

Silos Market to Reach USD 289.6 Million by 2035, Expanding at 3.4% CAGR from USD 201 Million in 2024 - By TMR

Silos Market to reach US\$ 289.6 Mn by 2035, expanding at 3.4% CAGR, driven by rising grain storage demand, food security needs, and agricultural modernization.

WILMINGTON, DE, UNITED STATES, September 5, 2025 /EINPresswire.com/
-- The <u>silos market</u> has emerged as an indispensable segment of modern agricultural and industrial infrastructure. With the industry valued at US\$ 201 Mn in 2024 and projected to grow at a CAGR of 3.4% from 2025 to



2035, the market is anticipated to reach US\$ 289.6 Mn by 2035. This growth trajectory reflects the increasing demand for efficient and sustainable storage solutions for bulk commodities such as grains, animal feed, cement, biomass, and coal.

In the backdrop of rising concerns about food security, growing global population, and the need to reduce post-harvest losses, silos have gained prominence as reliable, technologically advanced storage structures. Countries across Asia, North America, and Europe are investing heavily in silo infrastructure, driven by both agricultural and industrial requirements.

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Analysts' Viewpoint

Market analysts highlight that the silos industry is witnessing steady and consistent growth, primarily fueled by:

Rising demand for food security and grain storage technology.

Government initiatives to minimize post-harvest losses and stabilize food supply chains. The introduction of prefabricated and modular silos, which allow quick installation and scalability.

Increasing shift toward green and energy-efficient silos in line with global sustainability goals.

However, high upfront investment costs remain a significant bottleneck, particularly for small-scale farmers in developing nations. Despite this challenge, the integration of IoT, AI, and automated aeration systems has revolutionized the market by enabling real-time monitoring and minimizing spoilage.

Silos Market Introduction

Silos are large storage structures designed to hold bulk commodities in a safe and cost-effective manner. Traditionally used in agriculture, silos have also become integral in industries such as cement, coal, biomass, chemicals, and plastics.

Key benefits of silos include:

Protection against environmental conditions (moisture, insects, temperature extremes). Enhanced shelf life of stored commodities.

Reduced spoilage and waste compared to conventional storage.

Automation features such as aeration, humidity control, and IoT-based monitoring.

Silos are manufactured in different forms:

Flat-bottom silos (ideal for long-term storage). Hopper-bottom silos (designed for frequent loading/unloading). Tower silos (suitable for vertical storage in limited spaces).

Materials commonly used include steel, aluminum, concrete, and fiberglass, with modern designs increasingly focusing on lightweight, durable, and eco-friendly construction.

Key Market Drivers

Rising Food Security Concerns

With the global population expected to exceed 9 billion by 2050, ensuring reliable food supply has become a pressing concern. According to the Food and Agriculture Organization (FAO), nearly 33% of food is wasted annually, largely due to poor storage. Silos mitigate this problem by providing controlled environments that reduce spoilage and ensure long-term preservation.

Government Initiatives

Governments and organizations worldwide are investing in silo projects to minimize losses and

improve food distribution networks. For instance:

India's Food Corporation of India (FCI) is expanding its silo infrastructure for nationwide grain distribution.

China and Brazil are also investing heavily in silos to support their vast agricultural economies.

Technological Advancements

The introduction of smart silos with IoT sensors, AI-powered surveillance, and blockchain tracking has transformed the industry. These features allow:

Real-time monitoring of temperature, humidity, and gas levels.

Automated aeration systems to maintain optimal conditions.

Secure grain tracking through blockchain for transparency in supply chains.

Industrial Applications

While agriculture remains the largest end-user, industrial sectors such as cement, coal, biofuel, plastics, and chemicals also rely on silos. Industrial silos enable bulk storage efficiency and are increasingly designed with automation to reduce labor costs.

Market Challenges

Despite positive growth trends, the silos market faces certain challenges:

High upfront investment required for construction and installation. Limited affordability for small-scale farmers in developing economies. Maintenance costs associated with high-tech silo systems. Regulatory and compliance issues, particularly regarding safety standards.

Technological Advancements Reshaping the Market

Smart Silos

Integration of IoT and AI has led to the development of smart silos, which feature sensors for monitoring grain conditions. Benefits include:

Reduced dependency on human intervention. Enhanced efficiency in maintaining optimal storage conditions. Data-driven insights for better decision-making. Prefabricated and Modular Silos

Prefabricated silos are gaining popularity due to:

Quick installation.

Scalability, allowing farmers to expand capacity seasonally.

Cost efficiency, reducing downtime and labor requirements.

Robotics and Automation

In 2023, Crover introduced a robotic device capable of navigating through silos to monitor grain quality in real time. Such innovations enhance efficiency and reduce post-harvest losses.

Blockchain in Supply Chain

Blockchain technology ensures secure, transparent, and immutable records of grain storage conditions, shipment data, and certifications, thereby boosting stakeholder confidence.

Regional Outlook

Asia Pacific - Leading Region

Asia Pacific dominated the silos market in 2024 and is expected to maintain its lead through 2035. Factors driving growth include:

Rapid population growth and urbanization.

Increased demand for staple foods such as rice, wheat, and maize.

Government-led investments in modern silo facilities.

Expansion of precision farming and mechanized agriculture.

North America

The U.S. and Canada continue to be major consumers of agricultural silos, driven by large-scale grain production and adoption of smart farming technologies. The region also sees significant industrial demand for silos in the cement and biofuel industries.

Europe

Europe emphasizes sustainability and green silo infrastructure, supported by EU policies targeting carbon footprint reduction. Investments are being directed toward energy-efficient silo systems.

Latin America

Brazil and Argentina, as major exporters of grains, are increasingly investing in silo storage to enhance their export capacity and reduce losses.

Middle East & Africa

Emerging markets in Africa are seeing rising adoption of silos as governments focus on food security and reducing import dependency.

Competitive Landscape

The silos market is moderately fragmented, with companies focusing on product innovation, geographic expansion, and strategic partnerships.

Key Players:

Stomaha Silo

Green Silos

TSI Steels

Lager Steel

Shripad Equipments

Shirke Group

G Engineering

VG Engineers

Arvinda Industries

Krishna Grain Systems Pvt. Ltd.

Prairies Partners Global Pvt. Ltd.

ISGEC Heavy Engineering Ltd.

BEML Limited

Mukand Limited

Notable Developments:

March 2024 – Symaga announced plans to construct two new silos in Bangladesh to expand its footprint in South Asia.

April 2023 - Crover launched its robotic grain monitoring device for silos.

May 2022 – Sioux Steel acquired SCAFCO Grain Systems Co. to strengthen global presence.

Silos Market Segmentation

By Type

Standard Silos Field Assembled Silos Bolted Welded By Material

Aluminum Stainless Steel

By Drive Type

Full-Step Drive Half-Step Drive Micro-stepping

By End-use Industry

Food Industry Chemical Industry Tire Industry Plastic Industry

By Distribution Channel

Direct Sales Indirect Sales

Market Forecast and Growth Potential

The silos market is projected to witness steady growth from US\$ 201 Mn in 2024 to US\$ 289.6 Mn by 2035. This expansion will be primarily driven by:

Growing investments in agricultural infrastructure.
Rising adoption of smart silos across developed and developing economies.
Expansion of industrial applications beyond agriculture.
Increasing global collaboration and FDIs in agri-storage.

The silos market outlook for 2035 reflects a sector poised for sustainable growth. The combination of technological advancements, rising food security concerns, and supportive government initiatives is creating strong momentum for adoption across both agriculture and industry.

While high capital costs remain a restraint, the benefits of long-term efficiency, reduced spoilage, and enhanced scalability make silos a crucial investment for future-ready storage infrastructure. With Asia Pacific at the forefront and innovations such as IoT-enabled smart silos, modular systems, and blockchain tracking, the industry is expected to continue evolving into a cornerstone of global food and industrial supply chains.

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Contact:

Transparency Market Research Inc.

CORPORATE HEADQUARTER DOWNTOWN,

1000 N. West Street,

Suite 1200, Wilmington, Delaware 19801 USA

Tel: +1-518-618-1030

USA - Canada Toll Free: 866-552-3453

Website: https://www.transparencymarketresearch.com

Email: sales@transparencymarketresearch.com

Atil Chaudhari Transparency Market Research Inc. + +1 518-618-1030 email us here

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