

環宇  
芯系天下

**Q4 2016  
Quarterly  
Online Investor  
Conference  
(線上法說會)**

**Feb 24, 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:

Brian Ann, CEO & President

Q&A: All

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# FINANCIAL SECTION

# Statements of Comprehensive Income - QoQ



(in NT\$ thousands except EPS)

	4Q16	3Q16	4Q15	4Q16 Over 3Q16	4Q16 Over 4Q15
Net Operating Revenue	418,921	455,727	472,018	-8.1%	-11.2%
Gross Profit	150,061	238,896	230,871	-37.2%	-35.0%
Gross Margin	35.8%	52.4%	48.9%		
Operating Expenses	(119,749)	(128,961)	(117,614)	-7.1%	1.8%
Operating Income	30,312	109,935	113,257	-72.4%	-73.2%
Operating Margin	7.2%	24.1%	24.0%		
Non-operating Items	33,876	25,695	(28,396)	31.8%	-219.3%
Net Income	71,711	118,699	79,988	-39.6%	-10.3%
Net Profit Margin	17.1%	26.0%	16.9%		
Basic EPS (NTD)	0.99	1.67	1.40		
Diluted EPS (NTD)	0.42	1.21	1.37		
R&D Expense % to Revenue	9.5%	9.4%	8.2%		
Legal expense related to merger	-	7,945			

Note: 72,742,612 shares and 80,167,125 shares were used in basic EPS and diluted EPS calculation for 4Q16, respectively.

# Non-operating Income and Expenses- QoQ



(in NT\$ thousands)

	4Q16	3Q16	4Q15	4Q16 Over 3Q16	4Q16 Over 4Q15
Other Income	1,190	689	1,022	72.7%	16.4%
Other Gains and Losses					
Net Gain or (losses) on financial liabilities at fair value through profit or loss	29,283	21,933	(37,665)	33.5%	-177.7%
Net currency exchange gain or (loss)	10,519	(11,930)	17,290	-188.2%	-39.2%
Gain on disposal of investment	-	21,400	-	-100.0%	-
Dividend income	-	917	-	-100.0%	-
Other	(195)	-	-	-	-
Finance Cost					
Interest expense for convertible bonds (Note)	(5,362)	(5,649)	(7,156)	-5.1%	-25.1%
Other interest expense	(1,559)	(1,665)	(1,887)	-6.4%	-17.4%
<b>Total Non-operating Income and Expenses</b>	<b>33,876</b>	<b>25,695</b>	<b>(28,396)</b>	<b>31.8%</b>	<b>-219.3%</b>

Note: Amortization of discount on convertible bonds

# Statements of Comprehensive Income – YoY



(in NT\$ thousands except EPS)

	2016	%	2015	%	Change (%)
Net Operating Revenue	1,819,706	100.0%	1,659,943	100.0%	9.6%
Operating Cost	(1,002,470)	-55.1%	(955,764)	-57.6%	4.9%
Gross Profit	817,236 <span style="color: green;">▲</span>	44.9%	704,179	42.4%	16.1%
Operating Expenses	(512,063)	-28.1%	(401,442)	-24.2%	27.6%
Operating Income	305,173 <span style="color: green;">▲</span>	16.8%	302,737	18.2%	0.8%
Non-operating items	7,882	0.4%	(10,645)	-0.6%	-174.0%
Income before Income Tax	313,055 <span style="color: green;">▲</span>	17.2%	292,092	17.6%	7.2%
Income Tax	(23,185)	-1.3%	(15,837)	-1.0%	46.4%
Net Income	289,870 <span style="color: green;">▲</span>	15.9%	276,255	16.6%	4.9%
Basic EPS (NTD)	4.01		4.08		
Diluted EPS (NTD)	3.62		3.69		
Average Exchange Rate-USD/NTD	32.26		31.74		
R&D expense % to Revenue	9.2%		8.8%		
ROA (%)	11.5%		14.6%		
ROE (%)	15.6%		19.3%		
Legal expense related to merger	42,840				

# Non-operating Income and Expenses- YoY



(in NT\$ thousands)

	Y2016	Y2015	Y2016 Over Y2015
Other Income	3,466	2,062	68.1%
Other Gains and Losses			
Net Gain or (losses) on financial liabilities at fair value through profit or loss	5,348	(30,311)	-117.6%
Net currency exchange gain or (loss)	(6,553)	41,012	-116.0%
Gain on disposal of investment	36,192	-	-
Dividend income	913	-	-
Finance Cost			
Interest expense for convertible bonds (Note)	(24,617)	(19,322)	27.4%
Other interest expense	(6,867)	(4,086)	68.1%
<b>Total Non-operating Income and Expenses</b>	<b>7,882</b>	<b>(10,645)</b>	<b>-174.0%</b>

Note: Amortization of discount on convertible bonds



# Balance Sheet Highlight & Key Indices



## *Selected Items from Balance Sheet*

(in NT\$ thousands)

	4Q16		3Q16		4Q15	
	Amount	%	Amount	%	Amount	%
Cash and Cash Equivalent	1,381,894	47%	1,355,827	48%	1,237,513	47%
Available-for-Sale Financial Assets-Current	-	-	-	-	-	-
Accounts Receivable	197,245	7%	266,988	8%	205,006	8%
Inventory	348,402	12%	359,952	12%	331,800	12%
Available-for-Sale Financial Assets-Non current	31,605	1%	22,370	2%	52,479	2%
Net Property, Plant and Equipment	487,303	17%	475,107	18%	473,634	18%
Deferred Tax Assets	212,819	7%	194,849	7%	203,951	7%
<b>Total Assets</b>	<b>2,886,807</b>	<b>100%</b>	<b>2,829,255</b>	<b>100%</b>	<b>2,653,367</b>	<b>100%</b>
Financial Liabilities at Fair Value through Profit and Loss	69,504	2%	104,318	4%	120,164	4%
Accounts Payable and Other Payables	164,898	6%	172,665	6%	174,465	7%
Long Term Borrowings - Current Portion	346,029	12%	358,169	13%	19,616	1%
Bonds Payable	-	-	-	-	457,386	17%
Long Term Bank Loans	103,126	4%	106,897	4%	127,142	5%
<b>Total Liabilities</b>	<b>817,702</b>	<b>29%</b>	<b>860,435</b>	<b>30%</b>	<b>1,009,804</b>	<b>38%</b>
<b>Total Stockholders' Equity</b>	<b>2,069,105</b>	<b>71%</b>	<b>1,968,820</b>	<b>70%</b>	<b>1,643,563</b>	<b>62%</b>

## *Key Indices*

Current Ratio	311%	299%	536%
Debt Ratio	28%	30%	38%
AR Turnover Days	43	47	44
Inventory Turnover Days	155	158	138

# Cash Flows

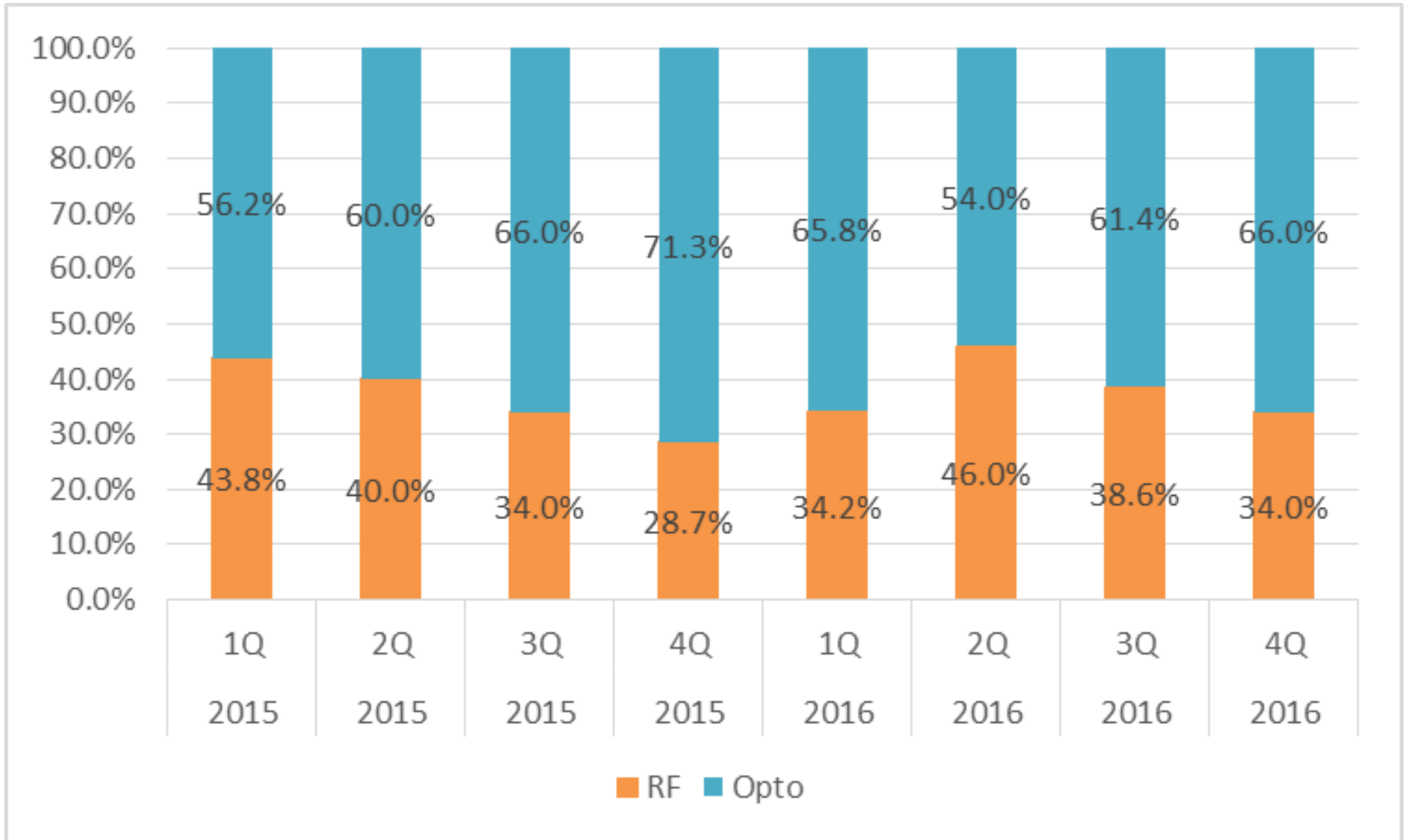


(in NT\$ thousands)

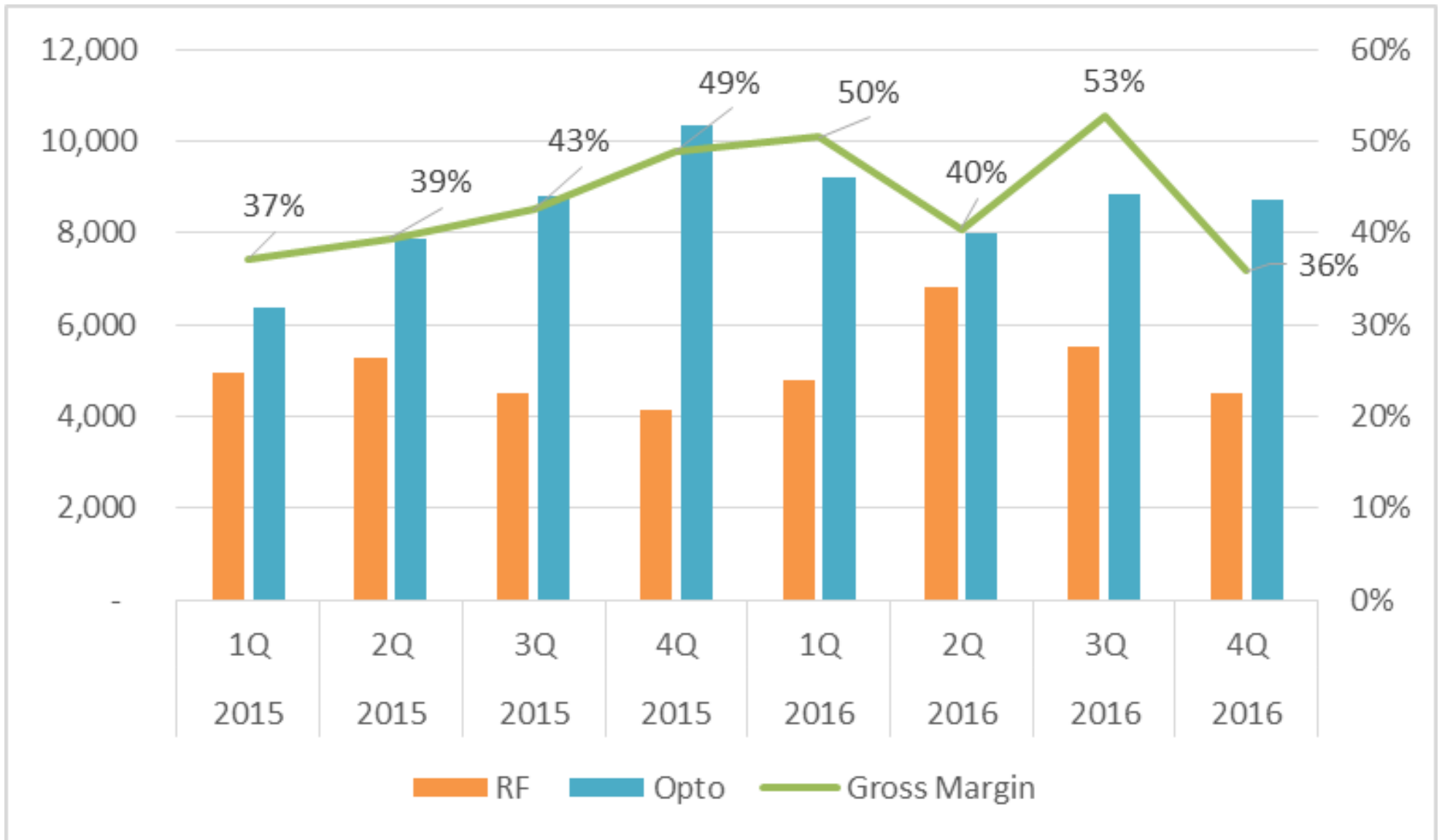
	4Q16	3Q16	4Q15
<b>Beginning Balance</b>	1,355,827	1,290,712	1,197,929
Cash from Operating Activities	159,222	72,797	126,706
Acquisition of property, plant and equipment	(62,433)	(21,164)	(19,632)
Acquisition of available-for-sale financial assets	-	-	(41,786)
Acquisition of intangible assets	(2,947)	-	(858)
Proceeds from the sale of of available-for-sale financial assets	-	44,642	-
Proceeds from Long-term Loan	-	-	-
Repayments of long-term loans	(3,185)	(6,400)	(4,594)
Treasury stock buyback	(68,007)	(9,908)	-
Employee option Exercise	-	10,825	119
Cash Dividend Paid	(14,450)	-	(11,326)
The effect of exchange rate changes	20,148	(25,586)	(8,629)
Others	(2,281)	(91)	(416)
<b>Ending Balance</b>	1,381,894	1,355,827	1,237,513
<b>Free Cash Flow (Note)</b>	96,789	51,633	107,074

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

# Revenue Product Mix % - QoQ



# Revenue Mix (K USD) vs Gross Margin



# MARKET OVERVIEW

## 2016年無線與移動領域回顧：

**市場：**全球4G對3G替代明顯，中國4G用戶比過半

- 截止到2016年9月，全球移動用戶約為74億戶。
- 3G\4G發展相對平穩，4G新增用戶繼續大幅超過3G用戶。

**流量：**全球移動資料流程量同比增幅超過50%

- 中國月均總流量規模達到6.9億GB（人月均：780MB）

**產業鏈：**積極推動VoWiFi應用，逐步與VoLTE形成融合趨勢

**終端：**全球手機出貨量成長率趨於零，4G成為全球主流

- 2016年全球手機出貨量預計約19.2億部，僅比去年增長0.23%
- 2016年中國手機出貨量預計達到5.7億部，年增長率為9.2%
- 2016年全球出貨手機中預計4G手機占比為57.5%

# China Market – 2016



基礎電信企業加快了移動網路建設，新增移動通信基站92.6萬個，總數達559萬個。其中4G基站新增86.1萬個，總數達到263萬個

互聯網寬頻接入埠數量達到6.9億個，比上年淨增1.14億個，同比增長19.8%。

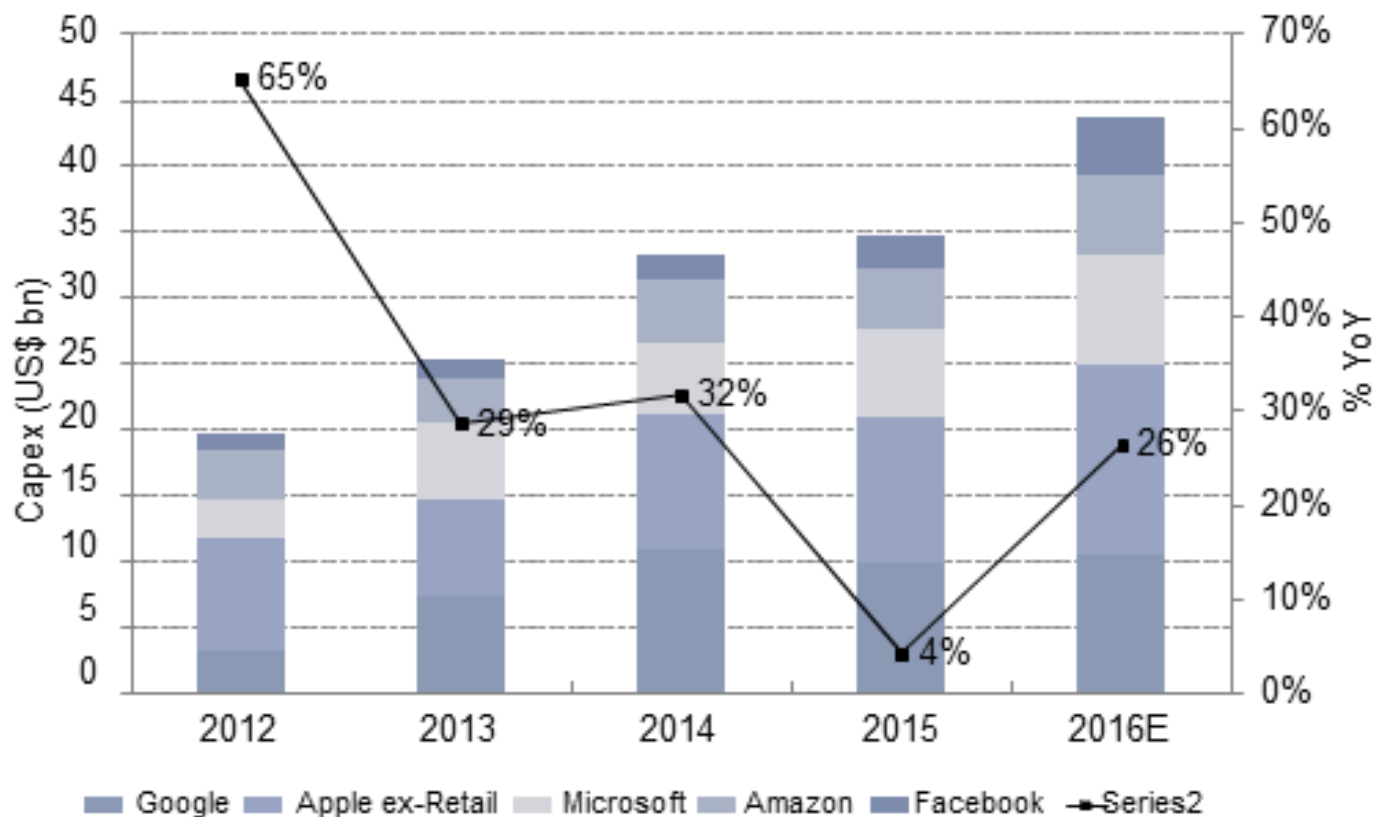
互聯網寬頻接入埠“光進銅退”趨勢更加明顯，xDSL埠比上年減少6259萬個，總數降至3733萬個，占互聯網接入埠的比重由上年的17.3%，下降至5.4%。

光纖接入(FTTH/O)端口比上年淨增1.81億個，達到5.22億個，占互聯網接入埠的比重由上年的59.3%提升至75.6%。

全國新建光纜線路554萬公里，光纜線路總長度3041萬公里，同比增長22.3%。新建光纜中，接入網光纜、本地網中繼光纜和長途光纜線路所占比重分別為62.4%、34.3%和3.3%。

工信部運行監測協調局在工信部官網發佈《2016年通信運營業統計公報》

# Data Center Market



Source: Company data, Goldman Sachs Global Investment Research.



# DC Market in China



今後的中國資料中心市場預計將呈指數級增長，並將在未來四年內實現令人印象深刻的增長，年平均複合增長率接近13%。此外還預計，公共雲存儲的市場需求將持續增長，這也將推動中國資料中心市場規模的擴張。

中國電信市場作為世界上最大的市場 - 近13億的手機持有者和7億互聯網用戶，是規模最大的數位市場。

根據美國能源部在三年前進行的研究，中國的資料中心市場規模為全球數據中心市場的百分之五，其為價值240億美元。研究還表明，中國的數據中心市場每年增長20%，占全球資料中心業務總投資的7%左右。

上海，深圳和香港擁有最多的資料中心和總建築面積，但北京的資料中心市場增長率幾乎是這些城市的兩倍。二線和三線城市的資料中心也得到了一定的發展。

Technavio公司的调研报告

# 2017年無線與移動領域趨勢展望



## 2017年無線與移動領域趨勢展望：

**市場：** 全球移動用戶增加至約為80億戶。到2021- 90億戶。

**流量：** 2021年全球移動資料流程量將增加10倍，中國人均流量增長18倍（7GB）

**產業鏈：** 4.5G/NB-IOT將於2017年啟動商用

**5G：** 開展第二階段5G試驗 推動全球統一5G標準形成

**終端：** 全球手機出貨量增速<5%



# 4.5G



## 4.5G為整個社會帶來三大價值：

“Gbps”

- 助力用戶獲得極速業務體驗

“體驗4.0”

- 實現無處不在的高清語音和視頻（4K/8K/VR）

“連接+”

- 將開啟萬物互聯的世界，開拓新的商業空間

全球宣佈商用的4.5G網路已達60張

目前的4G技術下載一個6GB的高清電影需要7分鐘，

而使用4.5G的TDD+

技術，只需要24秒



## 數據速率：

2G GPRS	- 65Kbit/s
LTE-A	- 1Gbit/s
5G	- 10-20Gbit/s

1G-4G：移動通信都是面向個人

5G：重要的應用是產業應用

面向消費者增加三個場景：

- 第一個是車聯網和高時速高鐵
- 第二是VR、AR(虛擬實境、增強現實)
- 第三個應用場景是物聯網，5G的目標是一平方公里要做到100萬個感測器聯網。

# GCS Products: Applications & Markets



## RF & Power Electronics

RFIC, HEMT, pHEMT, HBT,  
InP HBT, GaN/Si, GaN/SiC,  
SiC...

Wireless  
(mobile +  
Infrastructure)



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



WiFi  
(802.  
11AC)  
WiMax

Power  
Electronics



HEV, EV,  
Motor  
Drives,  
and etc.

## Optoelectronics

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

**40G**  
**100G**  
**200G**  
**400G**

Data  
Centers



**40G**  
**100G**  
**200G**  
**400G**

Consumer  
/  
IoT



AOC  
HDMI (**4/4.5/5G**)  
Mobile  
Wearable

Fiber Optical  
Network



LTE  
FTTx

# Q & A



# 環宇芯系天下

**For further inquiry  
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