SEMI-AUTONOMOUS PLANT
Outcomes

10X ROI in < 6 Months

INFINITE UPTIME
Production Outcomes. Delivered.

04
Total No. of Plants Digitalized

06
Total Areas

19
Integrated Systems

492
Total No. of KPIs

46 Hrs.
Unplanned downtime

920K kCal
Specific Heat Consumption (SHC)

5%
MTBF

10 TPH
Throughput
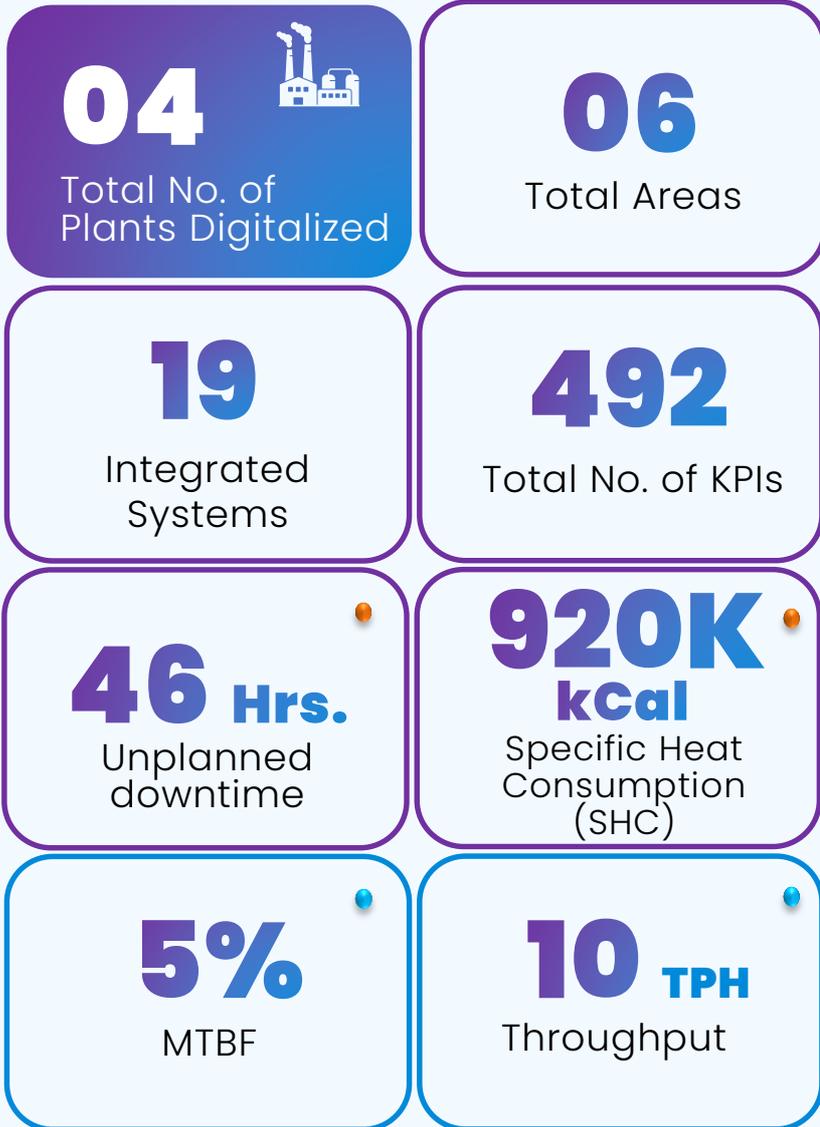
Unified Digital Platform
PLCs, DCS, Energy Meters, Quality Systems

The 99% Trust Loop

ABOUT THE COMPANY
Leading Asian OPC & PPC Cement Manufacturer
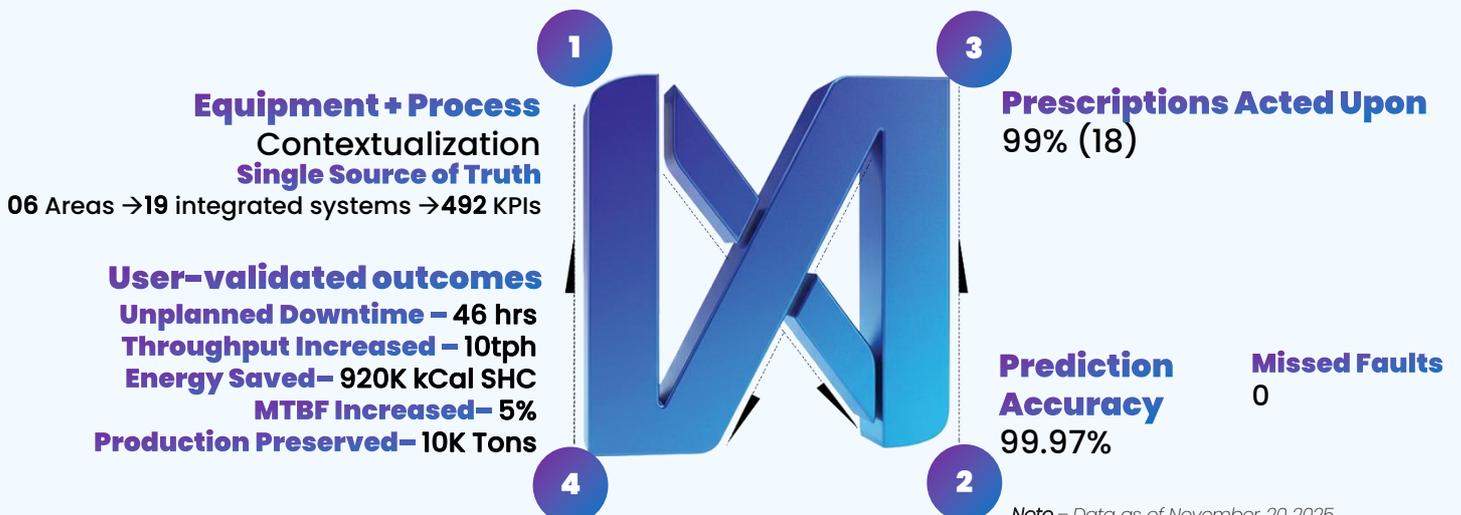
STAR CEMENT
Solid Setting

KEY AREA
- Line Material Handling to Clinkerization
- Grinding Unit
- Packaging
- Clinker Bulk Dispatch
- WHRS
- CPP

SYSTEMS INTEGRATED

Sr. No	Equipment/ Department	Data Sources Integrated
1	Mines	Logbooks, SAP
2	Crusher	DCS, Logbook
3	Raw Material Handling	DCS
4	Raw Mill	DCS
5	Kiln	DCS
6	Coal Mill	PLC
7	Coal Handling	PLC
8	Cooler	DCS
9	Dispatch Operation	SAP
10	CPP (Captive Power Plant)	DCS
11	WHR (Waste Heat Recovery)	DCS
12	Quality	Excel Report
13	Maintenance	SAP, Logbook
14	Grinding	PLC
15	EMS Line 1	PLC & Energy Meter
16	EMS Line 2	PLC
17	EMS Line 3	PLC
18	EMS CPP	PLC
19	EMS WHRS	Energy Meter

PlantOS™
Manufacturing Intelligence

---

1 Equipment + Process
Contextualization
Single Source of Truth
06 Areas →19 integrated systems →492 KPIs

User-validated outcomes
Unplanned Downtime – 46 hrs
Throughput Increased – 10tph
Energy Saved– 920K kCal SHC
MTBF Increased– 5%
Production Preserved– 10K Tons

3 Prescriptions Acted Upon
99% (18)

Prediction Accuracy
99.97%

Missed Faults
0

Note – Data as of November 20 2025
Source - PlantOS™ Digital Reporting System – User Validated True Positives & False Negative Rate

🔵 Guwahati Grinding Unit   🟠 Meghalaya Integrated Unit

1 Equipment + Process Contextualization

Unifying the Digital Nervous System

To eliminate silos, we did not just install sensors; we integrated the entire operational landscape into a Unified Digital Platform – PlantOS™

- **Scope**: 10 Functional Areas digitalized, from Mines and Crushers to Kilns and Dispatch.
- **Integration**: 19 Integrated Systems including PLCs, DCS, Energy Meters, and Quality Systems.
- **Critical Equipment**: Raw Mills, Coal Mills, Coolers, WHRS, and Captive Power Plants (CPP).
- **The Difference**: Unlike competitors who only sell sensors, PlantOS™ ingested data from logbooks, SAP, and existing DCS/PLC infrastructure to create a complete context for the AI.

2 Prediction (The Intelligence)

Physics-Based Precision

With the data contextualized, the "Physics + AI" layer began monitoring for anomalies with extreme precision.

Scale: 492 critical KPIs monitored across the plant.

Scope: Full coverage of Line Material Handling to Clinkerization.

3 Prescription (The Action)

From "What is wrong?" to "Fix this now."

Moving beyond predictive alerts, Star Cement utilized AI-assisted Decision Making.

PlantOS™ provided specific Diagnostic Reports that prescribed exact interventions.

Instead of vaguely identifying issues, the system offered specific recommendations (Diagnostic → Recommendation → Action)

The 99% Seal of trust
PlantOS™

4 Guaranteed, User-Validated Outcomes

The 99% Trust Loop in Action

The ultimate measure of the semi-autonomous plant is the outcome. These results are not estimates; they are User-Validated by Star Cement's own engineering & operations teams.

Reliability Outcomes

Unplanned Downtime: Prevented 46 hours of unscheduled downtime

Production Outcomes

- Throughput: Raised throughput by **10 TPH** (Tons Per Hour).
- Production Preserved: Saved **600 Tons** of production that would have otherwise been lost.

Efficiency & Sustainability Outcomes

- Energy Efficiency: Saved **920,000 kcal** in Specific Heat Consumption (SHC).
- ROI: Achieved a **10x Return on Investment** in less than 6 months.

"

The **biggest** change was the immediate establishment of a **single source of truth**. We moved from *reactive chaos* to *proactive control*.

−Mr. Dhawan Soni, E&I Head, Star Cement

Outcomes Roundtable: Cement 2025

INFINITE UPTIME

6 Months 10x ROI

STAR CEMENT

✓ **46 Hrs** Unplanned Downtime Eliminated
✓ **600 Tons** Production Saved (Clinker)
✓ **920,000 kcal** Specific Heat Energy Saved
✓ **₹47.8 Million (~$536,340 USD)** Annual Savings

This **platform** is very easy to use and understand.

Mr. Dhawan Soni (Star Cement)

Click to Play

Annual Savings
₹47.8 Million (~ $ 536,340 USD)

INFINITE UPTIME

03 Sept 2025 - 7:34pm

Process Diagnostic Report
Plant: Star-Cement

IUSERV115905709

Report Status: COMPLETED   **Completed On:** 10 Sept 2025 - 7:42am

Observation
Frequent mill tripping due to high vibration

Diagnostic
High moisture in CFA (10 to 20%)

Recommendation
Utilising less moisture (<10%) CFA for maximum mill output. Covered material transport to shed for ensuring no additional moisture is being added.

Business Impact
Increased mill throughput (5-10 tph).

Corrective Actions Taken   Mail has been sent to concern to cover the material while unloading and transportation of material

Before Repair   **After Repair**

Upload file
PNG, JPG up to 5MB

Attachments
No attachments were uploaded for this report.

Customer Comments

Covering of material while rake unloading has been communicated to RMH deptt. In plant dedicated sheds are already in place.

Completed By: @starcement.co.in

INFINITE UPTIME

14 Oct 2025 - 11:48am

Process Diagnostic Report
Plant: Star-Cement

IUSERV355217526

Report Status: COMPLETED   **Completed On:** 27 Oct 2025 - 10:42am

Observation
Kiln stopped from 23:05 PM (07.10.25) to 1:30 AM (08.10.25)

Diagnostic
Kiln roller-3 bearing (462PUG) temperature rises from 30 to 60 Deg. C leading to kiln Main Drive tripping.

Recommendation
1. Inspect and maintain kiln roller bearings lubrication oil level. 2. Insure proper circulation and low temperature of cooling water. 3. Maintain kiln shell temperature <250 deg. C.

Business Impact
Production Savings: 1000 T Breakdown Hours Savings: ~2-3 Hours SHC Savings: 20-50 kcal/kg clinker

Corrective Actions Taken   lubrication oil replaced, fresh water circulation for bearing cooling.

Before Repair   **After Repair**

SCL_LINE_2_KILN   SCL_LINE_2_KILN

Attachments
No attachments were uploaded for this report.

Customer Comments
Roller lubrication oil replaced. Fresh water circulation after draining recirculated water for roller bearing cooling.

Completed By: @starcement.co.in

Ready to close the Trust Loop in your facility?
Infinite Uptime is currently delivering results for **844 plants in 26 countries**

Click Here to
Try PlantOS™ Today