

IR Presentation

Q1 2020

Q1 2020 Results & Q2 2020 Guidance

May 2020
OE Solutions IR

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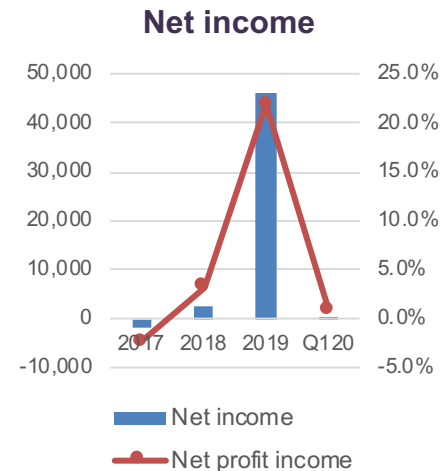
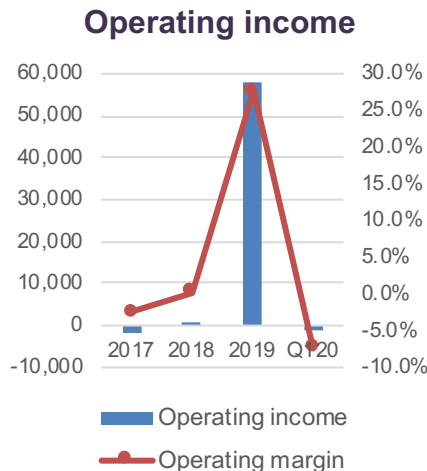
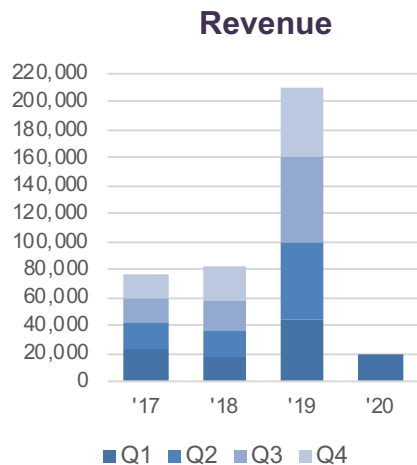
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Q1 2020 Result Review



Accumulative Revenue by 2019 18.9B KRW Operating income -1.4B KRW (-7.4%) Net income 0.17B KRW(0.9%)
COVID-19 Pandemic / 5G infra structure to delay



※ Based on consolidated

구분	2016	2017	2018	2019	Q1 2020
• Revenue	79,720	76,594	81,504	210,283	18,938
• Operating Income	4,721	-1,917	234	58,262	-1,400
• Operating margin	5.9%	-2.5%	0.3%	27.7%	-7.4%
• Net Income	6,127	-1,786	2,584	46,065	175
• Net profit margin	7.7%	-2.3%	3.2%	21.9%	0.9%

Q1 2020 Revenue 18.9B KRW, -56.4%(YoY) -62.3%(QoQ)
Operating income -1.4B KRW(-7.4%)

(Unit : million KRW)

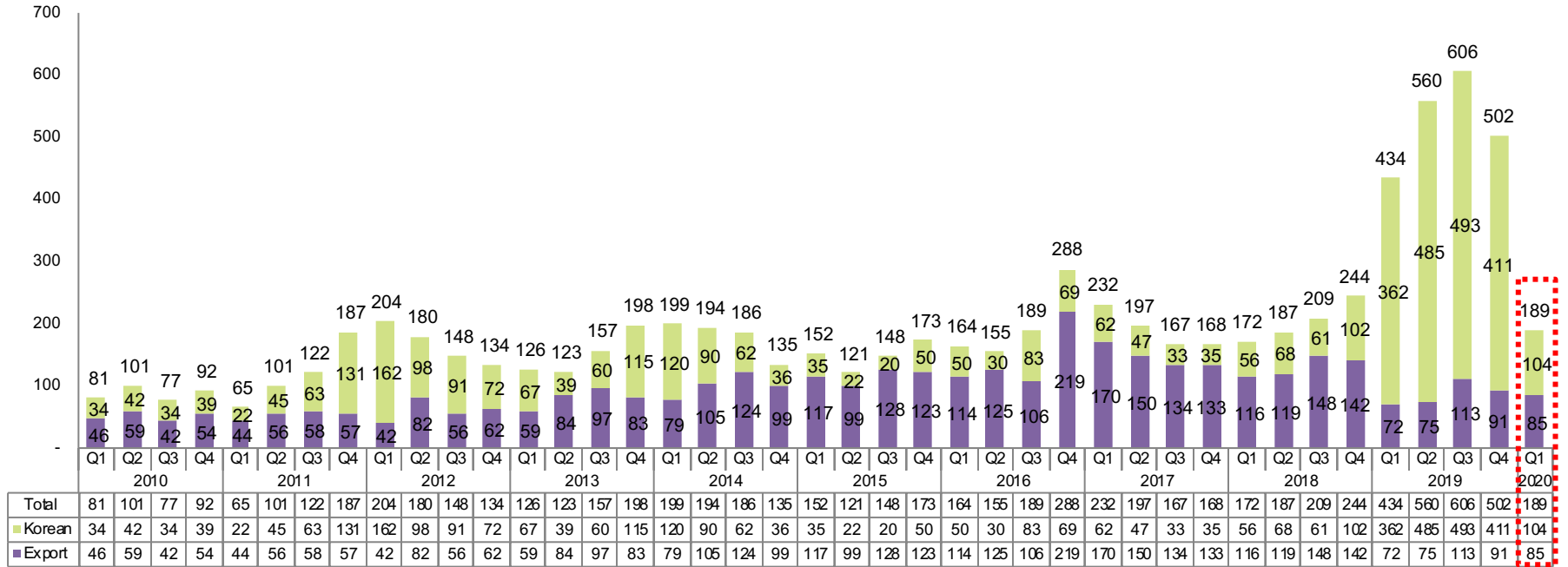
	Q1 19	Q1 20	%	YoY	Q4 19	QoQ
Revenue (Sales)	43,409	18,938		-56.4%	50,193	-62.3%
Gross profit	16,725	6,503	34.3%	-61.1%	19,982	-67.5%
Selling general Administrative expenses	6,989	7,903	41.7%	13.1%	7,908	-0.1%
Operating Income(loss)	9,735	-1,400	-7.4%	(-114.4%)	12,075	(-111.6%)
Profit (loss) Before tax	9,641	-154	-0.8%	(-101.6%)	11,742	(-101.3%)
Net income	9,641	175	0.9%	(-98.2%)	9,364	(-98.1%)

※ Based on consolidated

Quarterly Revenue trends

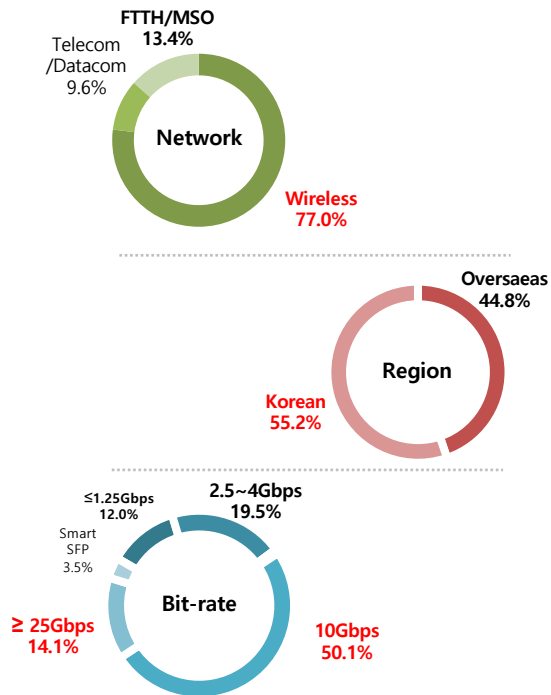
5G Investment stagnation and delay due to issues such as COVID-19 QoQ growth is expected after Q1

(Unit: 100 million KRW)



※ Based on separate standard

Wireless 77% and Korean sales 55.2%, Overseas sales 44.8%



(Unit: 100 million KRW)

	Q4 2019	Q1 2020	QoQ (%)
Network			
• Wireless	427.0	145.8	-65.9%
• Telecom/Datacom	35.8	18.1	-49.4%
• FTTH/MSO	39.2	25.5	-34.9%
Region			
• Korean	411.2	104.5	-74.6%
• Overseas	90.9	84.8	-6.7%
Overseas sales ratio	18.1%	44.8%	
Bit-rate			
• ≤ 1.25Gbps	18.6	22.8	71.4%
• 2.5~4Gbps	52.6	37.0	-19.2%
• 5~6Gbps	11.1	1.4	-87.4%
• 10Gbps	300.4	94.8	-68.4%
• ≥ 25Gbps	103.5	26.7	-74.2%
• Smart SFP	15.9	6.7	-57.9%
• Others	0.04	0	-80.0%
Total	502.1	189.4	-62.3%

※ Based on separate standard

5G(NR) Mobile Network Business



5G(NR) Mobile Network Business

Revenue Growth due to Korean buildout of 5G infrastructure in 2019

Expected to be followed by growth in overseas market

5G Network Supply chain

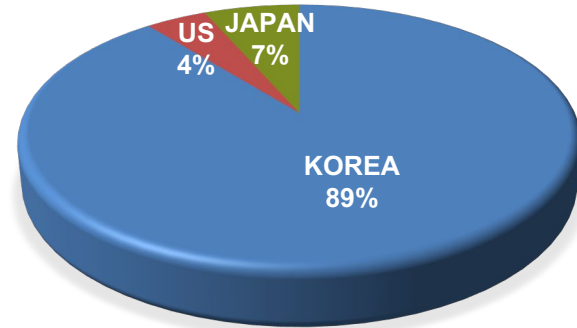
Telecommunication Carriers



Network Equipment



5G Total Revenue



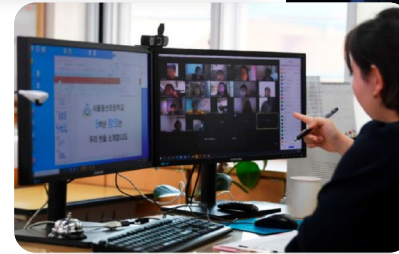
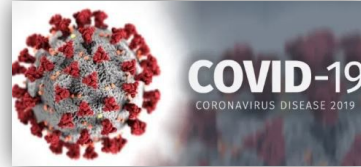
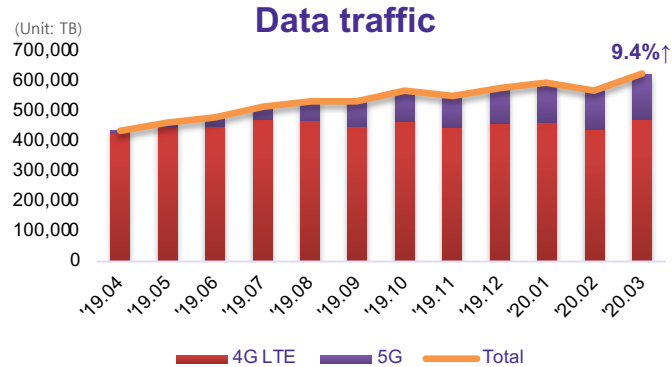
(Unit : million KRW)

Region	Carrier	Product	Revenue	%
KOREA	KT	10Gbps, 25Gbps	142,718	89%
	LGU+	10Gbps		
	SKT	10Gbps		
JAPAN	KDDI	10Gbps	10,509	7%
	NTT docomo	25Gbps		
US	Verizon	10Gbps	6,744	4%
	AT&T	25Gbps		
Total			159,971	

COVID-19 Pandemic

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

Data traffic in Korea



(Unit: TB)

	'19.04	'19.05	'19.06	'19.07	'19.08	'19.09	'19.10	'19.11	'19.12	'20.01	'20.02	'20.03
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
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
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
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%

5G(NR) Coverage map in Korea



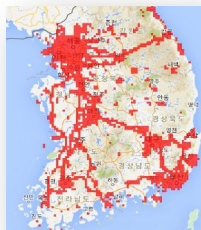
(Source: KT, SKT, LG U+ Website)



'19.08.08



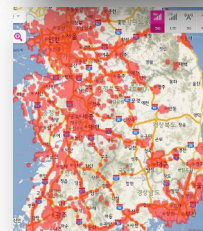
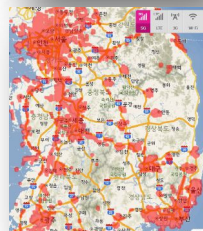
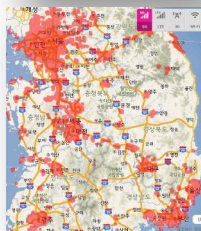
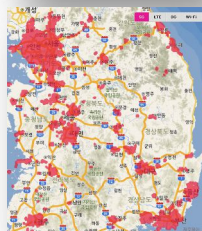
'19.11.08



'20.02.19



'20.05.18

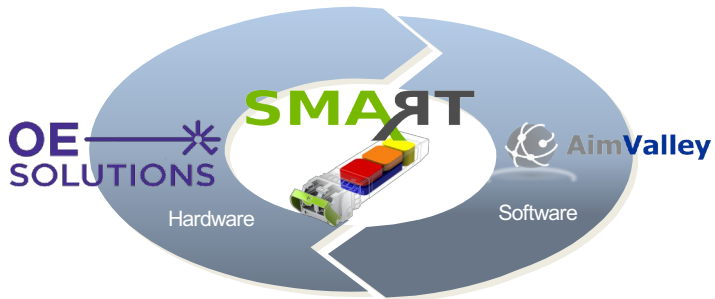


OE Solutions Vision & Strategy



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

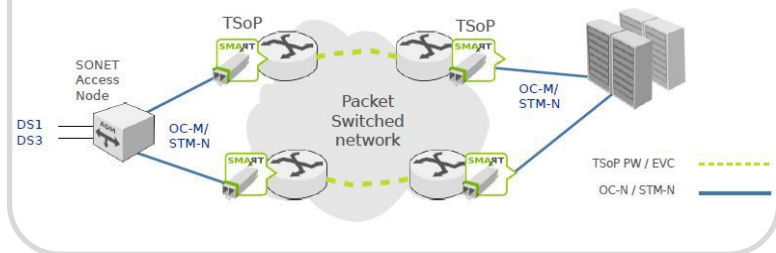
World's First Leading Technology

Major Customers

→Ciena, CISCO, Nokia, Juniper, etc.

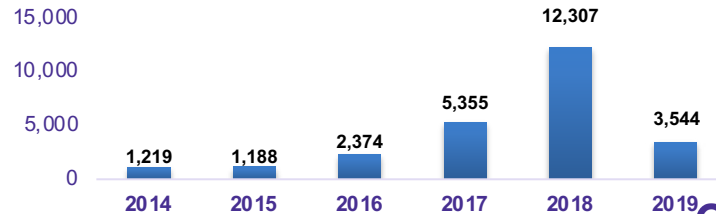
Simplify Network Migration

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

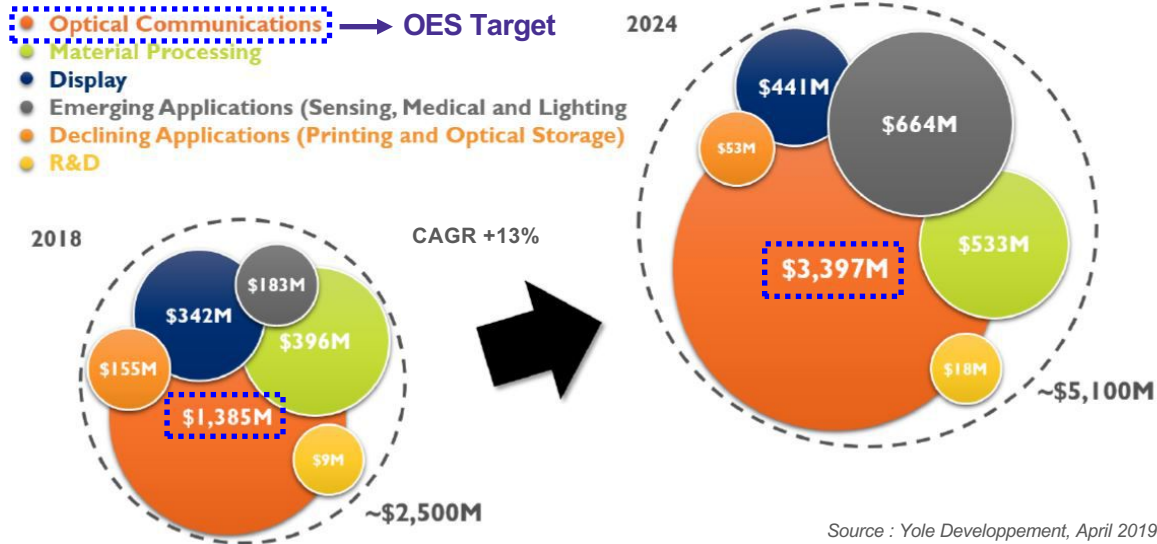


- Global 5G Transceiver All line-up
- Transceiver profitability and competitive advantage through in-house technology
- High bit-rate Transceiver development to launch a variety of Network Target products
- Road map : 50Gbps, 100Gbps, 200Gbps, 400Gbps, Tunable SFP Etc.

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



Q2 of 20 Guidance



Q2 QoQ Revenue is expected to Increase 34.6%, to 25.5B KRW
 QoQ growth is expected after Q1

Quarterly Guidance

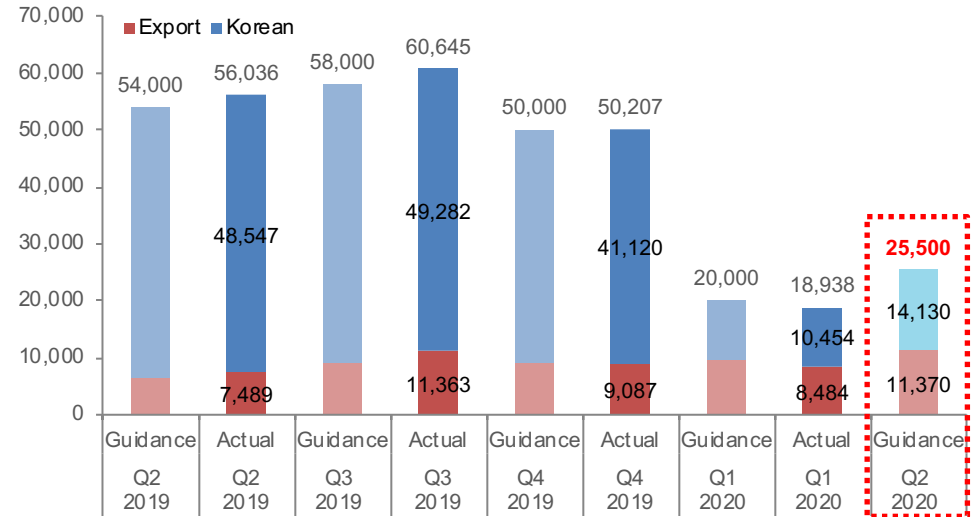
(Unit : million KRW)

	Q2 2019 Actual	Q3 2019 Actual	Q4 2019 Actual	Q1 2020 Actual	Q2 2020 Guidance
Revenue (Sales)	56,036	60,645	50,207	18,938	25,500
Korean	48,547	49,282	41,120	10,454	14,130
Export	7,489	11,363	9,087	8,484	11,370

※ Consolidated and forecast as of February 2020

Quarterly Trends

(Unit : million KRW)



Appendix

- Company Introduction
- Financials



About OE Solutions

Overview

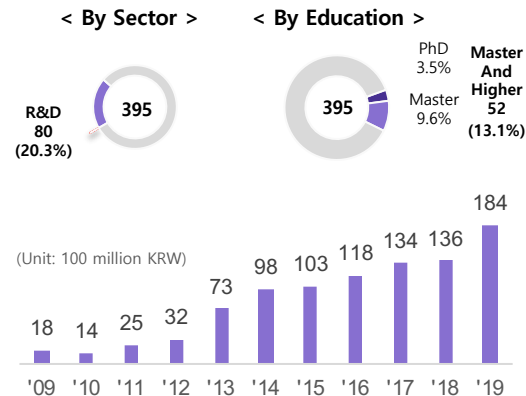
Name	OE Solutions, Co., Ltd	Date of Established	Aug.7, 2003
Number of Employees	395 (Korea: 375 / USA: 18 / Japan: 2)	Date of Listing	Feb.27, 2014(KOSDAQ code : 138080)
Product	Optical Transceiver	Homepage	www.oesolutions.com
Locations	Head Quarter : Gwangju, South Korea / US : Ridgefield Park, NJ, USA / JAPAN : Tokyo Japan		

(As of April.30,2020)

Locations



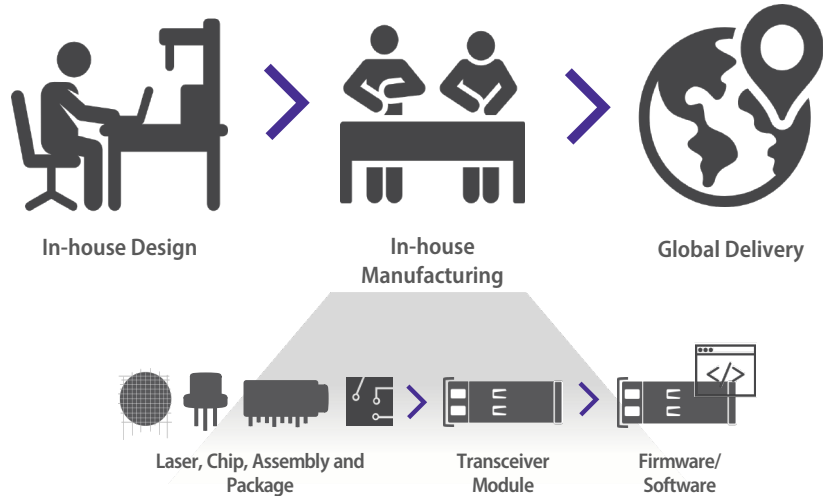
R&D Engineer & Cost



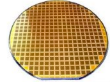




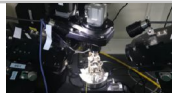






Leading Supplier of High-Reliability Optical Components for Challenging Deployment Environments



- ❑ 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



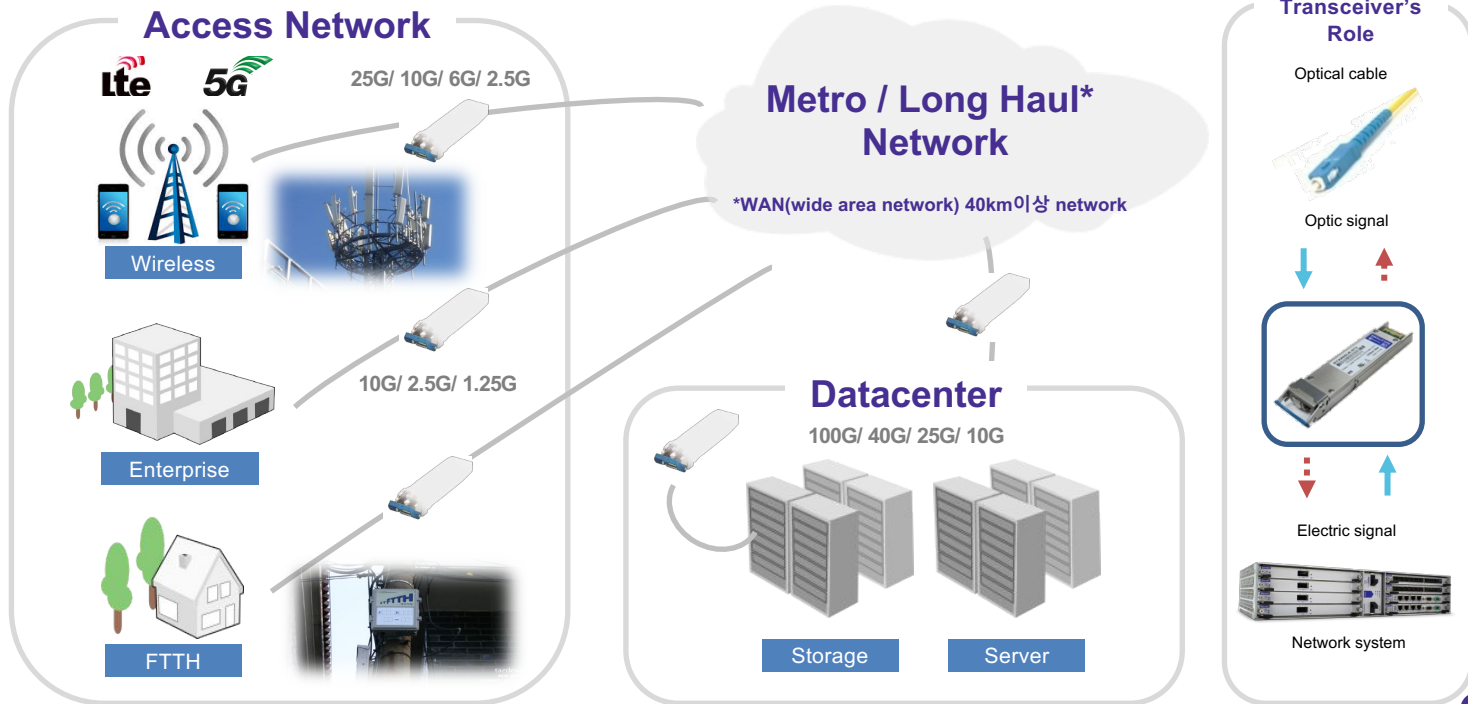
Vertical Integration

	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	

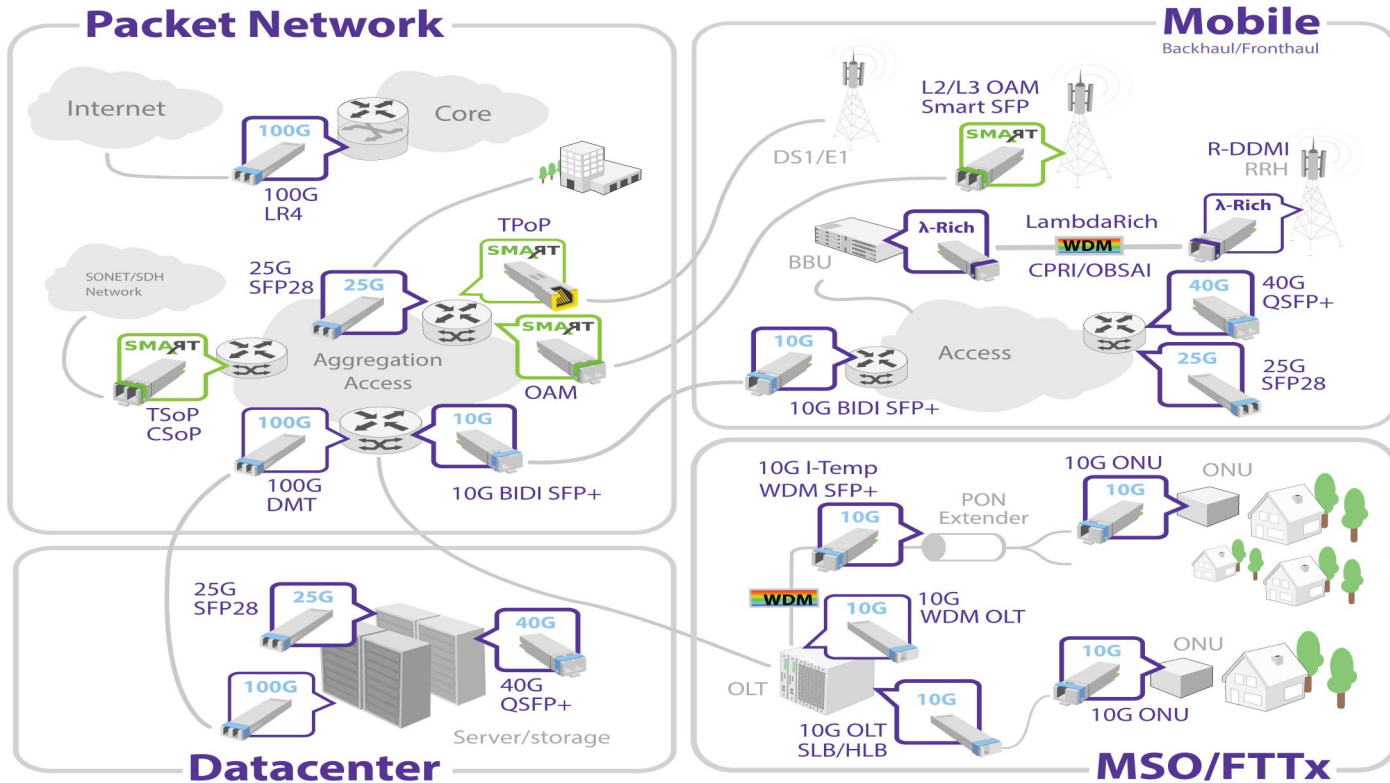
Transceiver Products Applications

The use of Transceiver in the Network

Transceiver required for network connections



Key Application Areas



Supplier to The World's Leading Network Equipment Manufacturers

Sales growth requires long-term product reliability, quality, customer response, etc.



Condensed income statement

Consolidated

(Unit : million KRW)

	2017	2018	2019	Q1 2020
Revenue (Sales)	76,594	81,504	210,283	18,938
Cost of sales	53,973	54,106	122,835	12,435
Gross margin	22,620	27,398	87,448	6,503
Operating expenses	24,538	27,164	29,186	7,903
Operating income(loss)	(1,917)	234	58,262	-1,400
Profit (loss) before tax	(3,788)	1,951	58,388	-154
Net income	(1,786)	2,584	46,065	175

* K-IFRS

Separate standards

(Unit : million KRW)

	2017	2018	2019	Q1 2020
Revenue (Sales)	76,535	81,406	210,242	18,938
Cost of sales	53,914	54,117	122,835	12,435
Gross margin	22,621	27,289	87,407	6,503
Operating expenses	25,174	26,925	28,533	7,813
Operating income(loss)	(2,553)	364	58,874	-1,310
Profit (loss) before tax	(4,514)	1,945	59,436	-70
Net income	(2,338)	2,641	47,026	260

Condensed statement of financial position

Consolidated

(Unit : million KRW)

	2017	2018	2019	Q1 2020
Current assets	57,247	57,027	137,422	128,091
Cash and cash equivalents	21,923	11,073	44,259	34,547
Accounts receivable	14,626	18,969	33,138	17,459
Inventory asset	18,840	19,740	24,222	27,946
Non-current assets	38,809	42,125	46,945	53,174
Tangible assets	29,597	30,476	30,161	31,269
Intangible assets	766	782	738	800
Total assets	96,056	99,152	184,367	181,265
Current liabilities	24,807	25,369	42,847	43,574
Short-term debt	20,000	19,400	27,000	27,000
Non-current liabilities	4,302	5,736	2,211	2,277
Total liabilities	29,110	31,105	45,059	45,850
Capital	3,870	3,870	5,312	5,312
Premium on capital stock	26,969	26,969	52,031	52,002
Retained earnings	33,937	34,868	79,731	75,660
Total equity	66,946	68,047	139,308	135,414

Separate standards

(Unit : million KRW)

	2017	2018	2019	Q1 2020
Current assets	55,648	55,790	136,299	127,306
Cash and cash equivalents	20,662	10,227	42,423	32,555
Accounts receivable	14,251	18,299	33,096	17,061
Inventory asset	18,840	19,740	24,222	27,946
Non-current assets	38,923	41,993	46,416	52,468
Tangible assets	29,306	30,119	29,192	30,273
Intangible assets	105	54	36	32
Total assets	94,571	97,783	182,715	179,774
Current liabilities	25,309	26,119	43,065	44,127
Short-term debt	20,000	19,400	27,000	27,000
Non-current liabilities	4,228	5,643	1,676	1,688
Total liabilities	29,538	31,761	44,740	45,815
Capital	3,870	3,870	5,312	5,312
Premium on capital stock	26,969	26,969	52,031	52,002
Retained earnings	31,650	32,638	78,461	74,475
Total equity	65,034	66,022	137,975	133,959

Thank you.

OE — 
SOLUTIONS

Contact Us

OE Solutions Korea Headquarters

53, Cheomdanyeonsin-ro 30beon-gil,
Buk-Gu, Gwangju, 61080, Korea

Tel: +82 (62) 960-5252

Fax: +82 (62) 960-5258

Email: sales@oesolutions.com

OE Solutions America U.S. Headquarters

65 Challenger Road STE 240
Ridgefield Park, NJ 07660, USA

Tel: +1 (201) 568-1188

Fax: +1 (201) 568-1177

Email: sales@oesolutions.com

Website

www.oesolutions.com

OE Solutions Seoul (Anyang) Office

Unit B-#1619, Geumgang Penterium IT Tower, 282, Hagui-ro,
Dongan-gu, Anyang-si, Gyeonggi-do, 14056, Korea

Tel: +82 (31) 450-2800

Fax: +82 (31) 450-2815

Email: sales@oesolutions.com

OE Solutions Japan Japan Headquarters

3F Nagai Building, 1-24-2, Shinjuku, Shinjuku-ku, Tokyo, 160-
0022, Japan

Tel: +81 (3) 6274-8543

Fax: +81 (3) 6274-8549

Email: sales@oesolutions.com

