

環宇
芯系天下

**Q4 2017
Quarterly
Online Investor
Conference
(線上法說會)**

Feb 27, 2018



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)

	4Q17	3Q17	4Q16	4Q17 Over 3Q17	4Q17 Over 4Q16
Net Operating Revenue	526,812	529,100	418,921	-0.4%	25.8%
Gross Profit	236,957	223,559	150,061	6.0%	57.9%
Gross Margin	45.0%	42.3%	35.8%		
Operating Expenses	(104,199)	(122,873)	(119,749)	-15.2%	-13.0%
Operating Expenses to Revenue %	19.8%	23.2%	28.6%		
Operating Income	132,758	100,686	30,312	31.9%	338.0%
Operating Margin	25.2%	19.0%	7.2%		
Non-operating Items	(22,950)	23,764	33,876	-196.6%	-167.7%
Income before Income Tax	109,808	124,450	64,188	-11.8%	71.1%
Income Tax	(29,622)	(11,848)	7,523	150.0%	-493.8%
Net Income	80,186	112,602	71,711	-28.8%	11.8%
Net Profit Margin	15.2%	21.3%	17.1%		
Basic EPS (NTD)	1.03	1.49	0.99		
Diluted EPS (NTD)	1.02	1.47	0.42		
R&D Expense % to Revenue	7.5%	7.7%	9.5%		

Note 1: 78,249,104 shares and 78,742,368 shares were used in basic EPS and diluted EPS calculation for 4Q17, respectively.

Note 2. Revenue supplemental information

	4Q17	3Q17	4Q16	4Q17 Over 3Q17	4Q17 Over 4Q16
Revenue in US\$ thousand	17,469	17,461	13,214	0.05%	32.1%
Exchange Rate	30.43	30.54	32.26		

Non-operating Income and Expenses- QoQ



(in NT\$ thousands)

	4Q17	3Q17	4Q16	4Q17 Over 3Q17	4Q17 Over 4Q16
Other Income	1,257	771	1,190	63.0%	5.6%
Other Gains and Losses					
Net Gain or (losses) on financial liabilities at fair value through profit or loss	(19,196)	2,400	29,283	-899.8%	-165.6%
Net currency exchange gain or (loss)	(2,129)	(2,138)	10,519	-0.4%	-120.2%
Gain on disposal of investment	-	28,024	-	-	-
Gain on disposal of Property, plant and equipment	456	-	-	-	-
Others	(105)	-	(195)	-	-46.2%
Finance Cost					
Interest expense for convertible bonds (Note)	(1,496)	(3,612)	(5,362)	-58.6%	-72.1%
Other interest expense	(1,294)	(1,378)	(1,559)	-6.1%	-17.0%
Share of profit of equity-accounted investees	(443)	(303)	-		
Total Non-operating Income and Expenses	(22,950)	23,764	33,876	-196.6%	-167.7%

Note: Amortization of discount on convertible bonds

Statements of Comprehensive Income – YoY



(in NT\$ thousands except EPS)

	2017	%	2016	%	Change (%)
Net Operating Revenue	1,925,832	100.0%	1,819,706	100.0%	5.8%
Operating Cost	(1,029,929)	-53.5%	(1,002,470)	-55.1%	2.7%
Gross Profit	895,903	46.5%	817,236	44.9%	9.6%
Operating Expenses	(446,320)	-23.2%	(512,063)	-28.1%	-12.8%
Operating Income	449,583	23.3%	305,173	16.8%	47.3%
Non-operating items	(25,530)	-1.3%	7,882	0.4%	-423.9%
Income before Income Tax	424,053	22.0%	313,055	17.2%	35.5%
Income Tax	(67,006)	-3.5%	(23,185)	-1.3%	189.0%
Net Income	357,047	18.5%	289,870	15.9%	23.2%
Basic EPS (NTD)	4.77		4.01		
Diluted EPS (NTD)	4.73		3.62		
Average Exchange Rate-USD/NTD	30.43		32.26		
R&D expense % to Revenue	8.5%		9.2%		
ROA (%)	12.8%		11.5%		
ROE (%)	15.5%		15.6%		
Legal expense related to merger (San'an)	-		42,840		

Note 1: 74,866,980 shares and 75,418,658 shares were used in basic EPS and diluted EPS calculation for 2017, respectively.

Note 2. Revenue supplemental information

	Y2017	Y2016	Change (%)
Revenue in US\$ thousand	63,284	56,408	12.2%
Exchange Rate	30.43	32.26	

Non-operating Income and Expenses- YoY



(in NT\$ thousands)

	2017	2016	Change (%)
Other Income	4,202	3,466	21.2%
Other Gains and Losses			
Net Gain or (losses) on financial liabilities at fair value through profit or loss	(8,985)	5,348	-268.0%
Net currency exchange gain or (loss)	(28,043)	(6,553)	327.9%
Gain on disposal of investment	29,276	36,192	-19.1%
Gain on disposal of Property, plant and equipment	456	-	-
Dividend income	-	913	-
Finance Cost			
Interest expense for convertible bonds (Note)	(16,036)	(24,617)	-34.9%
Other interest expense	(5,654)	(6,867)	-17.7%
Share of profit of equity-accounted investees	(746)	-	-
Total Non-operating Income and Expenses	(25,530)	7,882	-423.9%

Note: Amortization of discount on convertible bonds

Balance Sheet Highlight & Key Indices



(in NT\$ thousands)

	4Q17		3Q17		4Q16	
	Amount	%	Amount	%	Amount	%
Cash and Cash Equivalent	1,119,712	38%	1,102,027	36%	1,381,894	47%
Accounts Receivable and Notes Receivable	297,515	10%	317,107	10%	197,245	7%
Inventory	329,834	11%	371,005	12%	348,402	12%
Available-for-Sale Financial Assets-Non current	-	0%	-	0%	31,605	1%
Investments accounted for under the Equity Method	14,520	0%	14,930	0%	-	0%
Net Property, Plant and Equipment	700,655	24%	638,352	21%	487,303	17%
Deferred Tax Assets	164,924	6%	199,687	6%	212,819	7%
Intangible Assets	183,654	6%	185,926	6%	14,671	1%
Total Assets	2,981,355	100%	3,086,846	100%	2,886,807	100%
Short Term Loan	20,000	1%	20,000	1%	-	0%
Financial Liabilities at Fair Value through Profit and Loss	31,204	1%	23,782	1%	69,504	2%
Accounts Payable and Other Payables	157,116	5%	306,272	10%	164,898	6%
Bond Payable - Current Portion	60,006	2%	109,902	4%	325,875	11%
Long Term Bank Borrowings - Current Portion	19,366	1%	19,492	0%	20,154	1%
Long Term Bank Loans	75,797	3%	82,061	2%	103,126	4%
Total Liabilities	443,786	15%	663,704	21%	817,702	28%
Total Stockholders' Equity	2,537,569	85%	2,423,142	79%	2,069,105	72%

Key Indices

Current Ratio	557%	358%	311%
Debt Ratio	15%	21%	28%
AR Turnover Days	49	53	43
Inventory Turnover Days	149	163	155

Cash Flows

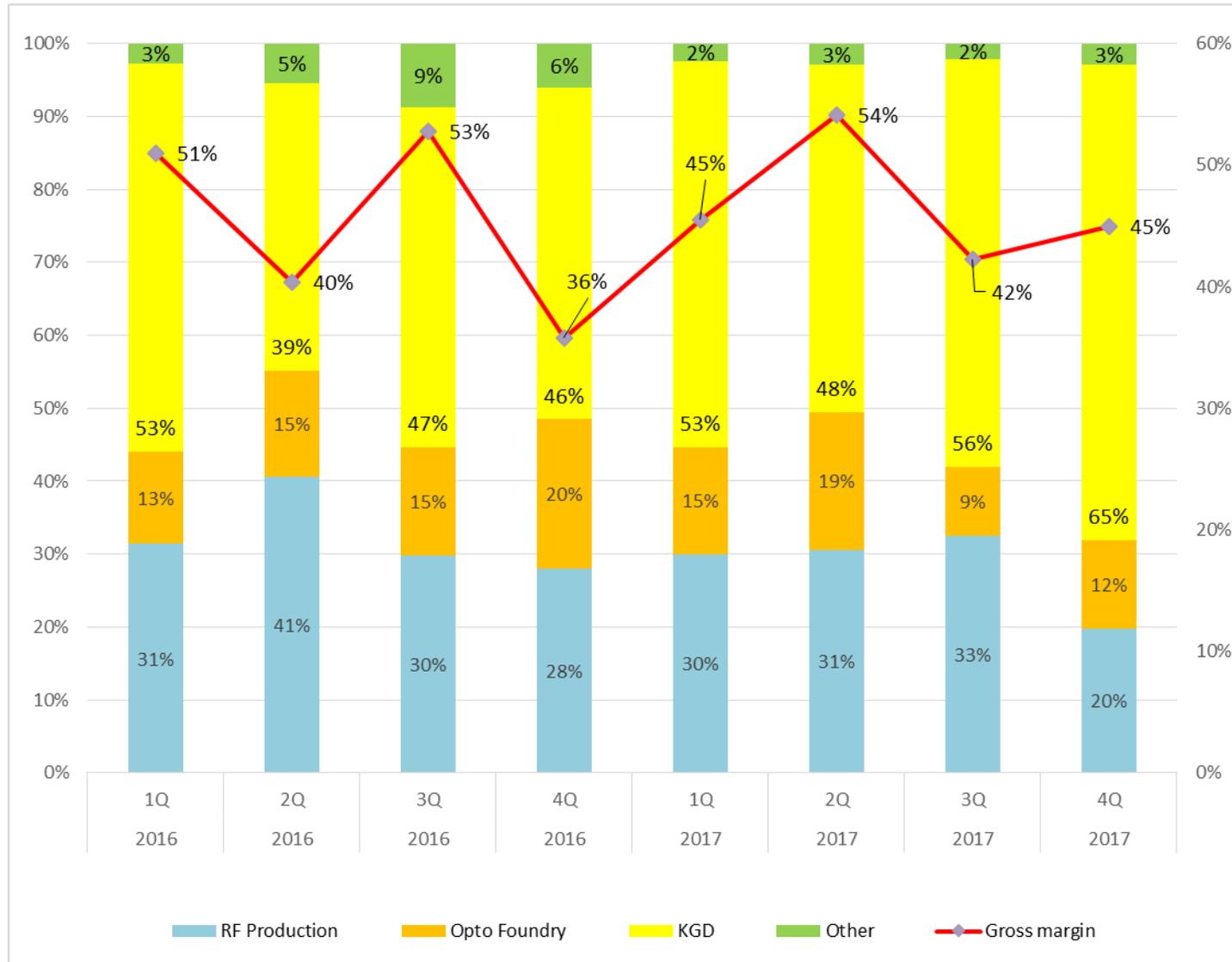


(in NT\$ thousands)

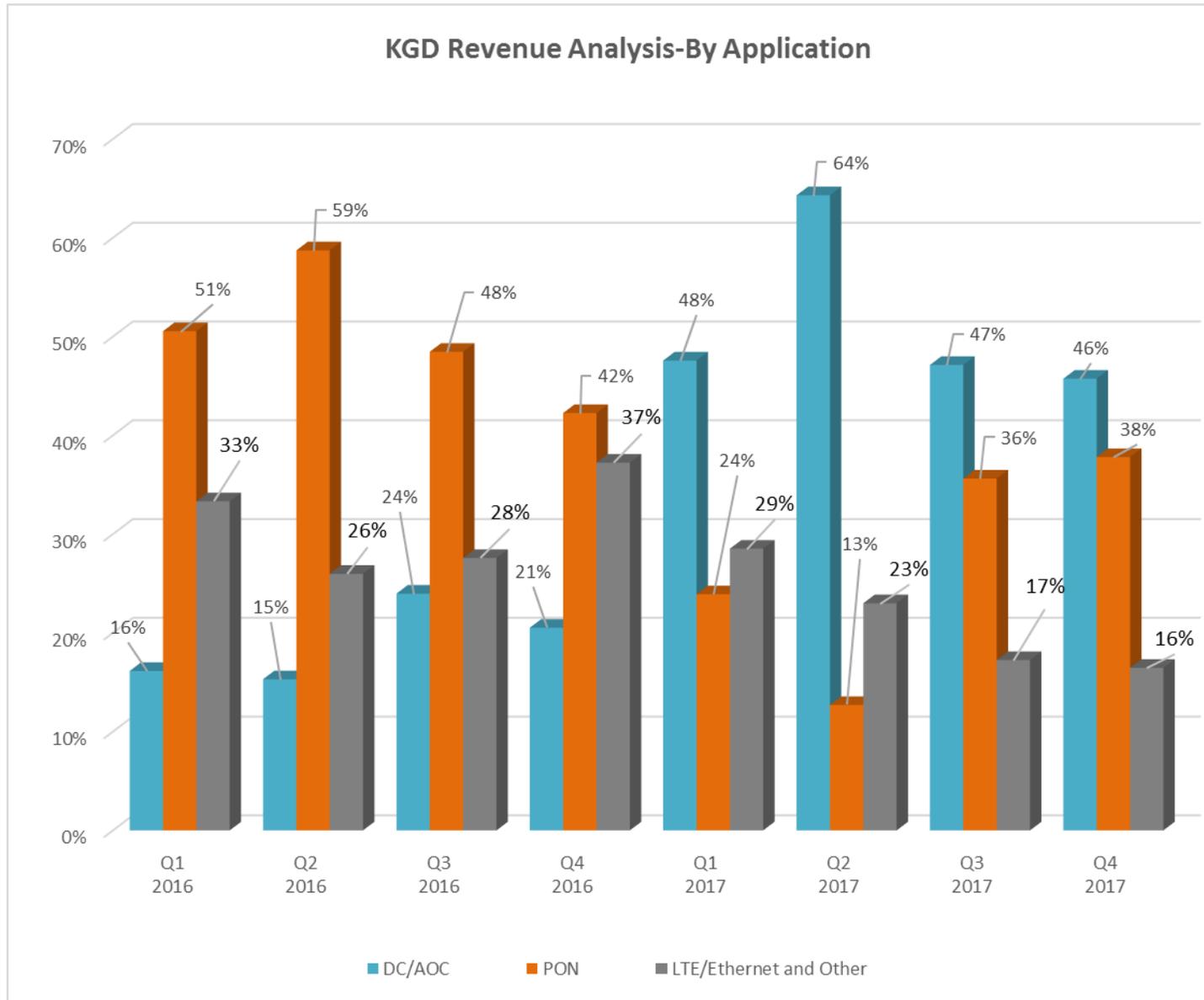
	4Q17	3Q17	4Q16
Beginning Balance	1,102,027	1,288,575	1,355,827
Cash from Operating Activities	139,933	233,361	159,222
Acquisition of property, plant and equipment	(36,105)	(60,898)	(62,433)
Decrease (Increase) in non-current assets	-	260	-
Proceeds from the sale of available-for-sale financial assets	-	35,381	-
Acquisition of Subsidiaries	-	(395,070)	-
Acquisition of intangible assets	-	(1,034)	(2,947)
Proceeds from the sale of Property, plant and equipment	456	-	-
Repayments of long-term loans	(4,767)	(4,742)	(3,185)
Treasury stock buyback	-	-	(68,007)
Employee Option Exercise	117	10,399	-
Cash Dividend Paid	(73,275)	-	(14,450)
The effect of exchange rate changes	(8,674)	(4,214)	20,148
Others	-	9	(2,281)
Ending Balance	1,119,712	1,102,027	1,381,894
Free Cash Flow (Note)	103,828	172,463	96,789

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

Revenue Mix % vs Gross Margin - QoQ



KGD Revenue Mix - 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**

**LTE
BASE
STATION**



**LTE
4G
4.5G
5G**

PON



**FTTx
2.5G
10G
25G**

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: Applications & Markets



Optoelectronics Wafer Foundry

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

Optical
Fiber
Networks

VCSEL/DFB
EML/PIC

Industrial

VCSEL/APD
LD

Medical

VCSEL
Imager

Consumer

VCSEL
(3D Sensing)
LD

❖ 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)

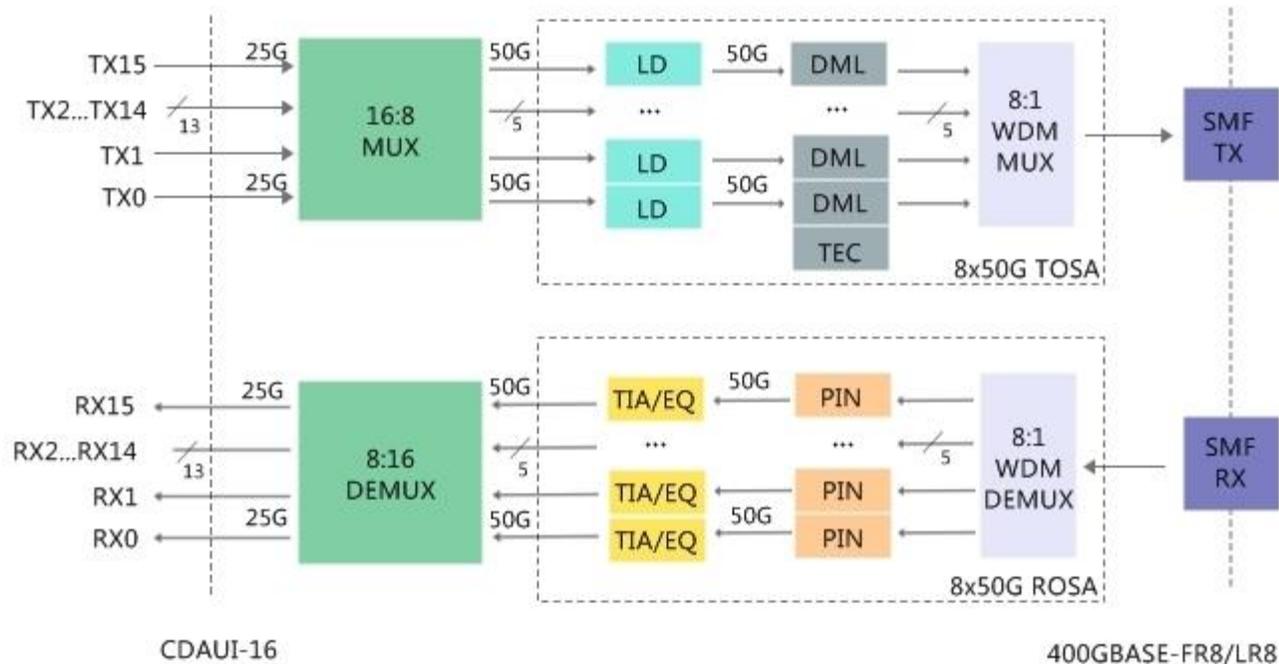
- 0.15um GaN HEMT for BTS wide band PA
- InP HBT for handset PA
- InP HBT-PIN switch for single-chip PA-Phase Shifter
- 0.25um InP HEMT-PIN for single-chip LNA-Phase Shifter
- InP BiHEMT for single-chip PA/LNA/Switch/Phase Shifter

400G



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

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



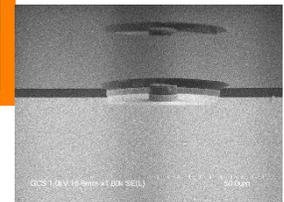
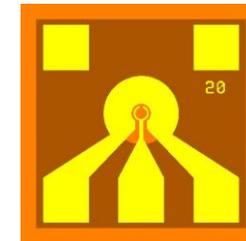
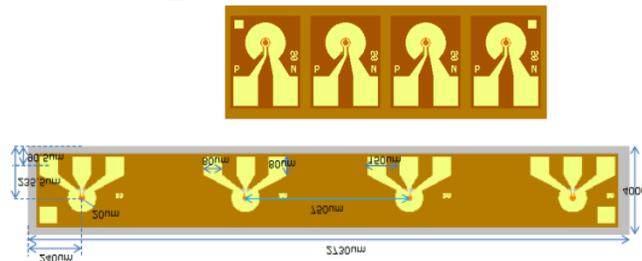
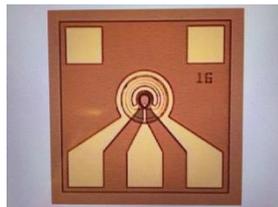
5G:

- 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**

5G in Winter Olympics



黑科技:

5G技术、AR导航、VR直播、机器人火炬手齐上阵

28GHz 5G无线网络 (20Gbps, 40x of 4G)

韩国电信运营商KT、三星以及英特尔等

在平昌、江陵一带铺设了逾1.1万公里的通信及电视转播线路，搭建了完整的5G网络环境，实现各种视频和移动设备的成功接入。5G的网络速度将比4G快20倍，观赛体验必然有极大的提高。此外还首推UHD（超高清）电视服务，韩国三家电视台从2017年5月开始提供地面电视塔发送的地面波UHD电视节目，采用数字压缩技术，拥有4K/8K画质。这次冬奥会开幕式、重要比赛都将在UHD频道提供转播，在现场的大屏幕电视上观赏4K分辨率的冰雪运动细节，毫发可见、剔透晶莹，感受将十分震撼。

AR Ways: AR导航，异国他乡不怕丢 (比GPS更加精确)

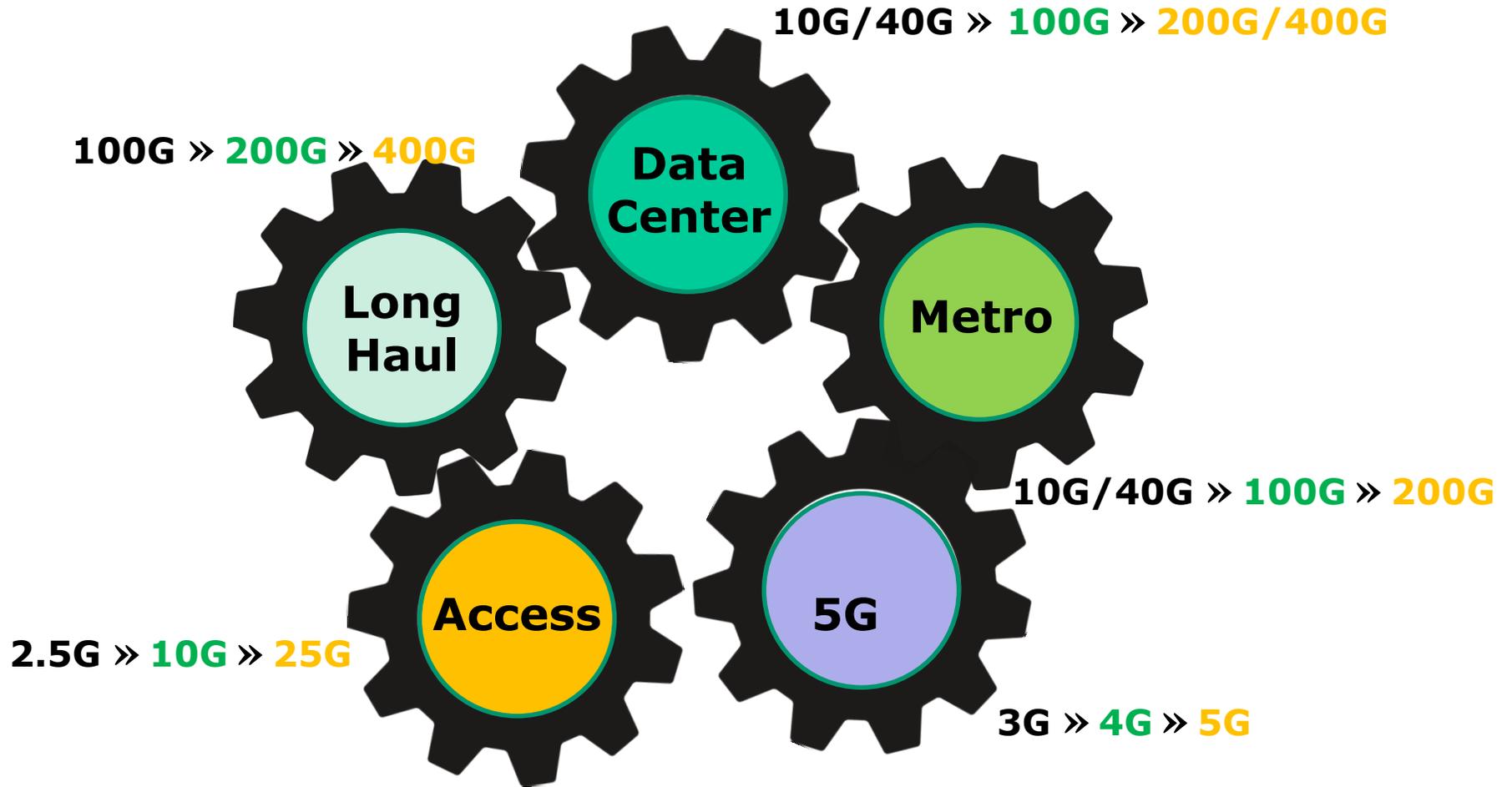
VR训练+VR直播，“身临其境”





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

Growth Cycle



Q & A



環宇芯系天下

**For further inquiry
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