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Silicon on Insulator Market by Wafer Size (200 mm, 300 mm), Wafer Type (RFSOI, FDSOI), Technology (BESOI, ELTRAN, SoS, SiMOX, Smart Cut), Product, Application (Automotive, Computing & Mobile, Entertainment & Gaming, Photonics) - Global Forecast to 2022

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Abstracts

“SOI market expected to grow at a significant rate between 2017 and 2022”

The SOI market is expected to grow at a CAGR of 29.1% between 2017 and 2022, to reach USD 1,859.3 million by 2022. The key driving factors for the growth of the SOI market are the growth in the consumer electronics market, low wafer and gate cost, low operating voltage, and miniaturization of semiconductor devices. However, the major restraints for the growth of this market are the lack of available IP ecosystem and the floating body effect.

“200 mm SOI wafers expected to be the largest SOI wafer segment in 2017”

200 mm is currently the most popular SOI wafer size in the market. 200 mm is the diameter of the SOI wafer. Currently, virtually all the RF chips, including 2G, 3G, and 4G, are manufactured by using 200 mm SOI wafers. In other words, almost all the smartphones make use of 200 mm SOI wafers. Soitec (France) is a leading player in the 200 mm market and holds more than 50% of the market share. Soitec has developed the smart cut technology, which is the major technology for manufacturing 200 mm SOI wafers.

“Smart cut technology expected to hold the largest share of the overall SOI market

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during the forecast period”

The smart cut technology is expected to hold the largest share of the overall SOI market between 2017 and 2022. Smart cut is Soitec’s proprietary wafer bonding and layer splitting technology. Soitec (France) developed the smart cut technology in collaboration with CEA-Leti (microelectronics research lab). This technology involves the implantation of light ions and wafer bonding for transferring ultrathin single-crystal layer from one substrate to another.

“APAC expected to be the fastest-growing region in the SOI market during the forecast period”

The SOI market in APAC is expected to grow at a high rate between 2017 and 2022. The high demand for smartphones and other consumer electronics devices is one of the major factors contributing to this high growth rate. In addition, the increasing popularity of 4G/LTE services and the future implementation of 5G architecture are helping the SOI market grow in this region. For example, China is expected to be the first country in the world to roll out 5G services by 2020.

The breakup of the profiles of primary participants for the report has been given below.

By Company Type: Tier 1—55%, Tier 2—20%, and Tier 3—25%

By Designation: C-Level Executives—50%, Directors—25%, and Others—25%

By Region: Americas—60%, Europe—20%, APAC—10%, and RoW—10%

The key players operating in the SOI market are Soitec (France), Shin-Etsu (Japan), GlobalWafers (Taiwan), GlobalFoundries (U.S.), STMicroelectronics (Switzerland), NXP Semiconductors (Netherlands), Murata Manufacturing (Japan), Sony Corporation (Japan), MagnaChip Semiconductor (South Korea), TSMC (Taiwan), and Qualcomm (U.S.).

Research Coverage:

The research report on the SOI market covers different segments—wafer size, wafer type, technology, product, application, and geography. The market has been segmented on the basis of wafer size into 200 mm, 300 mm, and others. On the basis of wafer type,

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the market has been segmented into RFSOI, FDSOI, and others. The market on the basis of technology has been segmented into BESOI, ELTRAN, SoS, SiMOX, and smart cut. On the basis of product, the market has been classified into RF FE, MEMS, power, optical, and others. The SOI market has been segmented on the basis of application into automotive, computing and mobile, entertainment and gaming, photonics, telecommunications, and others. The report covers the market in four major regions—Americas, Europe, APAC, and RoW.

Key Benefits of Buying the Report:

Illustrative segmentation, analysis, and forecast for the market based on wafer size, wafer type, technology, product, application, and geography have been conducted to give an overall view of the SOI market.

The major drivers, restraints, opportunities, and challenges for the SOI market have been detailed in this report.

The report includes a detailed competitive landscape, along with an in-depth analysis and revenue of key players.

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Contents

1 INTRODUCTION

1.1 OBJECTIVES OF THE STUDY
1.2 MARKET DEFINITION
1.3 STUDY SCOPE
  1.3.1 MARKETS COVERED
  1.3.2 GEOGRAPHIC SCOPE
  1.3.3 YEARS CONSIDERED FOR THE STUDY
1.4 CURRENCY
1.5 PACKAGE SIZE
1.6 LIMITATIONS
1.7 STAKEHOLDERS

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA
  2.1.1 SECONDARY DATA
    2.1.1.1 Major secondary sources
    2.1.1.2 Key data from secondary sources
  2.1.2 PRIMARY DATA
    2.1.2.1 Primary interviews with experts
    2.1.2.2 Key data from primary sources
    2.1.2.3 Key industry insights
    2.1.2.4 Breakdown of primaries
  2.1.3 SECONDARY AND PRIMARY RESEARCH
2.2 MARKET SIZE ESTIMATION
  2.2.1 BOTTOM-UP APPROACH
    2.2.1.1 Approach for capturing the market share by bottom-up analysis (demand side)
  2.2.2 TOP-DOWN APPROACH
    2.2.2.1 Approach for capturing the market share by top-down analysis (supply side)
2.3 MARKET BREAKDOWN AND DATA TRIANGULATION
2.4 RESEARCH ASSUMPTIONS

3 EXECUTIVE SUMMARY

4 PREMIUM INSIGHTS

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4.1 ATTRACTIVE OPPORTUNITIES IN THE SOI MARKET
4.2 THICK-FILM AND THIN-FILM SOI WAFER MARKET
4.3 SOI MARKET, BY TECHNOLOGY AND PRODUCT
4.4 COUNTRY-WISE ANALYSIS OF THE SOI MARKET
4.5 SOI MARKET, BY REGION
4.6 SOI MARKET, BY APPLICATION

5 MARKET OVERVIEW

5.1 INTRODUCTION
5.2 MARKET DYNAMICS
5.2.1 DRIVERS
5.2.1.1 Growth in the consumer electronics market
5.2.1.2 Low wafer and gate cost
5.2.1.3 Low operating voltage and high performance
5.2.1.4 Miniaturization of semiconductor devices
5.2.2 RESTRAINTS
5.2.2.1 Lack of available intellectual property (IP) ecosystem—barrier to broad adoption of SOI
5.2.2.2 Floating body effect
5.2.3 OPPORTUNITIES
5.2.3.1 Growing IC industry in APAC
5.2.3.2 Application of SOI in IoT
5.2.4 CHALLENGES
5.2.4.1 Adoption of FinFET technology
5.3 INDUSTRY TRENDS
5.3.1 INTRODUCTION
5.3.2 VALUE CHAIN ANALYSIS

6 SILICON ON INSULATOR MARKET, BY WAFER SIZE

6.1 INTRODUCTION
6.2 200 MM
6.3 300 MM
6.4 OTHERS
6.5 SOI WAFER, BY THICKNESS
6.5.1 THICK-FILM SOI WAFERS
6.5.2 THIN-FILM SOI WAFERS

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info@marketpublishers.com

7 SILICON ON INSULATOR MARKET, BY WAFER TYPE

7.1 INTRODUCTION
7.2 RF-SOI
7.3 FD-SOI
7.4 OTHERS

8 SILICON ON INSULATOR MARKET, BY TECHNOLOGY

8.1 INTRODUCTION
8.2 BOND AND ETCH-BACK SOI (BESOI)
8.3 EPITAXIAL LAYER TRANSFER (ELTRAN)
8.4 SILICON ON SAPPHIRE (SOS)
8.5 SEPARATION BY IMPLANTATION OF OXYGEN (SIMOX)
8.6 SMART CUT

9 SILICON ON INSULATOR MARKET, BY PRODUCT

9.1 INTRODUCTION
9.2 RF FE
9.3 MEMS
9.4 POWER
9.5 OPTICAL
9.6 OTHERS

10 SILICON ON INSULATOR MARKET, BY APPLICATION

10.1 INTRODUCTION
10.2 AUTOMOTIVE
10.3 COMPUTING AND MOBILE
10.4 ENTERTAINMENT AND GAMING
10.5 PHOTONICS
10.6 TELECOMMUNICATIONS
10.7 OTHERS

11 SILICON ON INSULATOR MARKET, BY GEOGRAPHY

11.1 INTRODUCTION

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11.2 AMERICAS
11.2.1 U.S.
11.2.2 REST OF THE AMERICAS
11.3 EUROPE
11.3.1 FRANCE
11.3.2 GERMANY
11.3.3 U.K.
11.3.4 REST OF EUROPE
11.4 APAC
11.4.1 CHINA
11.4.2 JAPAN
11.4.3 TAIWAN
11.4.4 REST OF APAC
11.5 ROW
11.5.1 MIDDLE EAST
11.5.2 AFRICA

12 COMPETITIVE LANDSCAPE

12.1 OVERVIEW
12.2 MARKET SHARE ANALYSIS: SOI MARKET
12.3 DIVE CHART ANALYSIS: VENDOR ASSESSMENT OF SOI MARKET
12.3.1 VANGUARDS
12.3.2 INNOVATOR
12.3.3 DYNAMIC
12.3.4 EMERGING
12.4 OVERVIEW
12.5 PRODUCT OFFERINGS: WAFER MANUFACTURERS
12.6 PRODUCT OFFERINGS: FOUNDRIES
12.7 PRODUCT OFFERINGS: IDMS
12.8 BUSINESS STRATEGY: WAFER MANUFACTURERS
12.9 BUSINESS STRATEGY: FOUNDRIES
12.10 BUSINESS STRATEGY: IDMS

*Top companies analysed for this study are- Soitec (France); Shin-Etsu (Japan); GlobalWafers; (Taiwan); GlobalFoundries (U.S.); Samsung (South Korea); STMicroelectronics (Switzerland); TowerJazz (Israel); Qualcomm (U.S.); Broadcom (U.S.); Dream Chip Technologies GmbH (Germany); Murata (Japan); Qorvo (U.S.); Skyworks (U.S.); UMC (Taiwan); TSMC (Taiwan); Vanguard International

Semiconductor Corporation (Taiwan); NXP Semiconductors (Netherlands); Peregrine Semiconductor Corp. (U.S.); Sony Corporation (Japan); TDK Corporation (Japan); Shanghai Simgui Technology Co., Ltd. (China); Icemos (U.K.); Okmetic (Finland); MagnaChip (South Korea)

13 COMPANY PROFILES

(Business Overview, Products & Services, Key Insights, Recent Developments, MnM View)*

13.1 SOITEC
13.2 SHIN-ETSU CHEMICAL CO., LTD.
13.3 GLOBALWAFERS CO., LTD.
13.4 GLOBALFOUNDRIES
13.5 STMICROELECTRONICS N.V.
13.6 TOWERJAZZ
13.7 NXP SEMICONDUCTORS N.V.
13.8 SKYWORKS SOLUTIONS, INC.
13.9 MURATA MANUFACTURING CO., LTD.
13.10 QORVO, INC.
13.11 SONY CORPORATION
13.12 MAGNACHIP SEMICONDUCTOR
13.13 UNITED MICROELECTRONICS CORPORATION
13.14 TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED
13.15 QUALCOMM INC.

*Details on Business Overview, Products & Services, Key Insights, Recent Developments, MnM View might not be captured in case of unlisted companies.

14 APPENDIX

14.1 INSIGHTS OF INDUSTRY EXPERTS
14.2 DISCUSSION GUIDE
14.3 KNOWLEDGE STORE: MARKETSANDMARKETS’ SUBSCRIPTION PORTAL
14.4 INTRODUCING RT: REAL-TIME MARKET INTELLIGENCE
14.5 AVAILABLE CUSTOMIZATIONS
14.6 RELATED REPORTS
14.7 AUTHOR DETAILS

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List Of Tables

LIST OF TABLES

Table 1 SOI MARKET, BY WAFER SIZE, 2014–2022 (USD MILLION)
Table 2 SOI MARKET, BY WAFER SIZE, 2014–2022 (THOUSAND UNITS)
Table 3 SOI MARKET, BY WAFER SIZE, 200 MM EQUIVALENT, 2014–2022 (THOUSAND UNITS)
Table 4 SOI MARKET FOR 200 MM WAFERS, BY WAFER TYPE, 2014–2022 (USD MILLION)
Table 5 SOI MARKET FOR 200 MM WAFERS, BY WAFER TYPE, 2014–2022 (THOUSAND UNITS)
Table 6 SOI MARKET FOR 300 MM WAFERS, BY WAFER TYPE, 2014–2022 (USD MILLION)
Table 7 SOI MARKET FOR 300 MM WAFERS, BY WAFER TYPE, 2014–2022 (THOUSAND UNITS)
Table 8 SOI MARKET FOR OTHER WAFERS, BY WAFER TYPE, 2014–2022 (USD MILLION)
Table 9 SOI MARKET FOR OTHER WAFERS, BY WAFER TYPE, 2014–2022 (THOUSAND UNITS)
Table 10 SOI MARKET, BY WAFER THICKNESS, 2014–2022 (USD MILLION)
Table 11 SOI MARKET, BY WAFER TYPE, 2014–2022 (USD MILLION)
Table 12 SOI MARKET, BY WAFER TYPE, 2014–2022 (THOUSAND UNITS)
Table 13 SOI MARKET, BY TECHNOLOGY, 2014–2022 (USD MILLION)
Table 14 SOI MARKET FOR BESOI TECHNOLOGY, BY APPLICATION, 2014–2022 (USD MILLION)
Table 15 SOI MARKET FOR ELTRAN TECHNOLOGY, BY APPLICATION, 2014–2022 (USD MILLION)
Table 16 SOI MARKET FOR SOS TECHNOLOGY, BY APPLICATION, 2014–2022 (USD MILLION)
Table 17 SOI MARKET FOR SIMOX TECHNOLOGY, BY APPLICATION, 2014–2022 (USD MILLION)
Table 18 SOI MARKET FOR SMART CUT TECHNOLOGY, BY APPLICATION, 2014–2022 (USD MILLION)
Table 19 SOI MARKET, BY PRODUCT, 2014–2022 (USD MILLION)
Table 20 SOI MARKET FOR RF FE, BY APPLICATION, 2014–2022 (USD MILLION)
Table 21 SOI MARKET FOR MEMS, BY APPLICATION, 2014–2022 (USD MILLION)
Table 22 SOI MARKET FOR POWER, BY APPLICATION, 2014–2022 (USD MILLION)
Table 23 SOI MARKET FOR OPTICAL, BY APPLICATION, 2014–2022 (USD MILLION)

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Table 24 SOI MARKET FOR OTHER PRODUCTS, BY APPLICATION, 2014–2022 (USD MILLION)
Table 25 SOI MARKET, BY APPLICATION, 2014–2022 (USD MILLION)
Table 26 SOI MARKET FOR AUTOMOTIVE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 27 SOI MARKET FOR AUTOMOTIVE APPLICATION, BY TECHNOLOGY, 2014–2022 (USD MILLION)
Table 28 SOI MARKET FOR AUTOMOTIVE APPLICATION, BY PRODUCT, 2014–2022 (USD MILLION)
Table 29 RF FE SOI MARKET FOR AUTOMOTIVE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 30 MEMS SOI MARKET FOR AUTOMOTIVE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 31 POWER SOI MARKET FOR AUTOMOTIVE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 32 OPTICAL SOI MARKET FOR AUTOMOTIVE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 33 OTHERS SOI MARKET FOR AUTOMOTIVE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 34 SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 35 SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY TECHNOLOGY, 2014–2022 (USD MILLION)
Table 36 SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY PRODUCT, 2014–2022 (USD MILLION)
Table 37 RF FE SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 38 MEMS SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 39 POWER SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 40 OPTICAL SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 41 OTHERS SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 42 SOI MARKET FOR ENTERTAINMENT AND GAMING APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 43 SOI MARKET FOR ENTERTAINMENT AND GAMING APPLICATION, BY TECHNOLOGY, 2014–2022 (USD MILLION)

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Table 44 SOI MARKET FOR ENTERTAINMENT AND GAMING APPLICATION, BY PRODUCT, 2014–2022 (USD MILLION)
Table 45 RF FE SOI MARKET FOR ENTERTAINMENT AND GAMING APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 46 MEMS SOI MARKET FOR ENTERTAINMENT AND GAMING APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 47 POWER SOI MARKET FOR ENTERTAINMENT AND GAMING APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 48 OTHERS SOI MARKET FOR COMPUTING AND MOBILE APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 49 SOI MARKET FOR PHOTONICS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 50 SOI MARKET FOR PHOTONICS APPLICATION, BY TECHNOLOGY, 2014–2022 (USD MILLION)
Table 51 SOI MARKET FOR PHOTONICS APPLICATION, BY PRODUCT, 2014–2022 (USD MILLION)
Table 52 POWER SOI MARKET FOR PHOTONICS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 53 OPTICAL SOI MARKET FOR PHOTONICS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 54 OTHERS SOI MARKET FOR PHOTONICS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 55 SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 56 SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY TECHNOLOGY, 2014–2022 (USD MILLION)
Table 57 SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY PRODUCT, 2014–2022 (USD MILLION)
Table 58 RF FE SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 59 MEMS SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 60 POWER SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 61 OPTICAL SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 62 OTHERS SOI MARKET FOR TELECOMMUNICATIONS APPLICATION, BY REGION, 2014–2022 (USD MILLION)
Table 63 SOI MARKET FOR OTHER APPLICATIONS, BY REGION, 2014–2022 (USD

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MILLION)
Table 64 SOI MARKET FOR OTHER APPLICATIONS, BY TECHNOLOGY, 2014–2022 (USD MILLION)
Table 65 SOI MARKET FOR OTHER APPLICATIONS, BY PRODUCT, 2014–2022 (USD MILLION)
Table 66 SOI MARKET, BY REGION, 2014–2022 (USD MILLION)
Table 67 SOI MARKET IN AMERICAS, BY COUNTRY, 2014–2022 (USD MILLION)
Table 68 SOI MARKET IN EUROPE, BY COUNTRY, 2014–2022 (USD MILLION)
Table 69 SOI MARKET IN APAC, BY COUNTRY, 2014–2022 (USD MILLION)
Table 70 SOI MARKET IN ROW, BY REGION, 2014–2022 (USD MILLION)

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About

The SOI technology effectively address a major concern involved in designing semiconductor devices, that is, to reduce power consumption. It is a technology offering the benefits of high performance, low parasitic junction capacitance, better temperature sensitivity, and reduction in leakage. The SOI technology is robust and can sustain in a high temperature environment. This facilitates their use in extreme environment applications such as automobiles. The low power consumption feature makes it highly useful for use in consumer electronics such as computers, video games, and mobile phones. Increasing consumer awareness and reducing wafer costs are further fuelling the market growth.

Developments in semiconductor devices have necessitated greater performance from silicon-substrate semiconductors. This has led to the development of the Silicon-on-Insulator (SOI) technology, which improves semiconductor performance by reducing capacitance between different layers. While the SOI market is expected to show huge growth due to the increasing demand for semiconductors, there is still a considerable scope for development as SOI is still new compared to the silicon substrate semiconductor technology.

The market for SOI devices and components is expected to show tremendous growth in the next five years. The SOI technology is gaining high popularity in the semiconductor industry due to their benefits of low power consumption and junction capacitance. The SOI market is increasing due to the growth in markets such as consumer electronics and gaming, which make use of SOI. The adoption of SOI in various applications can be increased by increasing the awareness of this technology. Geographically, the Asia-Pacific market is expected to have the maximum potential for growth. China, Japan, and India have a huge demand for consumer electronics and in turn drive the SOI market. Europe leads the market for SOI technology.

The major players in the SOI market are Soitec SA (France), Applied Materials Inc. (U.S.), ARM Holdings (U.K.), Cadence Design Systems (U.S.), Elmos Semiconductor AG (Germany), Freescale Semiconductor (U.S.), IBM Corporation (U.S.), STMicroelectronics (Switzerland), and others.

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