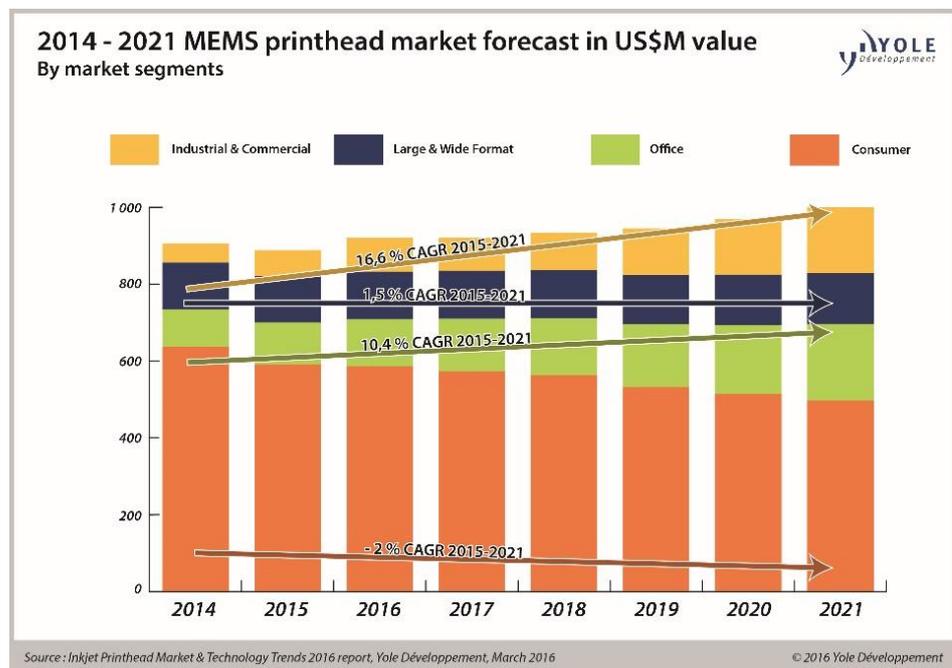


Industrial, commercial and office printing sectors are driving the inkjet printhead industry development

Inkjet Printhead Market & Technology Trends 2016 report - March 2016

LYON, France – May 3, 2016: “Within a US\$ 1 billion stagnant MEMS inkjet printhead market, the industrial market segment is showing an high level of development with 16% CAGR¹ between 2016 and 2021,” assert [Yole Développement](#) (Yole) analysts within the new report [Inkjet Printhead Market & Technology Trends 2016](#). According to the “More than Moore” market research and strategy consulting company, the inkjet printhead industry landscape is expected to change. New players, market opportunities and innovative technologies... are the key words of the inkjet printhead industry development.

Under its new report, Yole proposes an overview of the inkjet printhead industry including market figures from 2014 to 2021. The report details the technology and market trends per market segment. Yole’s analysts also present a detailed description of the current inkjet printhead technologies, thermal vs. piezoelectric as well as single-pass vs. scanning modules and permanent vs. disposable devices.



¹ CAGR : Compound Annual Growth Rate

Under this new technology & market analysis, Yole highlights the following drivers:

- The entrance of players with new MEMS technology-based solutions, especially for commercial printing, OLED displays, printed electronics, 3D printing ... applications.
- The move of historical firms from consumer market segment to industrial, commercial and office printing sectors: with more than 250 million disposable inkjet printheads shipped in 2015, the consumer market still offers high-volume production, but it is losing ground every year. At the opposite end of the spectrum, the printhead market for office, commercial, and industrial printing is expected to exhibit a double-digit increase from 2015 - 2021.

“Inkjet printhead manufacturers initially well-established within the mature consumer market, re-think their strategy,” comments **Jérôme Mouly, Technology & Market Analyst at Yole**. And he adds: *“They would like to expand their activities towards new business opportunities linked to the office, commercial and industrial printing market segments.”* According to Yole’s analysts, these market opportunities for 2021 are estimated at US\$375 million.

- An high market potential coming for 3D printing applications. Yole is expecting some announcements from the leader HP Inc. in 2016. With its new MEMS-based solutions, the company will confirm the business opportunities coming from 3D applications and its commitment within this market segment. According to Yole’s analysts, this application should reach 70% CAGR between 2016 and 2021, highlighting the huge potential of 3D printing.

Inkjet printing, which offers a flexible, cost-effective solution for printing personal documents, is still largely associated with home and small office printing. In parallel, large & wide format printing for CAD and graphic arts applications considers inkjet printing as its technology-of-choice for single prints and very small print runs. The democratization of digital applications in the early 2000s, spurred on by greater home internet usage and the appearance of digital cameras (which dramatically impacted the photo business), has influenced OEM printer manufacturers to develop high-quality, high-resolution printheads. MEMS technologies represent an attractive solution for creating a higher native density of nozzles-per-printheads at an acceptable manufacturing cost via mass production.

Office printing is one of the sectors that has recently benefited from MEMS printhead performance, competing with entry-level to mid-end laser printers. Moreover, the digital revolution is also gaining

momentum in new sectors. For years, commercial and industrial applications have used analog printing solutions like flexography, offset printing, and screen-printing due to their high-volume production capacity and associated lower cost. However, these techniques are restrictive due to the use of a master, and not compatible with short runs < 4000m² printing surface. Today's industrial and commercial applications require more diversity, as well as more instant service customization. Digital printing, specifically inkjet printing, is the solution to penetrating the three trillion square meters (m²) industrial market.

In the inkjet printhead report, Yole analyzes how the use of MEMS technologies is responding to market demand and how it can create new market opportunities. For example, MEMS printheads offer a high level of integration and scalability, enabling the use of single-pass printhead modules. These modules cover the entire width of the medium, thereby raising speed and productivity. Evolution of piezo printheads using semiconductor manufacturing processes will continue to improve performance, offering new market opportunities in industries like textiles, packaging, and printed electronics, and most recently in 3D printing.

A detailed description of the report is available on i-micronews.com, MEMS & Sensors reports section.

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About [Inkjet Printhead Market & Technology Trends 2016](#) report:

Innovative MEMS technologies are spearheading the inkjet printing industry's transformation - Rate: Euros 6,490.00 (Multi user license). Contact [David Jourdan](#) (Phone: +33 472 83 01 90).

- Authors:

Jérôme Mouly is a Technology & Market Analyst specializing in MEMS Devices & Technologies at Yole Développement. Jérôme has worked at Yole Développement since 2000. In his 16 years with the company, he has participated in more than 100 marketing and technological analyses for industrial groups, start-ups and institutes related to MEMS and semiconductor industry. Jérôme holds a Master of Physics from the Univ. of Lyon.

Claire Troadec has been a member of the MEMS manufacturing team since 2013 at Yole Développement. She graduated from INSA Rennes in France with an engineering degree in microelectronics and material sciences. She then joined NXP Semiconductors, and worked for 7 years as a CMOS process integration engineer at the IMEC R&D facility. During this time, she oversaw the isolation and performance boost of CMOS technology node devices from 90 nm down to 45 nm. Before joining Yole Développement, Claire managed her own distribution company.

Ha-Minh Nguyen, Market & Technology Analyst. Ha-Minh joined the MEMS & Sensors team at Yole Développement in 2015. He holds an Engineering degree in Mechanical & Plastic Process from INSA Lyon (France) and a Specialized Master in Technology and Innovation Management from EM Lyon Business School. He brought his knowledge on 3D Printing and authored this section for our Inkjet report. He also contributed to the TFP technology section.

- Companies cited in the report:

3D systems, Arrayjet, Brother, Canon, EFI, EOS, EPSON, FujiFilm Dimatix, Funai, HP Inc., IBM, IDC, Konica Minolta, Lexmark, Makerbot, mCor, MEMJET, Microjet, Mimaki, MIT, Océ (Canon Group), Panasonic, Pelikan, Ricoh, Roland, Samsung, Scienion, Seiko Epson, Seiko Instruments, Shimadzu Biotech, Silex Microsystems, Sony, STMicroelectronics, Stratasy, Texas Instruments, TSMC, XAAR, Xerox, Zcorp...

About Yole Développement

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, Power Electronics and Batteries & Energy Management. The group supports 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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