Maintenance & Reliability Department Dashboard

Abanoub George

The need for dashboard

- Plant's maintenance department update their data daily from different resources without any visual available.

- Top management find it difficult to view and follow with any KPIs from maintenance department due to the lack of visualization.

- This was the motivation to build dashboard for the department showing important KPIs & metrics need to be visualized to top management

		1%	1%	98%	3%	1.50%	95.50%
Month	Fiscal year	Trucks E	Trucks S	Truck Availa	Vessel E	Vessel S	Vessel Avila
Jun-24	FY24-25	0.12%	0.00%	99.88%	4.90%	1.38%	93.72%
Jul-24	FY24-25	0.16%	0.71%	99.13%	2.07%	1.15%	96.78%
Aug-24	FY24-25	0.85%	0.18%	98.97%	4.20%	1.63%	94.17%
Sep-24	FY24-25	0.26%	0.05%	99.69%	1.87%	0.61%	97.52%
Oct-24	FY24-25						
Nov-24	FY24-25						
Dec-24	FY24-25						
Jan-25	FY24-25						
Feb-25	FY24-25						
Mar-25	FY24-25						
Apr-25	FY24-25						
May-25	FY24-25						
YTD		0.35%	0.24%	99.42%	3.26%	1.19%	95.55%

Month	Spent	Spent/Ton
30-Jun	688,353	7.48
31-Jul	875,361	9.39
31-Aug	2,029,711	61.76
30-Sep	1,945,226	14.17

Date	Month	K7	K19	K7 Cons	K19 Cons	KW	Vessel	Loadout	Handling	KW/Ton	M&R Spent
1-Jun-24	June	18163250	24425829	2011	5219	7230	0	2663	1332	5	479838
2-Jun-24	June	18167096	24430956	3846	5127	8973	0	4302	2151	4	17800
3-Jun-24	June	18170881	24435471	3785	4515	8300	0	4848	2424	3	107500
4-Jun-24	June	18174601	24441560	3720	6089	9809	0	5740	2870	3	16377
5-Jun-24	June	18178700	24448936	4099	7376	11475	0	4782	2391	5	25477
6-Jun-24	June	18181146	24453664	2446	4728	7174	0	1108	554	13	85456
7-Jun-24	June	18182348	24456522	1202	2858	4060	0	0	0	5	10570
8-Jun-24	June	18184336	24459487	1988	2965	4953	3925	1531	2728	2	88815
9-Jun-24	June	18192308	24472497	7972	13010	20982	22682	4373	13528	2	4140

Mo	Vessel N	Sub Prod	Start T	End T	Machine Ce	Dura	Weighted Dura	Event T	Rea	Departm	Asset Cate	Equipm	> 6 Hrs	> 12 Hrs	Durati	Calculated Dura	Comm	Vessel Dura	Truck Dura
FY21-22 Jun-21			6/1/2021	6/2/2021	Truck Loading 1 Unplanned Loss	00:00:34:30	00:00:34:30	Downtime	\Alexandria\TRUCK_LOADING_L\Emergency Loss (EL)\LOADING\TRUCK_LOADING\BE1	Mechanical	BE	BE1	#VALUE!	#VALUE!	34	34	توقف BE1 اثر من عدم يزيد نظل	#VALUE!	#VALUE!
FY21-22 Jun-21			6/2/2021	6/2/2021	Truck Loading 1 Unplanned Loss	00:00:46:50	00:00:46:50	Downtime	\Alexandria\TRUCK_LOADING_L\Emergency Loss (EL)\LOADING\TRUCK_LOADING\BE1	Mechanical	BE	BE1	Zero	Zero	46	46	توقف BE1 اثر من عدم يزيد نظل	0	34
FY21-22 Jun-21			6/18/2021	6/18/2021	Truck Loading 2 Unplanned Loss	00:00:10:20	00:00:10:20	Downtime	\Alexandria\TRUCK_LOADING_L\Emergency Loss (EL)\LOADINGTRUCK_LOADING\BE2Mechanical	Mechanical	BE	BE2	Zero	Zero	10	10	HIGH AMP M5	0	46

Data Cleaning

- Remove Unnecessary columns (not needed for analysis).
- Validate data, check for errors and inconsistencies in dataset.
- Handle missing values, detect missing values and replace them.
- Ensure data consistency by converting data types (e.g., text, numbers, dates).
- Split columns that contain multiple pieces of information into separate columns.

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FY21-22	Jun-21			6/18/2021	6/18/2021	Truck Loading 2 Unplanned Loss	00:00:10:20	00:00:10:20	Downtime	(Alexandria\TRUCK_LOADING_L2\Emergency Loss (EL)\LOADINGTRUCK_LOADING\BE2Mecha nical	Mechanical	BE	BE2	Zero	Zero	10	10	HIGH AMP M5	0	46

Month	Fiscal ye	Trucks E	Trucks S	Truck Avail	Vessel E	Vessel S	Vessel Avail
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KW/Ton
YTD

2.45   -0.05 (-1.9%) ↘

June	July	August	September	October
2.9	2.3	4.9	1.8	1.7

ACI Projects Savings in $

● Actual Saving YTD — Planned Saving YTD

Reduction in F3 Maintenance Expenses	Improve Electrical Power Consumption	Pro-active Maintenance Optimization	Value Creation in Department Activities
10.4K	9.1K	1.1K	0.0K
4.0K	7.0K	2.7K	4.0K
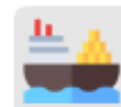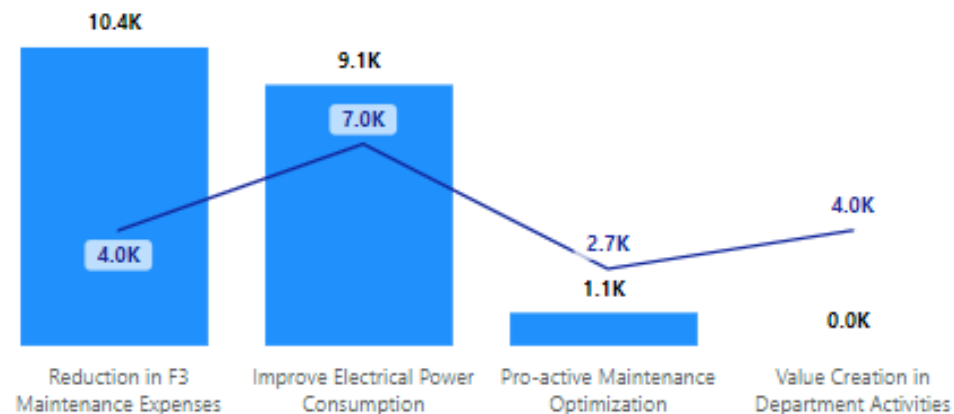
Vessel Discharging
YTD

95.55%   0.047% ↗
Availability%

3.26%   **1.19%**
EDT%   SDT%

Spent/Ton
YTD

15.51   3.11 (25.1%) ↗

June	July	August	September	October
7	9	62	14	14

Bad Actor Assets

Downtime

SU2
SU1
DC34
BC4 RS2 RS1
BL3 DC32 DC33 BC12 DC5
BC7

Number of Failures
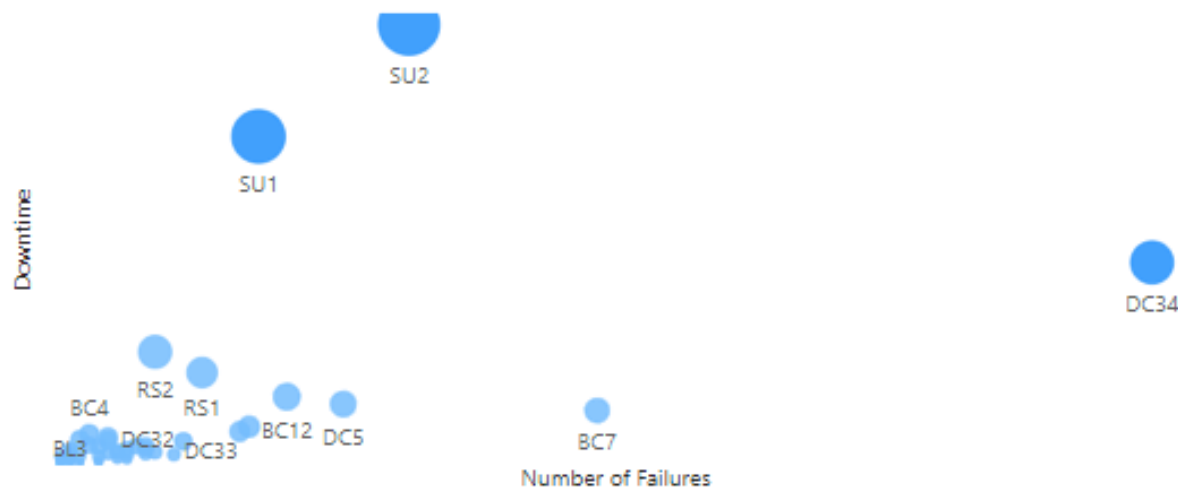
Truck Loadout
YTD

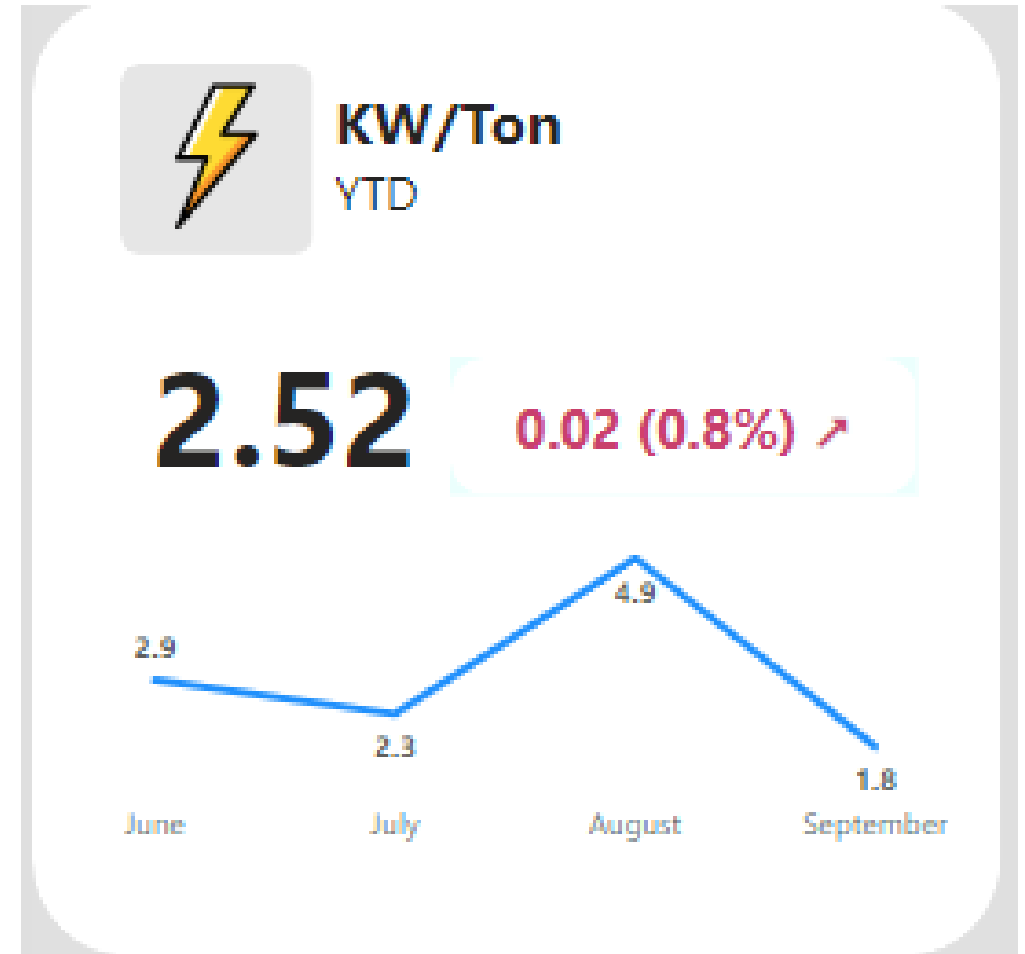**99.42%**   1.418% ↗
Availability%

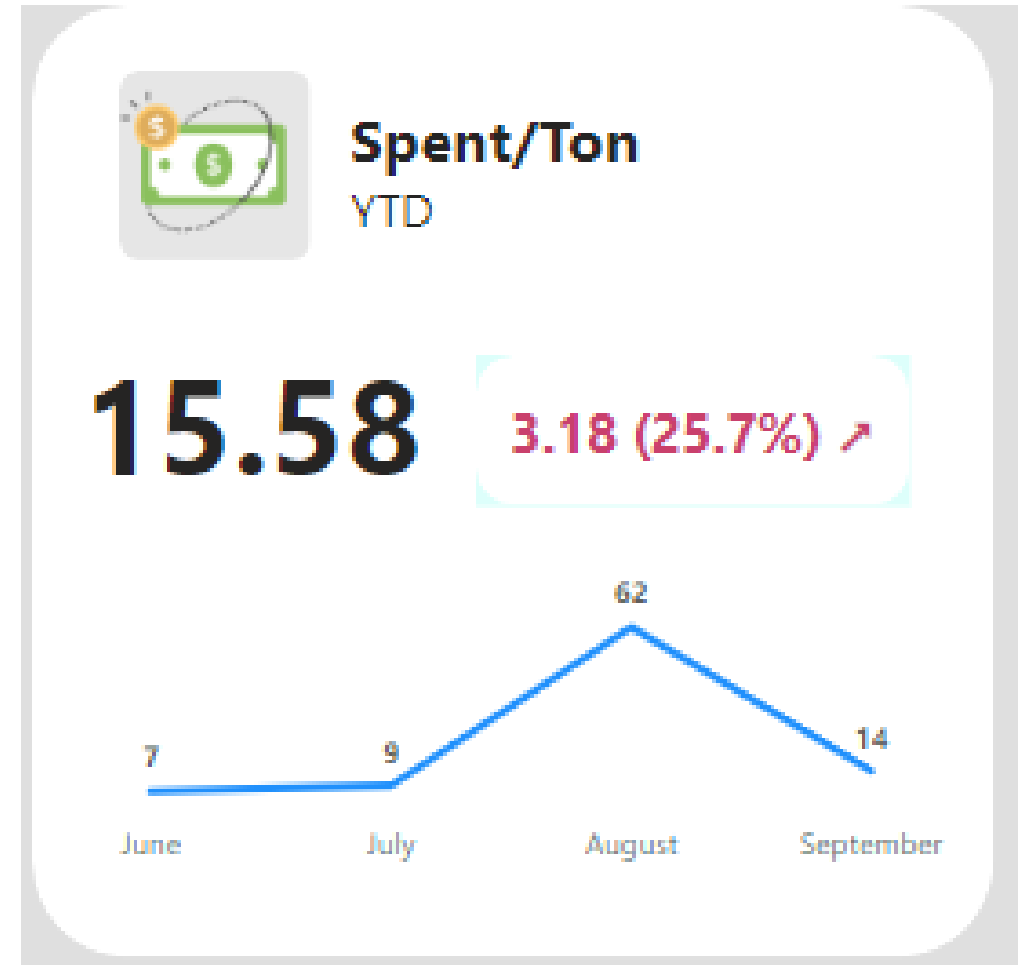**0.35%**   **0.24%**
EDT%   SDT%

KW / Ton

- Year-to-date KW electricity consumed per metric ton of product handled

- Monthly line chart for KW/Ton
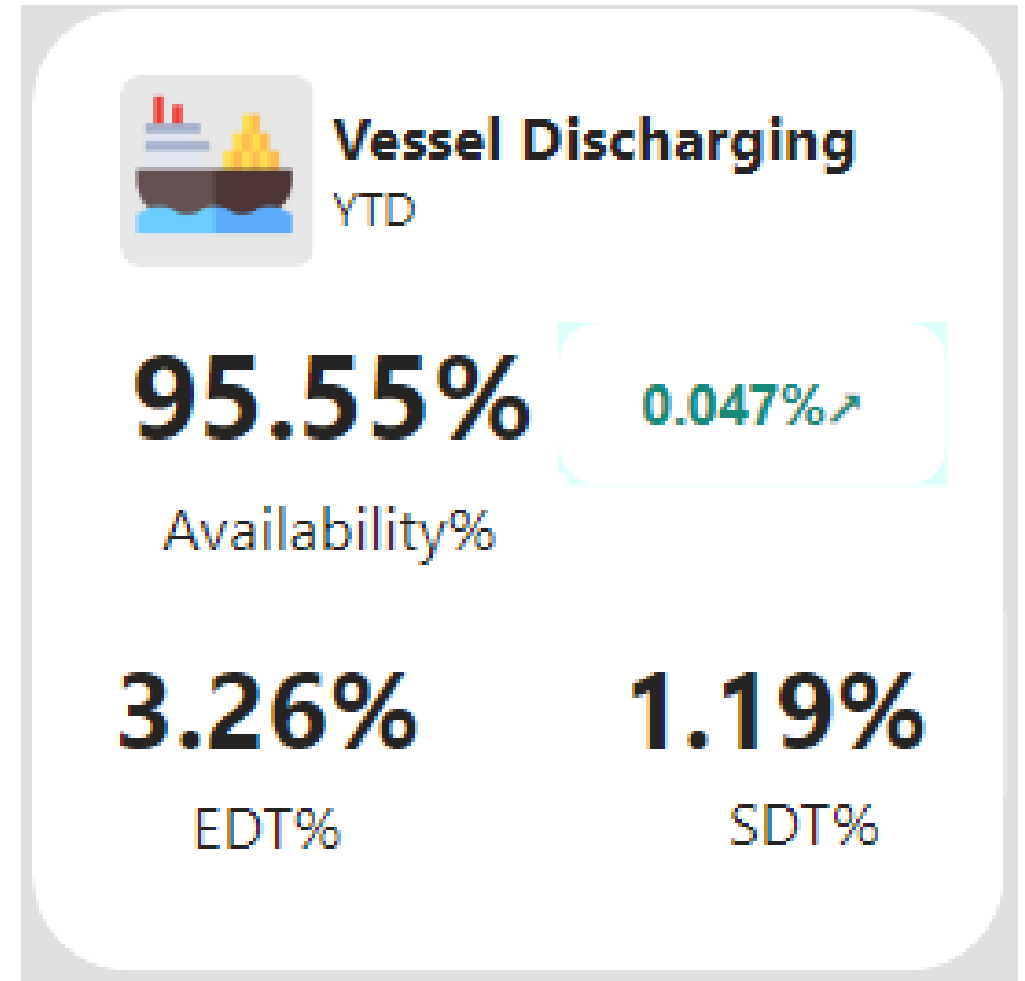
- KW/Ton Variance compared to target

Spent / Ton

- Year-to-date maintenance money spent in EGP per metric ton of product handled

- Monthly line chart for Spent/Ton

- Spent/Ton Variance compared to target

Vessel Discharging

- Availability %: year-to-date percentage of time during which system is available and operational for its intended purpose.

- Availability % variance compared to target.

- EDT%: year-to-date percentage of system downtime.

- SDT%: year-to-date percentage of system scheduled time.

Vessel Discharging
YTD

95.55%   0.047%↗
Availability%

3.26%   **1.19%**
EDT%   SDT%

Truck Loadout

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Truck Loadout
YTD

99.42%   1.418%↗
Availability%

0.35%   **0.24%**
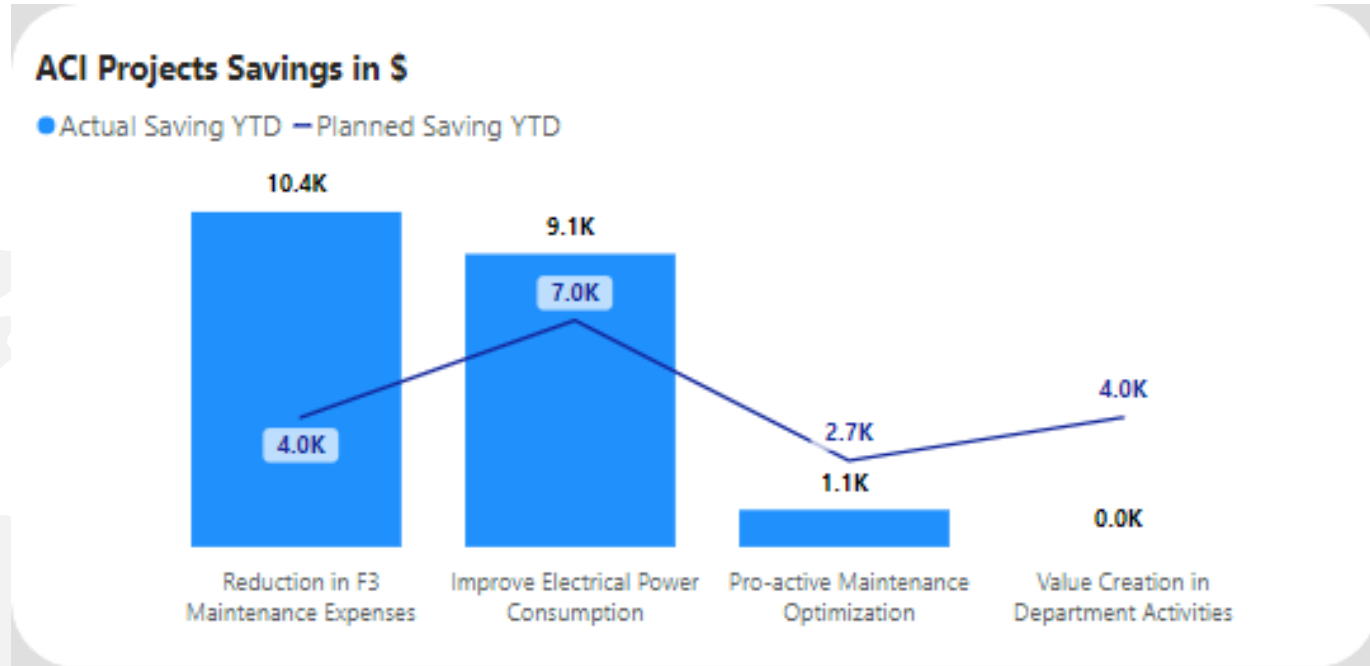EDT%   SDT%

ACI Projects Savings in $

- Line & stacked column chart shows year-to-date savings in $ for different department projects against year-to-date planned savings in $

Bad Actor Assets

- Scatter chart shows bad actor assets (assets that have high repetitive number of failures with high downtimes), ranking top 3 bad actor assets in bolded colors.