CIS\textsuperscript{1}: Q4 2019 went way above forecast but this was before COVID-19\textsuperscript{2}

Quarterly Market Monitor

MARKET DYNAMICS:

- Q4 2019 is 17% above revenue forecast and reaches US$5,746 million: 11.3% of upside is due to volume upside and 9.1% due to ASP\textsuperscript{3} upside.
- The coronavirus outbreak impact of the epidemic will influence mostly on mobile and consumer CIS market with a drop in forecast on the global smartphone market expected on Q1 and Q2 2020.
- 2019 YoY revenue growth is higher than expected and reaches 25%, with a Q2Q growth at 38% in Q4 2019.
- CIS YoY growth should slow down to 7% in 2020 but this number will be aggravated by the outbreak of COVID-19\textsuperscript{4}.
- Long term growth should go below 10% within 5 years.

Y2020 NUMBERS

The best ever year for the CIS industry

This time reality exceeded Yole Développement (Yole) forecast quite significantly. Yole had predicted revenue of US$17.2 billion for 2020 and this prediction ended 11% below the confirmed numbers for the year. Reflecting on the year’s dynamics, Q1 and Q2 2019 had been underwhelming, both running 6% below expectation in a context of smartphone market saturation and trade war rhetoric. Q3 and Q4 totally reversed the gloomy trend of H1 2020, and the release of exciting smartphones with numerous cameras propelled the industry to overcapacity bringing US$5.7 billion per quarter to the ecosystem…

Q1 & Q2 2020

Short term forecast will be impacted by COVID-19

…“What we cannot predict at Yole is the possibility of a systemic recession,” comments Pierre Cambou, Principal Analyst, Imaging at Yole. And he adds: “People will still buy smartphones and smart speakers in 2021 so the risk is more a contamination coming from the financial sector than a biological threat.”…

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\textsuperscript{1} CIS: CMOS Image Sensor
\textsuperscript{2} Extracted from \textit{CIS QUARTERLY MARKET MONITOR}, Yole Développement, March 2020
\textsuperscript{3} ASP : Average Selling Price
\textsuperscript{4} Forecasts defined before Feb. 2020
The extensive growth of CIS has brought this semiconductor specialty to revenues of US$19.3 billion in 2019. The size and dynamics of the main CIS markets and players led Yole’s analysts to the conclusion that a **CIS quarterly market monitor** was essential to monitor and provide a better understanding of the short- and medium-term trends. The five-year forecast will still be delivered annually through annual Yole’s report, **Status of the CMOS Image Sensor Industry**. The two products, “**Status of the CMOS Image Sensor Industry**” and “**CIS Quarterly Market Monitor**” are intended to be complementary analyses of the same industry under the Yole imaging research umbrella.

Stay tuned on **i-Micronews** to follow our imaging activities including webcasts, articles, interviews, reports and more!

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Press Release

About the imaging team at Yole Développement

**Pierre Cambou** MSc, MBA, is a Principal analyst in the Photonic and Display Division at Yole Développement (Yole).

Pierre's mission is dedicated to imaging related activities by providing market & technology analyses along with strategy consulting services to semiconductor companies. He has been deeply involved in the design of early mobile camera modules and the introduction of 3D semiconductor approaches to CMOS Image Sensors (CIS).

Pierre has a broad understanding of the various markets and technologies associated with CIS, having obtained 6 patents in this field and founded one startup company in 2012.

At Yole, Pierre is responsible for the CIS Quarterly Market Monitor while he has authored more than 15 Yole Market & Technology reports. Known as an expert in the imaging industry, he is regularly interviewed and quoted by leading international media.

Previously, Pierre held several positions at Thomson TCS, which became Atmel Grenoble (France) in 2001 and e2v Semiconductors (France) in 2006. In 2012, he founded Vence Innovation, later renamed Irlynx (France), to bring to market an infrared sensor technology for smart environments.

Pierre has an Engineering degree from Université de Technologie de Compiègne (France) and a Master of Science from Virginia Tech. (VA, USA). Pierre also graduated with an MBA from Grenoble Ecole de Management (France).

**Chenmeijing Liang** works as a Technology & Market Analyst within the Photonics & Sensor division at Yole Développement (Yole). As part of the Imaging team, Chenmeijing contributes daily to analyses of CIS markets, related technologies and market strategies of the leading semiconductor companies, as well as the quarterly Monitor. Prior to Yole, she was engaged in the development of R&D projects: Chenmeijing was a member of Group PSA R&D department where she worked on Vehicle 3D Holography Imaging projects. In addition, she assisted with various technical and commercial projects.

Chenmeijing Liang holds a Master’s Degree in the field of Applied physics and Optical engineering from Paris-Saclay University and University Pierre and Marie Curie (UPMC) (Paris, France).

**Richard Liu** is a Technology and Market Analyst in the Photonics, Sensing & Display division at Yole Développement, part of Yole Group of Companies. Based in Shenzhen (China), Richard is dedicated on imaging activity (Monitors) as well as the development of technology & market reports.

Prior to Yole, Richard was engaged in camera module design on image sensor, AF/OIS at Onsemi, before this, he worked as a customer-application-technologist in Micron/Aptina Imaging. Richard has over 12 years post graduate experience in both of imaging semiconductor and camera module industry, he has the successful track record in developing projects for the tier one smart phone and module makers, which brought him wide industry connection in the CMOS image sensor supply chain and ecosystem.

Richard graduated from Wuhan University (China) and holds an Electronics Engineering Degree.

About Yole Développement

Founded in 1998, Yole Développement (Yole) has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services as well as reverse engineering and reverse costing services. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole group of companies has expanded to include more than 80 collaborators worldwide… More

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