Liberate Industrial Data And Scale Digital Value

DLF_
DATA
LIBERATION
FRONT

Ignition! by inductive automation

canary

FLOW SOFTWARE

sepasoft

Stratus

Cirrus Link SOLUTIONS

ELEMENT 8

QUARTERLY UPDATE: FRIDAY 28 JULY 2023

Jaco Markwat
Team Lead
Element8

Leonard Smit
Customer Success Manager
Flow Software

Clarise Rautenbach
Channel Partner Lead
Element8

Coenraad Potgieter
Director
Darner Engineering

Tebello Masedi
Customer Success Team
Element8

Rudi van Aarde
Project / Control Engineer
Darner Engineering

DLF_ DATA LIBERATION FRONT

Humbly serve. Our community and the industry.

Learn from others. And share what we've learnt.

Provide intuitive solutions that scale.

Help ensure a data-driven and flourishing future for all.

PURPOSE

FRI
28 JUL
2023

DLF_
DATA
LIBERATION
FRONT

01 COMMUNITY NEWS

02 PRODUCT UPDATES

03 CUSTOMER PROJECT

04 Q & A


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DATA
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A-GAS®
TOGETHER WE CAN


BAT


DÖHLER
NATURAL FOOD & BEVERAGE INGREDIENTS


FIRST QUANTUM
MINERALS


GRANOR
PASSI


IVANPLATS
An IVANHOE MINES company


INTERWASTE
HOLDINGS
A proud Séché environnement company


JONSSON®
WORKWEAR


NORTHAM
ELAND


NUB
TECHNOLOGIES


RioTinto


SA METAL GROUP


SMITHS
MANUFACTURING (PTY) LTD


TWK
agri


TWO RIVERS
PLATINUM

DLF_
DATA LIBERATION FRONT

Ignition Certified Integrator

4sight OT

PHILCO SYSTEMS
INDUSTRIAL AUTOMATION SPECIALISTS

Software & Automation Systems

ZUTARI
IMPACT. ENGINEERED.

Ignition Gold Certified Integrator

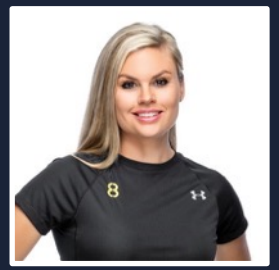
devcotech
electrical engineering

FLOW SOFTWARE
Certified

PCS Global
ZIMBABWE (Pvt) Ltd

ZUTARI
IMPACT. ENGINEERED.

Partner Page



Clarise Rautenbach
Channel Partner Lead
Element8

8

INDUCTIVE UNIVERSITY
by inductive automation

canary
LearnWorlds

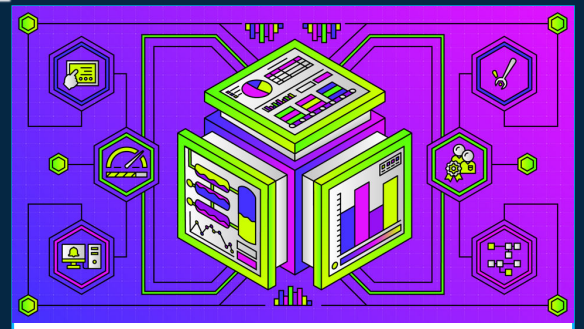
FLOW
MASTERCLASS

Ignition
Certified
Training Center
inductive automation

Ignition Core	14-18 August	Johannesburg
Flow Core	21-23 August	Johannesburg
Flow Advanced	24-25 August	Johannesburg
Canary	11-12 September	Johannesburg
Ignition Perspective	13-15 September	Johannesburg

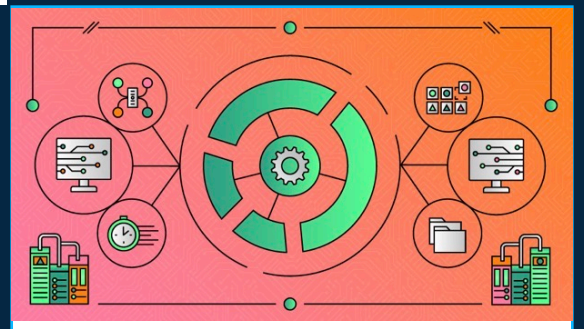
Register here

HELPFUL RESOURCES: WHAT WE'RE WATCHING



Design Like a Pro: Exceptional Industry-Specific HMIs

Inductive Automation



Ditch Data Silos: Create a Unified Namespace with Ignition UDTs & MQTT

Inductive Automation

Maximize Manufacturing Data with a SMART KPI Calculation Engine

Flow Software

What's is about?

A live Ignition Cloud Edition Perspective dashboard that displays data being published to a cloud MQTT server by community-built data models.

You're invited!

Build one data model (UDT) and one corresponding Perspective template that can represent anything from a machine to a sensor to an oil well or even a thermostat.

Ignition Exchange Resources

The community-built UDTs and Perspective templates will be publicly available on the Ignition Exchange.

PROJECT
Beginner

TrackNow - Ticket Management System

INSTRUMENT INTERFACE
Beginner

APC UPS Modbus Interface

PROJECT
Intermediate

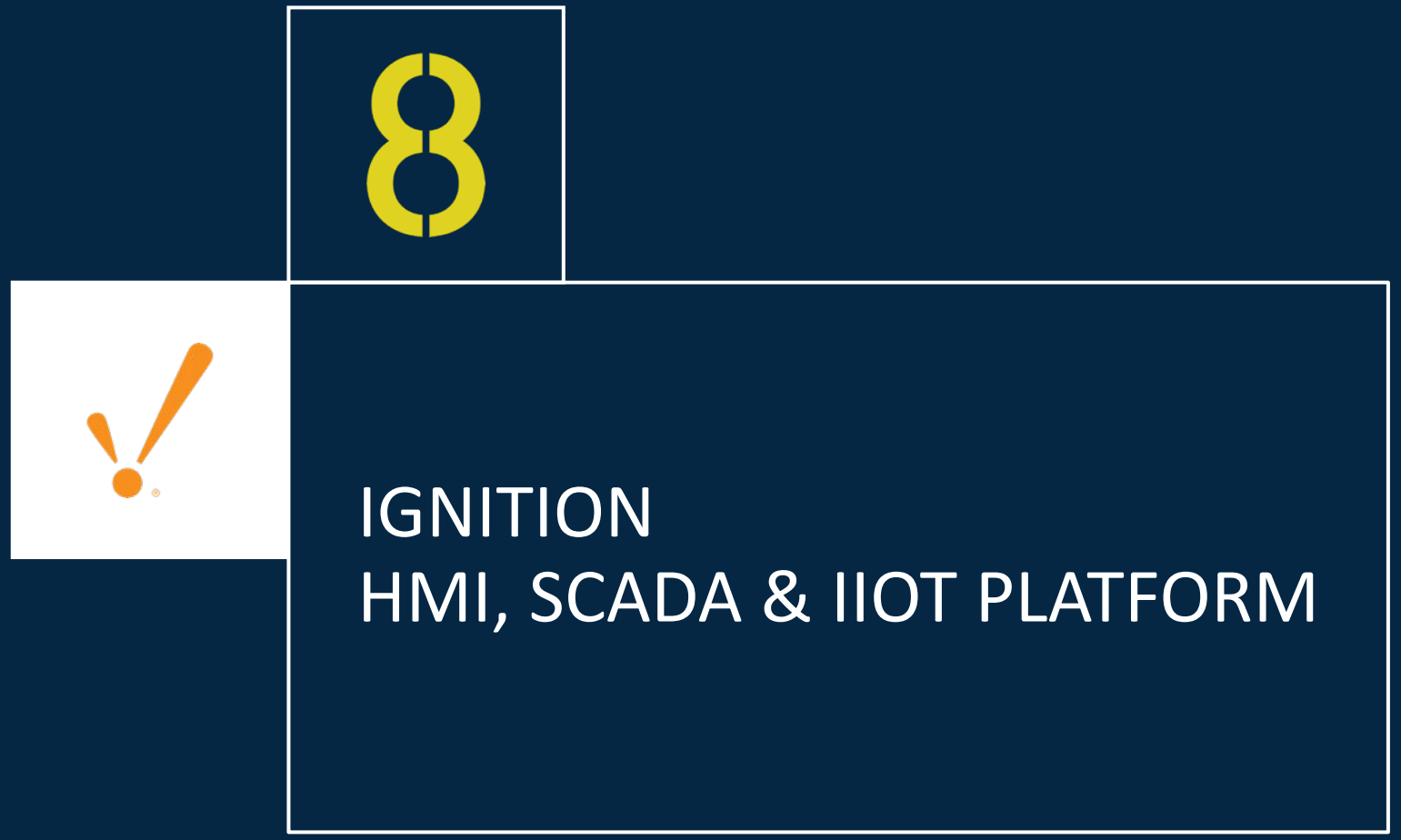
Perspective Electronic Signature Framework

PROJECT
Beginner

chatGPT + Ignition - Python Code Assistant

UDT
Intermediate

EskomSePush Ignition Integration


IGNITION
HMI, SCADA & IIOT PLATFORM

8.1.25 – 8.1.28: HIGHLIGHTS

WHAT YOU MISSED:

+ 8.1.25 – **Live Gateway Network Diagram**
+ 8.1.26 – **Hacker-proof updates**
+ 8.1.27 – **Designer & Gateway Config Properties**
+ 8.1.28 – **Mitsubishi Driver**

RELEASED ON 14 JULY

- New **Perspective Path Property Button**
  - Value? Easily find source view
- New Gateway **Script Cancel Button**
  - Value? Added security measure
- Updated **Tag Historian** logging
  - Value? Easier troubleshooting
- Fixed **Reporting Module regression**

8.1.30

FLOW

SOFTWARE

Version 6.1 Excitement!

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Customer Projects

Ports and Terminals

Terminal de Carvão da Matola (TCM)
Location: Mozambique
Products: Ignition, Canary and Flow

TCM is a coal and magnetite terminal in Matola, Mozambique. They are part of the larger Grindrod enterprise. Their raw bulk product is supplied by rail and road, from where it is stockpiled and then loaded on cargo ships.

Risk

Their control system was outdated and in need of an upgrade.

Solution

- Expansion of an existing Ignition installation
- Introduction of Siemens S7-1500 PLCs was the base of the control system upgrade.
- Canary was deployed to give historization capabilities.
- Flow was selected for downtime analysis, reporting and eventual integration into ERP systems.

Results

A clean, modern system with expanded functionality.
Simplifying operational tasks while providing more in-depth information.

Ignition SCADA Views

Active Time	Display Path	Current State	Label	Priority
7/7/23, 12:06 PM	Main Plant/Analogs/TCMCV9AWT01/bError/Alarm	Active, Unacknowledged	Conveyor CV9A Winch Take-Up Load Cell Error	High

GRINDROD

- Operations
  - Audit Logs
    - Audit Log
    - Audit Log WT01
  - Overview
  - Alarms
  - Trends
  - System
  - Safety Devices
  - Legend
  - PLC Comms
  - Terminal Network
- Main Plant
- Machines

Reset & Restart

7 Jul 2023

12:09:25

pieter.he...

Log Out

DARNER ENGINEERING

TCM Main Plant Overview

##					
	BF10	CV11 -> CV13 -> CV15 ->	SL02	100	Select
	TP01	CV03 -> CV05 ->	DUMP	26	Start
	Restart All	Route ready to start			IL
	Excavat...	CV4A -> CV6A -> CV9A -> CV9B ->	GH01	93	Stop
	TP02	CV04 -> CV06 -> CV9A -> CV9B ->	GH01	105	Stop
	SR02	CV11 -> CV13 -> CV15 ->	SL02	44	Stop
	BF10	CV11 -> CV13 -> CV15 ->	SL02	100	Stop
				0	Stop
	SR03	CV10 -> CV12 -> CV14 ->	SL01	45	Stop
				0	Stop
				0	Stop
	Stop All				

Ship Total Setpoint	59160 Tons
Total Loaded On Ship	47925 Tons
Total Tons to Go	11235 Tons

34.08kph Wind Speed

-502t

4368t

81%

Test Alarm

Sub Station 01 Fire Detection Healthy

Sub Station 02 Fire Detection Healthy

Sub Station 03 Fire Detection Healthy

Active Time	Display Path	Current State	Label	Priority
7/12/23, 11:52 AM	Main Plant/Analogs/TCMCV9AWT01/bError/Alarm	Active, Unacknowledged	Conveyor CV9A Winch Take-Up Load Cell Error	High

- Operations
  - Audit Logs
    - Audit Log
    - Audit Log WT01
  - Overview
  - Alarms
  - Trends
  - System
  - Safety Devices
  - Legend
  - PLC Comms
  - Terminal Network
- Main Plant
  - Routes
  - Ship Hatches
  - Substations
  - Belts
  - VSD
  - Radios
- Machines

Reset & Restart

12 Jul 2023

12:10:15

pieter.he...

Log Out

DARNER ENGINEERING

Stacker & Reclaimer 02

Manual Unlocked Mode

Analog Inputs

-11.02 °	TCM SR02 Luffing Drive - Angle
0 °	TCM SR02 Slew Drive - Angle
15.76 Km/h	TCM SR02 Wind Speed Input
-0.49 °	TCM SR02 Cabin Inclinometer Position
359.02 m	TCM SR02 Travel Drive - Encoder
1,117 t/h	TCM SR02 - CV13 Weight

Global Interlocks

- TCMSR02 CB
- TCMSR02 E-Stops 1
- TCMSR02 Summary Fault 1

Luffing
TCMSR02M12
0%

Slew
TCMSR02M11
0%

Boom Conveyor
TCMSR02M02
TCMSR02V02
TCMSR02V03

Bucketwheel
TCMSR02M01
0%

Conveyor 8

Travel Drive
TCMSR02M04
0%

Cable Reel
TCMSR02M05

Bucketwheel Lubrication
TCMSR02M08

Hydraulic Pump
TCMSR02M03
TCMSR02V01
0 %

TCMSR02V04

TCMSR02V05

Slew Bearing Lubrication 1
TCMSR02M06

Slew Bearing Lubrication 2
TCMSR02M07

Rail Clamp 1 Pump
TCMSR02M09

Rail Clamp 2 Pump
TCMSR02M10

Control Voltage On

Control Voltage Off

Active Time	Display Path	Current State	Label	Priority
7/12/23, 11:52 AM	Main Plant/Analogs/TCMCV9AWT01/bError/Alarm	Active, Unacknowledged	Conveyor CV9A Winch Take-Up Load Cell Error	High

GRINDROD

- Operations
  - Audit Logs
    - Audit Log
    - Audit Log WT01
  - Overview
  - Alarms
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  - System
  - Safety Devices
  - Legend
  - PLC Comms
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- Main Plant
  - Routes
  - Ship Hatches
  - Substations
  - Belts
  - VSD
  - Radios
- Machines

Reset & Restart

12 Jul 2023

12:14:23

pieter.he...

Log Out

DARNER ENGINEERING

SAFETY CIRCUIT

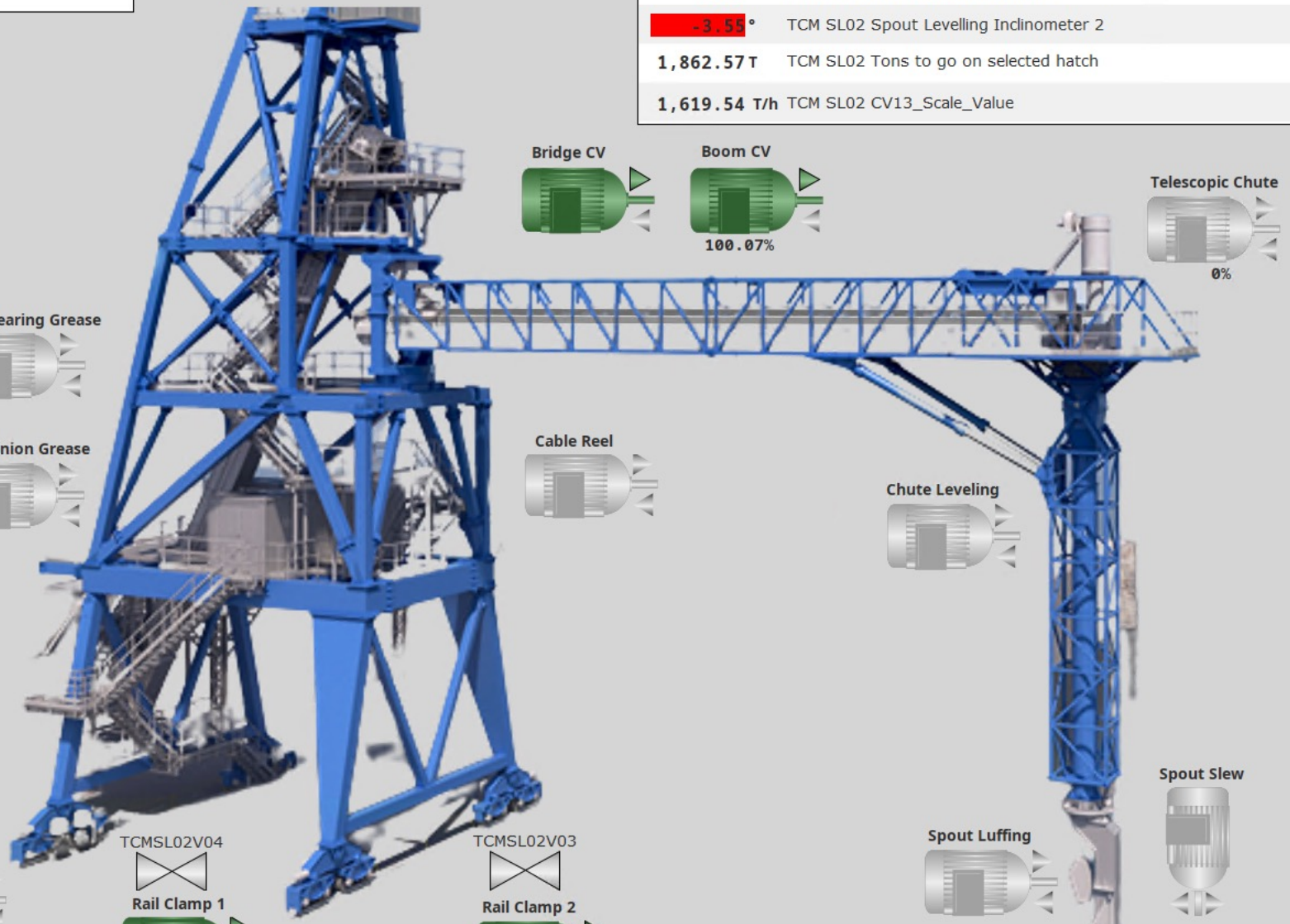
I I I I

Luffing 0%

Luff Hydraulics

General Signals

25.12 km/h	TCM SL02 Wind Speed Anemometer
1.09 °	TCM SL02 Luff Angle Inclinometer
-3.55 °	TCM SL02 Spout Levelling Inclinometer 2
1,862.57 T	TCM SL02 Tons to go on selected hatch
1,619.54 T/h	TCM SL02 CV13_Scale_Value



Bridge CV

Boom CV 100.07%

Telescopic Chute 0%

Slew Motor 1 0%

Slew Bearing Grease

Slew Motor 2 0%

Slew Pinion Grease

Cable Reel

Chute Leveling

Spout Slew

Spout Luffing

Long Travel 0%

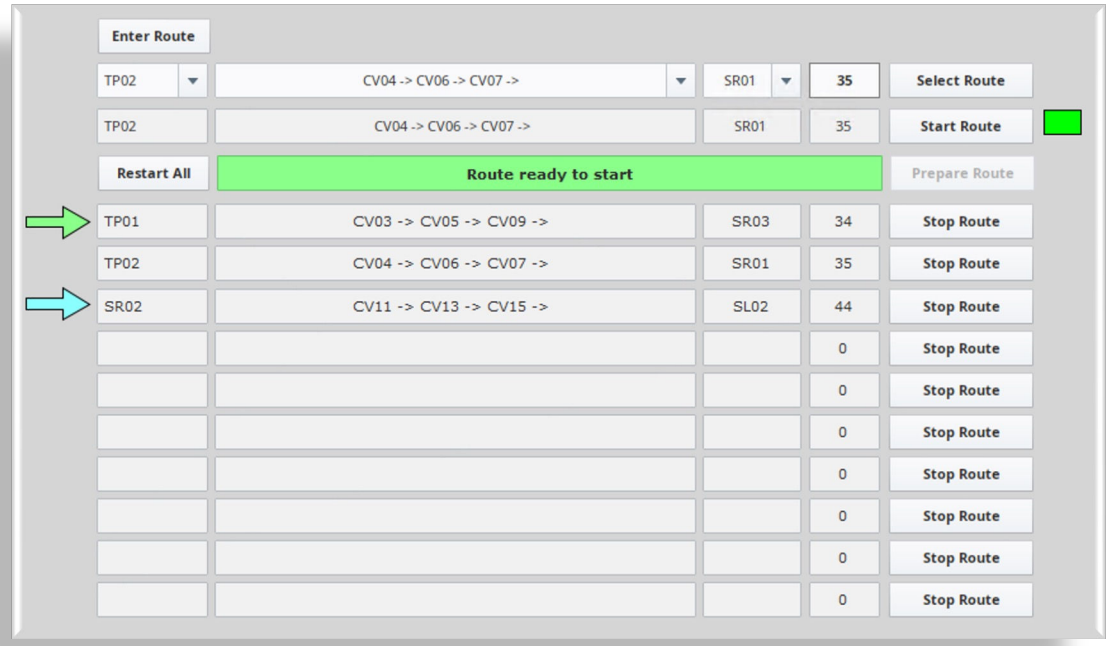
TCMSL02V04

TCMSL02V03

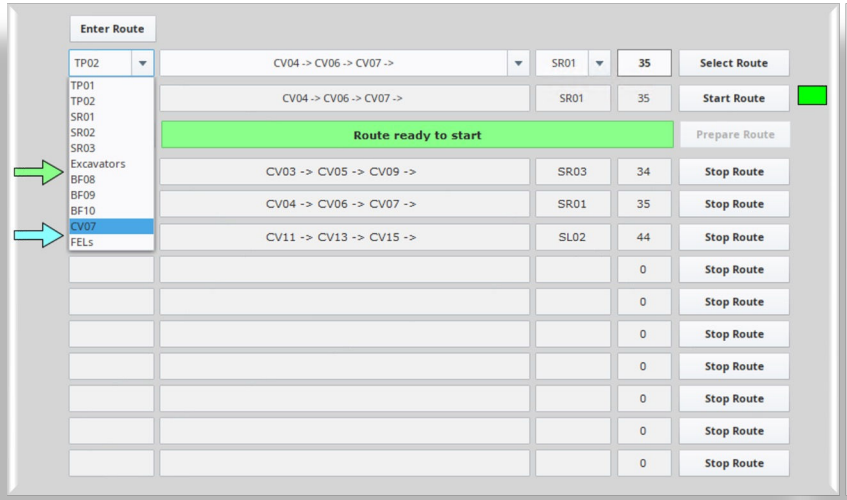
Rail Clamp 1

Rail Clamp 2

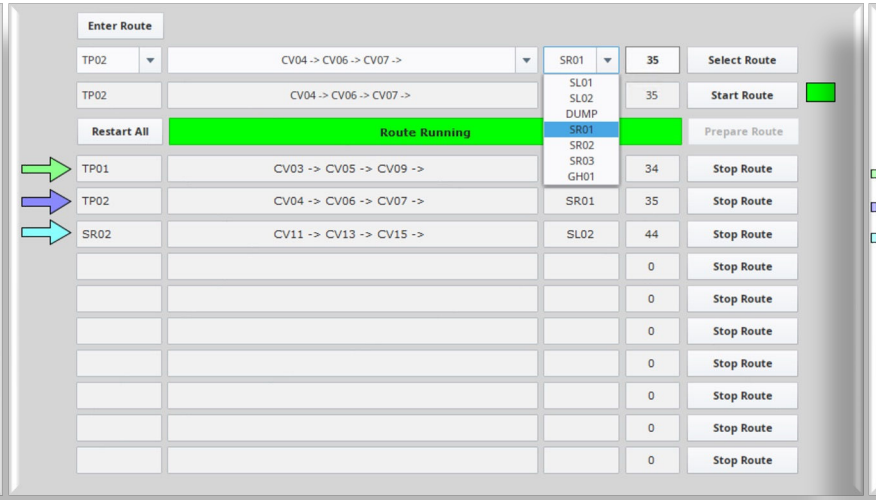
Terminal de Carvão da Matola (TCM) – **Route Selection**



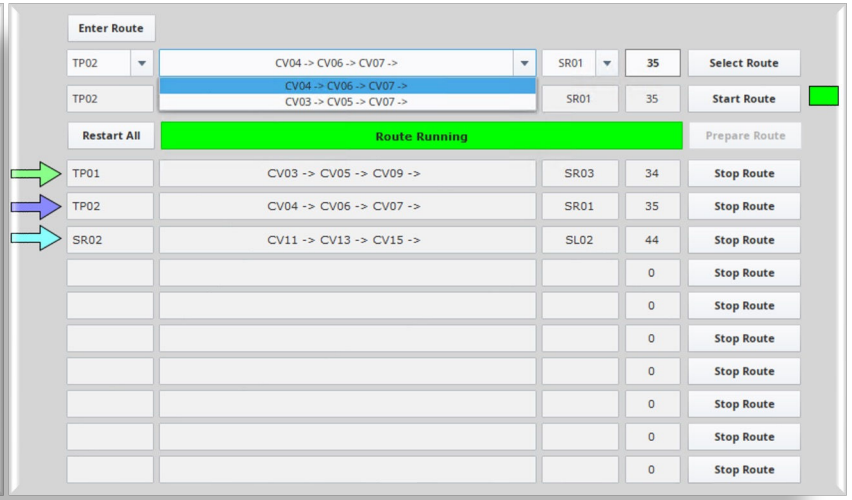
Select Source



Select Destination



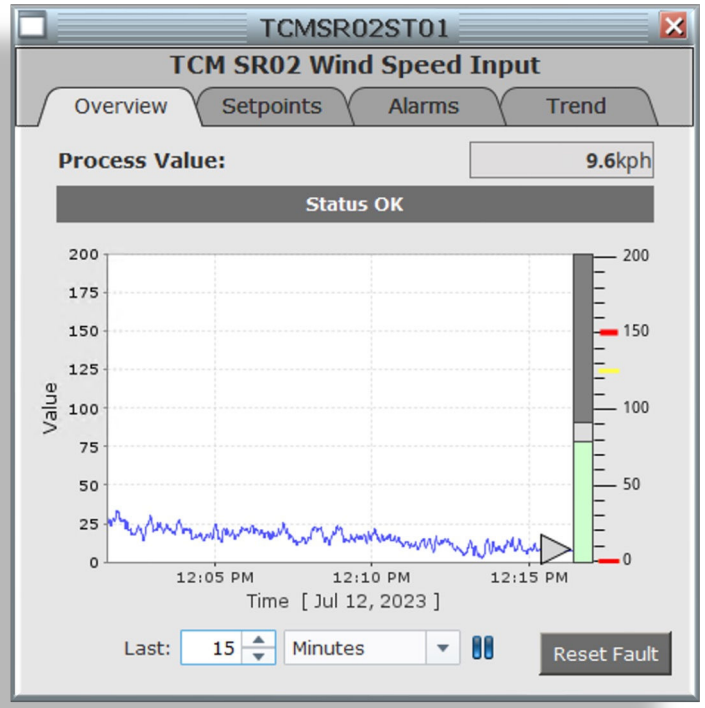
Select VIA



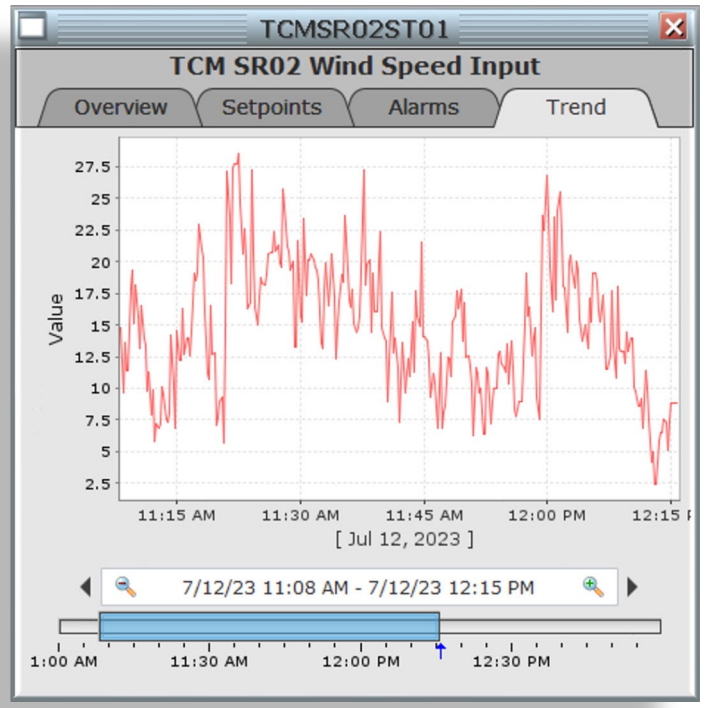
Integrated Pop-Ups: Canary Data

Terminal de Carvão da Matola (TCM) – **Implementation of Canary Data Pop-Ups**

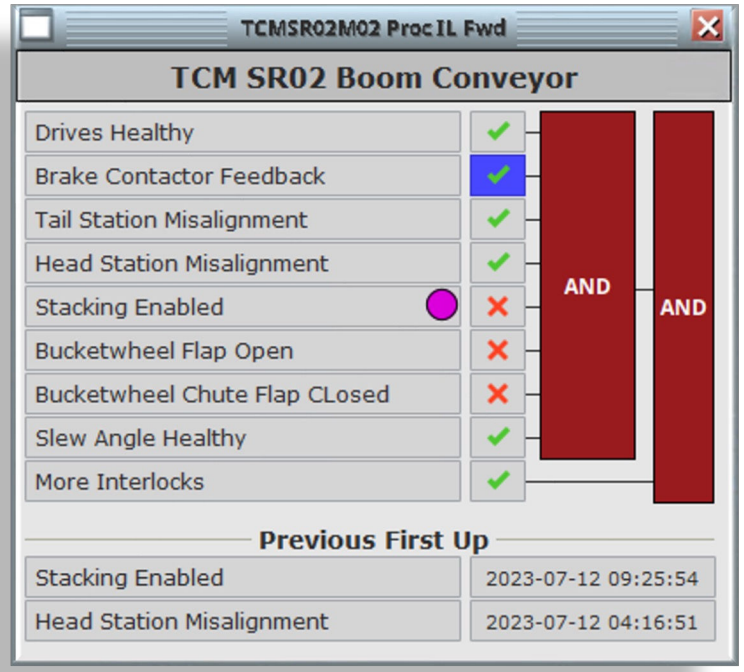
-Live Spark Chart



-Historical Data

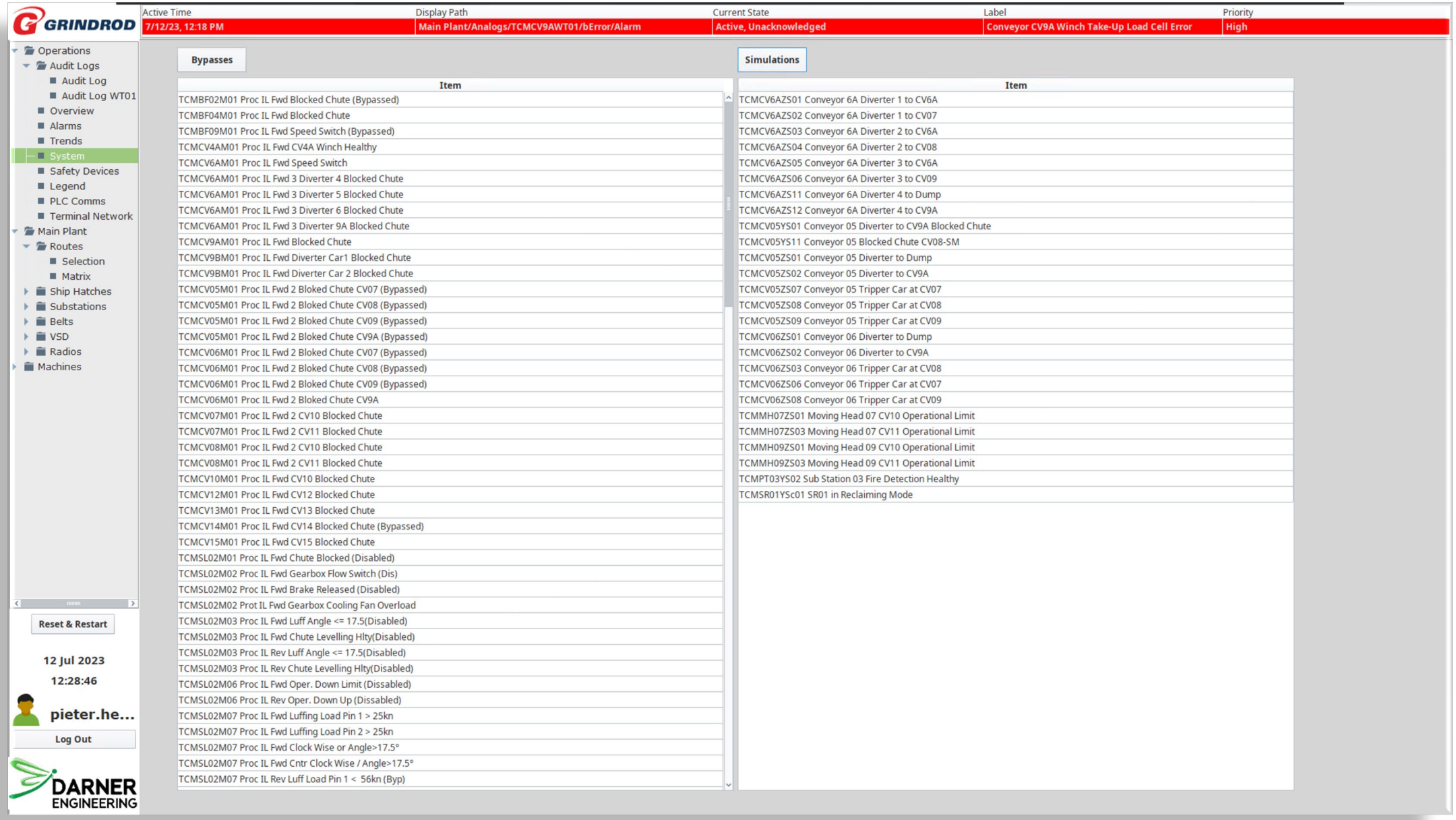


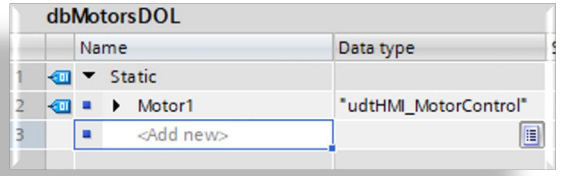
-Last Stop Reason on Interlocks



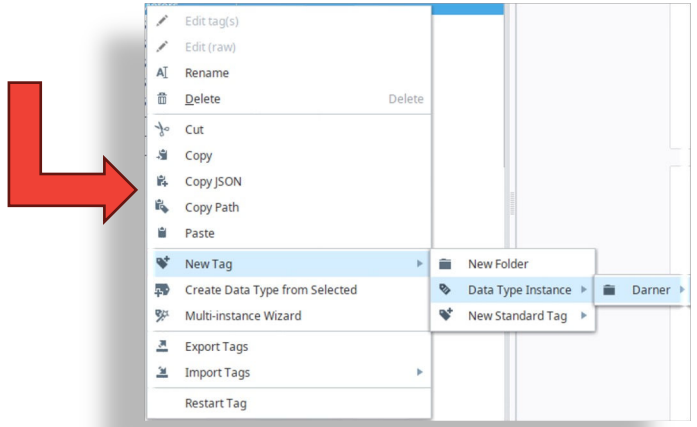
-Downtime classification

Terminal de Carvão da Matola (TCM) – **Plant wide list of bypasses and simulation**

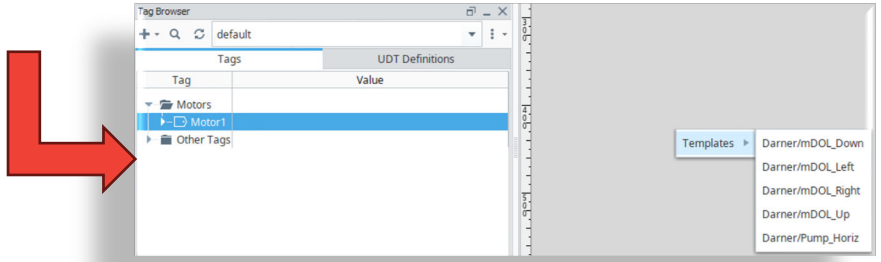




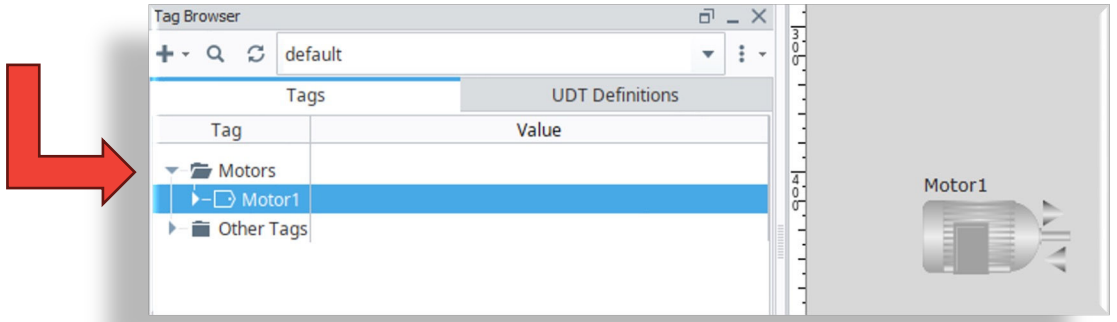
-Create DB with Motor Data type



-Create Tag in Ignition with Motor UDT



-Pull tag onto window choose template

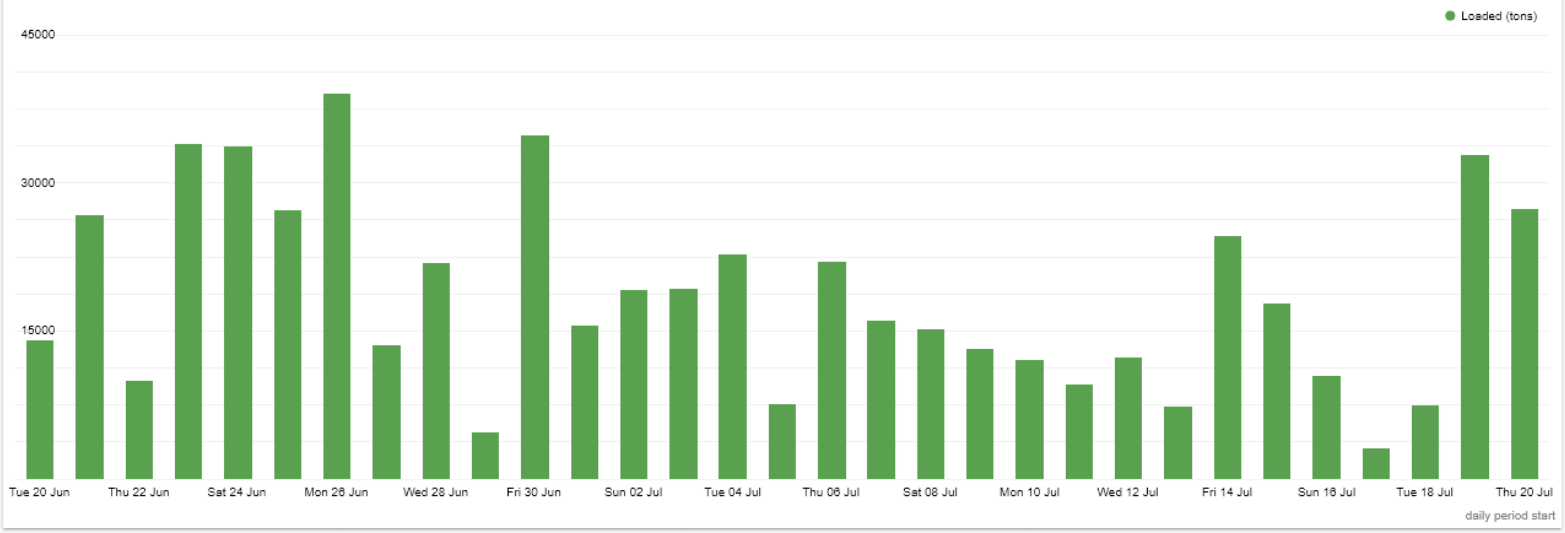


Flow Reporting and Dashboards

Terminal de Carvão da Matola (TCM) – **Daily Operational Report**

SL02

Production



Production

Loaded
27320 tons

MTD
315641 tons

Performance

Loading
1264.03 tph

MTD
1030.70 tph

Runtime

Runtime
21.61 hrs

MTD
264.95 hrs

Unplanned Stops

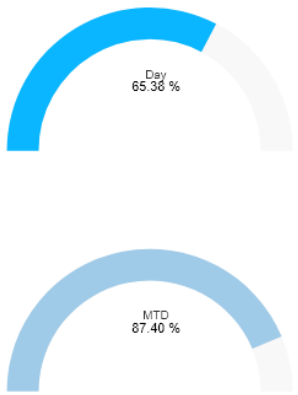
Stops
11

MTBF
1.96 hrs

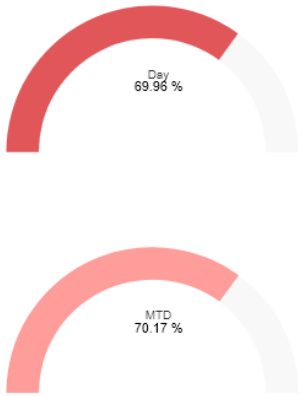
MTD
27

MTD
10 hrs

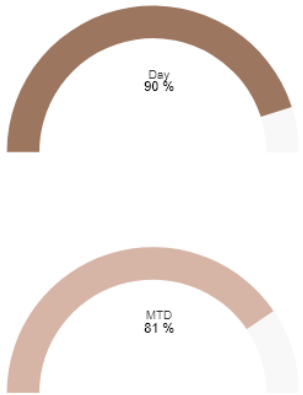
Reliability



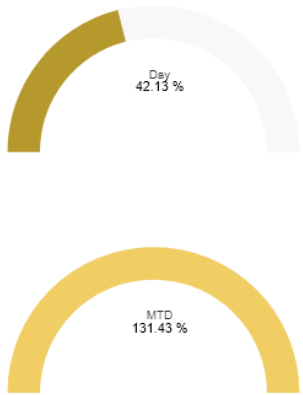
Availability



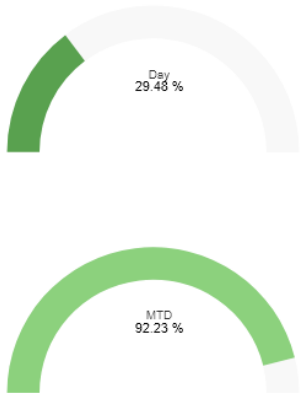
Utilization



Performance Index



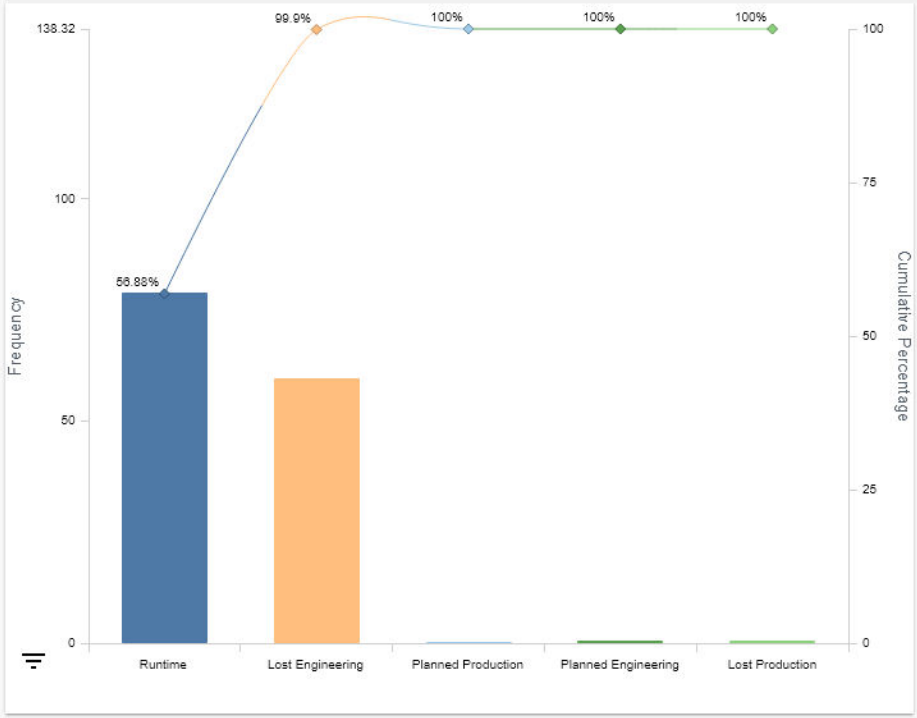
OEE



Machine Status Table

Period Start	Period End	Duration	Description	Machine State
2023-07-21 01:40	2023-07-21 13:36	715.84		Lost Production
2023-07-21 13:36		34.35		Runtime

SL01



Performance

Availability
48.68 %

Reliability
79.67 %

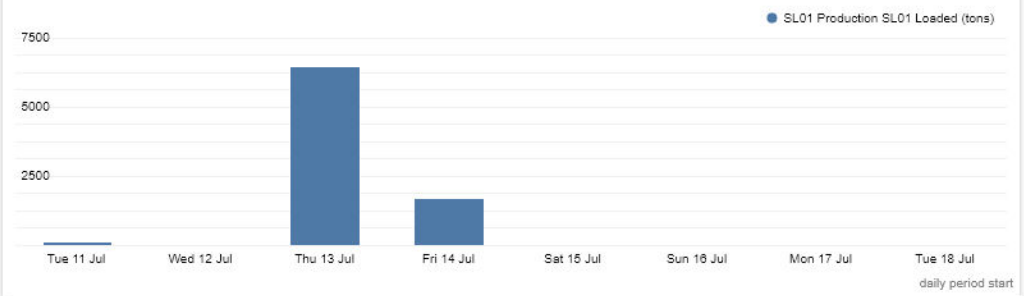
OEE
3.73 %

Performance Index
15.91 %

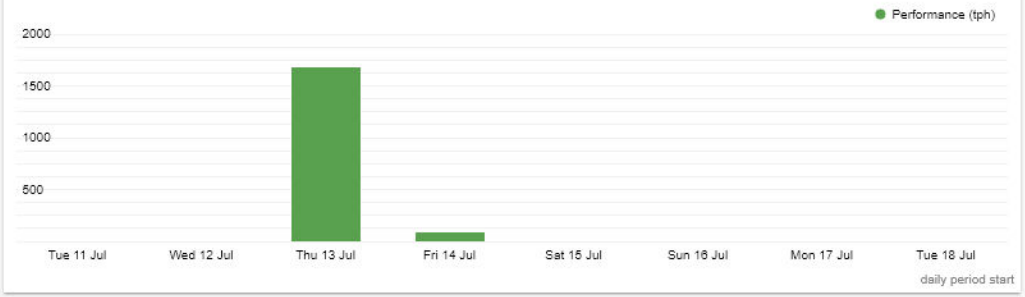
MTBF
8.39 hrs

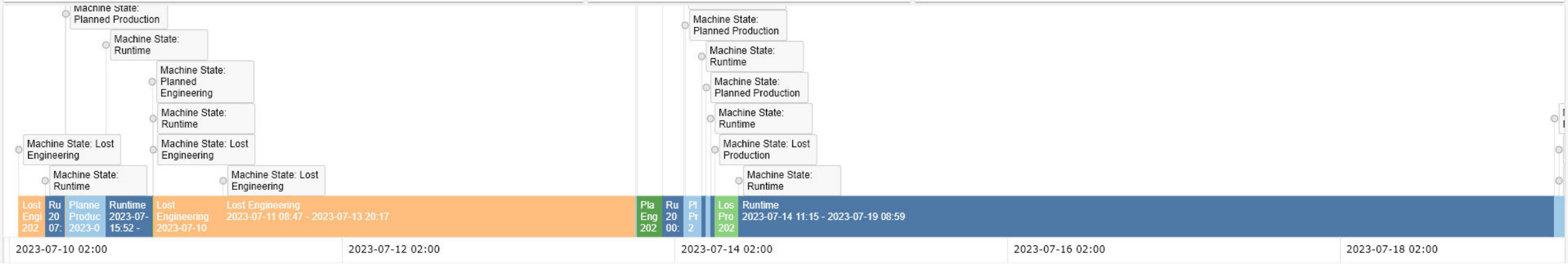
Utilization
49 %

Production



Performance

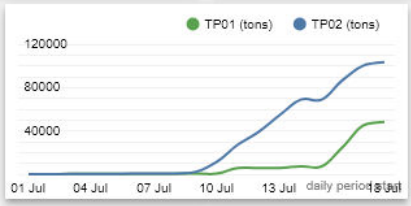




Terminal de Carvão da Matola (TCM) – **Tippler Production Report**

Tippler 1

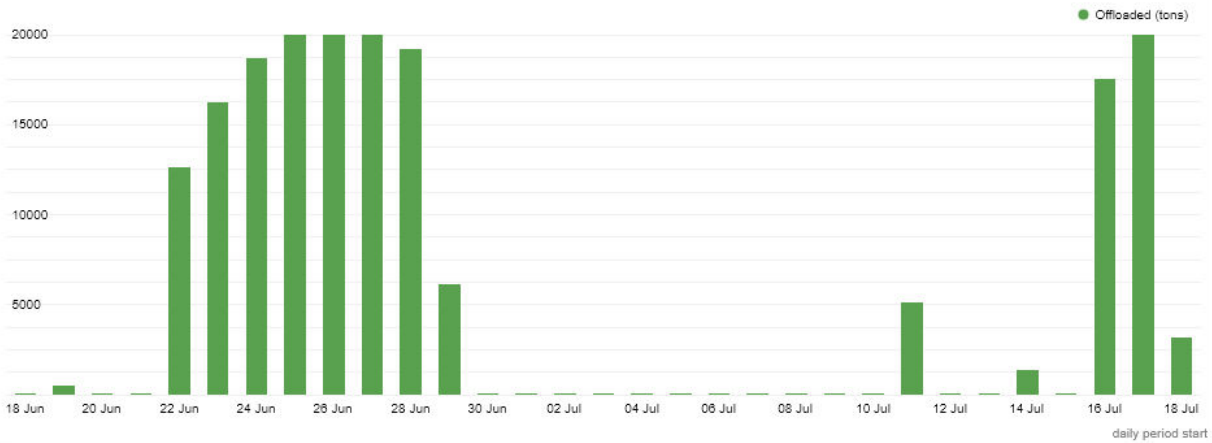
Daily Tons	Runhours	TPH	Wagons	min / wagon
3155 tons	- hrs	- tph	- wagons	- min/w
MTD 48242 tons	MTD - hrs	MTD - tph	MTD - wagons	MTD - min/w



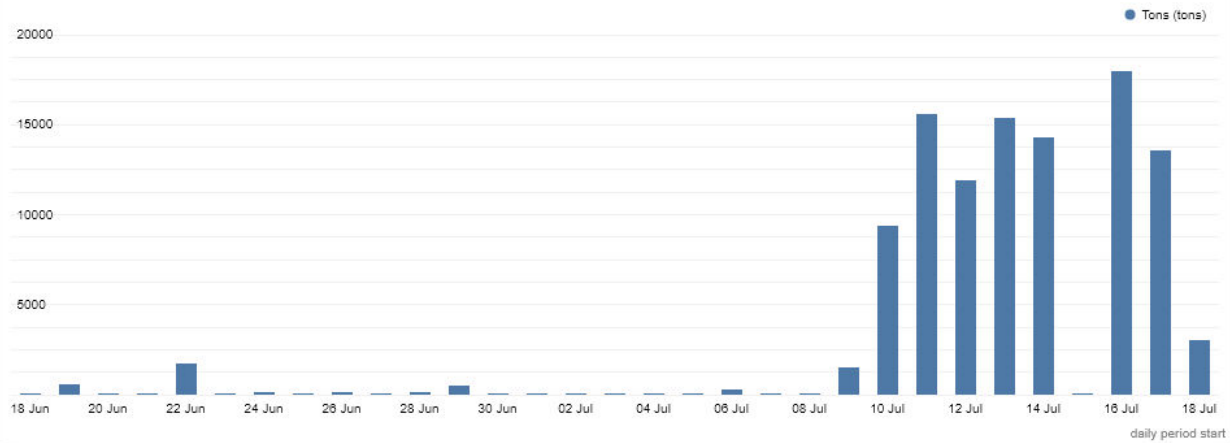
Tippler 2

Daily Tons	Runhours	TPH	Wagons	min / wagon
2997 tons	- hrs	- tph	- wagons	- min/w
MTD 103414 tons	MTD - hrs	MTD - tph	MTD - wagons	MTD - min/w

Tippler 1 30day history



Tippler 2 30day history



Tippler 1 Previous Hour

Tippler 2 Previous Hour

DLF_ DATA LIBERATION FRONT

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elev8
2023
SAVE THE DATE / OCTOBER 18, 2023 CAPE TOWN / OCTOBER 20, 2023 CENTURION