# JVSOLINDIA INC

# Foundry Line-2 Sand Plant

## Smart Monitoring & Automation System

**Real-Time Data Collection • Live Dashboard • Automated Reports**

Presented by JVSOL India Inc • CKA Birla Group | Neosym

March 2026

Auto Data Sync | Live Dashboard | Live Dashboard

# Project Overview

## JVSOL India Inc | Industrial IoT Solution

The Foundry Line-2 Sand Plant Monitoring System is a complete end-to-end industrial automation solution. It connects the Mixer machine on the shop floor directly to a web-based dashboard — giving plant managers real-time visibility, historical trends, and automated reports without any manual data entry.

Key Highlights:

- Automatic data capture from the Mixer machine every few seconds
- Live web dashboard accessible from any device on the network
- Historical trend charts for all key parameters
- One-click report export in Excel, CSV, and PDF formats
- Zero data loss — all readings stored in a central database

## The Challenge

### What the plant needed to solve

Before this system, data from the sand mixer was recorded manually — operators filled in logbooks after each batch. This created several problems:

- Manual recording was time-consuming and prone to human error
- No real-time visibility — supervisors had no live view of mixer parameters
- Difficult to identify trends or detect quality issues early
- Generating shift or monthly reports took hours of spreadsheet work
- Data was siloed — not easily accessible across departments

The plant needed an automated, reliable, and easy-to-use digital monitoring solution that required no changes to the existing machine or operator workflow.

# Our Solution

## End-to-End Smart Monitoring System

JVSOL India Inc has developed a custom two-part solution:

1. MIXLOG Auto Sync (Desktop Tool)
   A lightweight desktop application installed on a plant PC. It automatically reads the mixer log file from the machine, connects over the local network, and pushes new data into a central database — every 10 seconds. Fully automated, no operator input required.

2. Foundry Web Dashboard
   A browser-based dashboard that provides live status, trend charts, and detailed reports for all mixer parameters. Accessible from any computer or tablet on the plant network.

Together, these two components provide a seamless, always-on monitoring pipeline from machine to screen.

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# How It Works

## Simple 4-Step Data Flow

**Step 1 — Machine Logs Data**

The sand mixer automatically writes each batch record (temperature, water, compactability, strength, etc.) to a daily CSV log file on the machine PC.

**Step 2 — Auto Sync Picks It Up**

The MIXLOG Auto Sync desktop tool monitors this file over the local network. Any new rows are instantly validated and inserted into the central MySQL database.

**Step 3 — Database Stores All Records**

Every batch record is stored with a precise timestamp. Duplicate records are automatically skipped. Invalid or out-of-range data is rejected to keep the database clean.

**Step 4 — Dashboard Shows Live Data**

The web dashboard reads from the database and displays live gauges, trend charts, and full batch reports — accessible from any browser on the network.

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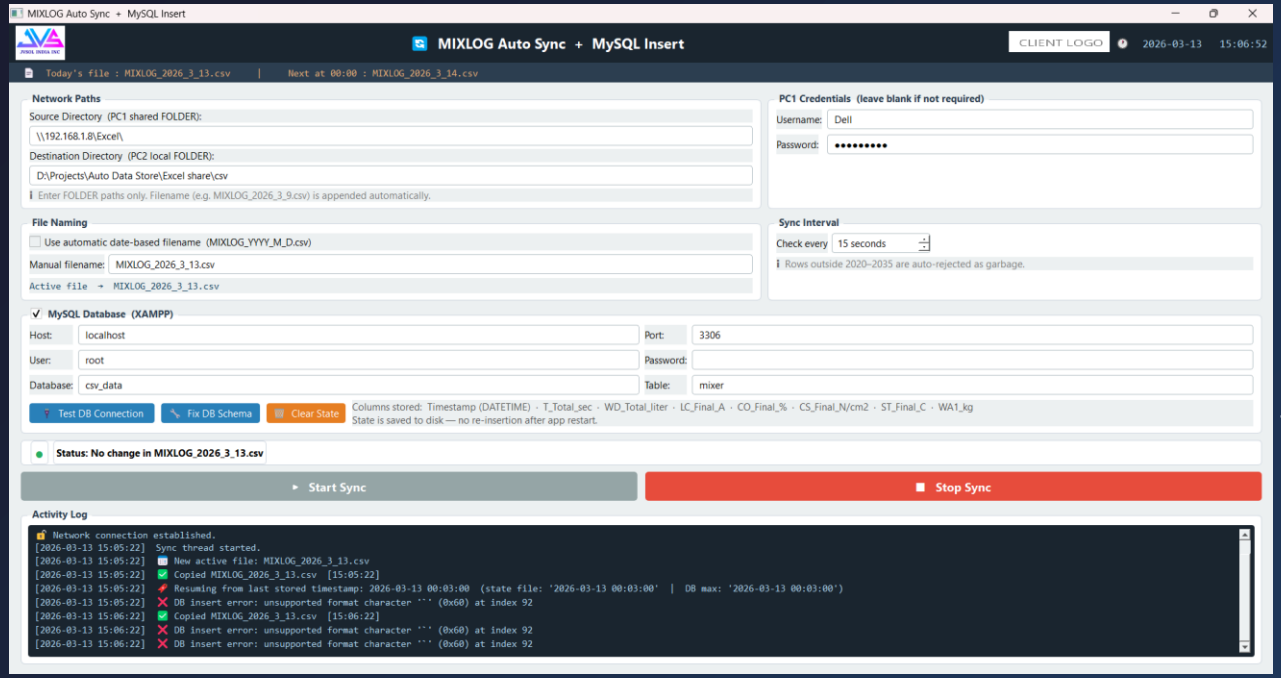
# MIXLOG Auto Sync

## Desktop Data Capture Tool




The MIXLOG Auto Sync tool runs silently in the background on the plant PC.

- Connects to the machine PC over the local network using secure credentials
- Detects new batch records automatically — checks every 10 seconds
- Inserts only new records into the database, skipping already-stored rows
- Rejects invalid or out-of-range data automatically
- Activity log shows every action in real time
- Supports manual or automatic daily file naming

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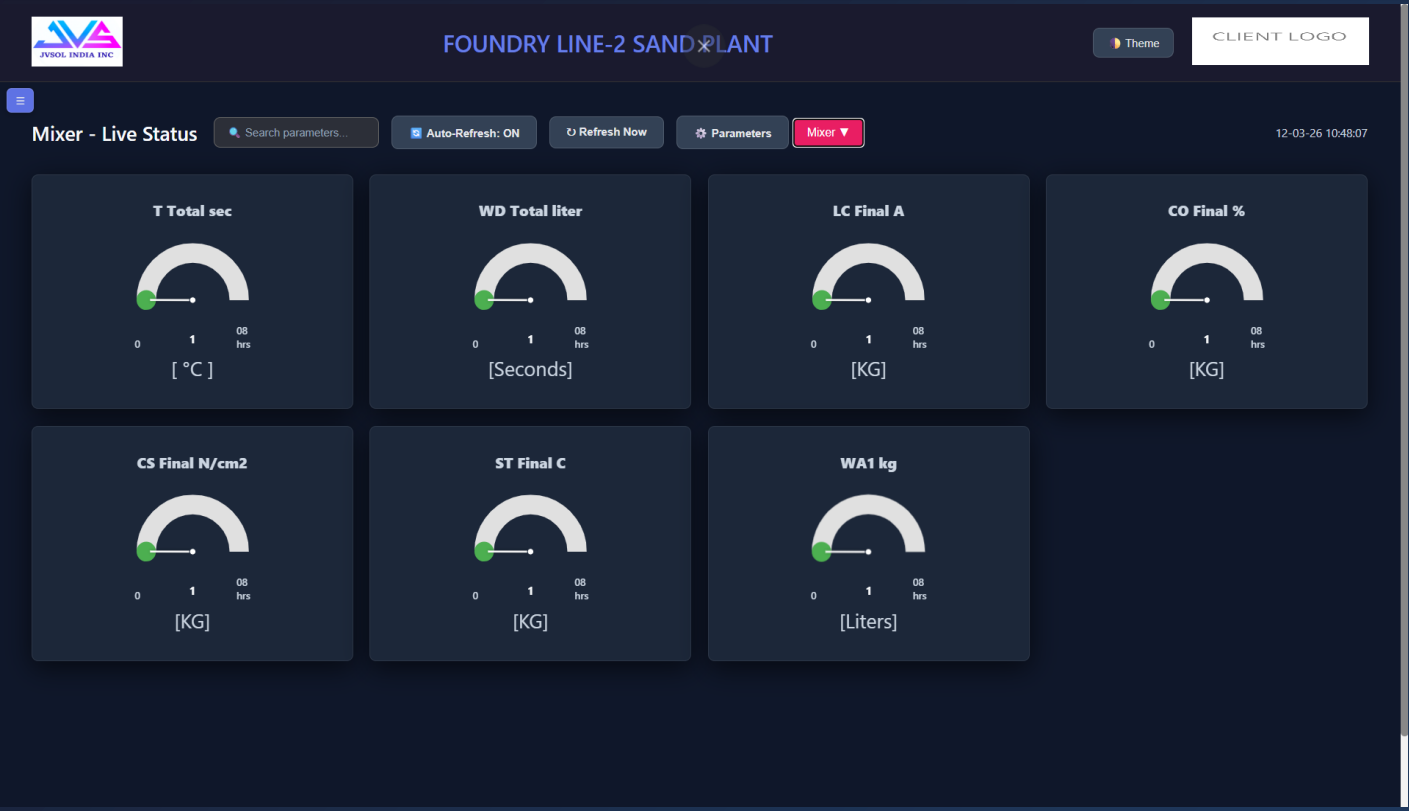
# Live Mixer Dashboard

## Real-Time Parameter Monitoring




The web dashboard's Live Status page shows the current value of every key mixer parameter at a glance.

- 7 parameters monitored: Mixing Time, Water Added, Lime Content, Coal Dust, Compactability Strength, Sample Temperature, and Water Additive
- Gauge-style indicators show the current reading with min/max scale
- Auto-refreshes every few seconds — always shows the latest batch
- Clean, dark-themed interface designed for shop-floor readability
- Accessible from any browser — no installation needed

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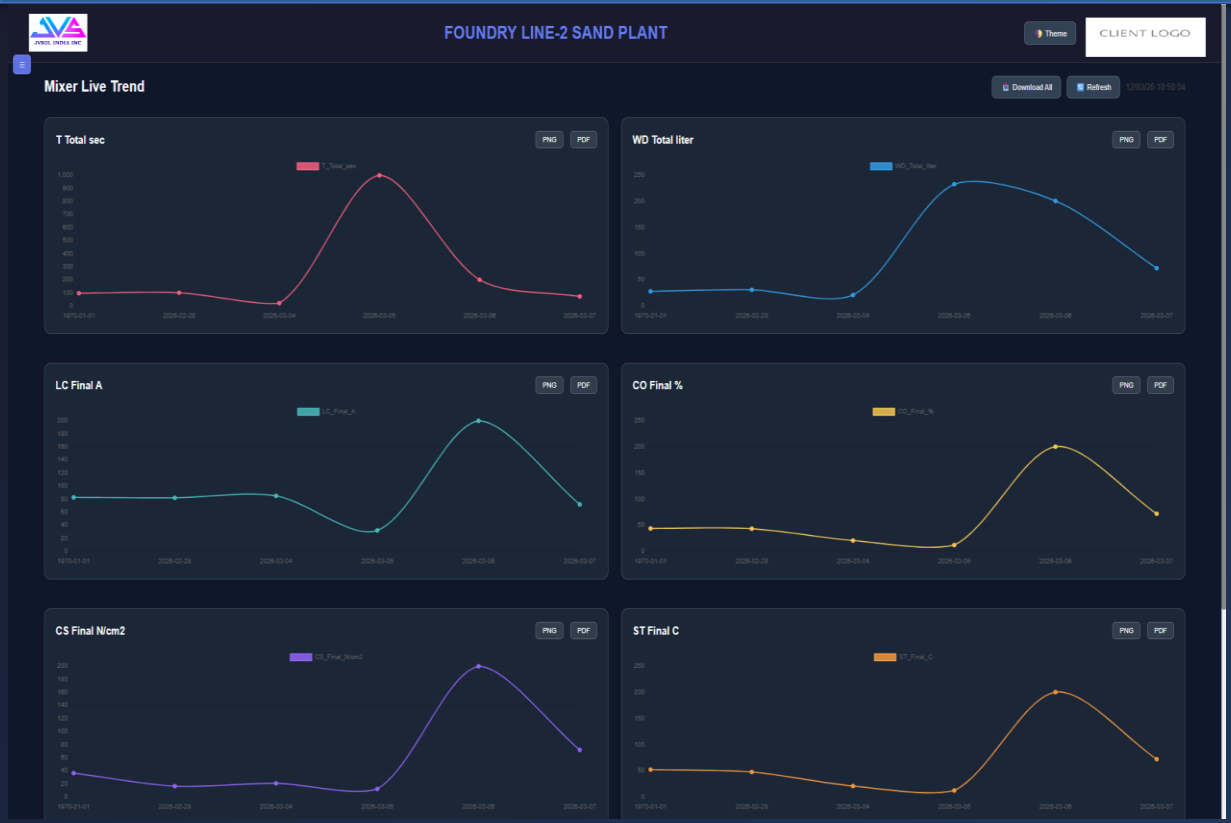
# Live Trend Charts

## Historical Parameter Analysis




The Trend Charts page visualizes the history of every parameter over any selected time period.

- Individual color-coded line charts for all 7 key parameters
- Date range selection — view data for any shift, day, week, or month
- Easily spot trends, deviations, or quality anomalies at a glance
- One-click download of each chart as PNG image or PDF document
- Download All button exports the entire trend report in one click
- Auto-refresh keeps charts current during live production

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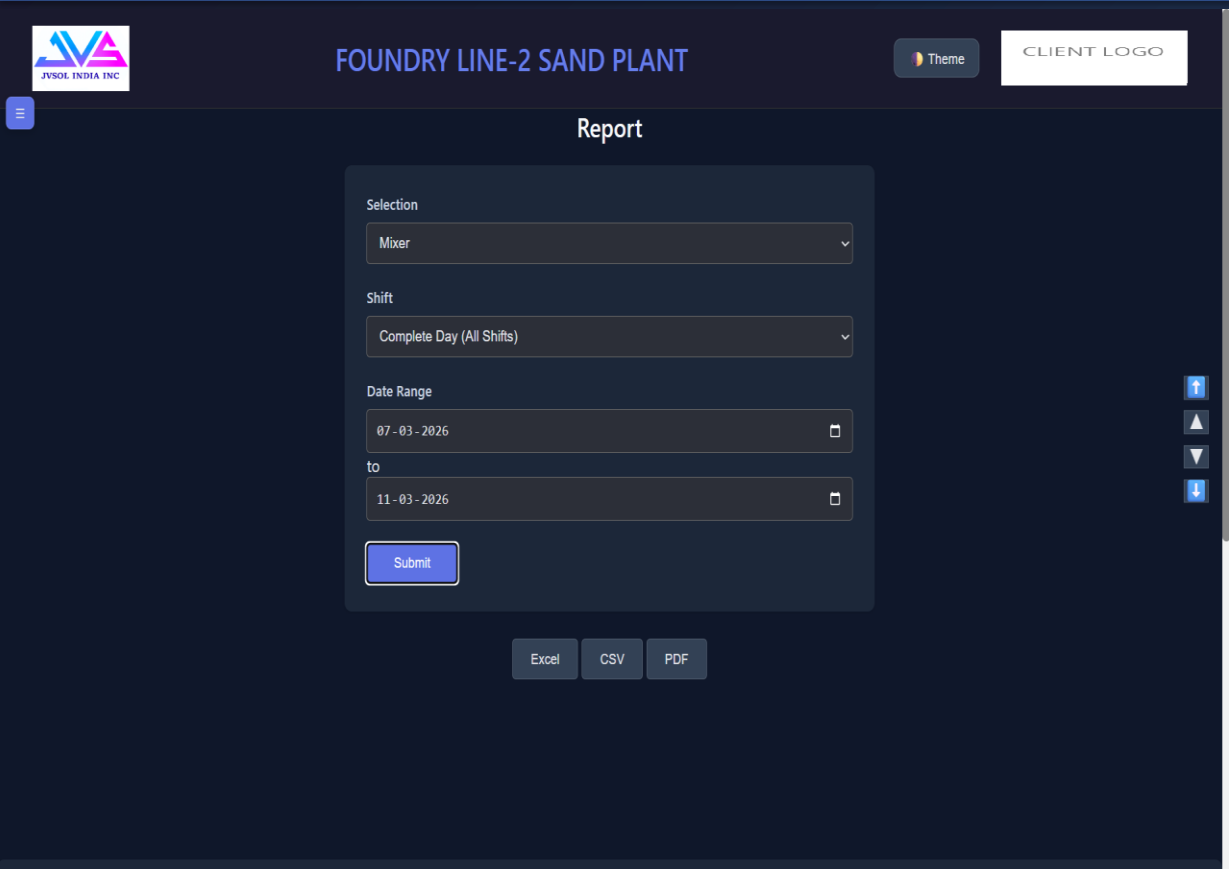
# Report Generation

## Shift & Date-Range Reports




The Reports module allows supervisors and managers to generate detailed batch-level reports on demand.

- Filter by machine (Mixer), shift, or custom date range
- View complete batch records: ID, Date, Time, Shift, Recipe, Batch Number, Inlet Temperature, Mixing Time, Sand Qty, Bentonite, Coal Dust, Fine Dust, Water Actual, Compactability, GCS Strength, and more
- Export reports instantly to Excel, CSV, or PDF
- Ideal for quality audits, shift handovers, and management reviews
- No manual compilation — all

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# Mixer Batch Report — Sample View

## Complete Traceability for Every Batch

**Mixer Report**

| ID | Date | Time | Shift | Recipe Number | Batch Number | Inlet Temp | Mixing Time | Sand Qty |
|---|---|---|---|---|---|---|---|---|
| 88 | 88.3 | 88 | 88 | 88 | 88.32 | 88 | 2026-03-07 14:46:00 | |
| 77 | 77.3 | 77 | 77 | 77 | 77.2 | 77 | 2026-03-07 15:29:00 | |
| 66 | 66 | 66 | 66 | 66 | 66 | 66 | 2026-03-07 17:01:00 | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2026-03-07 17:10:00 | |

Back

Each row in the Mixer Report corresponds to a single production batch, capturing every critical quality and process parameter automatically.

Columns captured per batch:

- ID, Date, Time, Shift, Recipe Number, Batch Number
- Inlet Temperature, Mixing Time, Sand Quantity
- Bentonite, Coal Dust, Fine Dust, Water Actual
- Mixer Drive Current, Compactability, GCS Strength
- Bad Batch Count, Inlet Sand Moisture, New Sand
- Compactability Target

All records are timestamped and stored permanently — supporting quality audits, customer traceability, and continuous process improvement.

# Key Benefits

## Why This System Delivers Value

1. Zero Manual Effort
   Data flows automatically from machine to dashboard — no operator input, no logbooks, no spreadsheet updates required.

2. Real-Time Visibility
   Plant managers and supervisors can monitor production quality live from any device on the network — including tablets and laptops.

3. Faster Problem Detection
   Trend charts immediately highlight deviations. Quality issues that previously went unnoticed for hours can now be spotted within minutes.

4. Instant Reporting
   Shift reports, daily summaries, and audit exports are generated in seconds — not hours. Fully formatted in Excel, PDF, or CSV.

5. Scalable & Expandable
   The system is designed to grow. Additional machines or production lines can be added with minimal effort.

# Ready to Transform Your Plant Operations

# THANKYOU

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