo, Velodyne, Vishay…

About Yole Développement – 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, RF Electronics, LED, Displays, Image Sensors, Optoelectronics, Microfluidics & Medical, Advanced Packaging, Manufacturing, Nanomaterials, Power Electronics and Batteries & Energy Management.

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

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