

Global Markets for Spark Plasma Sintering and Other Advanced Sintering Technologies

<https://marketpublishers.com/r/G5E283D1D91EN.html>

Date: May 2018

Pages: 156

Price: US\$ 1,250.00 (Single User License)

ID: G5E283D1D91EN

Abstracts

REPORT SCOPE

This report provides an updated review of spark plasma sintering and other types of advanced sintering technologies giving a description of basic equipment configurations. It also identifies current and emerging applications for these technologies.

BCC Research delineates the current market status for AST systems, defines trends and presents growth forecasts for the next five years. The market is analyzed based on the following segments: equipment type, application and region. In addition, technological issues, including key events and the latest process developments, are discussed.

More specifically, the market analysis conducted by BCC Research for this report is divided into five sections.

In the first section, an introduction to the topic and a historical review of spark plasma sintering and other advanced sintering technologies are provided, including an outline of recent events. In this section, a brief introduction to the numerous applications of these technologies is also offered.

The second section provides a technological review of spark plasma sintering and other advances in sintering technologies. This section offers a current description of various systems; typical materials processed by these apparatuses; technological trends in sintering technologies; and new and emerging applications. This section concludes with an analysis of the most important technological developments since 2015, including examples of significant patents recently issued or applied for, as well as highlighting the

most active research organizations operating in this field.

The third section entails a global market analysis of AST systems. Global revenues (sales data in millions of dollars) are presented for each segment (equipment type, application and region), with actual data referring to the years 2015 and 2016 and estimates for 2017. Dollar figures refer only to equipment sales at the manufacturing level and do not include related services and maintenance activities.

The analysis of current revenues is followed by a detailed presentation of market growth trends, based on industry growth, and industry and regional trends. The third section concludes by providing projected revenues for AST systems within each segment, together with forecast compound annual growth rates (CAGRs) for the period of 2017 through 2022.

In the fourth section of the study, which covers global industry structure, the report offers a list of the leading suppliers and developers of AST equipment, together with a description of their products. The analysis includes a description of the geographical distribution of these firms and an evaluation of other key industry players. Detailed company profiles of the top players are also provided.

The fifth and final section includes an analysis of recently issued U.S. and international patents, with a summary of patents related to advanced sintering technologies, materials, equipment and applications. A patent analysis is performed by region, country, assignee, patent category, material type, process type and application.

REPORT INCLUDES

32 data tables and 12 additional tables

An overview of the global market for spark plasma sintering (SPS) and other advanced sintering technologies

Analyses of global market trends, with data from 2015, 2016, 2017, and projections of compound annual growth rates (CAGRs) through 2022

Discussion of the current and emerging requirements posed by advancements within the ceramics industry

Coverage of milestones in the history of spark plasma sintering and other

advanced sintering technologies

Descriptions of the geographical distribution of manufacturers

Detailed company profiles of top industry players in the market, including ALD Vacuum Technologies, EOS, FCT Systeme, Gasbarre Products, Linn High Therm, PVA Tepla Group, and Simuwu

Contents

CHAPTER 1 INTRODUCTION

Study Goals and Objectives
Reasons for Doing This Study
Intended Audience
Scope of Report
Methodology and Information Sources
Market Breakdown
Analyst's Credentials
Related BCC Research Reports

CHAPTER 2 SUMMARY AND HIGHLIGHTS

CHAPTER 3 MARKET AND TECHNOLOGY BACKGROUND

Sintering Technologies
The Sintering Industry
Milestones in the History of Spark Plasma Sintering and Other Advanced Sintering Technologies
Applications of Advanced Sintering Technologies

CHAPTER 4 TECHNOLOGY

Introduction
Advanced Sintering Processes for Monolithic Products
Spark Plasma Sintering
Flash Sintering
Vacuum Sintering
Microwave Sintering
Advanced Sintering Processes for Additive Manufacturing and Coatings
Laser Sintering
Infrared Sintering
Photonic Sintering
Latest Technological Developments, 2015 to Present
Rapid Fabrication of Porous Biomaterials by Microwave Sintering
Vacuum Sintering of Rare Earth-based Transparent Ceramics
Photonic Sintering of Nanocrystal Films for Solar Cells

Rapid Manufacturing of Porous Metal Prostheses
Combined Field-Assisted Sintering and High-temperature/High-Pressure Sintering for
Fabrication of Polycrystalline Diamond
Highly Dense Ceramic Matrix Composites by Spark Plasma Sintering
Garnets for Lithium Secondary Batteries by Spark Plasma Sintering
Other Relevant R&D Activities

CHAPTER 5 GLOBAL MARKETS

Analysis Outline
Global Market Summary
Current Market Status
Market by Equipment Type
Market by Application
Market by Region
Market Growth Trends
Industry Growth
Industry Trends
Regional Trends
Market Forecast
Market by Equipment Type
Market by Application
Market by Region

CHAPTER 6 GLOBAL INDUSTRY STRUCTURE

Leading Providers of Advanced Sintering Systems
Other Industry Players
Company Profiles
3D SYSTEMS
ALD VACUUM TECHNOLOGIES
ECM TECHNOLOGIES
EOS
FARSOON TECHNOLOGIES
FCT SYSTEME
FORMLABS
FUJI ELECTRONIC INDUSTRIAL
GASBARRE PRODUCTS
KOYO THERMO SYSTEMS

LINN HIGH THERM
MATSUURA MACHINERY
PVA TEPLA GROUP
SECO WARWICK
SIMUWU

CHAPTER 7 PATENT ANALYSIS

Introduction
Summary of Recently Awarded Patents
General Trends
Trends by Country and Region
Trends by Assignee
Trends by Patent Category
Trends by Material Type
Trends by Process Type
Trends by Application

List Of Tables

LIST OF TABLES

- Summary Table: Global Market for AST Equipment, by Type, Through 2022
- Table 1: Spark Plasma Sintering and Other Advanced Sintering Technologies
- Table 2: Global Market for Sintering Equipment, by Region, Through 2022
- Table 3: Technological Milestones for Spark Plasma Sintering and Other Advanced Sintering Technologies
- Table 4: End Use of Products Manufactured by Advanced Sintering Technologies
- Table 5: Typical Materials Processed by Spark Plasma Sintering
- Table 6: Other Relevant R&D Activities
- Table 7: Global Market for AST Equipment, by Category, Through 2022
- Table 8: Global Market for AST Equipment, by Type, Through 2017
- Table 9: Global Market for AST Equipment, by Application, Through 2017
- Table 10: Global Market for AST Equipment, by Region, Through 2017
- Table 11: Global Market for Wear and Corrosion Resistant Parts, by Type, Through 2022
- Table 12: Global Market for Wear and Corrosion Resistant Parts, by Material, Through 2022
- Table 13: Global Market for High Performance Alloys, by Type, Through 2022
- Table 14: Global Market for Prosthetic Devices, by Type, Through 2022
- Table 15: Global Market for Implantable Devices, by Region, Through 2022
- Table 16: Global Market for Implantable Devices, by Type, Through 2022
- Table 17: Global Market for Lasers, by Type, Through 2022
- Table 18: Global Market for Light-emitting Diodes, by Type, Through 2022
- Table 19: Global Market for Transparent Ceramics, by Application, Through 2022
- Table 20: Global Market for Thick Film Electronic Devices, by Type, Through 2022
- Table 21: Global Market for the Aerospace Industry, by Region, Through 2022
- Table 22: Global Market for Ceramic Matrix Composites, by Application, Through 2022
- Table 23: Global Market for Automotive Materials, by Type, Through 2022
- Table 24: Global Market for Automotive Composites, by Material, Through 2022
- Table 25: Global Market for Fuel Cells, by Type, Through 2022
- Table 26: Global Market for Batteries, by Type, Through 2022
- Table 27: Global Market for Photovoltaic Modules, by Type, Through 2022
- Table 28: Global Market for Body and Vehicular Armor, by Type, Through 2022
- Table 29: Global Market for Body and Vehicular Armor, by Region, Through 2022
- Table 30: Global Market for Body and Vehicular Armor, by Material, Through 2022
- Table 31: Global Market for 3D Printing, by Material, Through 2022

- Table 32: The Nanotechnology Industry, 2017
- Table 33: Global Market for Nanotechnology, by Type, Through 2022
- Table 34: Global Market for AST Equipment, by Type, Through 2022
- Table 35: Global Market for AST Equipment, by Application, Through 2022
- Table 36: Global Market for AST Equipment, by Region, Through 2022
- Table 37: Leading Suppliers of Advanced Sintering Systems, 2017
- Table 38: Leading Suppliers by Product Type, 2017
- Table 39: Leading Suppliers by Product and Region, 2017
- Table 40: Other Industry Players
- Table 41: Advanced Sintering Technologies-Worldwide Patents, 2017
- Table 42: Global Patent Trend for Advanced Sintering Technologies, Through 2017
- Table 43: Assignees of Global Patents related to Advanced Sintering Technologies, 2017

List Of Figures

LIST OF FIGURES

Summary Figure: Global Market for AST Equipment, by Type, 2015-2022

Figure 1: Types of Sintering Processes

Figure 2: Global Market Shares of Sintering Equipment, by Type, 2022

Figure 3: Advanced Field-Assisted Sintering Technologies: Worldwide Patent Applications and Patents Issued, 1990-2016

Figure 4: Advanced Vacuum-assisted Sintering Technologies: Worldwide Patent Applications and Patents Issued, 1990-2016

Figure 5: Advanced Electromagnetic Radiation-assisted Sintering Technologies: Worldwide Patent Applications and Patent Issued, 1990-2016

Figure 6: Basic Configuration of a Spark Plasma Sintering System

Figure 7: Basic Configuration of a Flash Sintering System

Figure 8: Flame-Assisted Flash Sintering System

Figure 9: Flash Spark Plasma Sintering System

Figure 10: Vacuum Sintering System

Figure 11: Microwave Sintering System

Figure 12: Selective Laser Sintering

Figure 13: Global Market for AST Equipment, by Category, 2015-2022

Figure 14: Global Market Shares of AST Equipment, by Type, 2017

Figure 15: Global Market Shares of AST Equipment, by Application, 2017

Figure 16: Global Market Shares of AST Equipment, by Region, 2017

Figure 17: Global Market Shares of Wear and Corrosion Resistant Parts, by Type, 2022

Figure 18: Global Market Shares of Wear and Corrosion Resistant Parts, by Material, 2022

Figure 19: Global Market Shares of High Performance Alloys, by Material, 2022

Figure 20: Global Market Shares of Implantable Devices, by Region, 2022

Figure 21: Global Market Shares of Implantable Devices, by Type, 2022

Figure 22: Global Market Shares of Lasers, by Type, 2022

Figure 23: Global Market Shares of Light-emitting Diodes, by Type, 2022

Figure 24: Global Market Shares of Transparent Ceramics, by Application, 2022

Figure 25: Global Market Shares of Thick Film Electronic Devices, by Type, 2022

Figure 26: Global Market Shares of the Aerospace Industry, by Type, 2022

Figure 27: Global Market Shares of Ceramic Matrix Composites, by Application, 2022

Figure 28: Global Market Shares of Automotive Materials, by Type, 2022

Figure 29: Global Market Shares of Automotive Composites, by Material, 2022

Figure 30: Global Market Shares of Fuel Cells, by Type, 2022

Figure 31: Global Market Shares of Batteries, by Type, 2022

Figure 32: Global Market Shares of Photovoltaic Modules, by Type, 2022

Figure 33: Global Market Shares of Body and Vehicular Armor, by Region, 2022

Figure 34: Global Market Shares of Body and Vehicular Armor, by Material, 2022

Figure 35: Global Market Shares of 3D Printing, by Material, 2022

Figure 36: Global Market Shares of Nanotechnology, by Type, 2022

Figure 37: Global Market Shares of AST Equipment, by Type, 2022

Figure 38: Global Market Shares of AST Equipment, by Application, 2022

Figure 39: Global Market Shares of AST Equipment, by Region, 2022

Figure 40: Leading Suppliers by Product and Region, 2017

Figure 41: Global Patent Trend for Advanced Sintering Technologies, 2014-2017

Figure 42: Global Patent Shares of Advanced Sintering Technologies, by Region, 2017

Figure 43: Global Patent Shares of Advanced Sintering Technologies, by Country, 2017

Figure 44: Global Patents Shares of Advanced Sintering Technologies, by Organization Type, 2017

Figure 45: Global Patent Shares of Advanced Sintering Technologies, by Patent Category, 2017

Figure 46: Global Patent Shares of Advanced Sintering Technologies, by Material Type, 2017

Figure 47: Global Patent Shares of Advanced Sintering Technology, by Process Type, 2017

Figure 48: Global Patent Shares of Advanced Sintering Technologies, by Application, 2017

COMPANIES MENTIONED

3D Systems

ALD VACUUM TECHNOLOGIES

ECM TECHNOLOGIES

EOS

FARSOON TECHNOLOGIES

FCT SYSTEME

FORMLABS

FUJI ELECTRONIC INDUSTRIAL

GASBARRE PRODUCTS

KOYO THERMO SYSTEMS

LINN HIGH THERM

MATSUURA MACHINERY

PVA TEPLA GROUP

SECO WARWICK
SIMUWU

I would like to order

Product name: Global Markets for Spark Plasma Sintering and Other Advanced Sintering Technologies

Product link: <https://marketpublishers.com/r/G5E283D1D91EN.html>

Price: US\$ 1,250.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G5E283D1D91EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970