

**Lithium Silicon Battery Market by Material, Technology, Capacity (<3,000 mAh, 3,000-10,000 mAh, >10,000 mAh), Application (Consumer Electronics, Automotive, Aerospace & Defense, Medical Devices, Energy) and Region - Global Forecast to 2030**

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**Report description:**

The global lithium silicon battery market size is estimated to grow from USD 10 million in 2022 to USD 247 million by 2030, at a CAGR of 48.4 % from 2022 to 2030. With energy needs and demand rising globally-due to growing industrial activity, increasing population, and urbanization-the demand for batteries in energy storage systems is expected to skyrocket. The need for better battery technologies in electric grid storage applications is driven by supportive government policies and the migration of utility providers from non-renewable to renewable energy sources. BESS manufacturers are now looking for improved technologies to improve energy density and capacity, which can be accomplished using silicon electrodes

">10,000 mAh capacity lithium silicon batteries to grow at a significant CAGR from 2022 to 2030"

Batteries in this range are still being developed. These batteries are expected to be used in energy-heavy applications such as EVs, material handling equipment, marine, robots, industrial, renewable energy storage, military, aircraft, drones, satellites, and spacecraft. A recent example is the space mission undertaken by Airbus Defence and Space, where lithium silicon batteries were used in the aerospace Zephyr High Altitude Pseudo Satellite (HAPS) program. The demand for lithium silicon batteries in the aviation industry will rapidly rise once the batteries are commercialized.

"Aerospace & Defense applications to grow at an impressive CAGR from 2022 to 2030"

Aerospace & defense is one of the crucial applications of battery technology. Aircraft require batteries to power engines, APUs, and integrated systems. While li-ion batteries are widely used in commercial aircraft, the aerospace & defense sector is turning toward advanced power technologies for new applications, such as lithium silicon batteries. These batteries can also power UAVs such as drones due to their small size, low weight, and increased power capacity. Lithium silicon batteries have been used to power drones used by the defense sector-for example, the US Army's Rapid Capabilities and Critical Technologies Office

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(RCCTO)has used Amprius lithium silicon batteries for its drones.

"The market in Europe is expected to grow at the significant CAGR during the forecast period"

The automobile sector of Europe is an advanced industry with the leanest production processes where water and energy use are optimal. The market for wearable devices is also growing in Europe. Hence, Europe has a flourishing silicon battery market, with high growth anticipated. The automobile market in the UK is booming and is expected to open a potential market for lithium silicon batteries. Germany is a major contributor to the EVs market and home to global automobile manufacturers. Their strong presence is expected to push the adoption of new silicon anode technology in EV batteries.

Breakdown of the profiles of primary participants:

- By Company Type: Tier 1 -45%, Tier 2 -35%, and Tier 3 -20%

- By Designation: C-level Executives -40%, Directors-45%, and Others -15%

- By Region: North America -46%, Europe -21%, Asia Pacific-25%, and RoW -8%

Major players profiled in this report are as follows: Amprius Technologies (US), Enovix Corporation (US), NanoGraf Corporation (US), Enevate Corporation (US), Sila Nanotechnologies, Inc. (US), Group14 Technologies, Inc. (US), and others.

Research Coverage

In this report, the lithium silicon battery market has been segmented based on material, technology, capacity, application, and region. The lithium silicon battery market based on material is segmented into Micronized Silicon-Carbon Powder, SILA Silicon Anode material, Porous silicon anodes, Nano-Porous Silicon, and SiFAB. The technology is segmented into 3D cell architecture, 100% Silicon Nanowire Anode Technology, Nanocarbon scaffold, Silgrain, Sinanode, XFC-Energy Technology. The capacity is segmented into < 3,000 mAh; 3,000 mAh to 10,000 mAh and > 10,000 mAh. Based on application, lithium silicon battery market has been segmented into consumer electronics, automotive, aerospace and defense, medical devices, and energy. The study also forecasts the size of the market in four main regions-North America, Europe, Asia Pacific, and RoW.

Key Benefits of Buying the Report:

The report would help market leaders/new entrants in this market in the following ways:

□ This report segments of the lithium silicon battery market comprehensively and provides the closest approximation of the overall market size and subsegments that include capacity, application, and region.

□ The report would help stakeholders understand the pulse of the market and provide them with information on key drivers, restraints, challenges, and opportunities pertaining to the lithium silicon battery market.

□ This report would help stakeholders understand their competitors better and gain more insights to enhance their position in the business.

□ The competitive landscape section includes the competitor ecosystem, as well as growth strategies such as product launches and acquisitions carried out by major market players.

## Table of Contents:

1	INTRODUCTION	25
1.1	STUDY OBJECTIVES	25
1.2	MARKET DEFINITION	25
1.3	STUDY SCOPE	26
1.3.1	MARKETS COVERED	26
FIGURE 1	LITHIUM SILICON BATTERY MARKET: SEGMENTATION	26
1.3.2	GEOGRAPHIC SCOPE	26
FIGURE 2	LITHIUM SILICON BATTERY MARKET: GEOGRAPHIC SCOPE	26
1.4	YEARS CONSIDERED	27
1.5	CURRENCY CONSIDERED	27
1.6	STAKEHOLDERS	27
2	RESEARCH METHODOLOGY	28
2.1	RESEARCH DATA	28

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FIGURE 3	LITHIUM SILICON BATTERY MARKET: RESEARCH DESIGN	28
2.1.1	LITHIUM SILICON BATTERY MARKET: RESEARCH APPROACH	29
2.1.2	SECONDARY DATA	30
2.1.2.1	List of major secondary sources	30
2.1.2.2	Key data from secondary sources	31
2.1.3	PRIMARY DATA	31
2.1.3.1	Primary interviews with experts	32
2.1.3.2	Key data from primary sources	32
2.1.3.3	Key industry insights	33
2.1.3.4	Breakdown of primary interviews	33
2.2	MARKET SIZE ESTIMATION	34
2.2.1	BOTTOM-UP APPROACH	34
2.2.1.1	Approach for arriving at market size by bottom-up analysis (demand side)	34
FIGURE 4	LITHIUM SILICON BATTERY MARKET: BOTTOM-UP APPROACH	35
2.2.2	TOP-DOWN APPROACH	35
2.2.2.1	Approach for capturing market size by using top-down analysis (supply side)	35
FIGURE 5	LITHIUM SILICON BATTERY MARKET: TOP-DOWN APPROACH	36
FIGURE 6	MARKET SIZE ESTIMATION METHODOLOGY FOR LITHIUM SILICON BATTERY MARKET USING SUPPLY-SIDE ANALYSIS	36
2.3	DATA TRIANGULATION	37
FIGURE 7	DATA TRIANGULATION	37
2.4	RESEARCH ASSUMPTIONS	38
2.5	LIMITATIONS AND RISK ASSESSMENT	39
3	EXECUTIVE SUMMARY	40
FIGURE 8	LITHIUM SILICON BATTERY MARKET, 2019-2030 (USD MILLION)	40
FIGURE 9	3,000-10,000 MAH CAPACITY SEGMENT TO HOLD LARGEST MARKET SHARE DURING FORECAST PERIOD	41
FIGURE 10	CONSUMER ELECTRONICS TO DOMINATE APPLICATIONS MARKET BETWEEN 2022 AND 2030	41
FIGURE 11	ASIA PACIFIC TO EXHIBIT HIGHEST CAGR IN LITHIUM SILICON BATTERY MARKET DURING FORECAST PERIOD	42
4	PREMIUM INSIGHTS	43
4.1	ATTRACTIVE GROWTH OPPORTUNITIES FOR LITHIUM SILICON BATTERY MARKET	43
FIGURE 12	EXTENSIVE FOCUS AND HIGH INVESTMENTS IN SILICON ANODE R&D TO FUEL MARKET GROWTH DURING FORECAST PERIOD	43
4.2	LITHIUM SILICON BATTERY MARKET, BY CAPACITY	43
FIGURE 13	3,000-10,000 MAH BATTERIES TO HOLD LARGEST MARKET SHARE FROM 2022 TO 2030	43
4.3	LITHIUM SILICON BATTERY MARKET, BY APPLICATION	44
FIGURE 14	CONSUMER ELECTRONICS APPLICATION TO HOLD LARGEST SHARE OF LITHIUM SILICON BATTERY MARKET IN 2030	44
4.4	LITHIUM SILICON BATTERY MARKET IN NORTH AMERICA, BY COUNTRY AND APPLICATION	44
FIGURE 15	CONSUMER ELECTRONICS AND US TO HOLD LARGEST SHARES OF NORTH AMERICAN LITHIUM SILICON BATTERY MARKET IN 2030	44
4.5	LITHIUM SILICON BATTERY MARKET, BY COUNTRY	45
FIGURE 16	CHINA TO EXHIBIT HIGHEST CAGR IN LITHIUM SILICON BATTERY MARKET FROM 2022 TO 2030	45
5	MARKET OVERVIEW	46
5.1	INTRODUCTION	46
5.2	MARKET DYNAMICS	46
FIGURE 17	LITHIUM SILICON BATTERY MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES	46
5.2.1	DRIVERS	47
5.2.1.1	Enhanced energy density of lithium silicon batteries	47
TABLE 1	COMPARISON OF VARIOUS ANODE MATERIALS USED IN BATTERIES	47

FIGURE 18□CAPACITY COMPARISON: ANODE MATERIALS□47

5.2.1.2□Growing demand for more efficient, longer-lasting batteries in consumer electronics□48

5.2.1.3□Rising demand for better battery technologies in energy storage systems□48

5.2.1.4□Growing emphasis on R&D to improve battery efficiency and performance□49

FIGURE 19□LITHIUM SILICON BATTERY MARKET: IMPACT ANALYSIS OF DRIVERS□50

5.2.2□RESTRAINTS□50

5.2.2.1□Expansion property of silicon and potential for damage to battery□50

5.2.2.2□Availability of substitutes□50

FIGURE 20□LITHIUM SILICON BATTERY MARKET: IMPACT ANALYSIS OF RESTRAINTS□51

5.2.3□OPPORTUNITIES□51

5.2.3.1□Fast-growing demand for EVs□51

FIGURE 21□GLOBAL ELECTRIC VEHICLE SHIPMENTS, BY MODE, 2020 TO 2030 (MILLION UNITS)□51

5.2.3.2□Graphite demand-supply gap favors alternative materials in the battery industry□52

FIGURE 22□GLOBAL GRAPHITE DEMAND FROM LI-ION BATTERIES□52

FIGURE 23□LITHIUM SILICON BATTERY MARKET: IMPACT ANALYSIS OF OPPORTUNITIES□53

5.2.4□CHALLENGES□53

5.2.4.1□Expensive and complex production process□53

5.2.4.2□Drawbacks of silicon use□53

FIGURE 24□LITHIUM SILICON BATTERY MARKET: IMPACT ANALYSIS OF CHALLENGES□54

5.3□VALUE CHAIN ANALYSIS□54

FIGURE 25□LITHIUM SILICON BATTERY MARKET: VALUE CHAIN ANALYSIS□54

5.4□ECOSYSTEM ANALYSIS□55

FIGURE 26□LITHIUM SILICON BATTERY MARKET: ECOSYSTEM ANALYSIS□55

TABLE 2□LITHIUM SILICON BATTERY MARKET: ECOSYSTEM□55

5.5□PRICING ANALYSIS□56

TABLE 3□AVERAGE SELLING PRICES OF LITHIUM-ION BATTERIES, 2021 (USD PER KWH)□57

5.5.1□AVERAGE SELLING PRICES OF LITHIUM-ION BATTERIES, BY KEY APPLICATION□57

FIGURE 27□AVERAGE SELLING PRICE, BY APPLICATION□57

TABLE 4□AVERAGE SELLING PRICES OF LITHIUM-ION BATTERIES, BY KEY APPLICATION (USD PER KWH)□57

5.6□TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS□58

FIGURE 28□REVENUE SHIFT AND NEW REVENUE POCKETS FOR PLAYERS IN LITHIUM SILICON BATTERY MARKET□58

5.7□TECHNOLOGY ANALYSIS□58

5.7.1□SILICON NANOMATERIALS□58

5.7.2□SILICON NANOWIRES□58

5.8□PORTER'S FIVE FORCES ANALYSIS□59

TABLE 5□LITHIUM SILICON BATTERY MARKET: PORTER'S FIVE FORCES ANALYSIS□59

5.9□KEY STAKEHOLDERS & BUYING CRITERIA□60

5.9.1□KEY STAKEHOLDERS IN BUYING PROCESS□60

FIGURE 29□INFLUENCE OF STAKEHOLDERS IN BUYING PROCESS FOR TOP THREE INDUSTRIES□60

TABLE 6□INFLUENCE OF STAKEHOLDERS IN BUYING PROCESS FOR TOP THREE INDUSTRIES (%)□60

5.9.2□BUYING CRITERIA□60

FIGURE 30□KEY BUYING CRITERIA FOR TOP THREE INDUSTRIES□60

TABLE 7□KEY BUYING CRITERIA FOR TOP THREE INDUSTRIES□61

?

5.10□CASE STUDIES□61

TABLE 8□LITHIUM SILICON BATTERY USED IN WEARABLES TO REDUCE SIZE WITHOUT COMPROMISING ON BATTERY CAPACITY□61

TABLE 9□LITHIUM SILICON BATTERY TO INCREASE PERFORMANCE OF US MILITARY WEARABLES□61

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TABLE 10	LITHIUM SILICON BATTERIES REDUCE WEIGHT AND INCREASE DENSITY OF SOLAR AIRCRAFT	62
5.11	TRADE ANALYSIS	62
FIGURE 31	IMPORT SCENARIO OF LITHIUM CELLS & BATTERIES, BY KEY COUNTRY, 2017-2021 (USD MILLION)	62
FIGURE 32	EXPORT DATA FOR LITHIUM CELLS AND BATTERIES, BY KEY COUNTRY, 2017-2021 (USD MILLION)	63
5.12	PATENT ANALYSIS	63
FIGURE 33	TOP 10 COMPANIES WITH HIGHEST NUMBER OF PATENT APPLICATIONS IN LAST 10 YEARS	63
FIGURE 34	NUMBER OF PATENTS GRANTED PER YEAR FROM 2012 TO 2021	64
TABLE 11	LIST OF PATENTS IN LITHIUM SILICON BATTERY MARKET, 2019-2021	64
TABLE 12	US: TOP 20 PATENT OWNERS IN 10 YEARS	65
5.13	KEY CONFERENCES & EVENTS, 2022-2023	66
TABLE 13	LITHIUM SILICON BATTERY MARKET: DETAILED LIST OF CONFERENCES & EVENTS	66
5.14	REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	67
TABLE 14	NORTH AMERICA: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	67
TABLE 15	EUROPE: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	67
TABLE 16	ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	68
TABLE 17	ROW: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS	68
5.14.1	STANDARDS	68
TABLE 18	STANDARDS FOR LITHIUM-ION BATTERIES	68
6	LITHIUM SILICON BATTERY MARKET, BY MATERIAL	70
6.1	INTRODUCTION	70
FIGURE 35	LITHIUM SILICON BATTERY MARKET, BY MATERIAL	70
6.2	MICRONIZED SILICON-CARBON POWDER	70
6.3	SILA SILICON ANODE MATERIAL	70
6.4	POROUS SILICON ANODES	71
6.5	NANO-POROUS SILICON	71
6.6	SIFAB	71
7	LITHIUM SILICON BATTERY MARKET, BY TECHNOLOGY	72
7.1	INTRODUCTION	72
FIGURE 36	LITHIUM-ION BATTERY: TECHNOLOGY DEVELOPMENT ROADMAP	72
7.2	3D CELL ARCHITECTURE	72
7.3	100% SILICON NANOWIRE ANODE TECHNOLOGY	72
7.4	NANOCARBON SCAFFOLD	73
7.5	SILGRAIN	73
7.6	SINANODE	73
7.7	XFC-ENERGY TECHNOLOGY	73
8	LITHIUM SILICON BATTERY MARKET, BY CAPACITY	74
8.1	INTRODUCTION	75
FIGURE 37	LITHIUM SILICON BATTERY MARKET, BY CAPACITY	75
FIGURE 38	3,000-10,000 MAH TO HOLD LARGEST SIZE OF LITHIUM SILICON BATTERY MARKET DURING FORECAST PERIOD	75
TABLE 19	LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2019-2021 (USD MILLION)	76
TABLE 20	LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2022-2030 (USD MILLION)	76
8.2	<3,000 MAH CAPACITY	76
8.2.1	HIGH FLEXIBILITY, COMPACT SIZE, AND LOW WEIGHT OF <3,000 MAH BATTERIES TO DRIVE DEMAND	76
TABLE 21	<3,000 MAH LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2019-2021 (USD MILLION)	77
TABLE 22	<3,000 MAH LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION)	77
TABLE 23	<3,000 MAH LITHIUM SILICON BATTERY MARKET, BY REGION, 2019-2021 (USD MILLION)	77

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TABLE 24	<3,000 MAH LITHIUM SILICON BATTERY MARKET, BY REGION, 2022-2030 (USD MILLION)	78
8.3	3,000-10,000 MAH	78
8.3.1	WIDE ADOPTION OF 3,000-10,000 MAH BATTERIES IN CONSUMER ELECTRONICS AND SMALL DEVICES TO DRIVE MARKET GROWTH	78
TABLE 25	3,000-10,000 MAH LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2019-2021 (USD MILLION)	78
TABLE 26	3,000-10,000 MAH LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION)	79
TABLE 27	3,000-10,000 MAH LITHIUM SILICON BATTERY MARKET, BY REGION, 2019-2021 (USD MILLION)	79
TABLE 28	3,000-10,000 MAH LITHIUM SILICON BATTERY MARKET, BY REGION, 2022-2030 (USD MILLION)	79
8.4	>10,000 MAH	80
8.4.1	GROWTH OF HIGH ENERGY STORAGE APPLICATIONS TO FUEL DEMAND FOR BATTERIES IN >10,000 MAH RANGE	80
TABLE 29	>10,000 MAH LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION)	80
TABLE 30	>10,000 MAH LITHIUM SILICON BATTERY MARKET, BY REGION, 2022-2030 (USD MILLION)	81
9	LITHIUM SILICON BATTERY MARKET, BY APPLICATION	82
9.1	INTRODUCTION	83
FIGURE 39	LITHIUM SILICON BATTERY MARKET, BY APPLICATION	83
FIGURE 40	CONSUMER ELECTRONICS TO HOLD LARGEST SIZE OF LITHIUM SILICON BATTERY MARKET DURING FORECAST PERIOD	83
TABLE 31	LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2019-2021 (USD MILLION)	84
TABLE 32	LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION)	84
9.2	CONSUMER ELECTRONICS	84
9.2.1	RIISING NEED FOR BATTERY EFFICIENCY AND LONGER LIFECYCLES IN CONSUMER ELECTRONICS TO FUEL MARKET GROWTH	84
TABLE 33	LITHIUM SILICON BATTERY MARKET FOR CONSUMER ELECTRONICS, BY CAPACITY, 2019-2021 (USD MILLION)	85
TABLE 34	LITHIUM SILICON BATTERY MARKET FOR CONSUMER ELECTRONICS, BY CAPACITY, 2022-2030 (USD MILLION)	85
TABLE 35	LITHIUM SILICON BATTERY MARKET FOR CONSUMER ELECTRONICS, BY REGION, 2019-2021 (USD MILLION)	85
TABLE 36	LITHIUM SILICON BATTERY MARKET FOR CONSUMER ELECTRONICS, BY REGION, 2022-2030 (USD MILLION)	86
9.3	AUTOMOTIVE	86
9.3.1	GROWING DEMAND FOR EVS TO FUEL DEMAND FOR LITHIUM SILICON BATTERIES	86
TABLE 37	LITHIUM SILICON BATTERY MARKET FOR AUTOMOTIVE, BY CAPACITY, 2022-2030 (USD MILLION)	86
TABLE 38	LITHIUM SILICON BATTERY MARKET FOR AUTOMOTIVE BY REGION, 2022-2030 (USD MILLION)	87
9.4	AEROSPACE & DEFENSE	87
9.4.1	SUCCESSFUL USAGE OF LITHIUM SILICON BATTERIES IN DRONES AND SATELLITES IS DRIVING DEMAND	87
TABLE 39	LITHIUM SILICON BATTERY MARKET FOR AEROSPACE & DEFENSE, BY CAPACITY, 2019-2021 (USD MILLION)	88
TABLE 40	LITHIUM SILICON BATTERY MARKET FOR AEROSPACE & DEFENSE, BY CAPACITY, 2022-2030 (USD MILLION)	88
TABLE 41	LITHIUM SILICON BATTERY MARKET FOR AEROSPACE & DEFENSE, BY REGION, 2019-2021 (USD MILLION)	88
TABLE 42	LITHIUM SILICON BATTERY MARKET FOR AEROSPACE & DEFENSE, BY REGION, 2022-2030 (USD MILLION)	89
9.5	MEDICAL DEVICES	89
9.5.1	GREATER USE OF SMALL MEDICAL DEVICES AND HEALTH WEARABLES TO FUEL MARKET GROWTH	89
TABLE 43	LITHIUM SILICON BATTERY MARKET FOR MEDICAL DEVICES, BY CAPACITY, 2022-2030 (USD MILLION)	89
TABLE 44	LITHIUM SILICON BATTERY MARKET FOR MEDICAL DEVICES, BY REGION, 2022-2030 (USD MILLION)	90
9.6	ENERGY	90
9.6.1	INCREASING DEMAND FOR EFFICIENT ENERGY STORAGE SYSTEMS WILL BOOST MARKET GROWTH	90
TABLE 45	LITHIUM SILICON BATTERY MARKET FOR ENERGY, BY CAPACITY, 2022-2030 (USD MILLION)	90
TABLE 46	LITHIUM SILICON BATTERY MARKET FOR ENERGY, BY REGION, 2022-2030 (USD MILLION)	91
10	LITHIUM SILICON BATTERY MARKET, BY REGION	92
10.1	INTRODUCTION	93
FIGURE 41	LITHIUM SILICON BATTERY MARKET, BY REGION	93
FIGURE 42	CHINA TO EXHIBIT HIGHEST CAGR IN LITHIUM SILICON BATTERY MARKET FROM 2022 TO 2030	93

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TABLE 47 LITHIUM SILICON BATTERY MARKET, BY REGION, 2019-2021 (USD MILLION) 94

TABLE 48 LITHIUM SILICON BATTERY MARKET, BY REGION, 2022-2030 (USD MILLION) 94

10.2 NORTH AMERICA 95

FIGURE 43 NORTH AMERICA: SNAPSHOT OF LITHIUM SILICON BATTERY MARKET 95

FIGURE 44 US TO ACCOUNT FOR LARGEST SHARE OF NORTH AMERICAN LITHIUM SILICON BATTERY MARKET DURING FORECAST PERIOD 96

TABLE 49 NORTH AMERICA: LITHIUM SILICON BATTERY MARKET, BY COUNTRY, 2019-2021 (USD MILLION) 96

TABLE 50 NORTH AMERICA: LITHIUM SILICON BATTERY MARKET, BY COUNTRY, 2022-2030 (USD MILLION) 96

TABLE 51 NORTH AMERICA: LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2019-2021 (USD MILLION) 97

TABLE 52 NORTH AMERICA: LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2022-2030 (USD MILLION) 97

TABLE 53 NORTH AMERICA: LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2019-2021 (USD MILLION) 97

TABLE 54 NORTH AMERICA: LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION) 98

10.2.1 US 98

10.2.1.1 US dominates global market for lithium silicon batteries due to presence of key startups and high investments in silicon anode research 98

10.2.2 CANADA 99

10.2.2.1 R&D initiatives to boost market growth in Canada 99

10.2.3 MEXICO 99

10.2.3.1 Growing energy demand to boost market growth 99

10.3 EUROPE 100

FIGURE 45 EUROPE: SNAPSHOT OF LITHIUM SILICON BATTERY MARKET 100

FIGURE 46 GERMANY TO GROW AT HIGHEST CAGR IN EUROPEAN MARKET 101

TABLE 55 EUROPE: LITHIUM SILICON BATTERY MARKET, BY COUNTRY, 2019-2021 (USD MILLION) 101

TABLE 56 EUROPE: LITHIUM SILICON BATTERY MARKET, BY COUNTRY, 2022-2030 (USD MILLION) 101

TABLE 57 EUROPE: LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2019-2021 (USD MILLION) 102

TABLE 58 EUROPE: LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2022-2030 (USD MILLION) 102

TABLE 59 EUROPE: LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2019-2021 (USD MILLION) 102

TABLE 60 EUROPE: LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION) 103

10.3.1 UK 103

10.3.1.1 High demand for EVs to strengthen UK market growth 103

10.3.2 GERMANY 103

10.3.2.1 Strong automotive sector to drive demand for lithium silicon batteries 103

10.3.3 FRANCE 104

10.3.3.1 Government focus on promoting EV adoption to bolster demand for lithium silicon batteries in France 104

10.3.4 REST OF EUROPE 104

10.4 ASIA PACIFIC 105

FIGURE 47 ASIA PACIFIC: SNAPSHOT OF LITHIUM SILICON BATTERY MARKET 105

FIGURE 48 CHINA TO ACCOUNT FOR LARGEST SHARE OF ASIA PACIFIC LITHIUM SILICON BATTERY MARKET DURING FORECAST PERIOD 106

TABLE 61 ASIA PACIFIC: LITHIUM SILICON BATTERY MARKET, BY COUNTRY, 2019-2021 (USD MILLION) 106

TABLE 62 ASIA PACIFIC: LITHIUM SILICON BATTERY MARKET, BY COUNTRY, 2022-2030 (USD MILLION) 106

TABLE 63 ASIA PACIFIC: LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2019-2021 (USD MILLION) 107

TABLE 64 ASIA PACIFIC: LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2022-2030 (USD MILLION) 107

TABLE 65 ASIA PACIFIC: LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2019-2021 (USD MILLION) 107

TABLE 66 ASIA PACIFIC: LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION) 108

10.4.1 CHINA 108

10.4.1.1 Large presence of battery, automotive, and consumer electronics manufacturers to fuel market growth 108

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10.4.2	JAPAN	108
10.4.2.1	High focus on EV manufacturing to fuel market growth in Japan	108
10.4.3	INDIA	109
10.4.3.1	Favorable government initiatives to boost industrial growth to drive market growth	109
10.4.4	SOUTH KOREA	109
10.4.4.1	Fast-growing electronics and EV sector to fuel demand for lithium silicon batteries	109
10.4.5	REST OF ASIA PACIFIC	109
10.5	REST OF THE WORLD	110
FIGURE 49	MIDDLE EAST & AFRICA TO ACCOUNT FOR LARGEST SHARE OF ROW LITHIUM SILICON BATTERY MARKET DURING FORECAST PERIOD	110
TABLE 67	ROW: LITHIUM SILICON BATTERY MARKET, BY REGION, 2022-2030 (USD MILLION)	110
TABLE 68	ROW: LITHIUM SILICON BATTERY MARKET, BY CAPACITY, 2022-2030 (USD MILLION)	111
TABLE 69	ROW: LITHIUM SILICON BATTERY MARKET, BY APPLICATION, 2022-2030 (USD MILLION)	111
10.5.1	MIDDLE EAST AND AFRICA	111
10.5.1.1	Renewable power generation initiatives to fuel MEA market growth	111
10.5.2	SOUTH AMERICA	112
10.5.2.1	Increasing focus on industrial development and high demand for energy to boost market growth	112
11	COMPETITIVE LANDSCAPE	113
11.1	INTRODUCTION	113
11.2	KEY PLAYER STRATEGIES/RIGHT TO WIN	113
TABLE 70	OVERVIEW OF STRATEGIES ADOPTED BY KEY PLAYERS IN LITHIUM SILICON BATTERY MARKET	113
11.3	MARKET RANKING ANALYSIS, 2021	114
TABLE 71	LITHIUM SILICON BATTERY MARKET: MARKET RANKING ANALYSIS (2021)	114
11.4	COMPANY EVALUATION QUADRANT, 2021	116
11.4.1	STARS	116
11.4.2	EMERGING LEADERS	116
11.4.3	PERVASIVE PLAYERS	116
11.4.4	PARTICIPANTS	116
FIGURE 50	LITHIUM SILICON BATTERY MARKET: COMPANY EVALUATION QUADRANT, 2021	117
11.5	LITHIUM SILICON BATTERY MARKET: COMPANY FOOTPRINT	118
TABLE 72	OVERALL COMPANY FOOTPRINT	118
TABLE 73	COMPANY APPLICATION FOOTPRINT	119
TABLE 74	COMPANY REGIONAL FOOTPRINT	120
11.6	COMPETITIVE BENCHMARKING	121
TABLE 75	LITHIUM SILICON BATTERY MARKET: DETAILED LIST OF KEY STARTUPS/SMES	121
TABLE 76	LITHIUM SILICON BATTERY MARKET: COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES	122
11.7	COMPETITIVE SITUATIONS AND TRENDS	123
TABLE 77	LITHIUM SILICON BATTERY MARKET: PRODUCT LAUNCHES	123
TABLE 78	LITHIUM SILICON BATTERY MARKET: DEALS	124
12	COMPANY PROFILES	127
12.1	KEY PLAYERS	127
	(Business Overview, Products Offered, Recent Developments, and MnM View)*	
12.1.1	AMPRIUS TECHNOLOGIES	127
TABLE 79	AMPRIUS TECHNOLOGIES: BUSINESS OVERVIEW	127
TABLE 80	AMPRIUS TECHNOLOGIES: PRODUCT OFFERINGS	127
TABLE 81	AMPRIUS TECHNOLOGIES: PRODUCT LAUNCHES	128
TABLE 82	AMPRIUS TECHNOLOGIES: DEALS	128



12.1.2	ENOVIX CORPORATION	130
TABLE 83	ENOVIX CORPORATION: BUSINESS OVERVIEW	130
TABLE 84	ENOVIX CORPORATION: PRODUCT OFFERINGS	130
TABLE 85	ENOVIX CORPORATION: PRODUCT LAUNCHES	131
TABLE 86	ENOVIX CORPORATION: DEALS	131
TABLE 87	ENOVIX CORPORATION: OTHER DEVELOPMENTS	131
12.1.3	GROUP14 TECHNOLOGIES, INC.	133
TABLE 88	GROUP14 TECHNOLOGIES, INC.: BUSINESS OVERVIEW	133
TABLE 89	GROUP14 TECHNOLOGIES, INC.: PRODUCT OFFERINGS	133
TABLE 90	GROUP14 TECHNOLOGIES, INC.: DEALS	134
12.1.4	SILA NANOTECHNOLOGIES, INC.	136
TABLE 91	SILA NANOTECHNOLOGIES, INC.: BUSINESS OVERVIEW	136
TABLE 92	SILA NANOTECHNOLOGIES, INC.: PRODUCT LAUNCHES	136
TABLE 93	SILA NANOTECHNOLOGIES, INC.: DEALS	137
12.1.5	ELKEM	138
TABLE 94	ELKEM: BUSINESS OVERVIEW	138
FIGURE 51	ELKEM: COMPANY SNAPSHOT	139
TABLE 95	ELKEM: PRODUCT OFFERINGS	139
12.1.6	LANXI ZHIDE ADVANCED MATERIALS CO., LTD.	140
TABLE 96	LANXI ZHIDE ADVANCED MATERIALS CO., LTD.: BUSINESS OVERVIEW	140
TABLE 97	LANXI ZHIDE ADVANCED MATERIALS CO., LTD.: PRODUCT OFFERINGS	140
12.1.7	NANOSPAN	141
TABLE 98	NANOSPAN: BUSINESS OVERVIEW	141
TABLE 99	NANOSPAN: PRODUCT OFFERINGS	141
12.1.8	NEXEON LIMITED	142
TABLE 100	NEXEON LIMITED: BUSINESS OVERVIEW	142
TABLE 101	NEXEON LIMITED: PRODUCT OFFERINGS	142
TABLE 102	NEXEON LIMITED: PRODUCT LAUNCHES	143
TABLE 103	NEXEON LIMITED: DEALS	143
12.1.9	ONED BATTERY SCIENCES	144
TABLE 104	ONED BATTERY SCIENCES: BUSINESS OVERVIEW	144
TABLE 105	ONED BATTERY SCIENCES: PRODUCT OFFERINGS	144
12.1.10	XNRGI	145
TABLE 106	XNRGI: BUSINESS OVERVIEW	145
TABLE 107	XNRGI: PRODUCT OFFERINGS	145

\* Business Overview, Products Offered, Recent Developments, and MnM View might not be captured in case of unlisted companies.

?

12.2	OTHER PLAYERS	146
12.2.1	ADVANO	146
12.2.2	ALKEGEN (SIFAB)	146
12.2.3	CENATE AS	147
12.2.4	ENEVATE CORPORATION	147
12.2.5	E-MAGY	148
12.2.6	EOCELL, INC.	148
12.2.7	GLOBAL GRAPHENE GROUP, INC.	149
12.2.8	LEYDENJAR TECHNOLOGIES B.V.	150

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12.2.9	NANOGRAF CORPORATION	150
12.2.10	PARACLETE ENERGY, INC.	151
12.2.11	SILIB	151
12.2.12	TARGRAY TECHNOLOGY INTERNATIONAL INC.	152
13	ADJACENT & RELATED MARKETS	153
13.1	INTRODUCTION	153
13.2	BATTERY ENERGY STORAGE SYSTEM MARKET, BY APPLICATION	153
13.2.1	INTRODUCTION	153
TABLE 108	BATTERY ENERGY STORAGE SYSTEM MARKET, BY APPLICATION, 2018-2021 (USD MILLION)	153
TABLE 109	BATTERY ENERGY STORAGE SYSTEM MARKET, BY APPLICATION, 2022-2027 (USD MILLION)	154
13.2.2	RESIDENTIAL	154
13.2.2.1	Government initiatives to boost number of residential energy storage projects	154
TABLE 110	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY BATTERY TYPE, 2018-2021 (USD MILLION)	155
TABLE 111	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY BATTERY TYPE, 2022-2027 (USD MILLION)	155
TABLE 112	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY CONNECTION TYPE, 2018-2021 (USD MILLION)	156
TABLE 113	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY CONNECTION TYPE, 2022-2027 (USD MILLION)	156
TABLE 114	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY ENERGY CAPACITY, 2018-2021 (USD MILLION)	156
TABLE 115	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY ENERGY CAPACITY, 2022-2027 (USD MILLION)	157
TABLE 116	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY OWNERSHIP, 2018-2021 (USD MILLION)	157
TABLE 117	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY OWNERSHIP, 2022-2027 (USD MILLION)	157
TABLE 118	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY REGION, 2018-2021 (USD MILLION)	158
TABLE 119	BATTERY ENERGY STORAGE SYSTEM MARKET FOR RESIDENTIAL APPLICATION, BY REGION, 2022-2027 (USD MILLION)	158
?		
13.2.3	COMMERCIAL	158
13.2.3.1	Increased usage of UPS in commercial applications to drive demand for battery energy storage systems	158
TABLE 120	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY BATTERY TYPE, 2018-2021 (USD MILLION)	159
TABLE 121	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY BATTERY TYPE, 2022-2027 (USD MILLION)	159
TABLE 122	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY CONNECTION TYPE, 2018-2021 (USD MILLION)	159
TABLE 123	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY CONNECTION TYPE, 2022-2027 (USD MILLION)	160
TABLE 124	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY ENERGY CAPACITY, 2018-2021 (USD MILLION)	160
TABLE 125	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY ENERGY CAPACITY, 2022-2027 (USD MILLION)	160

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TABLE 126	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY OWNERSHIP, 2018-2021 (USD MILLION)	161
TABLE 127	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY OWNERSHIP, 2022-2027 (USD MILLION)	161
TABLE 128	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY REGION, 2018-2021 (USD MILLION)	161
TABLE 129	BATTERY ENERGY STORAGE SYSTEM MARKET FOR COMMERCIAL APPLICATION, BY REGION, 2022-2027 (USD MILLION)	162
14	APPENDIX	163
14.1	INSIGHTS OF INDUSTRY EXPERTS	163
14.2	DISCUSSION GUIDE	164
14.3	KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL	167
14.4	AVAILABLE CUSTOMIZATION OPTIONS	169
14.5	RELATED REPORTS	169
14.6	AUTHOR DETAILS	170

## Lithium Silicon Battery Market by Material, Technology, Capacity (<3,000 mAh, 3,000-10,000 mAh, >10,000 mAh), Application (Consumer Electronics, Automotive, Aerospace & Defense, Medical Devices, Energy) and Region - Global Forecast to 2030

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