

OPTICAL DATA STORAGE DEVICES: TECHNOLOGIES AND GLOBAL MARKETS



PHO014A
October 2014

Sinha G.
Project Analyst

ISBN: 1-56965-970-2



BCC Research
49 Walnut Park, Building 2
Wellesley, MA 02481 USA
866-285-7215 (toll-free within the USA),
or (+1) 781-489-7301
www.bccresearch.com
information@bccresearch.com

TABLE OF CONTENTS

TOPIC	PAGE NO.
CHAPTER 1 INTRODUCTION	2
STUDY GOALS AND OBJECTIVES	2
REASONS FOR DOING THE STUDY	2
SCOPE OF REPORT	2
INTENDED AUDIENCE	3
INFORMATION SOURCES	3
ANALYST'S CREDENTIALS	3
RELATED BCC RESEARCH REPORTS	4
BCC RESEARCH WEBSITE	4
DISCLAIMER	4
CHAPTER 2 SUMMARY	6
<i>SUMMARY TABLE GLOBAL MARKET FOR OSDS, BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	6
<i>SUMMARY FIGURE GLOBAL MARKET FOR OSDS, BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	6
CHAPTER 3 OVERVIEW	9
MARKET DEFINITION	9
ROADMAP OF OSD	9
<i>FIGURE 1 ROADMAP OF OSD</i>	9
FUTURE OUTLOOK AND EXPECTATIONS	10
SUPPLY CHAIN ANALYSIS	10
RAW MATERIAL SUPPLIER	10
OEMS	10
DISTRIBUTORS	10
CONSUMERS	11
<i>FIGURE 2 SUPPLY CHAIN OF OSD INDUSTRY</i>	11
ADVANTAGES OF OSD	11
DISADVANTAGES OF OSD	12
CHAPTER 4 OSD MARKET BY PRODUCT TYPE	14
INTRODUCTION	14
<i>TABLE 1 GLOBAL OSD MARKET BY PRODUCT TYPE, THROUGH 2019 (\$ MILLIONS)</i>	14
<i>FIGURE 3 GLOBAL OSD MARKET BY PRODUCT TYPE, 2013-2019 (\$ MILLIONS)</i>	14
MARKET DYNAMICS	15
<i>TABLE 2 OSD MARKET DRIVERS AND RESTRAINTS ANALYSIS</i>	15
DRIVERS	15
Enhanced Generation of Data Creates Demand for Data Storage Systems	15
New Applications in Terms of In-Car Entertainment (ICE) and Connected Living Rooms Increases Demand for DVD or CD Drives	16
Reduced Carbon Footprint	16
Increased Preference of Physical Archiving of Key Data	16
RESTRAINT	16
Growing Revenue Loss Due to Fall in Prices	16

TOPIC	PAGE NO.
Piracy	17
Storage Space and Substitution Effect	17
OPPORTUNITY	17
Increased Layering of Blu-Ray Discs and Near-field Recording Technology Expected to Increase Size	17
CD ROM	18
<i>TABLE 3 GLOBAL CD-ROM MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	18
<i>FIGURE 4 GLOBAL CD-ROM MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	18
<i>TABLE 4 GLOBAL CD-ROM MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	19
<i>FIGURE 5 GLOBAL CD-ROM MARKET BY REGION, 2013-2019 (\$ MILLIONS)</i>	20
IMPORTANT PATENTS FOR CD-ROM	20
Automatic Compact Disk Feeding Apparatus	20
CD-ROM Based Optical Biosensors	21
DVD	22
<i>TABLE 5 GLOBAL DVD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	22
<i>FIGURE 6 GLOBAL DVD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	22
<i>TABLE 6 GLOBAL DVD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	23
<i>FIGURE 7 GLOBAL DVD MARKET BY REGION, 2013-2019 (\$ MILLIONS)</i>	24
IMPORTANT PATENTS FOR DVD - ROM	24
Contents Distribution System	24
BLU-RAY DISCS (BDS)	25
<i>TABLE 7 GLOBAL BLU-RAY DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	25
<i>FIGURE 8 GLOBAL BLU-RAY DISC MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	26
<i>TABLE 8 GLOBAL BLU-RAY DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	27
<i>FIGURE 9 GLOBAL BLU-RAY DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)</i>	27
PATENTS FOR BLUE RAY	28
Method for Storing Data Compatible with DVD Read/Write Formats to Hard Disk, HD-DVD, or Blue-Ray DVD	28
DVD Identification	28
Pressing Mold Device for Blue-Ray Disk	29
ERASABLE AND REWRITABLE OPTICAL DISCS	30
<i>TABLE 9 GLOBAL ERASABLE AND REWRITABLE OPTICAL DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	30
<i>FIGURE 10 GLOBAL ERASABLE AND REWRITABLE DISCS MARKET BY APPLICATIONS, 2013-2019 (\$ MILLIONS)</i>	30
<i>TABLE 10 GLOBAL ERASABLE AND REWRITABLE OPTICAL DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	31
<i>FIGURE 11 GLOBAL ERASABLE AND REWRITABLE OPTICAL DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)</i>	32
PATENTS FOR ERASABLE AND RE-WRITABLE OPTICAL DISCS	32
Method of Erasing an Erasable Disc	32
NEAR-FIELD OPTICAL DEVICE	33
<i>TABLE 11 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	33
<i>FIGURE 12 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	33
<i>TABLE 12 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	34

TOPIC	PAGE NO.
<i>FIGURE 13 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)</i>	34
PATENTS FOR NEAR-FIELD OPTICAL DEVICES	35
Solid Immersion Lens Holder	35
Super Resolution Optical Disc	36
HOLOGRAPHIC STORAGE DISCS	37
<i>TABLE 13 GLOBAL HOLOGRAPHIC DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	37
<i>FIGURE 14 GLOBAL HOLOGRAPHIC DISC MARKET, 2013-2019 (\$ MILLIONS)</i>	37
<i>TABLE 14 GLOBAL HOLOGRAPHIC DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	38
<i>FIGURE 15 GLOBAL HOLOGRAPHIC DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)</i>	38
HOLOGRAPHIC STORAGE MEDIA IMPORTANT PATENTS	39
Holographic Storage Lenses	39
Holographic Storage Media	40
Holographic Disc Recording System	40
Holographic System, in Particular for Holographic Data Storage	41
CHAPTER 5 OPTICAL STORAGE DEVICE MARKET BY APPLICATION	44
INTRODUCTION	44
<i>TABLE 15 GLOBAL OPTICAL DATA STORAGE DEVICE MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)</i>	44
MARKET DYNAMICS	45
DRIVERS	45
Falling Prices of Blu - Ray Disc Players	45
Global Growth of Smart Buildings, Connected Homes and Digital Living Rooms	45
RESTRAINTS	45
Fall in Entertainment Usage of OSDs	45
<i>TABLE 16 OSD MARKET IMPACT ANALYSIS: DRIVERS AND RESTRAINTS BY APPLICATION</i>	46
KEY CHALLENGE	46
Increased Online Storage Leading to Access from Anywhere	46
OPPORTUNITY	46
Huge R&D Initiatives	46
MANUFACTURING	47
<i>TABLE 17 GLOBAL OSD MARKET BY MANUFACTURING END USE, THROUGH 2019 (\$ MILLIONS)</i>	47
<i>FIGURE 16 GLOBAL OSD MARKET BY MANUFACTURING END USE, 2013-2019 (\$ MILLIONS)</i>	48
PUBLIC ADMINISTRATION AND EDUCATION	48
<i>TABLE 18 GLOBAL OSD MARKET BY PUBLIC ADMINISTRATION AND EDUCATION END USE, THROUGH 2019 (\$ MILLIONS)</i>	49
<i>FIGURE 17 GLOBAL OSD MARKET BY PUBLIC ADMINISTRATION AND EDUCATION END USE, 2013-2019 (\$ MILLIONS)</i>	49
HEALTHCARE	50
<i>TABLE 19 GLOBAL OSD MARKET BY HEALTHCARE END USE, THROUGH 2019 (\$ MILLIONS)</i>	50

TOPIC	PAGE NO.
<i>FIGURE 18 GLOBAL OSD MARKET BY HEALTH CARE END USE, 2013-2019 (\$ MILLIONS)</i>	50
BANKING AND FINANCIAL SERVICES INDUSTRY (BFSI)	51
<i>TABLE 20 GLOBAL OSD MARKET, BY BFSI END USE, THROUGH 2019 (\$ MILLIONS)</i>	51
<i>FIGURE 19 GLOBAL OSD MARKET BY BFSI END USE, 2013-2019 (\$ MILLIONS)</i>	52
ENTERTAINMENT	52
<i>TABLE 21 GLOBAL OSD MARKET BY ENTERTAINMENT END USE, THROUGH 2019 (\$ MILLIONS)</i>	53
<i>FIGURE 20 GLOBAL OSD MARKET BY ENTERTAINMENT END USE, 2013-2019 (\$ MILLIONS)</i>	53
OTHERS	54
<i>TABLE 22 GLOBAL OSD MARKET, BY OTHER END USE, THROUGH 2019 (\$ MILLIONS)</i>	54
<i>FIGURE 21 GLOBAL OSD MARKET, BY OTHER END USE, 2013-2019 (\$ MILLIONS)</i>	54
CHAPTER 6 OSD MARKET BY REGION	57
INTRODUCTION	57
<i>FIGURE 22 SEGMENTATION OF OSD MARKET, BY REGION</i>	57
MARKET SNAPSHOT	58
<i>TABLE 23 OSDS MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	58
<i>FIGURE 23 OSDS MARKET BY REGION, 2013-2019 (\$ MILLIONS)</i>	58
NORTH AMERICA	59
MARKET SNAPSHOT	59
<i>TABLE 24 NORTH AMERICAN OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	59
<i>TABLE 25 NORTH AMERICAN OSD MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)</i>	59
<i>FIGURE 24 NORTH AMERICA OSD MARKET BY END USE, 2013-2019 (\$ MILLIONS)</i>	60
<i>TABLE 26 NORTH AMERICAN OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	61
<i>FIGURE 25 NORTH AMERICAN OSD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	61
<i>TABLE 27 NORTH AMERICAN OSD MARKET BY PRODUCT, THROUGH 2019 (\$ MILLIONS)</i>	62
<i>FIGURE 26 NORTH AMERICAN OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)</i>	62
EUROPE	63
MARKET SNAPSHOT	63
<i>TABLE 28 EUROPEAN OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	63
<i>TABLE 29 EUROPEAN OSD MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)</i>	63
<i>FIGURE 27 EUROPEAN OSD MARKET BY END USE, 2013-2019 (\$ MILLIONS)</i>	64
<i>TABLE 30 EUROPEAN OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	65
<i>FIGURE 28 EUROPEAN OSD MARKET BY APPLICATION 2013-2019 (\$ MILLIONS)</i>	65
<i>TABLE 31 EUROPEAN OSD MARKET BY PRODUCT, THROUGH 2019 (\$ MILLIONS)</i>	66
<i>FIGURE 29 EUROPEAN OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)</i>	66
ASIA-PACIFIC	66
MARKET SNAPSHOT	67
<i>TABLE 32 ASIA-PACIFIC OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	67
<i>TABLE 33 ASIA-PACIFIC OSD MARKET BY END USE SEGMENT, THROUGH 2019 (\$ MILLIONS)</i>	67
<i>FIGURE 30 ASIA-PACIFIC OSD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	68

TOPIC	PAGE NO.
<i>TABLE 34 ASIA-PACIFIC OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	69
<i>FIGURE 31 ASIA-PACIFIC OSD MARKET BY APPLICATION 2013-2019 (\$ MILLIONS)</i>	69
<i>TABLE 35 ASIA-PACIFIC OSD MARKET BY PRODUCT, THROUGH 2019 (\$ MILLIONS)</i>	70
<i>FIGURE 32 ASIA-PACIFIC OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)</i>	70
REST OF THE WORLD	71
MARKET SNAPSHOT	71
<i>TABLE 36 ROW OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	71
<i>TABLE 37 ROW OSD MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)</i>	71
<i>FIGURE 33 ROW OSD MARKET BY END USE, 2013-2019 (\$ MILLIONS)</i>	72
<i>TABLE 38 ROW OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)</i>	73
<i>FIGURE 34 ROW OSD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)</i>	73
<i>TABLE 39 ROW OSD MARKET, BY PRODUCT, THROUGH 2019 (\$ MILLIONS)</i>	75
<i>FIGURE 35 ROW OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)</i>	75
CHAPTER 7 INDUSTRY STRUCTURE AND COMPETITIVE ANALYSIS	77
INDUSTRY STRUCTURE	77
INFLUENTIAL FACTORS	77
FORECAST COMPONENTS	77
Market Share Analysis	77
<i>TABLE 40 MARKET SHARE ANALYSIS OF OSDs, 2013 (%)</i>	78
PORTER FIVE FORCES	78
<i>FIGURE 36 PORTER FIVE FORCES FOR OSDs</i>	78
BARGAINING POWER OF SUPPLIER - LOW	79
BARGAINING POWER OF BUYER - HIGH	79
RIVALRY AMONG EXISTING COMPETITORS - HIGH	79
THREAT OF NEW ENTRANTS - LOW	79
THREAT FROM SUBSTITUTE PRODUCTS OR SERVICES - MEDIUM	80
CHAPTER 8 COMPANY PROFILES	82
COLOSSAL STORAGE CORP.	82
OVERVIEW	82
PRIMARY BUSINESS	82
FINANCIALS	82
FUJI PHOTO FILM CO. LTD.	82
OVERVIEW	82
PRIMARY BUSINESS	83
FINANCIALS	83
FUJITSU LABORATORIES LTD.	83
OVERVIEW	83
PRIMARY BUSINESS	83
FINANCIALS	83
<i>TABLE 41 RECENT DEVELOPMENTS, FUJITSU LABORATORIES</i>	84
HEADWAY TECHNOLOGIES INC.	84
OVERVIEW	84
PRIMARY BUSINESS	84
FINANCIALS	84
HEWLETT-PACKARD CO.	84

TOPIC	PAGE NO.
OVERVIEW	85
PRIMARY BUSINESS	85
FINANCIALS	85
HITACHI GLOBAL STORAGE TECHNOLOGIES INC.	85
OVERVIEW	85
PRIMARY BUSINESS	85
FINANCIALS	86
STRATEGY	86
Leveraging Research and Development Activities Across Different Products	86
<i>TABLE 42 RECENT DEVELOPMENTS, HITACHI GLOBAL STORAGE TECHNOLOGIES INC.</i>	86
INPHASE TECHNOLOGIES INC.	87
OVERVIEW	87
PRIMARY BUSINESS	87
FINANCIALS	87
LG ELECTRONICS INC.	87
OVERVIEW	88
PRIMARY BUSINESS	88
FINANCIALS	88
MEMOREX PRODUCTS INC.	88
OVERVIEW	88
PRIMARY BUSINESS	88
FINANCIALS	89
STRATEGY	89
Enhancing its Existing Product	89
<i>TABLE 43 RECENT DEVELOPMENT, MEMOREX PRODUCTS INC.</i>	89
MEMORY-TECH CORP.	89
OVERVIEW	89
PRIMARY BUSINESS	90
FINANCIALS	90
OPTWARE CORP.	90
OVERVIEW	90
PRIMARY BUSINESS	90
FINANCIALS	91
PANASONIC ELECTRONIC DEVICES CO. LTD.	91
OVERVIEW	91
PRIMARY BUSINESS	91
FINANCIALS	91
PIONEER CORP.	91
OVERVIEW	92
PRIMARY BUSINESS	92
FINANCIALS	92
QUANTEGY INC.	92
OVERVIEW	92
PRIMARY BUSINESS	92
FINANCIALS	93
RICOH COMPANY LTD.	93

TOPIC	PAGE NO.
OVERVIEW	93
PRIMARY BUSINESS	93
FINANCIALS	93
RITEK CORP.	93
OVERVIEW	94
PRIMARY BUSINESS	94
FINANCIALS	94
SAMSUNG ELECTRONICS CO. LTD.	94
OVERVIEW	94
PRIMARY BUSINESS	94
FINANCIALS	95
SEAGATE TECHNOLOGY PLC	95
OVERVIEW	95
PRIMARY BUSINESS	95
FINANCIALS	95
SONY CORP.	95
OVERVIEW	96
PRIMARY BUSINESS	96
FINANCIALS	96
STX-APRILIS INC.	96
OVERVIEW	96
PRIMARY BUSINESS	96
FINANCIALS	97
TOSHIBA CORP.	97
OVERVIEW	97
PRIMARY BUSINESS	97
FINANCIALS	97
VIXAR INC.	98
OVERVIEW	98
PRIMARY BUSINESS	98
FINANCIALS	98
STRATEGY	98
Leveraging Research and Development Activities Across Different Products	98
Raising Fund through Venture Capital Investment	99
DEVELOPMENTS	99
<i>TABLE 44 RECENT DEVELOPMENTS, VIXAR INC.</i>	99
WESTERN DIGITAL CORP.	99
OVERVIEW	100
PRIMARY BUSINESS	100
FINANCIALS	100

LIST OF TABLES

TABLE HEADING	PAGE NO.
SUMMARY TABLE GLOBAL MARKET FOR OSDS, BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	6
TABLE 1 GLOBAL OSD MARKET BY PRODUCT TYPE, THROUGH 2019 (\$ MILLIONS)	14
TABLE 2 OSD MARKET DRIVERS AND RESTRAINTS ANALYSIS	15
TABLE 3 GLOBAL CD-ROM MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	18
TABLE 4 GLOBAL CD-ROM MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	19
TABLE 5 GLOBAL DVD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	22
TABLE 6 GLOBAL DVD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	23
TABLE 7 GLOBAL BLU-RAY DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	25
TABLE 8 GLOBAL BLU-RAY DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	27
TABLE 9 GLOBAL ERASABLE AND REWRITABLE OPTICAL DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	30
TABLE 10 GLOBAL ERASABLE AND REWRITABLE OPTICAL DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	31
TABLE 11 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	33
TABLE 12 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	34
TABLE 13 GLOBAL HOLOGRAPHIC DISC MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	37
TABLE 14 GLOBAL HOLOGRAPHIC DISC MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	38
TABLE 15 GLOBAL OPTICAL DATA STORAGE DEVICE MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)	44
TABLE 16 OSD MARKET IMPACT ANALYSIS: DRIVERS AND RESTRAINTS BY APPLICATION	46
TABLE 17 GLOBAL OSD MARKET BY MANUFACTURING END USE, THROUGH 2019 (\$ MILLIONS)	47
TABLE 18 GLOBAL OSD MARKET BY PUBLIC ADMINISTRATION AND EDUCATION END USE, THROUGH 2019 (\$ MILLIONS)	49
TABLE 19 GLOBAL OSD MARKET BY HEALTHCARE END USE, THROUGH 2019 (\$ MILLIONS)	50
TABLE 20 GLOBAL OSD MARKET, BY BFSI END USE, THROUGH 2019 (\$ MILLIONS)	51
TABLE 21 GLOBAL OSD MARKET BY ENTERTAINMENT END USE, THROUGH 2019 (\$ MILLIONS)	53
TABLE 22 GLOBAL OSD MARKET, BY OTHER END USE, THROUGH 2019 (\$ MILLIONS)	54
TABLE 23 OSDS MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	58
TABLE 24 NORTH AMERICAN OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	59
TABLE 25 NORTH AMERICAN OSD MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)	59
TABLE 26 NORTH AMERICAN OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	61
TABLE 27 NORTH AMERICAN OSD MARKET BY PRODUCT, THROUGH 2019 (\$ MILLIONS)	62
TABLE 28 EUROPEAN OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	63
TABLE 29 EUROPEAN OSD MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)	63
TABLE 30 EUROPEAN OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	65
TABLE 31 EUROPEAN OSD MARKET BY PRODUCT, THROUGH 2019 (\$ MILLIONS)	66
TABLE 32 ASIA-PACIFIC OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	67

TABLE HEADING	PAGE NO.
TABLE 33 ASIA-PACIFIC OSD MARKET BY END USE SEGMENT, THROUGH 2019 (\$ MILLIONS)	67
TABLE 34 ASIA-PACIFIC OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	69
TABLE 35 ASIA-PACIFIC OSD MARKET BY PRODUCT, THROUGH 2019 (\$ MILLIONS)	70
TABLE 36 ROW OSD MARKET BY REGION, THROUGH 2019 (\$ MILLIONS)	71
TABLE 37 ROW OSD MARKET BY END USE, THROUGH 2019 (\$ MILLIONS)	71
TABLE 38 ROW OSD MARKET BY APPLICATION, THROUGH 2019 (\$ MILLIONS)	73
TABLE 39 ROW OSD MARKET, BY PRODUCT, THROUGH 2019 (\$ MILLIONS)	75
TABLE 40 MARKET SHARE ANALYSIS OF OSDs, 2013 (%)	78
TABLE 41 RECENT DEVELOPMENTS, FUJITSU LABORATORIES	84
TABLE 42 RECENT DEVELOPMENTS, HITACHI GLOBAL STORAGE TECHNOLOGIES INC.	86
TABLE 43 RECENT DEVELOPMENT, MEMOREX PRODUCTS INC.	89
TABLE 44 RECENT DEVELOPMENTS, VIXAR INC.	99

LIST OF FIGURES

FIGURE TITLE	PAGE NO.
SUMMARY FIGURE GLOBAL MARKET FOR OSDS, BY APPLICATION, 2013-2019 (\$ MILLIONS)	6
FIGURE 1 ROADMAP OF OSD	9
FIGURE 2 SUPPLY CHAIN OF OSD INDUSTRY	11
FIGURE 3 GLOBAL OSD MARKET BY PRODUCT TYPE, 2013-2019 (\$ MILLIONS)	14
FIGURE 4 GLOBAL CD-ROM MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)	18
FIGURE 5 GLOBAL CD-ROM MARKET BY REGION, 2013-2019 (\$ MILLIONS)	20
FIGURE 6 GLOBAL DVD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)	22
FIGURE 7 GLOBAL DVD MARKET BY REGION, 2013-2019 (\$ MILLIONS)	24
FIGURE 8 GLOBAL BLU-RAY DISC MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)	26
FIGURE 9 GLOBAL BLU-RAY DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)	27
FIGURE 10 GLOBAL ERASABLE AND REWRITABLE DISCS MARKET BY APPLICATIONS, 2013-2019 (\$ MILLIONS)	30
FIGURE 11 GLOBAL ERASABLE AND REWRITABLE OPTICAL DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)	32
FIGURE 12 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)	33
FIGURE 13 GLOBAL NEAR-FIELD OPTICAL DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)	34
FIGURE 14 GLOBAL HOLOGRAPHIC DISC MARKET, 2013-2019 (\$ MILLIONS)	37
FIGURE 15 GLOBAL HOLOGRAPHIC DISC MARKET BY REGION, 2013-2019 (\$ MILLIONS)	38
FIGURE 16 GLOBAL OSD MARKET BY MANUFACTURING END USE, 2013-2019 (\$ MILLIONS)	48
FIGURE 17 GLOBAL OSD MARKET BY PUBLIC ADMINISTRATION AND EDUCATION END USE, 2013-2019 (\$ MILLIONS)	49
FIGURE 18 GLOBAL OSD MARKET BY HEALTH CARE END USE, 2013-2019 (\$ MILLIONS)	50
FIGURE 19 GLOBAL OSD MARKET BY BFSI END USE, 2013-2019 (\$ MILLIONS)	52
FIGURE 20 GLOBAL OSD MARKET BY ENTERTAINMENT END USE, 2013-2019 (\$ MILLIONS)	53
FIGURE 21 GLOBAL OSD MARKET, BY OTHER END USE, 2013-2019 (\$ MILLIONS)	54
FIGURE 22 SEGMENTATION OF OSD MARKET, BY REGION	57
FIGURE 23 OSDS MARKET BY REGION, 2013-2019 (\$ MILLIONS)	58
FIGURE 24 NORTH AMERICA OSD MARKET BY END USE, 2013-2019 (\$ MILLIONS)	60
FIGURE 25 NORTH AMERICAN OSD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)	61
FIGURE 26 NORTH AMERICAN OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)	62
FIGURE 27 EUROPEAN OSD MARKET BY END USE, 2013-2019 (\$ MILLIONS)	64
FIGURE 28 EUROPEAN OSD MARKET BY APPLICATION 2013-2019 (\$ MILLIONS)	65
FIGURE 29 EUROPEAN OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)	66
FIGURE 30 ASIA-PACIFIC OSD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)	68
FIGURE 31 ASIA-PACIFIC OSD MARKET BY APPLICATION 2013-2019 (\$ MILLIONS)	69
FIGURE 32 ASIA-PACIFIC OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)	70
FIGURE 33 ROW OSD MARKET BY END USE, 2013-2019 (\$ MILLIONS)	72
FIGURE 34 ROW OSD MARKET BY APPLICATION, 2013-2019 (\$ MILLIONS)	73
FIGURE 35 ROW OSD MARKET BY PRODUCT, 2013-2019 (\$ MILLIONS)	75
FIGURE 36 PORTER FIVE FORCES FOR OSDS	78