

IR Presentation 2020

2020 Results & Q1 2021 Guidance

February 2021
OE Solutions IR

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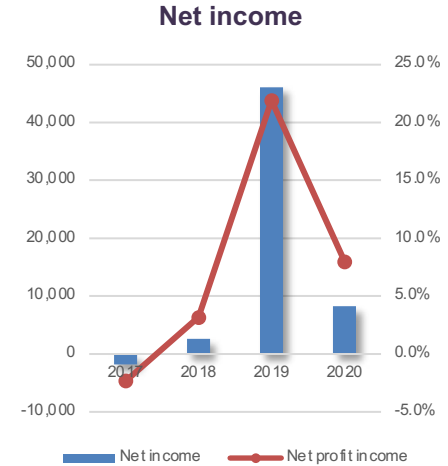
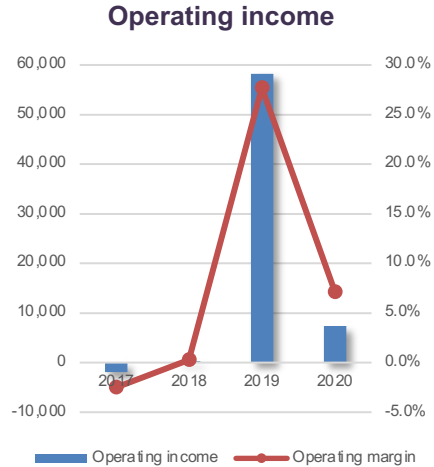
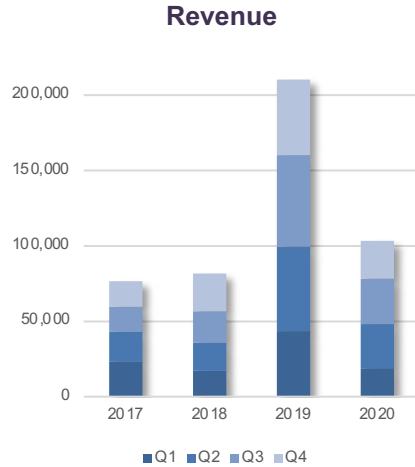
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2020 Result Review



2020 Revenue **1,03.2B KRW** , Operating income **7.4B KRW(7%)**, Net income **8.2B KRW(8%)**



※ Based on consolidated

구 분	2017	2018	2019	Q1 20	Q2 20	Q3 20	Q4 20	2020
• Revenue	76,594	81,504	210,283	18,938	29,378	30,157	24,706	103,178
• Operating income	-1,917	234	58,266	-1,400	4,176	5,037	-460	7,353
• Operating margin	-2.5%	0.3%	27.7%	-7.4%	14.2%	16.7%	-1.9%	7.1%
• Net income	-1,786	2,584	45,908	175	3,793	4,514	-253	8,229
• Net profit margin	-2.3%	3.2%	21.8%	0.9%	12.9%	15.0%	-1.0%	8.0%

(Unit : million KRW)

2020 Revenue 1,03.2억B KRW Operating income 7.4B KRW
5G investment stagnation and delay due to issues such as COVID-19

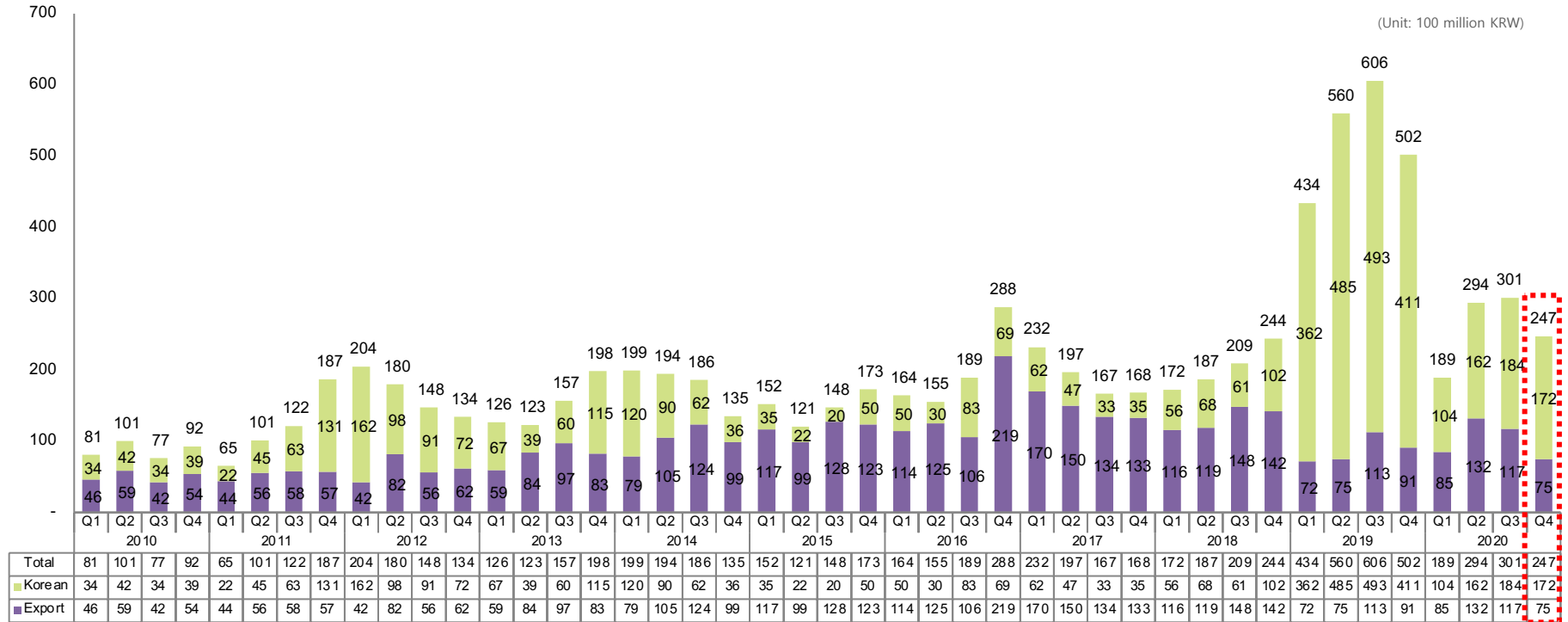
(Unit : million KRW)

	2019	2020	%	YoY	Q3 20	Q4 20	QoQ
Revenue (Sales)	210,283	103,178		-50.9%	30,157	24,706	-18.1%
Gross profit	87,448	40,492	39.2%	-53.7%	13,351	8,000	-40.1%
Selling general Administrative expenses	29,186	33,139	32.1%	13.5%	8,314	8,460	1.8%
Operating Income(loss)	58,262	7,353	7.1%	(-87.4%)	5,037	-460	-109.1%
Profit (loss) Before tax	58,388	8,195	7.9%	(-86.0%)	5,085	-842	-116.6%
Net income	46,065	8,229	8.0%	(-82.1%)	4,514	-253	-105.6%

※ Based on consolidated

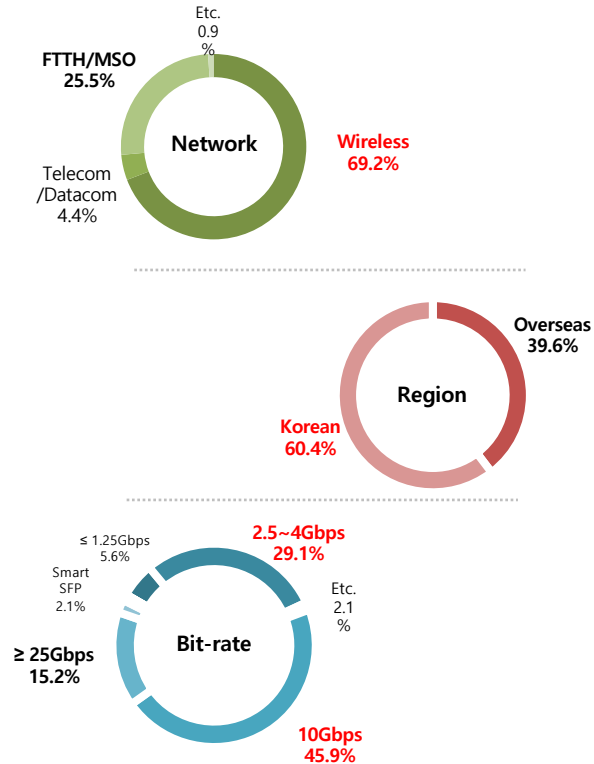
Quarterly Revenue trends

Overseas 5G investment Expected in 2021



※ Based on separate standard

Overseas FTTH/MSO sales have a positive effect on 2020 Revune Wireless 66.2%, Korean 60.4%



(Unit: 100 million KRW)

구 분	2019	2020	YoY (%)
Network			
• Wireless	1,840	713.7	-61.2%
• Telecom/Datacom	96.2	45.6	-52.6%
• FTTH/MSO	166.1	262.6	58.1%
• etc.		9.8	N/A
Region			
• Korean	1,751.5	622.6	-64.5%
• Overseas	350.9	409.0	16.6%
Overseas ratio	16.7%	39.6%	
Bit-rate			
• ≤1.25Gbps	61.2	58.1	-5.1%
• 2.5~4Gbps	210.8	300.3	42.5%
• 5~6Gbps	24.3	12.5	-48.6%
• 10Gbps	1,056.7	473.2	-55.2%
• ≥25Gbps	713.1	156.4	-78.1%
• Smart SFP	35.3	21.2	-39.9%
• Component / Chip		9.8	N/A
• etc.	1.04	0.2	-77.6%
Total	2,102.4	1,031.7	-50.9%

※ Based on separate standard

5G(NR) Mobile Network Business



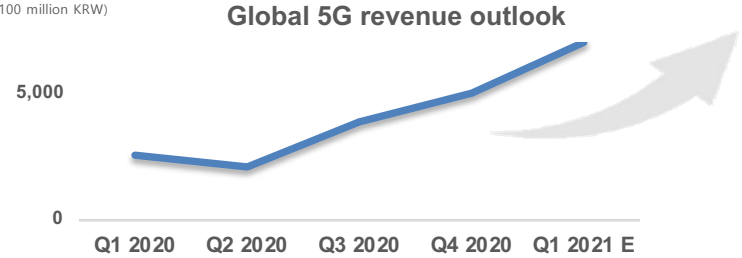
5G Network Supply chain



Global 5G Revenue Forecast

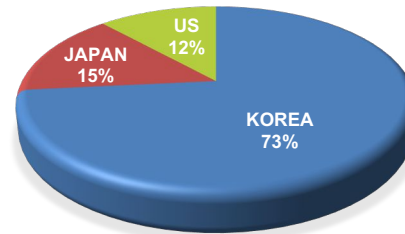
Global(US, Japan, etc.) 5G sales growth is expected to increase further in the second half of the year

(Unit: 100 million KRW)



2020 5G Revenue

(Unit: 100 million KRW)

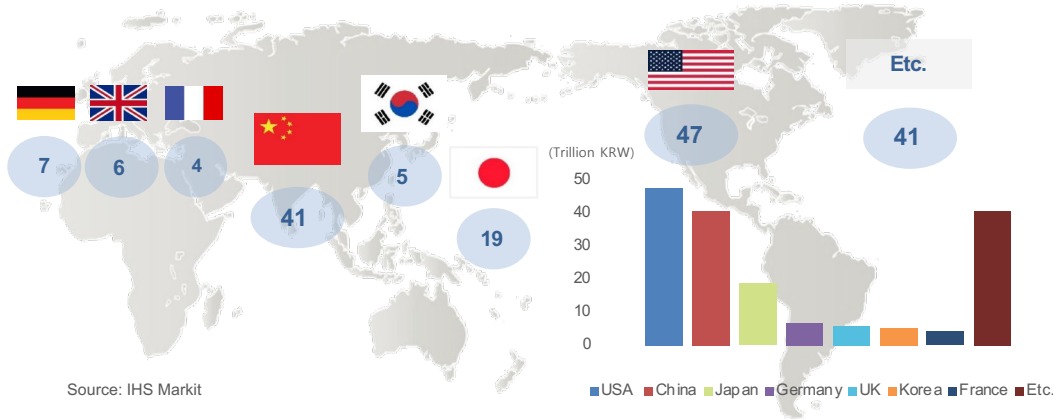


Region	Operator	Revenue
KOREA	KT	37,691
	LG U+	
JAPAN	SKT	7,606
	KDDI	
US	NTT docomo	6,028
	Verizon	
AT&T		
Total		51,326

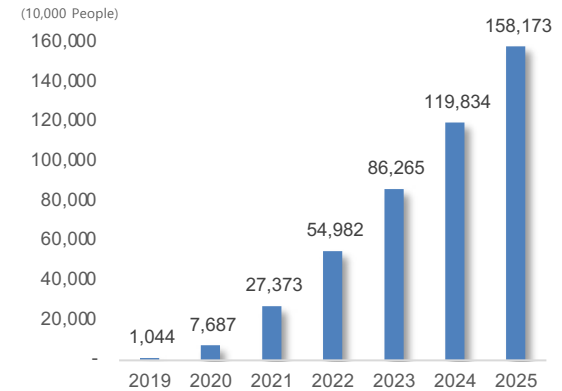
5G Market Forecast



5G Infra equipment investment outlook - 5-year average



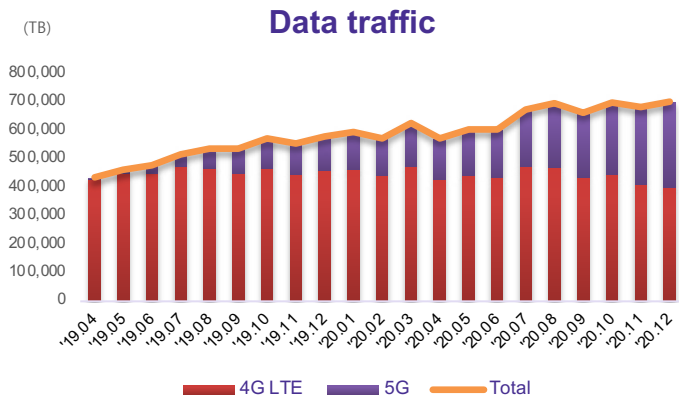
Global 5G subscribers outlook



COVID-19 Pandemic

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

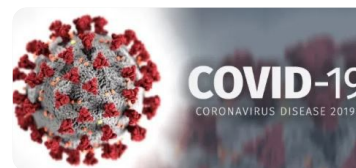
Data traffic in Korea



(Source: Ministry of Science and ICT)

(TB)

구분	'20.01	'20.02	'20.03	'20.04	'20.05	'20.06	'20.07	'20.08	'20.09	'20.10	'20.11	'20.12
4G LTE	463,118	440,395	473,543	427,662	441,233	433,645	472,636	471,662	436,093	445,047	410,676	399,193
5G	131,241	132,057	152,729	144,192	162,200	169,898	201,227	225,055	226,786	253,697	272,598	302,278
Total	594,359	572,452	626,272	571,854	603,433	603,543	673,863	696,717	662,879	698,744	683,274	701,471
Growth rate	2.5%	-3.7%	9.4%	-8.7%	5.5%	0.02%	11.7%	3.4%	-4.9%	5.4%	-2.2%	2.7%

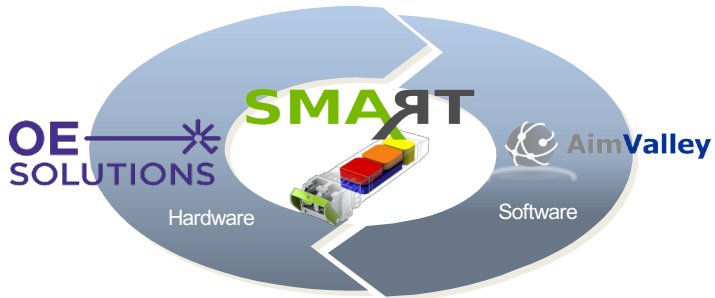


OE Solutions Vision & Strategy



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

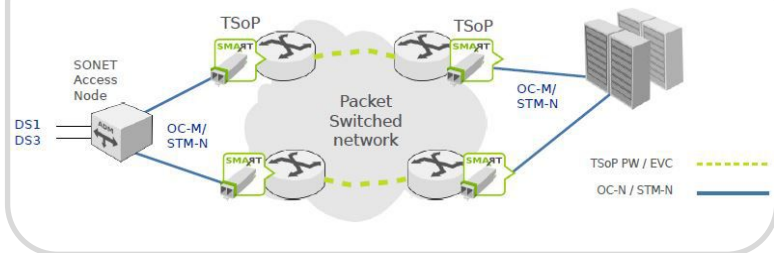
World's First Leading Technology

Global Tier 1 customer design in good progress

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

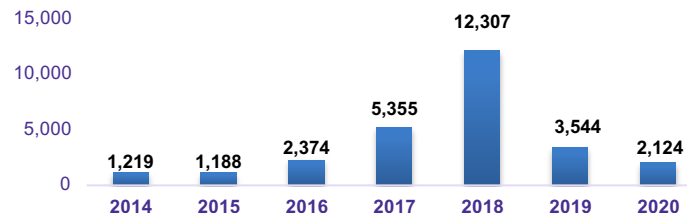
Simplify Network Migration

Example of using Smart SFP



Smart Transceiver Revenue

(Unit: million KRX)



Business expand



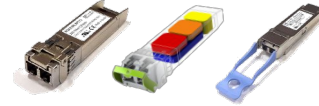
Optical Component



- 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



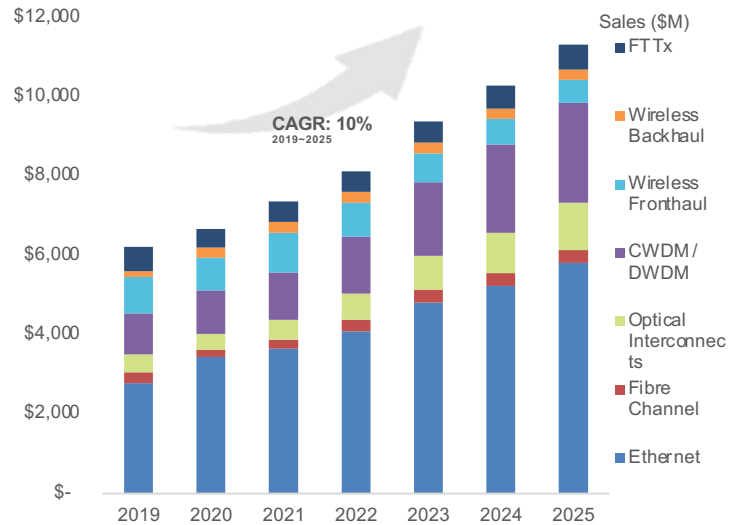
Transceiver



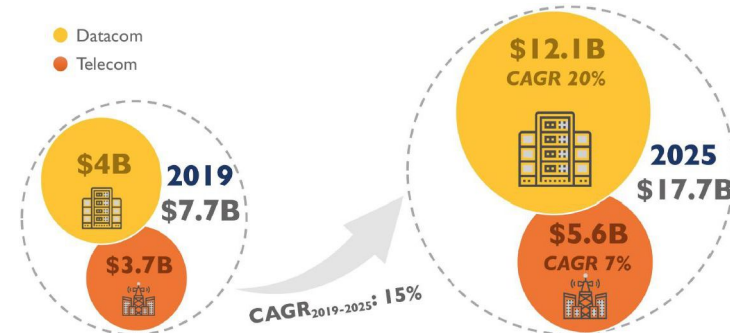
- Global 5G Transceiver All line-up
- Transceiver profitability and competitive advantage through in-house technology
- High bit-rate Transceiver development to launch a variety of Network Target products
- Road map : 50Gbps, 100Gbps, 400Gbps, Tunable SFP Etc.

Demand for Transceivers continues to increase due to infrastructure investments that require data connectivity

Transceiver Market Forecast



Source : LightCounting, 2020 October Report

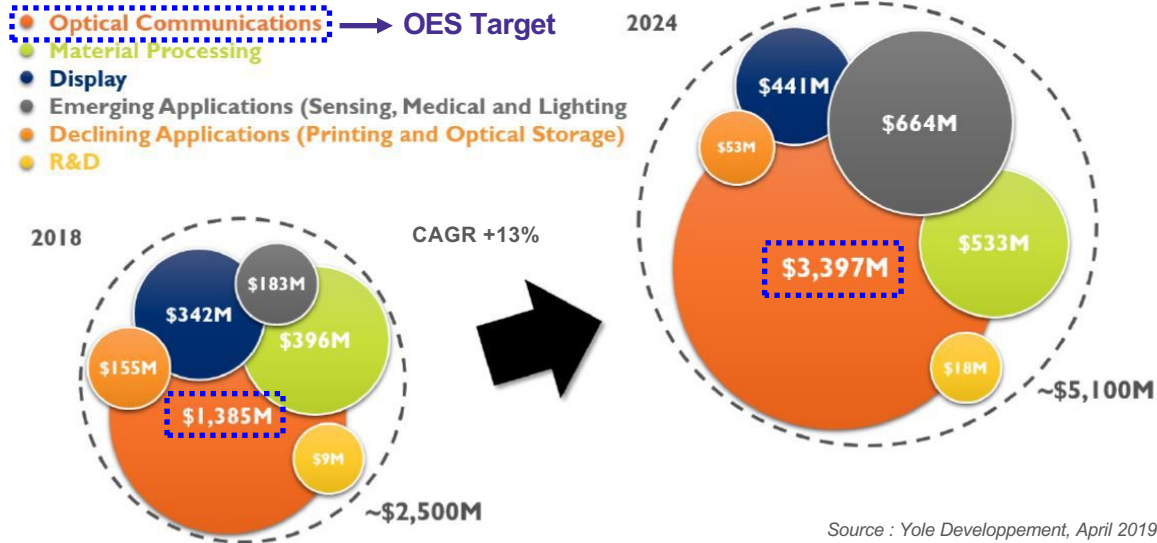


Source : Yole Developpement, 2020

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



Q1 of 21 Guidance



Q1 Revenue is expected to 25B KRW

YoY 32% ↑, QoQ 1.2% ↑

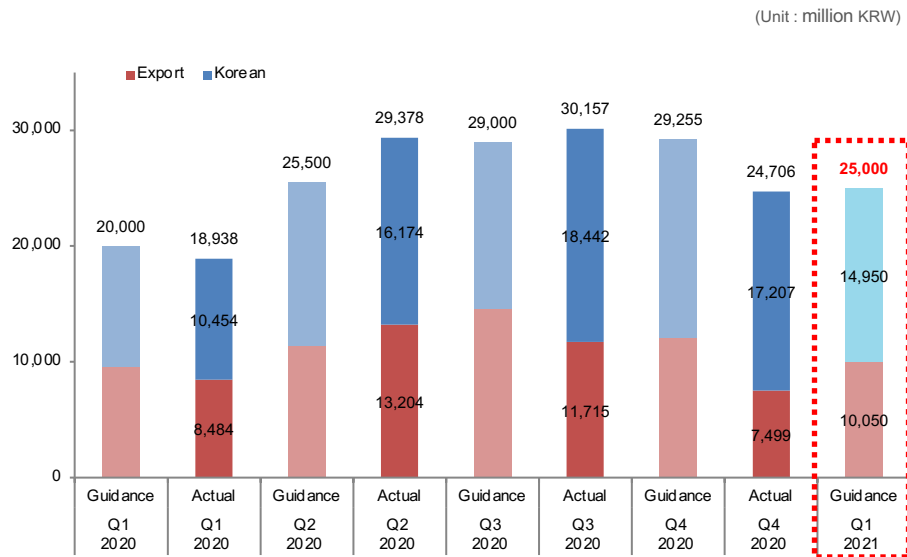
Quarterly Guidance

(Unit : million KRW)

	Q1 2020 Actual	Q2 2020 Actual	Q3 2020 Actual	Q4 2020 Actual	Q1 2021 Guidance
Revenue (Sales)	18,938	29,378	30,157	24,706	25,000
Domestic	10,454	16,174	18,442	17,207	14,950
Export	8,484	13,204	11,715	7,499	10,050

※ Consolidated and forecast as of February 2021

Quarterly Trends



Appendix

- Company Introduction
- Financials



About OE Solutions

Overview

Name	OE Solutions, Co., Ltd	Date of Established	Aug.7, 2003
Number of Employees	447 (Korea: 425 / USA: 19 / Japan: 3)	Date of Listing	Feb.27, 2014(KOSDAQ code : 138080)
Product	Optical Transceiver	Homepage	www.oesolutions.com
Locations	Head Quarter : Gwangju, South Korea / US : Ridgefield Park, NJ, USA / JAPAN : Tokyo Japan		

(21년 01/31 기준)

Locations



Hilversum, Netherlands

- Europe Headquarter
- Europe Sales
- Smart and system R&D

Gwangju, Korea

- Global Headquarter
- Manufacturing
- R&D

Tokyo, Japan

- Japan Sales
- Engineering Support

Ridgefield Park, NJ, USA

- US Headquarter
- US (East Coast) Sales
- Engineering Support

Seoul (Anyang), Korea

- Korea Sales
- R&D

Seoul (Suwon), Korea

- Korea Sales
- Engineering Support

Taipei, Taiwan

- China Sales
- Engineering Support



Irvine, CA, USA

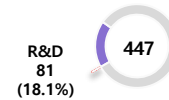
- Engineering Support
- R&D

Santa Barbara, CA, USA

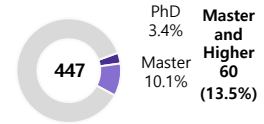
- Engineering Support
- R&D

R&D Engineer & Cost

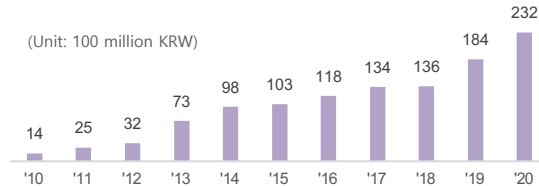
< By sector >



< By education >



(Unit: 100 million KRW)



* 자회사 포함

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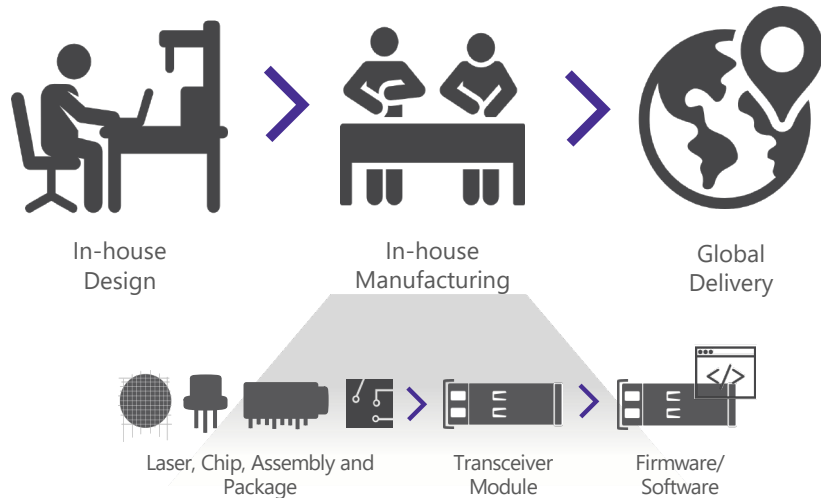


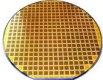


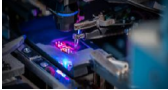

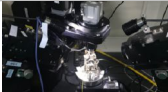






OE Solutions – A Global Supplier of Transceivers

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

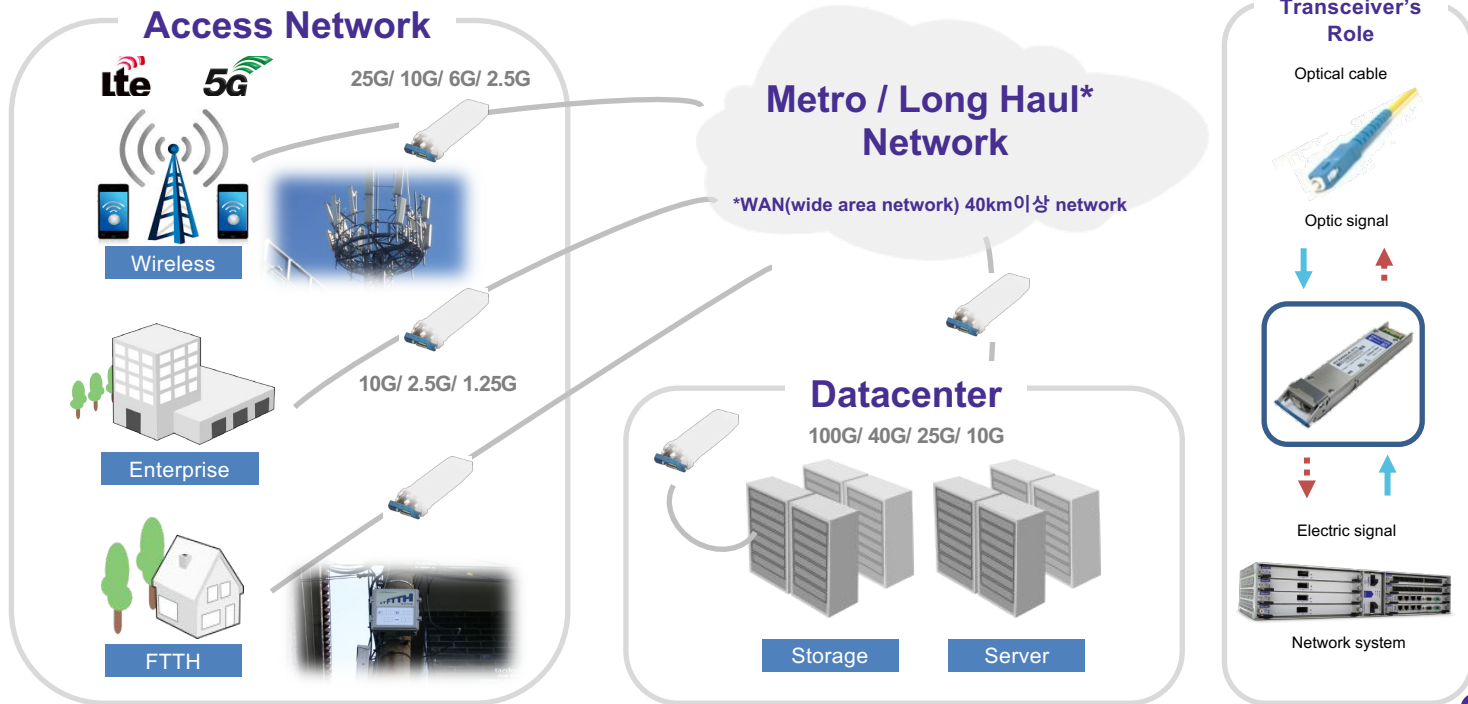


Manufacturing Process		Manufacturing Technology		
Chip		Laser Diode Photo Diode	Epitaxy / Fabrication / Wafer Characterization	
Assembly		TO/ XMD (Cooled/ Uncooled)	Die Bonding, Wire Bonding, Seam Sealing, Burn-in, DC/AC Test	
Package		OSA (TOSA/ ROSA/ BOSA)	Laser welding, Epoxy bonding, DC/AC Test	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

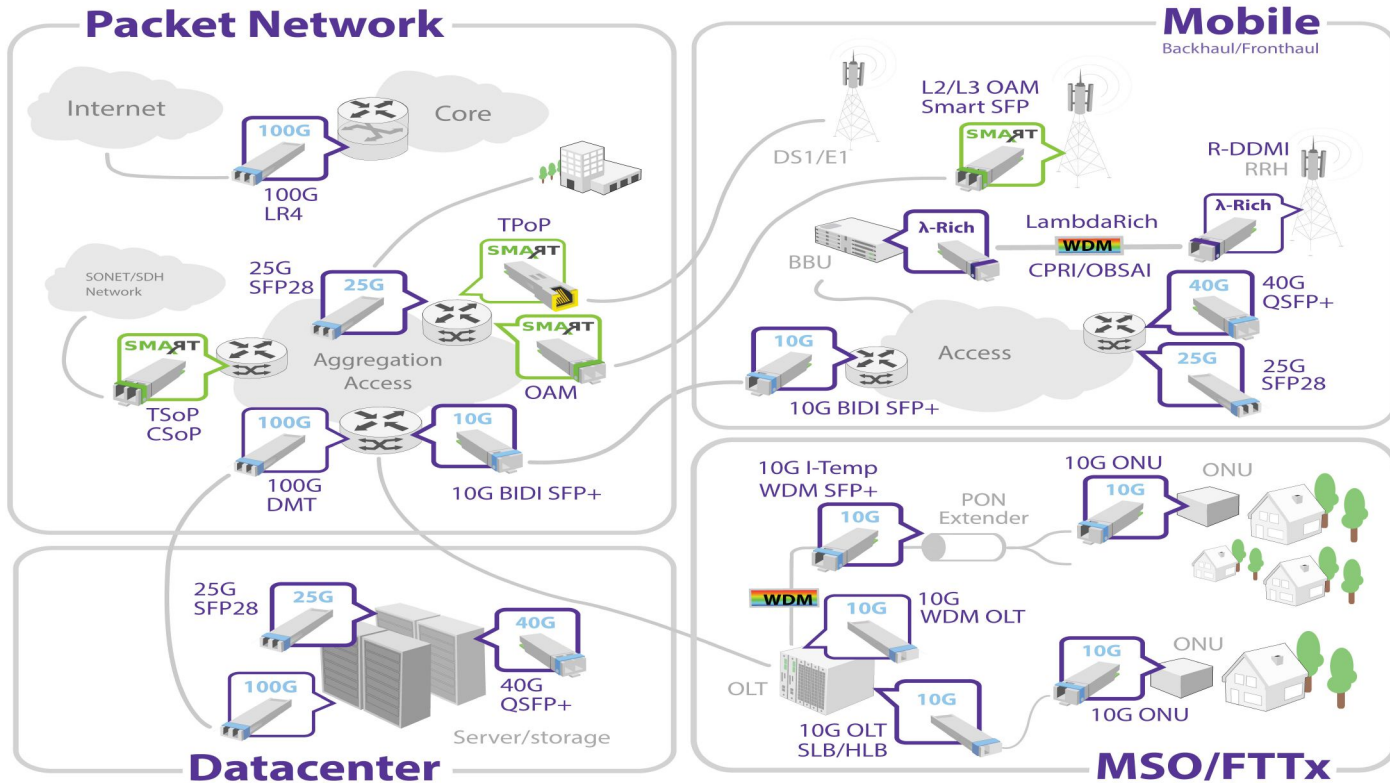
Transceiver Products Applications

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
Revenue (Sales)	76,594	81,504	210,283	103,178
Cost of sales	53,973	54,106	122,835	62,686
Gross profit	22,620	27,398	87,448	40,492
Selling general administrative expenses	24,538	27,164	29,186	33,139
Operating income(loss)	(1,917)	234	58,262	7,353
Profit (loss) before tax	(3,788)	1,951	58,388	8,195
Net income	(1,786)	2,584	46,065	8,229

Separate standards

(Unit : million KRW)

	2017	2018	2019	2020
Revenue (Sales)	76,535	81,406	210,242	103,172
Cost of sales	53,914	54,117	122,835	62,686
Gross profit	22,621	27,289	87,407	40,486
Selling general administrative expenses	25,174	26,925	28,533	33,160
Operating income(loss)	(2,553)	364	58,874	7,326
Profit (loss) before tax	(4,514)	1,945	59,436	8,480
Net income	(2,338)	2,641	47,026	8,422

- **2020 Net income is subject to change due to tax adjustment.**

Condensed statement of financial position

Consolidated

(Unit : million KRW)

	2017	2018	2019	2020
Current assets	57,247	57,027	137,422	126,477
Cash and cash equivalents	21,923	11,073	44,259	40,068
Accounts receivable	14,626	18,969	33,138	14,847
Inventory asset	18,840	19,740	24,222	22,484
Non-current assets	38,809	42,125	46,945	64,248
Property, plant and equipment	29,597	30,476	30,161	39,292
Intangible assets	766	782	738	746
Total assets	96,056	99,152	184,367	190,725
Current liabilities	24,807	25,369	42,847	45,404
Short-term debt	20,000	19,400	27,000	36,000
Non-current liabilities	4,302	5,736	2,211	2,463
Total liabilities	29,110	31,105	45,059	47,867
Capital	3,870	3,870	5,312	5,312
Paid-in capital in excess of par value	26,969	26,969	52,031	52,002
Retained earnings	33,937	34,868	79,731	83,388
Total equity	66,946	68,047	139,308	142,857

Separate standards

(Unit : million KRW)

	2017	2018	2019	2020
Current assets	55,648	55,790	136,299	124,173
Cash and cash equivalents	20,662	10,227	42,423	34,557
Accounts receivable	14,251	18,299	33,096	18,137
Inventory asset	18,840	19,740	24,222	22,484
Non-current assets	38,923	41,993	46,416	64,230
Property, plant and equipment	29,306	30,119	29,192	38,595
Intangible assets	105	54	36	18
Total assets	94,571	97,783	182,715	188,403
Current liabilities	25,309	26,119	43,065	44,442
Short-term debt	20,000	19,400	27,000	36,000
Non-current liabilities	4,228	5,643	1,676	2,166
Total liabilities	29,538	31,761	44,740	46,608
Capital	3,870	3,870	5,312	5,312
Paid-in capital in excess of par value	26,969	26,969	52,031	52,002
Retained earnings	31,650	32,638	78,461	82,311
Total equity	65,034	66,022	137,975	141,795

Thank you.

OE — 
SOLUTIONS

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