



Jaaji Technologies
Sophistication with Simplicity

DIGITAL SOLUTIONS FOR SUGAR INDUSTRY

Driving Efficiency, Compliance & Operational Excellence

inSis suite 



www.jaajitech.com



DIGITAL TRANSFORMATION FOR BUSINESS IMPACT IN SUGAR INDUSTRY

AREAS

OPERATIONS

ENERGY MANAGEMENT

ASSET RELIABILITY

REGULATORY
COMPLIANCE

SAFETY

SOLUTIONS



DIGITAL OPERATIONS
& SHIFT LOGBOOKS



ENERGY MANAGEMENT



QUALITY MANAGEMENT



PERFORMANCE
MANAGEMENT



ASSET MAINTENANCE
MANAGEMENT



ABT/DSM

VALUE

REDUCED ENERGY
(~6–8%)

IMPROVED SUGAR RECOVERY
(0.2 TO 0.5%)

HIGHER ASSET AVAILABILITY
(5 TO 10%)

REDUCED DSM PENALTIES
(~30%)

FASTER DECISION-MAKING
100% DATA ACCURACY

IMPROVED COMPLIANCE
& REPORTING



SUGAR Operations Today: The Core Challenge:

What's Happening Today

 Manual Records & Workflows

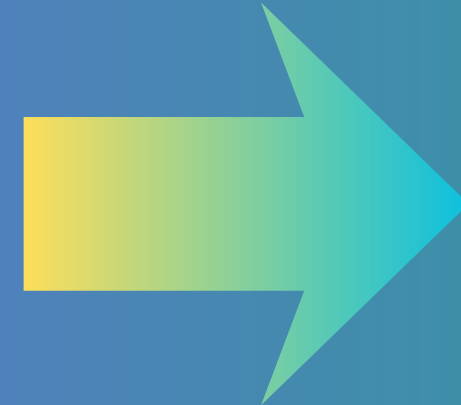
 Data Silos across mills, boilers & turbines

 Limited Visibility of plant data & performance

 Reactive Maintenance during crushing season

 High energy losses (Steam & Power)

 Quality giveaways/issues



Business Impact

Errors, delays, and information loss across shifts

No clear link between energy, process & recovery losses

Unable to benchmark performance or identify improvement areas

Increased downtime and higher maintenance costs

Reduced margins and poor energy efficiency

Revenue leakage and customer dissatisfaction

DIGITAL OPERATIONS LOGBOOKS

Unified digital logbooks eliminating paper-based shift logs



Seamless System Integration

Automatic data capture from PLCs, DCS, SCADA systems



Searchable Compliance Logs

Structured, searchable logs for audits, investigations, and compliance



Cross-Shift Visibility

Improved visibility of plant performance across shifts and seasons / Smooth shift hand over / Instructions tracking



Digital Replacement

Complete replacement for paper-based shift logs and manual registers



Enhanced Coordination

Better coordination between production, utilities, and maintenance teams



Historical Data Analysis

Valuable historical data for trend analysis and continuous improvement

ENERGY & UTILITIES MONITORING

Comprehensive monitoring optimizing energy costs



Power Monitoring

Track electricity usage



Boiler Efficiency

Monitor steam generation



Water Management

Track water consumption



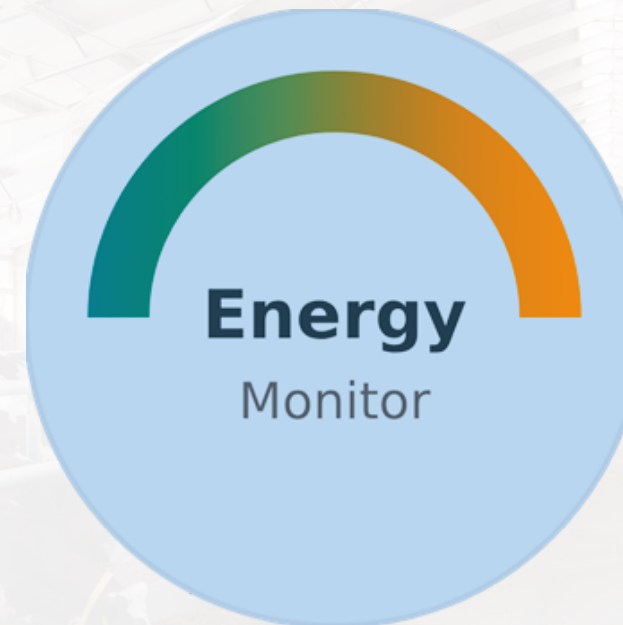
Bagasse Utilization

Monitor fuel usage



Cost Optimization

Optimize energy cost per ton of sugar produced

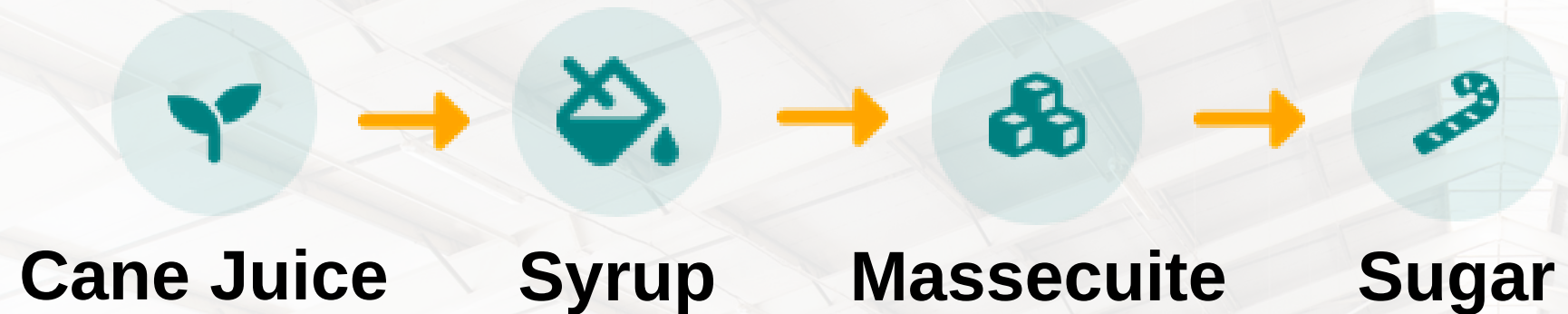


Key Benefits

- Identify energy wastage
- Reduce operational costs
- Generate automated reports

PROCESS QUALITY & LABORATORY MANAGEMENT

Digital system tracking quality parameters from cane juice to sugar



Quality Parameters

Brix

Pol

Purity

Color

Ash

Moisture

Digital Data Capture

Enables manual and instrument-based data capture

Compliance

FSSAI

ISO

Internal

ICUMSA

Trend Analysis

End-to-end sample management with trend-based monitoring to protect sugar quality and recovery



PERFORMANCE MANAGEMENT

Plant-wide visibility into production efficiency with real-time KPIs



Crushing Rate

10.5
tons/hour



Recovery

89.3%
Sugar yield



Throughput

96.2%
Capacity util



Downtime

2.8%
of time

OEE Monitoring

Cane



87%

Sugar



92%

Turbines



85%

Boiler



94%



Report Automation

- Shift-wise production reports
- Daily performance summaries
- Monthly efficiency analysis



Data-Driven Decisions

- Management review support shifts
- Continuous improvement programs
- Root cause analysis tools

ASSET MAINTENANCE MANAGEMENT

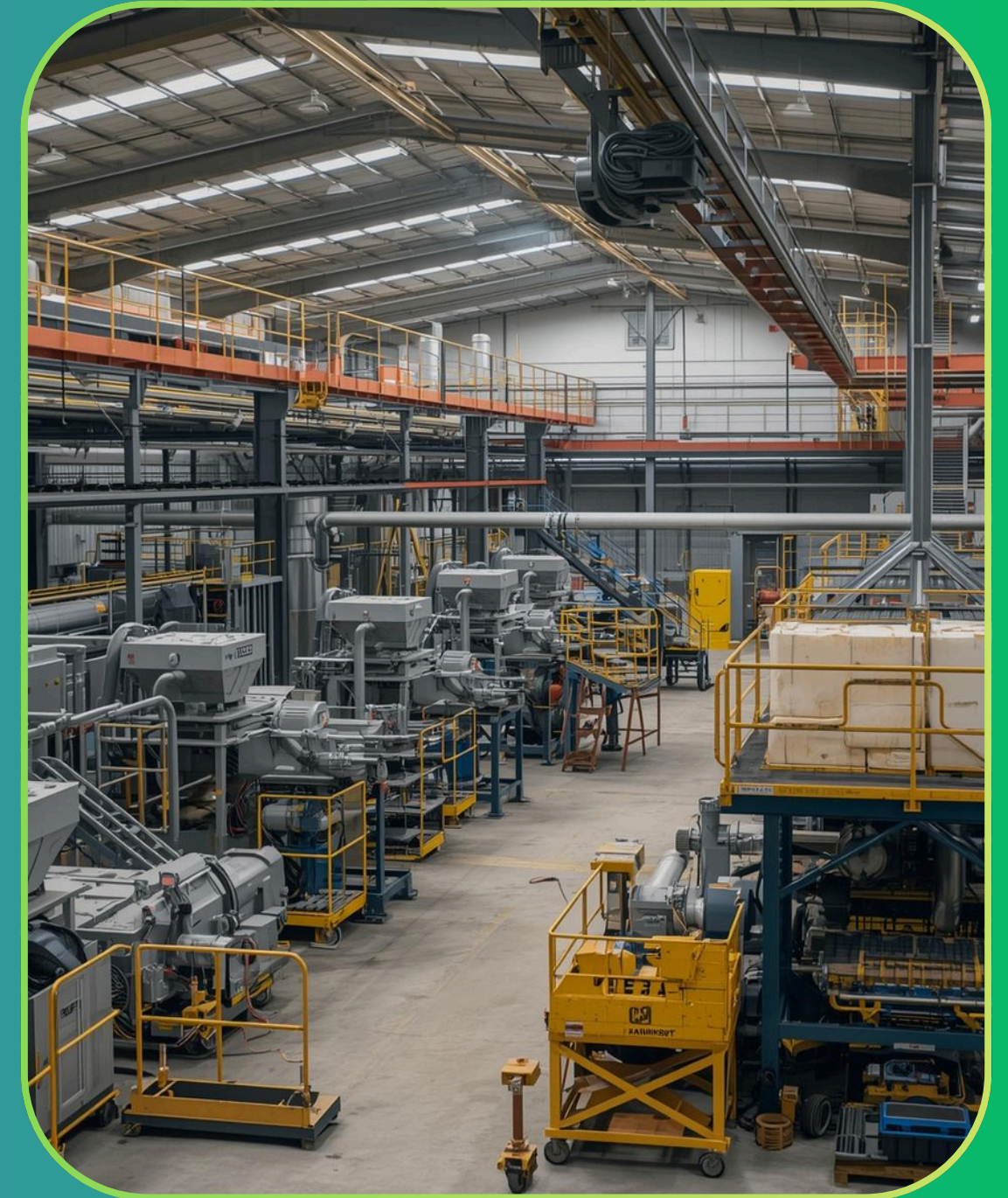
Centralized digital management of critical sugar plant assets

Critical Assets Under Management

-  Cane Handling & Milling Units
-  Turbines & Power Generation Systems
-  Centrifuges & Dryers
-  Boilers & Bagasse Handling Systems
-  Evaporators & Pan Boiling Systems
-  Utilities & Utility Instruments

Maintenance Capabilities

-  **Asset Health Tracking:** Monitor health, failures, warranties
-  **Digital Workflows:** Checklists and PM schedules
-  **Seasonal Optimization:** Improve equipment availability
-  **Strategic Approaches:** Preventive & condition-based maintenance



-  **Key Benefit:** Data-driven maintenance decisions improve equipment reliability and reduce operational costs.

ABT / DSM MANAGEMENT SYSTEM

Digital monitoring of power generation with automated DSM compliance



Real-time Monitoring

Frequency, deviation, and
DSM monitoring



Grid Interaction

Digital monitoring of power
generation and grid



Automated Reporting

Auto-generation of ABT
and statutory reports



Regulatory Compliance

Support for utility and
regulatory requirements



Key Benefits

- Compliance with utility requirements
- Reduction of penalties
- Revenue loss prevention



THANK YOU!



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