

IR Presentation 2023



May 2024
OE Solutions IR

Disclaimer

본 자료는 투자자들에게 정보 제공하기 위한 목적으로 (주)오이솔루션(이하“회사”)에 의해 작성되었으며 이의 반출, 복사 또는 타인에 대한 재 배포는 금지됨을 알려드리는 바입니다.

본 자료의 열람 또는 수취는 위와 같은 제한 사항의 준수에 대한 동의로 간주될 것이며, 제한 사항에 대한 위반은 관련 증권거래 법률에 대한 위반에 해당될 수 있음을 유념해주시기 바랍니다.

본 자료에 포함된 “예측정보”는 개별 확인 절차를 거치지 않은 정보들입니다. 이는 과거가 아닌 미래의 사건과 관계된 사항으로 회사의 향후 예상되는 경영현황 및 재무실적을 의미하고, 표현상으로는 ‘예상’, ‘전망’, ‘계획’, ‘기대’, ‘(E)’ 등과 같은 단어를 포함합니다.

위 “예측정보”는 향후 경영환경의 변화 등에 따라 영향을 받으며, 본질적으로 불확실성을 내포하고 있는 바, 이러한 불확실성으로 인하여 실제 미래 실적은 “예측정보”에 기재되거나 암시된 내용과 중대한 차이가 발생할 수 있습니다.

또한, 향후 전망은 Presentation 실시일 현재를 기준으로 작성된 것이며 현재 시장상황과 회사의 경영방향 등을 고려한 것으로 향후 시장환경의 변화와 전략수정 등에 따라 변경될 수 있으며, 별도의 고지 없이 변경 될 수 있음을 양지하시기 바랍니다.

본 자료의 활용으로 인해 발생하는 손실에 대하여 회사 및 회사의 임원들은 그 어떠한 책임도 부담하지 않음을 알려드립니다. (과실 및 기타의 경우 포함)

본 문서는 주식의 매매를 위한 권유를 구성하지 아니하며 문서의 그 어느 부분도 관련 계약 및 약정 또는 투자 결정을 위한 기초 또는 근거가 될 수 없음을 알려드립니다.

Table of Contents

1. Company overview
2. 2023년 경영실적 Review
3. OE Solutions Vision & Strategy
4. Appendix

Company overview



About OE Solutions

회사개요

회사명	주식회사 오이솔루션	설립일	2003년 8월 7일
임직원	총 331명 (한국: 312명 / 미국: 15명 / 일본: 4명)	상장일	2014년 2월 27일 (KOSDAQ code : 138080)
주제품	통신용 모듈 및 소자 (광트랜시버)	홈페이지	www.oesolutions.com
소재지	한국) 광주 북구 첨단연신로 30번길 53 / 경기도 안양시 동안구 학의로 282 금강펜테리움 IT타워 B동 1619호		

(23년 12/31 기준)

Locations - 글로벌 영업 및 R&D



Hilversum, Netherlands

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

Gwangju, Korea

- Global Headquarter
- Manufacturing
- R&D

Tokyo, Japan

- Japan Sales
- Engineering Support

Seoul (Anyang), Korea

- Korea Sales
- R&D

Seoul (Suwon), Korea

- Korea Sales
- Engineering Support



Ridgefield Park, NJ, USA

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

Irvine, CA, USA

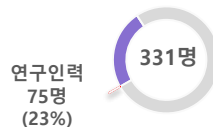
- R&D

Santa Babara, CA, USA

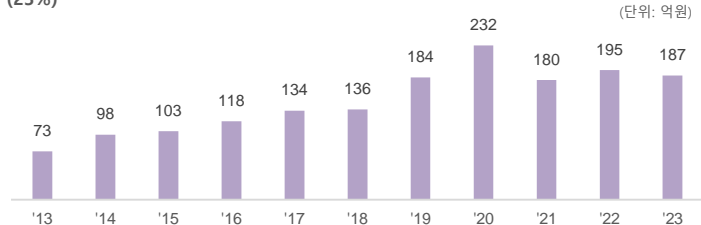
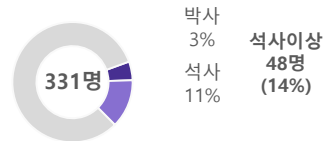
- R&D

R&D 직원 및 투자 현황

< 부문별 >



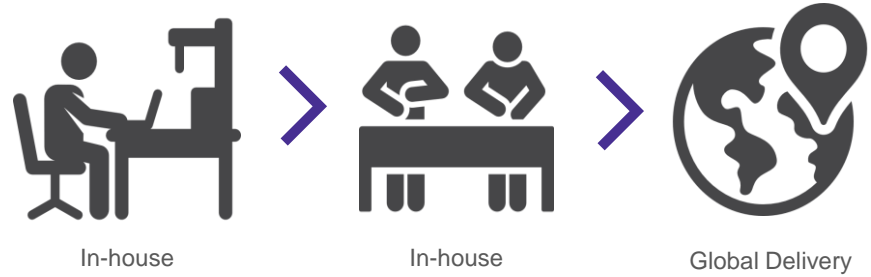
< 학력별 >



* 자회사 포함

OE Solutions – Global Supplier of Transceivers

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

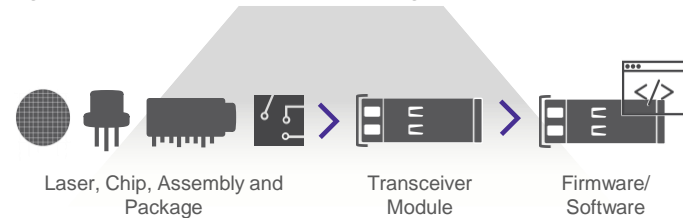


In-house Design

In-house Manufacturing

Global Delivery

- ❑ Leading supplier of optical components and Transceiver 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 from Chip to Transceiver
- ❑ In-house production in Gwangju, South Korea factory
- ❑ R&D sites in Korea, USA and the Netherlands



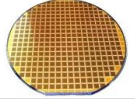


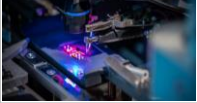

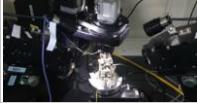








Laser, Chip, Assembly and Package

Transceiver Module

Firmware/ Software

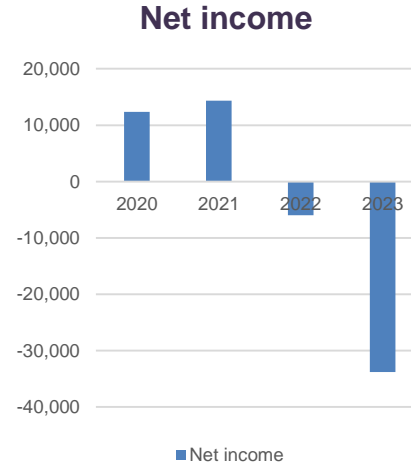
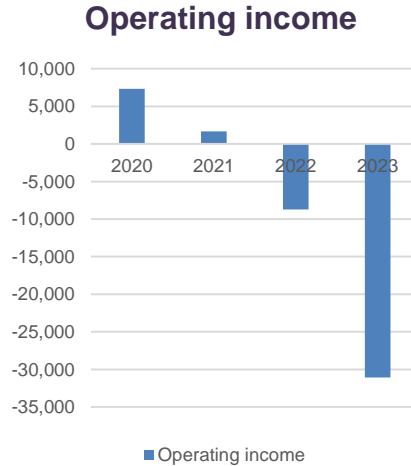
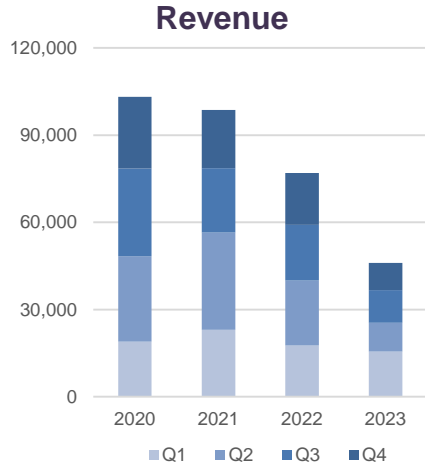
Vertical Integration

 Manufacturing Process		 Manufacturing Technology		
Chip		DML, EML, PIC (up to 50Gbps)	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 (up to 400Gbps)	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	

2023 경영실적 Review



2023년 매출 460억원, 영업이익 -311억원(-67.6%), 당기순이익 -338억원(-73.5%)



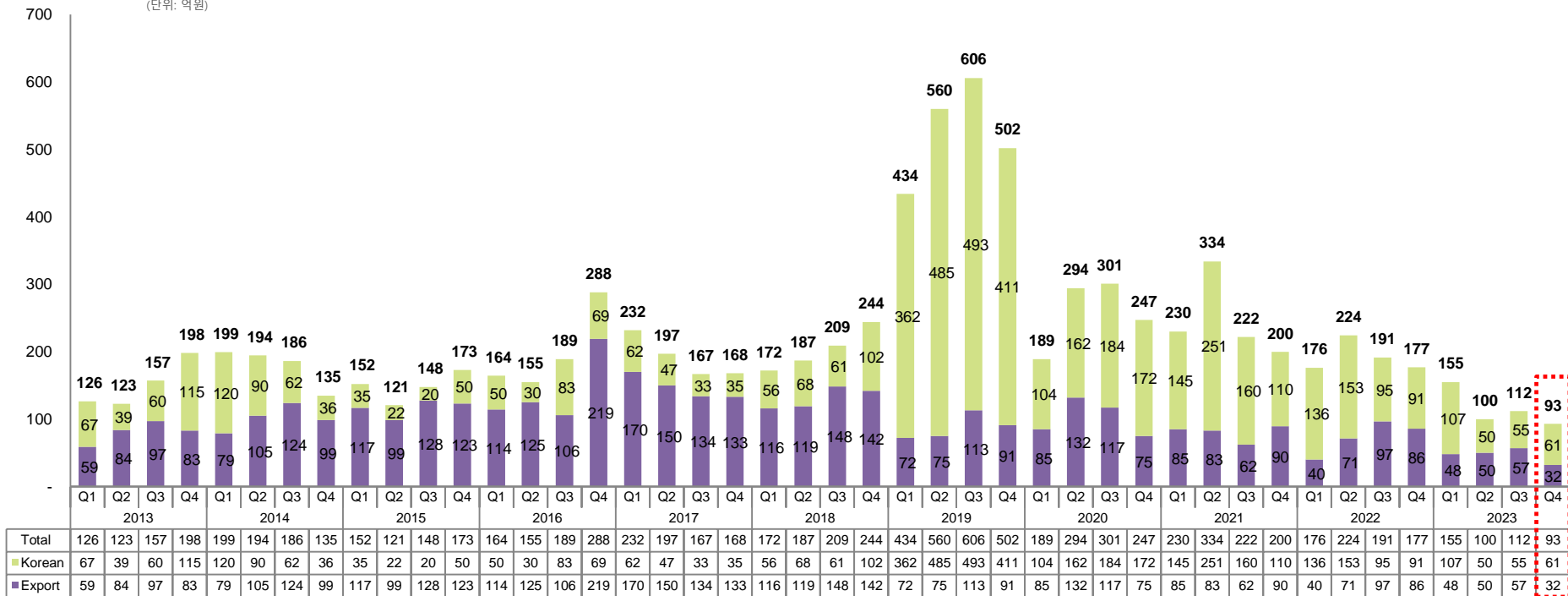
※ 연결 기준

(단위: 백만원)

	2020	2021	2022	2023
• Revenue	103,178	98,681	76,954	46,003
• Operating income	7,333	1,655	-8,705	-31,081
• Operating margin	7.1%	1.7%	-11.3%	-67.6%
• Net income	12,352	14,372	-5,977	-33,817
• Net profit margin	12.0%	14.6%	-7.8%	-73.5%

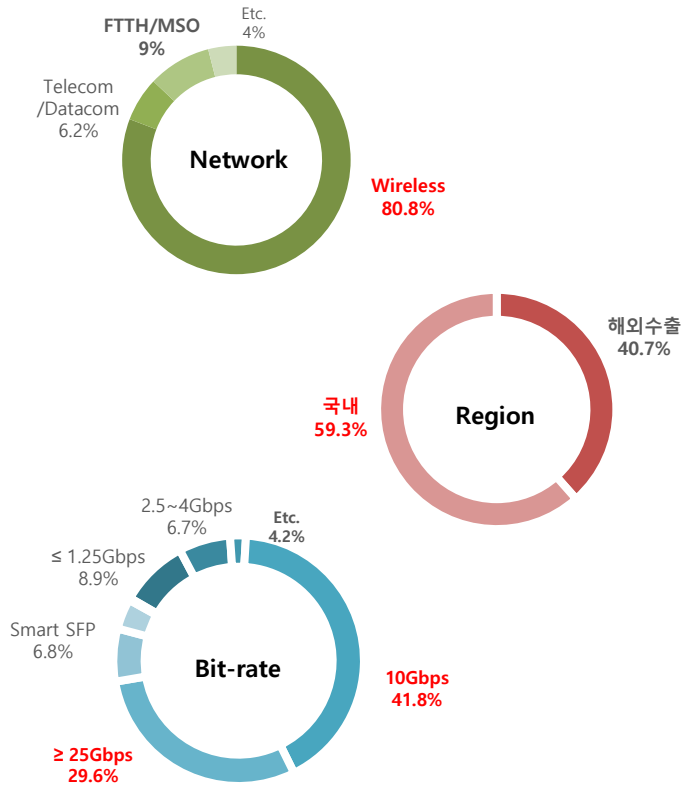
2024년 하반기 신제품(High bit-rate)판매 활성화에 따른 실적 턴어라운드 전망

(단위: 억원)



※ 상기 실적은 별도 기준임

2023 매출분석



(단위: 억원)

구 분	2022	2023	YoY (%)
응용산업별			
• Wireless	551	372	-33%
• Telecom/Datacom	62	29	-53%
• FTTH/MSO	138	41	-70%
• etc.	19	18	-5%
지역별			
• 국내	475	273	-43%
• 해외	294	187	-37%
해외수출 비중	38%	41%	
전송속도별			
• ≤1.25Gbps	63	41	-35%
• 2.5~4Gbps	70	31	-56%
• 5~6Gbps	27	9	-65%
• 10Gbps	354	192	-46%
• ≥25Gbps	189	136	-28%
• Smart SFP	46	31	-32%
• Component / Chip	19	18	-5%
• 기타 (상품 등)	0.8	1	-
총 계	770	460	-40%

※ 상기 실적은 별도 기준임

OE Solutions Vision & Strategy



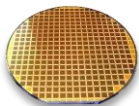
Vision

광전자기술(OE)을 혁신적인 Solution으로
고객과 함께 세상을 연결한다

Strategy

Laser Chip → Transceiver 수직계열화

Optical Component



- 10G / 25G / 50G / 100G 자사 Transceiver 내재화
- 5G, 6G Wireless / Data center / LiDAR
- In-house capability를 통한 원가 경쟁력, 수급 안정화
- Road map
 - Wireless : 10G / 25G / 50G EML, Tunable Chip
 - Data center : 50G EML
100G EML PAM4 : With joint ETRI
 - LiDAR : High power laser (Narrow linewidth)



Transceiver



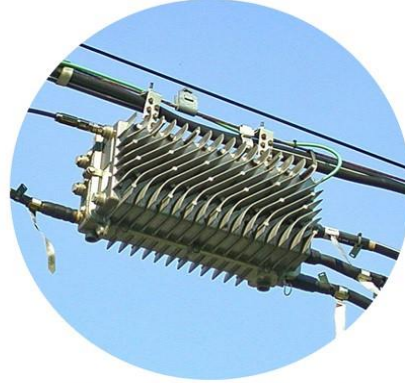
- Global 5G Wireless Transceiver line-up 구축
- 자사 Component 사용을 통한 경쟁력 확보
- High bit-rate Transceiver 개발을 통한 다양한 Network Target 제품 출시 (Data center, Telecom, FTTH)
- Road map
 - 50Gbps / 100Gbps / 400Gbps PAM4 for wireless and Data Center interconnector
 - 10Gbps / 25Gbps Tunable Transceiver for WDM
 - Digital Coherent Transceiver for 100Gbps / 200Gbps / 400Gbps

Market and Applications which OE Solutions Transceiver serves



Wireless Fronthaul

- Support of all CPRI and Ethernet rates up to 25Gbps
- Standard, Extended and Industrial temperature ranges
- BIDI and WDM variants



Fixed Broadband

- Broad range of types including WDM
- Temperature ranges beyond IT
- High link budget variants



Transport & Interconnect Network Enhancements

- Broad portfolio of TDM, CWDM and DWDM transceivers
- Non-standard wavelengths
- Standard, Extended and Industrial temperature ranges - and beyond
- BIDI and BIDI-CWDM variants



- Network migration, TDMoP/CES pseudo wire
- Service assurance including Level 2 and 3 OAM
- Network timing - SyncE over copper
- Smart management solutions

Optical Transceivers for Every Network

Metro Access

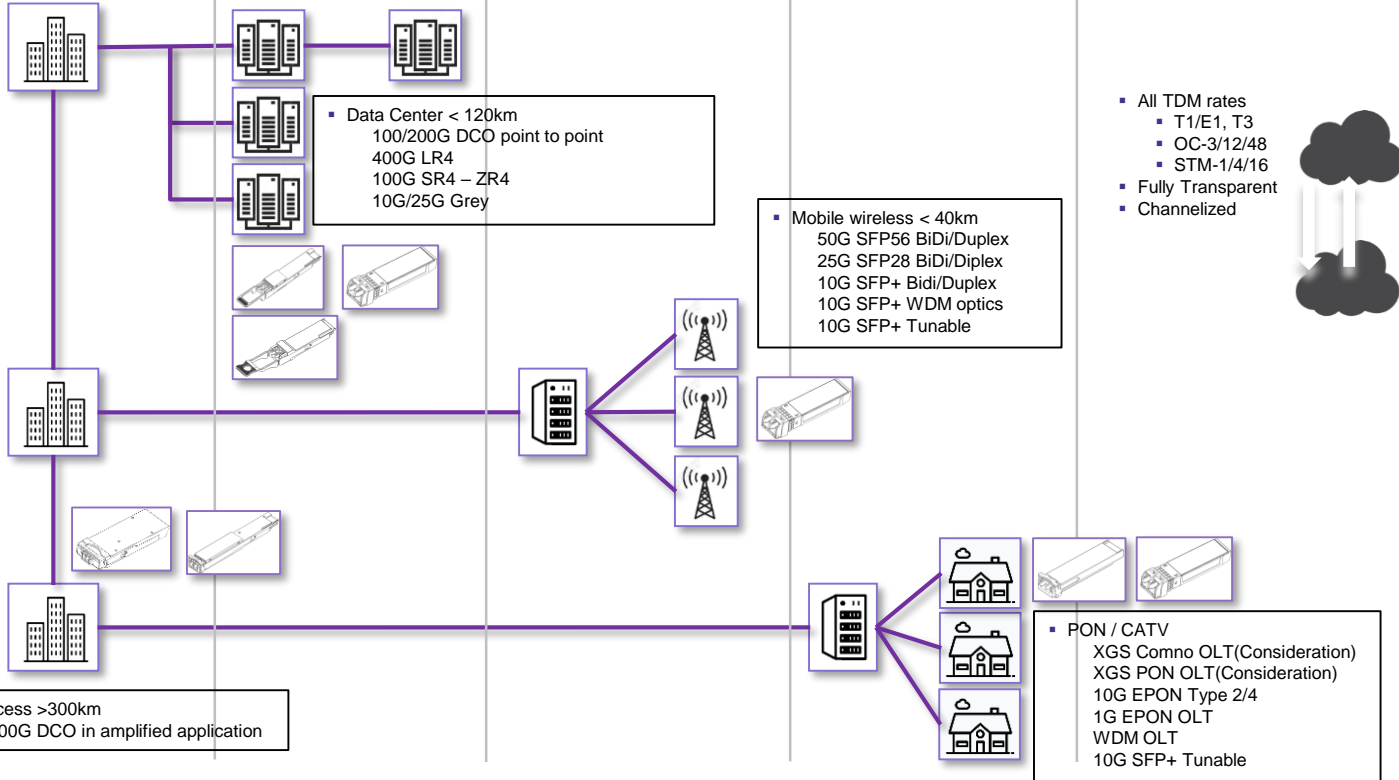
Data Center

Mobile Wireless

PON / CATV

Network Migration

Service Assurance



- Metro Access >300km
100/200G DCO in amplified application

- Data Center < 120km
100/200G DCO point to point
400G LR4
100G SR4 – ZR4
10G/25G Grey

- Mobile wireless < 40km
50G SFP56 BiDi/Duplex
25G SFP28 BiDi/Duplex
10G SFP+ BiDi/Duplex
10G SFP+ WDM optics
10G SFP+ Tunable

- All TDM rates
 - T1/E1, T3
 - OC-3/12/48
 - STM-1/4/16
- Fully Transparent
- Channelized



- Packet Network Probes
 - L2/ Ethernet
 - L3/ IP



- PON / CATV
XGS Comno OLT(Consideration)
XGS PON OLT(Consideration)
10G EPON Type 2/4
1G EPON OLT
WDM OLT
10G SFP+ Tunable

Strong in Wireless(5G, 6G) market, recently expanding the serving markets to Telecom and Data Center applications

Optical Transceivers for Next-Generation Networks

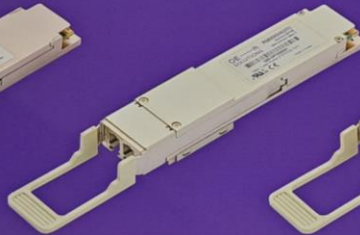
50G SFP56 BIDI
BR40/40km IT



100G QSFP28
ZR4/80km ST



100G QSFP28
DCO 120km IT



100G QSFP-DD
DCO 120km IT



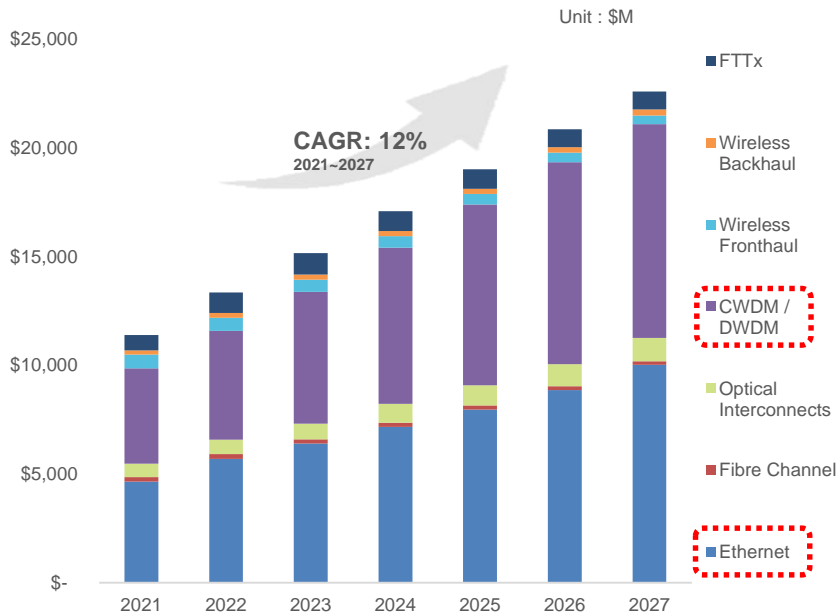
100/200G CFP2
DCO EDFA 120km IT



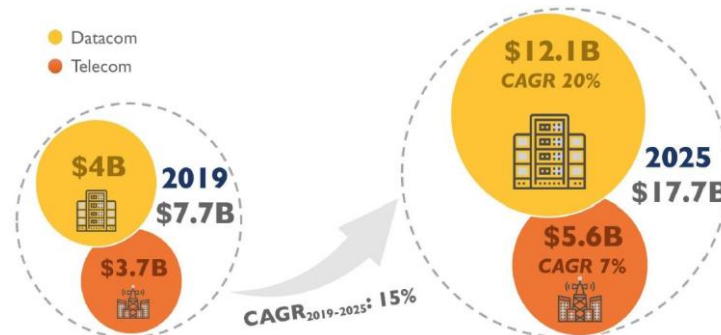
OE SOLUTIONS

Data 연결이 필요한 고성능 인프라 투자에 의한 Transceiver 수요 지속적인 증가

Transceiver Market Forecast



Source : LightCounting, 2022



Source : Yole Developpement, 2020

Market and Applications which OE Solutions Laser Chip serves

Strong in telecom market, recently expanding the serving markets to LiDAR, Laser Sensors, and Data Center applications



Communications
LD & OSA

- 10G EML 1577nm
- 10G EML WDM(80km)
- 25G/50G O Band EML
- Tunable PIC Laser / ITLA



AI/DC High speed Laser

- 25G EML LWDM
- 50G EML CWDM4
- 100G EML O-Band



Next generation
AI/DC Laser

- 1310nm HP Laser for ELSFP
- CWDM HP Laser for ELSFP
- 1310nm HP Laser for SiPH
- CWDM4 HP Laser for SiPH

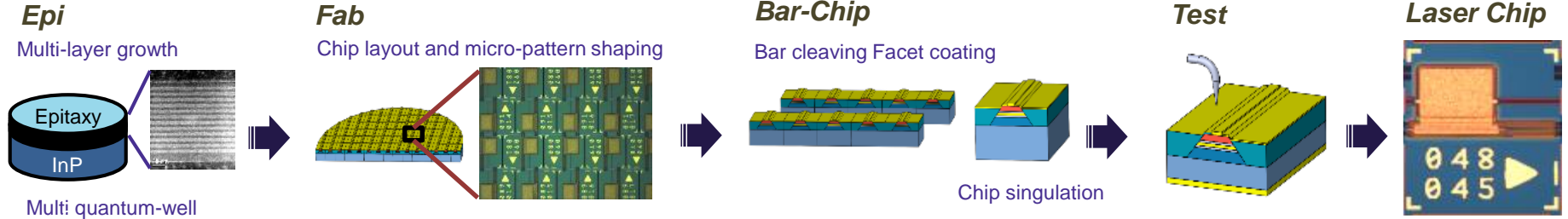


HP Laser for LiDAR

- 1550nm HP Laser(100mW)
- 1550nm HP Laser(200mW)
- Gain Chip(SOA) 1430/1550nm

Core Components and Process

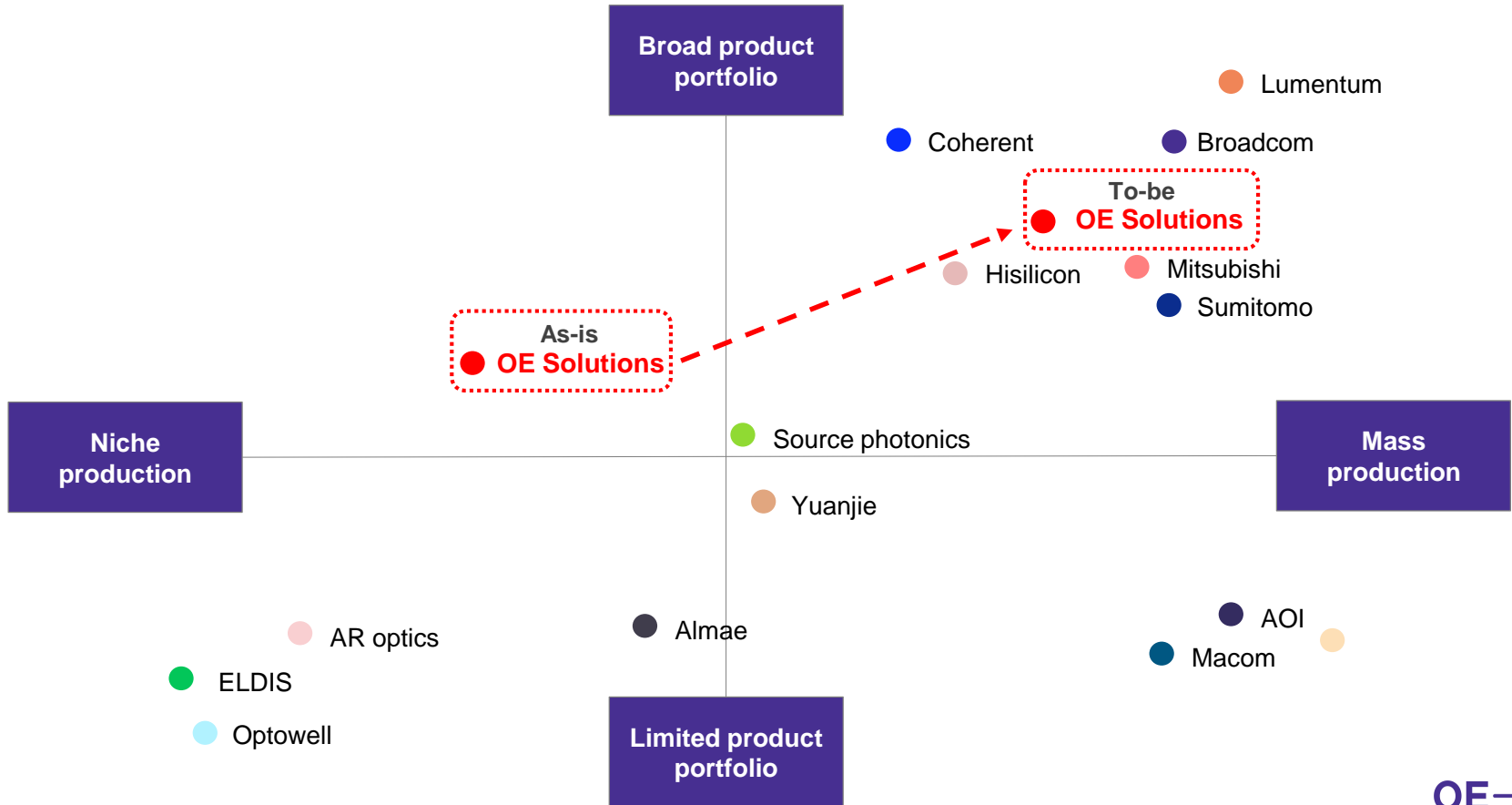
Laser Chip Process



Laser Chip Product



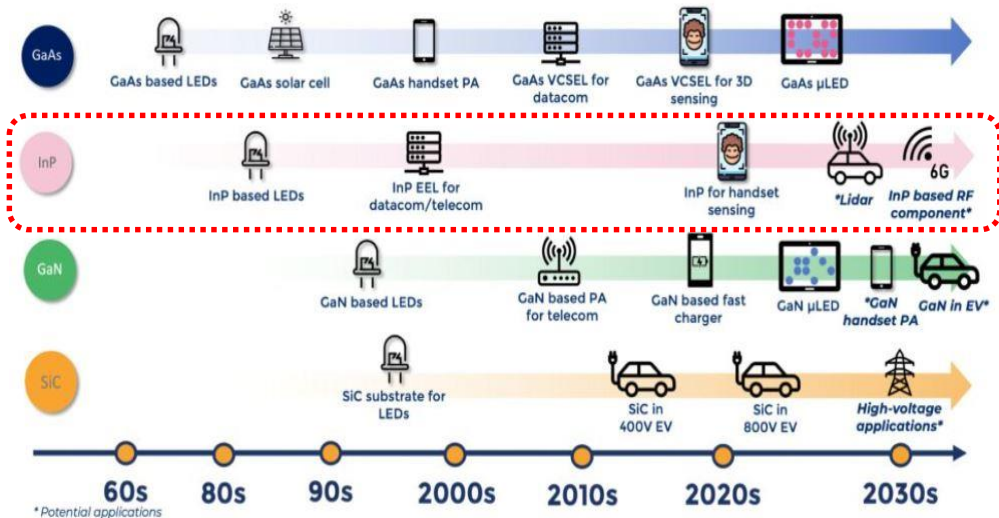
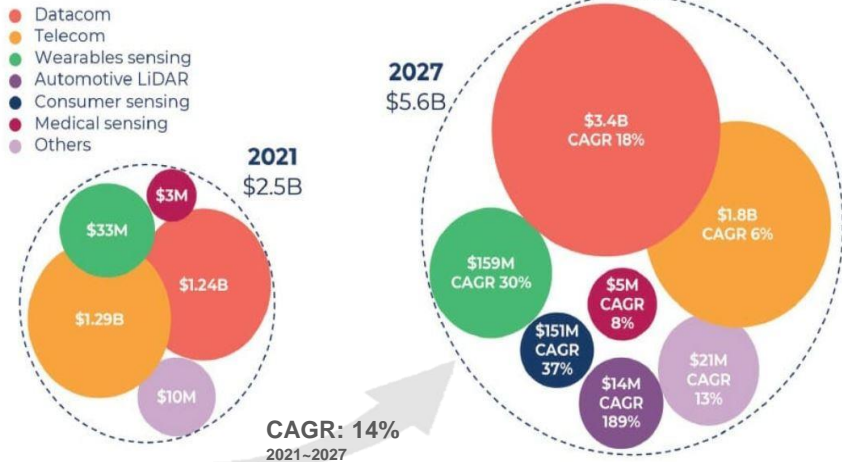
OE Solutions Laser Chip 현재와 미래



InP 기술 다양한 사업으로 확장 가능성 존재

InP photonics device Market

Source : Yole Developpement, 2022



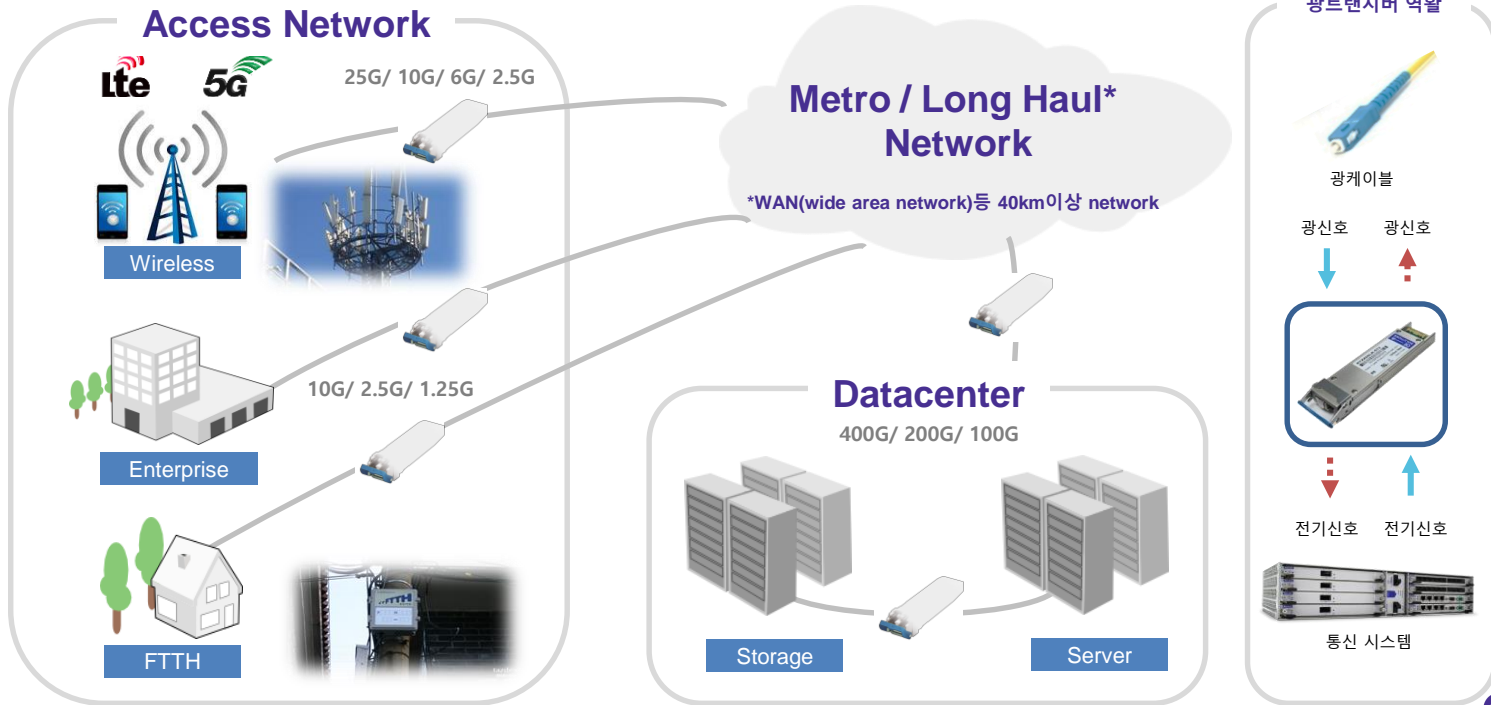
Appendix

- Product Application
- Customers
- Financials



통신 네트워크 내 트랜시버 응용 분야

네트워크 연결 시 필수인 광 트랜시버



Supplier to The World's Leading Network Equipment Manufacturers

NOKIA

ADTRAN



infinera

ciena

SAMSUNG

JUNIPER
NETWORKS

FUJITSU



NEC



harmonic



THE ELASTIC NETWORK



ERICSSON

연결 재무상태표

(단위: 백만원)

	2020	2021	2022	2023
유동자산	129,808	106,938	99,267	74,833
비유동자산	65,377	94,901	88,652	77,136
자 산 총 계	195,184	201,839	187,920	151,969
유동부채	45,749	40,745	38,921	39,477
비유동부채	2,455	1,794	1,344	1,069
부 채 총 계	48,204	42,539	40,264	40,546
자본금	5,312	5,312	5,312	5,312
주식발행초과금	52,002	52,002	52,002	52,002
이익잉여금	87,511	99,665	90,861	54,593
자 본 총 계	146,981	159,300	147,656	111,423

연결 손익계산서

(단위: 백만원)

	2020	2021	2022	2023
매출액	103,178	98,681	76,954	46,003
매출원가	62,686	62,416	52,818	46,752
매출총이익	40,492	36,265	24,136	-750
판매관리비	33,159	34,610	32,841	30,331
영업이익	7,333	1,655	-8,705	-31,081
법인세차감전순이익	6,699	11,967	-6,453	-29,457
당기순이익	12,352	14,372	-5,977	-33,817

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

