



CASE STUDY:

JSW ENERGY

CLIENT OVERVIEW

JSW Energy, Jaigad – Powering Maharashtra with Efficiency & Scale

JSW Energy's thermal power plant in **Jaigad, Ratnagiri** is one of the region's most reliable power generation units, known for operational excellence and continuous improvement. Handling large volumes of fly ash daily, the plant supplies essential material to the cement and infrastructure sectors.

To keep pace with rising demand and improve overall plant efficiency, JSW aimed to modernize its fly ash packing process. The goal was clear:

"Increase output, reduce manual work, and shift to a clean, automated fly ash packing system that aligns with JSW's long-term operational strategy."

This requirement made VT Corp the ideal partner to engineer a high-capacity, fully integrated, and future-ready automation solution.

Total Project Timeline:

6 months (Order to dispatch)

THEIR OBJECTIVE:

Increase fly ash production and dispatch rate while reducing manual dependency.

PROJECT SCOPE:

"Not just machines—complete movement."

JUMBO BAG FILLING SOLUTION FOR HIGHER THROUGHPUT

VT Corp was contracted to design, supply, and deliver a high-capacity Jumbo Bag Filling System tailored specifically for JSW's thermal power application.

SUPPLIED MACHINERY:

Jumbo Bag Filling Machine

- Capacity: 18–20 bags/hr
- Bag size: 1.0 ton
- Designed for fly ash application

Customised Bag Handling Line

From bag positioning → filling → conveying → truck loading

MAJOR CUSTOMISATION INCLUDED:

- A complete end-to-end automated bag handling system
- Integration for discharging and loading bags directly into trucks
- Modular design to match JSW's plant layout and space constraints

CLIENT CHALLENGES THAT TRIGGERED ACTION

Operational Bottlenecks Before Installation

Manual Packing System

- High labour dependency
- Slower dispatch time

Severe Dust Generation

- Fly ash dust during filling created respiratory risks
- Frequent cleaning downtime
- Reduced safety in work zone

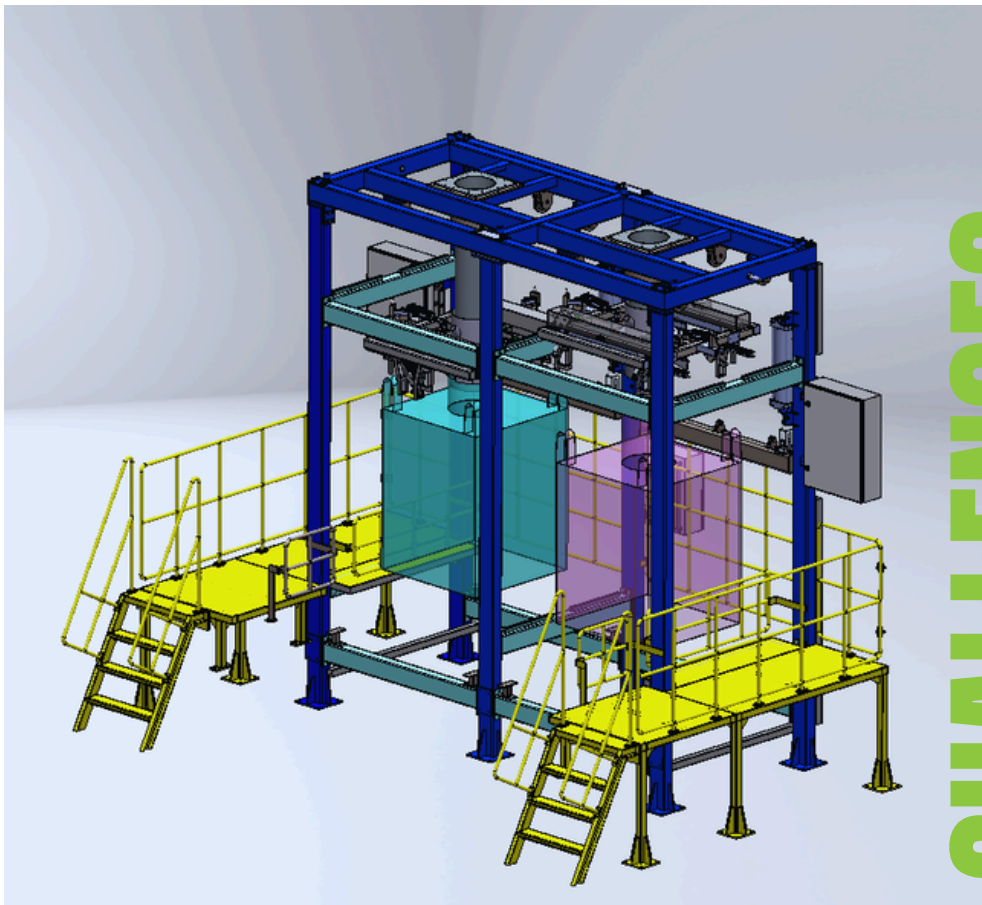
Inconsistent Bag Filling

- Manual filling = inconsistent weight
- Spillage & wastage loss

Plant-Specific Requirements

JSW needed a system that could deliver:

Higher output | Minimal manpower | Integrated automation from feeding to truck loading | Dust-free and safe operation



CHALLENGES



VT CORP'S SOLUTION

A Custom-Built Jumbo Packing Solution For JSW's Fly Ash Line
VT Corp implemented a high-efficiency automation system that **unlocks 2× output** with optimized labour and smooth operation

1. Jumbo Bag Filling Machine

- Capacity: 18–20 bags/hour
- Accurate dosing & weighing
- Dust-free filling arrangement
- Heavy-duty design for continuous operation

2. Slider Mechanism

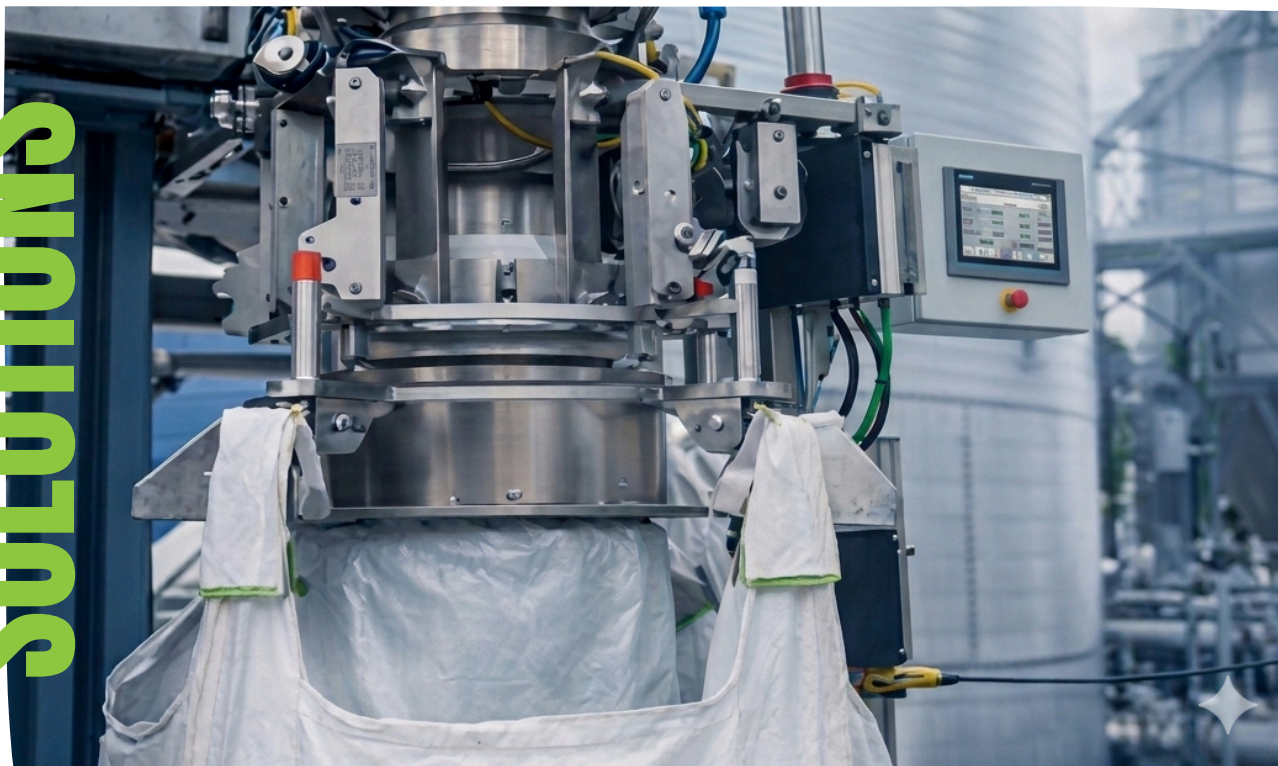
- Enables single-operator bag loading
- Auto-bag lifting, filling, and discharge
- Reduces labour cost drastically

3. Complete System Integration

- Connected directly to JSW's existing 100-ton silo
- Upstream feeding from silo → controlled dosing
- Downstream conveyor system for smooth bag movement
- Truck loading interface for seamless dispatch

The Math is Simple: One machine, one operator, triple the efficiency.

SOLUTIONS



RESULTS IMPACTED



Improved Safety & Hygiene

- Enclosed filling = 98% dust reduction
- Health risks minimized
- Cleaner environment + improved compliance

Reduced Wastage & Higher Accuracy

- Precise weighing minimizes bag-to-bag variation
- Reduces material loss
- Consistent output improves dispatch quality

Productivity Improvement

- Manual output: 8–9 bags/hr
- Automated output: 18–20 bags/hr
- → 2X more productivity
- → Faster dispatch cycles
- → Increased fly ash sale & utilization

Manpower Reduction

- Earlier: 3–4 workers per line
- Now: Only 1 operator needed
- → Lower operational cost
- → No skill dependence

- 2X more productivity
- Faster dispatch cycles
- Increased fly ash sale & utilization

A. Productivity Improvement	
Manual output: 8–9 bags/hr Automated output: 18–20 bags/hr	2X more productivity
B. Manpower Reduction	C. Improved Safety & Hygiene
Earlier: 3–4 workers per line Now: Only 1 operator needed	Enclosed filling = 98% dust reduction → Health risks minimized → Cleaner environment + improved compliance
D. Reduced Wastage & Higher Accuracy	D. Operational Reliability
Precise weighing minimizes bag-to-bag variation → Reduces material loss → Cleaner environment + improved compliance	Fully automated system reduces errors → Integrates smoothly with existing plant infrastructure
D. Reduced Wastage & Higher Accuracy	
Precise weighing minimizes bag-to-bag variation → Reduces material loss	

At JSW Energy, power is generated every second. At VT Corp, we ensure efficiency flows with every ton.

TOGETHER, WE ARE SETTING NEW STANDARDS IN AUTOMATED FLY ASH HANDLING.



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