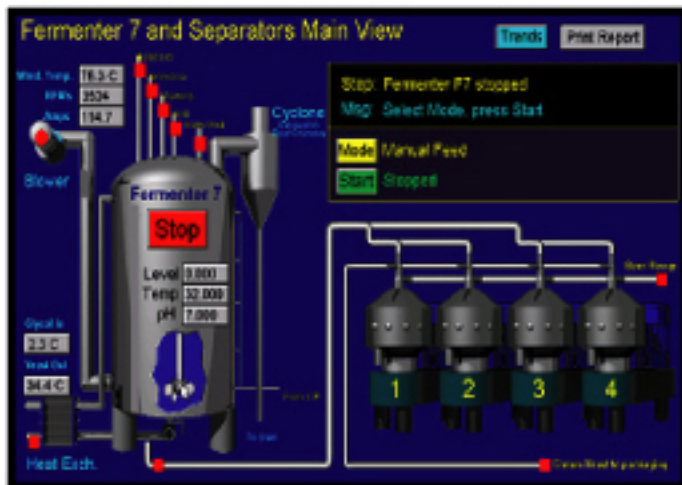
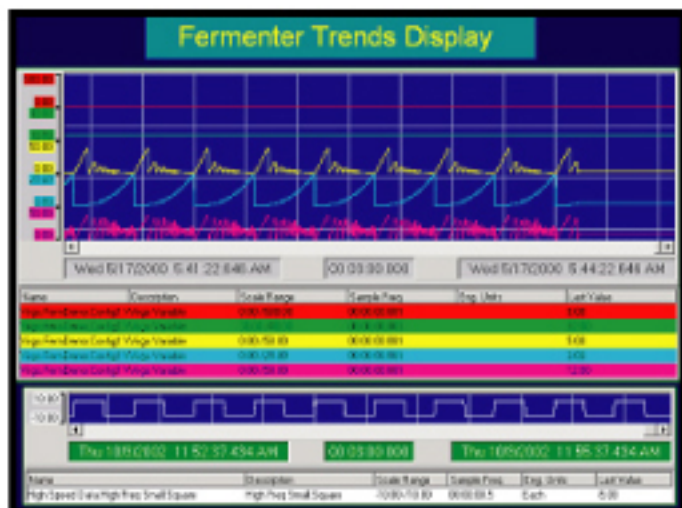


Engineering DEVELOPMENT CENTRE

products



Fermenter 7 and Separators Main View



Fermenter Trends Display

Mahkota Operations Management Systems (MOMS)

"SMART" SCADA Designed to Provide Lowest Total Life Cycle Cost of Ownership of the Plant or Facility to the end-user.

MOMS is a scalable robust, high performance integrated SMART supervisory, control and management system.

OBJECTIVES

- Automate Plant Processes, Work Flow Systems, Data Acquisition and Supervisory Functions
- Provide Information on Plant, Processes and Equipment
- Provides Operational Measures to Optimize Plant Performance
- Integrated Maintenance Management System (MMS)
- Provides Maintenance Measures for Equipment Effectivity and Maintenance Efficiency to Improve Plant Maintenance Systems
- Safeguard Environmental and Regulatory Concerns

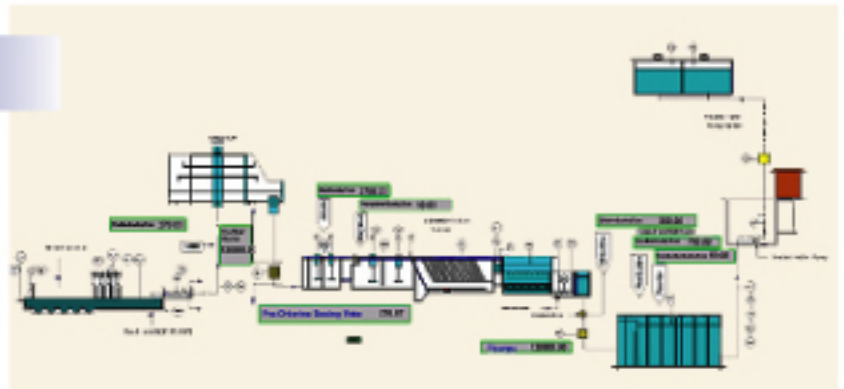
FEATURES

- Data Acquisition - support for unlimited number of digital and analogue I/O
- GPS based Time Synchronization
- Fail-Over, Redundancy
- Modeling and Simulation Support
- Alarms and Events
- Trending & Analysis

Mahkota Operations Management Systems (MOMS)

INTEGRATED MAINTENANCE MANAGEMENT SYSTEM (MMS)

- Complete Equipment Information Database fully setup and ready
 - Equipment name, IDs, type, location and supplier information
 - Technical specification
 - Asset value after depreciation
 - Operating parameters i.e. the hours, start-up conditions and peak performance analysis
- Preventive Maintenance System fully setup and ready which includes
 - Equipment Preventive Task scheduling for major equipment
 - Equipment Calibration Task scheduling
 - Detailed Preventive Maintenance procedures for each major equipment
- Predictive Maintenance System which includes
 - Major equipment signatures captured during its initial run
 - System auto-detects and alerts maintenance crew when signs of deterioration detected
- Maintenance Reports
 - Highlights overall Equipment Performance of major equipment
 - Maintenance Reports archived based on day / week / month / quarterly and other specified time period
 - Statistical Analysis on equipment failures
- Work Order Module (optional) comprising
 - Complete flow of maintenance task planning with multi-level acknowledgement to ensure effective maintenance being carried out and completed
 - Auto-generated work orders based on maintenance configuration to alarms
 - Work Order No. and ID Number of Equipment
 - Downtime Classification, Fault Description and its Urgency
 - Corrective Actions Remedial Action Code
 - Response and Repairs' details tagged into the database
 - Breakdown History - fault lists are archived for easy reference
 - On-line troubleshooting guide to the technician



DOCUMENT MANAGEMENT SYSTEM

To reflect its careful design, our alternative offer greatly emphasises on **Document Management System**. This module provides:

- Complete documentation on-line, with well-defined indexing and search facilities
- Includes as-built drawings, process flow engineering diagrams and electrical schematics
- Maintenance Manuals, Diagnostic and Troubleshooting Guides, equipment information on all the major equipment

APPLICATION

1. Water Treatment Plants
2. Waste water Treatment Plants
3. Manufacturing Plant Automation and Control
4. Chemical and Processing Plants
5. Tank Farms, Reclamation System
6. Remote Hydrology Systems and Data Acquisition
7. Remote Pump Monitoring and Control System
8. Building Automation and Supervisory System
9. Integrated Building and Facilities Management System
10. Flood Mitigation System
11. Oil Terminal and Gas Plant Automation
12. Industrial Switchboards and Distribution
13. Material Handling System
14. River Drainage System

PLANT INFORMATION MANAGEMENT SYSTEM

Mahkota Technologies alternative offer also incorporate **Plant Information Management System**. This entity focuses on:

- Providing Operational Data that includes
 - Volume In versus Volume Out to assess plant capacity
 - Trending of the above and other key parameters
 - Automatic detection on changes of operational flow and key matrices
- Process Engineering Data which includes
 - Plant setting adjustments that are beyond the norm settings
- Web-enabling of data to be accessed by remote authorised users
- Operation Management report tracks the cost of daily operation, maintenance cost and plant overall effectivity