



THE MARKET FOR OPTICS IN CHINA

JANUARY 2021



Table of Content

Table of Content	1
Abstract	6
Executive Summary	7
Huawei is re-energized by the US ban, but expects slower growth ahead	8
“China’s cyberspace development is entering a fast lane” – Xi Jinping.....	9
Chapter 1: Telecommunication Service Providers in China	12
China has 1.39 billion 4G and more than 447 million FTTH subscribers.....	12
CSPs in China reduce their spending.....	15
Networking Infrastructure Projects in China	18
China Mobile continues to expand.....	23
China Telecom continues to grow but loses its leadership in wireline broadband	25
China Unicom is building a cloud business in partnership with leading ICPs.....	29
China Broadcasting Network Company to enter the 5G race	31
Chapter 2: Internet Content Providers in China	34
Chinese ICPs are growing faster	34
Chinese consumers are leading the world in the adoption of cloud services	35
Unlike the rest of the world China’s economy grew in 2020.....	39
Financial failures and regulation remedies	40
P2P online lending excesses	40
Bike rentals – too much of a good thing.....	41
Changes in China’s automobile ride sharing apps	43
The rise and fall of Chinese property rental apps	43
Long work hours and the 996 controversy	43

Regulation of China's online economy tightened in 2020.....	44
Infrastructure investments of Chinese ICPs are still modest but are growing fast.	48
Chinese ICPs are just starting to build mega datacenters	49
There is a hidden value in networks of smaller data centers	53
Venturing outside of China.....	54
China's cyberspace remains inhospitable to foreigners.	55
Increasing competition will drive adoption of 100G and 400G technology in China.....	56
Chapter 3: Network and Datacenter Equipment Manufacturers.....	58
5G deployment in China will ramp in 2020, benefiting domestic equipment makers	58
Cloud data centers offer a new market opportunity.....	61
FiberHome became part of CICT Group in 2018	64
H3C is doing well, powered by HP products	65
Huawei faces another challenging year in 2020.....	67
Inspur has quadrupled sales in four years.....	69
Lenovo's datacenter group faltered in 2019	71
ZTE is still recovering from a forced shutdown in 2018	72
Chapter 4: Chinese Manufacturers of Optical Components and Modules	75
Sales of Chinese optical component vendors exceeded \$3.5 billion in 2020	76
Innolight emerges as a new role model for the Chinese startups	77
Wuhan Optical Valley marked the 30-YEAR anniversary in 2018.	78
Xian is attracting a new wave of investments.....	79
Chengdu is attracting more optical companies	80
The search for lower manufacturing cost continues.....	80
Laser chip manufacturing is still mainly outside of China.....	82
The Chinese government plans to develop chip-making capability in China	83

Semiconductor Chip Manufacturing in China	84
Is Silicon Photonics the best option for China to pass the west?.....	87
Chapter 5: Sales of Optical Components and Modules for deployments in China.	89
Demand for Ethernet optics in China will skyrocket in 2021-2025.....	90
Sales of DWDM modules and components to China will grow	93
China will account for more than 60% of FTTx and wireless fronthaul optics sales in 2021-2025.....	96
Market for AOCs and EOMs in China.....	99
Appendix A: Profiles of selected Chinese Cloud companies	102
21Vianet.....	102
Alibaba.....	102
Bytedance.....	106
CEC Cloud.....	107
Huawei Cloud	109
JD Cloud & AI	110
Kingsoft Cloud	110
QingCloud.....	111
Sugon Cloud	112
Tencent.....	113
UCloud	117
Vipshop.....	117
Appendix B: Profiles of Selected Chinese Optical Component and Module Vendors	119
Accelink.....	119
APAT	119
ATOP	120
CIG.....	121

Cloudlight.....	122
Crealights.....	122
Eoptolink	123
Gigalight.....	123
HG Genuine.....	124
HiSense Broadband	125
Hi-Optel.....	126
Innolight	127
Linktel.....	127
O-NET	128
Sunstar Communication Technology	128
Vertilite.....	129
XGIGA.....	129
Xiamen San-U Optronics Co.,Ltd.....	130
YOFC	131
Appendix C: Profiles of Selected Chinese Semiconductor Chip Vendors (for communications)	132
AmpliPHY.....	132
Aluksen	132
Aroptics Tech.....	132
Elite Optotronics	133
EOChip	133
Fujian Z.K Litecore	133
InSiGa.....	134
Mindsemi.....	134
Phograin.....	134

Photonic Tech.....	135
Shijia Photons.....	135
UXFastic	136
Wingcomm.....	136
YouOpto Technology.....	137
Yuanjie Semiconductor.....	138
ZKTel	138
Appendix D: Key Production Goals from Technology Development Roadmap of the China Optoelectronics Device Industry in 2018-2022.	139