

# Friction Stir Welding (FSW) Equipment Market: Current Analysis and Forecast (2025-2033)

<https://marketpublishers.com/r/F3C28CAFDFD5EN.html>

Date: April 2025

Pages: 137

Price: US\$ 3,999.00 (Single User License)

ID: F3C28CAFDFD5EN

## Abstracts

The Friction Stir Welding Equipment market indicates quite an active segment of advanced manufacturing, where the demand is for high-strength and very low-weight metals to be joined together. It is solid-state welding, performed basically by using a rotating forging tool, when the materials are joined without melting for applications, such as aerospace, automotive, shipbuilding, as well as rail. In any case, unlike traditional welding, such solid-state welds, created by FSW, are free of defects, exhibit much better mechanical properties than other methods, and are hardly environmentally detrimental. Hence, it has increased markedly in use with manufacturing industries across the world, which have been moving toward more energy-efficient and sustainable processes. The market is also being driven by various technological innovations, automation, and growing technical applications of lightweight alloys, making FSW a significant technology for modern industrial production, since it is proving beneficial.

The Friction Stir Welding (FSW) Equipment market is set to show a growth rate of about 6.1% during the forecast period (2025- 2033F). The global friction stir welding (FSW) equipment market has witnessed rapid growth in the historical years. Some of the factors attributed to the growth are the rising demand from the end-user industries. Industries such as automotive, aerospace & defense, construction, etc., are ramping up production capacity along with the precision manufacturing techniques with the help of FSW equipment. Additionally, the welding of lightweight materials in the end-user industries to reduce the weight and improve the finishing of the products has also led to the market expansion. Additionally, many of the friction stir welding equipment manufacturing companies have announced their plans to launch new-age FSW equipment to tap the expanding markets and various applications in different end-user industries.

The global Friction Stir Welding (FSW) Equipment market is segmented by type into Fixed, Mobile, Robotic, and Others. Fixed FSW Equipment occupies a dominant share of the market mainly because of its applications in industries that require production on a high-precision and large-scale, namely, aerospace, automotive, and shipbuilding. The systems are normally installed in manufacturing facilities where consistent welds of high strength are necessary in highly repetitive tasks, thus becoming the backbone of several manufacturers' welding operations. Mobile FSW Equipment is gaining market traction because of its flexibility, ease of operation, and in-field applications for rail, pipeline repair, and heavy equipment maintenance tasks, especially in remote or constricted environments. On the contrary, Robotic FSW Equipment represents a rapidly emerging player, favored for integration with smart manufacturing and automation lines that allow mass production-based processes with limited human intervention.

The global Friction Stir Welding (FSW) Equipment market is segmented by application into Aerospace & Defense, Automotive, Marine & Shipbuilding, Rail & Transportation, Construction & Infrastructure, and Energy & Power Generation. Aerospace & Defense is among these, with a major market attributed to the necessity for precision along with strength and lightweight material joining in the sector. FSW has been extensively used in the manufacture of fuselage panels, fuel tanks, and structural components, where safety and performance demand high-integrity welds. The automotive sector has started adopting FSW, and with the advent of the electric vehicle, lightweight construction and efficient heat management are very critical. FSW is beneficial to the Marine & Shipbuilding and Rail & Transportation industries in providing permanent joints in large assemblies with minimum distortion. For Construction & Infrastructure and Energy & Power Generation, initial investigations are underway into FSW because of possible cost efficiency and durable joints, as well as joined high-strength and corrosion-resistant alloys intended for demanding environments.

For a better understanding of the market adoption of Friction Stir Welding (FSW) Equipment, the market is analyzed based on its worldwide presence in countries such as North America (U.S., Canada, and the Rest of North America), Europe (Germany, U.K., France, Spain, Italy, Rest of Europe), Asia-Pacific (China, Japan, India, South Korea, Rest of Asia-Pacific), Rest of World. Among these, the North America region has held a dominant market share. With the presence of a large number of industries in aerospace, automotive, railway, etc., the

demand for FSW is further anticipated to rise.

Some major players running in the market include Friction Welding Technologies Pvt. Ltd., Grenzebach Maschinenbau GmbH, Manufacturing Technologies, Inc., Beijing FSW, FOOKE GmbH, PaR Systems, Concurrent Technologies Corporation, General Tool Company, KUKA AG, and Norsk Hydro ASA.

## Contents

### **1 MARKET INTRODUCTION**

- 1.1. Market Definitions
- 1.2. Main Objective
- 1.3. Stakeholders
- 1.4. Limitation

### **2 RESEARCH METHODOLOGY OR ASSUMPTION**

- 2.1. Research Process of the Global Friction Stir Welding (FSW) Equipment Market
- 2.2. Research Methodology of the Global Friction Stir Welding (FSW) Equipment Market
- 2.3. Respondent Profile

### **3 EXECUTIVE SUMMARY**

- 3.1. Industry Synopsis
- 3.2. Segmental Outlook
  - 3.2.1. Market Growth Intensity
- 3.3. Regional Outlook

### **4 MARKET DYNAMICS**

- 4.1. Drivers
- 4.2. Opportunity
- 4.3. Restraints
- 4.4. Trends
- 4.5. PESTEL Analysis
- 4.6. Demand Side Analysis
- 4.7. Supply Side Analysis
  - 4.7.1. Merger & Acquisition
  - 4.7.2. Collaboration & Investment Scenario
  - 4.7.3. Industry Insights: Leading Startups and Their Unique Strategies

### **5 PRICING ANALYSIS**

- 5.1. Regional Pricing Analysis
- 5.2. Price Influencing Factors

## **6 GLOBAL FRICTION STIR WELDING (FSW) EQUIPMENT MARKET REVENUE (USD MN), 2023-2033F**

### **7 MARKET INSIGHTS BY TYPE**

- 7.1. Fixed
- 7.2. Mobile
- 7.3. Robotic
- 7.4. Others

### **8 MARKET INSIGHTS BY APPLICATION**

- 8.1. Aerospace & Defense
- 8.2. Automotive
- 8.3. Marine & Shipbuilding
- 8.4. Rail & Transportation
- 8.5. Construction & Infrastructure
- 8.6. Energy & Power Generation

### **9 MARKET INSIGHTS BY REGION**

- 9.1. North America
  - 9.1.1. U.S.
  - 9.1.2. Canada
  - 9.1.3. Rest of North America
- 9.2. Europe
  - 9.2.1. Germany
  - 9.2.2. U.K.
  - 9.2.3. France
  - 9.2.4. Italy
  - 9.2.5. Spain
  - 9.2.6. Rest of Europe
- 9.3. Asia-Pacific
  - 9.3.1. China
  - 9.3.2. Japan
  - 9.3.3. India
  - 9.3.4. South Korea
  - 9.3.5. Rest of Asia Pacific

#### 9.4. Rest of World

### **10 VALUE CHAIN ANALYSIS**

#### 10.1. Marginal Analysis

#### 10.2. List of Market Participants

### **11 COMPETITIVE LANDSCAPE**

#### 11.1. Competition Dashboard

#### 11.2. Competitor Market Positioning Analysis

#### 11.3. Porter Five Forces Analysis

### **12 COMPANY PROFILES**

#### 12.1. Friction Welding Technologies Pvt. Ltd.

##### 12.1.1. Company Overview

##### 12.1.2. Key Financials

##### 12.1.3. SWOT Analysis

##### 12.1.4. Product Portfolio

##### 12.1.5. Recent Developments

#### 12.2. Grenzebach Maschinenbau GmbH

#### 12.3. Manufacturing Technologies, Inc.

#### 12.4. Beijing FSW

#### 12.5. FOOKE GmbH

#### 12.6. PaR Systems

#### 12.7. Concurrent Technologies Corporation

#### 12.8. General Tool Company

#### 12.9. Kuka AG

#### 12.10. Norsk Hydro ASA

### **13 ACRONYMS & ASSUMPTION**

### **14 ANNEXURE**

## I would like to order

Product name: Friction Stir Welding (FSW) Equipment Market: Current Analysis and Forecast (2025-2033)

Product link: <https://marketpublishers.com/r/F3C28CAFDFD5EN.html>

Price: US\$ 3,999.00 (Single User License / Electronic Delivery)

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

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/F3C28CAFDFD5EN.html>