

環宇  
芯系天下

**Q4 2015  
Quarterly  
Online Investor  
Conference  
(線上法說會)**

**March 3, 2016**



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)

	4Q15	3Q15	4Q14	4Q15 Over 3Q15	4Q15 Over 4Q14
Net Operating Revenue	472,018	424,594	391,241	11%	21%
Gross Profit	230,871	180,754	166,492	28%	39%
Gross Margin	49%	43%	43%		
Operating Expenses	(117,614)	(98,139)	(94,680)	20%	24%
Operating Income	113,257	82,615	71,812	37%	58%
Operating Margin	24%	19%	18%		
Non-operating Items	(28,396)	34,389	(21)	-183%	135119%
Net Income	79,988	109,412	71,687	-27%	12%
Net Profit Margin	17%	26%	18%		
Basic EPS (NTD)	1.40	1.94	1.31		
Diluted EPS (NTD)	1.37	1.10	1.26		

Note: 57,172,750 shares and 58,409,857 shares were used in basic EPS and diluted EPS calculation for 4Q15, respectively.

# Statements of Comprehensive Income – YoY



(in NT\$ thousands except EPS)

	2015 Jan to Dec	%	2014 Jan to Dec	%	Change (%)
Net Operating Revenue	1,659,943	100%	1,352,899	100%	22.7%
Gross Profit	704,179	42%	542,338	40%	29.8%
Operating Income	302,737	18%	177,689	13%	70.4%
Non-operating items	(10,645)	-1%	(849)	0%	1153.8%
Income before Income Tax	292,092	18%	176,840	13%	65.2%
Income Tax	(15,837)	-1%	(9,986)	-1%	58.6%
Net Income	276,255	17%	166,854	12%	65.6%
Basic EPS (NTD)	4.95		3.32		
Diluted EPS (NTD)	4.47		3.20		
Average Exchange Rate-USD/NTD	31.74		30.31		
R&D expense % to Revenue	9%		12%		
ROA (%)	15%		14%		
ROE (%)	19%		17%		

# Balance Sheet Highlight & Key Indices



## *Selected Items from Balance Sheet*

(in NT\$ thousands)

	2015/12/31		2014/12/31	
	Amount	%	Amount	%
Cash and Cash Equivalent	1,237,513	49%	527,385	37%
Accounts Receivable	205,006	8%	190,655	13%
Inventory	331,800	12%	271,490	19%
Available-for-Sale Financial Assets	52,479	2%	-	-
Net Property, Plant and Equipment	473,634	18%	179,670	12%
Deferred Tax Assets	203,951	8%	196,651	14%
<b>Total Assets</b>	<b>2,653,367</b>	<b>100%</b>	<b>1,443,240</b>	<b>100%</b>
Current Liabilities	335,862	13%	138,085	10%
Bonds Payable	457,386	17%	-	-
Long Term Bank Loans	127,142	5%	-	-
<b>Total Liabilities</b>	<b>1,009,804</b>	<b>38%</b>	<b>229,391</b>	<b>16%</b>
<b>Total Stockholders' Equity</b>	<b>1,643,563</b>	<b>62%</b>	<b>1,213,849</b>	<b>84%</b>

## *Key Indices*

Current Ratio	536%	727%
Debt Ratio	38%	16%
AR Turnover Days	44	51
Inventory Turnover Days	138	104

# Cash Flows



(in NT\$ thousands)

	2015 Jan to Dec	2014 Jan to Dec
<b>Beginning Balance</b>	527,385	291,914
Cash from Operating Activities	384,504	61,556
Acquisition of available-for-sale financial assets	(49,647)	-
Acquisition of property, plant and equipment	(327,708)	(50,233)
Proceeds from Long-term loans	153,457	-
Repayments of long-term loans	(6,477)	-
Proceeds from issuance of common stock	-	204,180
Proceeds from Convertible Bonds Issued	600,000	-
Others	(44,001)	19,968
<b>Ending Balance</b>	1,237,513	527,385
<b>Free Cash Flow (Note)</b>	56,796	11,323

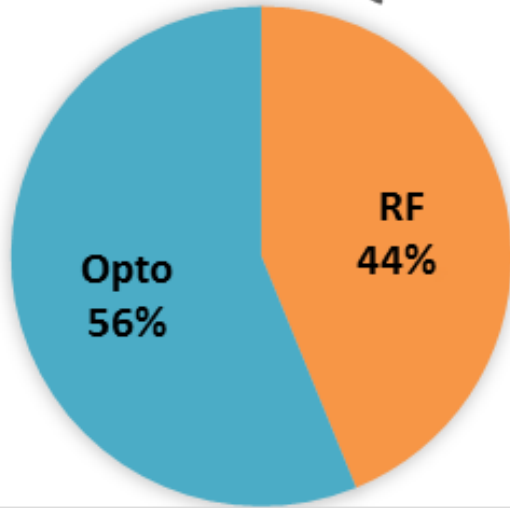
**Note: Free Cash Flow = Cash from Operating Activities - Capital Expenditures**



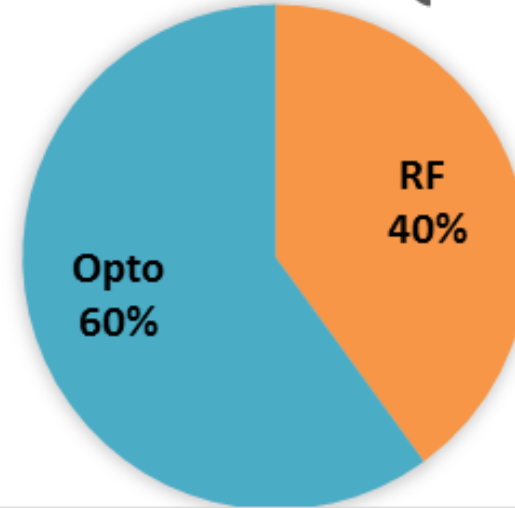
# Revenue Product Mix % - QoQ



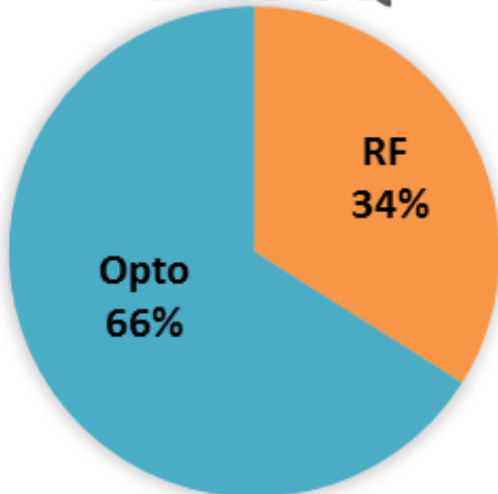
2015 1Q



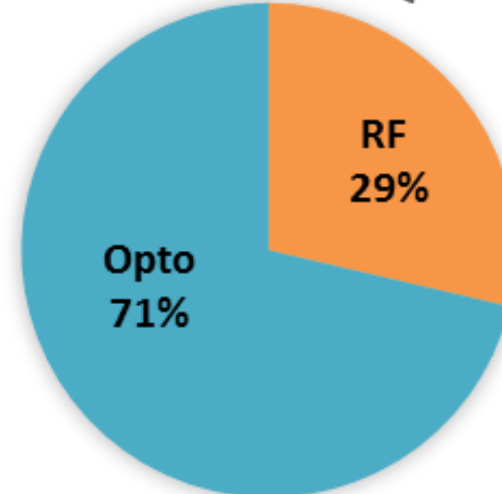
2015 2Q



2015 3Q



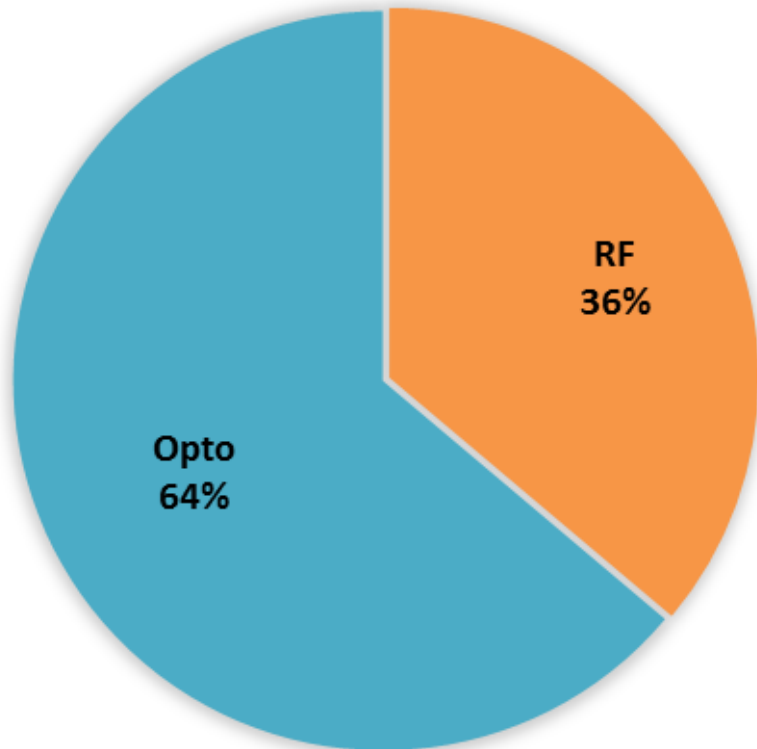
2015 4Q



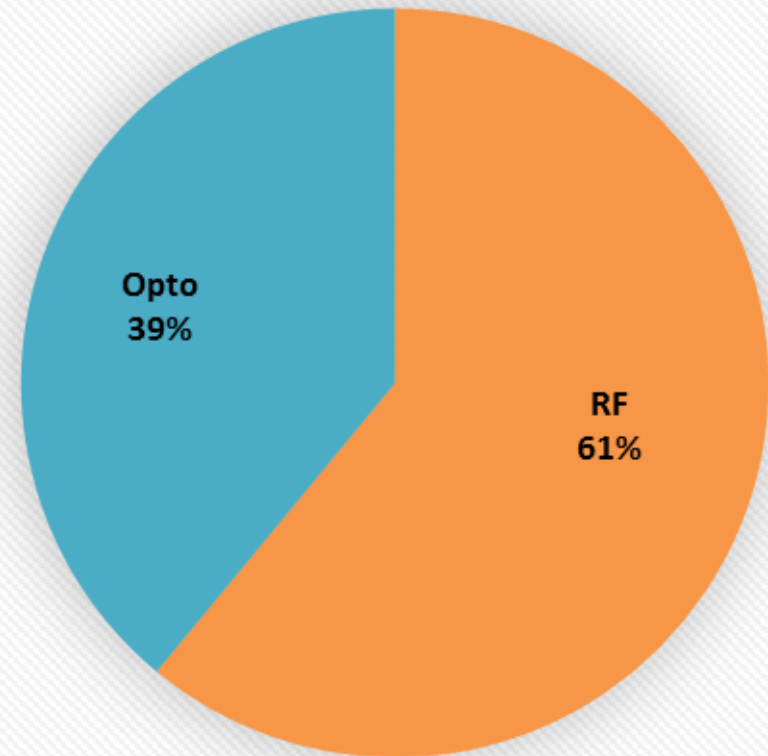
# Revenue Product Mix % - YoY



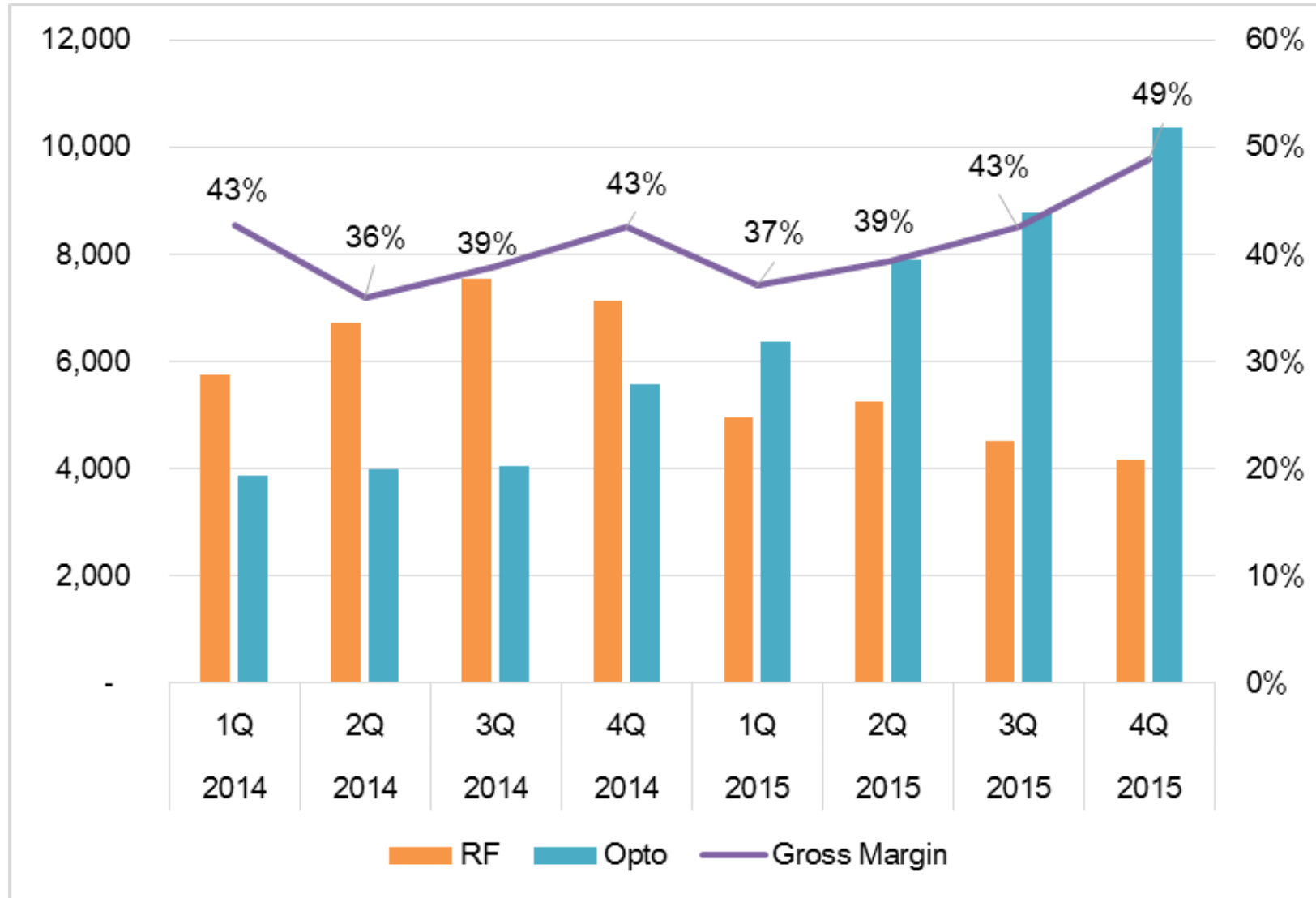
**2015**



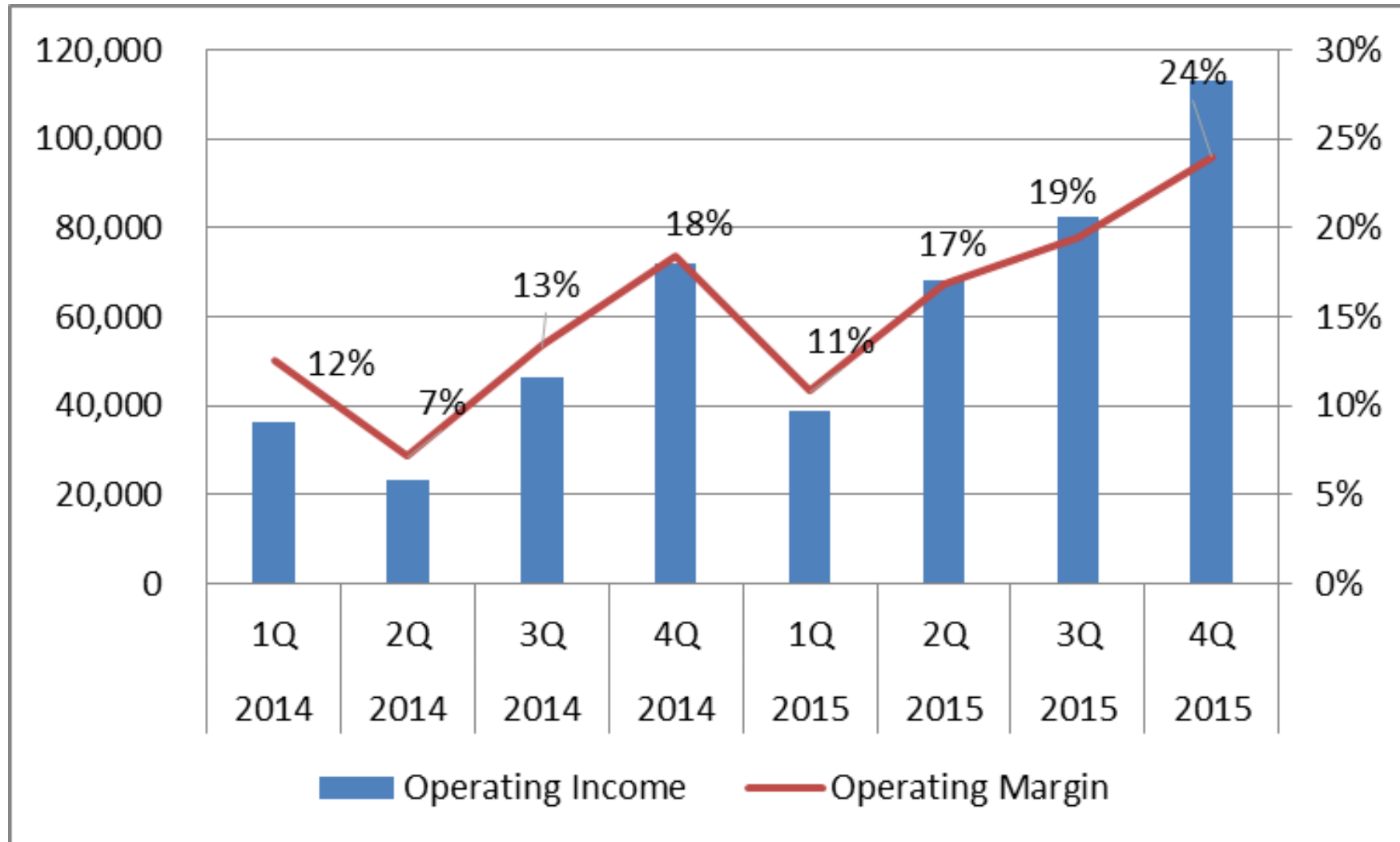
**2014**



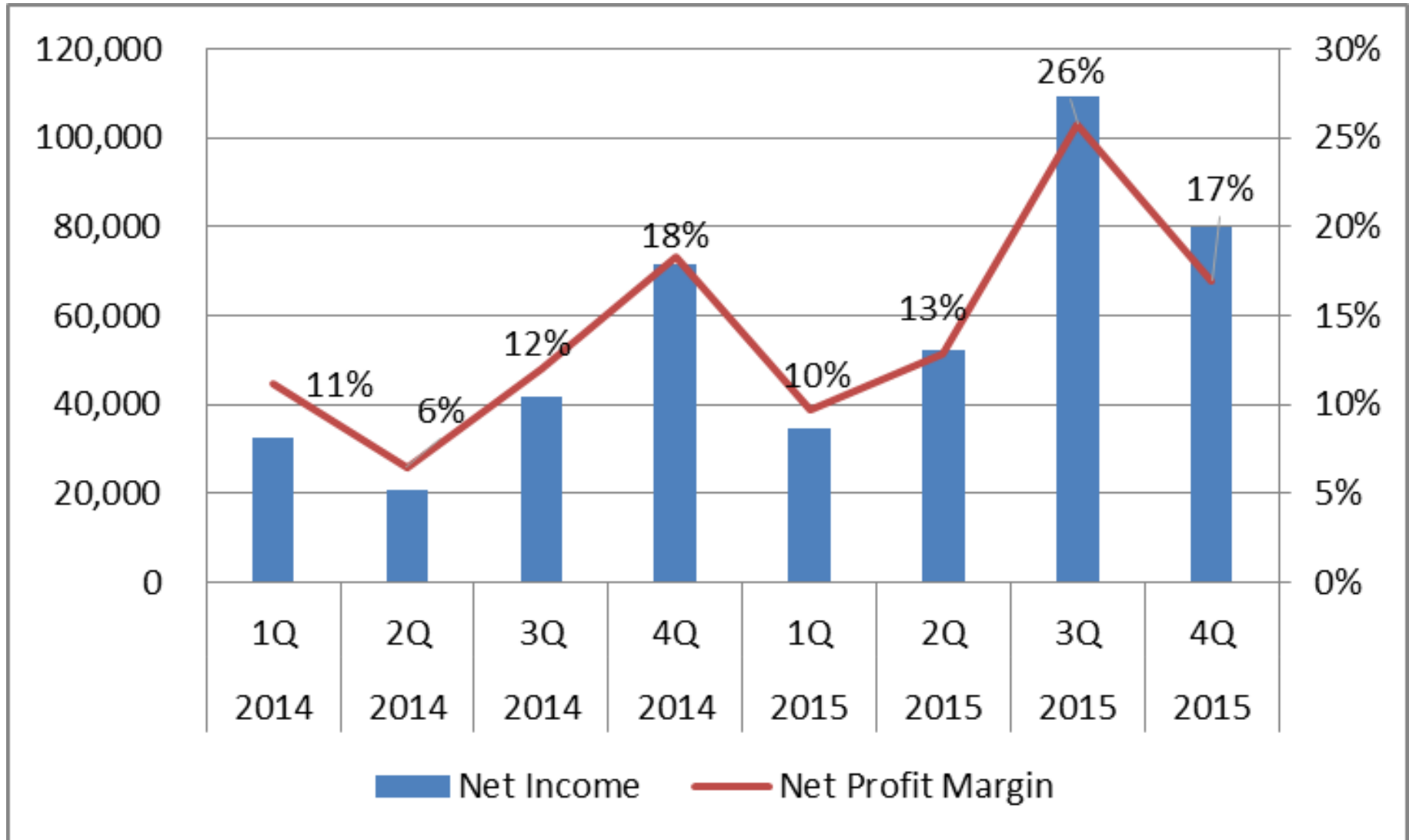
# Revenue Mix (USD) vs Gross Margin



# Trend of Operating Margin



# Trend of Net Profit Margin



# MARKET OVERVIEW

# Applications & Markets



## RF & Power Electronics

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

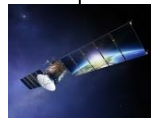
### Wireless & Telecoms



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



WiFi  
(802.11AC)  
WiMax



Aerospace  
and  
Defense

### Power Electronics



HEV, EV,  
Motor Drives,  
and etc.

## Optoelectronics

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

### Data Centers



40G  
100G

### Consumer/ IoT



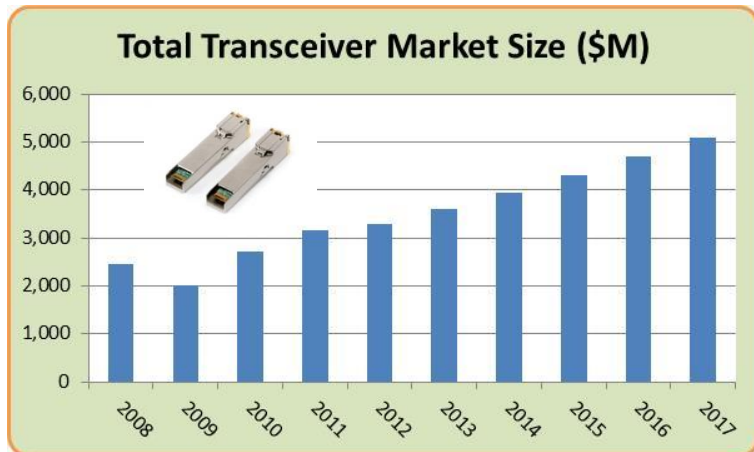
AOC  
HDMI

### Fiber Optical Network

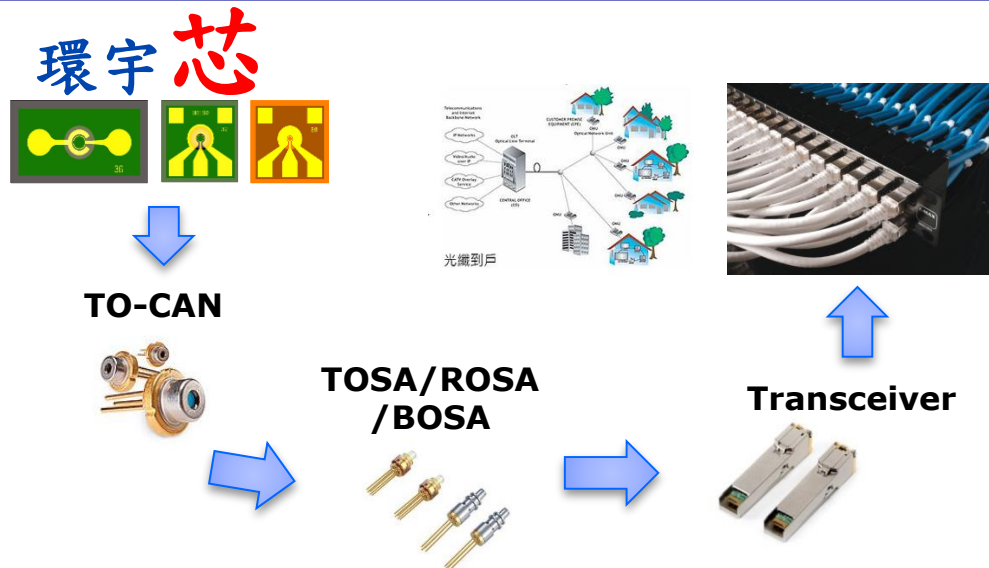


LTE  
FTTx

# Optoelectronic Market



Source: Lightcounting 2013



(Selected Markets for GCS) Worldwide Total Accessible Chip Market (WTAM) (PD, MPD, APD, VCSEL, FP/DFB LD) (Lightcounting) (in \$mm)	2013		2014		2015	
	Captive	Merchant	Captive	Merchant	Captive	Merchant
	70%	30%	70%	30%	70%	30%
	198	85	272	117	359	154

Source: GCS Estimates

## Captive: Chip/OSA/Transceiver (~70%)

- Avago, Finisar, JDSU, WTD, HG Optics, NeoPhotonics, Source Photonics, Hisense (Archcom/Multiplex), SAE/TDK

## Merchant: Chip/OSA (~30%)

- Chip only – GCS, D-Tech, Kyrosemi, 44<sup>th</sup> Institute, 13<sup>th</sup> Institute, Wooroo, Emcore, ULM, Oclaro
- Chip/OSA - Mitsubishi, LuxNet, Truelight, Cosemi, BinOptics



# Optoelectronic Market (cont.)

## Brand Name KGD

GCS targets to become world's premier optoelectronic chip supplier

- Pure-play chip supplier with high volume production capacity to service, not compete, with customers
- Majority of the capacity is using 2"- 4" wafers with many underutilized
- Wide product portfolio

Global Device Technologies  
Optoelectronic Product Lines

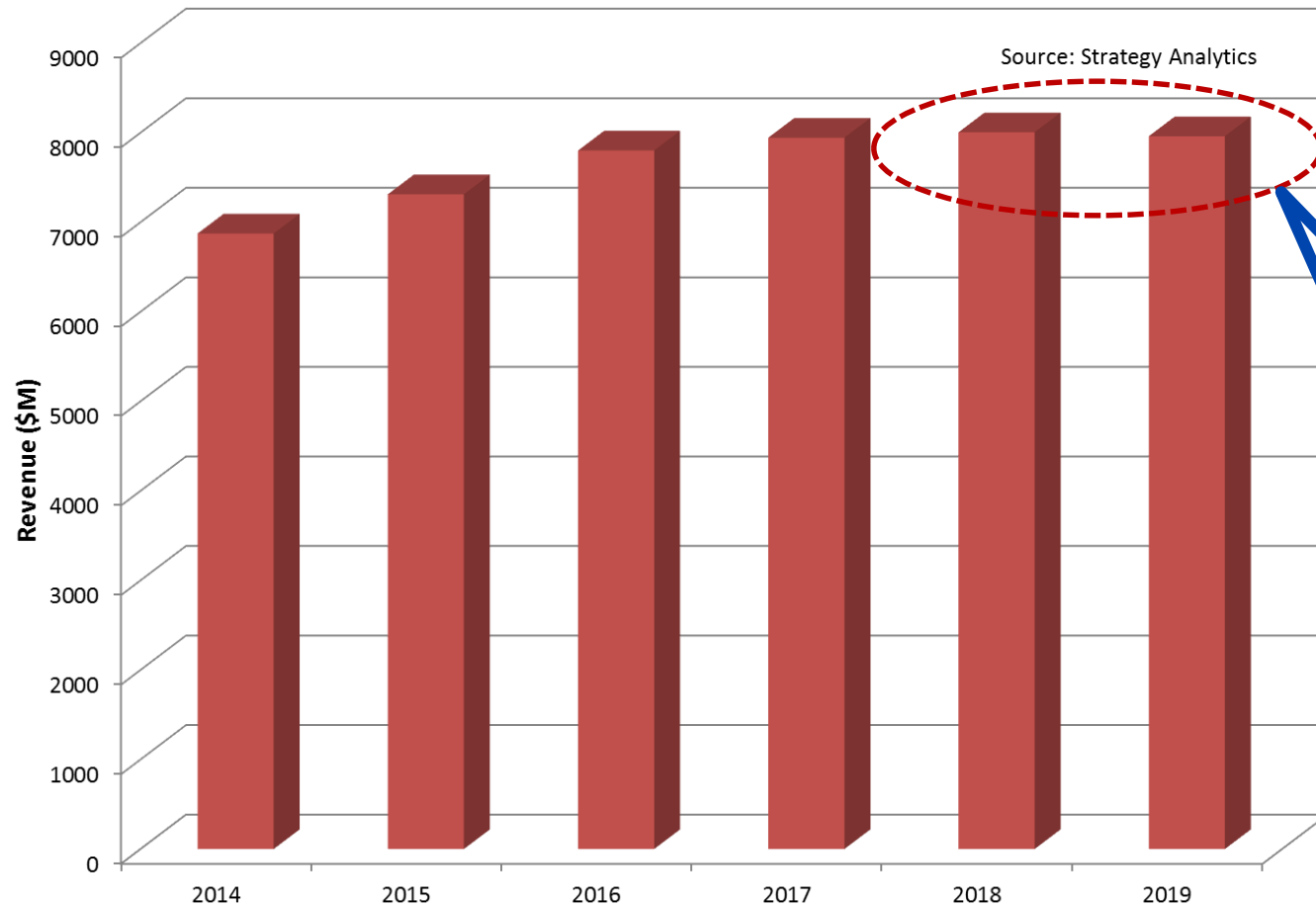
	25G BS Illuminated				
25G w/ lens	28G				
25G	25G	10G	25G		25G
10G	10G	2.5G OLT	10G	10G	
5G or below	5G or below	2.5G ONU	8G or below	2.5G	
850nm PD	1310/1550nm PD	APD	850nm VCSEL	FP/DFB/LD	EML

## Opto Foundry

GCS is well positioned to provide opto wafer foundry service with strong R&D capability and flexible production capacity

- Leading system companies are driving the integration of opto transceivers via innovative photonic IC technologies
- Currently, GCS is the only foundry in the world that has brought a customer's photonic IC into production readiness

# GaAs RF Market



**5G &  
802.11AC  
will drive  
Further  
growth**

*Apple And Cisco Believe The 2.4GHz WiFi Band Is Unreliable  
And Everyone Should Opt For 5GHz Instead*  
- doesn't interfere with everyday appliances and devices

# GaAs RF Market



	2013	2014	% of Change
Worldwide Semiconductor Revenue	\$306B	\$336B	+10%
Worldwide Semiconductor Foundry Revenue	\$34.6B	\$42.8B	+9%
% of Total	14%	14%	+0%
Worldwide GaAs Revenue	\$5,903 M	\$7,516 M	+27%
Worldwide GaAs Foundry Revenue	\$565M	\$600M	+6%
% of Total	10%	8%	-2%

Source: GCS

Major GaAs Players	2014 Rev (US\$mn)
Skyworkds	2,592
Qorvo (RFMD)	1,332
Qorvo (TriQuint)	1,025
Avago	1,708
Japan players	1,010

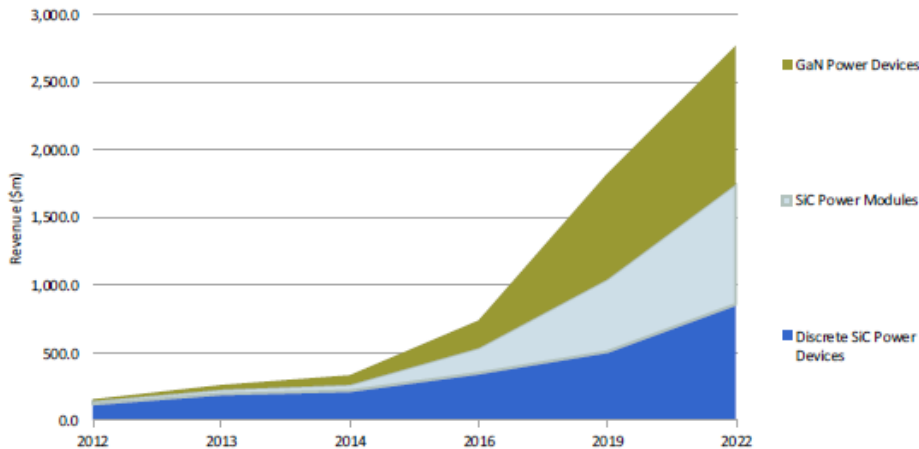
WIN 310  
AWSC 83

- Given high volume platform, GCS is well positioned to drive a viable III-V wafer foundry industry:
  - A strong R&D team
  - Flexible manufacturing line and virtual foundry partnership
  - Strong and diversified customer and technology portfolio
    - GaAs HBT, pHEMT
    - InP HBT
    - SMART Filter
    - GaN/Si
    - GaN/SiC
    - SiC

# Power Electronics Market



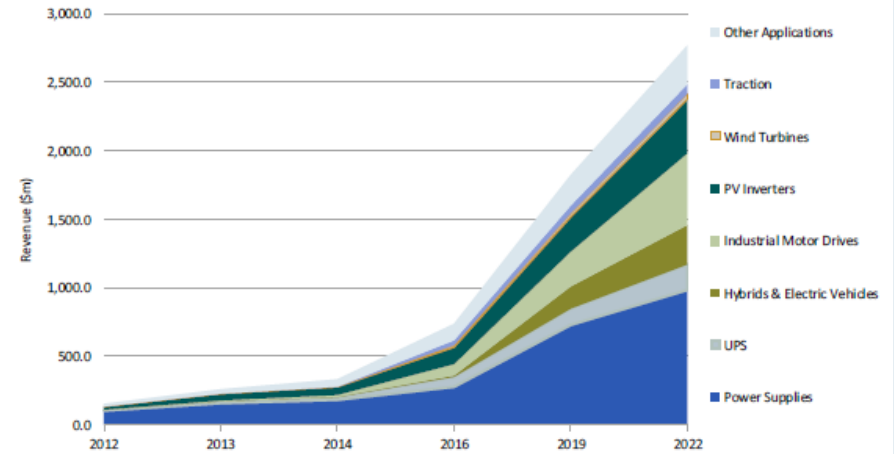
Figure ES.1  
The World Market for SiC & GaN Power Devices by Overall Technology



Source: IHS

Apr-13

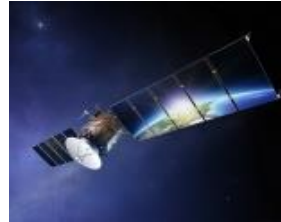
Figure ES.2  
The World Market for SiC & GaN Power Devices by Application



Source: IHS

Apr-13

**GCS has both GaN-based and SiC-based Technologies In-place.**



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**For further inquiry  
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