

OCTOBER 2024

---

# ROCA Group's Industry 4.0 Ambition & Roadmap

Jacques Nieuwland, Digital Transformation & Group IT Director

Miguel Barahona, Faucet Manufacturing & Engineering Director

# ROCA Group's industry 4.0 ambition and roadmap



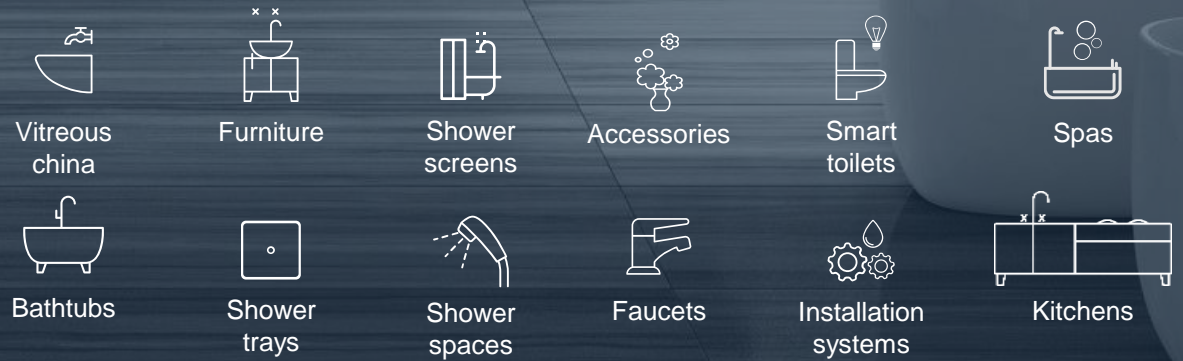


LAUFEN

The ROCA Group was founded 1917 in Barcelona, entered the bathroom sector in 1936, and strongly internationalized since the 1990s.



Roca equips the full bathroom



Operating in 170 markets

80 factories in 22 countries



Turnover € 2 B in 2023



Leader in Europe, Latin America, India

Strong presence in the rest of the world



Over 21,000 employees worldwide

## OUR STRATEGIC PILLARS



Supporting the Sustainable Development Goals (SDGs)

## The path towards Industrial Excellence

*With over 70 factories worldwide we need accurate, reliable and standardized measurement of our manufacturing KPI's to be able to take the right decisions in terms of investments, footprint strategy, product manufacturing allocations and to execute with excellence*



**Concrete Benefits**

A typical overall payback is **1.5-2 year**, specifically\*

- Energy Efficiency:** average -30% cost saving.
- Productivity:** average 30% CapEx reduction (engineering and commission); 28% OpEx reduction (maintenance costs); 22% equipment availability increase
- Reliability:** average 15% quality issues reductions
- Safety:** average 20% workforce safety improvements
- Sustainability:** average 20% CO2 footprint reduction

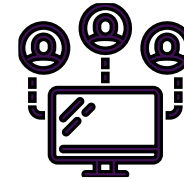
We selected 3 use case out of 10 analyzed  
2 Pilot sites selected



OEE Tracking



Energy Efficiency



Digitalized Kaizen

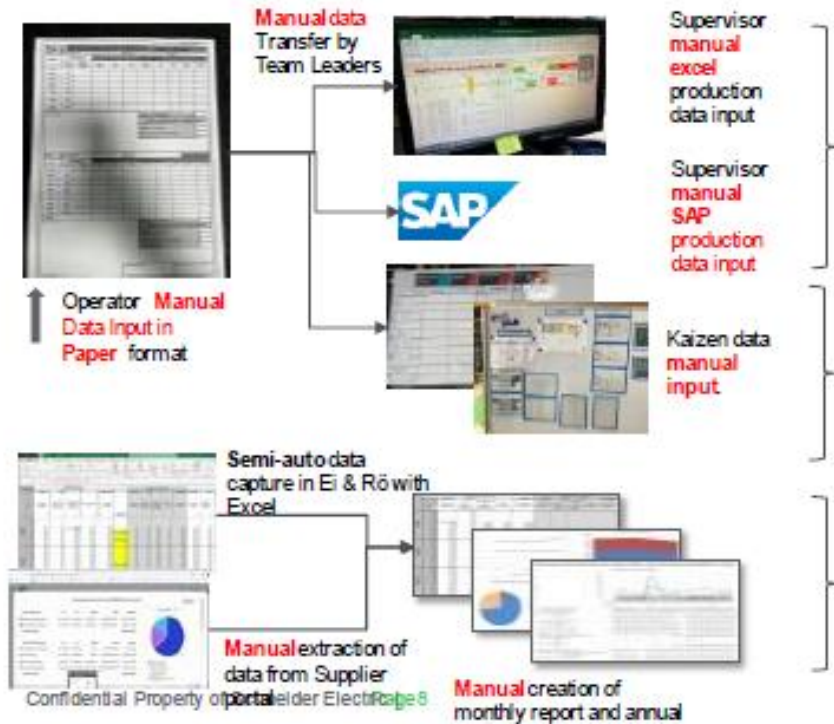
The selected use cases bring clear benefits and the highest pay back

# Wave 1 – Core-model Use Cases for Torneiras & Sanit

## Benefits of the 3 Core-model Use Cases (CUC) of Industry 4.0 project in 2 pilot sites

### AS IS :

The same or similar data is entered manually, many times in different formats (paper, Dashboard, excel, SAP,...).  
No Real Time information available.



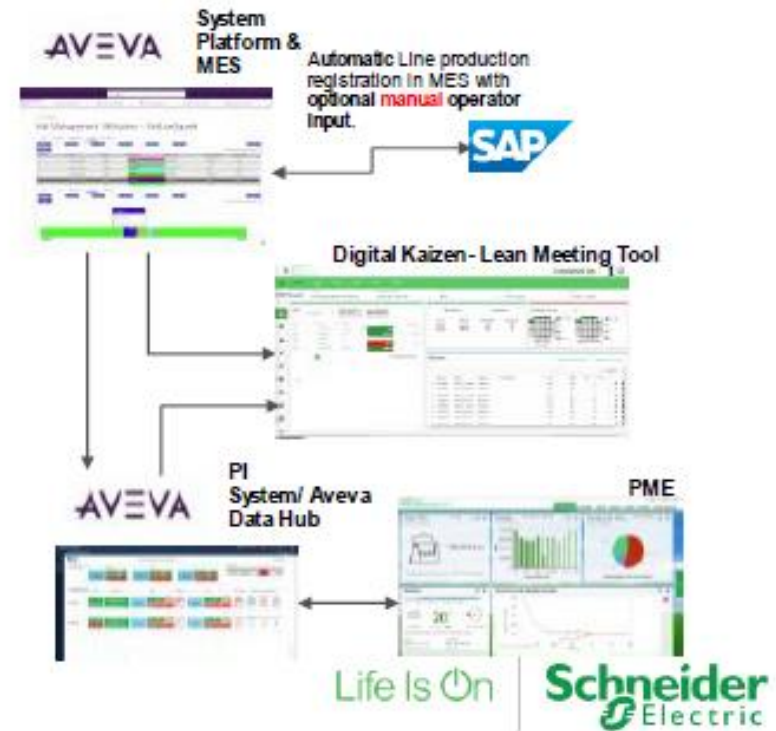
### TO BE:

Operations data are centralized in the MES system, which establish communication with other systems (like SAP, Lean Meeting tool, Aveva PI).  
Energy data is captured, digitized and linked with production real time.

CUC.01  
MES for OEE

CUC.02  
Digital Kaizen

CUC.03  
Energy efficiency

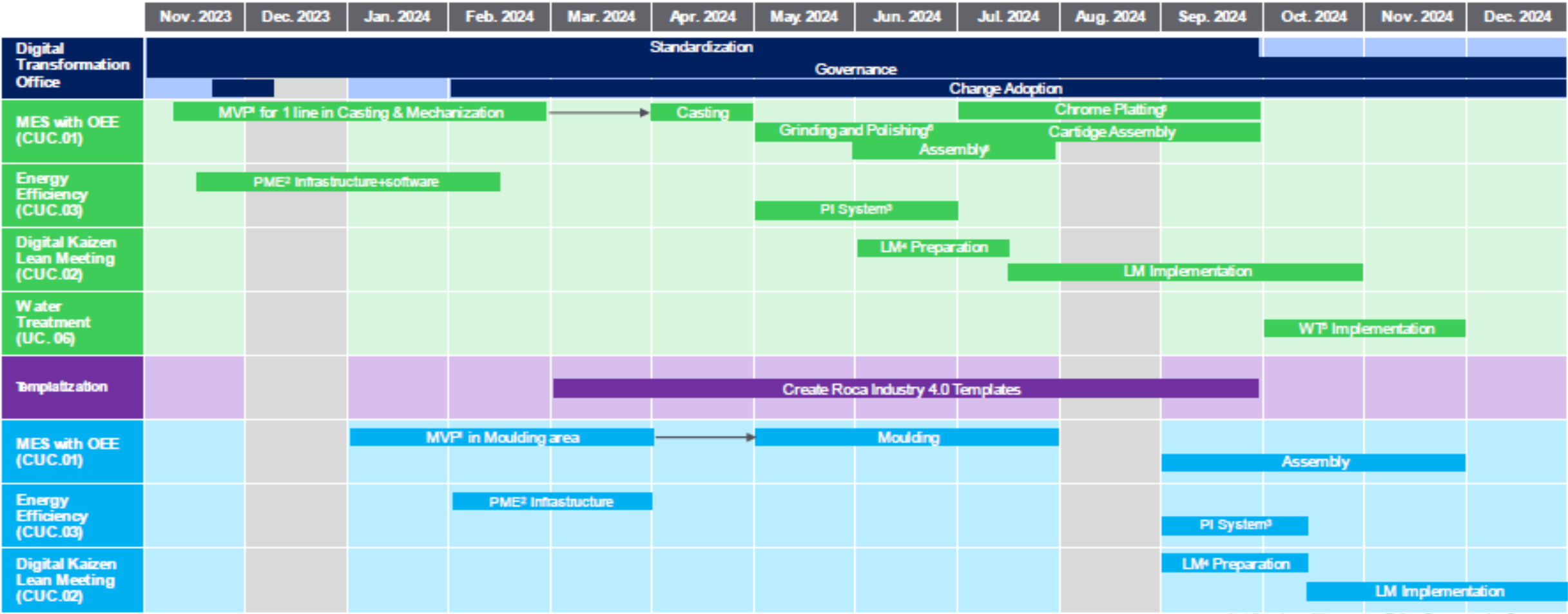


Internal

The first wave of the industry 4.0 program includes 2 sites and a DTO set up

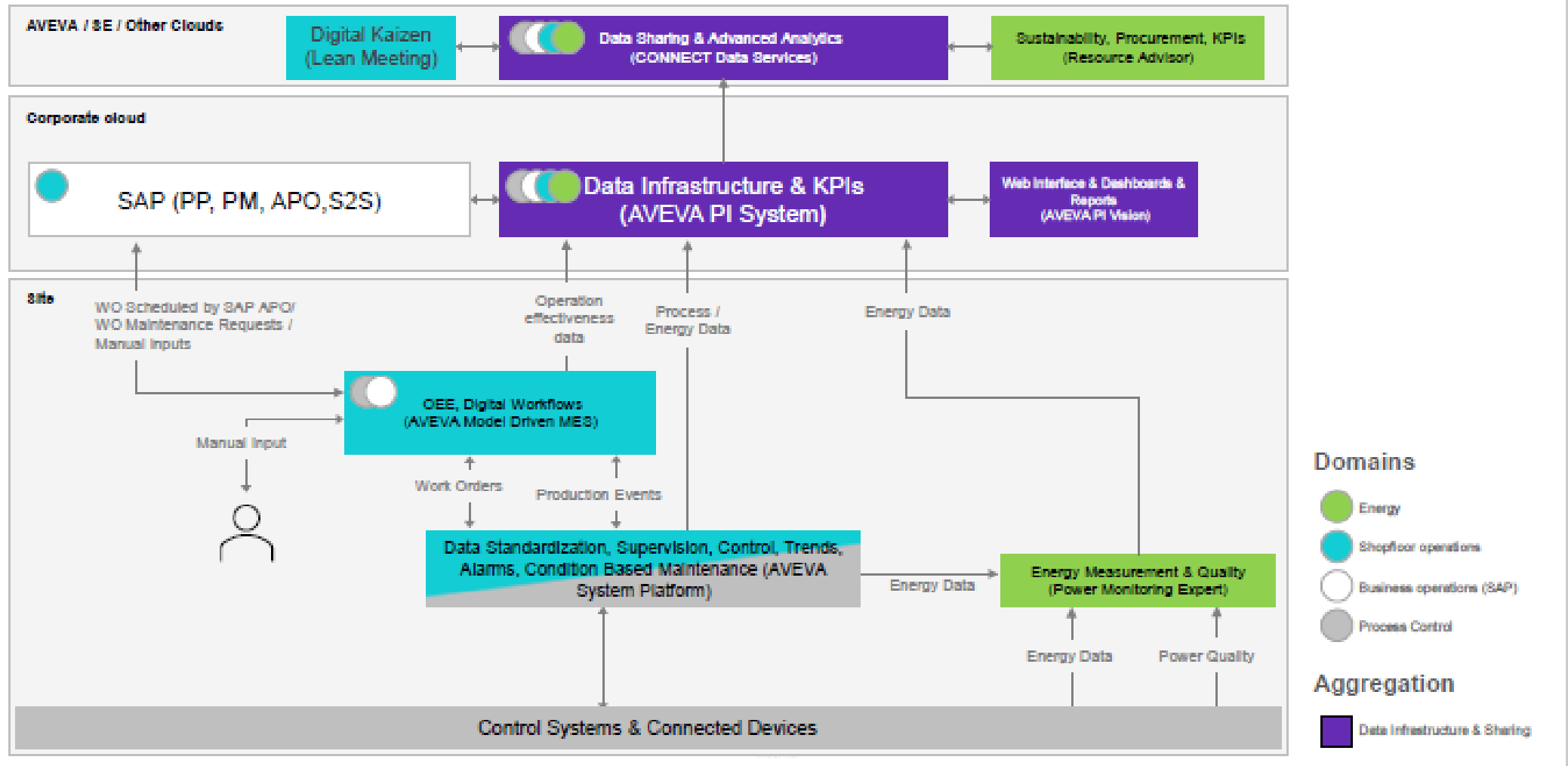
# Industry 4.0 Roadmap (Coremodel Use Cases)- Wave 1

Roadmap for the 2 sites Sanit and Torneiras



A scalable architecture was designed

## Functional Architecture – Advanced proposal





# ROCA GROUP

RP05

15CN01\_A1005\_RP05

## Orden de Trabalho



WO: 000006304405

Item Id: 1542176150999NA

Operation N°: 1

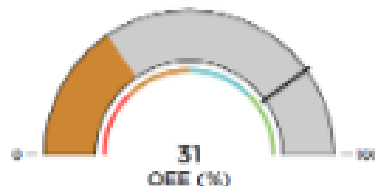
288 / 2500 Uds

[WO Documentação](#)

## Turno

ALEXIS RODRIG

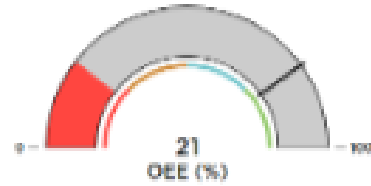
Turno Atual



Dispo. (%) 46      Qual. (%) 100      Dese. (%) 68

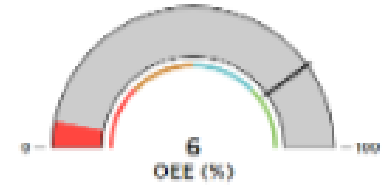
## Acc

Último Turno



Dispo. (%) 32      Qual. (%) 100      Dese. (%) 65

Últimos 7 Dias



Dispo. (%) 10      Qual. (%) 100      Dese. (%) 62

Seleção de Trabalho

Modificar Produção

Estados Da Máquina

Començar

Suspender

Atualizar

Filtro

Completo

Current Filter: Status=(READY, RUNNING, SUSPENDED); Entry=15CN01\_A1005\_RP05; Auto Refresh=10

Item ID	N° de Trabalho	N° Operação	Quantidade Solicitada	Status	Data de Inicio	Máquina
1542176150999NA	000006304405	1	2500	RUNNING	15/1/2024 11:24:22 AM	15CN01_A1005_RP05

# ROCA GROUP

Machine 1

Jordi Brias

Alexis Rodrig

Pere Moreno

Lines

Select Entity

**15CN01\_A2003...** RUNNING

WO240503T05

1 Operation  
0 Sequence Number

Item: BRNCAN(Brown Can)

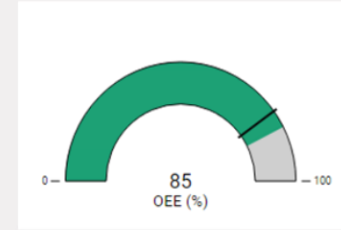
94

Can

Req. Qty.

Deviation

Bad Production



Avail. (%)

Quality (%)

Perf. (%)

Queue Produce Utilization SAP Labor

Start

Suspend

Refresh

Help

Filter

Current Filter: Status=[SUSPENDED, RUNNING]; Auto Refresh=60

Item ID	Work Order	Operation	Sequence Number	Req. Qty.	Status	Entity
BRNCAN	WO240503T05	1	0	100	RUNNING	15CN01_A2003_KW03
BRNCAN	WO240503T06	2	0	100	RUNNING	15CN01_A2003_ID03
BRNCAN	WO240503T07	3	0	500	RUNNING	15CN01_A2003_CT03
POP-BOT	WO20240503TEST01	1	0	2500	RUNNING	15CN01_A1001_RP05

### Job Details

Job Description

Batch Size

Start Qty.  Can

Req. Qty.  Can

Job Priority

Latest Start Time

Activate Windows  
Go to Settings to activate Windows.



Torneiras Assembly Overview

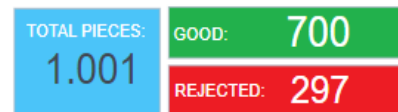
9/9/2024

General

Month

Shift

Day



Planned Orders

Article Reference	Production Order	Quantity Total	Stock Total	Requirement Date
A5A326FC00	000006300455	396	722	20241011
A5A326EC00	000006292786	223	0	20241009
A5A346EC00	000006293124	288	0	20241009
A5A326EC00	000006292786	223	0	20241009
A5A346EC00	000006293124	288	0	20241009
A5A326EC00	000006292786	223	0	20241009

Production Lines

Status

Actual Batch

Shift

OEE Shift

Day

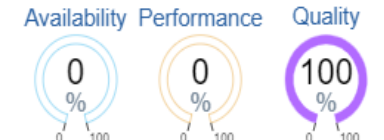
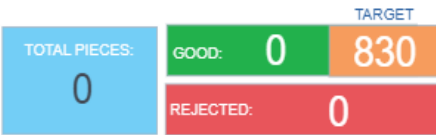
OEE Daily

OEE Daily Parameters

Line 1



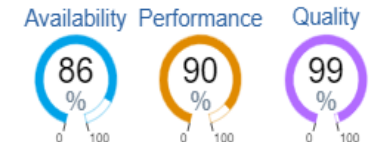
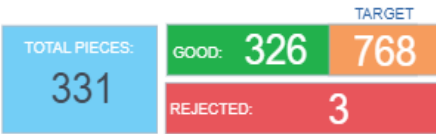
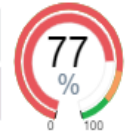
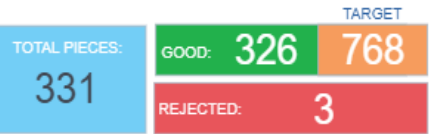
REF:  
PO:



Line 2



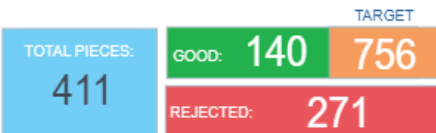
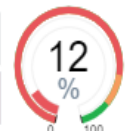
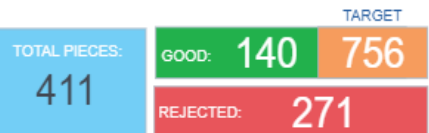
REF: A5A3123C00  
PO: 000006300981



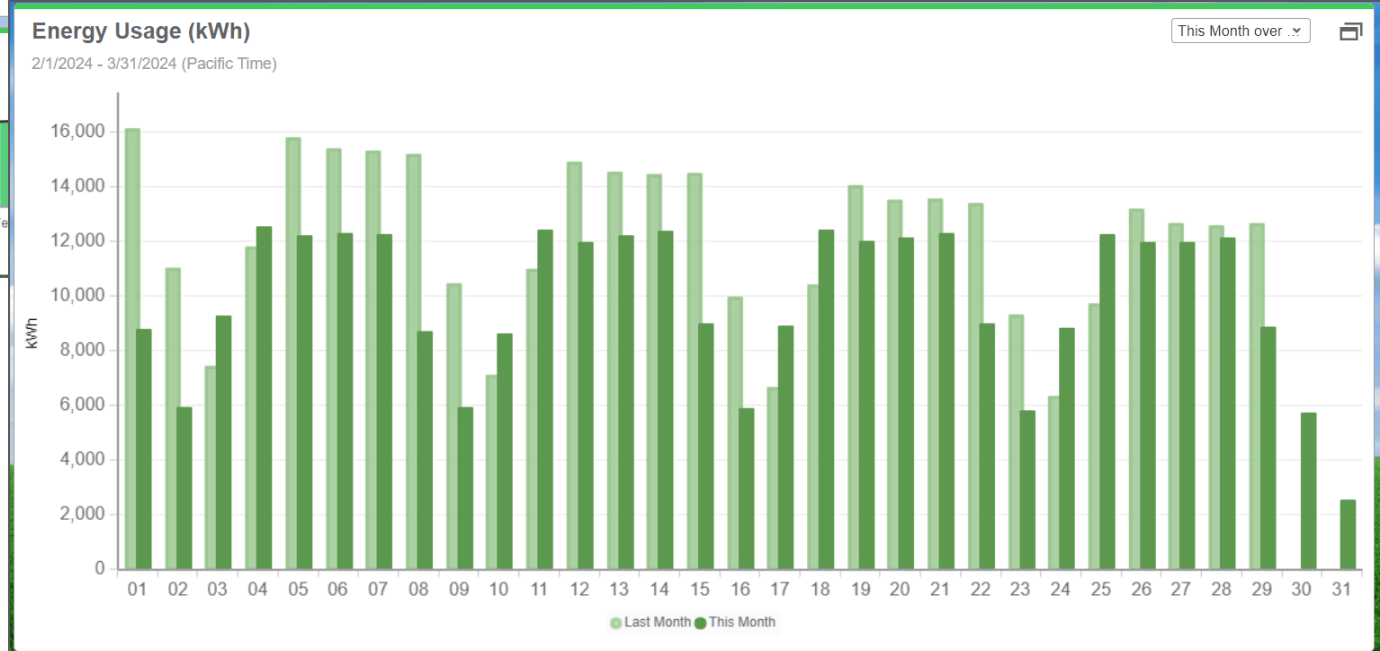
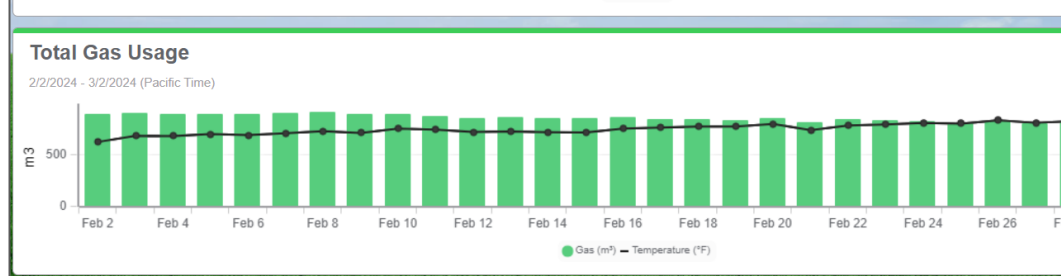
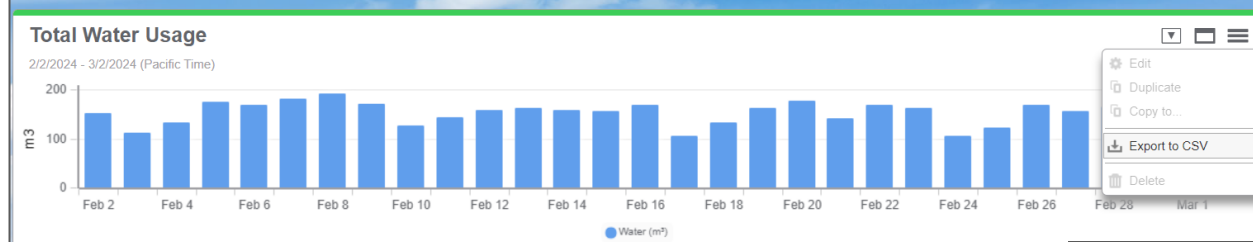
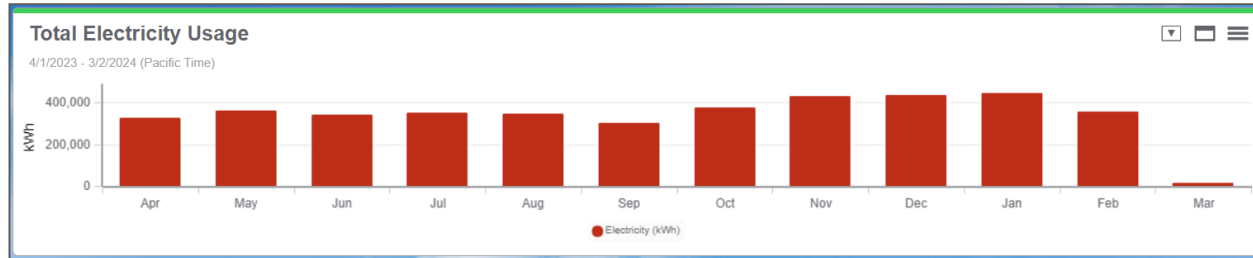
Line 3



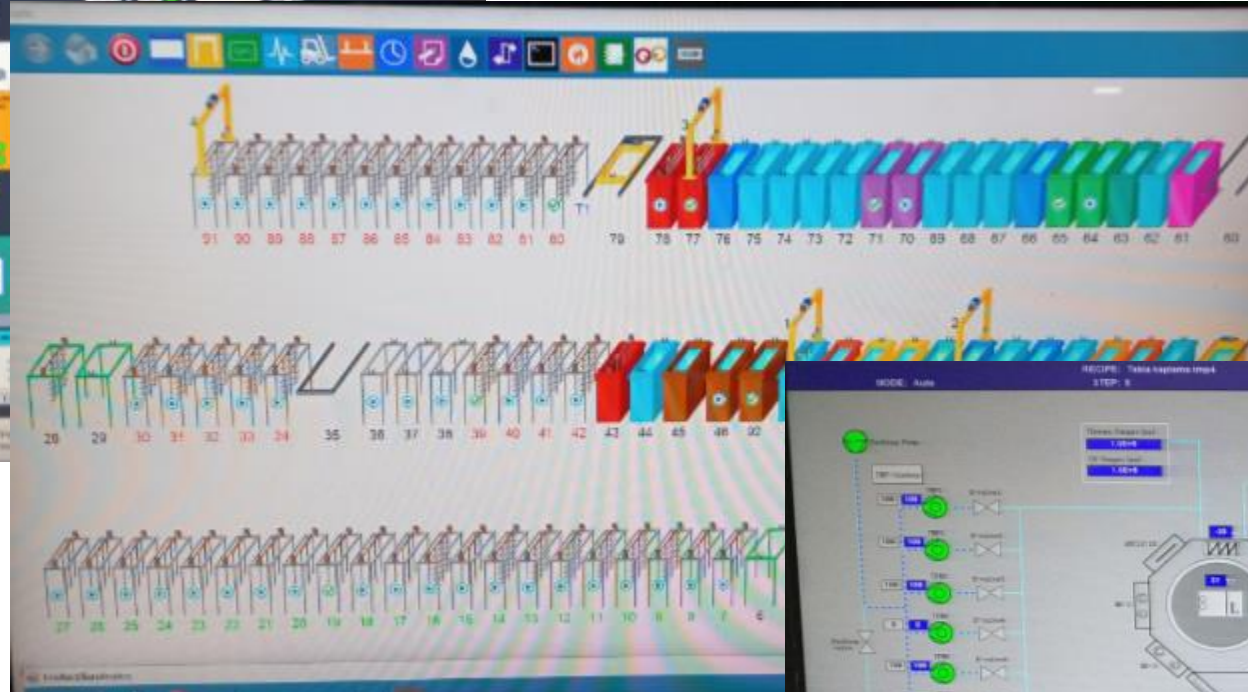
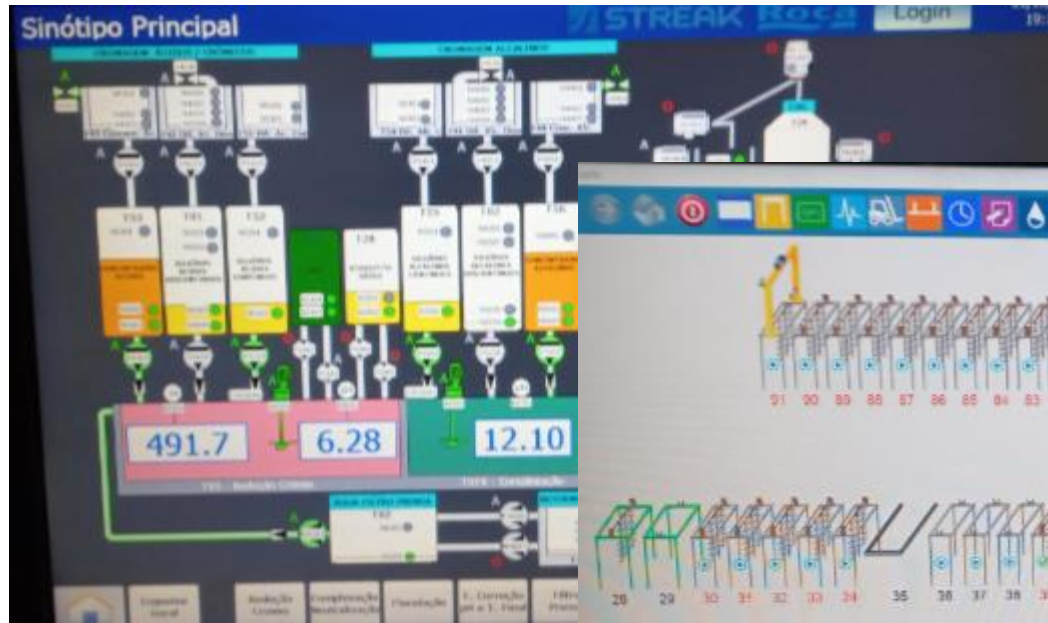
REF: A5A2125C0F  
PO: 000006298223



# Roca Group Industry Digital Transformation – Power Monitoring Expert



# Link All existing SCADAS in only 1 System Platform



Safety Cross

KPIs based on the selection (KE, OEE, MDR, Defect, 5S, Safety event, Energy) sorted by filter like Shifts or Cell or out of target ...

Barriers, Actions and detailed list of existing Barriers and resolution progress

E-ideas, Gemba walk, ...

The dashboard displays real-time data for SIM 1 Board at Carros, Production Area 1, Line 1, on 30 Jan 2021, during Shift 2 (18:30 - 00:00).

**Safety Cross:** Shows MTD Incident Line/Cell and MTD Incident Plant with 5-day trend charts.

**Barriers:** DAY 0, WEEK 0. Includes buttons for CREATE BARRIER and CREATE ACTION.

**Actions:** OPENED 43, SCALED 21.

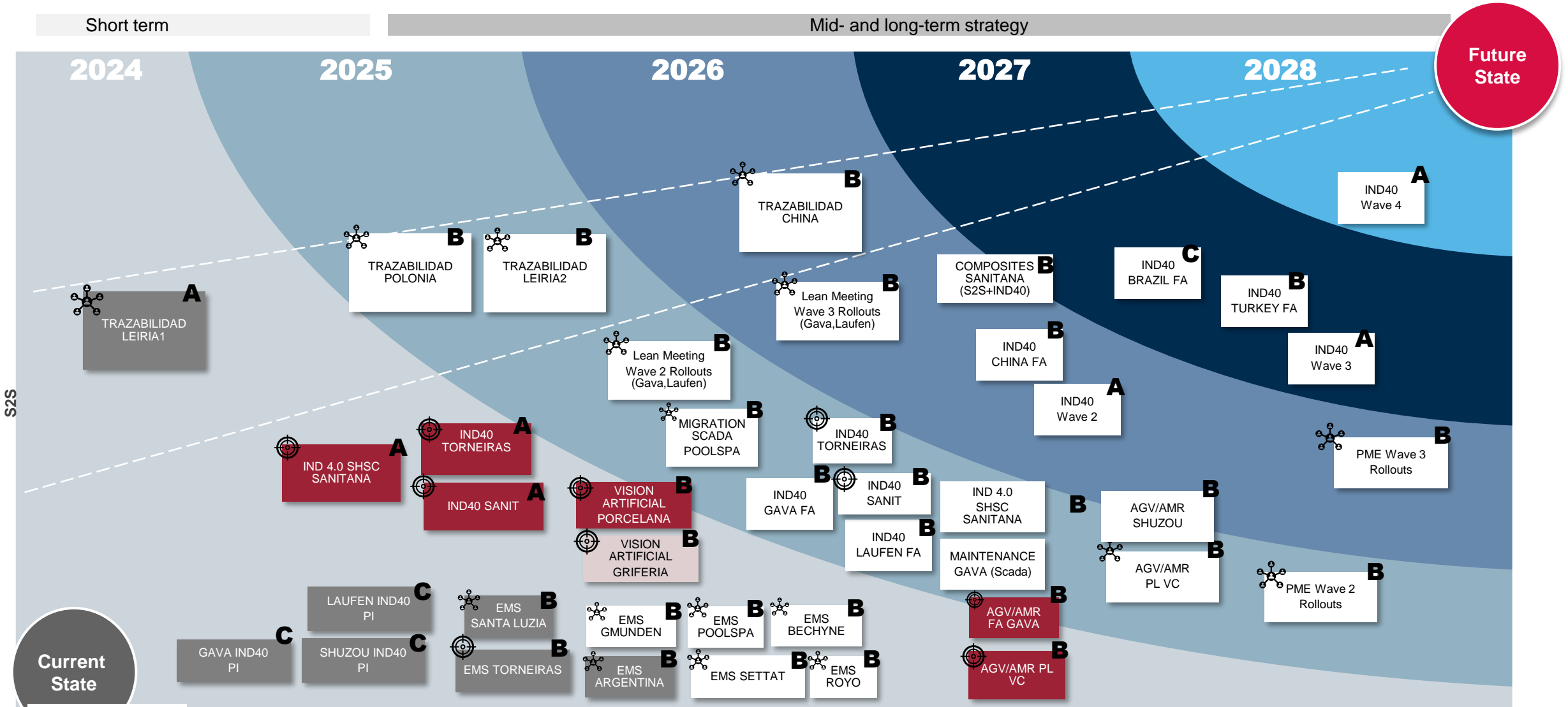
**KPIs:** OUT OF TARGET. Table below:

Line	Name	U..	Value	Target
Line 1	UTR	Undeff..		4
Line 1	MR	Qty		4
Line 1	Number of Safety Eve..	Qty		2
Line 1	5S Score	Numb..		5
Line 1	nr of Defects	Qty		0
Line 1	KE	%		85
Line 1	OEE	%		75
Line 1	MDR	%		80
Line 1	Defect	Numb..		5

**All Shifts:** Detailed table with columns: Line, Name, Task, Start Date, Start Time, Start Day, Start Time, Start Day, Start Time, Start Day.

**Cell Group:** Summary view of KPIs for different cells.

# PRODUCTION & IND40 Strategic Roadmap- 5 year view



S2S

Current State

Future State

- Legend**
- Planned
  - Initiated
  - In execution
  - Completed

**INDUSTRIA 4.0**

- C Small project/connectivity: effort 20 - 50 MD
- B Medium project: effort 50 - 200 MD
- A Large project: > 200 MD
- A+ - Strategic

- M&A
- Strategic
- Roll-Out
- Sunset



## ROCA Group is on the path to operational excellence with Industry 4.0

### Challenge

- Increase operational efficiency
- Adoption of new solution
- Speed of implementation and scalability

### Solution

- Focus on few use cases at first
- Strong team, project management, and partner
- Define standards and templates with pilot and verify the business case
- Involve stakeholders and explain the project

### Results

- Promising Pilot implementation
- Team is learning and growing
- Demand for the solution is growing
- Acceleration in Waves in planning



AVEVA



# Questions?

Please wait for the microphone.  
State your name and company.



# Please remember to...

Navigate to this session in the mobile app to complete the survey.



# Thank you!