



Mirrabooka

Providing software solutions to the sugar industry for more than 30 years



Sample Tracking System

The SamTrack package has been designed as a total solution for tracking cane deliveries from the point where the cane enters the factory through the processing stage, to the online analysis that determines the product quality. The application consists of both hardware and software components, and can be provided as a stand-alone system, or integrated with the existing systems.

Features:

Continuous tracking, calculated wash cycle for an even carrier feed

Optimised sample length using the delivery net weight

Interfacing to integrated or third party Cane Receivals System

RFID (Radio Frequency Identification) vehicle and driver identification

Graphical Mimic tracking display

Graphic Tip Mimic of vehicles between Weighbridge and Tip

PLC Control Module for field I/O

Industrial grade display with touch screen for remote displays and data entry

Control first expressed juice sampler

Interfacing and control of NIR Cane Analysis System

Automatic Brix and POL instruments interfacing

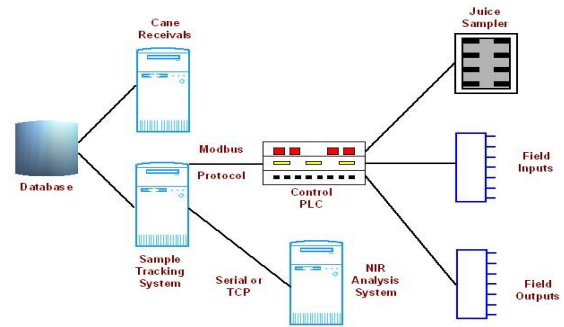
Online database enquiries and extensive reporting



Overview

The overall system consists of two major sections which are integrated to provide both the interfacing to the main Cane Receivals database and the field hardware. The two main components of the Sample Tracking are:-

- Configuration and Control Software
- Data Acquisition and Control PLC



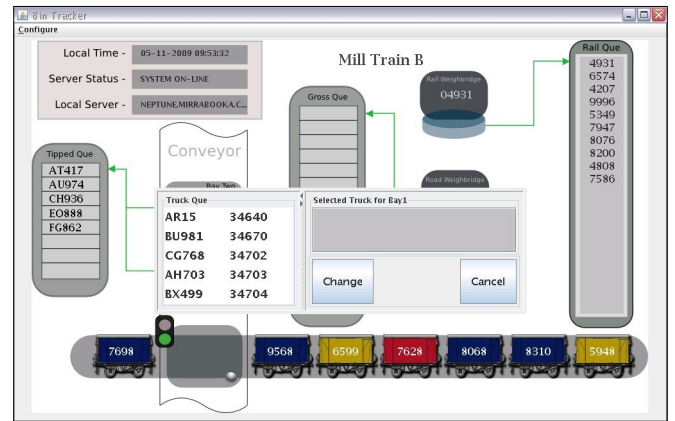
Cane Receivals/ Sample Tracking Interface

SamTrack may be part of an integration solution for a full Cane Receivals MIS package, or a free standing solution interfacing to an initial solution, In the situation where a third party is carrying out the weighbridge capture, data transfer to the Sample Tracking can occur using a standard interfacing method.

Vehicle Tracking

Manual Identification

The vehicle data can be transferred from the weighbridge recording system as the vehicles are weighed. As indicated above, this may be an integrated package or third party supplied. A graphical utility has been designed to provide the operator with a means of identifying the vehicle currently on the tip.



Automatic Identification using RFID

Vehicles can be fitted with RFID (Radio Frequency Identification) tags, so that vehicles are easily identified at the weighbridge and the tip. Either of these methods can completely automate the tracking of deliveries as they progress through the factory.



RFID TAG

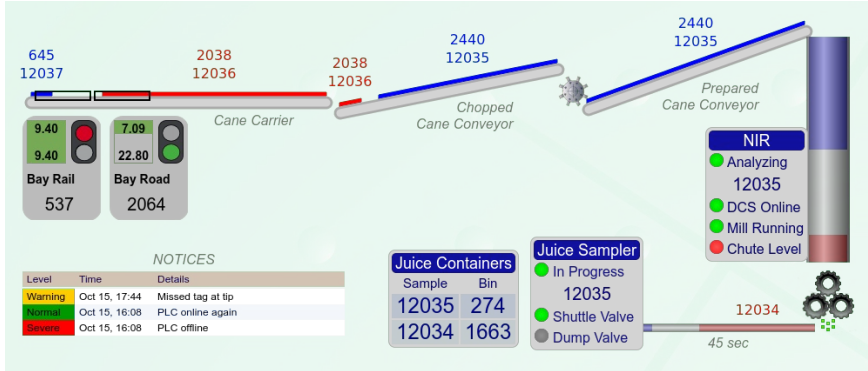


Tip Mimic Display

This is an industrial grade display with a touch screen feature that provides the operator with details of vehicles at the tip bays. This can be configured for road or rail deliveries, with single or multiple tip bays. The display can be set to suit the particular mill tip configuration.

Tracking Graphical Display

This mimic graphically displays the movement of vehicles between the weighbridge and the tip, and the cane samples as they progress from the tip through the milling train. Both the first expressed juice and the online analysis systems are illustrated on this mimic.

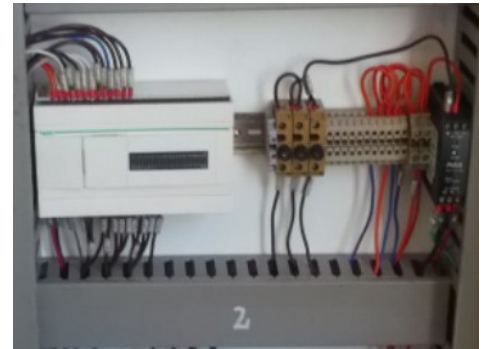


PLC Interface

A PLC is required for the processing of all field inputs and outputs. This unit may be connected to the main processing unit with a direct serial interface, or over an Ethernet LAN, depending on field equipment location.

First Expressed Juice

This module controls the operation of a mechanical sampling collection device automatically if required. To make sure a valid sample is collected, the juice valves are controlled using pre-set techniques, important for large samples. Movement of the juice containers on a turn table or container is also controlled by this module.



NIR CAS System

For the online NIR Cane Analysis System (CAS) the tracking system provides the interface protocol to control and capture all of the results from the analysis.



All the results are stored in a database table and are cross referenced to the consignment details.

Mirabooka Systems Pty Ltd
The Sugar Mill Ltd
PO BOX 42
LAWNTON

Cane Analysis Sample Report

Season 2022 Week Number 1

Delivery No.	Sample No.	No. Brs	Farm No.	Block No.	Variety Class	Brix	Nett Wt	Time	Date	Brix	Temp	POL	BU	PU	PURJ	BIC	PIC	Fibre	Fibre Flag	CCS	CCS Flag	Status
2	1	3	7411	3	208/1	G	39.90	08:22	20-06-22				18.9	16.6	87.8	15.6	13.4	13.7	P	12.3	L	Alc
3	2	6	7710	2	228/6	G	63.81	20:53	20-06-22				0.0	0.0	0.0	0.0	0.0	0.0	P	0.00	L	Alc
4	3	6	7116	8	228/6	G	66.18	23:51	20-06-22				18.4	15.5	84.4	14.6	12.0	15.7	P	10.7	L	Alc
5	4	3	7411	3	208/1	G	38.41	00:02	21-06-22	19.2	23.0	68.6	19.4	16.6	85.5	16.2	13.5	13.6	I	12.1	J	
6	5	6	7016	8	228/6	G	68.70	00:22	21-06-22				18.8	16.0	85.0	15.2	12.6	14.7	P	11.3	L	Alc
7	6	9	7710	2	228/6	G	94.22	00:49	21-06-22				18.2	15.2	83.3	14.3	11.6	17.4	P	10.2	L	Alc
8	7	6	7411	3	208/1	G	78.44	02:08	21-06-22				0.0	0.0	0.0	0.0	0.0	15.3	P	0.00		Alc
9	8	3	7016	8	228/6	G	35.47	02:16	21-06-22	18.2	25.0	66.2	18.5	16.1	86.8	15.3	13.0	14.4	I	11.7	J	
10	0	1	7710	2	228/6	G	8.26	02:07	21-06-22				0.0	0.0	0.0	0.0	0.0	0.0	P	0.0		Alc
11	9	2	7710	1	228/5	G	15.69	02:22	21-06-22				19.9	17.2	86.3	15.7	13.2	17.6	P	11.9	L	Alc
12	0	1	7016	8	228/6	G	12.08	02:14	21-06-22				0.0	0.0	0.0	0.0	0.0	0.0	P	0.0		Alc
13	0	1	7116	1	228/1	G	13.03	02:17	21-06-22				0.0	0.0	0.0	0.0	0.0	0.0	P	0.0		Alc
14	0	1	7116	8	228/6	G	11.64	02:20	21-06-22				0.0	0.0	0.0	0.0	0.0	0.0	P	0.0		Alc

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Automatic Cane Analysis

Several automatic cane analysis and juice analysis systems are currently supported, These include the Foss Near Infrared Analysis Systems (CAS, JAS and InfraCarna) as well as batch systems based on automatic POL and Brix analysis. All of these results are stored in the Cane Analysis Database.