

# Application Story

## Sugar Ethanol Plant Controls



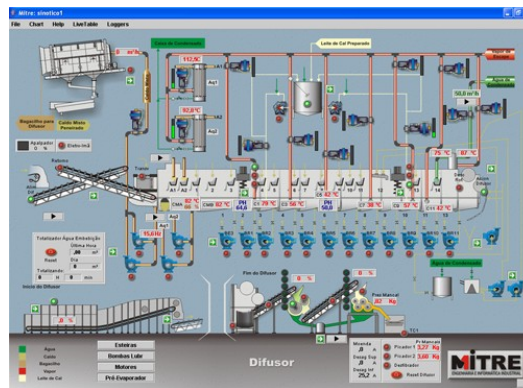
Dracena Obra, an ethanol producer in Brazil, selected Mitre Engenharia Ltd. (<http://www.mitreengenharia.com.br>) to implement the automation for their entire plant.

Since 1998, Mitre has provided open architecture control systems using SoftPLC® Programmable Automation Controllers (PAC), Profibus I/O, and Mitre's SCADA software called PlantJar.

### Process Control

SoftPLC was chosen as the controller for a number of reasons. SoftPLC is an open architecture PAC that provides capacity, processing power, and flexibility unmatched in other systems - at a much lower price.

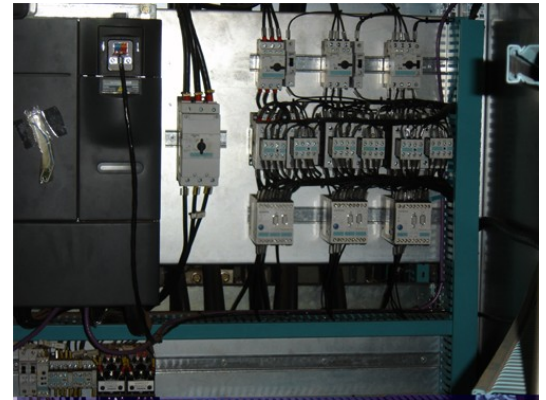
SoftPLC provides virtually unlimited user application memory, versatile PID control and floating point calculations. Extremely fast update times allow fast response I/O to be handled even with significant calculations being performed.



Three (3) SoftPLC's control the entire Dracena plant:

- Steam Generation (boiler, deaerator, and low steam temperature/pressure)
- Extraction (diffuser and pre-evaporator)
- Water treatment and demineralization
- Fermentation and distillation (hydrated and anhydrous ethanol).

Each SoftPLC is a Profibus Master, controlling its own distributed network of 50 to 80 slave I/O drops each. For Dracena, Mitre selected Siemens as the Profibus I/O provider, although other plants implemented by Mitre using SoftPLC utilize other manufacturer's I/O. As an open architecture controller, SoftPLC provides a wide range of I/O options, both for local I/O and remote, distributed solutions (eg: Profibus, Ethernet, and many others).



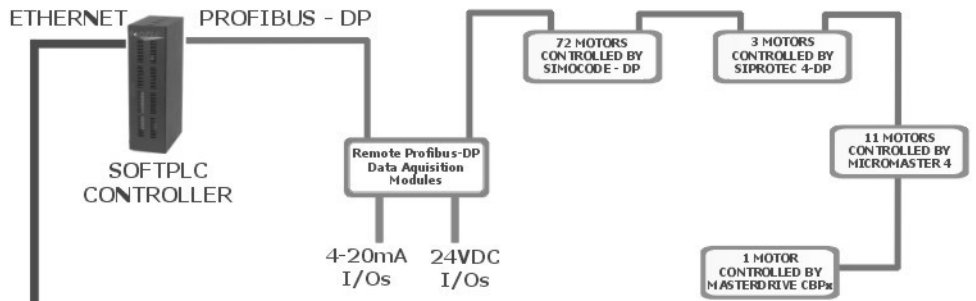
### SCADA

PlantJar SCADA, developed by Mitre, is a Java application. It communicates to the SoftPLC controllers over ethernet using SoftPLC's embedded Java interface. This makes communications very efficient. PlantJar is a complete SCADA package, available at much lower cost than other options.



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512-264-8390 or 800-SoftPLC (US/Canada)  
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## DIFFUSER/PRE-EVAPORATOR



## DISTILLERY/FERMENTATION

PLANTJAR SCADA



ETHERNET

ETHERNET SWITCH

ETHERNET

PROFIBUS - DP

SOFTPLC CONTROLLER

Remote Profibus-DP  
Data Acquisition  
Modules  
4-20mA I/Os 24VDC I/Os

76 MOTORS  
CONTROLLED BY  
SIMOCODE - DP

2 MOTORS  
CONTROLLED BY  
MICROMASTER 4



PLANTJAR SCADA

## BOILER/DEMINERALIZATION

ETHERNET

PROFIBUS - DP

SOFTPLC CONTROLLER

Remote Profibus-DP  
Data Acquisition  
Modules - BOILER  
4-20mA I/Os 24 VDC I/Os

Remote Profibus-DP  
Data Acquisition  
Modules - DESMI  
4-20mA I/Os 24 VDC I/Os

50 MOTORS  
CONTROLLED BY  
SIMOCODE - DP

10 MOTORS  
CONTROLLED BY  
MICROMASTER 4

1 MOTOR  
CONTROLLED BY  
MASTERDRIVE CBP

# Dracena Control System Overview