

High-performance Computing (HPC) Market with COVID-19 Impact Analysis, by Component, Computation Type (Parallel Computing, Distributed computing and Exascale Computing), Industry, Deployment, Server Price Band, Verticals & Region - Global Forecast to 2027

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Abstracts

High performance computing (HPC) market is expected to grow from USD 36.0 Billion in 2022 to USD 49.9 Billion by 2027, at a CAGR of 6.7%. The market growth can be attributed to several factors, such as the heavy investment in data centers in North America, and Europe regions.

Advancements in healthcare systems, healthcare research, and communication technologies have led to the development of better standard practices within the healthcare & life sciences vertical. With rising technological innovations, healthcare institutes face the need to deliver various healthcare services through active collaboration between hospital administrators and doctors while improving the overall efficiency and quality of patient care. Life sciences deal with the use of informatics to understand and unveil previously unknown facts about living beings. HPC is being implemented widely in various applications within the healthcare & life sciences vertical for running multiple simulations, data management and modeling processes, and next-generation sequencing. HPC solutions provide the necessary computational power for these applications and help tackle challenges pertaining to the high computational power requirements of the healthcare & life sciences vertical.

Large enterprises segment is expected to hold a higher market share during the forecast period

Organizations with an employee base of more than 1,000 people are considered large enterprises. As the adoption of new digital technologies is increasing, many large enterprises have replaced their traditional data center infrastructure technologies and other management processes with HPC systems and solutions. Large enterprises are usually characterized by their requirement for high-server densities and high computational power. These organizations require highly reliable infrastructure. HPC solutions can facilitate data center providers with fast processing abilities and deliver quick results, increasing their profitability. Moreover, HPC solutions aid large enterprises in processing numerous applications simultaneously within a short time, enabling a significant reduction in downtime.

On-Premises deployment of HPC to hold the largest market share during the forecast period

The on-premises deployment consists of various dedicated computing nodes that are attached to their parent nodes and further connected to workstations. This deployment type supports specialized hardware, such as InfiniBand and Graphics Processing Unit (GPU). However, the emergence of HPC in the cloud has affected the growth of the on-premises deployment type segment. Yet, organizations are deploying HPC solutions using the on-premises deployment type because of the security and confidentiality factors. Many vendors are making continued investments in the on-premises deployment type, as well as developing new cloud business models for HPC. Major vendors offering on-premise HPC solutions include HPE, IBM, and Dell.

Breakdown of primary participants:

By Company Type: Tier 1 = 30%, Tier 2 = 50%, and Tier 3 = 20%

By Designation: C-Level Executives = 10%, Directors = 30%, and Others = 60%

By Region: North America = 20%, Europe = 20%, APAC = 50%, and RoW = 10%

Some of the major players in the silicon photomultiplier market include Advanced Micro Devices (US), Intel (US), HPE (US), IBM (US), Dell (US), Lenovo (China), Fujitsu (Japan), Atos (France), CISCO (US), Nvidia (Japan), NEC Corporation (Japan) and so on.

Research Coverage:

In this report, the high performance computing market has been segmented on the basis of by Component, Computation Type, Industry, Deployment, Server Price Band, Verticals, and Region. The report also discusses the drivers, restraints, opportunities, and challenges pertaining to the market. It gives a detailed view of the market across four main regions—North America, Europe, APAC, and RoW. Value chain analysis has been included in the report, along with the key players and their competitive analysis in the high performance computing ecosystem.

Key Benefits to Buy the Report:

This report includes statistics for the high performance computing market based on Component, Computation Type, Industry, Deployment, Server Price Band, Verticals, and Region, along with their respective market sizes.

Value chain analysis and key industry trends have been provided for the market.

Major drivers, restraints, opportunities, and challenges for have been provided in detail in this report.

This report would help stakeholders to understand their competitors better and gain more insights to enhance their position in the market. The competitive landscape section includes the competitor ecosystem and the recent development strategies adopted by the key players in the market, such as new product launches, acquisitions, collaborations, agreements, and partnerships.

Contents

1 INTRODUCTION

1.1 STUDY OBJECTIVES

1.2 DEFINITION

1.2.1 INCLUSIONS AND EXCLUSIONS

1.3 STUDY SCOPE

1.3.1 MARKETS COVERED

FIGURE 1 HIGH-PERFORMANCE COMPUTING MARKET: SEGMENTATION

1.3.2 GEOGRAPHIC SCOPE

1.3.3 YEARS CONSIDERED

1.4 CURRENCY

1.5 LIMITATIONS

1.6 STAKEHOLDERS

1.7 SUMMARY OF CHANGES

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 2 HIGH-PERFORMANCE COMPUTING MARKET: RESEARCH DESIGN

2.1.1 SECONDARY AND PRIMARY RESEARCH

2.1.2 SECONDARY DATA

2.1.2.1 List of secondary sources

2.1.2.2 Key secondary sources

2.1.3 PRIMARY DATA

2.1.3.1 Primary interviews with experts

2.1.3.2 Key industry insights

2.1.3.3 Breakdown of primaries

2.2 MARKET SIZE ESTIMATION

2.2.1 BOTTOM-UP APPROACH

2.2.1.1 Approach for arriving at market size using bottom-up analysis

FIGURE 3 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH

FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: APPROACH 1 BOTTOM-UP (SUPPLY SIDE)—ILLUSTRATION OF REVENUE ESTIMATION OF COMPANIES FROM SALES OF HIGH-PERFORMANCE COMPUTING

2.2.2 TOP-DOWN APPROACH

2.2.2.1 Approach for capturing market size using top-down analysis

FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH

FIGURE 6 MARKET SIZE ESTIMATION METHODOLOGY: APPROACH 2 (SUPPLY SIDE)—REVENUE GENERATED FROM SALE OF HIGH-PERFORMANCE COMPUTING SERVER SOLUTIONS

2.3 MARKET BREAKDOWN AND DATA TRIANGULATION

FIGURE 7 DATA TRIANGULATION

2.4 RESEARCH ASSUMPTIONS

2.5 RISK ASSESSMENTS

TABLE 1 LIMITATIONS AND ASSOCIATED RISKS

2.6 LIMITATIONS

3 EXECUTIVE SUMMARY

3.1 GROWTH RATE ASSUMPTIONS/GROWTH FORECAST

TABLE 2 HPC MARKET, BY SERVER SHIPMENTS 2018–2021 (MILLION UNITS)

TABLE 3 HPC MARKET, BY SERVER SHIPMENTS 2022–2027 (MILLION UNITS)

TABLE 4 HPC MARKET, 2018–2021 (USD BILLION)

TABLE 5 HPC MARKET, 2022–2027 (USD BILLION)

FIGURE 8 IMPACT OF COVID-19 ON HPC MARKET

3.2 POST-COVID-19 SCENARIO

TABLE 6 POST-COVID-19 SCENARIO: HPC MARKET, 2022–2027 (USD BILLION)

3.3 OPTIMISTIC SCENARIO (POST-COVID-19)

TABLE 7 OPTIMISTIC SCENARIO (POST-COVID-19): HPC MARKET, 2022–2027 (USD BILLION)

3.4 PESSIMISTIC SCENARIO (POST-COVID-19)

TABLE 8 PESSIMISTIC SCENARIO (POST-COVID-19): HPC MARKET, 2022–2027 (USD BILLION)

FIGURE 9 HEALTHCARE & LIFE SCIENCES SEGMENT TO EXHIBIT HIGHEST CAGR IN

HPC MARKET FROM 2022 TO 2027

FIGURE 10 NORTH AMERICA TO REGISTER HIGHEST GROWTH RATE IN HPC MARKET IN 2022

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE GROWTH OPPORTUNITIES IN HIGH-PERFORMANCE COMPUTING MARKET

FIGURE 11 INCREASING DEMAND FOR HIGH-PERFORMANCE COMPUTING IN BANKING, FINANCIAL SERVICES & INSURANCE AND HEALTHCARE & LIFE SCIENCES VERTICALS TO DRIVE MARKET GROWTH FROM 2022 TO 2027

4.2 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPONENT

FIGURE 12 SOLUTIONS SEGMENT TO ACCOUNT FOR LARGER SHARE OF HIGH-PERFORMANCE COMPUTING MARKET FROM 2022 TO 2027

4.3 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPONENT AND REGION

FIGURE 13 SOLUTIONS SEGMENT AND NORTH AMERICA TO HOLD LARGEST SHARES OF HIGH-PERFORMANCE COMPUTING MARKET IN 2022

4.4 HIGH-PERFORMANCE COMPUTING MARKET, BY COUNTRY

FIGURE 14 HIGH-PERFORMANCE COMPUTING MARKET IN CHINA TO GROW AT HIGHEST CAGR FROM 2022 TO 2027

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 15 HIGH-PERFORMANCE COMPUTING MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

5.2.1 DRIVERS

5.2.1.1 Growing need for efficient computing, high scalability, and reliable storage

5.2.1.2 Increasing demand for high-speed data processing with accuracy

5.2.1.3 Increased use of high-performance computing and deep learning frameworks in development of COVID-19 vaccines

5.2.1.4 Growing demand for high-performance computing (HPC) systems in genomics research

FIGURE 16 HPC MARKET: IMPACT ANALYSIS OF DRIVERS

5.2.2 RESTRAINTS

5.2.2.1 Cyber security concerns

5.2.2.2 High deployment costs associated with commercial high-performance computing (HPC) clusters

FIGURE 17 HPC MARKET: IMPACT ANALYSIS OF RESTRAINTS

5.2.3 OPPORTUNITIES

5.2.3.1 Increasing focus on adoption of hybrid high-performance computing (HPC) systems

5.2.3.2 Introduction of Exascale computing

5.2.3.3 Rising investments in data centers supporting HPC capability

FIGURE 18 HPC MARKET: IMPACT ANALYSIS OF OPPORTUNITIES

5.2.4 CHALLENGES

5.2.4.1 Less technical expertise related to high-performance computing (HPC)

5.2.4.2 Limited budgets of SMEs

5.2.4.3 Challenges in cooling HPC systems

5.2.4.4 Requirement of advanced frameworks to improve fault tolerance and ensure resiliency

FIGURE 19 HPC MARKET: IMPACT ANALYSIS OF CHALLENGES

5.3 VALUE CHAIN ANALYSIS

FIGURE 20 RAW MATERIAL SUPPLIERS AND ORIGINAL EQUIPMENT MANUFACTURERS COLLECTIVELY ADD MAJOR VALUE TO FINAL PRODUCT

5.4 TECHNOLOGY ANALYSIS

5.4.1 EXASCALE COMPUTING IN HPC SYSTEMS

5.4.2 CLOUD COMPUTING IN HPC SYSTEMS

5.5 ECOSYSTEM ANALYSIS

FIGURE 21 HPC MARKET: ECOSYSTEM

TABLE 9 HPC MARKET: ECOSYSTEM

5.6 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS

5.7 CASE STUDIES

5.7.1 CASE STUDY 1: EDUCATION

5.7.2 CASE STUDY 2: ENERGY AND UTILITIES

5.7.3 CASE STUDY 3: EDUCATION

5.8 PORTER'S FIVE FORCES ANALYSIS

5.8.1 BARGAINING POWER OF SUPPLIERS

5.8.2 BARGAINING POWER OF BUYERS

5.8.3 THREAT OF NEW ENTRANTS

5.8.4 THREAT OF SUBSTITUTES

5.8.5 INTENSITY OF COMPETITIVE RIVALRY

TABLE 10 IMPACT OF PORTER'S FIVE FORCES ON HPC MARKET, 2021

5.9 PRICING ANALYSIS

TABLE 11 HIGH-PERFORMANCE COMPUTING MARKET: PRICING ANALYSIS (2021–2022)

5.9.1 AVERAGE SELLING PRICES OF 4 KEY PLAYER OFFERINGS, BY HPC SERVERS

FIGURE 22 AVERAGE SELLING PRICES OF 4 KEY PLAYER OFFERINGS, BY HPC SERVERS

5.10 TRADE ANALYSIS

FIGURE 23 IMPORT DATA, BY COUNTRY, 2016–2020 (USD MILLION)

FIGURE 24 EXPORT DATA, BY COUNTRY, 2016–2020 (USD MILLION)

5.10.1 PATENTS ANALYSIS

FIGURE 25 NUMBER OF PATENTS GRANTED PER YEAR FROM 2012 TO 2021

FIGURE 26 TOP 10 COMPANIES WITH HIGHEST NUMBER OF PATENT APPLICATIONS IN LAST 10 YEARS

TABLE 12 TOP 20 PATENT OWNERS IN LAST 10 YEARS

TABLE 13 LIST OF FEW PATENTS IN HPC MARKET, 2021–2022

5.11 KEY CONFERENCES AND EVENTS BETWEEN 2022 AND 2023

TABLE 14 HPC MARKET: DETAILED LIST OF CONFERENCES AND EVENTS

5.12 KEY STAKEHOLDERS AND BUYING CRITERIA

5.12.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 27 INFLUENCE OF STAKEHOLDERS IN BUYING PROCESS FOR TOP 3 VERTICALS

TABLE 15 INFLUENCE OF STAKEHOLDERS IN BUYING PROCESS FOR TOP 3 VERTICALS (%)

5.12.2 BUYING CRITERIA

FIGURE 28 KEY BUYING CRITERIA FOR TOP 3 INDUSTRY VERTICALS

TABLE 16 KEY BUYING CRITERIA FOR TOP 3 VERTICALS

5.13 REGULATIONS AND STANDARDS

TABLE 17 REGULATIONS AND STANDARDS FOR HPC MARKET

5.14 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 18 NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 19 EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 20 REST OF WORLD: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

6 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPONENT

6.1 INTRODUCTION

FIGURE 29 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPONENT

6.1.1 DRIVERS: HIGH-PERFORMANCE COMPUTING MARKET FOR COMPONENT

6.1.2 COVID-19 IMPACT

TABLE 21 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPONENT, 2018–2021 (USD BILLION)

TABLE 22 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPONENT, 2022–2027 (USD BILLION)

6.2 SOLUTIONS

TABLE 23 SOLUTIONS: HIGH-PERFORMANCE COMPUTING MARKET, BY TYPE, 2018–2021 (USD BILLION)

TABLE 24 SOLUTIONS: HIGH-PERFORMANCE COMPUTING MARKET, BY TYPE, 2022–2027 (USD BILLION)

6.2.1 SERVER

- 6.2.1.1 Supercomputer and divisional systems
- 6.2.1.2 Departmental and workgroup systems
- 6.2.2 STORAGE
- 6.2.3 NETWORKING DEVICES
- 6.2.4 SOFTWARE
- 6.3 SERVICES
 - 6.3.1 DESIGN AND CONSULTING
 - 6.3.2 INTEGRATION AND DEPLOYMENT

7 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPUTATION TYPE

7.1 INTRODUCTION

FIGURE 30 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPUTATION TYPE

TABLE 25 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPUTATION TYPE, 2018–2021 (USD BILLION)

TABLE 26 HIGH-PERFORMANCE COMPUTING MARKET, BY COMPUTATION TYPE, 2022–2027 (USD BILLION)

7.2 PARALLEL COMPUTING

7.2.1 PARALLEL COMPUTING HELPS IN SOLVING COMPLEX MATHEMATICAL PROBLEMS

7.2.2 CASE STUDY: AWS AND ASTRAZENECA

7.2.3 BIT-LEVEL PARALLELISM

7.2.4 INSTRUCTION-LEVEL PARALLELISM

7.2.5 TASK PARALLELISM

7.3 DISTRIBUTED COMPUTING

7.3.1 DISTRIBUTED COMPUTING HELPS IN LEVERAGING HPC RESOURCES USING LOW-VALUE COMMODITY HARDWARE

7.3.2 USE CASE: DELL AND WALT DISNEY ANIMATION STUDIO

7.3.3 GRID COMPUTING

7.3.4 CLUSTER COMPUTING

7.3.5 CLOUD COMPUTING

7.3.5.1 USE CASE: FRAUD DETECTION IN BFSI SECTOR

7.4 EXASCALE COMPUTING

7.4.1 EXASCALE COMPUTING HELPS IN MAKING NEW SCIENTIFIC DISCOVERIES BY PROCESSING LARGE AMOUNTS OF DATA IN SHORT TIME

7.4.2 USE CASE: VACCINE DEVELOPMENT

8 HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT

8.1 INTRODUCTION

FIGURE 31 HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT

8.1.1 DRIVERS: HIGH-PERFORMANCE COMPUTING MARKET FOR DEPLOYMENT TYPE

8.1.2 COVID-19 IMPACT

TABLE 27 HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 28 HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

8.2 CLOUD

TABLE 29 CLOUD: HIGH-PERFORMANCE COMPUTING MARKET, BY VERTICAL, 2018–2021 (USD BILLION)

TABLE 30 CLOUD: HIGH-PERFORMANCE COMPUTING MARKET, BY VERTICAL, 2022–2027 (USD BILLION)

8.3 ON-PREMISES

TABLE 31 ON-PREMISES: HIGH-PERFORMANCE COMPUTING MARKET, BY VERTICAL, 2018–2021 (USD BILLION)

TABLE 32 ON-PREMISES: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

9 HIGH-PERFORMANCE COMPUTING MARKET, BY ORGANIZATION SIZE

9.1 INTRODUCTION

FIGURE 32 HIGH-PERFORMANCE COMPUTING MARKET, BY ORGANIZATION SIZE

9.1.1 DRIVERS: HIGH-PERFORMANCE COMPUTING MARKET FOR ORGANIZATION SIZE

9.1.2 COVID-19 IMPACT

TABLE 33 HIGH-PERFORMANCE COMPUTING MARKET, BY ORGANIZATION SIZE, 2018–2021 (USD BILLION)

TABLE 34 HIGH-PERFORMANCE COMPUTING MARKET, BY ORGANIZATION SIZE, 2022–2027 (USD BILLION)

9.2 SMALL- AND MEDIUM-SIZED ENTERPRISES

9.3 LARGE ENTERPRISES

10 HIGH-PERFORMANCE COMPUTING MARKET, BY SERVER PRICE BAND

10.1 INTRODUCTION

FIGURE 33 HIGH-PERFORMANCE COMPUTING MARKET, BY SERVER PRICE BAND**TABLE 35 HIGH-PERFORMANCE COMPUTING MARKET, BY SERVER PRICE BAND, 2018–2021 (USD BILLION)****TABLE 36 HIGH-PERFORMANCE COMPUTING MARKET, BY SERVER PRICE BAND, 2022–2027 (USD BILLION)****10.2 USD 250,000–500,000 AND ABOVE****10.2.1 USD 250,000–500,000 AND ABOVE SERVER PRICE BAND COMPRISES SYSTEMS THAT HELP IN SOLVING HIGHLY COMPLEX MATHEMATICAL PROBLEMS****10.3 USD 250,000–100,000 AND BELOW****10.3.1 USD 250,000–100,000 AND BELOW SERVER PRICE BAND COMPRISE SYSTEMS THAT CAN SOLVE MODERATELY COMPLEX MATHEMATICAL PROBLEMS****11 HIGH-PERFORMANCE COMPUTING MARKET, BY VERTICAL****11.1 INTRODUCTION****FIGURE 34 HPC MARKET, BY VERTICAL****11.1.1 DRIVERS: HIGH-PERFORMANCE COMPUTING MARKET FOR VERTICAL****11.1.2 COVID-19 IMPACT****TABLE 37 HIGH-PERFORMANCE COMPUTING MARKET, BY VERTICAL, 2018–2021 (USD BILLION)****TABLE 38 HIGH-PERFORMANCE COMPUTING MARKET, BY VERTICAL, 2022–2027 (USD BILLION)****11.2 GOVERNMENT & DEFENSE****TABLE 39 GOVERNMENT & DEFENSE: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)****TABLE 40 GOVERNMENT & DEFENSE: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)****TABLE 41 GOVERNMENT & DEFENSE: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)****TABLE 42 GOVERNMENT & DEFENSE: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)****11.3 BANKING, FINANCIAL SERVICES, AND INSURANCE (BFSI)****TABLE 43 BANKING, FINANCIAL SERVICES, AND INSURANCE: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)****TABLE 44 BANKING, FINANCIAL SERVICES, AND INSURANCE: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)**

TABLE 45 BANKING, FINANCIAL SERVICES, AND INSURANCE: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 46 BANKING, FINANCIAL SERVICES, AND INSURANCE: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

11.4 EDUCATION & RESEARCH

11.4.1 RECENT DEVELOPMENTS

TABLE 47 EDUCATION & RESEARCH: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 48 EDUCATION & RESEARCH: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

TABLE 49 EDUCATION & RESEARCH: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 50 EDUCATION & RESEARCH: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

11.5 MANUFACTURING

TABLE 51 MANUFACTURING: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 52 MANUFACTURING: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

TABLE 53 MANUFACTURING: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 54 MANUFACTURING: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

11.6 MEDIA & ENTERTAINMENT

TABLE 55 MEDIA & ENTERTAINMENT: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 56 MEDIA AND ENTERTAINMENT: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

TABLE 57 MEDIA & ENTERTAINMENT: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 58 MEDIA AND ENTERTAINMENT: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

11.7 HEALTHCARE & LIFE SCIENCES

TABLE 59 HEALTHCARE & LIFE SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 60 HEALTHCARE & LIFE SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

TABLE 61 HEALTHCARE & LIFE SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 62 HEALTHCARE & LIFE SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

11.8 ENERGY & UTILITIES

TABLE 63 ENERGY & UTILITIES: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 64 ENERGY & UTILITIES: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

TABLE 65 ENERGY & UTILITIES: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 66 ENERGY & UTILITIES: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

11.9 EARTH SCIENCES

TABLE 67 EARTH SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 68 EARTH SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

TABLE 69 EARTH SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 70 EARTH SCIENCES: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

11.10 OTHERS

TABLE 71 OTHERS: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 72 OTHERS: HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027 (USD BILLION)

TABLE 73 OTHERS: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2018–2021 (USD BILLION)

TABLE 74 OTHERS: HIGH-PERFORMANCE COMPUTING MARKET, BY DEPLOYMENT, 2022–2027 (USD BILLION)

12 HIGH-PERFORMANCE COMPUTING MARKET, BY REGION

12.1 INTRODUCTION

FIGURE 35 HIGH-PERFORMANCE COMPUTING MARKET IN CHINA TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 75 HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2018–2021 (USD BILLION)

TABLE 76 HIGH-PERFORMANCE COMPUTING MARKET, BY REGION, 2022–2027
(USD BILLION)

12.2 NORTH AMERICA

12.2.1 DRIVERS: NORTH AMERICAN HIGH-PERFORMANCE COMPUTING
MARKET

12.2.2 COVID-19 IMPACT

12.2.3 NORTH AMERICA: REGULATIONS

FIGURE 36 NORTH AMERICA: HIGH-PERFORMANCE COMPUTING MARKET

TABLE 77 NORTH AMERICA: HIGH-PERFORMANCE COMPUTING MARKET, BY
COUNTRY, 2018–2021 (USD BILLION)

TABLE 78 NORTH AMERICA: HIGH-PERFORMANCE COMPUTING MARKET, BY
COUNTRY, 2022–2027 (USD BILLION)

12.2.4 US

12.2.4.1 Presence of advanced IT infrastructure is fueling demand for
high-performance computing (HPC) solutions in US

12.2.5 CANADA

12.2.5.1 Government-led support to increase adoption of digital technologies to fuel
demand for high-performance computing (HPC) solutions

12.2.6 MEXICO

12.2.6.1 Expanding industrial sector to fuel demand for high-performance computing
(HPC)

12.3 EUROPE

12.3.1 DRIVERS: EUROPEAN HIGH-PERFORMANCE COMPUTING MARKET

12.3.2 COVID-19 IMPACT

12.3.3 EUROPE: REGULATIONS

FIGURE 37 SNAPSHOT OF HIGH-PERFORMANCE COMPUTING MARKET IN
EUROPE

TABLE 79 EUROPE: HIGH-PERFORMANCE COMPUTING MARKET, BY COUNTRY,
2018–2021 (USD BILLION)

TABLE 80 EUROPE: HIGH-PERFORMANCE COMPUTING MARKET, BY COUNTRY,
2022–2027 (USD BILLION)

12.3.4 UK

12.3.4.1 Increased adoption of high-performance computing (HPC) systems in
medical sector to drive market growth

12.3.5 GERMANY

12.3.5.1 Rising deployment of high-performance computing (HPC) systems due to
high internet penetration to drive market growth

12.3.6 FRANCE

12.3.6.1 Government initiatives to increase adoption of AI and

ML technologies in public sector to fuel market growth

12.3.7 REST OF EUROPE

12.4 ASIA PACIFIC

12.4.1 DRIVERS: ASIA PACIFIC HIGH-PERFORMANCE COMPUTING MARKET

12.4.2 COVID-19 IMPACT

12.4.3 ASIA PACIFIC: REGULATIONS

FIGURE 38 SNAPSHOT HIGH-PERFORMANCE COMPUTING MARKET IN ASIA PACIFIC

TABLE 81 ASIA PACIFIC: HIGH-PERFORMANCE COMPUTING MARKET, BY COUNTRY, 2018–2021 (USD BILLION)

TABLE 82 ASIA PACIFIC: HIGH-PERFORMANCE COMPUTING MARKET, BY COUNTRY, 2022–2027 (USD BILLION)

12.4.4 AUSTRALIA AND NEW ZEALAND (ANZ)

12.4.4.1 Rising use of high-performance computing (HPC) systems in media & entertainment vertical to propel market growth

12.4.5 JAPAN

12.4.5.1 Growing use of high-performance computing (HPC) solutions in metrology to boost market growth

12.4.6 CHINA

12.4.6.1 Growing adoption of digital technologies such as AI, IoT, and big data to drive the market growth in China

12.4.7 REST OF ASIA PACIFIC

12.5 REST OF WORLD

FIGURE 39 SNAPSHOT HIGH-PERFORMANCE COMPUTING MARKET IN REST OF WORLD

TABLE 83 ROW: HIGH-PERFORMANCE COMPUTING MARKET, BY COUNTRY, 2018–2021 (USD BILLION)

TABLE 84 ROW: HIGH-PERFORMANCE COMPUTING MARKET, BY COUNTRY, 2022–2027 (USD BILLION)

12.5.1 MIDDLE EAST & AFRICA

12.5.2 DRIVERS: MIDDLE EAST & AFRICA HIGH-PERFORMANCE COMPUTING MARKET

12.5.3 COVID-19 IMPACT

12.5.4 MIDDLE EAST & AFRICA: REGULATIONS

12.5.5 SOUTH AMERICA

12.5.6 DRIVERS: SOUTH AMERICA HIGH-PERFORMANCE COMPUTING MARKET

12.5.7 COVID-19 IMPACT

12.5.8 SOUTH AMERICA: REGULATIONS

13 COMPETITIVE LANDSCAPE

13.1 KEY PLAYER STRATEGIES/RIGHT TO WIN

13.2 OVERVIEW

13.3 TOP 5 COMPANY ANALYSIS

FIGURE 40 TOP 5 COMPANY REVENUE ANALYSIS FOR HPC MARKET, 2019–2021

13.4 MARKET SHARE ANALYSIS (2021)

TABLE 85 HPC MARKET: MARKET SHARE ANALYSIS

13.5 COMPANY EVALUATION QUADRANT, 2021

13.5.1 STAR

13.5.2 PERVASIVE

13.5.3 EMERGING LEADER

13.5.4 PARTICIPANT

FIGURE 41 HPC MARKET COMPANY EVALUATION QUADRANT, 2021

13.6 SME EVALUATION QUADRANT, 2021

13.6.1 PROGRESSIVE COMPANY

13.6.2 RESPONSIVE COMPANY

13.6.3 DYNAMIC COMPANY

13.6.4 STARTING BLOCK

FIGURE 42 HPC MARKET, SME EVALUATION QUADRANT, 2021

FIGURE 43 HPC MARKET: DETAILED LIST OF KEY STARTUPS/SMES

FIGURE 44 HPC MARKET: COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES

TABLE 86 HPC MARKET: COMPANY FOOTPRINT

TABLE 87 HPC MARKET: COMPANY VERTICAL FOOTPRINT

TABLE 88 HPC MARKET: COMPANY REGIONAL FOOTPRINT

13.7 COMPETITIVE SCENARIO

TABLE 89 HPC MARKET: PRODUCT LAUNCHES, MARCH 2019?MARCH 2022

TABLE 90 HPC: DEALS, MARCH 2019?MARCH 2022

14 COMPANY PROFILES

(Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats))*

14.1 KEY PLAYERS

14.1.1 ADVANCED MICRO DEVICES

TABLE 91 ADVANCED MICRO DEVICES: BUSINESS OVERVIEW

FIGURE 45 ADVANCED MICRO DEVICES: COMPANY SNAPSHOT

TABLE 92 ADVANCED MICRO DEVICES: PRODUCTS OFFERED**14.1.2 INTEL****TABLE 93 INTEL: BUSINESS OVERVIEW****FIGURE 46 INTEL: COMPANY SNAPSHOT****TABLE 94 INTEL: PRODUCT OFFERINGS****14.1.3 HEWLETT PACKARD ENTERPRISE (HPE)****TABLE 95 HEWLETT PACKARD ENTERPRISE: BUSINESS OVERVIEW****FIGURE 47 HEWLETT PACKARD ENTERPRISE: COMPANY SNAPSHOT****TABLE 96 HEWLETT PACKARD ENTERPRISE: PRODUCT OFFERINGS****14.1.4 IBM****TABLE 97 IBM: BUSINESS OVERVIEW****FIGURE 48 IBM: COMPANY SNAPSHOT****TABLE 98 IBM: PRODUCT OFFERINGS****14.1.5 DELL****TABLE 99 DELL: BUSINESS OVERVIEW****FIGURE 49 DELL: COMPANY SNAPSHOT****TABLE 100 DELL: PRODUCT OFFERINGS****14.1.6 LENOVO****TABLE 101 LENOVO: BUSINESS OVERVIEW****FIGURE 50 LENOVO: COMPANY SNAPSHOT****TABLE 102 LENOVO: PRODUCT OFFERINGS****14.1.7 FUJITSU****TABLE 103 FUJITSU: BUSINESS OVERVIEW****FIGURE 51 FUJITSU: COMPANY SNAPSHOT****TABLE 104 FUJITSU: PRODUCT OFFERINGS****14.1.8 ATOS****TABLE 105 ATOS: BUSINESS OVERVIEW****FIGURE 52 ATOS: COMPANY SNAPSHOT****TABLE 106 ATOS: PRODUCT OFFERINGS****14.1.9 CISCO****TABLE 107 CISCO: BUSINESS OVERVIEW****FIGURE 53 CISCO: COMPANY SNAPSHOT****TABLE 108 CISCO: PRODUCT OFFERINGS****14.1.10 NVIDIA****TABLE 109 NVIDIA: BUSINESS OVERVIEW****FIGURE 54 NVIDIA: COMPANY SNAPSHOT****TABLE 110 NVIDIA: PRODUCT OFFERINGS****14.2 OTHER PLAYERS****14.2.1 NEC CORPORATION**

TABLE 111 NEC CORPORATION: BUSINESS OVERVIEW

14.2.2 AMAZON WEB SERVICES

TABLE 112 AMAZON WEB SERVICES: BUSINESS OVERVIEW

14.2.3 ORACLE

TABLE 113 ORACLE: BUSINESS OVERVIEW

14.2.4 MICROSOFT

TABLE 114 MICROSOFT: BUSINESS OVERVIEW

14.2.5 INSPUR

TABLE 115 INSPUR: BUSINESS OVERVIEW

14.2.6 NETAPP

TABLE 116 NETAPP: BUSINESS OVERVIEW

14.2.7 IRON GLOBAL

TABLE 117 IRON: BUSINESS OVERVIEW

14.2.8 ASPEN SYSTEM

TABLE 118 ASPEN SYSTEM: BUSINESS OVERVIEW

14.2.9 ADVANCED CLUSTERING TECHNOLOGIES

TABLE 119 ADVANCED CLUSTERING TECHNOLOGIES: BUSINESS OVERVIEW

14.2.10 DAWNING INFORMATION INDUSTRY CO. LTD. (SUGON)

TABLE 120 SUGON: BUSINESS OVERVIEW

14.2.11 DASSAULT SYSTEMS

TABLE 121 DASSAULT SYSTEMS: BUSINESS OVERVIEW

14.2.12 ARM LIMITED

TABLE 122 ARM LIMITED: BUSINESS OVERVIEW

14.2.13 MONTAGE TECHNOLOGY

TABLE 123 MONTAGE TECHNOLOGY: BUSINESS OVERVIEW

14.2.14 ADAPTIVE COMPUTING

TABLE 124 ADAPTIVE COMPUTING: BUSINESS OVERVIEW

14.2.15 ADVANCED HPC

TABLE 125 ADVANCED HPC: BUSINESS OVERVIEW

14.2.16 DATADIRECT NETWORKS

TABLE 126 DATADIRECT NETWORKS: BUSINESS OVERVIEW

14.2.17 EQUUS COMPUTERS

TABLE 127 EQUUS COMPUTERS: BUSINESS OVERVIEW

14.2.18 EXCELERO

TABLE 128 EXCELERO: BUSINESS OVERVIEW

14.2.19 GIGA-BYTE

TABLE 129 GIGA-BYTE: BUSINESS OVERVIEW

14.2.20 PENGUIN COMPUTING

TABLE 130 PENGUIN COMPUTING: BUSINESS OVERVIEW

*Details on Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

15 APPENDIX

15.1 INSIGHTS OF INDUSTRY EXPERTS

15.2 DISCUSSION GUIDE

15.3 KNOWLEDGE STORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

15.4 AVAILABLE CUSTOMIZATIONS

15.5 RELATED REPORTS

15.6 AUTHOR DETAILS

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