



XXV CONGRESO INTERNACIONAL DE
MANTENIMIENTO Y GESTIÓN DE ACTIVOS
26 AL 28 DE ABRIL DE 2023. Bogotá - Colombia



Asociación
Colombiana
de Ingenieros

KOF's Assets Management Journey



Gonzalo Espinal López

Supply Chain Vicepresident KOF Colombia

**Former Manufacturing Center of Excellence
Director**

Supply Chain Strategist

enjoy transforming organizations and processes through people





KOF – Assets and Supply Chain Profile



+1,4 Mn Coolers

+1,700 Trucks (Primary Fleet)

53 Plants

297 Lines

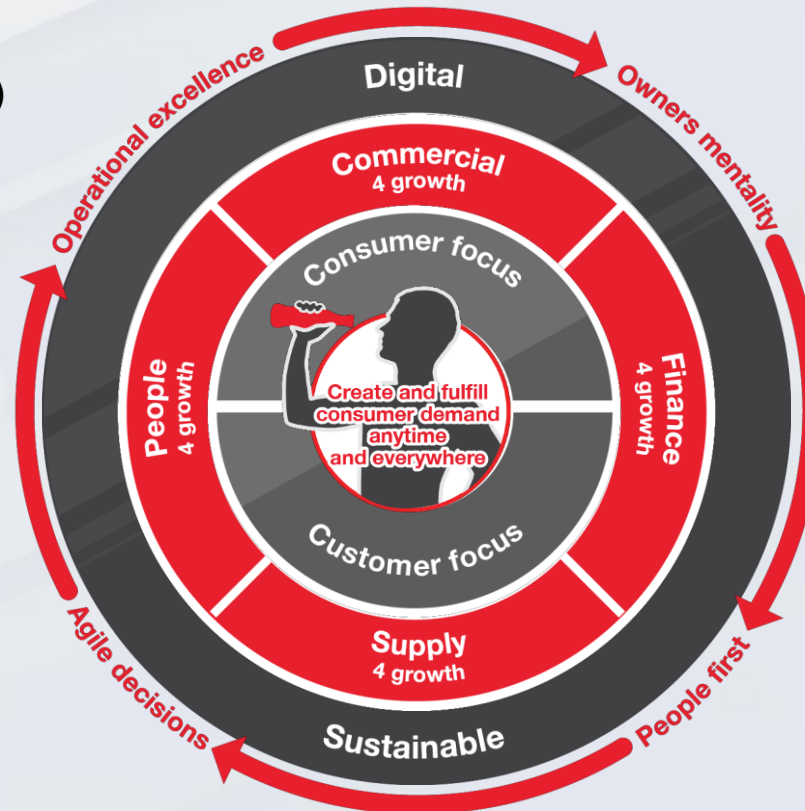
14K Industrial Assets

2.4 Mn Customers
55 MM bottles per day
330,000 Deliveries per day

292 D.C's

11,626 Routes

\$ 3,5 Bn USD
Tangible Assets





Before Assets Management – Foundational Capabilities

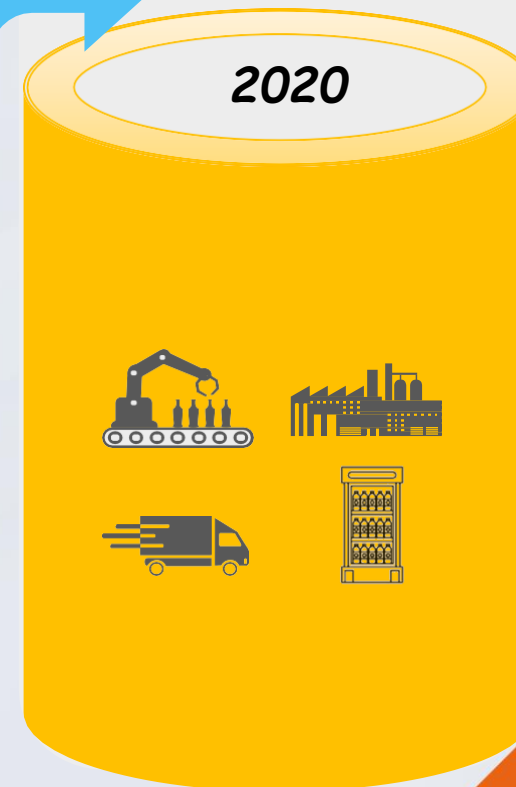
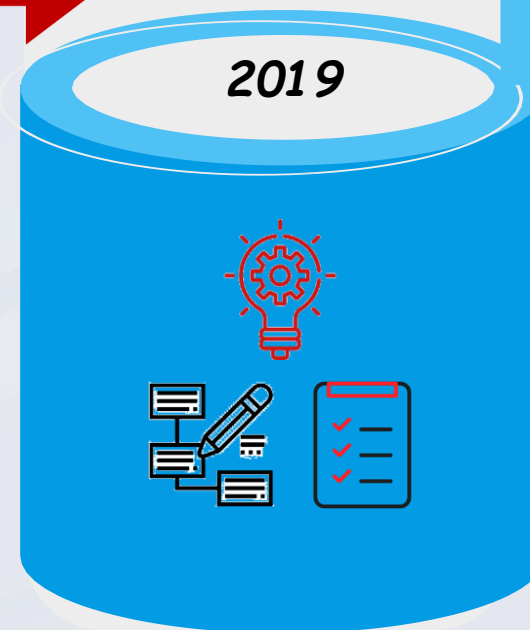


Central Maintenance Planning

- Planning
- Scheduling
- Reliability

Manufacturing Operation Model

- Bottling lines
- Process
- Technical School



Maintenance Execution excellence

- Maintenance management
- Maintenance Evaluation
- Technical Diagnostic
- Project Management

Asset Management

- Define global guidelines, policies and governance for assets management in its life cycle.



3 Key Enablers

Manufacturing Operation Model

Growth Strategic enabler with less capital investment in Capacity

Operate – Control – Maintain and Improve



Jug

Profitability



Processes

Process Integrity



Bottling lines

Reliability

Ensure that the Integral Management System lives 24 / 7

+ 3,7 pp Line Efficiency

Technical School

Develop **Technical Skills** in Manufacturing processes.

Strategic enabler to sustainable operating models

Technical Enabling / Certification

Technical Diagnosis

Shop Floor advice and Technical Support

Preventive Maintenance

Automation Support

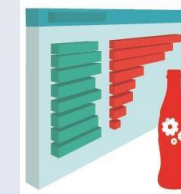
Knowledge Guides Development

Advoided Payment per per Services \$ 3,3 MM_{USD}

Training
• 2,700 people x year

Centralized Maintenance Planning

Standardize, specialize and Synergize maintenance processes



Central Maintenance Planning



Centralized Planning and Scheduling

Early management

Inventory Management

Root cause Analysis

Life cycle cost analysis

Asset Condition Assessment

Operation focused on Execution

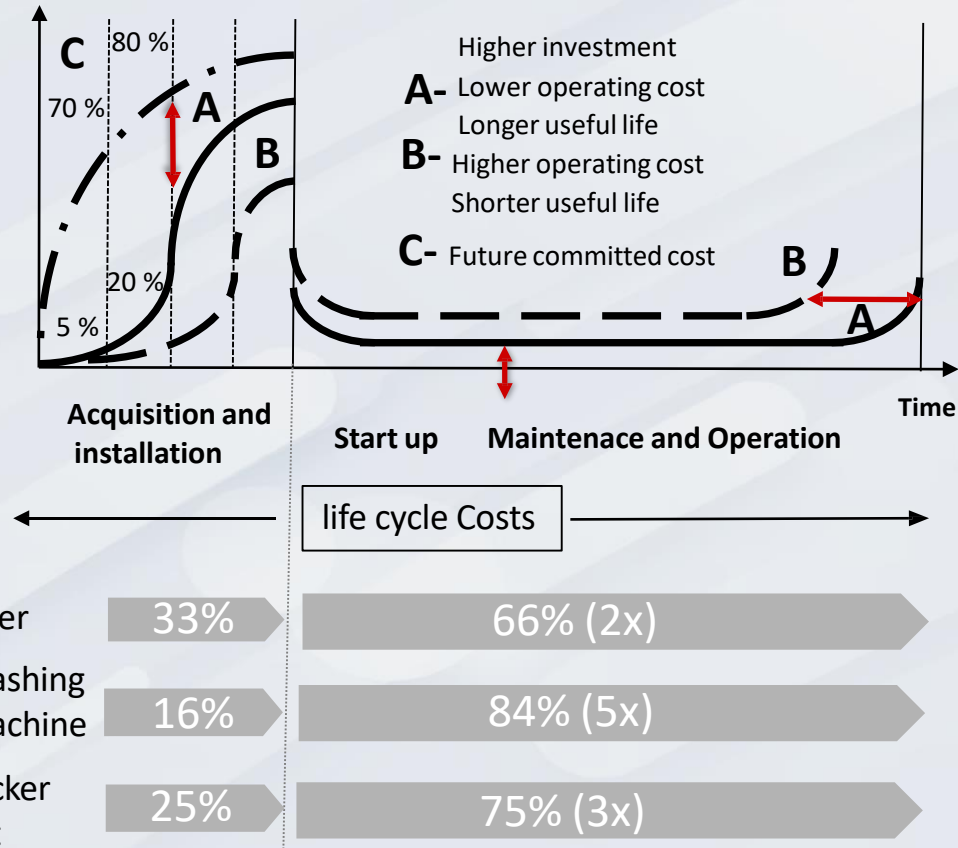
-10% Maintenance Cost/UC
• 2.6 cents / UC



Asset Management is about Value on Assets life cycle Management

Evolution of maintenance from 45% the focus only on maintenance to 100% of Asset life cycle management.

Life cycle Cost

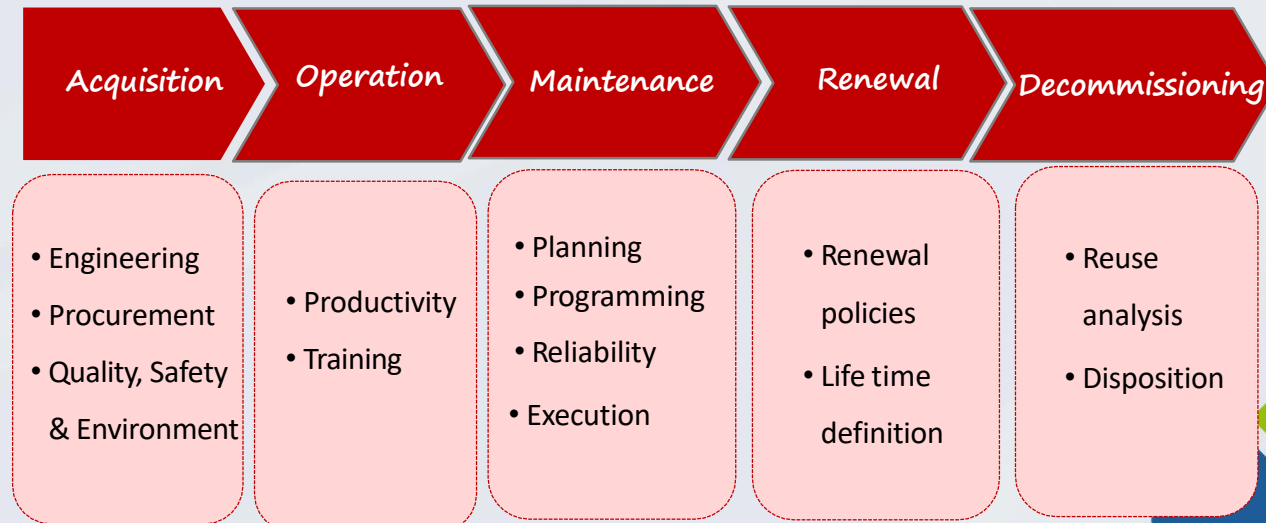


KOF Assets Management Model

Define global guidelines, policies and governance for assets management in its life cycle



Industrial Assets/ Facilities / Distribution & Transportation Equipment / Coolers



Value generation refers to the **balance** between **assets return, costs, risks and performance**



Asset Management Journey Objectives



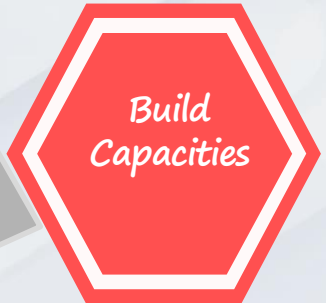
Approach and definition of a model for the management of physical assets KOF

In its life cycle (acquisition, operation, maintenance, renew) with reference to an international standard.



Size of price capture

By defining a plan that captures value opportunities in KOF Asset Management



Capabilities across KOF

To deploy the asset management system, create critical mass to Strengthen process/tool/Knowledge and Change the mindset in the Assets Lifecycle decision making.

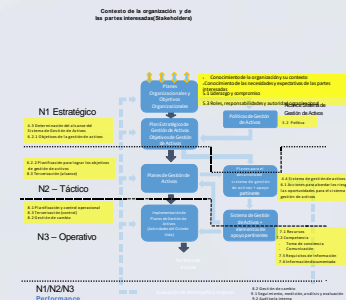
Assets Management Maturity Assessment

Reference



1,78 Maturity Level COL (2022)

Reference ISO 55001





7 Powerful Assets Management Process/Tools in present

01

Investment and Assets Management KOF Policy (Finance Collaboration)
*Assets Risks
life cycle Cost Decision Based*

02

Alternatives of property acquisition of the Asset (Assets Less)
*Asset Less Projects
Alternatives on Decision
As a Service*

03

Useful life of assets Policy alignment} (Finance Collaboration)
*Decision Change of Useful Life
Components life cycle*

04

Assets Segmentation by ROI (Value & Risk) strategies
Operational Levers to Increase Value (Finance Collaboration)

Capex Prioritization and Investment Requirements by IPR Methodology

05

One KOF Methodology

Life cycle Cost Analysis for Assets Decisions

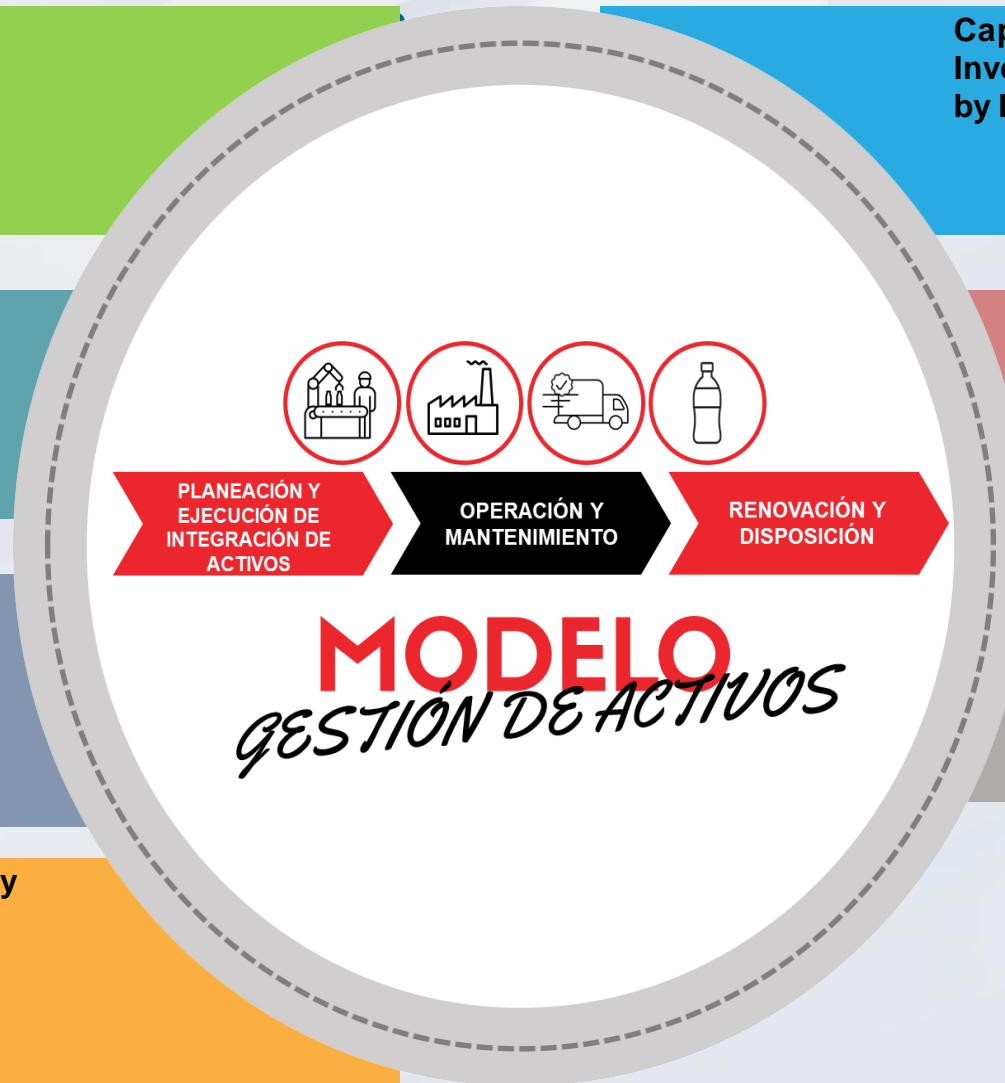
06

*Acquisitions / OEM's
/Renewal / Upgrade life cycle Decisions*

Maintenance Plans by RAV

07

(Replacement Asset Value) / Risk / Performance)



Assets Management: New ways to analyze Assets

RAV (Replacement Assets Value) analysis for the best alternative use of resources

$$RAV = \frac{\text{Maintenance Cost}}{\text{Replacement Value}}$$

Equipment by equipment Total KOF Analysis by Technology / OEM / Age

Strategic

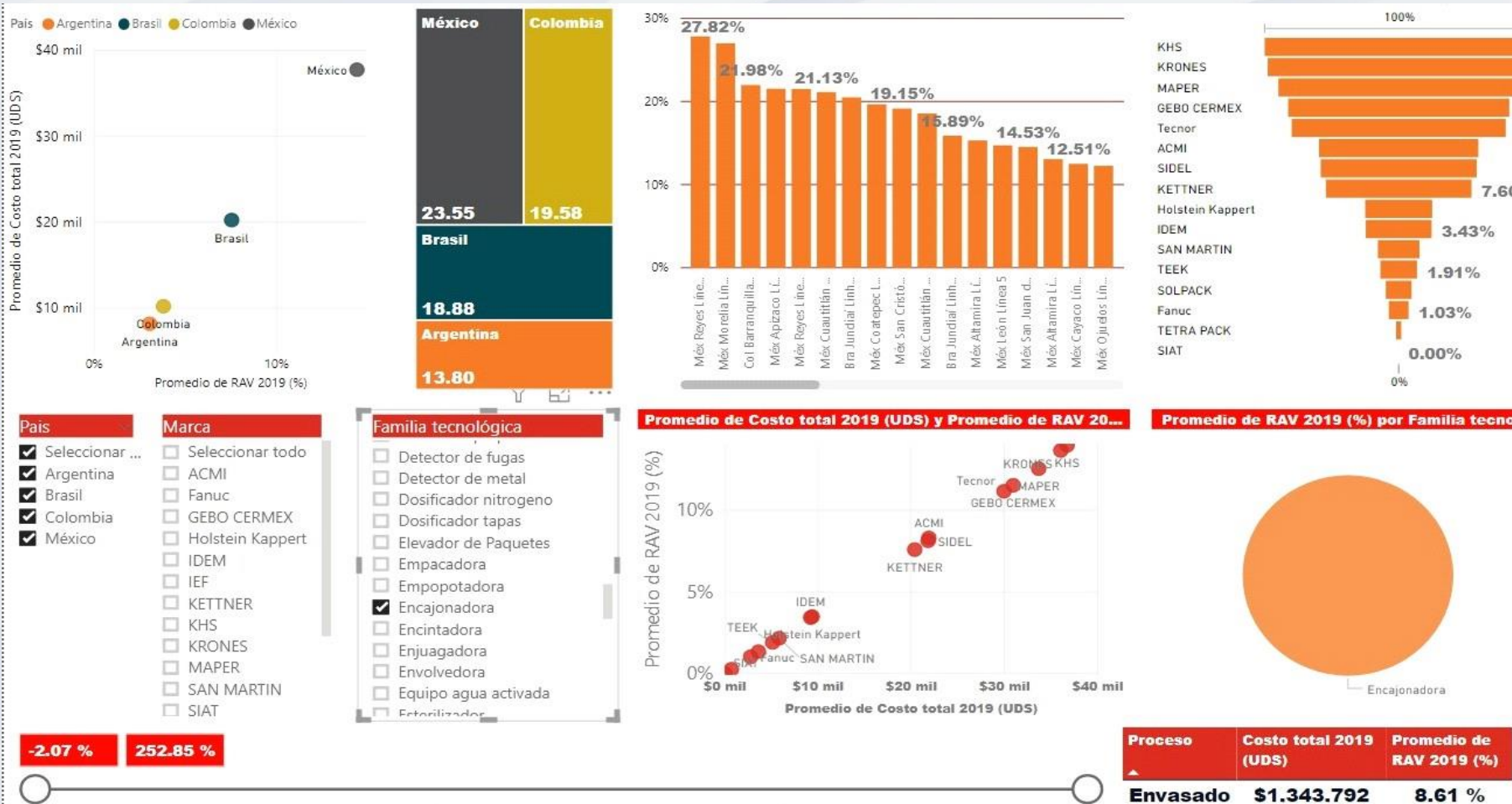
- Investment Posture
 - 3rd Party /Service
 - Lease/Buy
- Technologies Selection & Innovation Bets
- Design inputs.
- OEM's Role

Tactical

- Key Capabilities to build
- Unproductive Assets re-location
- OEM's Costs analysis and negotiation

Operational

- Maintenance Plans (PCM & Plants)
- Operation Issues impact Risk and Cost (O&M)
- ZBB Driver



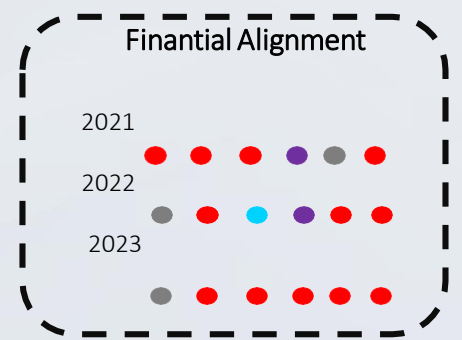
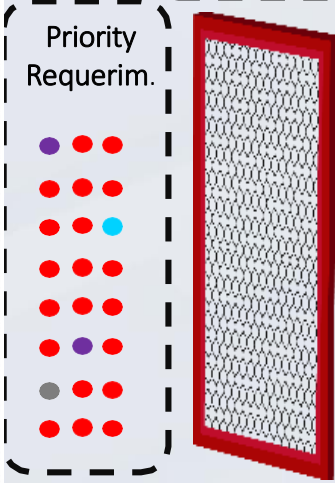
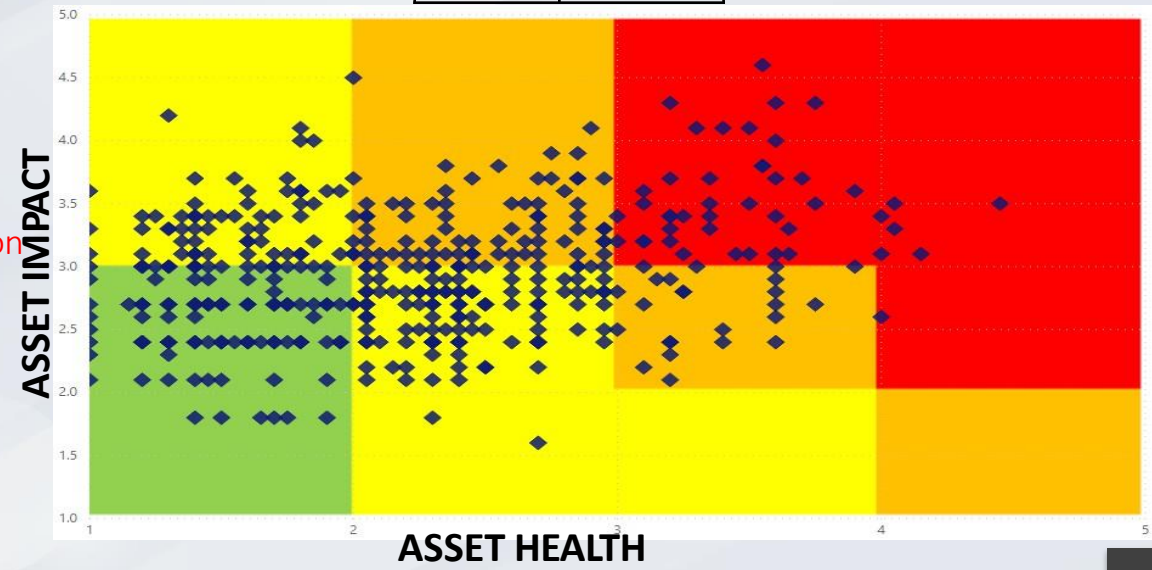
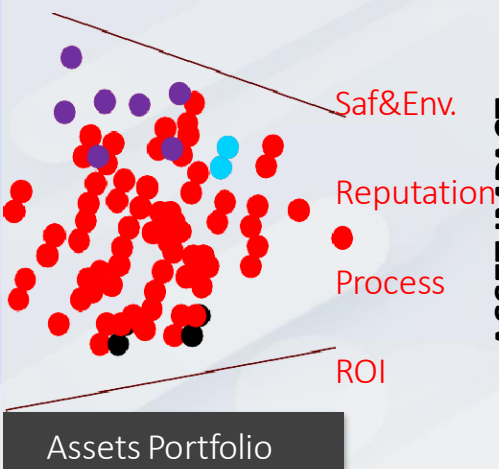
Assets Management Virtuous Circle: New ways to analyze Assets

IPR - Risk Probability Index - Standardized and single KOF Way to evaluate, prioritize and attend the risk of the assets

Riesgo	MM Mx
Rojo	547
Naranja	1,786
Amarillo	2,768
Verde	1,311
Total	6,414



Assets Management Options

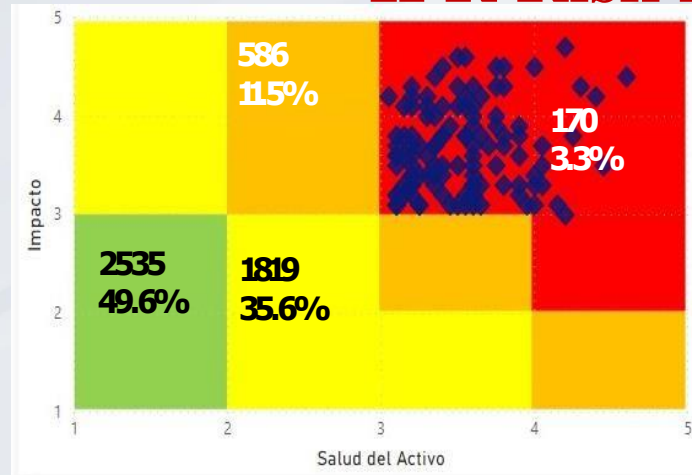
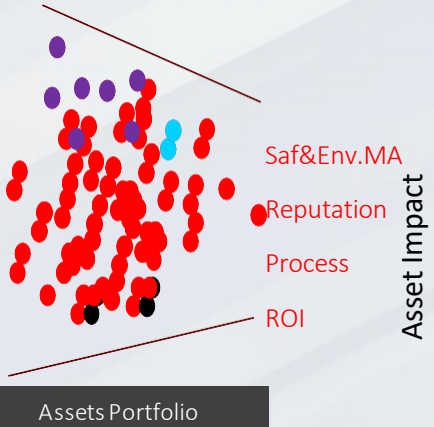


Optimization

- "Synergize" Assets Plans and Business Requirements Process on one single Vision is a powerful leverage to maximize value (Risk and Cost)
- With clear assets priorities and developing a comprehensive set of Asset Management Options in a Multi-year plan a Optimization Process (Risk and ROIC) is feasible.

IPR & RAV – Developing a Assets Management Plan and Objectives

IPR Risk Probability Index



Asset Health

Useful Life RAV Impairment Availability

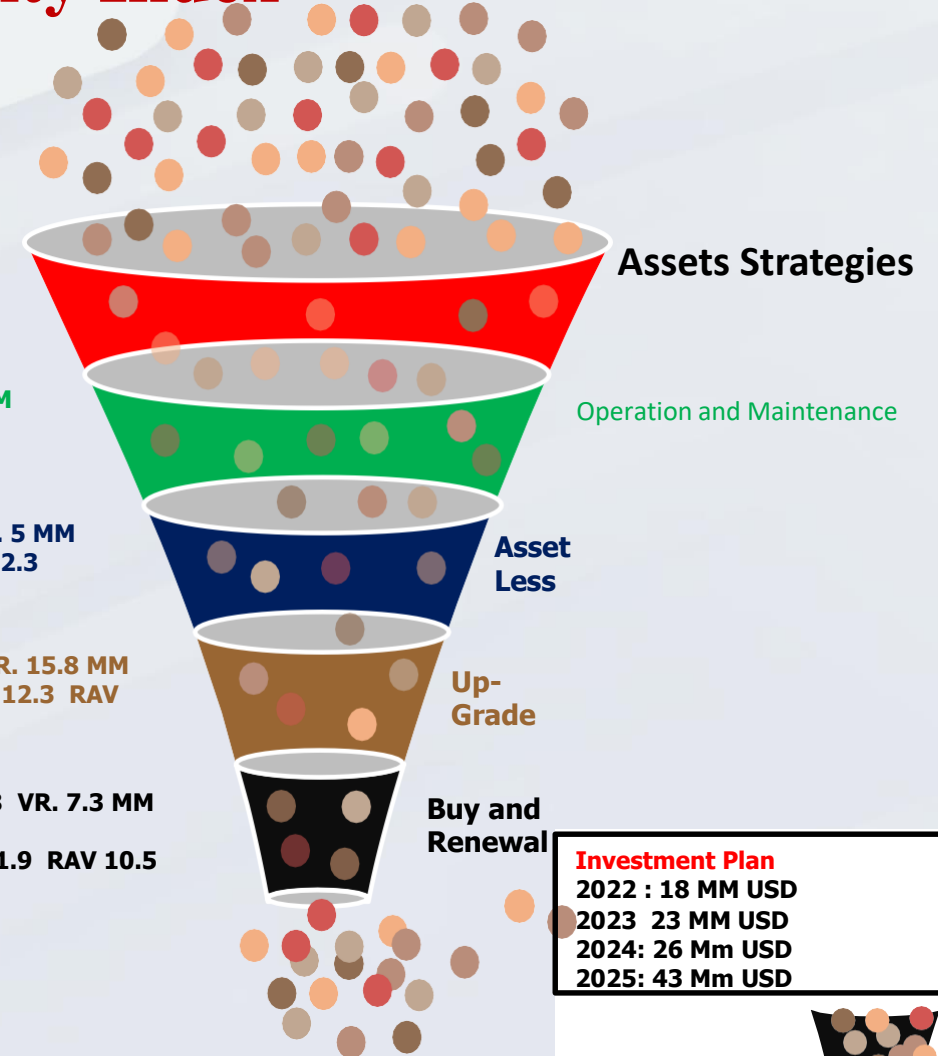
Eq. 170
VR. 82.5
MMUSD
IPR 12.7
RAV 13.6

Eq. 50 VR. 33.3 MM
USD
IPR 12.5 RAV 12.2

Eq. 52 VR. 5 MM
USD IPR 12.3
RAV 11.5

Eq. 27 VR. 15.8 MM
USD IPR 12.3 RAV
10.8

Eq. 18 VR. 7.3 MM
USD
IPR 11.9 RAV 10.5



2021-2025
Objectives

-Red Assets: -13%
-22% RAV
-20 MM USD Savings
-100MM USD Capex
Investments

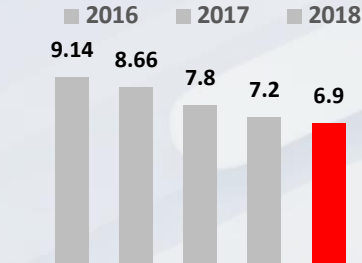
Investment Plan
2022 : 18 MM USD
2023 23 MM USD
2024: 26 Mm USD
2025: 43 Mm USD

KOF's Assets Management Journey - Hard Results

■ 2016 ■ 2017 ■ 2018 ■ 2019 ■ 2020



EFFICIENCY



MECHANICAL EFFICIENCY
(STOPPAGE POINTS)

■ 2016 ■ 2017 ■ 2018



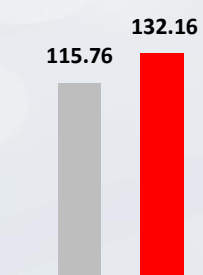
MAINTENANCE EFFECTIVENESS

■ 2019 ■ 2020



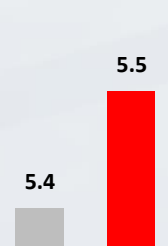
Mean Time to Repair

■ 2019 ■ 2020



Mean Time to Failure

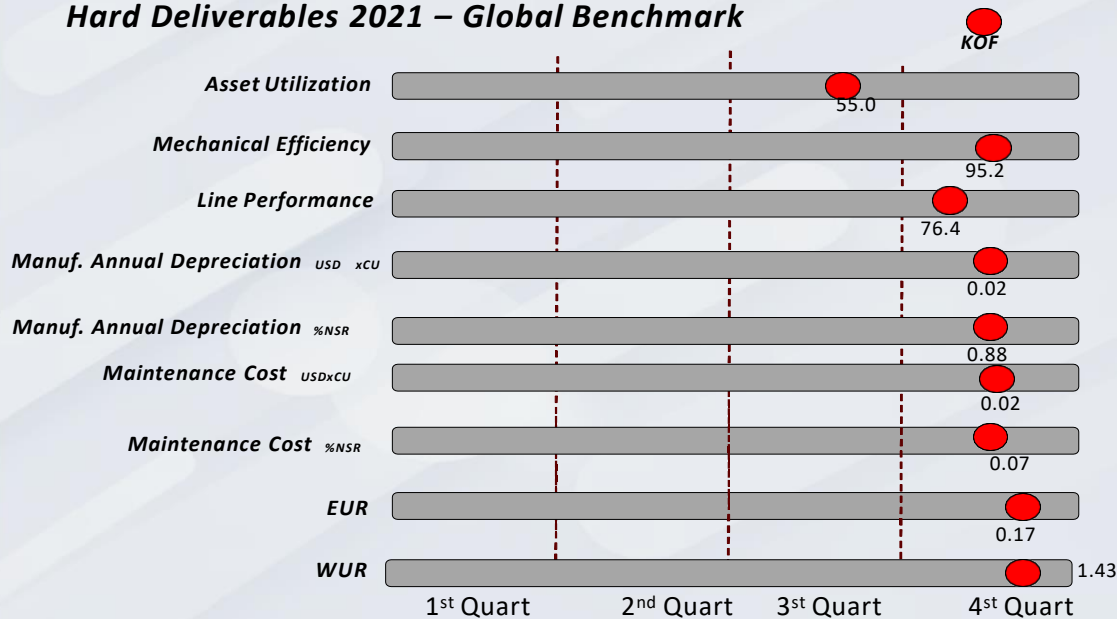
■ 2019



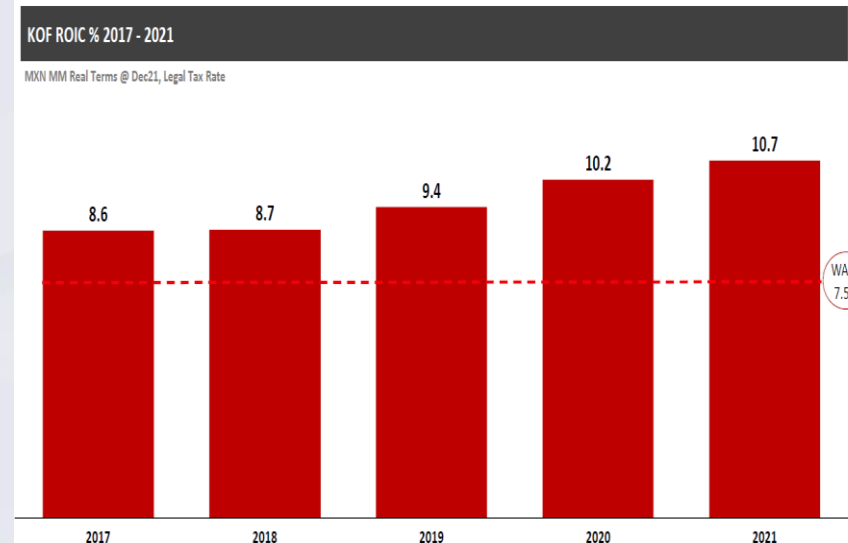
IPR

2019

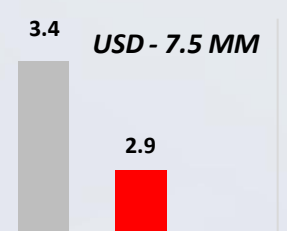
Hard Deliverables 2021 – Global Benchmark



KOF's ROIC evolution: 2017 to 2021



■ 2020



RAV



Assets Management

Next Steps

☑ **Scaling Capabilities** to all assets (Coolers) / Focus **on Reliability**

☑ **Digital into Assets Management – From PoC to Live**

- IPR/RAV Automation
- Predictive Maintenance PoC
- life cycle Decision Digital decision Tools
- Shop Floor Execution Digitalization
- VR for Technical School



Closing reflexions

- ✓ We have a **solid operation and maintenance model, key foundational capability** to support business and innovation challenges
- ✓ We have built **on 3 Years** an E2E, strong **assets community to change the status quo** about value @assets
- ✓ **Life cycle assets health and value** is focused on design / acquisition assets management phases
- ✓ **Assets management process is about long planning vision**; we need to ensure we are on the same page – Ever.
- ✓ **ESG and Assets Management** – Net Zero Lifecycle – Big Challenge for Assets Management



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THANKS



Questions!!