



The Cane Sample Tracking System will track individual grower deliveries from the mill entry point (weighbridge) through the milling train to the laboratory.



# SamTrack

## Sample Tracking

### Mirrabooka Systems Pty Ltd

Providing software solutions to the Sugar Industry since 1986

Total cane & sample tracking solution

Full flexibility supports a range of online and laboratory analysis

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 can be integrated with the existing systems.

### Features:

- Continuous tracking, calculated wash cycle for an even carrier feed
- PLC Control Module for field I/O
- Industrial grade display with touch screen for remote displays & data entry
- Optimised sample length using the delivery net weight
- Control first expressed juice sampler
- Interfacing to integrated or third party Cane Receivals System
- Interfacing & control of NIR Cane Analysis System
- RFID (Radio Frequency Identification) vehicle & driver identification
- Automatic Brix & POL instruments interfacing
- Graphical Mimic tracking display
- Online database enquiries and Extensive reporting
- Graphic Tip Mimic of vehicles between Weighbridge & Tip

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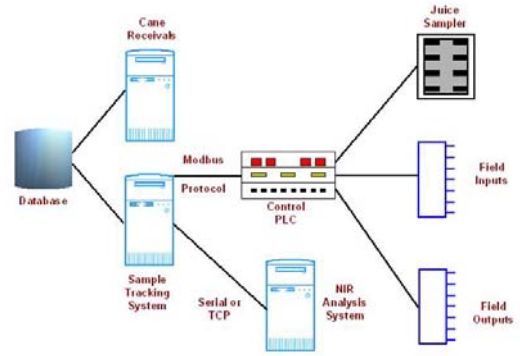
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# SamTrack – Description

## 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 application are:-

- Configuration and Control Software
- Data Acquisition and Control PLC



Interface to integrated or third party weighbridge system

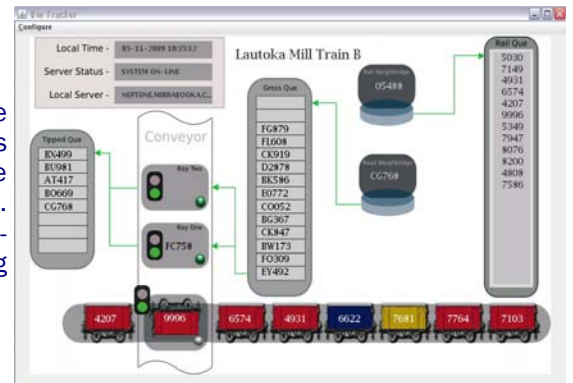
## Cane Receivals/Sample Tracking Interface

SamTrack may be part of an integrated solution for a full Cane Receivals MIS package or a free standing solution interfacing to an existing solution. In the situation where a third party package is carrying out the weighbridge data 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 maybe 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.

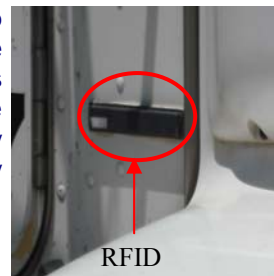


Operator controlled vehicle ID

### Automatic Identification using RFID

Vehicles can be fitted with RFID (Radio Frequency Identification) tags or drivers may be allocated an RFID smart card 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 automatic identification of vehicle or driver



## 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.

Displays multiple tip bays with indication lights

# SamTrack – Description

Dynamic graphic display shows samples as they progress through the milling train

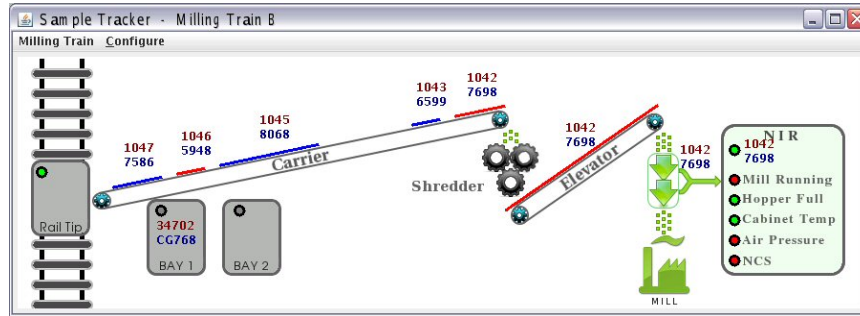
A standard PLC using the Modbus Protocol

Full controls for a first express juice sampler

Complete cane analysis details are captured from the FOSS CAS

## 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 of juice 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.



## 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.



CANE ANALYSIS SAMPLE										LAUTOKA										
										CANE RECEIVALS										
Rake No. Range 2000 TO 2600										2009-11-18 14:45:34 Week No. 0										
										Use Juice CCS in preference to NIR CCS Always use Class fore										
Delivery No.	Sample No.	Farm No.	Block No.	Variety Class	Bm Net Gm	Time	Date	Brix	Temp	POL	BU	PU	PURJ	BIC	PIC	Fibre Flag	Fibre CCS	CCS Status	Flag	
36916	2000	0	0	4/0	299	10:07	2009-11-11	0.0	0	0.0	16.8	13.4	79.8	14.3	11.3	10.8	9.9		Mis	
																0.0	Z	0.0	Z	
39063	2001	0	0	4/0	1092	10:16	2009-11-11	0.0	0	0.0	16.4	13.6	82.7	14.0	11.5	11.6			10.3	
								17.5	29	61.4	18.1	15.0	82.5	15.6	12.6	11.1	C	11.0	J	
39064	2002	0	0	4/0	1568	10:22	2009-11-11	0.0	0	0.0	16.0	12.1	75.6	13.4	10.1	11.9			8.5	
								17.6	29	58.1	18.2	14.2	77.6	15.6	11.8	11.6	C	9.9	J	
39066	2003	0	0	4/0	453	10:24	2009-11-11	0.0	0	0.0	13.3	9.2	68.8	11.1	7.6	13.2	5.9		Mis	
																0.0	Z	0.0	Z	
39068	2004	0	0	4/0	1110	10:30	2009-11-11	0.0	0	0.0	14.2	11.0	77.2	12.0	9.3	11.8			8.0	
								16.5	29	54.8	17.1	13.4	78.1	14.8	11.3	10.9	C	9.5	J	
39074	2005	0	0	4/0	1900	10:48	2009-11-11	0.0	0	0.0	15.0	12.1	80.7	13.2	10.7	9.4			9.5	
								16.1	29	55.1	16.7	13.5	80.8	14.6	11.6	9.7	C	10.0	J	
39076	2006	0	0	2/0	1363	10:56	2009-11-11	0.0	0	0.0	15.4	12.3	80.0	13.1	10.5	11.6			9.2	
								16.1	29	54.9	16.7	13.4	80.0	14.4	11.3	11.0	C	9.8	J	
39079	2007	0	0	4/0	1206	12:29	2009-11-11	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Z	0.0	Z