

**Cryogenic Equipment Market by Equipment (Tanks, Valves, Vaporizers, Pumps),  
Cryogen (Nitrogen, Argon, Oxygen, LNG, Hydrogen), End-user Industry (Energy &  
Power, Chemical, Metallurgy, Transportation), System Type, Application & Region -  
Forecast to 2028**

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**Report description:**

The global cryogenic equipment market is estimated to grow from USD 11.9 Billion in 2023 to USD 16.6 Billion by 2028; it is expected to record a CAGR of 6.9% during the forecast period. The growth is attributed to the factors such as Increasing utilization of industrial gases in metallurgy, oil & gas, and energy & power industries. Growing popularity of liquefied natural gas as source of clean and efficient energy has driven the growth of cryogenic equipment market.

"Metallurgy: The largest segment of the cryogenic equipment market, by end-user industry "

Based on end-user industry, the cryogenic equipment market has been split into six types: metallurgy, energy & power, chemical, electronics, transportation, and other end-user industries. The metallurgy segment is expected to be the largest segment during the forecast period. In the metallurgy industry, processes such as metal forming, fabrication, welding, and combustion require industrial gases such as oxygen, nitrogen, argon, and hydrogen. The research and innovations associated with the development of high-strength and high-conductivity alloys for non-rare-earth induction motors used in EVs, metals with high rigidity and stiffness for use in industrial applications, new composites such as highly conducting carbon nanotubes to enhance the efficiency of electrical energy transport, and new corrosion protection systems for marine and offshore applications are also expected to create a high demand for cryogenic equipment in the metallurgy industry.

"Storage system segment is expected to be the largest segment during the forecast period based on system type."

By system type, the cryogenic equipment market has been segmented into storage system, handling system, supply system, and others. The storage system segment is expected to hold the largest market share during the forecast period. The large market share and the high growth rate of this segment can be attributed to the lucrative growth opportunities provided by the expanding

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aerospace industry and technological advancements in cryogenic energy storage (CES) systems.

"By application, the CASU segment is expected to be the largest segment during the forecast period."

Based on the application, the cryogenic equipment market is segmented into cryogenic air system unit (CASU) and a non-cryogenic air system unit (non-CASU). The CASU segment is expected to be the largest segment of the cryogenic equipment market during the forecast period. Cryogenic ASUs are specialized equipment that use cryogenic refrigeration and distillation techniques to separate air from its individual components. The main products obtained using CASUs are typically oxygen and nitrogen, with small amounts of argon and other trace gases. The rising demand for CASUs can be attributed to higher requirements for high-purity oxygen, nitrogen, and argon in industries such as healthcare, manufacturing, and electronics.

"Europe is expected to be the second-largest region in the cryogenic equipment market."

Europe is expected to be the second-largest region in the cryogenic equipment market during the forecast period. The region has been segmented, by country, into Russia, the UK, Germany, France, and Rest of Europe. The market in Rest of Europe is primarily studied for the Netherlands, Italy, Norway, Sweden, Denmark, and Finland. The European market is mainly influenced by the modernization of Germany's healthcare industry and France's commitment to achieving net-zero emissions. the increasing investments in LNG exports are likely to create requirement for cryogenic equipment in the transportation industry, especially the shipping sector, thereby providing a lucrative growth opportunity for cryogenic equipment providers in the region.

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 and assess future market prospects. The distribution of primary interviews is as follows:

By Company Type: Tier 1- 65%, Tier 2- 24%, and Tier 3- 11%

By Designation: C-Level- 30%, Director Level- 25%, and Others- 45%

By Region: North America- 27%, Europe- 20%, Asia Pacific- 33%, South America- 12%, The Middle East- 4% and Africa- 4%,

Note: Others include sales managers, engineers, and regional managers.

Note: The tiers of the companies are defined on the basis of their total revenues as of 2022. Tier 1: > USD 1 billion, Tier 2: From USD 500 million to USD 1 billion, and Tier 3: < USD 500 million

The cryogenic equipment market is dominated by a few major players that have a wide regional presence. The leading players in the cryogenic equipment market are Linde plc (Ireland); Air Liquide (France); Air Products and Chemicals, Inc. (US); Chart Industries (US); and Parker Hannifin Corp. (US). The major strategy adopted by the players includes contracts & agreements, partnerships, mergers and acquisitions, and investments & expansions.

Research Coverage:

The report defines, describes, and forecasts the global cryogenic equipment market by type, mechanism, application, well type, and region. It also offers a detailed qualitative and quantitative analysis of the market. The report comprehensively reviews the major market drivers, restraints, opportunities, and challenges. It also covers various important aspects of the market. These include an analysis of the competitive landscape, market dynamics, market estimates in terms of value, and future trends in the cryogenic equipment market.

Key Benefits of Buying the Report

-□Post-COVID-19 recovery and the global energy crisis have significantly boosted clean energy investments, outpacing fossil fuel investments (24% in 2023 vs. 15% in 2021, according to the IEA World Energy Investment 2023 report). The Ukraine conflict's impact on fossil fuel markets has further accelerated investments in cleaner energy sources such as LNG and hydrogen.

Consequently, the clean energy transition is reshaping the energy landscape and driving demand for cryogenic equipment.

-□Product Development/ Innovation: The cryogenic equipment market is witnessing significant product development and innovation, driven by the growing demand for cryogenic equipment systems in the metallurgy industries. Companies are investing in developing advanced cryogenic equipments.

-□Market Development: INOX India Limited built an LNG facility in Tamil Nadu, which comprises 2 x 113 KL LNG tanks, regas system with a capacity of 5,000 SCMH @ 22 Bar pressure and associated equipment was supplied by INOXCVA on a turnkey basis in a record time.

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-**Market Diversification:** Chart Industries collaborated with 8 Rivers Capital, a North Carolina-based clean energy and climate technology company, to grab commercial opportunities for hydrogen technology and solutions. This collaboration includes developing equipment for 8 Rivers technologies backed up by Chart's decades of experience in designing and manufacturing cryogenic, compression, and process technologies, and help 8 Rivers in delivering reliable and cost-effective solutions to its customers. The companies will work together to identify and develop commercial opportunities to integrate Chart offerings into 8 Rivers's projects.

-**Competitive Assessment:** In-depth assessment of market shares, growth strategies, and service offerings of leading players, like Linde plc (Ireland); Air Liquide (France); Air Products and Chemicals, Inc. (US); Chart Industries (US); and Parker Hannifin Corp. (US), among others in the cryogenic equipment market.

## **Table of Contents:**

1	INTRODUCTION	39
1.1	STUDY OBJECTIVES	39
1.2	MARKET DEFINITION	39
1.3	INCLUSIONS AND EXCLUSIONS	40
1.4	MARKET SCOPE	41
1.4.1	CRYOGENIC EQUIPMENT MARKET SEGMENTATION	41
1.4.2	REGIONAL SCOPE	42
1.4.3	YEARS CONSIDERED	42
1.5	CURRENCY CONSIDERED	43
1.6	LIMITATIONS	43
1.7	STAKEHOLDERS	43
1.8	SUMMARY OF CHANGES	43
1.8.1	IMPACT OF RECESSION	44
2	RESEARCH METHODOLOGY	45
2.1	RESEARCH DATA	45
FIGURE 1	CRYOGENIC EQUIPMENT MARKET: RESEARCH DESIGN	46
2.2	MARKET BREAKDOWN AND DATA TRIANGULATION	47
FIGURE 2	DATA TRIANGULATION METHODOLOGY	47
2.2.1	SECONDARY DATA	48
2.2.1.1	Key data from secondary sources	48
2.2.2	PRIMARY DATA	48
2.2.2.1	Key data from primary sources	49
2.2.2.2	Breakdown of primaries	49
FIGURE 3	BREAKDOWN OF PRIMARIES: BY COMPANY TYPE, DESIGNATION, AND REGION	50
2.3	MARKET SIZE ESTIMATION	50
2.3.1	BOTTOM-UP APPROACH	50
FIGURE 4	CRYOGENIC EQUIPMENT MARKET: BOTTOM-UP APPROACH	51
2.3.2	TOP-DOWN APPROACH	51
FIGURE 5	CRYOGENIC EQUIPMENT MARKET: TOP-DOWN APPROACH	52
2.3.3	DEMAND-SIDE ANALYSIS	52
2.3.3.1	Demand-side metrics	53
FIGURE 6	METRICS CONSIDERED FOR ANALYZING AND ASSESSING DEMAND FOR CRYOGENIC EQUIPMENT	53
2.3.3.2	Assumptions for demand-side analysis	53
2.3.4	SUPPLY-SIDE ANALYSIS	54
FIGURE 7	KEY METRICS CONSIDERED FOR ASSESSING SUPPLY OF CRYOGENIC EQUIPMENT	54
FIGURE 8	CRYOGENIC EQUIPMENT MARKET: SUPPLY-SIDE ANALYSIS	55

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2.3.4.1	Calculations for supply side	55
2.3.4.2	Assumptions for supply-side analysis	55
2.3.5	FORECAST	56
2.3.5.1	Recession impact	56
3	EXECUTIVE SUMMARY	57
TABLE 1	CRYOGENIC EQUIPMENT MARKET SNAPSHOT	58
FIGURE 9	TANKS TO DOMINATE CRYOGENIC EQUIPMENT MARKET THROUGHOUT FORECAST PERIOD	59
FIGURE 10	NITROGEN TO ACCOUNT FOR LARGEST SHARE OF CRYOGENIC EQUIPMENT MARKET IN 2028	59
FIGURE 11	ELECTRONICS INDUSTRY TO HOLD MAJORITY OF MARKET SHARE IN 2028	60
FIGURE 12	CASU APPLICATIONS TO HOLD LARGER SHARE OF CRYOGENIC EQUIPMENT MARKET IN 2028	60
FIGURE 13	STORAGE SYSTEMS TO LEAD CRYOGENIC EQUIPMENT MARKET THROUGHOUT FORECAST PERIOD	61
FIGURE 14	ASIA PACIFIC DOMINATED CRYOGENIC EQUIPMENT MARKET IN 2022	61
4	PREMIUM INSIGHTS	63
4.1	ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN CRYOGENIC EQUIPMENT MARKET	63
FIGURE 15	UTILIZATION OF INDUSTRIAL GASES IN METALLURGY AND ENERGY & POWER INDUSTRIES TO DRIVE MARKET	63
4.2	CRYOGENIC EQUIPMENT MARKET, BY REGION	64
FIGURE 16	ASIA PACIFIC TO REGISTER HIGHEST CAGR IN CRYOGENIC EQUIPMENT MARKET DURING FORECAST PERIOD	64
4.3	CRYOGENIC EQUIPMENT MARKET IN ASIA PACIFIC, BY CRYOGEN AND COUNTRY	65
FIGURE 17	NITROGEN AND CHINA HELD LARGEST SHARE OF ASIA PACIFIC CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN AND COUNTRY, RESPECTIVELY, IN 2022	65
4.4	CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT	66
FIGURE 18	TANKS HELD LARGEST SHARE OF GLOBAL CRYOGENIC EQUIPMENT MARKET IN 2022	66
4.5	CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN	66
FIGURE 19	NITROGEN SEGMENT CAPTURED MAJORITY OF MARKET SHARE IN 2022	66
4.6	CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY	67
FIGURE 20	METALLURGY INDUSTRY ACCOUNTED FOR LARGEST SHARE OF CRYOGENIC EQUIPMENT MARKET IN 2022	67
4.7	CRYOGENIC EQUIPMENT MARKET, BY APPLICATION	67
FIGURE 21	CASU APPLICATIONS DOMINATED CRYOGENIC EQUIPMENT MARKET IN 2022	67
4.8	CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE	67
FIGURE 22	STORAGE SYSTEMS DOMINATED CRYOGENIC EQUIPMENT MARKET IN 2022	67
5	MARKET OVERVIEW	68
5.1	INTRODUCTION	68
5.2	MARKET DYNAMICS	68
FIGURE 23	CRYOGENIC EQUIPMENT MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES	68
5.2.1	DRIVERS	69
5.2.1.1	Increasing utilization of industrial gases in metallurgy, oil & gas, and energy & power industries	69
FIGURE 24	GLOBAL OIL DEMAND, 2019-2028	70
TABLE 2	GLOBAL OIL DEMAND (OECD VS. NON-OECD), 2021-2028	70
5.2.1.2	Growing popularity of liquefied natural gas as source of clean and efficient energy	70
5.2.1.3	Rapid transition toward clean energy	71
FIGURE 25	GLOBAL CLEAN ENERGY INVESTMENTS, 2015-2023	72
5.2.2	RESTRAINTS	72
5.2.2.1	High CAPEX and OPEX costs associated with cryogenic plants	72
5.2.2.2	Volatile raw material and metal prices and significant competition from gray market players	73
FIGURE 26	IRON ORE PRICING TREND, 2016-2023	73
5.2.3	OPPORTUNITIES	73
5.2.3.1	Launch of new space and satellite missions	73

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5.2.3.2	Evolving applications of cryogenic electronics	74
5.2.3.3	Development of hydrogen economy	75
5.2.4	CHALLENGES	75
5.2.4.1	Hazards and greenhouse gas emissions resulting from leakage of cryogenic fluids	75
5.2.4.2	Supply chain disruptions due to Russia-Ukraine war	76
5.3	TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS	77
FIGURE 27	TRENDS AND DISRUPTIONS IMPACTING CUSTOMER BUSINESS	77
5.4	PRICING ANALYSIS	78
5.4.1	INDICATIVE PRICING ANALYSIS, BY EQUIPMENT	78
TABLE 3	CRYOGENIC EQUIPMENT: INDICATIVE PRICING ANALYSIS, 2022	78
5.4.2	AVERAGE SELLING PRICE TREND, BY REGION	78
TABLE 4	CRYOGENIC EQUIPMENT: AVERAGE SELLING PRICE TREND, 2022	78
5.5	SUPPLY CHAIN ANALYSIS	79
FIGURE 28	CRYOGENIC EQUIPMENT MARKET: SUPPLY CHAIN ANALYSIS	79
5.5.1	CRYOGENIC EQUIPMENT RAW MATERIAL SUPPLIERS	79
5.5.2	CRYOGENIC EQUIPMENT MANUFACTURERS	79
5.5.3	INDUSTRIAL GAS MANUFACTURERS	79
5.5.4	END USERS	79
5.6	ECOSYSTEM/MARKET MAP	80
TABLE 5	ROLE OF PLAYERS IN ECOSYSTEM	80
5.7	TECHNOLOGY ANALYSIS	80
5.8	PATENT ANALYSIS	82
FIGURE 29	INNOVATIONS AND PATENT REGISTRATIONS PERTAINING TO CRYOGENIC EQUIPMENT, 2018-2022	82
5.8.1	LIST OF MAJOR PATENTS	83
5.9	TRADE ANALYSIS	83
5.9.1	HS CODE 280430	83
5.9.1.1	Nitrogen export scenario	83
TABLE 6	EXPORT DATA FOR HS CODE 280430, BY COUNTRY, 2020-2022 (USD THOUSAND)	83
FIGURE 30	NITROGEN EXPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	84
5.9.1.2	Nitrogen import scenario	84
TABLE 7	IMPORT SCENARIO FOR HS CODE 280430, BY COUNTRY, 2020-2022 (USD THOUSAND)	84
FIGURE 31	NITROGEN IMPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	85
5.9.2	HS CODE 280421	85
5.9.2.1	Argon export scenario	85
TABLE 8	EXPORT DATA FOR HS CODE 280421, BY COUNTRY, 2020-2022 (USD THOUSAND)	85
FIGURE 32	ARGON EXPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	86
5.9.2.2	Argon import scenario	86
TABLE 9	IMPORT SCENARIO FOR HS CODE 280421, BY COUNTRY, 2020-2022 (USD THOUSAND)	86
FIGURE 33	ARGON IMPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	87
5.9.3	HS CODE 280440	87
5.9.3.1	Oxygen export scenario	87
TABLE 10	EXPORT DATA FOR HS CODE 280440, BY COUNTRY, 2020-2022 (USD THOUSAND)	87
FIGURE 34	OXYGEN EXPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	88
5.9.3.2	Oxygen import scenario	88
TABLE 11	IMPORT SCENARIO FOR HS CODE 280440, BY COUNTRY, 2020-2022 (USD THOUSAND)	88
FIGURE 35	OXYGEN IMPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	89
5.9.4	HS CODE 271111	89

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5.9.4.1	LNG export scenario	89
TABLE 12	EXPORT DATA FOR HS CODE 271111, BY COUNTRY, 2020-2022 (USD THOUSAND)	89
FIGURE 36	LNG EXPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	90
5.9.4.2	LNG import scenario	90
TABLE 13	IMPORT SCENARIO FOR HS CODE 271111, BY COUNTRY, 2020-2022 (USD THOUSAND)	90
FIGURE 37	LNG IMPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	91
5.9.5	HS CODE 280410	91
5.9.5.1	Hydrogen export scenario	91
TABLE 14	EXPORT DATA FOR HS CODE 280410, BY COUNTRY, 2020-2022 (USD THOUSAND)	91
FIGURE 38	HYDROGEN EXPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	92
5.9.5.2	Hydrogen import scenario	92
TABLE 15	IMPORT SCENARIO FOR HS CODE 280410, BY COUNTRY, 2020-2022 (USD THOUSAND)	92
FIGURE 39	HYDROGEN IMPORT DATA FOR TOP 5 COUNTRIES, 2020-2022 (USD THOUSAND)	93
5.10	KEY CONFERENCES AND EVENTS, 2023-2024	93
TABLE 16	CRYOGENIC EQUIPMENT MARKET: LIST OF CONFERENCES AND EVENTS	93
5.11	TARIFFS AND REGULATORY LANDSCAPE	95
5.11.1	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	95
TABLE 17	NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	95
TABLE 18	EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	95
TABLE 19	GLOBAL: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	95
5.11.2	CRYOGENIC EQUIPMENT MARKET: REGULATORY FRAMEWORK	96
5.12	PORTER'S FIVE FORCES ANALYSIS	97
FIGURE 40	CRYOGENIC EQUIPMENT MARKET: PORTER'S FIVE FORCES ANALYSIS	97
TABLE 20	CRYOGENIC EQUIPMENT MARKET: PORTER'S FIVE FORCES ANALYSIS	97
5.12.1	THREAT OF NEW ENTRANTS	98
5.12.2	BARGAINING POWER OF SUPPLIERS	98
5.12.3	BARGAINING POWER OF BUYERS	98
5.12.4	THREAT OF SUBSTITUTES	98
5.12.5	INTENSITY OF COMPETITIVE RIVALRY	99
5.13	CASE STUDY ANALYSIS	99
5.13.1	PHARMACEUTICAL INGREDIENT MANUFACTURER ADOPTED AFCRYO'S CRYOCUBE PRODUCT TO RECEIVE SECURE SUPPLY OF PHARMACOPOEIA-COMPLIANT LIQUID AND GAS	99
5.14	MAJOR PHARMACEUTICAL COMPANY INTRODUCED COMPREHENSIVE CRYOGENIC SOLUTION TO REVOLUTIONIZE COLD CHAIN MANAGEMENT	100
5.14.1	RESEARCH INSTITUTE DEVELOPED CRYOGENIC SOLUTION FOR SPECIMEN PRESERVATION	100
5.15	KEY STAKEHOLDERS AND BUYING CRITERIA	101
5.15.1	KEY STAKEHOLDERS IN BUYING PROCESS	101
FIGURE 41	INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 3 END-USER INDUSTRIES	101
TABLE 21	INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 3 END-USER INDUSTRIES (%)	101
5.15.2	BUYING CRITERIA	102
FIGURE 42	KEY BUYING CRITERIA FOR TOP 3 END-USER INDUSTRIES	102
TABLE 22	KEY BUYING CRITERIA FOR TOP 3 END-USER INDUSTRIES	102
6	CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT	103
6.1	INTRODUCTION	104
FIGURE 43	CRYOGENIC EQUIPMENT MARKET SHARE, BY EQUIPMENT, 2022	104
TABLE 23	CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2018-2022 (USD MILLION)	104
TABLE 24	CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2023-2028 (USD MILLION)	105

TABLE 25	CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2018-2022 (THOUSAND UNITS)	105
TABLE 26	CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2023-2028 (THOUSAND UNITS)	105
6.2	TANKS	106
6.2.1	INCREASING LNG PRODUCTION TO FUEL DEMAND FOR CRYOGENIC TANKS	106
TABLE 27	TANKS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	106
TABLE 28	TANKS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	107
6.3	VALVES	107
6.3.1	HIGH DEMAND FOR INDUSTRIAL GASES FROM AEROSPACE AND ELECTRONICS COMPANIES TO DRIVE MARKET	107
TABLE 29	VALVES: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	108
TABLE 30	VALVES: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	108
6.4	VAPORIZERS	108
6.4.1	GROWING CONSUMPTION OF INDUSTRIAL GASES ACROSS END-USER INDUSTRIES TO BOOST DEMAND FOR CRYOGENIC VAPORIZERS	108
TABLE 31	VAPORIZERS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	109
TABLE 32	VAPORIZERS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	109
6.5	PUMPS	110
6.5.1	INCREASING USE OF LNG AS BUNKER FUEL TO CREATE REQUIREMENT FOR CRYOGENIC PUMPS	110
TABLE 33	PUMPS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	110
TABLE 34	PUMPS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	111
6.6	OTHER EQUIPMENT	111
TABLE 35	OTHER EQUIPMENT: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	112
TABLE 36	OTHER EQUIPMENT: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	112
7	CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN	113
7.1	INTRODUCTION	114
FIGURE 44	CRYOGENIC EQUIPMENT MARKET SHARE, BY CRYOGEN, 2022	114
TABLE 37	CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	114
TABLE 38	CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	115
7.2	NITROGEN	115
7.2.1	HIGH ADOPTION OF NITROGEN IN ENERGY & POWER SECTOR TO BOOST DEMAND FOR CRYOGENIC EQUIPMENT	115
TABLE 39	NITROGEN: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	115
TABLE 40	NITROGEN: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	116
7.3	ARGON	116
7.3.1	RIISING DEMAND FOR ELECTRONICS TO LEAD TO HIGH REQUIREMENT FOR ARGON-HANDLING CRYOGENIC EQUIPMENT	116
TABLE 41	ARGON: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	117
TABLE 42	ARGON: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	117
7.4	OXYGEN	117
7.4.1	INCREASING STEEL AND IRON PRODUCTION TO CREATE HIGH DEMAND FOR OXYGEN-RELATED CRYOGENIC EQUIPMENT	117
TABLE 43	OXYGEN: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	118
TABLE 44	OXYGEN: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	118
7.5	LNG	118
7.5.1	RIISING USE OF LNG AS CLEANER ENERGY SOURCE TO ACCELERATE DEMAND FOR CRYOGENIC EQUIPMENT	118
TABLE 45	LNG: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	119
TABLE 46	LNG: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	119
7.6	HYDROGEN	119
7.6.1	GROWING IMPLEMENTATION OF HYDROGEN FUEL CELLS IN TRANSPORTATION AND ENERGY APPLICATIONS TO FUEL MARKET GROWTH	119
TABLE 47	HYDROGEN: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	120

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TABLE 48	HYDROGEN: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	120
7.7	OTHER CRYOGENS	121
TABLE 49	OTHER CRYOGENS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	121
TABLE 50	OTHER CRYOGENS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	121
8	CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY	122
8.1	INTRODUCTION	123
FIGURE 45	CRYOGENIC EQUIPMENT MARKET SHARE, BY END-USER INDUSTRY, 2022	123
TABLE 51	CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	123
TABLE 52	CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	124
8.2	METALLURGY	124
8.2.1	ADOPTION OF CRYOGENIC EQUIPMENT IN WELDING, FABRICATION, AND COOLING PROCESSES TO BOOST SEGMENTAL GROWTH	124
TABLE 53	METALLURGY: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	125
TABLE 54	METALLURGY: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	125
TABLE 55	METALLURGY: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	126
TABLE 56	METALLURGY: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	126
8.3	ENERGY & POWER	126
8.3.1	NEED TO IMPROVE EFFICIENCY AND CAPACITY OF POWER TRANSMISSION AND DISTRIBUTION SYSTEMS TO ACCELERATE DEMAND FOR CRYOGENIC EQUIPMENT	126
TABLE 57	ENERGY & POWER: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	127
TABLE 58	ENERGY & POWER: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	128
TABLE 59	ENERGY & POWER: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	128
TABLE 60	ENERGY & POWER: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	128
8.4	CHEMICAL	129
8.4.1	REQUIREMENT TO STORE VOLATILE AND REACTIVE CHEMICALS FOR EXTENDED PERIOD TO BOOST DEMAND FOR CRYOGENIC EQUIPMENT	129
TABLE 61	CHEMICAL: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	130
TABLE 62	CHEMICAL: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	130
TABLE 63	CHEMICAL: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	130
TABLE 64	CHEMICAL: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	131
8.5	ELECTRONICS	131
8.5.1	DEVELOPMENT OF SUPERCONDUCTING ELECTRONICS TO DRIVE MARKET	131
TABLE 65	ELECTRONICS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	132
TABLE 66	ELECTRONICS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	132
TABLE 67	ELECTRONICS: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	132
TABLE 68	ELECTRONICS: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	133
8.6	TRANSPORTATION	133
8.6.1	DEVELOPMENT OF FUEL CELL-POWERED ELECTRIC VEHICLES TO CREATE LUCRATIVE OPPORTUNITIES FOR MARKET PLAYERS	133
TABLE 69	TRANSPORTATION: CRYOGENIC EQUIPMENT MARKET, BY TRANSPORT TYPE, 2018-2022 (USD MILLION)	134
TABLE 70	TRANSPORTATION: CRYOGENIC EQUIPMENT MARKET, BY TRANSPORT TYPE, 2023-2028 (USD MILLION)	134
TABLE 71	TRANSPORTATION: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	135
TABLE 72	TRANSPORTATION: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	135
TABLE 73	TRANSPORTATION: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	135
TABLE 74	TRANSPORTATION: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	136
8.7	OTHER END-USER INDUSTRIES	136
TABLE 75	OTHER END-USER INDUSTRIES: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	137

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TABLE 76	OTHER END-USER INDUSTRIES: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	137
TABLE 77	OTHER END-USER INDUSTRIES: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	138
TABLE 78	OTHER END-USER INDUSTRIES: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	138
9	CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE	139
9.1	INTRODUCTION	140
FIGURE 46	CRYOGENIC EQUIPMENT MARKET SHARE, BY SYSTEM TYPE, 2022	140
TABLE 79	CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2018-2022 (USD MILLION)	140
TABLE 80	CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2023-2028 (USD MILLION)	141
9.2	STORAGE SYSTEM	141
9.2.1	GROWING ADOPTION OF CRYOGENIC ENERGY STORAGE SYSTEMS BY AEROSPACE COMPANIES TO PROVIDE LUCRATIVE OPPORTUNITIES	141
TABLE 81	STORAGE SYSTEM: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	142
TABLE 82	STORAGE SYSTEM: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	142
9.3	HANDLING SYSTEM	142
9.3.1	INCREASING FOCUS OF MANUFACTURING FIRMS ON EXTENDING LIFESPAN OF TOOLS AND ACHIEVE COST SAVING TO DRIVE SEGMENTAL GROWTH	142
TABLE 83	HANDLING SYSTEM: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	143
TABLE 84	HANDLING SYSTEM: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	143
9.4	SUPPLY SYSTEM	144
9.4.1	RIISING USE OF SUPPLY SYSTEMS IN HEALTHCARE, AEROSPACE, AND INDUSTRIAL APPLICATIONS TO SUPPORT MARKET GROWTH	144
TABLE 85	SUPPLY SYSTEM: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	144
TABLE 86	SUPPLY SYSTEM: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	145
9.5	OTHERS	145
TABLE 87	OTHERS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	146
TABLE 88	OTHERS: CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	146
10	CRYOGENIC EQUIPMENT MARKET, BY APPLICATION	147
10.1	INTRODUCTION	148
FIGURE 47	CRYOGENIC EQUIPMENT MARKET SHARE, BY APPLICATION, 2022	148
TABLE 89	CRYOGENIC EQUIPMENT MARKET, BY APPLICATION, 2018-2022 (USD MILLION)	148
TABLE 90	CRYOGENIC EQUIPMENT MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	149
TABLE 91	NON-CASU: CRYOGENIC EQUIPMENT MARKET, BY APPLICATION, 2018-2022 (USD MILLION)	149
TABLE 92	NON-CASU: CRYOGENIC EQUIPMENT MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	149
10.2	CASU (CRYOGENIC AIR SEPARATION UNIT)	150
10.2.1	INSTALLATION OF CASU TO SEPARATE AND PRODUCE HIGH-PURITY GASES AT EXTREMELY LOW TEMPERATURES TO DRIVE MARKET	150
10.3	NON-CASU (NON-CRYOGENIC AIR SEPARATION UNIT)	150
10.3.1	UTILIZATION OF NON-CASU IN INDUSTRIAL APPLICATIONS THAT DO NOT REQUIRE HIGH-PURITY GASES TO FUEL MARKET GROWTH	150
10.3.2	RAIL AND ROAD TRANSPORT INDUSTRY	150
10.3.3	LNG BULK CARRIER SHIPS	150
10.3.4	LNG REGASIFICATION AND LIQUEFACTION TERMINALS	151
10.3.5	OTHER MINOR APPLICATIONS	151
11	CRYOGENIC EQUIPMENT MARKET, BY REGION	152
11.1	INTRODUCTION	153
FIGURE 48	ASIA PACIFIC TO EXHIBIT HIGHEST CAGR IN CRYOGENIC EQUIPMENT MARKET DURING FORECAST PERIOD	153
FIGURE 49	CRYOGENIC EQUIPMENT MARKET SHARE, IN TERMS OF VALUE, BY REGION, 2022	154

TABLE 93	CRYOGENIC EQUIPMENT MARKET, BY REGION, 2018-2022 (USD MILLION)	154
TABLE 94	CRYOGENIC EQUIPMENT MARKET, BY REGION, 2023-2028 (USD MILLION)	154
11.2	ASIA PACIFIC	155
11.2.1	RECESSION IMPACT ON MARKET IN ASIA PACIFIC	155
FIGURE 50	SNAPSHOT: CRYOGENIC EQUIPMENT MARKET IN ASIA PACIFIC	156
11.2.2	BY EQUIPMENT	157
TABLE 95	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2018-2022 (USD MILLION)	157
TABLE 96	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2023-2028 (USD MILLION)	157
11.2.3	BY CRYOGEN	158
TABLE 97	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	158
TABLE 98	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	158
11.2.4	BY END-USER INDUSTRY	159
TABLE 99	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	159
TABLE 100	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	159
11.2.5	BY SYSTEM TYPE	159
TABLE 101	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2018-2022 (USD MILLION)	159
TABLE 102	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2023-2028 (USD MILLION)	160
11.2.6	BY COUNTRY	160
TABLE 103	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2018-2022 (USD MILLION)	160
TABLE 104	ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	160
11.2.6.1	China	161
11.2.6.1.1	Growing focus on improving LNG infrastructure to create growth opportunities for providers of cryogenic equipment	161
11.2.6.1.2	By end-user industry	161
TABLE 105	CHINA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	161
TABLE 106	CHINA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	162
11.2.6.2	India	162
11.2.6.2.1	Increasing investments in space missions to drive market	162
11.2.6.2.2	By equipment	163
TABLE 107	INDIA: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2018-2022 (USD MILLION)	163
TABLE 108	INDIA: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2023-2028 (USD MILLION)	163
11.2.6.2.3	By cryogen	163
TABLE 109	INDIA: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	163
TABLE 110	INDIA: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	164
11.2.6.2.4	By end-user industry	164
TABLE 111	INDIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	164
TABLE 112	INDIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	165
11.2.6.2.5	By application	165
TABLE 113	INDIA: CRYOGENIC EQUIPMENT MARKET, BY APPLICATION, 2018-2022 (USD MILLION)	165
TABLE 114	INDIA: CRYOGENIC EQUIPMENT MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	165
TABLE 115	INDIA: CRYOGENIC EQUIPMENT MARKET, BY NON-CASU APPLICATION, 2018-2022 (USD MILLION)	166
TABLE 116	INDIA: CRYOGENIC EQUIPMENT MARKET, BY NON-CASU APPLICATION, 2023-2028 (USD MILLION)	166
11.2.6.3	Australia	166
11.2.6.3.1	Increasing government investments in energy & power and metallurgy industries to drive market	166
11.2.6.3.2	By end-user industry	167
TABLE 117	AUSTRALIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	167
TABLE 118	AUSTRALIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	167
11.2.6.4	Japan	167

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11.2.6.4.1	Increasing investments in LNG projects to fuel market growth	167
11.2.6.4.2	By end-user industry	168
TABLE 119	JAPAN: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	168
TABLE 120	JAPAN: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	168
11.2.6.5	Malaysia	169
11.2.6.5.1	Government focus on energy capacity addition to contribute to market growth	169
11.2.6.5.2	By end-user industry	169
TABLE 121	MALAYSIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	169
TABLE 122	MALAYSIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	170
11.2.6.6	Rest of Asia Pacific	170
11.2.6.6.1	By end-user industry	170
TABLE 123	REST OF ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	170
TABLE 124	REST OF ASIA PACIFIC: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	171
11.3	EUROPE	171
11.3.1	RECESSION IMPACT ON MARKET IN EUROPE	171
FIGURE 51	SNAPSHOT: CRYOGENIC EQUIPMENT MARKET IN EUROPE	172
11.3.2	BY EQUIPMENT	173
TABLE 125	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2018-2022 (USD MILLION)	173
TABLE 126	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2023-2028 (USD MILLION)	173
11.3.3	BY CRYOGEN	173
TABLE 127	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	173
TABLE 128	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	174
11.3.4	BY END-USER INDUSTRY	174
TABLE 129	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	174
TABLE 130	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	175
11.3.5	BY SYSTEM TYPE	175
TABLE 131	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2018-2022 (USD MILLION)	175
TABLE 132	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2023-2028 (USD MILLION)	175
11.3.6	BY COUNTRY	176
TABLE 133	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2018-2022 (USD MILLION)	176
TABLE 134	EUROPE: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	176
11.3.6.1	Russia	176
11.3.6.1.1	Investments in LNG projects to fuel market growth	176
11.3.6.1.2	By end-user industry	177
TABLE 135	RUSSIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	177
TABLE 136	RUSSIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	177
11.3.6.2	UK	178
11.3.6.2.1	Government's commitment to net zero carbon emissions to foster demand for cryogenic equipment	178
11.3.6.2.2	By end-user industry	178
TABLE 137	UK: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	178
TABLE 138	UK: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	179
11.3.6.3	Germany	179
11.3.6.3.1	Booming energy & power and chemical industries to contribute to market growth	179
11.3.6.3.2	By end-user industry	180
TABLE 139	GERMANY: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	180
TABLE 140	GERMANY: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	180
11.3.6.4	France	180

11.3.6.4.1	Industrial decarbonization goals to boost demand for cryogenic equipment	180
11.3.6.4.2	By end-user industry	181
TABLE 141	FRANCE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	181
TABLE 142	FRANCE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	181
11.3.6.5	Rest of Europe	181
11.3.6.5.1	By end-user industry	182
TABLE 143	REST OF EUROPE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	182
TABLE 144	REST OF EUROPE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	182
11.4	NORTH AMERICA	183
11.4.1	RECESSION IMPACT ON MARKET IN NORTH AMERICA	183
11.4.2	BY EQUIPMENT	183
TABLE 145	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2018-2022 (USD MILLION)	183
TABLE 146	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2023-2028 (USD MILLION)	184
11.4.3	BY CRYOGEN	184
TABLE 147	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	184
TABLE 148	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	184
11.4.4	BY END-USER INDUSTRY	185
TABLE 149	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	185
TABLE 150	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	185
11.4.5	BY SYSTEM TYPE	186
TABLE 151	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2018-2022 (USD MILLION)	186
TABLE 152	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2023-2028 (USD MILLION)	186
11.4.6	BY COUNTRY	186
TABLE 153	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2018-2022 (USD MILLION)	186
TABLE 154	NORTH AMERICA: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	187
11.4.6.1	US	187
11.4.6.1.1	Strong focus on natural gas generation and exports to support market growth	187
11.4.6.1.2	By end-user industry	188
TABLE 155	US: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	188
TABLE 156	US: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	188
11.4.6.2	Canada	188
11.4.6.2.1	Construction of LNG export facilities to generate significant demand for cryogenic equipment	188
11.4.6.2.2	By end-user industry	189
TABLE 157	CANADA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	189
TABLE 158	CANADA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	189
11.4.6.3	Mexico	190
11.4.6.3.1	Development of shale reservoirs to create opportunities for market players	190
11.4.6.3.2	By end-user industry	190
TABLE 159	MEXICO: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	190
TABLE 160	MEXICO: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	191
11.5	MIDDLE EAST	191
11.5.1	RECESSION IMPACT ON MARKET IN MIDDLE EAST	191
11.5.2	BY EQUIPMENT	192
TABLE 161	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2018-2022 (USD MILLION)	192
TABLE 162	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY EQUIPMENT, 2023-2028 (USD MILLION)	192
11.5.3	BY CRYOGEN	193
TABLE 163	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2018-2022 (USD MILLION)	193

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TABLE 164	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY CRYOGEN, 2023-2028 (USD MILLION)	193
11.5.4	BY END-USER INDUSTRY	194
TABLE 165	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	194
TABLE 166	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	194
11.5.5	BY SYSTEM TYPE	195
TABLE 167	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2018-2022 (USD MILLION)	195
TABLE 168	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY SYSTEM TYPE, 2023-2028 (USD MILLION)	195
11.5.6	BY COUNTRY	195
TABLE 169	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2018-2022 (USD MILLION)	195
TABLE 170	MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	196
11.5.6.1	Saudi Arabia	196
11.5.6.1.1	Initiation of LNG projects to accelerate market growth	196
11.5.6.1.2	By end-user industry	197
TABLE 171	SAUDI ARABIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	197
TABLE 172	SAUDI ARABIA: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	197
11.5.6.2	UAE	197
11.5.6.2.1	Booming energy & power sector to contribute to market growth	197
11.5.6.2.2	By end-user industry	198
TABLE 173	UAE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	198
TABLE 174	UAE: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	198
11.5.6.3	QATAR	199
11.5.6.3.1	Increasing construction activities to boost demand for cryogenic equipment	199
11.5.6.3.2	By end-user industry	199
TABLE 175	QATAR: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	199
TABLE 176	QATAR: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	200
11.5.6.4	Rest of Middle East	200
11.5.6.4.1	By end-user industry	201
TABLE 177	REST OF MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2018-2022 (USD MILLION)	201
TABLE 178	REST OF MIDDLE EAST: CRYOGENIC EQUIPMENT MARKET, BY END-USER INDUSTRY, 2023-2028 (USD MILLION)	201

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		Date	2025-05-20
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