

CMOS Image Sensor

Quarterly Market Monitor
2020





Yole's methodology for building market forecasts is different from other market research companies' methodologies:

- Our approach is to build a coherent model where the five year historical data from top product shipments, module sales, and bottom sensor production, with players' market share is collectively linked with detailed assumptions
- Forecast are performed by carefully carrying forward the five year growth rate with the analyst appreciation of each application market dynamics in mind.

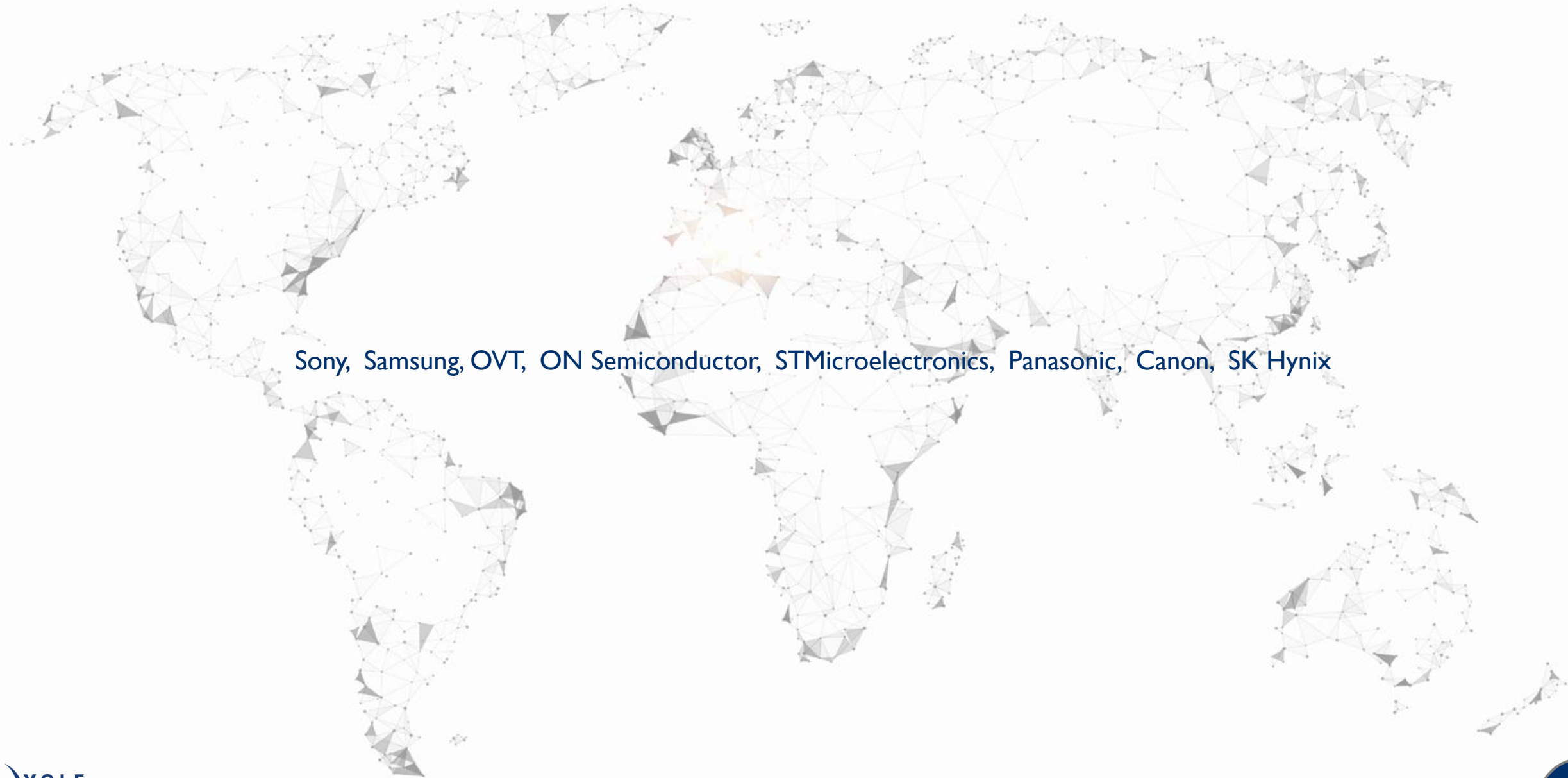
We collect data from several sources, including:

- Primary information from direct contacts and surveys with equipment & materials suppliers
- Primary information from cost analysis and teardown reports conducted by *System Plus Consulting*
- Secondary information from Quarterly/Annual report/publications of key players
- Comparisons between publicly-available secondary data from *WSTS, OICA, IFR* etc.

As a result, we can present synthetic market metrics intrinsic to a specific industry:

- Our approach's main advantage is the delivery of homogeneous data, ranging from unit shipments and system sales to players' market share
- We quarterly update the market information presented in this monitor

COMPANIES MONITORED IN THIS PRODUCT



Sony, Samsung, OVT, ON Semiconductor, STMicroelectronics, Panasonic, Canon, SK Hynix

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CIS technology

- CIS wafer production per segment
- Per technology (CIS, LOGIC, DRAM)
- Shipments by CIS technology node (XX nm)
- Shipments by technology (FSI, BSI, Stack BSI, Multi-Stack)

CIS supply

- Industry wafer production (CIS wafer production, per foundry - Long/near term - VIS and NIR)
- Industry wafer capacity estimation

CIS player

- Sony – Revenue per quarter and per application
- Samsung – Market mix
- OVT – Market mix
- ON Semiconductor – Market mix
- STMicroelectronics – Market mix
- Panasonic – Market mix
- Canon – Market mix
- SK Hynix – Market mix
- Others – Market mix

ABOUT THE AUTHORS

Biographies & contact



Pierre CAMBOU

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 is responsible for the CIS Quarterly Market Monitor while he has authored more than 15 Yole Market & Technology reports. 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).

Known as an expert in the imaging industry, he is regularly interviewed and quoted by leading international media.

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).

Contact: pierre.cambou@yole.fr



Chenmeijing LIANG

Chenmeijing Liang works as a Technology & Market Analyst within the Photonics, Sensing & Display Division at Yole Développement (Yole).

As part of the Imaging team, Chenmeijing contributes analyses of CIS markets, related technologies and market strategies of the leading semiconductor companies, as well as the quarterly reports.

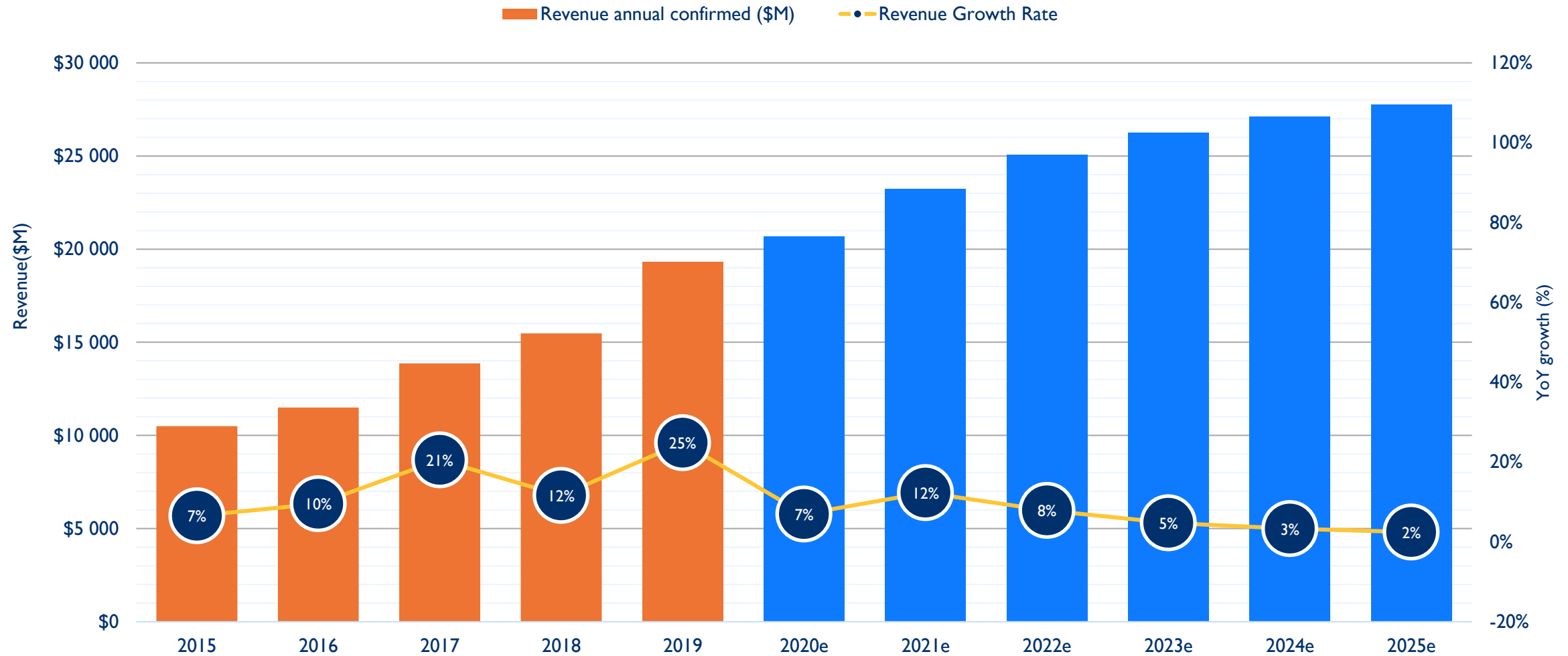
Prior to Yole, she was engaged in the development of R&D projects: Chenmeijing was a member of Group PSA R&D department where she worked on Vehicle 3D Imaging projects. In addition, she assisted with various technical and commercial projects.

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).

Contact: chenmeijing.liang@yole.fr

QUARTERLY MARKET MONITOR SAMPLE – CMOS IMAGE SENSOR SERVICE

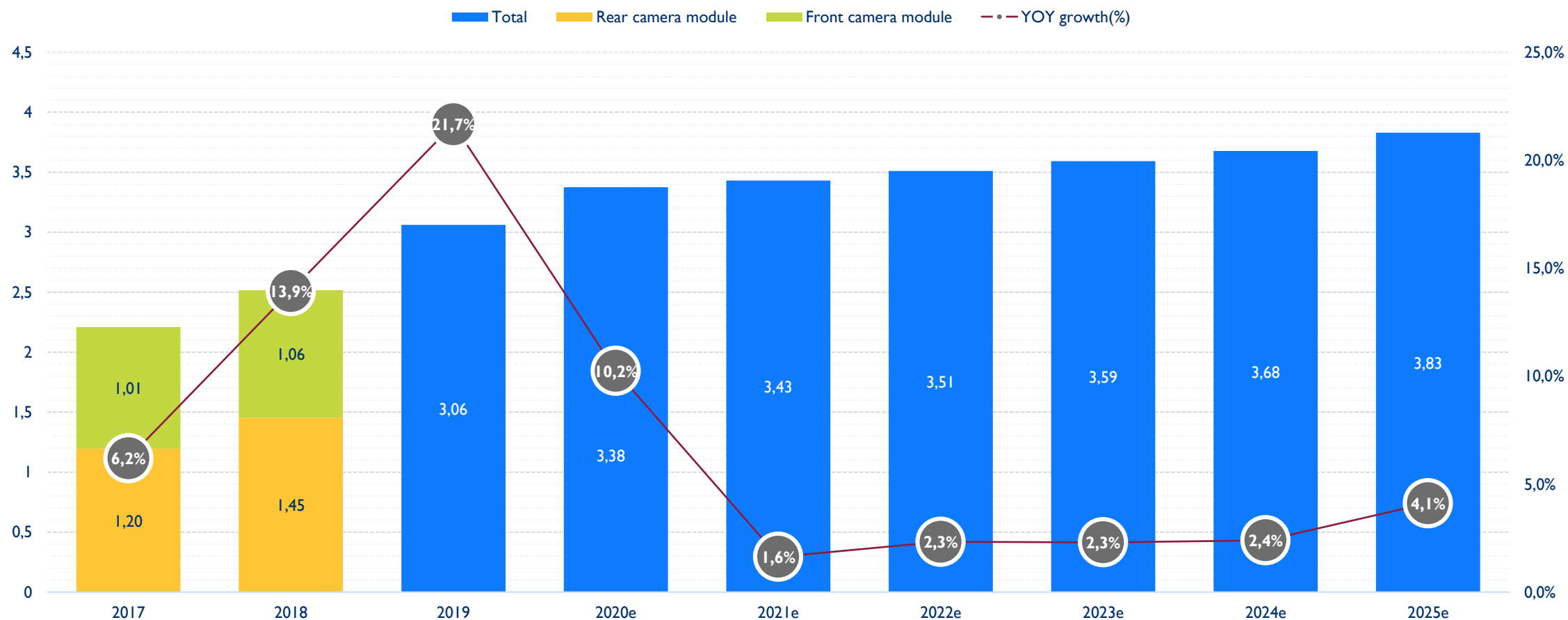
CIS MARKET REVENUE



- *Market growth should be maintained high growth until 2025*
- *Market saturation could be reached in 6 years.*

MOBILE – CIS CAMERAS PER SMARTPHONE

CIS cameras per smartphone

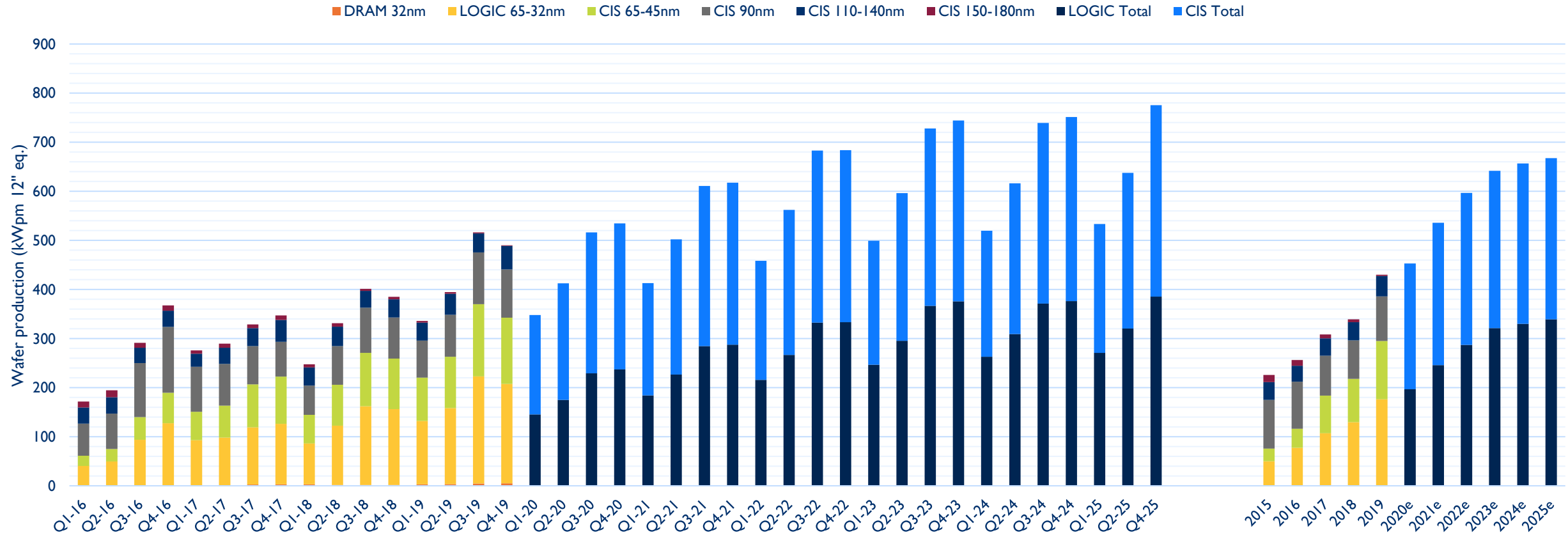


- CIS revenues increase has been in part driven by volume due to multiple camera approach
- Proliferation of cameras for mobile imaging and sensing

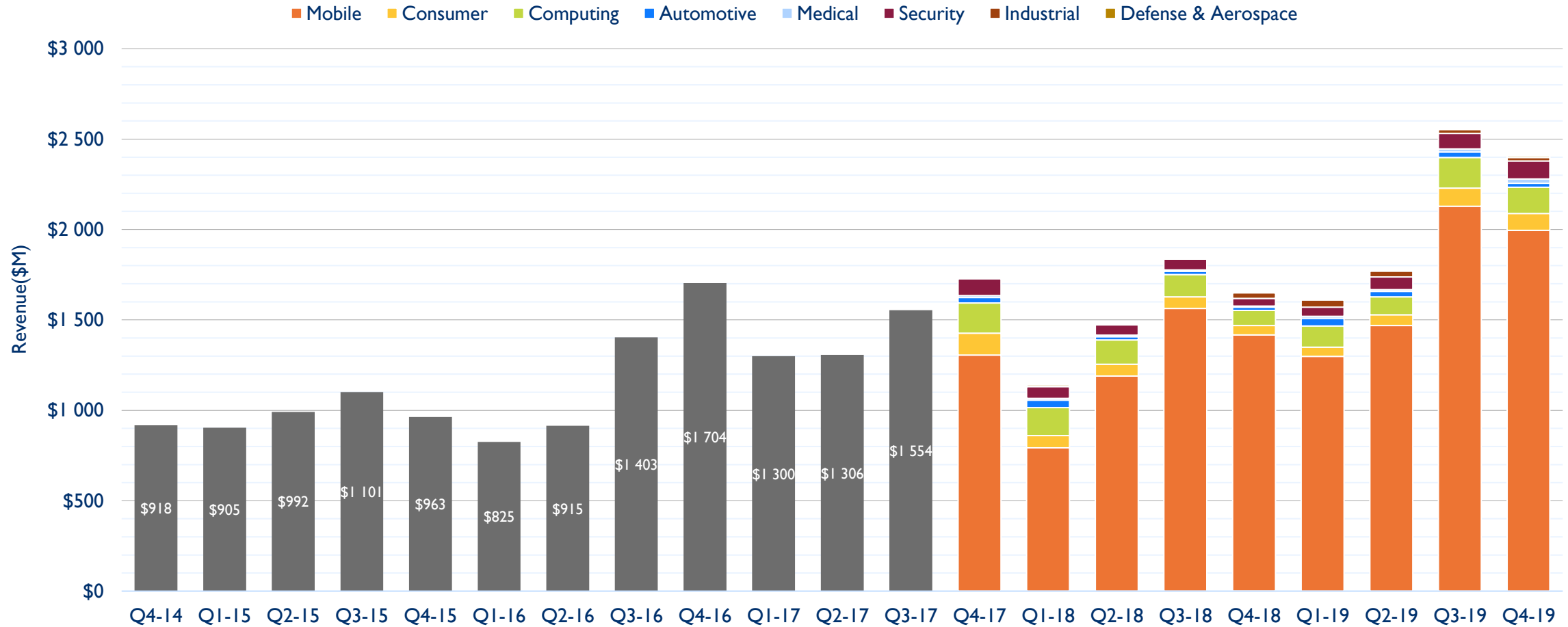
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WAFER SHIPMENTS BY TECHNOLOGY

- CIS & LOGIC & MEMORY wafers per technology node



SONY – MARKET MIX





CIS Market Monitor Q1 2020

Covering the entire CIS market: Mobile, Consumer, Computing, Automotive, Medical, Security, Industrial , Aerospace & Defense

CIS Market (Revenue Shipment, Pricing)

	2016	2017	2018	2019	2020e	2021e	2022e	2023e	2024e	2025e	CAGR
Revenue annual (\$M)	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	X%
Revenue Growth Rate	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	
Shipment annual (Munit)	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	X%
Shipment Growth Rate	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	
ASP annual (\$)	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	X%
ASP Growth Rate	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	

Database Quarterly

	Q4-18	Q1-19	Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22
Revenue quartely (\$M)	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX
Shipment quarterly (Munit)	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
ASP quarterly (\$)	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX	\$XX
ASP quarterly growth	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%	X%

YOLE GROUP OF COMPANIES RELATED REPORTS

Yole Développement

3D Imaging & Sensing 2020



Status of the Camera Module Industry 2019 - Focus on Wafer Level Optics



Status of the CMOS Image Sensor Industry 2019



Imaging for Automotive 2019



Contact our Sales Team for more information





Contact our Sales Team for more information



Mobile Camera Module Comparison 2019



Mobile CMOS Image Sensor Comparison 2019



CONTACT INFORMATION

○ CONSULTING AND SPECIFIC ANALYSIS, REPORT BUSINESS

• North America:

- **Steve LaFerriere**, Senior Sales Director for Western US & Canada
Email: laferriere@yole.fr – +1 310 600-8267
- **Chris Youman**, Senior Sales Director for Eastern US & Canada
Email: chris.youman@yole.fr – +1 919 607 9839

• Japan & Rest of Asia:

- **Takashi Onozawa**, General Manager, Asia Business Development (India & ROA)
Email: onozawa@yole.fr - +81 34405-9204
- **Miho Ohtake**, Account Manager (Japan)
Email: ohtake@yole.fr - +81 3 4405 9204
- **Itsuyo Oshiba**, Account Manager (Japan & Singapore)
Email: oshiba@yole.fr - +81-80-3577-3042
- **Toru Hosaka**, Business Development Manager (Japan)
Email: toru.hosaka@yole.fr - +81 90 1775 3866

- **Korea: Peter Ok**, Business Development Director
Email: peter.ok@yole.fr - +82 10 4089 0233

- **Greater China: Mavis Wang**, Director of Greater China Business Development
Email: wang@yole.fr - +886 979 336 809 / +86 136 61566824

- **Europe & RoW: Lizzie Levenez**, EMEA Business Development Manager
Email: levenez@yole.fr - +49 15 123 544 182

○ FINANCIAL SERVICES (in partnership with Woodside Capital Partners)

- **Jean-Christophe Eloy**, CEO & President
Email: eloy@yole.fr - +33 4 72 83 01 80
- **Ivan Donaldson**, VP of Financial Market Development
Email: ivan.donaldson@yole.fr - +1 208 850 3914

○ CUSTOM PROJECT SERVICES

- **Jérôme Azémar**, Technical Project Development Director
Email: azemar@yole.fr - +33 6 27 68 69 33

○ GENERAL

- **Camille Veyrier**, Director, Marketing & Communication
Email: veyrier@yole.fr - +33 472 83 01 01
- **Sandrine Leroy**, Director, Public Relations
Email: leroy@yole.fr - +33 4 72 83 01 89
- **Email: info@yole.fr** - +33 4 72 83 01 80

