

Growth Opportunities in the Global Composites Industry

Published: June 2017

Trends, opportunities and forecast in this market to 2022 by application type (transportation, marine, wind energy, aerospace, pipe & tank, construction, electrical & electronics, consumer goods, and others), raw material (glass fiber, carbon fiber, aramid fiber, polyester resin, vinyl ester, phenolic, polyurethane, thermoplastic resin, filler, and others), fiber type (glass fiber composites, carbon fiber composites, and aramid fiber composites)

Table of Content

Table of Content

1. Executive Summary

2. About the Composites Industry

- 2.1: What is the Composites Industry?
- 2.2: Characteristics of the Composites Industry

3. Competitive Analysis between Steel, Aluminum, Plastics, and the Composites Industry

- 3.1: Competitive Analysis
- 3.2: Plastics Industry Overview
- 3.3: Steel Industry Overview
- 3.4: Aluminum Industry Overview
- 3.5: Composites Industry Overview

4. Global Reinforcement Market

- 4.1: Functions of Fibers and Resin Materials in Composites
- 4.2: Global Composites Market by Fiber Type
- 4.3: Global Market Size for Reinforcements
 - 4.3.1: Glass Fiber Market Size by Product Forms
 - 4.3.2: Carbon Fiber Market by Product Form
 - 4.3.3: Aramid Fiber Market
- 4.4: Market Leaders
 - 4.4.1: Glass Fiber Market Leaders
 - 4.4.2: Carbon Fiber Market Leaders
 - 4.4.3: Aramid Fiber Market Leaders

5. Global Resin Market

- 5.1: Types of Resins
 - 5.1.1: Thermoset Resins for the Composites Industry
- 5.2: Price and Weight Distribution of Various Ingredients in Composites
 - 5.2.1: Polyester Resin Applications
- 5.3: Resin Market

6. Global Composites Market by Material Type

- 6.1: Advanced Composites Market
- 6.2: Raw Materials Market
- 6.3: Thermoset and Thermoplastic Composites Market
- 6.4: Thermoplastic Composites Market by Product Form
 - 6.4.1: LFRT or LFT (Long Fiber Thermoplastic Composites)
 - 6.4.2: GMT
 - 6.4.3: Continuous Fiber TPCs
- 6.5: Composites Market by Molding Compounds

7. Global Composites by Market Segments

- 7.1: Global Composites Market by Segment
- 7.2: Driving Forces for the Use of Composite Materials
- 7.3: Key Requirements in Various Market Segments
- 7.4: Transportation Industry Market Outlook and Trend
 - 7.4.1: Automotive Industry Challenges
- 7.5: Market Outlook and Trends for the Aerospace and Defense Industry
- 7.6: Market Outlook and Trends for the Construction Industry
 - 7.6.1: Composites in Bridge Applications
 - 7.6.2: Challenges in Bridge Applications
 - 7.6.3: Non-Bridge Applications
- 7.7: Pipe and Tank Industry Analysis
- 7.8: Marine Market Outlook and Industry Trends
- 7.9: Consumer Goods Market Outlook and Industry Trends
- 7.10: Electrical and Electronic Industry Outlook
- 7.11: Wind Energy

8. Global Composites Market by Manufacturing Processes

- 8.1: Global Composites Market by Manufacturing Processes

9. Trends and Forecasts

- 9.1: Industry Challenges in Recent Years
 - 9.1.1: The Energy Cost Squeeze
 - 9.1.2: The Challenges of the Glass Fiber Industry
 - 9.1.3: Safety of Resin Producers
 - 9.1.4: Fabricators Challenge
- 9.2: Trends in the Global Composites Industry
 - 9.2.1: Market Trends by Region
 - 9.2.2: Market Trends by Applications
- 9.3: Trends in the North American Composites Industry
- 9.4: Trends in the European Composites Industry
- 9.5: Trends in the Asian Composites Industry
- 9.6: Composites Industry Forecast
- 9.7: Forecast for the North American Composites Industry
- 9.8: Forecast for the European Composites Industry
- 9.9: Forecast for the Asian Composites Industry
- 9.10: Forecast for Composite Manufacturing Processes

10. Regional Analysis

- 10.1: Composite Shipments by Region
- 10.2: Composite Consumption by Country

- 10.2.1: Shipments in North American Countries
- 10.2.2: Shipments in European Countries
- 10.2.3: Shipments in Asia Pacific Countries

10.3: Composite Applications by Region

- 10.3.1: Composite Markets in North America
- 10.3.2: Composite Markets in Europe
- 10.3.3: Composite Markets in Asia Pacific

11. Value Chain Analysis and Industry Leaders

- 11.1: Value Chain Analysis
- 11.2: Industry Leaders
 - 11.2.1: Industry Leaders in Material Suppliers Category
 - 11.2.2: Leaders in End Use Markets

12. Materials and Technology Needs for the Future Composites Industry

- 12.1: Need for Low-Cost Raw Materials
- 12.2: Resins and Fiber Materials with Higher Strain to Failure
- 12.3: Better UV and Chemical Resistant Materials
- 12.4: Low-Cost Manufacturing Process for Large and Small Parts
- 12.5: Need for High Temperature Composite Material
- 12.6: Low Shrinkage Materials
- 12.7: Composite Materials with Improved Wear and Tear Resistance
- 12.8: Damping and Noise Resistance Materials
- 12.9: Optimal Resin and Additive Systems for Closed Molding Operations
- 12.10: Manufacturability and Affordability
- 12.11: Flexible Gelcoats
- 12.12: Flame Resistant Materials
- 12.13: Self-Healing Materials
- 12.14: Manufacturing Process with Lower Processing Time
- 12.15: Flexible Honeycomb Core
- 12.16: Fabric Wrinkling Resistance
- 12.17: Method of Cutting Wet Prepregs
- 12.18: Need for Moisture Resistant Honeycomb Core
- 12.19: Fast Cure Epoxy Resin

13. Innovations in Composites Industry

- 13.1: Owens Corning has developed Performax Roving offer performance and productivity benefit
- 13.2: Johns Manville Introduced ThermoFlow 636, a New Chopped Strand Glass Fiber
- 13.3: Dow Introduced New Polyurethane Series Named VORAFORCE TW 1100
- 13.4: Cytec Industrial Materials has Developed New Prepreg Named MTM 23 for Automotive
- 13.5: PPG Introduced New Chopped Fiberglass
- 13.6: Momentive Introduced EPIKOTE Binder System 620 for Automotive
- 13.7: New Two Part Epoxy Resin System by Cytec
- 13.8: Cytec Industries Introduced Vinyl Ester Prepreg for Automotive
- 13.9: Hexcel Introduced Epoxy Prepreg HexPly M77
- 13.10: AOC Developed a Low-Density Sheet Molding Compound
- 13.11: PremierUV™-Sheet Molding Compound Developed by The Composite Group
- 13.12: Core Molding Technologies, Inc. Developed Airilite™ Ultra-Low-Density SMC
- 13.13: Globe Machine Manufacturing Co. Introduced Second Generation Autoclave Processing Technology
- 13.14: Magnum Venus Introduced a Mix Gun Talon-X with Enhanced Features

List of Figures

Chapter 1. Executive Summary

Figure 1.1: Porter's Five Forces Model for the Global Composites Industry from the Perspective of Composite Parts Fabricators

Chapter 2. About the Composites Industry

Figure 2.1: Classification of Raw Materials

Figure 2.2: Schematic Flow Chart of the Global Composites Industry

Chapter 3. Competitive Analysis between Steel, Aluminum, Plastics, and the Composites Industry

Figure 3.1: Global Shipments - Competing Materials (2003-2016)

Figure 3.2: Percentage Distribution of Competing Materials in the Global Industry in 2016

Figure 3.3: North American Domestic Shipments by Material Type (2011-2016)

Figure 3.4: Percentage Distribution of Competing Materials in North American Industry in 2016

Figure 3.5: Amount of Steel, Aluminum, Plastic, and Composite Shipments on a Weight Basis for the North American Industry in 2016

Figure 3.6 Heatmap of Composite Materials Market

Figure 3.7: Trends of Global Plastic Shipments (B lbs) (2011-2016)

Figure 3.8: US Plastics Industry Total Sales and Captive Use by Type of Resins

Figure 3.9: US Plastics Industry Distribution by Resin Type

Figure 3.10: US Thermoplastic Shipment by Markets in 2012

Figure 3.11: Trend of Global Steel Shipment (2011-2016)

Figure 3.12: Steel Industry Breakdown by Major Segment in 2016

Figure 3.13: Trend of Global Primary Aluminum Shipment (2011- 2016)

Figure 3.14: Global Aluminum Shipment by Market in 2016

Chapter 4. Global Reinforcement Market

Figure 4.1: Global Composite Shipments (%) by Fiber Type in 2016

Figure 4.2: Global Composite Shipments by Fiber Type in 2016

Figure 4.3: Global Reinforcement Distribution by Fiber Type in 2016

Figure 4.4: Global Reinforcement Distribution (M lbs) by Fiber Type in 2016

Figure 4.5: Global Reinforcement Distribution by Fiber Type (%) in 2016

Figure 4.6: Global Reinforcement Distribution (\$M) by Fiber Type in 2016

Figure 4.7 Composites Applications by Reinforcement Form

Figure 4.8: Global Fiberglass Distribution by Type of Product Form in 2016

Figure 4.9: Global Fiberglass Shipments (Mlbs) by Type of Product Form in 2016

Figure 4.10: Carbon Fiber Shipments by Precursor Type in 2016

Figure 4.11: Carbon Fiber Shipments by Precursor Type in 2016

Figure 4.12: Carbon Fiber Shipments by Tow Size (M lbs) in 2016

Figure 4.13: Trends of the Global Carbon Fiber Market (M lbs) Shipments (2011-2016)

Figure 4.14: Trends of the Carbon Fiber Market in \$M Shipment (2011-2016)

Chapter 5. Global Resin Market

Figure 5.1: Schematic Representation of Uncured Polyester Resin

Figure 5.2: Schematic Representation of Cured Polyester Resin

Figure 5.3: Schematic Representation of Uncured Vinyl Ester Resin

Figure 5.4: Schematic Representation of Cured Vinyl Ester Resin

Figure 5.5: Global Composites Market Distribution (M lbs) by Thermoset and Thermoplastic Resin Composites in 2016

Figure 5.6: Global Composites Market Distribution (M lbs) by Resin Type in 2016

Figure 5.7: Global Composites Market Distribution (\$M) by Resin Type in 2016

Figure 5.8: Global Composites Market Shipment (%) by Resin Type in 2016

Figure 5.9: Breakdown of Global Composites Market by Resin Type in 2016

Figure 5.10: Global Composite Shipments by Resin Type in 2016

Figure 5.11: Resin Material by Shipment (M lbs) in the Global Composites Industry in 2016

Figure 5.12: Global Resin Shipment (\$M) by Resin Type in 2016

Chapter 6. Global Composites Market by Material Type

Figure 6.1: Market Share by Composite Type in the Global Composites Industry in 2016

Figure 6.2: Distribution (M lbs) by Composite Type in the Global Composites Industry in 2016

Figure 6.3: Composites Type Market Share (\$M) in the Global Composites Industry in 2016

Figure 6.4: Composites Market Distribution (\$M) in the Global Composites Industry in 2016

Figure 6.5: Raw Material Shipment (M lbs) in the Global Composites Industry in 2016

Figure 6.6: Global Composites Market (%) by Raw Material Used in 2016

Figure 6.7: Raw Material Shipment (\$M) in the Global Composites Industry in 2016
 Figure 6.8: Raw Material Distribution in the Global Composites Industry in 2016
 Figure 6.9: Global Composites Market Distribution (%) by Resin Type in 2016
 Figure 6.10: Global Composites Market Shipment (M lbs) by Thermoset and Thermoplastic Resins in 2016
 Figure 6.11: Global Composites Market Shipment (\$M) by Thermoset and Thermoplastic Resins in 2016
 Figure 6.12: Global Thermoplastic Composites Breakdown by Product Form in 2016
 Figure 6.13: Global Thermoplastic Composite Shipments (M lbs) by Product Form in 2016
 Figure 6.14: Global Thermoplastic Composites Breakdown \$M by Product Form in 2016
 Figure 6.15: Global Thermoplastic Composite Shipments (\$M) by Product Form in 2016
 Figure 6.16: Molding Compounds in the Global Composites Industry in 2016
 Figure 6.17: Molding Compound Shipments (M lbs) in the Global Composites Industry in 2016

Chapter 7. Global Composites by Market Segments

Figure 7.1: Major OEMs/Molders in Various Market Segments
 Figure 7.2: Global Composites Distribution (M lbs) in 2016 by Market Segment
 Figure 7.3: Global Composite Shipments by Market Segment in 2016
 Figure 7.4: Global Composites Distribution (\$M) by Market Segment in 2016
 Figure 7.5: Global Composite Shipments (\$M) by Market Segment in 2016
 Figure 7.6: Global Composites Market by Region (\$M) in 2016
 Figure 7.7: Global Composite Shipments (M lbs) by Region in 2016
 Figure 7.8: Cost Versus Performance Criteria in Various Industries for Composite Usage
 Figure 7.9: Composites Distribution in Global Transportation Industry in 2016
 Figure 7.10: Composite Shipments (M lbs) in the Global Transportation Industry in 2016
 Figure 7.11: Composites in the Transportation Market by Region in 2016
 Figure 7.12: Composite Shipments in the Transportation Market by Region in 2016
 Figure 7.13: Trends of US Light Vehicle Sales (1992-2016) (Million Units)
 Figure 7.14: Trends of US Light Vehicle Sales (Thousand Units) by Segmentation (1991-2016)
 Figure 7.15: Trends in Composites Shipment in the Global Automotive Market (2011-2016)
 Figure 7.16: Composite Shipments (M lbs) by Manufacturing Process for Global Transportation Industry in 2016
 Figure 7.17: Composites Shipment (M lbs) by Manufacturing Process for Transportation Industry in 2016
 Figure 7.18: Classification of Aerospace Market by Aircraft Type
 Figure 7.19: Composites Distribution in the Global Aerospace Industry in 2016
 Figure 7.20: Composite Shipments (M lbs) in the Global Aerospace Industry in 2016
 Figure 7.21: Composites Distribution by Region in the Aerospace Industry in 2016
 Figure 7.22: Composites Consumption by Region in the Aerospace Industry in 2016
 Figure 7.23: Monthly Production Rate Forecast of Major Commercial Aircraft Platforms
 Figure 7.24: Evolution of Composites Applications in Commercial Aircraft
 Figure 7.25: Material Distributions of Boeing 787
 Figure 7.26: Material Distribution in the Airbus A340 for Buy and Fly Cases
 Figure 7.27: Trends of Shipments in the Global Aerospace Market (\$ Billion) (2010- 2016)
 Figure 7.28: Trends of Delivery (units) by Boeing and Airbus in the Commercial Aerospace Industry
 Figure 7.29: Supply and Demand Trends for Boeing Aircraft (2002-2016)
 Figure 7.30: Supply and Demand Trends for Airbus Aircraft (2002-2016)
 Figure 7.31: Composites Distribution in Global Construction Industry in 2016
 Figure 7.32: Composite Shipments (M lbs) in Global Construction Industry in 2016
 Figure 7.33: Construction Industry by Region in 2016
 Figure 7.34: Composite Shipments in the Construction Industry by Region in 2016
 Figure 7.35: Trends in Housing Starts in the US from 1978 to 2016
 Figure 7.36: Trends in Annual New Home Average Prices in US
 Figure 7.37: Construction Activity in EU (2000-2016)
 Figure 7.38: Trends of Deficient Bridges in US (2008-2016)
 Figure 7.39: Corrosion Market Breakdown by Type of Applications
 Figure 7.40: Shipment of Petroleum Tanks by Material Type in North America
 Figure 7.41: Comparison (%) of Septic Tank Shipments (in Terms of Number) by Construction Material in North America
 Figure 7.42: Percentage Distribution of Sewage Pipe Market by Type of Material
 Figure 7.43: Oil and Gas Pipe Market by Type of Material
 Figure 7.44: Composites Distribution in Global Pipe and Tank Industry in 2016
 Figure 7.45: Composite Shipments (M lbs) in the Global Pipe and Tank Industry in 2016
 Figure 7.46: Composite Shipments (M lbs) in the Global Pipe and Tank Industry by Region in 2016
 Figure 7.47: Composite Shipments in the Global Pipe and Tank Industry by Region in 2016
 Figure 7.48: Composites in the Global Marine Industry in 2016
 Figure 7.49: Composite Shipments in the Global Marine Industry in 2016
 Figure 7.50: Composite Materials Distribution by Region in the Global Marine Industry in 2016

Figure 7.51: Composite Shipments by Region in the Global Marine Industry in 2015
 Figure 7.52: US Recreational Boating Domestic Boat Unit Shipment Trends (1991-2016)
 Figure 7.53: Personal Watercraft (PWC) Market Trend (2001-2016)
 Figure 7.54: Trends in Regional Shipment of the Composites in Marine Industry
 Figure 7.55: Composites Distribution in the Global Consumer Goods Market in 2016
 Figure 7.56: Composite Shipments in the Global Consumer Goods Industry in 2016
 Figure 7.57: Composite Shipments in the Global Consumer Market by Region in 2016
 Figure 7.58: Composite Shipments (M lbs) by Region in the Global Consumer Goods Industry in 2016
 Figure 7.59: Composites Distribution in Electrical/Electronic Industry in 2016
 Figure 7.60: Composite Shipments in the Global Electrical/Electronic Industry in 2016
 Figure 7.61: Composites Distribution by Region in the Global Electrical/Electronic Industry
 Figure 7.62: Composites Shipment by Region in the Global Electrical/Electronics Industry in 2016
 Figure 7.63: Global PCB Trends and Forecast Market (2010-2022)
 Figure 7.64: Composites Distribution in the Global Wind Energy Industry
 Figure 7.65: Composite Shipments (M lbs) in the Global Wind Energy Industry
 Figure 7.66: Composites Distribution by Region in the Global Wind Energy Industry
 Figure 7.67: Trends in Composite Shipments in the Global Wind Energy Market (2011-2016)
 Figure 7.68: Composites Shipment in the Wind Energy Market by Region in 2016
 Figure 7.69: Trends in the Global Wind Energy Cumulative Installations (2000-2016)

Chapter 8. Global Composites Market by Manufacturing Processes

Figure 8.1: Classification of Composite Processing Techniques
 Figure 8.2: Global Composites Distribution (M lbs) by Manufacturing Process 2016
 Figure 8.3: Global Composite Shipments (M lbs) by Manufacturing Process 2016
 Figure 8.4: Global Composites Distribution (\$M) by Manufacturing Process in 2016
 Figure 8.5: Global Composite Shipments (\$M) by Manufacturing Process in 2016
 Figure 8.6: Hand Lay-Up and Spray-Up Distribution by Market in the Global Composites Industry in 2016
 Figure 8.7: Hand Lay-Up and Spray-Up Distribution (M lbs) by Market in the Global Composites Industry in 2016
 Figure 8.8: Compression Molding Distribution by Market in the Global Composites Industry in 2016
 Figure 8.9: Compression Molding Shipment (M lbs) by Market in the Global Composites Industry in 2016
 Figure 8.10: Pultrusion Process Distribution by Market in the Global Composites Industry in 2016
 Figure 8.11: Pultrusion Process Distribution (M lbs) by Market in the Global Composites Industry in 2016
 Figure 8.12: Open and Closed Molding Distribution in the Global Composites Market in 2016
 Figure 8.13: Open and Closed Molding Shipment (M lbs) in the Global Composites Market in 2016

Chapter 9. Trends and Forecasts

Figure 9.1: Trends in the Global Composites Industry (2011-2016)
 Figure 9.2: Comparative Regional Growth Rates in Composites Industry in 2015 and 2016
 Figure 9.3: Trends in Wind Energy Capacity Installations
 Figure 9.4: Trends of the US Personal Watercraft Market (2001-2016)
 Figure 9.5: Trends in the Global Composites Industry (M lbs) (2011-2016)
 Figure 9.6: Global Composites Market (M lbs) by Region in 2011
 Figure 9.7: Global Composites Market (M lbs) by Region in 2016
 Figure 9.8: Global Composites Market (\$M) by Region in 2016
 Figure 9.9: Global Composites Market by Region (M lbs) (2015-2016)
 Figure 9.10: Growth Rates in Various Market Segments of the Global Composites Industry in 2016
 Figure 9.11: Average Annual Growth Rates in Various Market Segments of the Global Composites Industry (2011-2016)
 Figure 9.12: North American Composites Shipment (M lbs) (2011-2016)
 Figure 9.13: Growth Rates in Various Market Segments of the North American Composites Industry in 2016
 Figure 9.14: Average Annual Growth Rates in Various Market Segments of the North American Composites Industry (2011-2016)
 Figure 9.15: US Composites Shipment Trend by Market Segment (1970-2016)
 Figure 9.16: Trends in the European composites Shipment (M lbs) (2011-2016)
 Figure 9.17: Growth Rate in Various Market Segments of European Composites Market in 2016
 Figure 9.18: Average Annual Growth Rates in Various Market Segments of the European Composites Industry (2011-2016)
 Figure 9.19: Trends in the APAC Composite Shipments (M lbs) Market (2011- 2016)
 Figure 9.20: Growth Rate in Various Market Segments of the Asia Pacific Composites Market
 Figure 9.21: Average Annual Growth Rates in Various Market Segments of the Asia Pacific Composites Industry (2011-2016)

Figure 9.22: Comparative Composite Shipments (M lbs) in Various Market Segments in 2015
 Figure 9.23: Comparative Composite Shipments (M lbs) in Various Market Segments in 2016
 Figure 9.24: External Forces Shaping the Composites Industry
 Figure 9.25: US Consumer Spending by Year (1996-2016)
 Figure 9.26: US Quarterly Consumer Sentiment for (2009-2016)
 Figure 9.27: Trend in the US GDP (2000-2016) (Source: IMF)
 Figure 9.28: Trends of Regional GDP Growth Rate
 Figure 9.29: Global Composites Market Forecast (2017-2022)
 Figure 9.30: Global Composites Market Forecast by Region (2017-2022)
 Figure 9.31: Global Composites Shipment (M lbs) by Region in 2022
 Figure 9.32: Global Composites Market (\$M) by Region in 2022
 Figure 9.33: Global Composites Market (\$M) by Region in 2022
 Figure 9.34: Growth Opportunities in Various Market Segments (2017-2022)
 Figure 9.35: Global Composites End Product Market Forecast by Application Segments (2016 -2022)
 Figure 9.36 Growth Forecast in the Global Composite Shipments by Market Segment in 2017
 Figure 9.37: Average Annual Growth Forecast in Various Market Segments (2017-2022) of the Global Composites Industry
 Figure 9.38: Global Composites Distribution (M lbs) by Market Segment in 2017
 Figure 9.39: Global Composites Distribution (M lbs) by Market Segment in 2022
 Figure 9.40: Global Composites Shipment (\$M) by Market Segment in 2022
 Figure 9.41: Growth Forecast in the North American Composite Shipments by Market Segments in 2017
 Figure 9.42: Average Annual Growth Forecast in the North American Composites Industry by Market Segments (2017-2022)
 Figure 9.43: North American Composites Distribution (M lbs) by Market Segment in 2017
 Figure 9.44: North American Composites Distribution (M lbs) by Market Segment in 2022
 Figure 9.45: North American Composite Shipments (\$M) by Market Segment in 2022
 Figure 9.46: European Composite Shipments by Market Segment Growth Forecast in 2017
 Figure 9.47: Average Annual Growth Rates in Various Market Segments of the European Composites Industry (M lbs) (2017-2022)
 Figure 9.48: European Composites Distribution (M lbs) by Market Segment in 2017
 Figure 9.49: European Composites Distribution (M lbs) by Market Segment in 2022
 Figure 9.50: European Composite Shipments (\$M) by Market Segment in 2022
 Figure 9.51: Growth Rate in Different Market Segments in the APAC Composites Industry in 2017
 Figure 9.52: Average Annual Growth Forecast (2017-2022) in APAC Composite Shipments by Market Segment
 Figure 9.53: Asia Pacific Composites Distribution (M lbs) by Market Segment in 2017
 Figure 9.54: Asia Pacific Composites Distribution (M lbs) by Market Segment in 2022
 Figure 9.55: Composite Shipments (\$M) by Application in the APAC Composites Market in 2022
 Figure 9.56: Open and Closed Molding Shipment of the Global Composites Market in 2016
 Figure 9.57: Open and Closed Molding Distribution of the Global Composites Market in 2022
 Figure 9.58: Open and Closed Molding Shipment of the Global Composites Market in 2022
 Figure 9.59: Global Composites Distribution (%) by Manufacturing Process in 2022
 Figure 9.60: Global Composite Shipments (M lbs) by Manufacturing Process in 2022
 Figure 9.61: Global Composites Distribution (\$M) by Manufacturing Process in 2022
 Figure 9.62: Global Composite Shipments (\$M) by Manufacturing Process in 2022

Chapter 10. Regional Analysis

Figure 10.1: The Global Composites Market by Region in 2016
 Figure 10.2: Global Composite Market Shipments by Region in 2016
 Figure 10.3: Regional Market (M lbs) in the Global Composites Industry in 2015 vs. 2016
 Figure 10.4: Comparative Composite Shipments (M lbs) in Different Market Segments by Region in 2016
 Figure 10.5: Composites Shipments Distribution of Top 12 Leading Countries in 2016
 Figure 10.6: Composites Shipments (M lbs) of Top 12 Leading Countries of the World in 2016
 Figure 10.7: Composites (M lbs) Per Capita of Top 12 Leading Countries of the World in 2016
 Figure 10.8: Composites Potential for Top 12 Leading Countries of the World
 Figure 10.9: Composites Distribution by Country of North American in 2016
 Figure 10.10: Composite Shipments (M lbs) in North American Country in 2016
 Figure 10.11: Composite Shipments Distribution in European Countries in 2016
 Figure 10.12: Composite Shipments in European Countries in 2016
 Figure 10.13: Composites (Pounds) Per Capita in European Countries in 2016
 Figure 10.14: Composite Shipments Distribution in Asia Pacific Countries in 2016
 Figure 10.15: Composite Shipments in Asia Pacific Countries in 2016
 Figure 10.16: Composites (lbs) per Capita in Asia Pacific Countries in 2016
 Figure 10.17: Composites Market Distribution by Application in North America in 2016
 Figure 10.18: Composite Shipments (M lbs) in Various Applications in North America in 2016

Figure 10.19: Composite Shipments (\$M) in Various Applications in North America in 2016
Figure 10.20: European Composites Distribution by Market Segment in 2016
Figure 10.21: Composite Shipments (M lbs) in Various Applications in Europe in 2016
Figure 10.22: Composite Shipments (\$M) in Various Applications in Europe in 2016
Figure 10.23: Composites Distribution by Application in the Asia Pacific Market in 2016
Figure 10.24: Composite Shipments (M lbs) in Various Applications in the Asia Pacific Market in 2016
Figure 10.25: Composite Shipments (\$M) in Various Applications in the Asia Pacific Market in 2016

Chapter 11. Value Chain Analysis and Industry Leaders

Figure 11.1: Value Chain for the Composites Industry
Figure 11.2: Global Composites Market Breakdown (M lbs) by Raw Material Used in 2016
Figure 11.3: Raw Material (M lbs) Shipments in the Global Composites Industry in 2016
Figure 11.4: Raw Materials (\$M) Shipments in Global Composites Industry in 2016
Figure 11.5: Dollar (\$) and Gross Profit Flow Chart through Various Nodes of the Value Chain (from Raw Material to the End Product)
Figure 11.6: Gross Profit (\$M) in Raw Material (Reinforcement and Resins) Market in 2016
Figure 11.7: Gross Profit Distribution (%) by Type of Raw Material Market in 2016
Figure 11.8: Market Distribution (%) by Value (\$) of the End Product
Figure 11.9: Global Composites Market Distribution by Value of End Product in 2016
Figure 11.10: Gross Profit (\$M) in Various Market Segments
Figure 11.11: Gross Profit Distribution (%) by Type of Market Segment

List of Tables

Chapter 1. Executive Summary

Table 1.1 Global Composites Market Parameters and Attributes – Materials Perspective
Table 1.2 Global Composites Market Parameters and Attributes – End Product Market Perspective

Chapter 3. Competitive Analysis between Steel, Aluminum, Plastics, and the Composites Industry

Table 3.1: Composites Penetration in Various Markets
Table 3.2: Plastic Materials Shipment for the US Domestic Market (M lbs)

Chapter 6. Global Composites Market by Material Type

Table 6.1: Global Composites Shipment by Raw Material Type in 2016 (Source: Lucintel)

Chapter 7. Global Composites by Market Segments

Table 7.1 Impact Properties of Some Selected Materials
Table 7.2: Application of Composite Materials in the Automotive Industry
Table 7.3: Emerging Automotive Applications for Composites Material
Table 7.4: Strategies of OEMs and Tier1 Suppliers for Vertical Integration in High Volume Automotive Composites
Table 7.4: Segmented US Light Vehicle Sales (in thousands of units)
Table 7.5 Applications of Composite Materials in Aerospace Structures
Table 7.6: Evolution of Composite Material Applications at Airbus
Table 7.7 Composite Applications of Various Models of Boeing and Airbus Airplanes
Table 7.8 Aerospace Structures Made of Composites
Table 7.9: Selected Materials and Processes for the Airbus A380
Table 7.10 Composite Components in Aircraft Applications
Table 7.11: Structural Fabric Repair System

Chapter 8. Global Composites Market by Manufacturing Processes

Table 8.1: Ranking of Manufacturing Process Based on Annual Shipment

Chapter 9. Trends and Forecasts

Table 9.1 Market Trends (2011-2016) in the Global Composites Shipment
Table 9.2: Average Annual Growth Rates in Various Regions of the Global Composites Industry

Table 9.3: Market Size and Annual Growth Rates in Various Segments of the Global Composites Industry

Table 9.4: Market Size and Annual Growth Rates (2009-2014) in Various Market Segments of the Global Composites Industry

Table 9.5 Market Trends (2011-2016) in the North American Composites Shipment

Table 9.6 Average Annual Growth Rates (1970-2014) in Various Market Segments of the US Composites Industry

Table 9.7: GDP and Unemployment Rate for Leading Countries

Table 9.8: Interest and Exchange Rates for Leading Countries

Table 9.9: Forecast for Select Markets

Table 9.10: Average Annual Growth Forecasts in Various Regions of the Global Composites Industry (2016-2021)

Table 9.11: Market Size and Annual Growth Forecasts (2016-2022) in Various Market Segments of the Global Composites Industry

Chapter 10. Regional Analysis

Table 10.1: Average Annual Growth Rates in Various Regions of the Global Composites Industry

Table 10.2: Ranking of Top 11 Countries of World in Terms of Composites Shipment

Table 10.3: Ranking of Five Leading Countries in Europe in Terms of Composites Shipment

Table 10.4: Ranking of Five Leading Countries in Asia Pacific in Terms of Composites Shipment

Table 10.5: Ranking of Five Leading Applications in North American Composites Industry

Table 10.6: Ranking of Six Leading Market Segments in the European Composites Industry

Table 10.7: Ranking of Five Leading Applications in APAC

Chapter 11. Value Chain Analysis and Industry Leaders

Table 11.1 Financial Results of Industry Leaders in the Material Supplier Category

Table 11.2: Financial Results of Industry Leaders in Various Market Segments

Chapter 12. Materials and Technology Needs for the Future Composites Industry

Table 12.1: Impact Properties of Selected Materials

Table 12.2: Maximum Continuous Use Temperatures for Various Thermosets and Thermoplastics