

環宇
芯系天下

**Q3 2017
Quarterly
Online Investor
Conference
(線上法說會)**

Nov 03, 2017



環宇通訊半導體
Global Communication Semiconductors, LLC



"Enabling Today's Global
Communications
and Beyond"

Disclaimer Statement



This presentation includes forward-looking statements. All statements, other than statements of historical facts, that address activities, events or developments that GCS Holdings, Inc. expects or anticipates will or may occur in the future (including but not limited to projections, targets, estimates and business plans) are forward-looking statements.

GCS's actual results or developments may differ materially from those indicated by these forward-looking statements as a result of various factors and uncertainties, including but not limited to price fluctuations, actual demand, exchange rate fluctuations, market share, competition, environmental risks, change in legal, financial and regulatory frameworks, government policies, international economic and financial market conditions, political risks, cost estimates and other risks and factors beyond our control.

GCS does not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

Agenda



Opening:

Brian Ann, CEO & President

Financial Section:

Grace Li, Director & Special Assistant to CEO

Market Overview:

Simon Yu, Senior VP and General Manager,
Worldwide Sales & Marketing and Component
Business

Q&A: All

FINANCIAL SECTION

Statements of Comprehensive Income - QoQ



(in NT\$ thousands except EPS)

	3Q17	2Q17	3Q16	3Q17 Over 2Q17	3Q17 Over 3Q16
Net Operating Revenue	529,100	458,228	455,727	15.5%	16.1%
Gross Profit	223,559	248,075	238,896	-9.9%	-6.4%
Gross Margin	42.3%	54.1%	52.4%		
Operating Expenses	(122,873)	(107,349)	(128,961)	14.5%	-4.7%
Operating Expenses to Revenue %	23.2%	23.4%	28.3%		
Operating Income	100,686	140,726	109,935	-28.5%	-8.4%
Operating Margin	19.0%	30.7%	24.1%		
Non-operating Items	23,764	(55,560)	25,695	-142.8%	-7.5%
Net Income	112,602	65,995	118,699	70.6%	-5.1%
Net Profit Margin	21.3%	14.4%	26.0%		
Basic EPS (NTD)	1.49	0.91	1.67		
Diluted EPS (NTD)	1.47	0.90	1.21		
R&D Expense % to Revenue	7.7%	9.0%	9.4%		
Legal expense related to merger (San'an)	-	-	7,945		

Note 1: 75,337,662 shares and 78,040,146 shares were used in basic EPS and diluted EPS calculation for 3Q17, respectively.

Note 2. Revenue supplemental information

	3Q17	2Q17	3Q16	3Q17 Over 2Q17	3Q17 Over 3Q16
Revenue in US\$ thousand	17,461	15,113	14,363	15.5%	21.6%
Exchange Rate	30.54	30.68	32.43		

Non-operating Income and Expenses- QoQ



(in NT\$ thousands)

	3Q17	2Q17	3Q16	3Q17 Over 2Q17	3Q17 Over 3Q16
Other Income	771	1,208	689	-36.2%	11.9%
Other Gains and Losses					
Net Gain or (losses) on financial liabilities at fair value through profit or loss	2,400	(51,639)	21,933	-104.6%	-89.1%
Net currency exchange gain or (loss)	(2,138)	503	(11,930)	-525.0%	-82.1%
Gain on disposal of investment	28,024	1,357	21,400	-	31.0%
Dividend Income			917		
Finance Cost					
Interest expense for convertible bonds (Note)	(3,612)	(5,485)	(5,649)	-34.1%	-36.1%
Other interest expense	(1,378)	(1,504)	(1,665)	-8.4%	-17.2%
Share of profit of equity-accounted investees	(303)	-	-		
Total Non-operating Income and Expenses	23,764	(55,560)	25,695	-142.8%	-7.5%

Note: Amortization of discount on convertible bonds

Statements of Comprehensive Income – YoY



(in NT\$ thousands except EPS)

	2017 Jan to September	%	2016 Jan to September	%	Change (%)
Net Operating Revenue	1,399,020	100.0%	1,400,785	100.0%	-0.1%
Operating Cost	(740,074)	-52.9%	(733,610)	-52.4%	0.9%
Gross Profit	658,946	47.1%	667,175	47.6%	-1.2%
Operating Expenses	(342,121)	-24.5%	(392,314)	-28.0%	-12.8%
Operating Income	316,825	22.6%	274,861	19.6%	15.3%
Non-operating items	(2,580)	-0.2%	(25,994)	-1.9%	-90.1%
Income before Income Tax	314,245	22.5%	248,867	17.8%	26.3%
Income Tax	(37,384)	-2.7%	(30,708)	-2.2%	21.7%
Net Income	276,861	19.8%	218,159	15.6%	26.9%
Basic EPS (NTD)	3.76		3.04		
Diluted EPS (NTD)	3.72		3.00		
Average Exchange Rate-USD/NTD	30.54		32.43		
R&D expense % to Revenue	8.8%		9.1%		
ROA (%)	13.1%		11.7%		
ROE (%)	16.4%		16.1%		
Legal expense related to merger (San'an)	-		42,840		

Note 1: 73,714,217 shares and 74,406,369 shares were used in basic EPS and diluted EPS calculation for 1H17, respectively.

Note 2. Revenue supplemental information

	Jan to Sep/2017	Jan to Sep/2016	Change (%)
Revenue in US\$ thousand	45,815	43,194	6.1%
Exchange Rate	30.54	32.43	

Non-operating Income and Expenses- YoY



(in NT\$ thousands)

	2017 Jan to September	2016 Jan to September	Change (%)
Other Income	2,945	2,276	29.4%
Other Gains and Losses			
Net Gain or (losses) on financial liabilities at fair value through profit or loss	10,211	(23,935)	-142.7%
Net currency exchange gain or (loss)	(25,914)	(17,022)	52.2%
Gain on disposal of investment	29,381	36,383	-19.2%
Dividend income	-	917	-
Finance Cost			
Interest expense for convertible bonds (Note)	(14,540)	(19,255)	-24.5%
Other interest expense	(4,360)	(5,308)	-17.9%
Share of profit of equity-accounted investees	(303)	-	-
Total Non-operating Income and Expenses	(2,580)	(25,944)	-90.1%

Note: Amortization of discount on convertible bonds

Balance Sheet Highlight & Key Indices



(in NT\$ thousands)

	3Q17		2Q17		3Q16	
	Amount	%	Amount	%	Amount	%
Cash and Cash Equivalent	1,102,027	36%	1,288,575	45%	1,355,827	48%
Available-for-Sale Financial Assets-Current Asset	-	0%	42,711	2%	-	0
Accounts Receivable and Notes Receivable	317,107	10%	242,033	8%	266,988	9%
Inventory	371,005	12%	342,131	12%	359,952	13%
Available-for-Sale Financial Assets-Non current	-	0%	-	0%	22,370	1%
Investments accounted for under the Equity Method	14,930	0%	14,906	1%	-	0%
Net Property, Plant and Equipment	638,352	21%	505,528	17%	475,107	17%
Deferred Tax Assets	199,687	6%	200,743	7%	194,849	7%
Intangible Assets	185,926	6%	10,470	0%	13,341	0%
Total Assets	3,086,846	100%	2,896,661	100%	2,829,255	100%
Short Term Loan	20,000	1%	20,000	1%	-	0%
Financial Liabilities at Fair Value through Profit and Loss	23,782	1%	58,671	2%	104,318	4%
Accounts Payable and Other Payables	306,272	10%	202,137	7%	172,665	6%
Bond Payable - Current Portion	109,902	4%	253,655	9%	340,421	12%
Long Term Bank Borrowings - Current Portion	19,492	0%	19,397	1%	17,748	1%
Long Term Bank Loans	82,061	2%	87,461	3%	106,897	4%
Total Liabilities	663,704	21%	758,595	26%	860,435	30%
Total Stockholders' Equity	2,423,142	79%	2,138,066	74%	1,968,820	70%

Key Indices

Current Ratio	358%	336%	299%
Debt Ratio	21%	26%	30%
AR Turnover Days	53	49	47
Inventory Turnover Days	163	179	158

Cash Flows



(in NT\$ thousands)

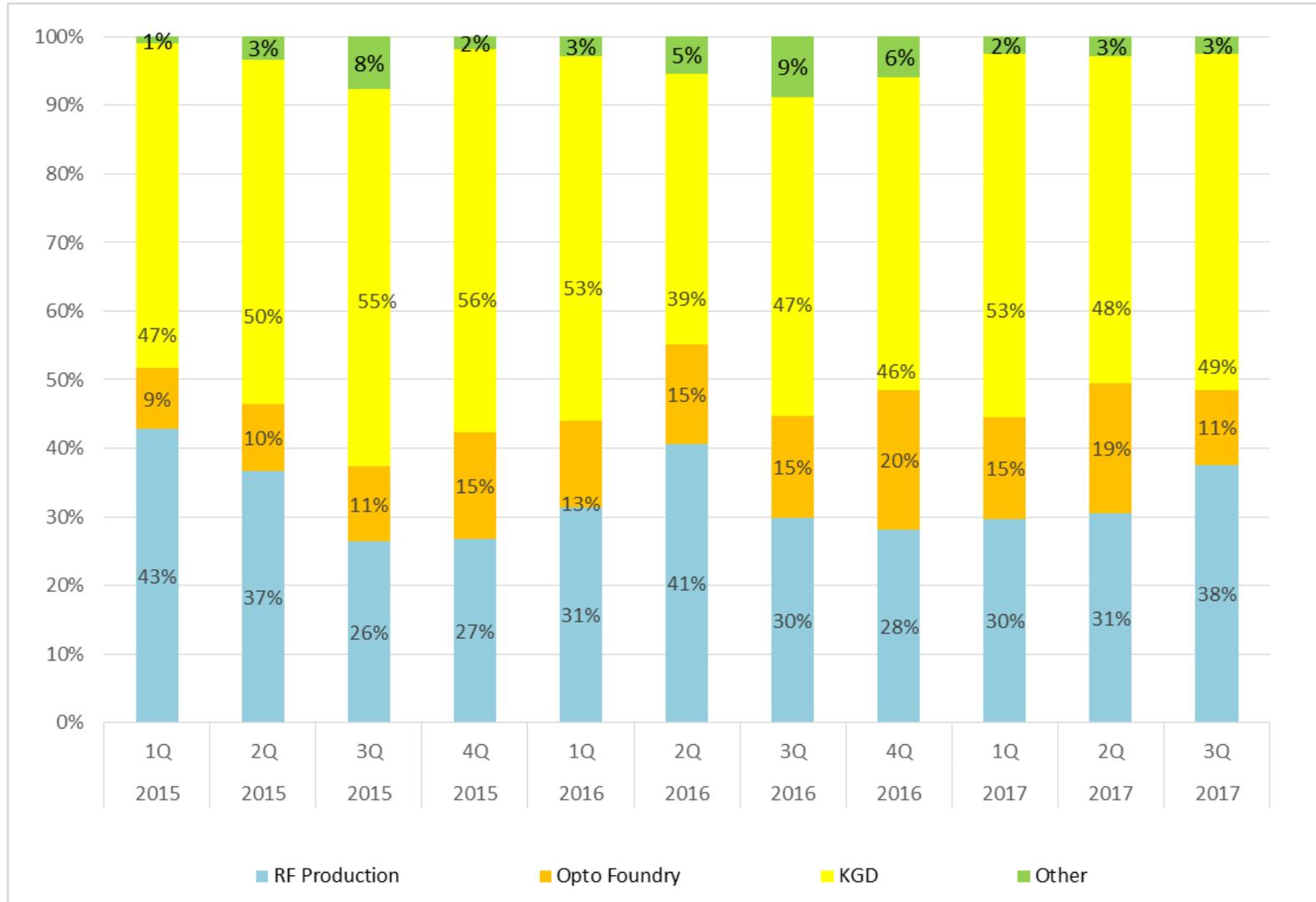
	3Q17	2Q17	3Q16
Beginning Balance	1,288,575	1,259,062	1,290,702
Cash from Operating Activities	233,361	80,188	72,797
Acquisition of property, plant and equipment	(60,898)	(32,301)	(21,164)
Decrease (Increase) in non-current assets	260	30,830	-
Decrease (Increase) in other current assets		(30,420)	-
Acquisition of investments accounted for under the equity method	0	(14,906)	-
Proceeds from the sale of available-for-sale financial assets	35,381	1,635	44,642
Acquisition of Subsidiaries	(395,070)	-	-
Acquisition of intangible assets	(1,034)	-	-
Proceeds from Short-term Loan	0	-	-
Repayments of long-term loans	(4,742)	(4,708)	(6,400)
Treasury stock buyback	0	0	(9,908)
Employee Option Exercise	15,819	-	10,825
The effect of exchange rate changes	(9,634)	(2,476)	(25,586)
Others	9	1,671	(91)
Ending Balance	1,102,027	1,288,575	1,355,817
Free Cash Flow (Note)	172,463	47,887	51,633

Note: Free Cash Flow = Cash from Operating Activities - Capital Expenditures

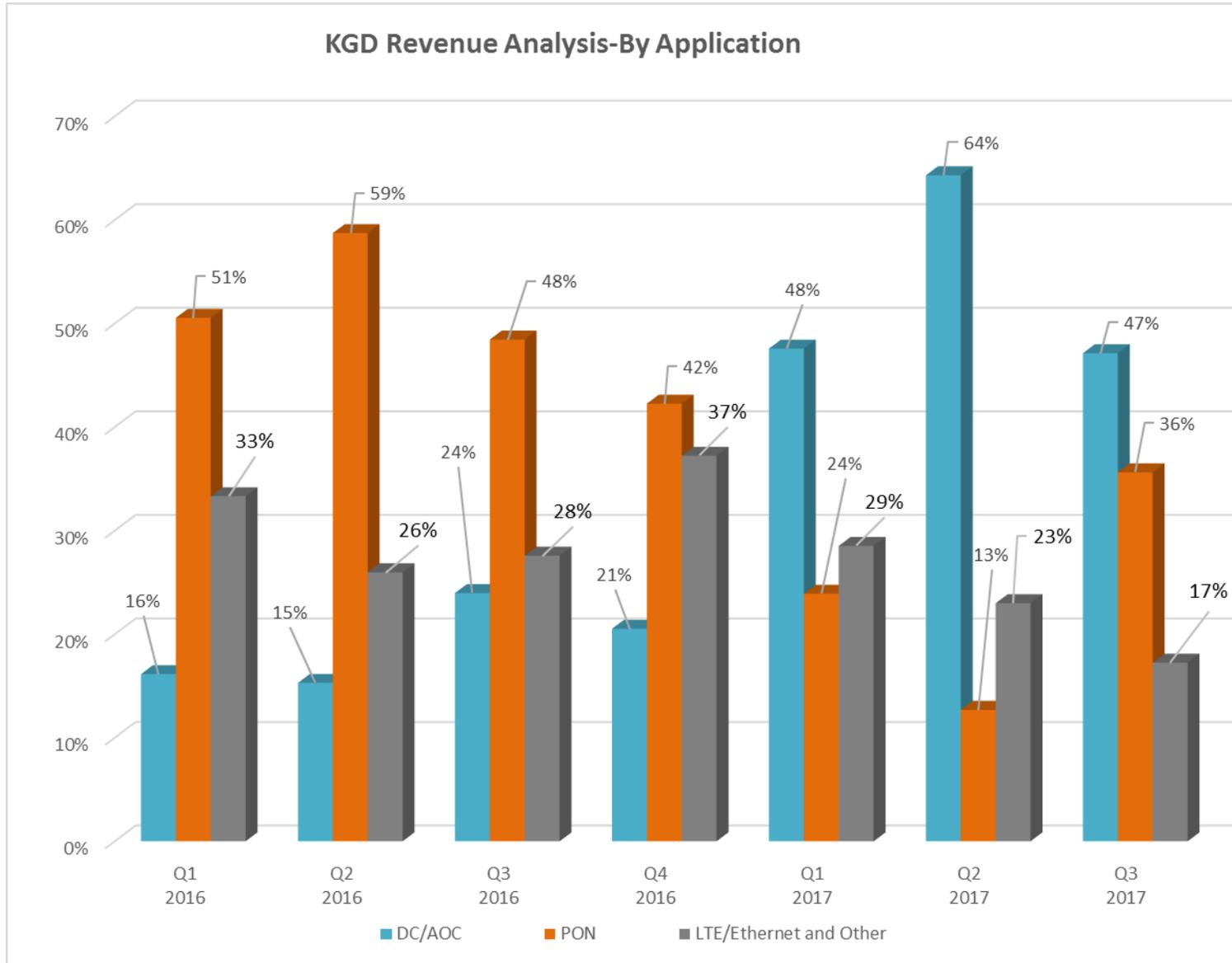
Revenue Mix % vs Gross Margin - QoQ



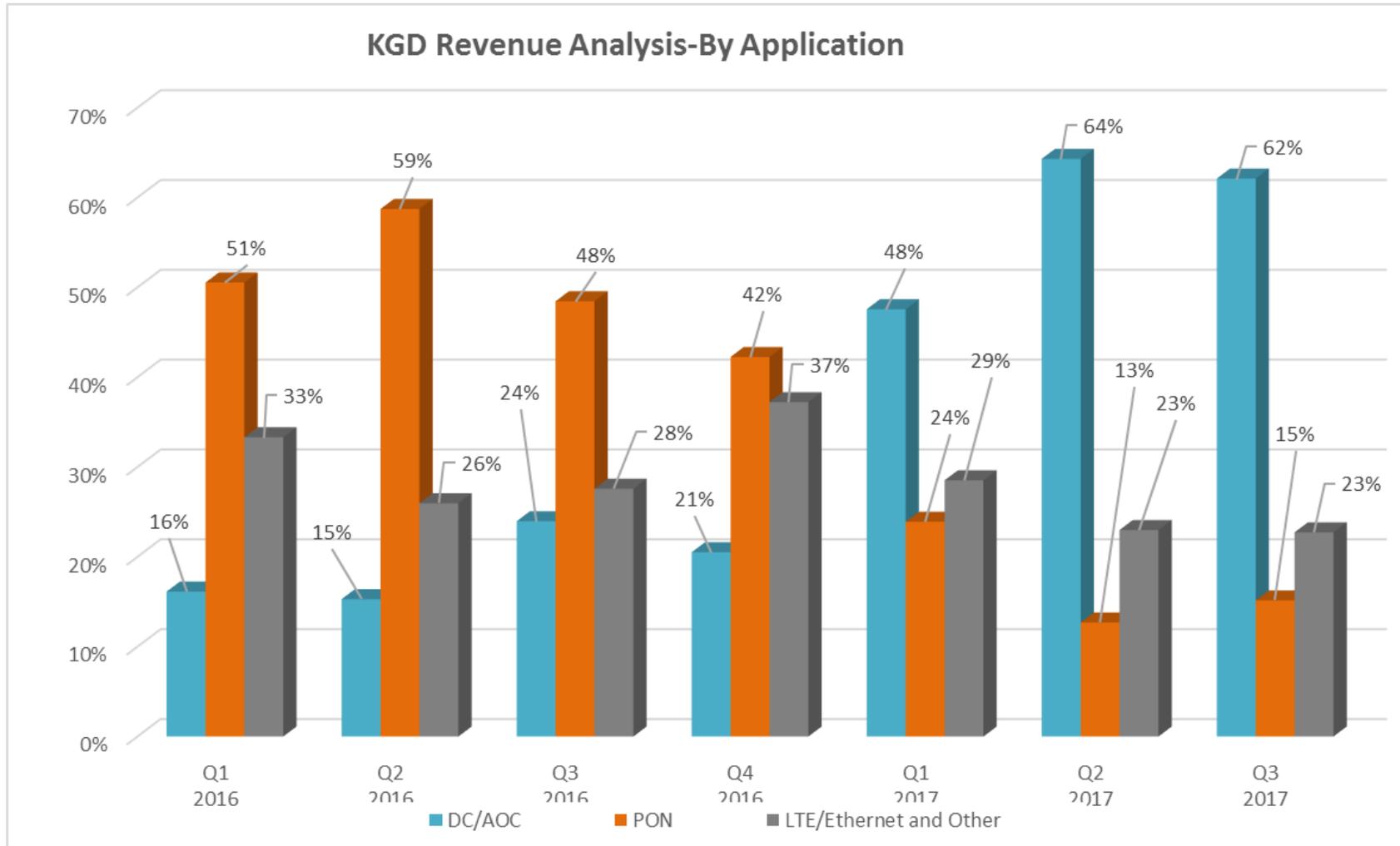
Revenue Mix without D-Tech - QoQ



KGD Revenue Mix - QoQ



KGD Revenue Mix without D-Tech - QoQ



MARKET OVERVIEW

Wafer Foundry

RF

**Power
Electronics**

**Opto
electronics**

**Brand Name Opto
Chip Products**

PD/MPD

APD

VCSEL

LD

KGD

GCS Brand Name Products: Applications & Markets



PD, MPD, APD, VCSEL, LD

**Data
Centers**



40G
100G
200G
400G

**Consumer
&
IoT**



AOC
HDMI
Mobile
Wearable

**Optical
Fiber
Networks**



LTE
(4/4.5/5G)
FTTx

RF Foundry Products: Applications & Markets



RF Wafer Foundry

**GaAs (HBT, PHEMT),
InP HBT, GaN/Si · GaN/SiC HEMT**

**Wireless
(Mobile & Infrastructure)**



**Base Station
Mobile Phones
4/4.5/5G**



**Wifi
802.11AC
802.11AX**

Power Electronics Foundry Products: Applications & Markets



Power Electronics Wafer Foundry

GaN/Si · GaN/SiC, SiC



Optoelectronics Foundry Products: Applications & Markets



Optoelectronics Wafer Foundry

**APD, VCSEL, FP/DFB LD,
EML, 2D Image Sensors
Photonic Integrated
Circuits.....**

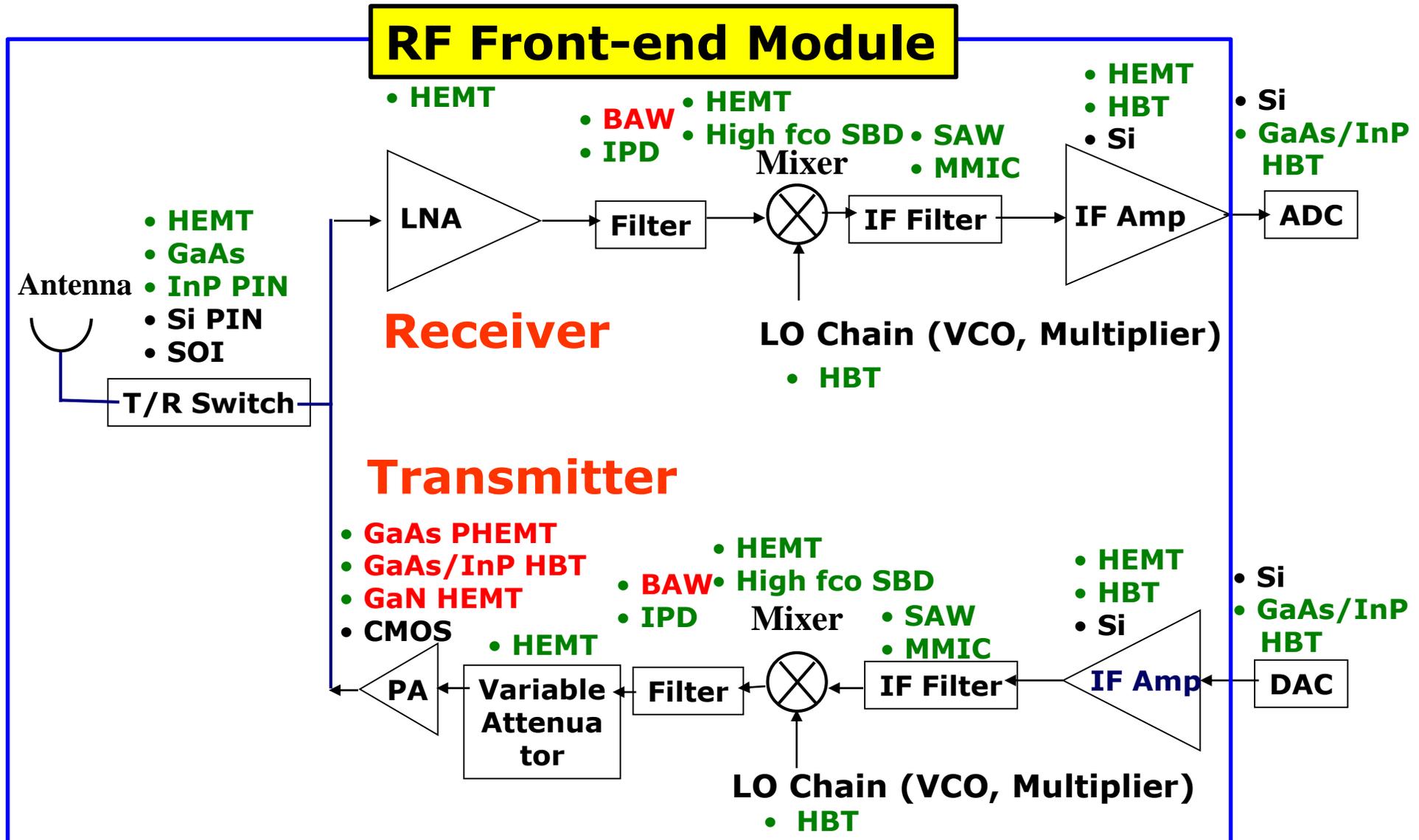
**Optical
Fiber
Networks**

Industrial

Medical

Typical RF Transceiver Block Diagrams

GCS has all the Preferred Device Technologies



❖ Sub-6 GHz

- 0.25um – 0.4um GaN HEMT for BTS PA
- P3 InGaP HBT for handset PA
- If phased array is needed, HBT-PIN switch for single-chip PA-Phase Shifter
- BAW for >2GHz RF filters

❖ mmW (28 – 40 GHz)

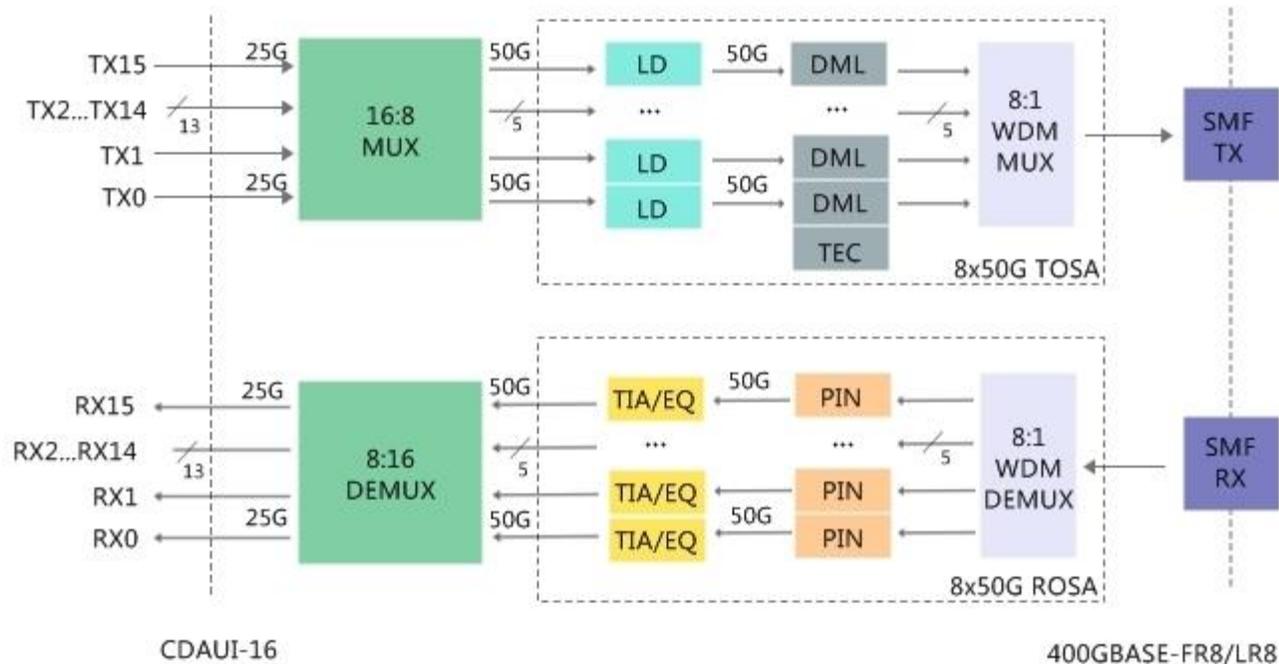
- 0.15um GaN HEMT for BTS wide band PA
- InP HBT for handset PA
- InP HBT-PIN switch for single-chip PA-Phase Shifter
- 0.25um InP HEMT-PIN for single-chip LNA-Phase Shifter
- InP BiHEMT for single-chip PA/LNA/Switch/Phase Shifter

400G



400G optical transceiver → \$22.6B (2023)
(Wintergreen Research, Inc)

400G CFP8 FR8 and LR8 with pulse amplitude modulation
(PAM4) technology



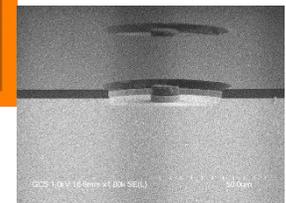
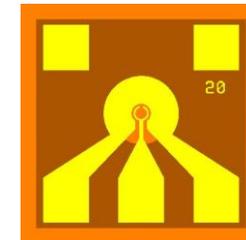
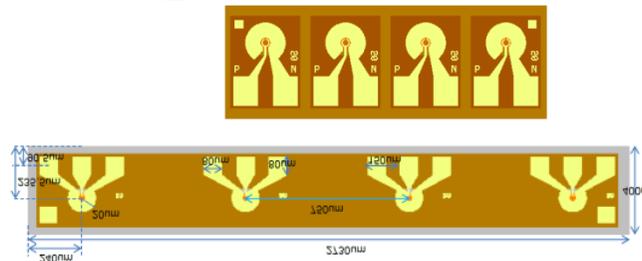
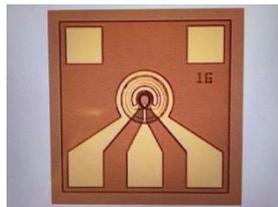
5G:

- Super High Linearity HBT Processes
- High Frequency PHEMT and InP HBT Processes
- High Frequency Filters Process

+ 6" FAB

400G: 100G/200G in production

- Super Fast Photodiodes
- VCSEL coming soon



Other Technologies For High Volume Products



- **High PCE VCSEL for 3D Sensing (on 6" wafer)**
- **Advanced APD array for LiDAR**
- **Advanced Micro-LED process**
- **VCSEL with integrated micro-lens for ADAS and LiDAR**
- **GaAs high power laser for commercial cooking**



- **LTE Infrastructure**
 - **5G is coming FAST!**
 - **Drive RF and Optical Modules**
- **PON**
 - **2.5G GPON recovers**
 - **10G PON fast grows**
- **Data Center**
 - **100G major in 2018**
 - **200G/400G start production in 2018**

Q & A

THANK YOU!

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5G



400G



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**For further inquiry
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