

Smart Port Market by Technology (IoT, Blockchain, Process Automation, Artificial Intelligence), Elements (Terminal Automation, PCS, Smart Port Infrastructure), Throughput Capacity, Port Type - and Region - Global Forecast to 2027

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Abstracts

The smart port market is projected to reach USD 5.7 billion by 2027 from an estimated USD 1.9 billion in 2022, at a CAGR of 24.3% during the forecast period. International trade depends heavily on maritime transportation. Ocean shipping is the primary form of transportation for international trade, and according to UNCTAD, the majority of developing nations have seaborne trade volumes that are even higher. Compared to the road, rail, and air modes of transportation, this mode of transportation is more affordable and practical for international trade. A combination of pent-up demand being released, inventory replacement, and restocking led to a recovery in maritime commerce in 2021. Along with changes in purchasing habits and the growth of the e-commerce market, there was a movement in consumption patterns away from services and toward things like health products and pharmaceuticals as well as home office equipment. There was a lack of shipping capacity, containers, and equipment in 2021 due to the unexpected increase in demand following the dire circumstances in 2020 brought on by the epidemic. In order to close this supply-demand imbalance, several shipowners are turning to new-build purchases or the use of refurbished vessels.

The environment is always changing, making it very difficult to prevent data from being out of alignment or even missing in ports. The ability of ports to efficiently gather and exchange data will be hampered by any potential dead zones. Automated ports face this difficulty since, in contrast to conventional ones, they are unable to contain problems at particular tasks or steps in the process, demanding ongoing close coordination across operations. Every year, there are millions of cyberattacks and data

breaches, which is alarming for online safety. Security hasn't always been a key issue when a product is being designed because the idea of integrating physical objects with the internet is still a relatively new one. This problem is anticipated to be a significant one, particularly in ports where the materials handled are frequently valuable cargo. A number of businesses are also introducing goods without thoroughly testing them for secure connections in order to gain the first mover advantage, which creates a vulnerability for data breaches. The usage of hardcoded or default passwords, which can result in security breaches, is a significant problem for IoT security.

“The Internet of Things (IoT) segment, by technology, is expected to be the fastest growing market from 2022 to 2027”

There are four types of technology are used for the smart port the internet of things (IoT), blockchain, process automation, and artificial intelligence (AI). The internet of things(IoT) is a recent technology revolution that is mostly used in smart homes, smart cities, and also smart ports globally. As every smart port is completely automated and has featured an IoT smart port for all connected devices such as smart sensors, data centers, and wireless devices. There are many types of sensors like ultrasonic sensors, inertial sensors, imaging sensors, radars, and RFID readers which are widely used to collect data and transform the port into a smart port. Infrastructure that is the Internet of Things (IoT) enabled and container management that ensures IoT adoption across the maritime industry. In terms of performance monitors mounted to pumps, engines, or gates to acquire real-time data on speed and reliability of performance, smart ports with IoT can simplify repairs and maintenance. Additionally, a IoT of port can stop upcoming security vulnerabilities. creating an alert system that is cloud-connected and can aid in efficient loss prevention A integrity of data can be confirmed using digital seals at every security level to avoid theft.

“The extensively busy ports segment, by throughput capacity, is expected to be the largest market from 2022 to 2027”

The throughput capacity segments have three types includes extensively busy ports, moderately busy ports, and scarcely busy ports. A capacity of more than 19 million TEUs is handled annually by the extremely busy ports. China, Singapore, and South Korea are some of the regions with ports that are considered to be extremely active ports on a worldwide scale. These regions serve as important trade corridors. These ports have smart infrastructure and have made large investments in port features like terminal automation, cargo handling, smart infrastructure, safety, and security, and port community systems.

“Asia Pacific: The largest and the fastest growing region in the smart port market”

Asia Pacific is expected to dominate the global smart port market and is expected to grow at the highest CAGR between 2022–2027. Due to its abundance of raw resources and labor, the Asia Pacific region has recently become a center for global manufacturing. As a result of an increase in the export of manufactured and raw materials, there is a major increase in the demand for container ships in this region. Additionally, Asia accounted for the greatest portion of the world's maritime trade, which is predicted to grow and fuel demand for ships, according to the UNCTDA Review of Maritime Transport 2021. The Organization of Petroleum Exporting Countries+ (OPEC) members' cuts to oil supply, on the other hand, impacted the tanker trade because of low oil demand, excessive stocks, and low oil prices.

Breakdown of Primaries:

In-depth interviews have been conducted with various key industry participants, subject-matter experts, C-level executives of key market players, and industry consultants, among other experts, to obtain and verify critical qualitative and quantitative information, as well as to assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1- 40%, Tier 2- 35%, and Tier 3- 25%

By Designation: C-Level- 30%, D-Level- 20%, and Others- 50%

By Region: Asia Pacific– 60%, North America – 10%, Europe – 18%, Middle East & Africa – 8%, and South America– 4%

Note: “Others” include sales managers, engineers, and regional managers

The tiers of the companies are defined based on their total revenue as of 2021: Tier 1: >USD 1 billion, Tier 2: USD 500 million–1 billion, and Tier 3:

Contents

1 INTRODUCTION

1.1 STUDY OBJECTIVES

1.2 MARKET DEFINITION

1.3 INCLUSIONS AND EXCLUSIONS

1.3.1 SMART PORT MARKET, BY ELEMENT

1.3.2 SMART PORT MARKET, BY TECHNOLOGY

1.3.3 SMART PORT MARKET, BY THROUGHPUT CAPACITY

1.3.4 SMART PORT MARKET, BY PORT TYPE

1.3.5 SMART PORT MARKET, BY REGION

1.4 MARKET SCOPE

1.4.1 SMART PORT MARKET SEGMENTATION

1.4.2 REGIONAL SCOPE

1.4.3 YEARS CONSIDERED

1.5 CURRENCY CONSIDERED

1.6 LIMITATIONS

1.7 STAKEHOLDERS

1.8 SUMMARY OF CHANGES

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 1 SMART PORT MARKET: RESEARCH DESIGN

2.2 DATA TRIANGULATION

FIGURE 2 DATA TRIANGULATION METHODOLOGY

2.2.1 SECONDARY DATA

2.2.1.1 Key data from secondary sources

2.2.2 PRIMARY DATA

2.2.2.1 Breakdown of primaries

2.2.2.2 Key data from primary sources

2.2.2.3 Breakdown of primary interviews

FIGURE 3 BREAKDOWN OF PRIMARY INTERVIEWS: BY COMPANY TYPE, DESIGNATION, AND REGION

FIGURE 4 MAIN METRICS CONSIDERED WHILE ANALYZING AND ASSESSING DEMAND FOR SMART PORTS

2.3 MARKET SIZE ESTIMATION

2.3.1 BOTTOM-UP APPROACH

FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH

2.3.2 TOP-DOWN APPROACH

FIGURE 6 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH

2.3.3 DEMAND-SIDE ANALYSIS

2.3.4 REGIONAL ANALYSIS

2.3.5 COUNTRY-WISE ANALYSIS

2.3.5.1 Demand-side assumptions

2.3.5.2 Demand-side calculations

2.3.6 SUPPLY-SIDE ANALYSIS

FIGURE 7 KEY STEPS CONSIDERED FOR ASSESSING SUPPLY OF SMART PORTS

FIGURE 8 SMART PORT MARKET: SUPPLY-SIDE ANALYSIS

2.3.6.1 Supply-side calculations

2.3.6.2 Supply-side assumptions

2.3.7 FORECAST

3 EXECUTIVE SUMMARY

TABLE 1 SMART PORT MARKET SNAPSHOT

FIGURE 9 ASIA PACIFIC ACCOUNTED FOR LARGEST SHARE OF SMART PORT MARKET IN 2021

FIGURE 10 SMART PORT INFRASTRUCTURE SEGMENT, BY ELEMENT, TO LEAD SMART PORT MARKET FROM 2022 TO 2027

FIGURE 11 PROCESS AUTOMATION SEGMENT HELD LARGEST SIZE OF SMART PORT MARKET, BY TECHNOLOGY, IN 2022

FIGURE 12 EXTENSIVELY BUSY PORTS SEGMENT TO HOLD LARGEST SHARE OF SMART PORT MARKET, BY THROUGHPUT CAPACITY, FROM 2022 TO 2027

FIGURE 13 SEAPORT TO HOLD LARGER SHARE OF SMART PORT MARKET, BY PORT TYPE, FROM 2022 TO 2027

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES FOR SMART PORT MARKET PLAYERS

FIGURE 14 GROWING NEED TO INCREASE PORT EFFICIENCY WITH RISING MARITIME TRADE ON GLOBAL LEVEL TO DRIVE GROWTH OF SMART PORT MARKET FROM 2022 TO 2027

4.2 SMART PORT MARKET, BY REGION

FIGURE 15 SMART PORT MARKET IN ASIA PACIFIC TO REGISTER HIGHEST CAGR FROM 2022 TO 2027

4.3 SMART PORT MARKET IN ASIA PACIFIC, BY TECHNOLOGY AND COUNTRY
FIGURE 16 PROCESS AUTOMATION AND CHINA WERE LARGEST
SHAREHOLDERS IN SMART PORT MARKET IN ASIA PACIFIC IN 2021

4.4 SMART PORT MARKET, BY ELEMENT
FIGURE 17 SMART PORT INFRASTRUCTURE SEGMENT TO ACCOUNT FOR
LARGEST SHARE OF SMART PORT MARKET IN 2027

4.5 SMART PORT MARKET, BY TECHNOLOGY
FIGURE 18 INTERNET OF THINGS TECHNOLOGY TO ACCOUNT FOR LARGEST
SHARE OF SMART PORT MARKET IN 2027

4.6 SMART PORT MARKET, BY THROUGHPUT CAPACITY
FIGURE 19 EXTENSIVELY BUSY PORTS TO ACCOUNT FOR LARGEST SHARE OF
SMART PORT MARKET IN 2027

4.7 SMART PORT MARKET, BY PORT TYPE
FIGURE 20 SEAPORT TO ACCOUNT FOR LARGER SHARE OF SMART PORT
MARKET IN 2027

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 21 SMART PORT MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES,
AND CHALLENGES

5.2.1 DRIVERS

5.2.1.1 Increasing international maritime trade activities

FIGURE 22 GLOBAL MARITIME TRADE VOLUME, 2010–2022-P

5.2.1.2 Growing focus of maritime industry on decarbonization

FIGURE 23 TYPICAL CO₂ EMISSIONS PER TON OF CARGO TRANSPORTED ONE
KILOMETER

FIGURE 24 IMO GLOBAL SULFUR CAP

5.2.1.3 Rising use of real-time geospatial data to improve port operations

5.2.1.4 Surging adoption of Industry 4.0 to improve port efficiency

5.2.2 RESTRAINTS

5.2.2.1 Data breach issues reported by seaport clients

5.2.3 OPPORTUNITIES

5.2.3.1 Government initiatives to develop smart port infrastructure

5.2.3.2 Renovation of existing ports and development of new ports

TABLE 2 TOP FIVE PORT CONSTRUCTION PROJECTS GLOBALLY, 2022

5.2.4 CHALLENGES

5.2.4.1 Technological complexities and interaction of numerous systems

5.2.4.2 Requirement for high initial investment for development of ports

FIGURE 25 INVESTMENTS NEEDED IN VARIOUS INFRASTRUCTURES OF SMART PORTS (USD MILLION)

5.3 TRENDS/DISRUPTIONS IMPACTING BUSINESSES OF CUSTOMERS

5.3.1 REVENUE SHIFT AND NEW REVENUE POCKETS FOR MANUFACTURERS OF SMART PORTS

FIGURE 26 REVENUE SHIFT FOR SMART PORT MARKET

5.4 MARKET MAP

FIGURE 27 SMART PORT MARKET: MARKET MAP

TABLE 3 SMART PORT MARKET: ROLE IN ECOSYSTEM

5.5 VALUE CHAIN ANALYSIS

FIGURE 28 SMART PORT MARKET: VALUE CHAIN ANALYSIS

5.5.1 RESEARCH AND DEVELOPMENT ENGINEERS

5.5.2 TECHNOLOGY/SERVICE PROVIDERS

5.5.3 INTEGRATORS AND TESTING PROVIDERS

5.5.4 END-USERS

5.5.5 POST-SALES SUPPORT PROVIDERS

5.6 TECHNOLOGY ANALYSIS

5.6.1 DIFFERENT TECHNOLOGIES USED IN SMART PORTS

5.7 PRICING ANALYSIS

TABLE 4 AVERAGE SELLING PRICES OF COMPONENTS USED IN SMART PORTS, 2021

5.8 KEY CONFERENCES AND EVENTS, 2022–2024

TABLE 5 SMART PORT MARKET: DETAILED LIST OF CONFERENCES AND EVENTS

5.8.1 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 6 NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 7 EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 8 ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 9 ROW: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

5.8.2 CODES AND REGULATIONS RELATED TO SMART PORT MARKET

TABLE 10 SMART PORT MARKET: CODES AND REGULATIONS

5.9 INNOVATIONS AND PATENT REGISTRATIONS

TABLE 11 SMART PORT MARKET: INNOVATIONS AND PATENT REGISTRATIONS,

JUNE 2019–MAY 2022

5.10 PORTER'S FIVE FORCES ANALYSIS

FIGURE 29 PORTER'S FIVE FORCES ANALYSIS

TABLE 12 SMART PORT MARKET: PORTER'S FIVE FORCES ANALYSIS

5.10.1 THREAT OF SUBSTITUTES

5.10.2 BARGAINING POWER OF SUPPLIERS

5.10.3 BARGAINING POWER OF BUYERS

5.10.4 THREAT OF NEW ENTRANTS

5.10.5 INTENSITY OF COMPETITIVE RIVALRY

5.11 KEY STAKEHOLDERS AND BUYING CRITERIA

5.11.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 30 INFLUENCE OF KEY STAKEHOLDERS IN BUYING PROCESS FOR TOP THREE TECHNOLOGIES (%)

TABLE 13 INFLUENCE OF KEY STAKEHOLDERS IN BUYING PROCESS FOR TOP 3 TECHNOLOGIES

5.12 BUYING CRITERIA

FIGURE 31 INFLUENCE OF KEY STAKEHOLDERS IN BUYING PROCESS FOR TOP THREE TECHNOLOGIES

TABLE 14 KEY BUYING CRITERIA FOR TOP THREE TECHNOLOGIES

5.13 CASE STUDY ANALYSIS

5.13.1 CAVOTEC'S SHORE POWER SOLUTIONS REDUCE EMISSIONS AT SHIPPING PORTS

5.13.2 PORT OF ROTTERDAM IS TRANSFORMING ITSELF FROM BEING LARGEST TO SMARTEST, UTILIZING IBM DIGITAL TWIN TECHNOLOGY

6 SMART PORT MARKET, BY ELEMENT

6.1 INTRODUCTION

FIGURE 32 SMART PORT INFRASTRUCTURE SEGMENT ACCOUNTED FOR LARGEST SHARE OF MARKET IN 2021

TABLE 15 SMART PORT MARKET, BY ELEMENT, 2017–2019 (USD MILLION)

TABLE 16 SMART PORT MARKET, BY ELEMENT, 2020–2027 (USD MILLION)

6.2 SMART PORT INFRASTRUCTURE

6.2.1 GROWING MARITIME TRADE ACTIVITIES TO BOOST DEMAND FOR SMART PORT INFRASTRUCTURE

TABLE 17 SMART PORT INFRASTRUCTURE: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 18 SMART PORT INFRASTRUCTURE: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

TABLE 19 SMART PORT INFRASTRUCTURE: SMART PORT MARKET, BY TYPE, 2017–2019 (USD MILLION)

TABLE 20 SMART PORT INFRASTRUCTURE: SMART PORT MARKET, BY TYPE, 2020–2027 (USD MILLION)

6.3 TRAFFIC MANAGEMENT SYSTEMS

6.3.1 RISING PORT CONGESTION TO FUEL DEMAND FOR THESE SYSTEMS

TABLE 21 TRAFFIC MANAGEMENT SYSTEMS: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 22 TRAFFIC MANAGEMENT SYSTEMS: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

TABLE 23 TRAFFIC MANAGEMENT SYSTEMS: SMART PORT MARKET, BY TYPE, 2017–2019 (USD MILLION)

TABLE 24 TRAFFIC MANAGEMENT SYSTEMS: SMART PORT MARKET, BY TYPE, 2020–2027 (USD MILLION)

6.4 TERMINAL AUTOMATION & CARGO HANDLING

6.4.1 SURGING NEED FOR PROPER MANAGEMENT OF CONTAINER MOVEMENT TO DRIVE MARKET GROWTH

TABLE 25 FULLY AUTOMATED CONTAINER TERMINALS

TABLE 26 TERMINAL AUTOMATION & CARGO HANDLING: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 27 TERMINAL AUTOMATION & CARGO HANDLING: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

6.5 SMART SAFETY & SECURITY

6.5.1 INCREASING REQUIREMENT FOR HIGH SAFETY AND TECHNOLOGICAL INNOVATIONS TO DRIVE MARKET GROWTH

TABLE 28 SMART SAFETY & SECURITY: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 29 SMART SAFETY & SECURITY: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

6.6 PORT COMMUNITY SYSTEMS

6.6.1 SURGING NEED FOR SINGLE-WINDOW ENVIRONMENT TO DRIVE MARKET GROWTH

TABLE 30 PORT COMMUNITY SYSTEMS: INDUSTRIAL SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 31 PORT COMMUNITY SYSTEMS: INDUSTRIAL SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

7 SMART PORT MARKET, BY THROUGHPUT CAPACITY

7.1 INTRODUCTION

FIGURE 33 EXTENSIVELY BUSY PORTS DOMINATED SMART PORT MARKET IN 2021

TABLE 32 SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 33 SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

7.2 EXTENSIVELY BUSY PORTS

7.2.1 INCREASING SEA TRADE TO DRIVE MARKET

TABLE 34 EXTENSIVELY BUSY SMART PORTS, 2020 (MILLION TEU)

TABLE 35 EXTENSIVELY BUSY PORTS: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 36 EXTENSIVELY BUSY PORTS: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

7.3 MODERATELY BUSY PORTS

7.3.1 ADOPTION OF SMART TECHNOLOGIES IN PORTS TO BOOST MARKET

TABLE 37 MODERATELY BUSY SMART PORTS, 2020 (MILLION TEU)

TABLE 38 MODERATELY BUSY PORTS: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 39 MODERATELY BUSY PORTS: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

7.4 SCARCELY BUSY PORTS

7.4.1 GROWING NEED FOR PROCESS AUTOMATION AND DIGITALIZATION TO DRIVE MARKET

TABLE 40 SCARCELY BUSY SMART PORTS, 2020 (MILLION TEU)

TABLE 41 SCARCELY BUSY PORTS: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 42 SCARCELY BUSY PORTS: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

8 SMART PORT MARKET, BY TECHNOLOGY

8.1 INTRODUCTION

FIGURE 34 PROCESS AUTOMATION TECHNOLOGY ACCOUNTED FOR LARGEST SHARE OF SMART PORT MARKET IN 2021

TABLE 43 SMART PORT MARKET, BY TECHNOLOGY, 2017–2019 (USD MILLION)

TABLE 44 SMART PORT MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

8.2 PROCESS AUTOMATION

8.2.1 INCREASING GLOBAL TRADE TO PROPEL MARKET GROWTH

TABLE 45 PROCESS AUTOMATION: SMART PORT MARKET, BY REGION,
2017–2019 (USD MILLION)

TABLE 46 PROCESS AUTOMATION: SMART PORT MARKET, BY REGION,
2020–2027 (USD MILLION)

8.3 INTERNET OF THINGS

8.3.1 COMPETITIVE MARKET SCENARIO AND GROWING ADOPTION OF NEW
TECHNOLOGIES TO DRIVE MARKET

TABLE 47 INTERNET OF THINGS: SMART PORT MARKET, BY REGION, 2017–2019
(USD MILLION)

TABLE 48 INTERNET OF THINGS: SMART PORT MARKET, BY REGION, 2020–2027
(USD MILLION)

8.4 ARTIFICIAL INTELLIGENCE

8.4.1 SAFETY CONCERNS AND PROCESS AUTOMATION TREND TO CREATE
GROWTH OPPORTUNITIES

TABLE 49 ARTIFICIAL INTELLIGENCE: SMART PORT MARKET, BY REGION,
2017–2019 (USD MILLION)

TABLE 50 ARTIFICIAL INTELLIGENCE: SMART PORT MARKET, BY REGION,
2020–2027 (USD MILLION)

8.5 BLOCKCHAIN

8.5.1 RISING NEED FOR SECURE TRANSACTIONS AND TRANSPARENCY IN
SUPPLY CHAIN TO BOOST MARKET

TABLE 51 BLOCKCHAIN: SMART PORT MARKET, BY REGION, 2017–2019 (USD
MILLION)

TABLE 52 BLOCKCHAIN: SMART PORT MARKET, BY REGION, 2020–2027 (USD
MILLION)

9 SMART PORT MARKET, BY PORT TYPE

9.1 INTRODUCTION

FIGURE 35 SEAPORT SEGMENT DOMINATED SMART PORT MARKET IN 2021

TABLE 53 SMART PORT MARKET, BY PORT TYPE, 2017–2019 (USD MILLION)

TABLE 54 SMART PORT MARKET, BY PORT TYPE, 2020–2027 (USD MILLION)

9.2 SEAPORT

9.2.1 RISING SEABORNE TRADE ACTIVITIES TO BOOST MARKET GROWTH

TABLE 55 SEAPORT: SMART PORT MARKET, BY REGION, 2017–2019 (USD
MILLION)

TABLE 56 SEAPORT: SMART PORT MARKET, BY REGION, 2020–2027 (USD
MILLION)

9.3 INLAND PORT

9.3.1 INCREASING REQUIREMENT FOR INTERMODAL FACILITIES TO DRIVE MARKET GROWTH

TABLE 57 INLAND PORT: SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 58 INLAND PORT: SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

10 SMART PORT MARKET, BY REGION

10.1 INTRODUCTION

FIGURE 36 SMART PORT MARKET SHARE, BY REGION, 2021 (%)

FIGURE 37 SMART PORT MARKET IN ASIA PACIFIC TO REGISTER HIGHEST CAGR FROM 2022 TO 2027

TABLE 59 SMART PORT MARKET, BY REGION, 2017–2019 (USD MILLION)

TABLE 60 SMART PORT MARKET, BY REGION, 2020–2027 (USD MILLION)

10.2 ASIA PACIFIC

FIGURE 38 ASIA PACIFIC: SNAPSHOT OF SMART PORT MARKET

10.2.1 BY ELEMENT

TABLE 61 ASIA PACIFIC: SMART PORT MARKET, BY ELEMENT, 2017–2019 (USD MILLION))

TABLE 62 ASIA PACIFIC: SMART PORT MARKET, BY ELEMENT, 2020–2027 (USD MILLION)

10.2.2 BY TECHNOLOGY

TABLE 63 ASIA PACIFIC: SMART PORT MARKET, BY TECHNOLOGY, 2017–2019 (USD MILLION)

TABLE 64 ASIA PACIFIC: SMART PORT MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

10.2.3 BY THROUGHPUT CAPACITY

TABLE 65 ASIA PACIFIC: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 66 ASIA PACIFIC: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.2.4 BY PORT TYPE

TABLE 67 ASIA PACIFIC: SMART PORT MARKET, BY PORT TYPE, 2017–2019 (USD MILLION)

TABLE 68 ASIA PACIFIC: SMART PORT MARKET, BY PORT TYPE, 2020–2027 (USD MILLION)

10.2.5 BY COUNTRY

TABLE 69 ASIA PACIFIC: SMART PORT MARKET, BY COUNTRY, 2017–2019 (USD

MILLION)

TABLE 70 ASIA PACIFIC: SMART PORT MARKET, BY COUNTRY, 2020–2027 (USD MILLION)

10.2.5.1 China

10.2.5.1.1 Digitization and expansion of ports to fuel market growth

TABLE 71 CHINA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 72 CHINA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.2.5.2 Singapore

10.2.5.2.1 Increase in port capacities using digital technologies to drive market

TABLE 73 SINGAPORE: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 74 SINGAPORE: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.2.5.3 South Korea

10.2.5.3.1 Government-led investments in infrastructure development of seaports to drive growth

TABLE 75 SOUTH KOREA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 76 SOUTH KOREA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.2.5.4 Japan

10.2.5.4.1 Surging adoption of AI technology in ports to enhance operations

TABLE 77 JAPAN: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 78 JAPAN: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.2.5.5 Hong Kong

10.2.5.5.1 Growing maritime activities to boost smart port market

TABLE 79 HONG KONG: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 80 HONG KONG: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.2.5.6 Rest of Asia Pacific

TABLE 81 REST OF ASIA PACIFIC: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 82 REST OF ASIA PACIFIC: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.3 EUROPE

FIGURE 39 EUROPE: SNAPSHOT OF SMART PORT MARKET

10.3.1 BY ELEMENT

TABLE 83 EUROPE: SMART PORT MARKET, BY ELEMENT, 2017–2019 (USD MILLION)

TABLE 84 EUROPE: SMART PORT MARKET, BY ELEMENT, 2020–2027 (USD MILLION)

10.3.2 BY TECHNOLOGY

TABLE 85 EUROPE: SMART PORT MARKET, BY TECHNOLOGY, 2017–2019 (USD MILLION)

TABLE 86 EUROPE: SMART PORT MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

10.3.3 BY THROUGHPUT CAPACITY

TABLE 87 EUROPE: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 88 EUROPE: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.3.4 BY PORT TYPE

TABLE 89 EUROPE: SMART PORT MARKET, BY PORT TYPE, 2017–2019 (USD MILLION)

TABLE 90 EUROPE: SMART PORT MARKET, BY PORT TYPE, 2020–2027 (USD MILLION)

10.3.5 BY COUNTRY

TABLE 91 EUROPE: SMART PORT MARKET, BY COUNTRY, 2017–2019 (USD MILLION)

TABLE 92 EUROPE: SMART PORT MARKET, BY COUNTRY, 2020–2027 (USD MILLION)

10.3.5.1 Germany

10.3.5.1.1 High-tech and modern shipbuilding technologies to drive market

TABLE 93 GERMANY: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 94 GERMANY: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.3.5.2 Italy

10.3.5.2.1 Need for increasing port capacities through adoption of digital technologies to propel market

TABLE 95 ITALY: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 96 ITALY: SMART PORT MARKET, BY THROUGHPUT CAPACITY,

2020–2027 (USD MILLION)

10.3.5.3 UK

10.3.5.3.1 Increase in trade activities to drive demand for smart ports

TABLE 97 UK: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019
(USD MILLION)TABLE 98 UK: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027
(USD MILLION)

10.3.5.4 Netherlands

10.3.5.4.1 Digitalization of seaports to boost growth of maritime industry

TABLE 99 NETHERLANDS: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2017–2019 (USD MILLION)TABLE 100 NETHERLANDS: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2020–2027 (USD MILLION)

10.3.5.5 Rest of Europe

TABLE 101 REST OF EUROPE: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2017–2019 (USD MILLION)TABLE 102 REST OF EUROPE: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2020–2027 (USD MILLION)

10.4 NORTH AMERICA

10.4.1 BY ELEMENT

TABLE 103 NORTH AMERICA: SMART PORT MARKET, BY ELEMENT, 2017–2019
(USD MILLION)TABLE 104 NORTH AMERICA: SMART PORT MARKET, BY ELEMENT, 2020–2027
(USD MILLION)

10.4.2 BY TECHNOLOGY

TABLE 105 NORTH AMERICA: SMART PORT MARKET, BY TECHNOLOGY,
2017–2019 (USD MILLION)TABLE 106 NORTH AMERICA: SMART PORT MARKET, BY TECHNOLOGY,
2020–2027 (USD MILLION)

10.4.3 BY THROUGHPUT CAPACITY

TABLE 107 NORTH AMERICA: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2017–2019 (USD MILLION)TABLE 108 NORTH AMERICA: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2020–2027 (USD MILLION)

10.4.4 BY PORT TYPE

TABLE 109 NORTH AMERICA: SMART PORT MARKET, BY PORT TYPE, 2017–2019
(USD MILLION)TABLE 110 NORTH AMERICA: SMART PORT MARKET, BY PORT TYPE, 2020–2027
(USD MILLION)

10.4.5 BY COUNTRY

TABLE 111 NORTH AMERICA: SMART PORT MARKET, BY COUNTRY, 2017–2019
(USD MILLION)

TABLE 112 NORTH AMERICA: SMART PORT MARKET, BY COUNTRY, 2020–2027
(USD MILLION)

10.4.5.1 US

10.4.5.1.1 Increasing private investments in digital transformation of ports to drive market

TABLE 113 US: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019
(USD MILLION)

TABLE 114 US: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027
(USD MILLION)

10.4.5.2 Canada

10.4.5.2.1 Rising government funding for automation and expansion of seaports to boost market growth

TABLE 115 CANADA: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2017–2019 (USD MILLION)

TABLE 116 CANADA: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2020–2027 (USD MILLION)

10.4.5.3 Mexico

10.4.5.3.1 Growing focus on automation of seaports to create growth opportunities for market players

TABLE 117 MEXICO: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2017–2019 (USD MILLION)

TABLE 118 MEXICO: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2020–2027 (USD MILLION)

10.5 MIDDLE EAST & AFRICA

10.5.1 BY ELEMENT

TABLE 119 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY ELEMENT,
2017–2019 (USD MILLION)

TABLE 120 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY ELEMENT,
2020–2027 (USD MILLION)

10.5.2 BY TECHNOLOGY

TABLE 121 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY TECHNOLOGY,
2017–2019 (USD MILLION)

TABLE 122 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY TECHNOLOGY,
2020–2027 (USD MILLION)

10.5.3 BY THROUGHPUT CAPACITY

TABLE 123 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY THROUGHPUT

CAPACITY, 2017–2019 (USD MILLION)

TABLE 124 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2020–2027 (USD MILLION)

10.5.4 BY PORT TYPE

TABLE 125 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY PORT TYPE,
2017–2019 (USD MILLION)

TABLE 126 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY PORT TYPE,
2020–2027 (USD MILLION)

10.5.5 BY COUNTRY

TABLE 127 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY COUNTRY,
2017–2019 (USD MILLION)

TABLE 128 MIDDLE EAST & AFRICA: SMART PORT MARKET, BY COUNTRY,
2020–2027 (USD MILLION)

10.5.5.1 UAE

10.5.5.1.1 Increasing port expansion and automation activities to drive market

TABLE 129 UAE: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2017–2019 (USD MILLION)

TABLE 130 UAE: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2020–2027 (USD MILLION)

10.5.5.2 Saudi Arabia

10.5.5.2.1 Rising government policies for expansion of ports to create lucrative
opportunities

TABLE 131 SAUDI ARABIA: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2017–2019 (USD MILLION)

TABLE 132 SAUDI ARABIA: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2020–2027 (USD MILLION)

10.5.5.3 Kuwait

10.5.5.3.1 Rising focus on port development to fuel market growth

TABLE 133 KUWAIT: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2017–2019 (USD MILLION)

TABLE 134 KUWAIT: SMART PORT MARKET, BY THROUGHPUT CAPACITY,
2020–2027 (USD MILLION)

10.5.5.4 South Africa

10.5.5.4.1 Growing need for developed seaports to boost market

TABLE 135 SOUTH AFRICA: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2017–2019 (USD MILLION)

TABLE 136 SOUTH AFRICA: SMART PORT MARKET, BY THROUGHPUT
CAPACITY, 2020–2027 (USD MILLION)

10.5.6 REST OF MIDDLE EAST & AFRICA

TABLE 137 REST OF MIDDLE EAST & AFRICA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 138 REST OF MIDDLE EAST & AFRICA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.6 SOUTH AMERICA

10.6.1 BY ELEMENT

TABLE 139 SOUTH AMERICA: SMART PORT MARKET, BY ELEMENT, 2017–2019 (USD MILLION)

TABLE 140 SOUTH AMERICA: SMART PORT MARKET, BY ELEMENT, 2020–2027 (USD MILLION)

10.6.2 BY TECHNOLOGY

TABLE 141 SOUTH AMERICA: SMART PORT MARKET, BY TECHNOLOGY, 2017–2019 (USD MILLION)

TABLE 142 SOUTH AMERICA: SMART PORT MARKET, BY TECHNOLOGY, 2020–2027 (USD MILLION)

10.6.3 BY THROUGHPUT CAPACITY

TABLE 143 SOUTH AMERICA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 144 SOUTH AMERICA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.6.4 BY PORT TYPE

TABLE 145 SOUTH AMERICA: SMART PORT MARKET, BY PORT TYPE, 2017–2019 (USD MILLION)

TABLE 146 SOUTH AMERICA: SMART PORT MARKET, BY PORT TYPE, 2020–2027 (USD MILLION)

10.6.5 BY COUNTRY

TABLE 147 SOUTH AMERICA: SMART PORT MARKET, BY COUNTRY, 2017–2019 (USD MILLION)

TABLE 148 SOUTH AMERICA: SMART PORT MARKET, BY COUNTRY, 2020–2027 (USD MILLION)

10.6.5.1 Brazil

10.6.5.1.1 Increasing investments in seaport development to drive market

TABLE 149 BRAZIL: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 150 BRAZIL: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.6.6 CHILE

10.6.6.1 Growing adoption of digital technologies, port automation, and expansion by government to boost market growth

TABLE 151 CHILE: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 152 CHILE: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

10.6.7 REST OF SOUTH AMERICA

TABLE 153 REST OF SOUTH AMERICA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2017–2019 (USD MILLION)

TABLE 154 REST OF SOUTH AMERICA: SMART PORT MARKET, BY THROUGHPUT CAPACITY, 2020–2027 (USD MILLION)

11 COMPETITIVE LANDSCAPE

11.1 KEY PLAYERS STRATEGIES

TABLE 155 OVERVIEW OF KEY STRATEGIES DEPLOYED BY TOP PLAYERS, SEPTEMBER 2017–JUNE 2022

11.2 MARKET SHARE ANALYSIS OF TOP FIVE PLAYERS

TABLE 156 SMART PORT MARKET: DEGREE OF COMPETITION

FIGURE 40 SMART PORT MARKET SHARE ANALYSIS, 2021

11.3 REVENUE ANALYSIS OF TOP FIVE MARKET PLAYERS

FIGURE 41 TOP PLAYERS IN SMART PORT MARKET FROM 2017 TO 2021

11.4 COMPANY EVALUATION QUADRANT

11.4.1 STARS

11.4.2 PERVASIVE PLAYERS

11.4.3 EMERGING LEADERS

11.4.4 PARTICIPANTS

FIGURE 42 COMPETITIVE LEADERSHIP MAPPING: SMART PORT MARKET, 2021

11.5 START-UP/SME EVALUATION QUADRANT

11.5.1 PROGRESSIVE COMPANIES

11.5.2 RESPONSIVE COMPANIES

11.5.3 DYNAMIC COMPANIES

11.5.4 STARTING BLOCKS

FIGURE 43 SMART PORT MARKET: START-UP/SME EVALUATION QUADRANT, 2021

11.5.5 COMPETITIVE BENCHMARKING

TABLE 157 SMART PORT MARKET: DETAILED LIST OF KEY STARTUPS/SMES

TABLE 158 SMART PORT MARKET: DETAILED LIST OF KEY STARTUPS/SMES

11.6 SMART PORT MARKET: COMPANY FOOTPRINT

TABLE 159 COMPANY FOOTPRINT: BY ELEMENT

TABLE 160 COMPANY FOOTPRINT: BY TECHNOLOGY

TABLE 161 COMPANY FOOTPRINT: BY THROUGHPUT CAPACITY

TABLE 162 COMPANY FOOTPRINT: BY PORT TYPE

TABLE 163 COMPANY FOOTPRINT: BY REGION

TABLE 164 OVERALL-COMPANY FOOTPRINT

11.7 COMPETITIVE SCENARIO

TABLE 165 SMART PORT MARKET: PRODUCT LAUNCHES, MARCH
2019–FEBRUARY 2021

TABLE 166 SMART PORT MARKET: DEALS, NOVEMBER 2020– JUNE 2022

11.8 LIST OF KEY SMART PORTS, 2021

12 COMPANY PROFILES

(Business Overview, Products Offered, Recent Developments, MnM View Right to win, Strategic choices made, Weaknesses and competitive threats) *

12.1 INTRODUCTION

12.2 KEY PLAYERS

12.2.1 IBM

TABLE 167 IBM: COMPANY OVERVIEW

FIGURE 44 IBM: COMPANY SNAPSHOT

TABLE 168 IBM: PRODUCTS/SOLUTIONS/ SERVICES OFFERED

TABLE 169 IBM: DEALS

12.2.2 ACCENTURE

TABLE 170 ACCENTURE: COMPANY OVERVIEW

FIGURE 45 ACCENTURE: COMPANY SNAPSHOT

TABLE 171 ACCENTURE: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 172 ACCENTURE: DEALS

12.2.3 ABB

TABLE 173 ABB: COMPANY OVERVIEW

FIGURE 46 ABB: COMPANY SNAPSHOT

TABLE 174 ABB: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 175 ABB: PRODUCT LAUNCHES

TABLE 176 ABB: DEALS

12.2.4 SIEMENS

TABLE 177 SIEMENS: COMPANY OVERVIEW

FIGURE 47 SIEMENS: COMPANY SNAPSHOT

TABLE 178 SIEMENS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 179 SIEMENS: DEALS

12.2.5 GENERAL ELECTRIC

TABLE 180 GENERAL ELECTRIC: COMPANY OVERVIEW

FIGURE 48 GENERAL ELECTRIC: COMPANY SNAPSHOT

TABLE 181 GENERAL ELECTRIC: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 182 GENERAL ELECTRIC: DEALS

12.2.6 TRELLEBORG

TABLE 183 TRELLEBORG: COMPANY OVERVIEW

FIGURE 49 TRELLEBORG: COMPANY SNAPSHOT

TABLE 184 TRELLEBORG: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 185 TRELLEBORG: PRODUCT LAUNCHES

TABLE 186 TRELLEBORG: DEALS

12.2.7 ROYAL HASKONING

TABLE 187 ROYAL HASKONING: COMPANY OVERVIEW

FIGURE 50 ROYAL HASKONING: COMPANY SNAPSHOT

TABLE 188 ROYAL HASKONING: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 189 ROYAL HASKONING: PRODUCT LAUNCHES

TABLE 190 ROYAL HASKONING: DEALS

12.2.8 KALMAR

TABLE 191 KALMAR: COMPANY OVERVIEW

TABLE 192 KALMAR: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 193 KALMAR: PRODUCT LAUNCHES

TABLE 194 KALMAR: DEALS

12.2.9 WIPRO

TABLE 195 WIPRO: COMPANY OVERVIEW

FIGURE 51 WIPRO: COMPANY SNAPSHOT

TABLE 196 WIPRO: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 197 WIPRO: DEALS

12.2.10 RAMBOLL GROUP

TABLE 198 RAMBOLL GROUP: COMPANY OVERVIEW

FIGURE 52 RAMBOLL GROUP: COMPANY SNAPSHOT

TABLE 199 RAMBOLL GROUP: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 200 RAMBOLL GROUP: DEALS

12.2.11 MICROSOFT

TABLE 201 MICROSOFT: COMPANY OVERVIEW

FIGURE 53 MICROSOFT: COMPANY SNAPSHOT

TABLE 202 MICROSOFT: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 203 MICROSOFT: DEALS

12.2.12 TCS

TABLE 204 TCS: COMPANY OVERVIEW

FIGURE 54 TCS: COMPANY SNAPSHOT

TABLE 205 TCS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 206 TCS: DEALS

12.2.13 NAVIS

TABLE 207 NAVIS: COMPANY OVERVIEW

TABLE 208 NAVIS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 209 NAVIS: PRODUCT LAUNCHES

TABLE 210 NAVIS: DEALS

12.2.14 IKUSI VELATIA

TABLE 211 IKUSI VELATIA: COMPANY OVERVIEW

TABLE 212 IKUSI VELATIA: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 213 IKUSI VELATIA: DEALS

12.3 KEY CUSTOMER PROFILES

12.3.1 PORT OF ROTTERDAM

TABLE 214 PORT OF ROTTERDAM: COMPANY OVERVIEW

FIGURE 55 PORT OF ROTTERDAM: COMPANY SNAPSHOT

TABLE 215 PORT OF ROTTERDAM: PRODUCTS/SOLUTIONS/SERVICES
OFFERED

TABLE 216 PORT OF ROTTERDAM: PRODUCT LAUNCHES

TABLE 217 PORT OF ROTTERDAM: DEALS

12.3.2 APM TERMINALS

TABLE 218 APM TERMINALS: COMPANY OVERVIEW

TABLE 219 APM TERMINALS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 220 APM TERMINALS: PRODUCT LAUNCHES

TABLE 221 APM TERMINALS: DEALS

12.3.3 ABU DHABI PORTS

TABLE 222 ABU DHABI PORTS: COMPANY OVERVIEW

TABLE 223 ABU DHABI PORTS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 224 ABU DHABI PORTS: PRODUCT LAUNCHES

TABLE 225 ABU DHABI PORTS: DEALS

12.3.4 HUTCHISON PORTS

TABLE 226 HUTCHISON PORTS: COMPANY OVERVIEW

FIGURE 56 HUTCHISON PORTS: COMPANY SNAPSHOT

TABLE 227 HUTCHISON PORTS: PRODUCTS/SOLUTIONS/SERVICES OFFERED

TABLE 228 HUTCHISON PORTS: PRODUCT LAUNCHES

TABLE 229 HUTCHISON PORTS: DEALS

12.4 OTHER PLAYERS

12.4.1 BLOC.

12.4.2 SCIENTIFIC ENTERPRISES

12.4.3 NAUTIX

12.4.4 IOCURRENTS

12.4.5 PORT SOLUTIONS

*Details on Business Overview, Products Offered, Recent Developments, MnM View, Right to win, Strategic choices made, Weaknesses and competitive threats might not be captured in case of unlisted companies.

13 ADJACENT AND RELATED MARKETS

13.1 INTRODUCTION

13.2 LIMITATIONS

13.3 SMART PORT INTERCONNECTED MARKETS

13.4 ARTIFICIAL INTELLIGENCE MARKET

13.4.1 MARKET DEFINITION

13.4.2 MARKET OVERVIEW

13.4.2.1 Growth of data-based AI and advancement in deep learning

13.4.2.2 Need to achieve robotic autonomy to stay competitive in a global market

13.4.3 ARTIFICIAL INTELLIGENCE MARKET, BY TECHNOLOGY

13.4.3.1 Machine learning

TABLE 230 ARTIFICIAL INTELLIGENCE MARKET SIZE, BY MACHINE LEARNING, 2015–2020 (USD BILLION)

TABLE 231 ARTIFICIAL INTELLIGENCE MARKET SIZE, BY MACHINE LEARNING, 2021–2026 (USD BILLION)

TABLE 232 MACHINE LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 233 MACHINE LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.4.4 DEEP LEARNING

TABLE 234 DEEP LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 235 DEEP LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.4.5 SUPERVISED LEARNING

TABLE 236 SUPERVISED LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 237 SUPERVISED LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.4.6 UNSUPERVISED LEARNING

TABLE 238 UNSUPERVISED LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 239 UNSUPERVISED LEARNING: ARTIFICIAL INTELLIGENCE MARKET

SIZE, BY REGION, 2021–2026 (USD BILLION)

13.4.7 REINFORCEMENT LEARNING

TABLE 240 REINFORCEMENT LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 241 REINFORCEMENT LEARNING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.4.8 OTHER TECHNOLOGY

TABLE 242 OTHER TECHNOLOGY: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 243 OTHER TECHNOLOGY: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.5 NATURAL LANGUAGE PROCESSING

TABLE 244 NATURAL LANGUAGE PROCESSING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 245 NATURAL LANGUAGE PROCESSING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.6 CONTEXT-AWARE COMPUTING

TABLE 246 CONTEXT-AWARE COMPUTING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 247 CONTEXT-AWARE COMPUTING: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.7 COMPUTER VISION

TABLE 248 COMPUTER VISION: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 249 COMPUTER VISION: ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.7.1 ARTIFICIAL INTELLIGENCE MARKET, BY REGION

TABLE 250 ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2015–2020 (USD BILLION)

TABLE 251 ARTIFICIAL INTELLIGENCE MARKET SIZE, BY REGION, 2021–2026 (USD BILLION)

13.8 BLOCKCHAIN SUPPLY CHAIN MARKET

13.8.1 MARKET DEFINITION

13.8.2 MARKET OVERVIEW

13.8.2.1 Increasing popularity of blockchain technology in retail and SCM

13.8.2.2 Growing need for supply chain transparency

13.8.3 BLOCKCHAIN SUPPLY CHAIN MARKET, BY APPLICATION

13.9 ASSET TRACKING

TABLE 252 ASSET TRACKING: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY

REGION, 2014–2019 (USD MILLION)

TABLE 253 ASSET TRACKING: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2019–2026 (USD MILLION)

13.10 COUNTERFEIT DETECTION

TABLE 254 COUNTERFEIT DETECTION: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2014–2019 (USD MILLION)

TABLE 255 COUNTERFEIT DETECTION: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2019–2026 (USD MILLION)

13.11 PAYMENT AND SETTLEMENT

TABLE 256 PAYMENT AND SETTLEMENT: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2014–2019 (USD MILLION)

TABLE 257 PAYMENT AND SETTLEMENT: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2019–2026 (USD MILLION)

13.12 SMART CONTRACTS

TABLE 258 SMART CONTRACTS: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2014–2019 (USD MILLION)

TABLE 259 SMART CONTRACTS: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2019–2026 (USD MILLION)

13.13 RISK AND COMPLIANCE MANAGEMENT

TABLE 260 RISK AND COMPLIANCE MANAGEMENT: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, 2014–2019 (USD MILLION)

TABLE 261 RISK AND COMPLIANCE MANAGEMENT: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2019–2026 (USD MILLION)

13.14 OTHER APPLICATIONS

TABLE 262 OTHER APPLICATIONS: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2014–2019 (USD MILLION)

TABLE 263 OTHER APPLICATIONS: BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2020–2026 (USD MILLION)

13.15 BLOCKCHAIN SUPPLY CHAIN MARKET, BY REGION

TABLE 264 BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2014–2019 (USD MILLION)

TABLE 265 BLOCKCHAIN SUPPLY CHAIN MARKET SIZE, BY REGION, 2019–2026 (USD MILLION)

14 APPENDIX

14.1 INSIGHTS OF INDUSTRY EXPERTS

14.2 DISCUSSION GUIDE

14.3 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

14.4 CUSTOMIZATION OPTIONS

14.5 RELATED REPORTS

14.6 AUTHOR DETAILS

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