

環宇
芯系天下

**Q1 2017
Quarterly
Online Investor
Conference
(線上法說會)**

May 5, 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)

	1Q17	4Q16	1Q16	1Q17 Over 4Q16	1Q17 Over 1Q16
Net Operating Revenue	411,692	418,921	463,785	-1.7%	-11.2%
Gross Profit	187,312	150,061	233,853	24.8%	-19.9%
Gross Margin	45.5%	35.8%	50.4%		
Operating Expenses	(111,899)	(119,749)	(142,457)	-6.6%	-21.5%
Operating Income	75,413	30,312	91,396	148.8%	-17.5%
Operating Margin	18.3%	7.2%	19.7%		
Non-operating Items	29,216	33,876	(72,146)	-13.8%	-140.5%
Net Income	98,264	71,711	16,897	37.0%	481.5%
Net Profit Margin	23.9%	17.1%	3.6%		
Basic EPS (NTD)	1.35	0.99	0.24		
Diluted EPS (NTD)	0.83	0.42	0.23		
ROA (%)	14.7%	11.5%	3.7%		
ROE (%)	19.0%	15.6%	4.0%		
R&D Expense % to Revenue	10.1%	9.5%	10.8%		
Legal expense related to merger	-	-	18,161		

Note 1: 73,005,222 shares and 80,671,566 shares were used in basic EPS and diluted EPS calculation for 1Q17, respectively.

Note 2. Revenue supplemental information

	1Q17	4Q16	1Q16	1Q17 Over 4Q16	1Q17 Over 1Q16
Revenue in US\$ thousand	13,242	13,214	13,994	0.2%	-5.4%
Exchange Rate	31.09	31.7	33.143		

Non-operating Income and Expenses- QoQ



(in NT\$ thousands)

	1Q17	4Q16	1Q16	1Q17 Over 4Q16	1Q17 Over 1Q16
Other Income	966	1,190	523	-18.8%	84.7%
Other Gains and Losses					
Net Gain or (losses) on financial liabilities at fair value through profit or loss	59,450	29,283	(56,070)	103.0%	-206.0%
Net currency exchange gain or (loss)	(24,279)	10,519	(7,223)	-330.8%	236.1%
Other	-	(195)	-	-	-
Finance Cost					
Interest expense for convertible bonds (Note)	(5,443)	(5,362)	(7,490)	1.5%	-27.3%
Other interest expense	(1,478)	(1,559)	(1,886)	-5.2%	-21.6%
Total Non-operating Income and Expenses	29,216	33,876	(72,146)	-13.8%	-140.5%

Note: Amortization of discount on convertible bonds

Balance Sheet Highlight & Key Indices



(in NT\$ thousands)

	1Q17		4Q16		1Q16	
	Amount	%	Amount	%	Amount	%
Cash and Cash Equivalent	1,259,062	44%	1,381,894	47%	1,258,482	46%
Accounts Receivable	228,471	8%	197,245	7%	234,699	9%
Inventory	333,501	12%	348,402	12%	348,075	13%
Available-for-Sale Financial Assets-Non current	64,906	2%	31,605	1%	73,031	3%
Net Property, Plant and Equipment	451,655	16%	487,303	17%	485,269	18%
Deferred Tax Assets	200,149	7%	212,819	7%	199,975	7%
Total Assets	2,829,248	100%	2,886,807	100%	2,732,480	100%
Short Term Loan	20,000	1%	-	-	-	-
Financial Liabilities at Fair Value through Profit and Loss	11,508	0%	69,504	2%	151,615	5%
Accounts Payable and Other Payables	153,759	6%	164,898	6%	190,451	7%
Bond Payable - Current Portion	331,260	12%	325,875	11%	-	-
Long Term Bank Borrowings - Current Portion	19,145	1%	20,154	1%	19,443	1%
Bonds Payable (Non-current)	-	-	-	-	373,575	14%
Long Term Bank Loans	92,113	3%	103,126	4%	119,711	4%
Total Liabilities	771,738	27%	817,702	29%	971,405	36%
Total Stockholders' Equity	2,057,510	73%	2,069,105	71%	1,761,075	64%

Key Indices

Current Ratio	313%	311%	485%
Debt Ratio	27%	28%	36%
AR Turnover Days	50	43	44
Inventory Turnover Days	172	155	162

Cash Flows

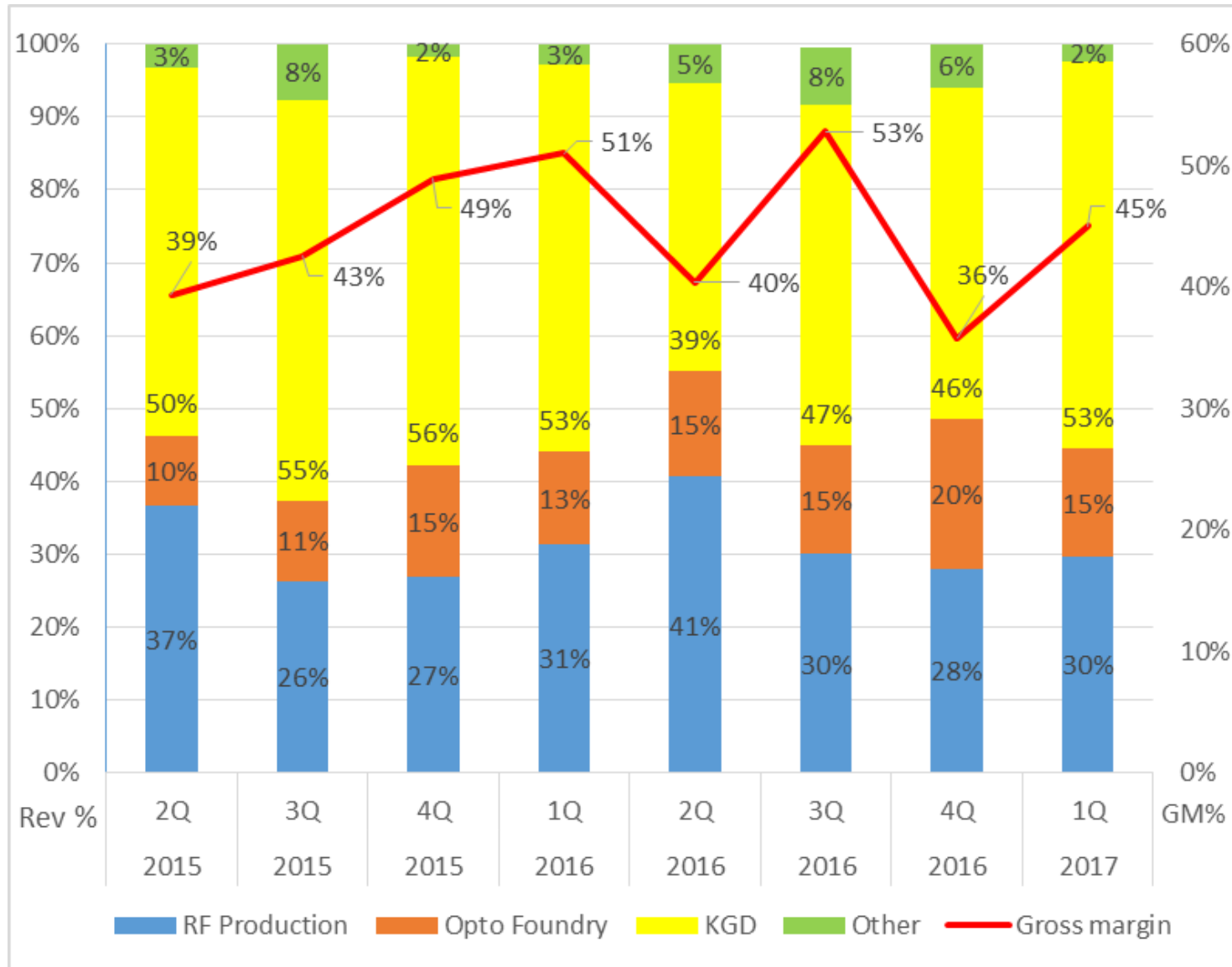


(in NT\$ thousands)

	<u>1Q17</u>	<u>4Q16</u>	<u>1Q16</u>
Beginning Balance	1,381,894	1,355,827	1,237,513
Cash from Operating Activities	29,540	159,222	71,306
Acquisition of property, plant and equipment	(67,921)	(62,433)	(35,539)
Increase in non-current assets	(31,090)	-	-
Acquisition of intangible assets	-	(2,947)	-
Proceeds from Short-term Loan	20,000	-	-
Repayments of long-term loans	(4,800)	(3,185)	(4,884)
Treasury stock buyback	(12,955)	(68,007)	-
Cash Dividend Paid	-	(14,450)	-
The effect of exchange rate changes	(55,615)	20,148	-
Others	9	(2,281)	(9,914)
Ending Balance	1,259,062	1,381,894	1,258,482
Free Cash Flow (Note)	(38,381)	96,789	35,767

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

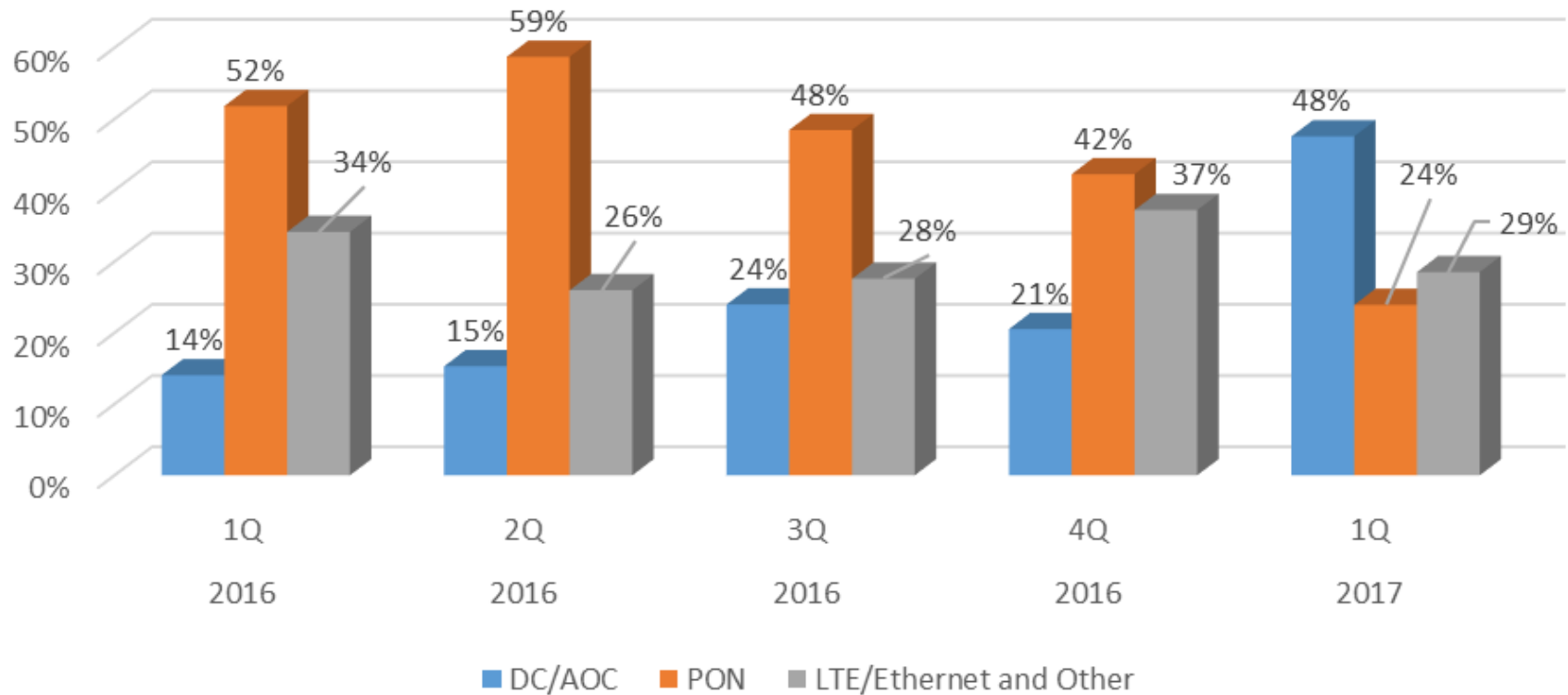
Revenue Mix % vs Gross Margin - QoQ



KGD Revenue Mix - QoQ

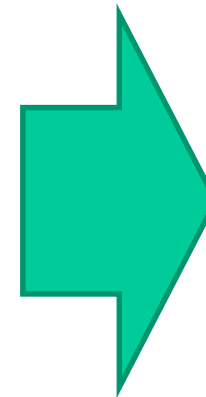
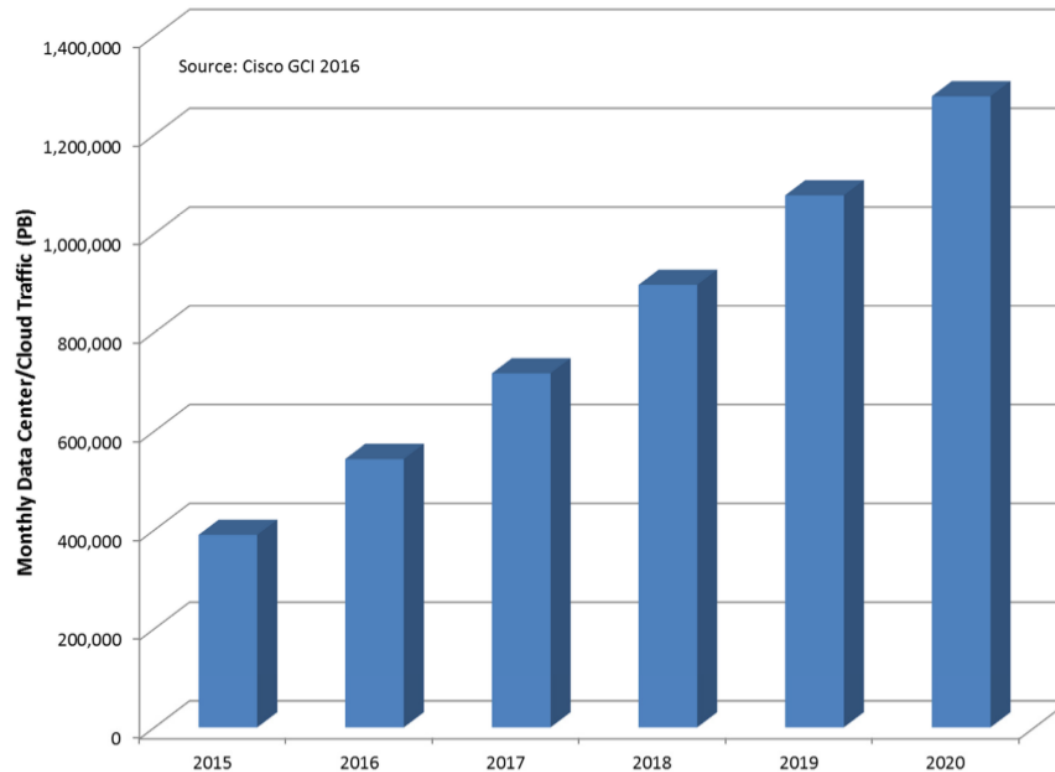


KGD Revenue Analysis-By Application



MARKET OVERVIEW

Global Data Center and Cloud-based Data Traffic



- 1) Go Fiber
- 2) Higher Data Rate

Data center/cloud traffic is 5-7 times higher than network traffic

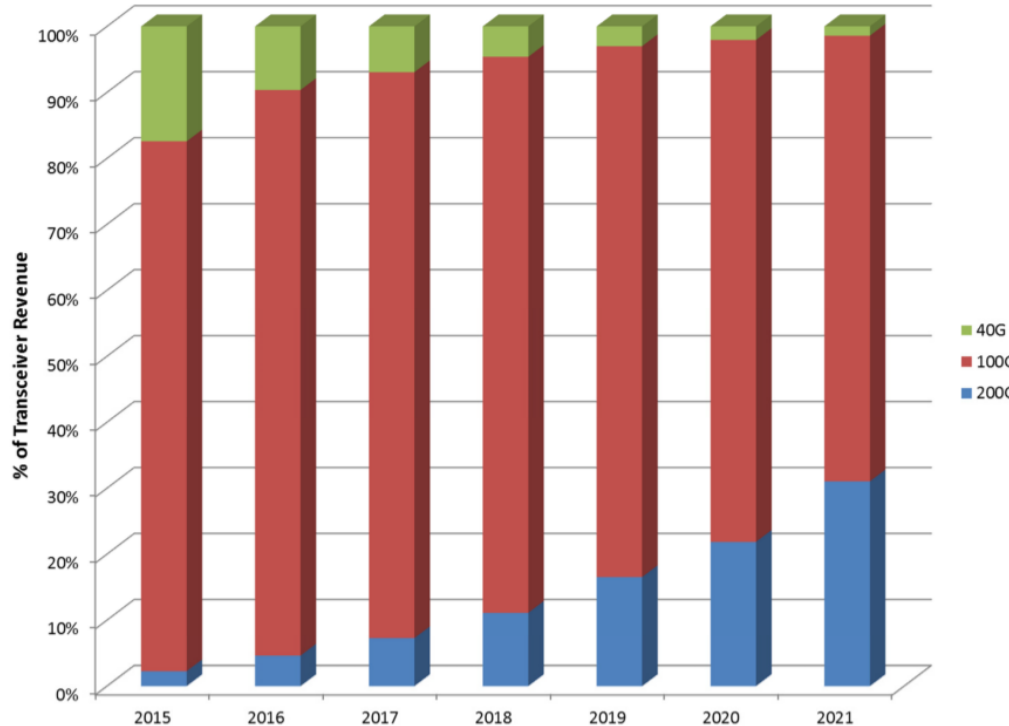
The CAAGR of this traffic is nearly **27%** over the forecast period,

Nearly 80% of the data center/cloud data stays within the data center

Optical Components and Modules



Exhibit 3: Data Rate Evolution in Optical Components and Modules



Total market for optical components:

2015 - ~\$6.5 billion
2021 - \$30+ billion

100 Gbps:

2015 - ~80% share
2021 - ~68% share

200 Gbps: CAAGR of nearly 100% for next 5 yrs

2021 - 31% share

Source: Ovum OFC2017 presentations

40 Gbps:

2015 - 17% share
2021 - 1% share

Optical Components and Modules Market



- InP accounts for the largest portion, with ~ 71% of total revenue in 2016
- GaAs revenue will grow, but its share of the market will stay relatively constant, at 17-18%
- The value of silicon photonics-enabled transceivers:
~ \$600 million in 2016 → \$2.4 billion in 2021.
Compelling advantage in cost, but there are still challenges to address
- 400/600 Gbps and even 800 Gbps equipment will rely heavily on silicon processing evolution, along with compound semiconductor capabilities.

全球移动运营商的固定资产投资(CAPEX)



全球移动运营商的固定资产投资(CAPEX) (GSMA)：

2015年 - 接近2000亿美元

2016年 - 接近1880亿美元，降低了6%

2017年 - 降低3% (estimated)

GSMA预计这一下滑趋势将一直持续到2020年5G网络投资逐步启动。

中国市场：

中国移动2017年资本开支预期为1760亿元，同比下降6%；

中国电信资本开支预期为890亿元，同比下降8.1%；

中国联通资本开支预计为450亿元，同比下降37.6%；

2017年三大运营商资本开支将减少462.1亿元，同比降幅高达13%，

现金及现金等价物余额折算成美元分别是：

华为177亿，诺基亚80亿，中兴43亿，爱立信41亿

2017年无线与移动领域趋势展望



2017年无线与移动领域趋势展望：

市场： 全球移动用户增加至约为80亿户。到2021- 90亿户。

流量： 2021年全球移动数据流量将增加10倍，中国人均流量增长18倍（7GB）

产业链： 4.5G/NB-IOT将于2017年启动商用

5G： 开展第二阶段5G试验 推动全球统一5G标准形成 → **2018 开始商用？**

终端： 全球手机出货量增速<5%



5G Status



中国：

中国移动将于2017年开始5G大规模外场实验

4月1日雄安设立国家级新区，随后中国电信和中国移动先后表态将在河北雄安新区率先展开5G移动网络部署

韩国：

SK 已经开始了5G外场的实验和部署，
2018年平昌冬奥会启用5G通信

美国：

2017年上半年在美国11个城市提供5G服务

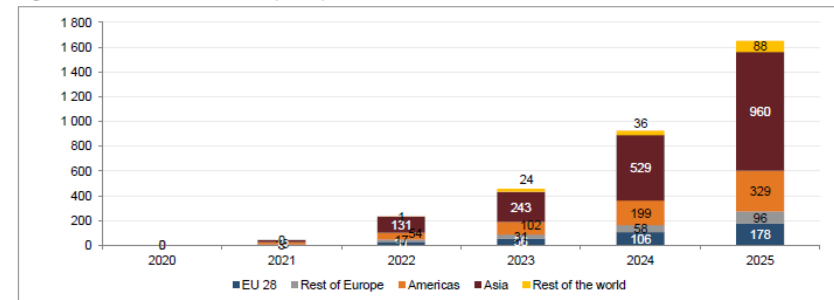
日本：

计划在2020年前实现5G商用以支持东京奥运会

欧洲：

2018年开始测试5G试验网，2020年实现城市热点区域的5G覆盖

Figure 5: 5G subscribers forecasts (million)



Source: IDATE DigiWorld, METIS-II

5G: 1.7 billion 5G subscribers anticipated in 2025

PON Status



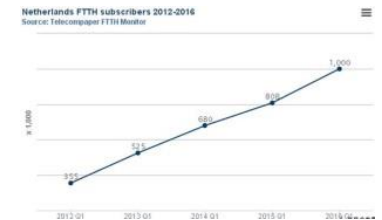
China: grow in 10G PON

US: AT&T预计到2017年底可能会增加200万个家庭 (total 4.6M)
2019 - 12.5M

Netherland, Africa, Vietnam, Turkey, New Zealand, Australia

10G PON:

中国电信刚发布2017年度PON设备集采招标，
其中EPON设备已经失去踪影，取而代之的是10G EPON设备，
采购规模达65万(包含OLT端口45万和ONU端口20万)



无线领域热炒5G的同时，低调的固网并未停止前进的脚步。
三大运营商2016年全力拓展4K视频业务，4K视频的接入带宽平均需要50M，
但跟据宽带发展联盟发布的2016年第四季度《中国宽带速率状况报告》，
中国固定宽带网络平均下载速率为11.90M，固网接入能力仍偏低，成为
影响4K视频等高带宽业务普及的瓶颈，“杀手级应用”开始倒逼宽带接入网
升级，10G PON则是最主要的技术手段

2016年底中国FTTH用户数量已达2.277亿 (Digitimes Research)

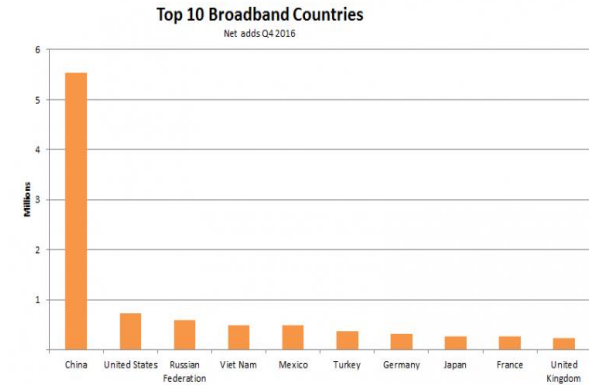


Figure 8. Broadband subscribers added in Q4 2016.
Source – Point Topic.

2016年底使用20Mbps及以上下载速度的固网宽带上网用户比例上升至77.8%。

In 12 months to the end of 2016, China added nearly 92 million FTTH connections. This figure is almost as high as the total fixed broadband subscribers in the US.

6100万用户居住在农村，年均增长率高达90%；相比之下，2016年底xDSL用户数量则减少到1980万，同比下降了60.6%

Data Center



Bandwidth demand from Cloud companies connecting their data centers (Cloud DCI) is expected to be very high in 2017.

Amazon and **Facebook** reported that traffic inside of their datacenters is increasing by **100%** annually. Traffic between their datacenters is expected to grow at a slower pace, but given the high level of activity in construction of new data centers, we assume a 100% rate in bandwidth growth for 2017.

This spike in DWDM bandwidth demand for Cloud DCI applications will compensate for slower demand in China, keeping the DWDM market segment growing in 2017.

北美数据中心市场发展的5个预测

- 一、最大的数据中心市场规模增长最快
(增加的电力总容量近300MW, 包括预租赁)
- 二、云计算应用将持续增长
- 三、并购市场活动将会持续
- 四、数据中心运营商, 通过扩大园区面积而拓展
- 五、二级数据中心市场将会继续增长

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



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**For further inquiry
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