

THE STATE OF THE OPTICAL COMMUNICATIONS INDUSTRY: WELCOME TO THE NEW COLD WAR

MAY 2021

By Vlad Kozlov, John Lively, Roy Rubenstein, Tom William, and Devan Adams



Abstract.....	5
Executive Summary	6
Welcome to the new Cold War	6
Optics remains the weakest link in the industry supply chain, but it is more important than ever.....	8
Networking Equipment, switch and router vendors bring the optics in house	10
Chapter 1: Major Service Provider Trends.....	12
Telecom industry growth remains limited while Internet providers thrive	12
The CSP’s open-source projects	15
New Streams of Revenue for CSPs	16
Mega-datacenter operators have extraordinary buying power	17
Chapter 2: Supply Chain Structure, Vendor Profitability and Consolidation.....	22
Optical component vendor profitability is on a downward slide	23
Digital services are high margin businesses for most ICPs	24
CSP revenues and profits are marked by consistency	26
Datacom vendors help customers future-proof datacenters with portfolio upgrades	29
Optical component vendor profitS	32
Restructuring of the Optical Components segment continues.....	32
Chapter 3: Optical Transceiver Market Landscape and Vendor Profitability.....	39
Vendor ranking and diversification.....	39
What is the best business model for the optical transceiver market?	42
Optical component vendor profitability.....	45
Challenges in reaching sustainable profitability	46
Proven strategies for staying ahead of competition	47
Is the laser business more profitable than transceiver manufacturing?.....	48
R&D Investment is a huge burden for component and module suppliers.....	49
What optical component vendors can learn from contract manufacturers and semiconductor chip suppliers	50
Chapter 4: Impact of Chinese Equipment and Component Suppliers.....	53
Huawei in the global telecom equipment market.....	53

Huawei Faces a Serious Threat from Western Governments	55
ZTE is the second powerhouse equipment vendor in China.....	57
FiberHome’s revenue growth hit a Covid pothole	58
Other Chinese equipment vendors	59
Chinese OC companies sales hit new record in 2020.....	61
The role of contract manufacturers.....	63
China’s Optoelectronic Roadmap	64
Appendix A: Financial Data Tables	66
Appendix B: Fragmentation of Market Segments	71
Ethernet market segment.....	71
Fibre Channel market segment.....	72
WDM market segment	73
FTTx market segment.....	75
Wireless optics market segment.....	76
Appendix C: Chinese Optical Components Vendors	78
Accelink.....	78
APAT.....	79
ATOP	80
CIG.....	80
Cloudlight.....	81
Crealights.....	81
Eoptolink	82
Gigalight.....	83
HG Genuine.....	83
HiSense Broadband	84
Hi-Optel.....	86
Innolight	86
Linktel.....	87
Luxshare	88
O-NET	88
SiFotonics Technologies Co. Ltd.	89

Sunstar Communication Technology	89
Vertilite	90
XGIGA.....	91
Xiamen San-U Optronics Co.,Ltd.....	91
YOFC	92
Appendix D: Profiles of Selected Chinese Semiconductor Chip Vendors (for communications)	93
AmpliPHY.....	93
Aluksen	93
Aroptics Tech.....	94
Elite Optotronics	94
EOChip	94
Fujian Z.K Litecore	95
InSiGa	95
Mindsemi.....	95
Phograin.....	96
Photonic Tech.....	96
Shijia Photons.....	97
UXFastic	97
Wingcomm.....	97
YouOpto Technology.....	98
Yuanjie Semiconductor.....	99
ZKTeI	100
Appendix E: China’s Optoelectronics Roadmap	101
Appendix F: Compatible Transceivers	104
Compatible transceivers - an overlooked market segment.....	104
Compatibles – sizing the market.....	106