



# IR Presentation

## Q3 2020

Q3 2020 Results & Q4 2020 Guidance

November 2020  
OE Solutions IR

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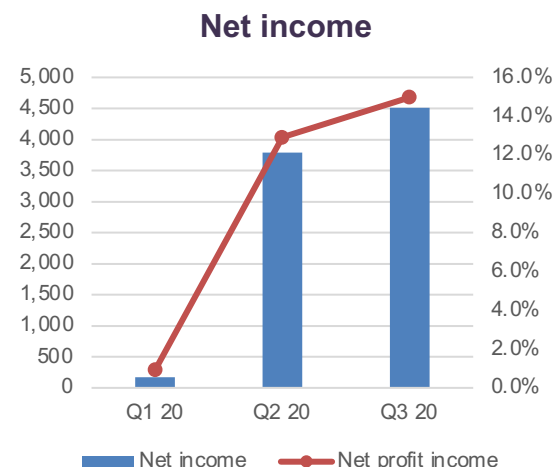
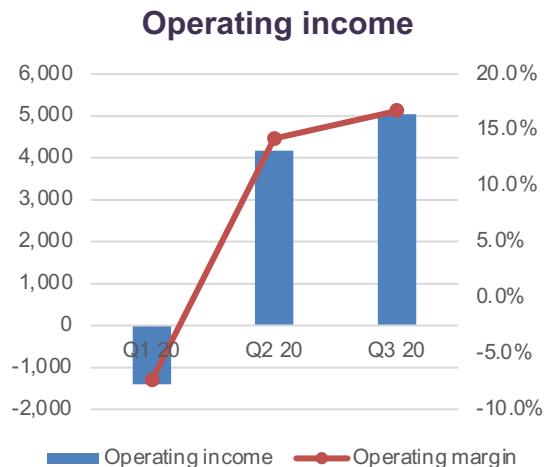
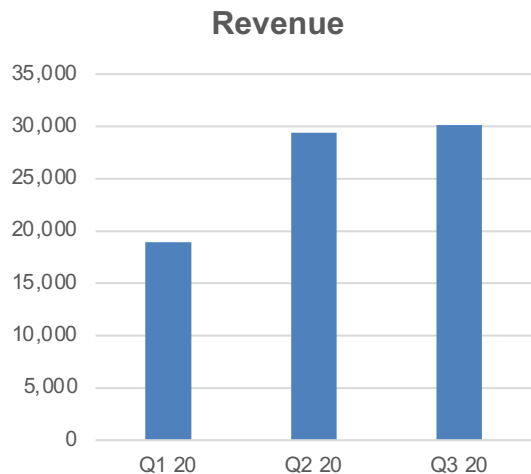
## Table of Contents

1. Q3 2020 Result Review
2. 5G(NR) Mobile Network Business
3. OE Solutions Vision & Strategy
4. Q4 of 2020 Guidance
5. Appendix

## Q3 2020 Result Review



**Q3 Revenue 30.2B KRW Operating income 5.0B KRW (16.7%) Net income 4.5B KRW(15.0%)**



※ Based on consolidated

(Unit : million KRW)

	2017	2018	2019	Q1 20	Q2 20	Q3 20
* Revenue	76,594	81,504	210,283	18,938	29,378	30,157
* Operating Income	-1,917	234	58,266	-1,400	4,176	5,037
* Operating margin	-2.5%	0.3%	27.7%	-7.4%	14.2%	16.7%
* Net Income	-1,786	2,584	45,908	175	3,793	4,514
* Net profit margin	-2.3%	3.2%	21.8%	0.9%	12.9%	15.0%

**Q3 2020 Revenue 30.2B KRW, Operating income 5.0B KRW(16.7%)  
Overseas FTTH/MSO sales increase**

(Unit : million KRW)

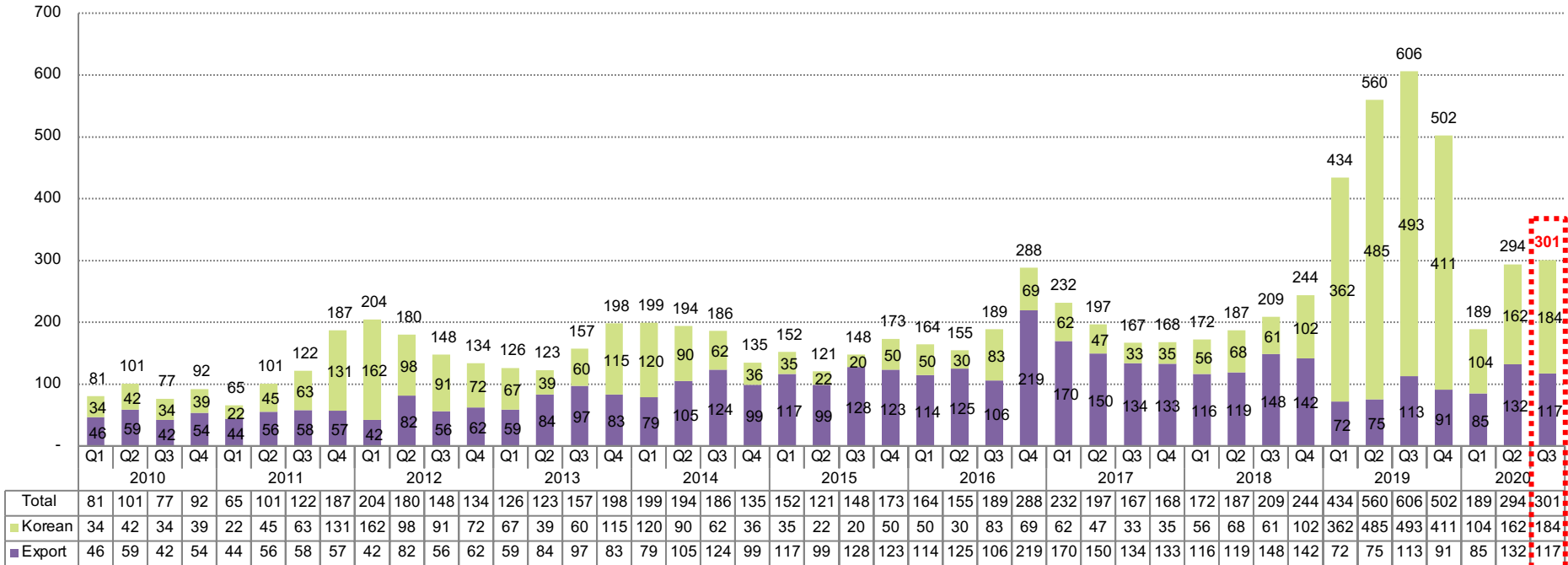
	Q2 20	Q3 20	%	QoQ	Q319	YoY
Revenue (Sales)	29,378	<b>30,157</b>		2.7%	60,645	-50.3%
Gross profit	12,638	13,351	44.3%	5.6%	27,075	-50.7%
Selling general Administrative expenses	8,462	8,314	27.6%	-1.7%	7,149	16.3%
<b>Operating Income(loss)</b>	4,176	<b>5,037</b>	<b>16.7%</b>	(20.6%)	19,926	(-74.7%)
Profit (loss) Before tax	4,107	5,085	16.9%	(23.8%)	20,316	(-75.0%)
<b>Net income</b>	3,793	<b>4,514</b>	<b>15.0%</b>	(19.0%)	15,624	(-71.1%)

※ Based on consolidated

# Quarterly Revenue trends

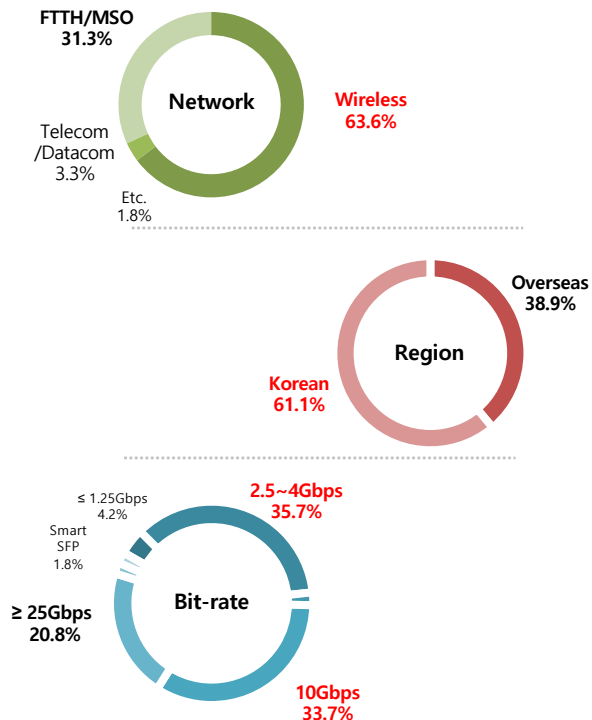
## 5G Investment stagnation and delay due to issues such as COVID-19 Overseas 5G investment Expected in 2021

(Unit: 100 million KRW)



※ Based on separate standard

## Overseas FTTH/MSO sales have a positive effect on Q3 Revune Wireless 63.7%, Korean 61.1%, Overseas 38.9%



(Unit: 100 million KRW)

구 분	Q2 2020	Q3 2020	QoQ (%)
<b>Network</b>			
• Wireless	188.6	191.8	1.7%
• Telecom/Datacom	9.6	10.1	5.2%
• FTTH/MSO	93.9	94.3	0.4%
• etc.	1.7	5.3	211.8%
<b>Region</b>			
• Korean	161.8	184.2	13.8%
• Overseas	132.0	117.3	-11.1%
<b>Overseas ratio</b>	<b>44.9%</b>	<b>38.9</b>	
<b>Bit-rate</b>			
• ≤1.25Gbps	13.8	12.8	-7.2%
• 2.5~4Gbps	97.1	107.6	10.8%
• 5~6Gbps	2.3	6.1	165.2%
• 10Gbps	151.3	101.7	-32.8%
• ≥25Gbps	23.9	62.6	161.9%
• Smart SFP	3.5	5.4	54.3%
• Component / Chip	1.7	5.3	211.8%
• etc.	0.2		N/A
<b>Total</b>	<b>293.8</b>	<b>301.5</b>	<b>2.6%</b>

※ Based on separate standard



# 5G(NR) Mobile Network Business

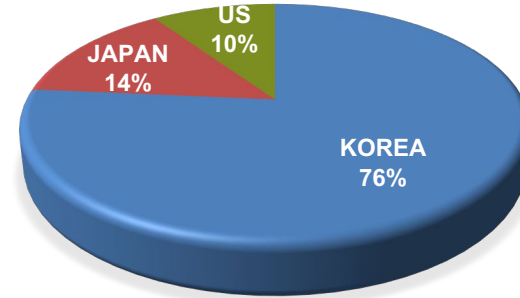


# 5G(NR) Mobile Network Business

## 5G Network Supply chain



## 5G Products Revenue



(Unit : 백만원)

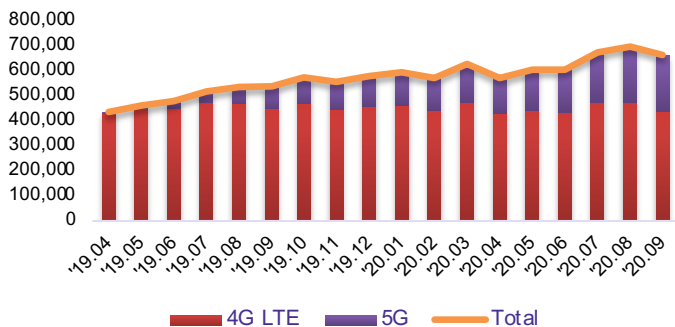
Region	Operator	Product	Revenue	%
KOREA	KT	10Gbps, 25Gbps	27,965	76%
	LG U+	10Gbps, 25Gbps		
	SKT	10Gbps		
JAPAN	KDDI	10Gbps	5,112	14%
	NTT docomo	25Gbps		
US	Verizon	10Gbps	3,491	10%
	AT&T	25Gbps		
<b>Total</b>			<b>36,569</b>	

## COVID-19 Pandemic

Expected to increase data traffic due to spread of non face-to-face culture (Education, Business, Consumption etc.)

### Data traffic

(단위: TB)



(Source: 과학기술정보통신부)

구분	'19.04	'19.05	'19.06	'19.07	'19.08	'19.09	'19.10	'19.11	'19.12	'20.01	'20.02	'20.03	'20.04	'20.05	'20.06	'20.07	'20.08	'20.09
4G LTE	429,597	448,336	448,336	472,327	468,436	449,410	468,127	445,950	458,575	463,118	440,395	473,543	427,662	441,233	433,645	472,636	471,662	436,093
5G	5,938	13,987	30,574	44,951	67,238	87,928	105,073	109,244	121,444	131,241	132,057	152,729	144,192	162,200	169,898	201,227	225,055	226,786
Total	435,535	462,323	478,910	517,278	535,674	537,338	573,200	555,194	580,019	594,359	572,452	626,272	571,854	603,433	603,543	673,863	696,717	662,879
Growth rate	2.0%	6.2%	3.6%	8.0%	3.6%	0.3%	6.7%	-3.1%	4.5%	2.5%	-3.7%	9.4%	-8.7%	5.5%	0.02%	11.7%	3.4%	-4.9%



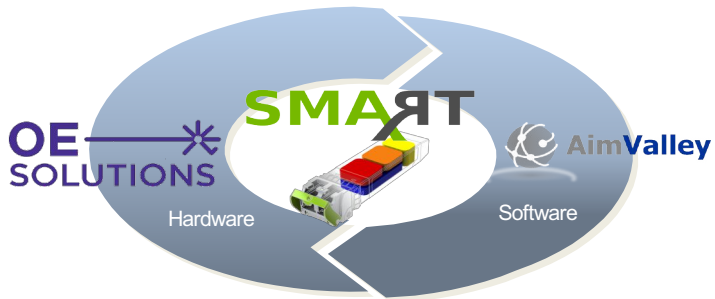
(단위: TB)

# OE Solutions Vision & Strategy



## World's First Leading Technology Smart Transceiver

### Smart Transceiver



### Product Features



### Smart Transceiver

The Network system features in the transceiver enable network migration at low cost and high efficiency.  
OE Solutions/AimValley

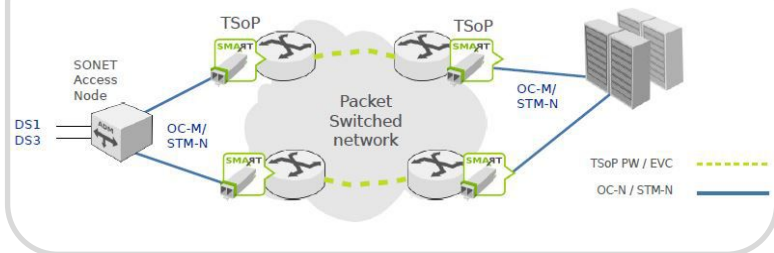
### World's First Leading Technology

**Global Tier 1 customer design in good progress**

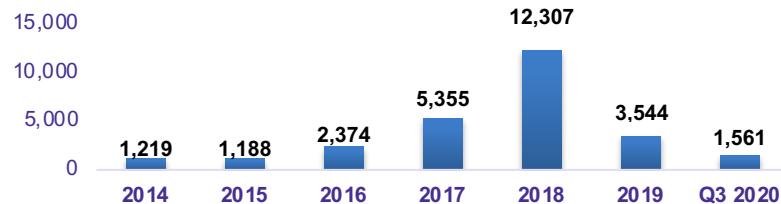
→Ciena, CISCO, Nokia, Juniper, ADVA etc.

### Simplify Network Migration

#### Example of using Smart SFP



### Smart Transceiver Revenue (Unit: million KRX)



Business expand



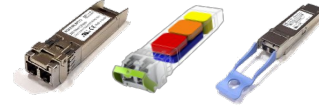
## Optical Component



- Mass production scheduled for the 2020
- 10G/25G/100G will start using in-house laser chip
- Component sales for China 5G and data center applications
- Component business expect high margin
- Through in-house capability, 1)Cost competitive 2) Supply and demand stabilization 3) Custom development will be possible
- Road map : 10G DML, 25G DFB, 25G EML, Tunable Chip
- 25G EML : Joint with ETRI



## Transceiver

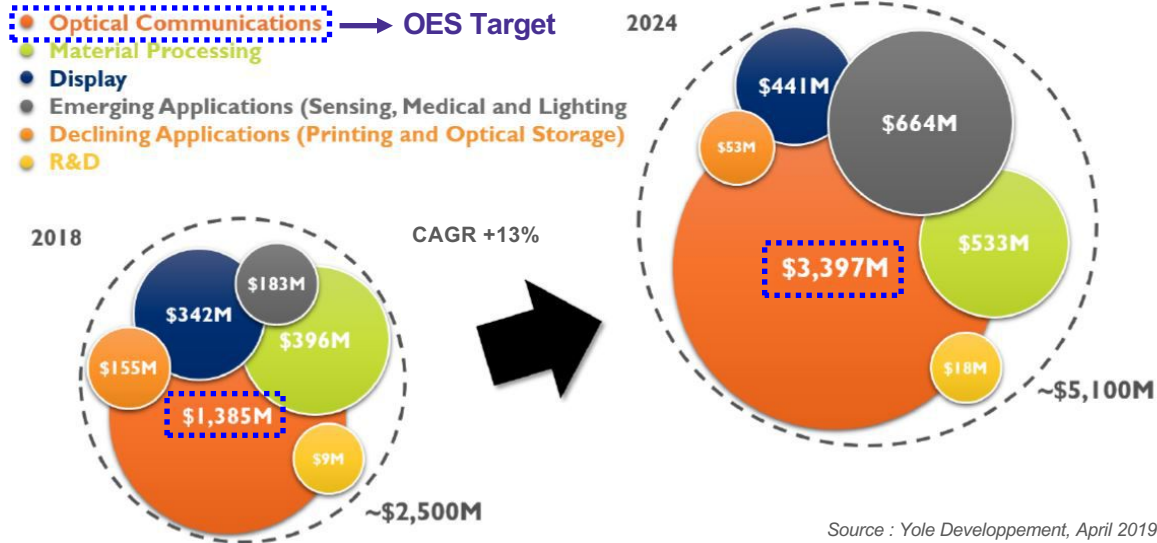


- Global 5G Transceiver All line-up
- Transceiver profitability and competitive advantage through in-house technology
- High bit-rate Transceiver development to launch a variety of Network Target products
- Road map : 50Gbps, 100Gbps, 400Gbps, Tunable SFP Etc.

## Target the Optical Communication market through Edge Emitting Lasers technology EEL technology has potential to expand into many businesses

\*EEL Market

\*EEL : Edge Emitting Lasers



Q4 of 20 Guidance





**Q4 Revenue is expected to 29.3B KRW**  
 5G investment reduction and delay due to COVID-19 global issued

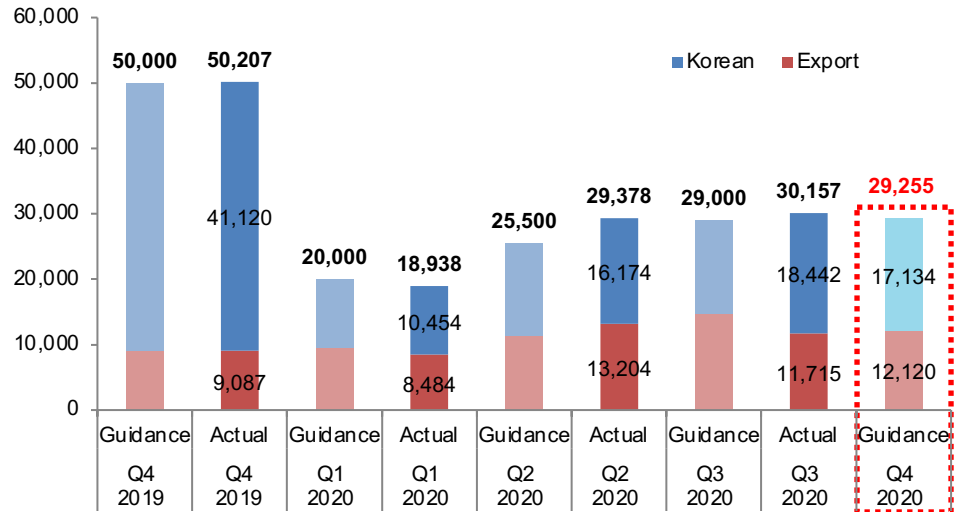
## Quarterly Guidance

(Unit : million KRW)

	Q1 2020 Actual	Q2 2020 Actual	Q3 2020 Actual	Q4 2020 Guidance
<b>Total Revenue</b>	18,938	29,378	30,157	<b>29,255</b>
Korean	10,454	16,174	18,442	<b>17,134</b>
Export	8,484	13,204	11,715	<b>12,120</b>

## Quarterly Trends

(Unit : million KRW)



※ Consolidated and forecast as of November 2020

# Appendix

- Company Introduction
- Financials



# About OE Solutions

## Overview

<b>Name</b>	OE Solutions, Co., Ltd	<b>Date of Established</b>	Aug.7, 2003
<b>Number of Employees</b>	413 (Korea: 393 / USA: 18 / Japan: 2)	<b>Date of Listing</b>	Feb.27, 2014(KOSDAQ code : 138080)
<b>Product</b>	Optical Transceiver	<b>Homepage</b>	www.oesolutions.com
<b>Locations</b>	Head Quarter : Gwangju, South Korea / US : Ridgefield Park, NJ, USA / JAPAN : Tokyo Japan		

(As of October.31,2020 )

## Locations



## R&D Engineer & Cost

### < By Sector >

R&D  
79  
(18.4%)

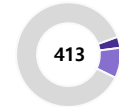


### < By Education >

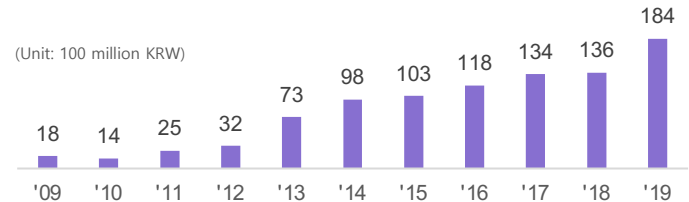
PhD  
3.4%

Master  
8.0%

Master  
And  
Higher  
47  
(11.4%)



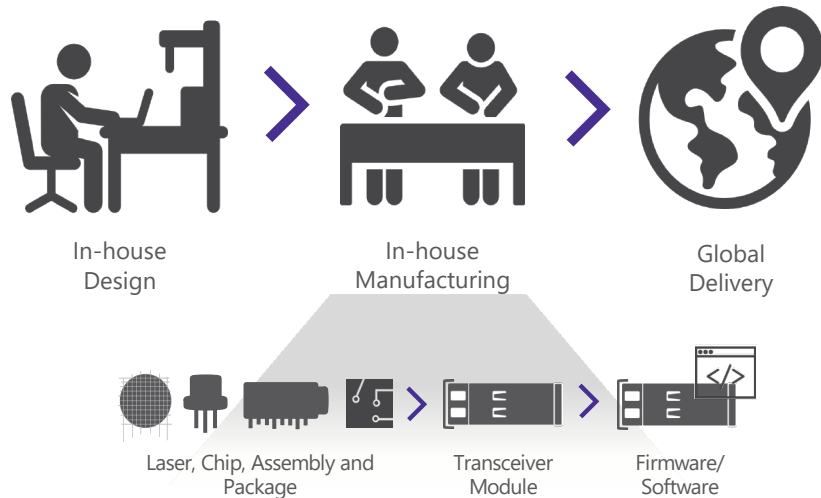
(Unit: 100 million KRW)

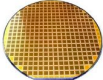


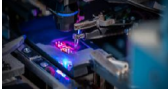

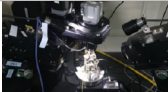








## Leading Supplier of High-Reliability Optical Components for Challenging Deployment Environments



- ❑ Leading supplier of optical components since 2003
- ❑ Founded by a team of Bell Labs and Samsung veterans
- ❑ Traded on KOSDAQ since 2014
- ❑ Key supplier to tier-1 MSO and Wireless OEMs
- ❑ Serving global customer in over 50 countries
- ❑ Leading supplier of BIDI and I-Temp Optics
- ❑ Leading supplier of Smart SFPs  
(co-developed with AimValley)
- ❑ Vertically integrated production
- ❑ In-house production in Gwangju, S. Korea factory
- ❑ R&D sites in Korea, USA and the Netherlands

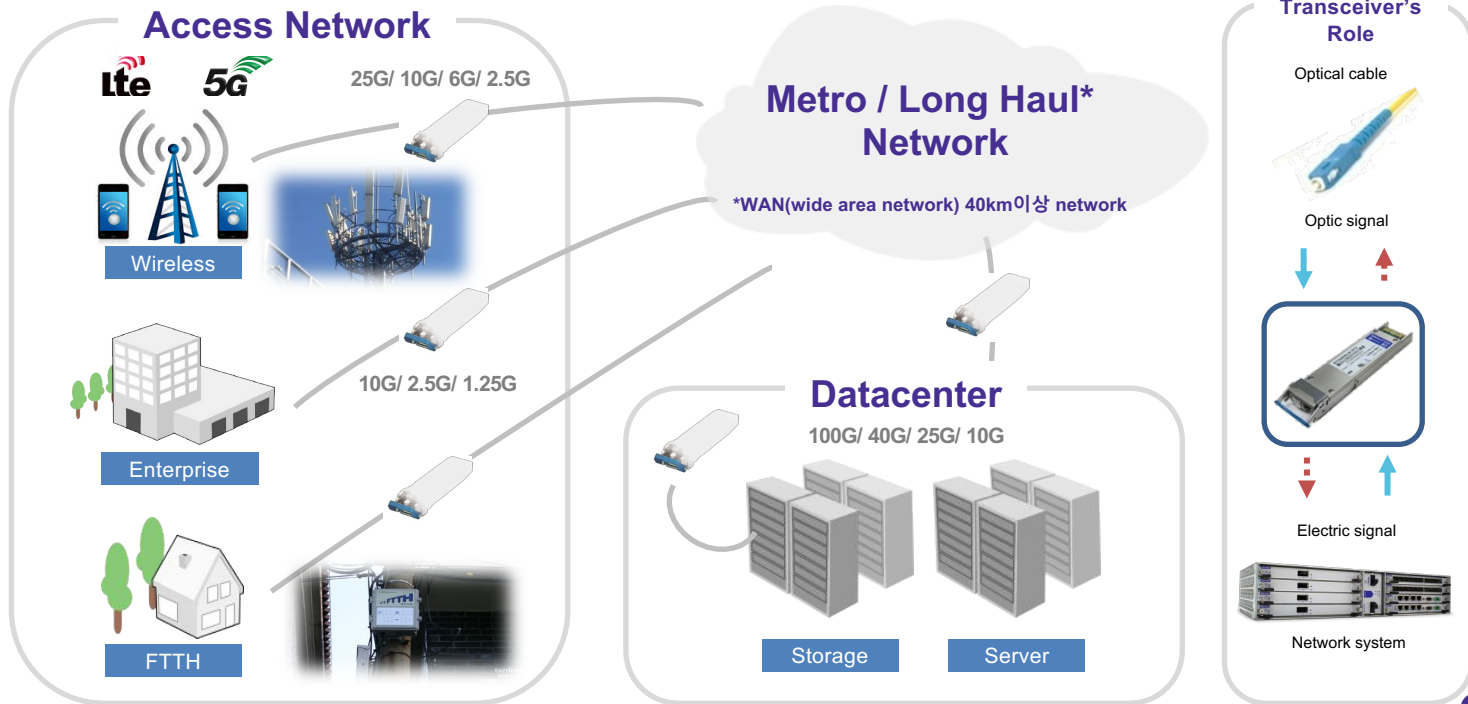


	Manufacturing Process		Manufacturing Technology	
<b>Chip</b>		Laser Diode Photo Diode	Epitaxy / Fabrication / Wafer Characterization	
<b>Assembly</b>		TO/ XMD (Cooled/ Uncooled)	Die Bonding, Wire Bonding, Seam Sealing, Burn-in, DC/AC Test	
<b>Package</b>		OSA (TOSA/ ROSA/ BOSA)	Laser welding, Epoxy bonding, DC/AC Test	
<b>Circuit / Module</b>		Transceiver (Tuning & Test)	Auto Soldering / Auto Tuning / Test	
<b>Firmware / Software</b>		Sub-system (Network Migration & Self-Monitoring Technology)	Co-developed with AimValley, a networking technology expert in Netherlands	
<b>Production</b>		Own manufacturing, assembly & testing facility	Low cost, flexible production	

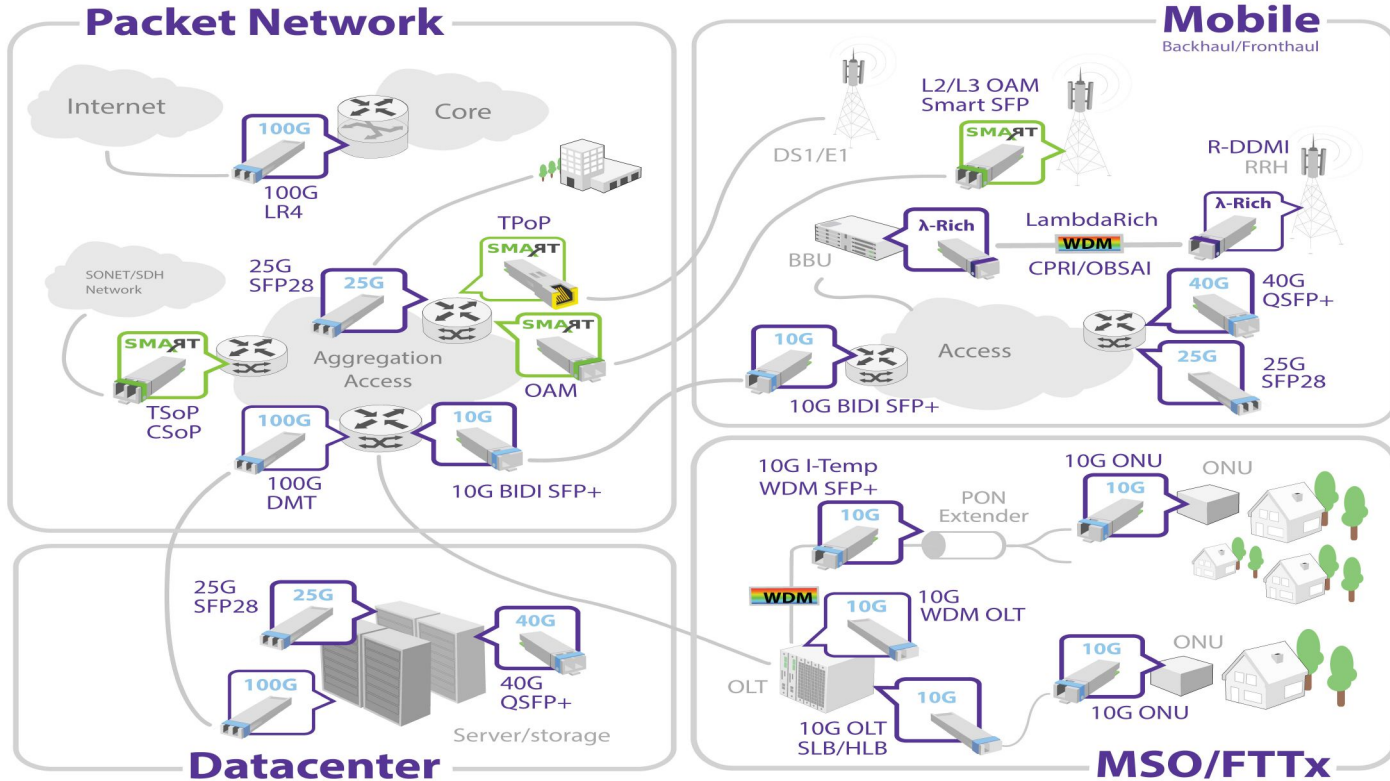
# Transceiver Products Applications

The use of Transceiver in the Network

Transceiver required for network connections



# Key Application Areas



# Condensed income statement

## Consolidated

(Unit : million KRW)

	2017	2018	2019	2020		
				Q1	Q2	Q3
Revenue (Sales)	76,594	81,504	210,283	18,938	29,378	30,157
Cost of sales	53,973	54,106	122,835	12,435	16,740	16,806
Gross profit	22,620	27,398	87,448	6,503	12,638	13,351
Selling general administrative expenses	24,538	27,164	29,186	7,903	8,462	8,314
Operating income(loss)	(1,917)	234	58,262	-1,400	4,176	5,037
Profit (loss) before tax	(3,788)	1,951	58,388	-154	4,107	5,085
Net income	(1,786)	2,584	46,065	175	3,793	4,514

\* K-IFRS

## Separate standards

(Unit : million KRW)

	2017	2018	2019	2020		
				Q1	Q2	Q3
Revenue (Sales)	76,535	81,406	210,242	18,938	29,377	30,153
Cost of sales	53,914	54,117	122,835	12,435	16,740	16,806
Gross profit	22,621	27,289	87,407	6,503	12,637	13,347
Selling general administrative expenses	25,174	26,925	28,533	7,813	8,867	8,848
Operating income(loss)	(2,553)	364	58,874	-1,310	3,770	4,499
Profit (loss) before tax	(4,514)	1,945	59,436	-70	3,759	4,702
Net income	(2,338)	2,641	47,026	260	3,410	4,098



# Condensed statement of financial position

## Consolidated

(Unit : million KRW)

	2017	2018	2019	2020		
				Q1	Q2	Q3
Current assets	57,247	57,027	137,422	128,091	129,369	127,144
Cash and cash equivalents	21,923	11,073	44,259	34,547	35,813	31,815
Accounts receivable	14,626	18,969	33,138	17,459	27,854	19,562
Inventory asset	18,840	19,740	24,222	27,946	25,353	23,466
Non-current assets	38,809	42,125	46,945	53,174	58,043	65,679
Property, plant and equipment	29,597	30,476	30,161	31,269	34,314	36,322
Intangible assets	766	782	738	800	809	810
<b>Total assets</b>	<b>96,056</b>	<b>99,152</b>	<b>184,367</b>	<b>181,265</b>	<b>187,412</b>	<b>192,823</b>
Current liabilities	24,807	25,369	42,847	43,574	45,910	46,856
Short-term debt	20,000	19,400	27,000	27,000	37,000	36,000
Non-current liabilities	4,302	5,736	2,211	2,277	2,336	2,332
<b>Total liabilities</b>	<b>29,110</b>	<b>31,105</b>	<b>45,059</b>	<b>45,850</b>	<b>48,246</b>	<b>49,188</b>
Capital	3,870	3,870	5,312	5,312	5,312	5,312
Paid-in capital in excess of par value	26,969	26,969	52,031	52,002	52,002	52,002
Retained earnings	33,937	34,868	79,731	75,660	79,453	83,967
<b>Total equity</b>	<b>66,946</b>	<b>68,047</b>	<b>139,308</b>	<b>135,414</b>	<b>139,166</b>	<b>143,635</b>

## Separate standards

(Unit : million KRW)

	2017	2018	2019	2020		
				Q1	Q2	Q3
Current assets	55,648	55,790	136,299	127,306	127,649	125,020
Cash and cash equivalents	20,662	10,227	42,423	32,555	32,592	24,730
Accounts receivable	14,251	18,299	33,096	17,061	28,948	23,491
Inventory asset	18,840	19,740	24,222	27,946	25,352	23,462
Non-current assets	38,923	41,993	46,416	52,468	57,469	65,306
Property, plant and equipment	29,306	30,119	29,192	30,273	33,338	35,455
Intangible assets	105	54	36	32	27	23
<b>Total assets</b>	<b>94,571</b>	<b>97,783</b>	<b>182,715</b>	<b>179,774</b>	<b>185,118</b>	<b>190,326</b>
Current liabilities	25,309	26,119	43,065	44,127	46,012	47,095
Short-term debt	20,000	19,400	27,000	27,000	37,000	36,000
Non-current liabilities	4,228	5,643	1,676	1,688	1,737	1,764
<b>Total liabilities</b>	<b>29,538</b>	<b>31,761</b>	<b>44,740</b>	<b>45,815</b>	<b>47,749</b>	<b>48,859</b>
Capital	3,870	3,870	5,312	5,312	5,312	5,312
Paid-in capital in excess of par value	26,969	26,969	52,031	52,002	52,002	52,002
Retained earnings	31,650	32,638	78,461	74,475	77,885	81,983
<b>Total equity</b>	<b>65,034</b>	<b>66,022</b>	<b>137,975</b>	<b>133,959</b>	<b>137,369</b>	<b>141,467</b>

Thank you.

**OE** —   
**SOLUTIONS**

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