

Utilising AI and statistics to **optimise** **operative allocation, training and hiring** **processes**

Workforce scheduling and planning
designed for ports

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ENSEMBLE
ANALYTICS

Digital Importance

- 90% of everything we consume travels by sea
- People are the hardest asset to manage and the most expensive asset.
- Legacy software fails to provide the work-life balance and engagement today's workforce desires.



"Companies using predictive analytics are 3 times more likely to achieve a competitive advantage in talent acquisition"

(McKinsey, 2022)

Breaking Point

- Shortage of 400,000 employees in the UK's Transport and Logistics sector by 2026
- There is a critical shortage in skills and people in maritime.
- Lack of digital forecasting and scheduling tools

Ports and Terminals, People

\$800 million could be lost in trade in Felixstowe port strike fallout

August 16, 2022

Jun 3, 2023 - Economy & Business

Major western marine port closes amid labor shortage

Europe's biggest port short on labour - 8,000 positions vacant

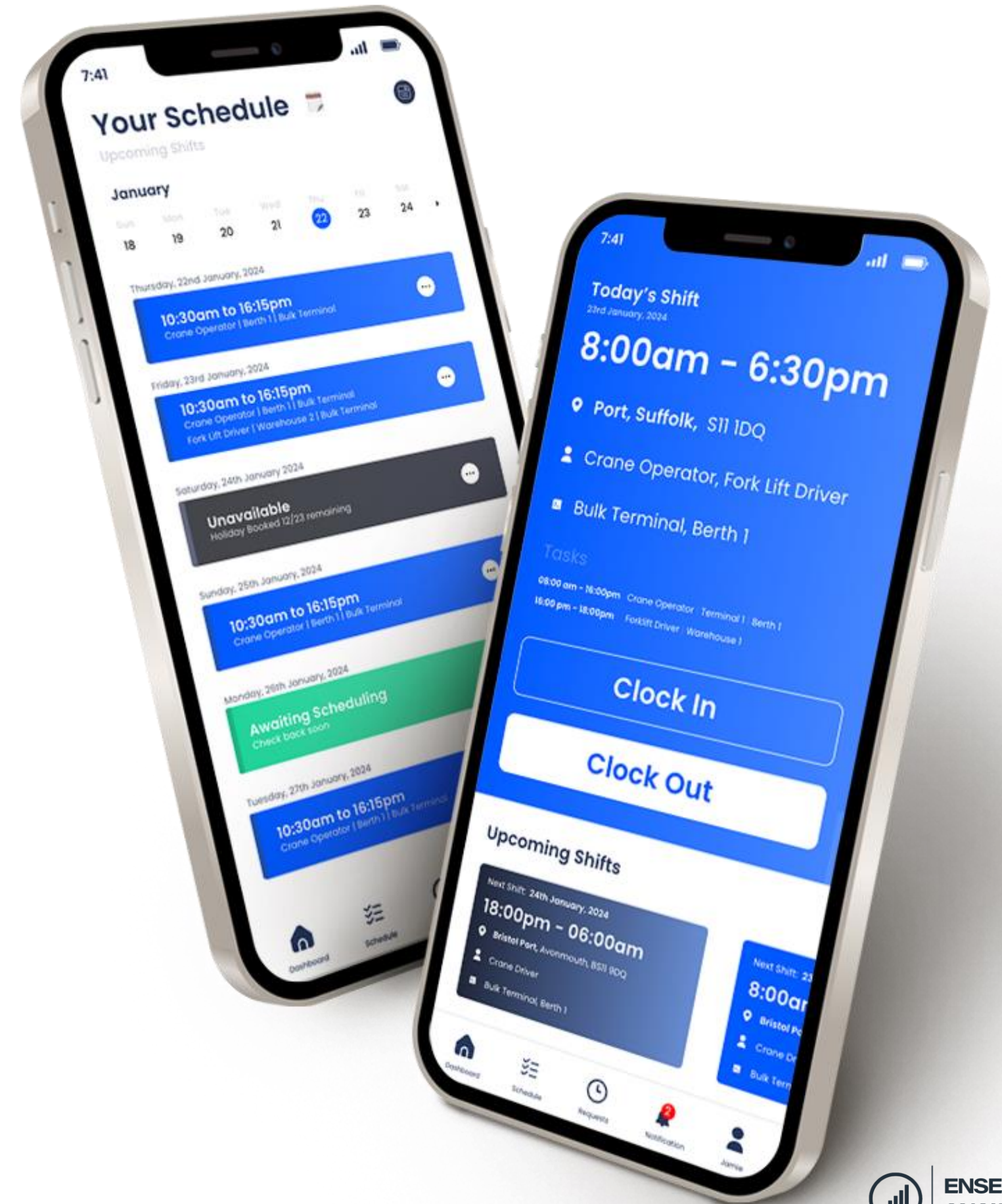
The Port of Rotterdam, the largest in Europe, will be under pressure for the next few years due to factors including high demand and an increasing lack of labour. 8,000 positions are unfilled, says CEO Allard Castelein to ShippingWatch.

Labor dispute shuts down Canada's west coast ports

Workers at Canada's busiest port in Vancouver and at harbors up and down the nation's west coast stopped work Saturday in a labor dispute that is likely to disrupt global freight transport. Port automation, the rising cost of living and outsourcing are key issues behind the collective action.




Employee Engagement

- Modernise shift management
- Increase employee satisfaction
- Improve career progression pathways






Traditional **HRM's** don't work

Complexities

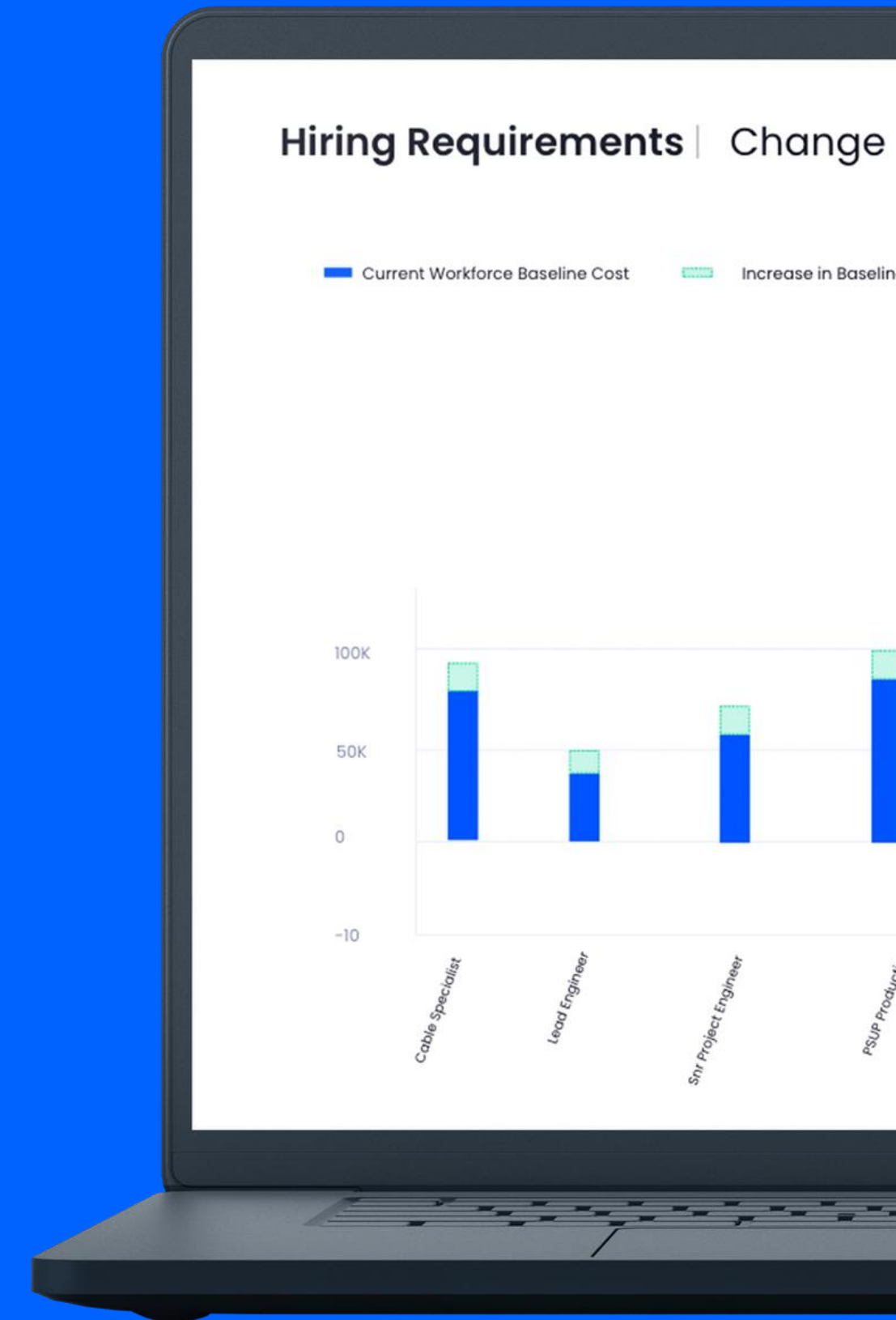
-  Unpredictable
Dynamic shift requirements due to unpredictability of vessels and weather conditions.
-  Complexed workforce
Large multi-skilled workforces with different contracts in different labour pools.
-  Multi-agency
A reliance on employees and external contractors to fulfil shift requirements.

Excel Systems

-  Slow
Requires up to 10 people and can take 6 hours to schedule for the next day.
-  Inefficient
No automation, no data analysis and reactive planning.
-  Error Prone
Limited compliance and reliance on soft knowledge.

Problems faced in Operational forecasting

- Who, how many, and when should crane operators be hired?
- How can contractors be used effectively?
- How is the current workforce going to look in Mar-24?
- What scheduling patterns can be more both efficient and more attractive to women and expecting parents



Why people aren't forecasting

Timely

Collecting different data, clunky Excel sheets, nonstandard across the company.

Inefficient

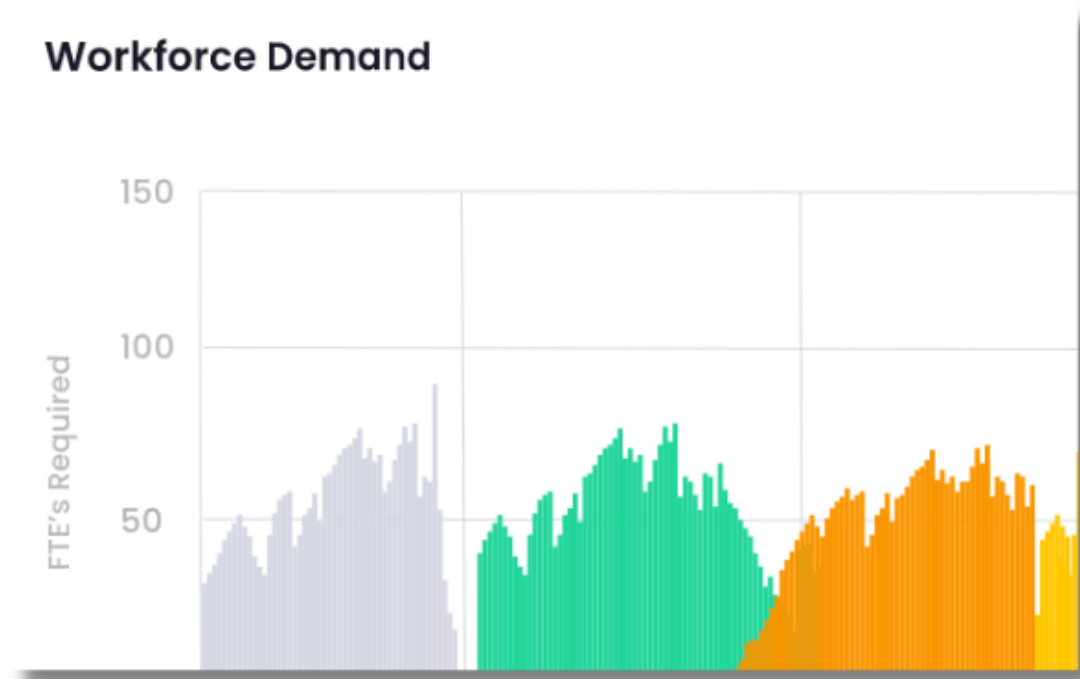
Forecasting is inefficient. Excel modelling lacks insight on contractors, scenario analysis, cost forecasting and detailed forecasting

Expensive

Consultancies offer expensive one-off services that are quickly becomes obsolete

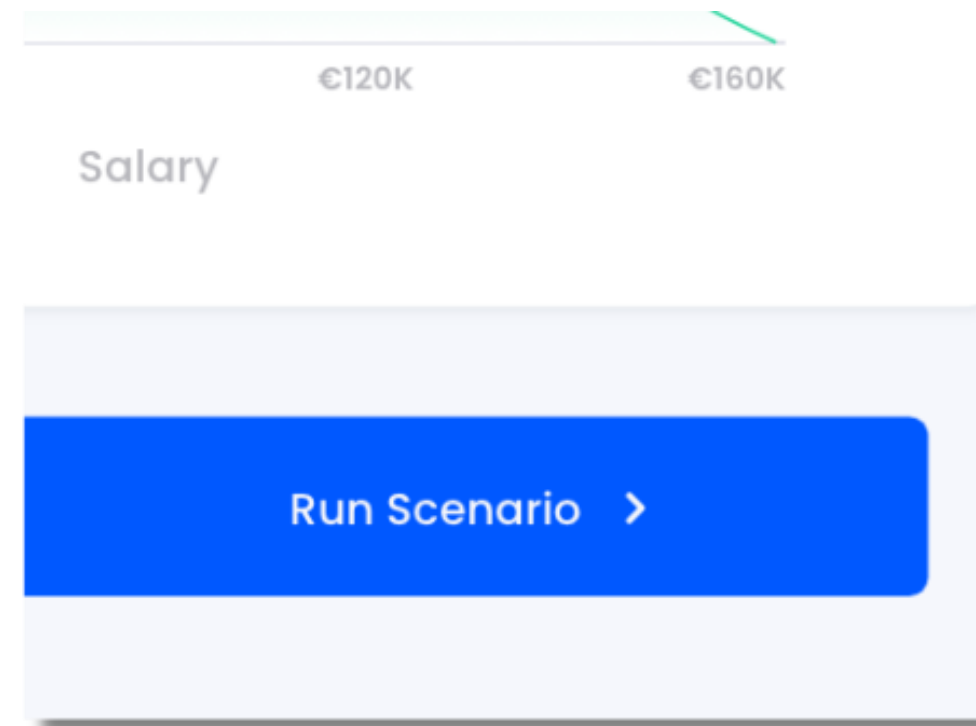
Our Solution

Scenario based workforce forecasting. Analysing cost, contractors and project timing for more efficient operations.



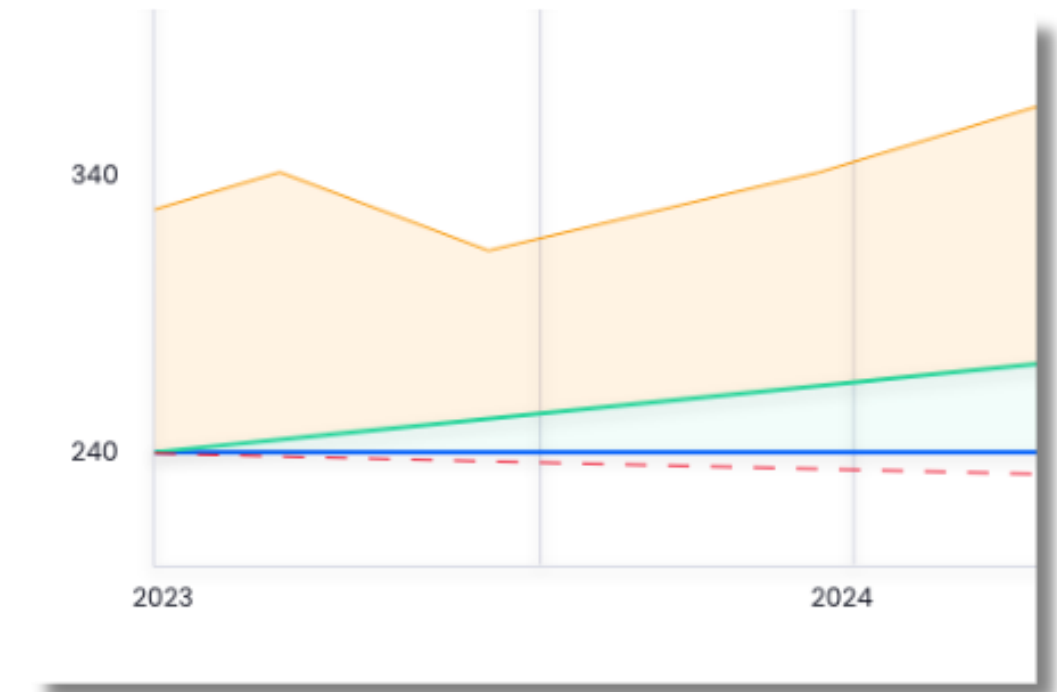
Resource Forecasting

Advanced forecasting using scheduling and optimisation algorithms



Powerful Capabilities

Easy scenario generation and comparison



On-Demand.

Available on demand

Scheduling Employees

Instant, flexible scheduling

Instant workforce scheduling enables the team to schedule all your required jobs for the day in less than a minute. Schedule by vessel, schedule by day, schedule by gang. The platform offers full flexibility when things change to instantly create new schedules.

Action ▼

Vessel

- Clear Schedule
- Edit Schedule
- Save Draft
- Copy Schedule
- View Schedule History
- Set Allocation Objective

Run Allocation

Approve Schedule

View: 7 Days

Date: Jan 24th, 2023 - Jan 31st, 2023

Shift: All

Format: Bulk

Vessel: All

Status: Unfulfilled

Action ▼

0/14 0/14 0/8 0/8 0/6 0/6 0/12 0/12 0/14 0/14 0/18 0/16 0/4 0/4

D N D N D N D N D N D N D N

1 Evergreen Symphony

2

Starlight

Ocean Trader

3

Golden Harvest

4

Chevron Spirit

Ocean Trader

Ocean Trader is a container ship registered in the Canary Islands, designed for transporting large quantities of cargo.

Dates in port
 Jan 24th - Jan 29th

Total Jobs Required
 34

Percentage Allocated
 0%

Unassigned Jobs
 34

	Jan 24th Day Shift	Jan 24th Night Shift	Jan 25th Day Shift	Jan 25th Night Shift	Jan 26th Day Shift	Jan 26th Night Shift	Jan 27th Day Shift	Jan 27th Night Shift
Job 1	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 2	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 3	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 4	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 5	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 6	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 7	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 8	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 9	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 10	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 11	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 12	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 13	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 14	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 15	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 16	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
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Job 19	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
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Job 32	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 33	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned
Job 34	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned	Unassigned

Ocean Trader

Start time in port
 08:00am | 25th January, 2023 Edit

End time in port
 06:00am | 31st January, 2023 Edit

Berth
 Berth 1 Edit

Tonnage
 10,000 Edit


Add Job
 Add preset groups or workers to dates and times Add

Jobs
Cargo Operations Edit

Start Time: 08:00am | 29th January, 2023
End Time: 18:00pm | 30th January, 2023
Jobs: Cargo Handler, Crane Operator, Forklift Operation
Status: Unassigned

Jobs
Repair and Maintenance Edit

Start Time: 08:00am | 29th January, 2023
End Time: 18:00pm | 30th January, 2023
Jobs: Cargo Handler, Crane Operator, Forklift Operation
Status: Unassigned



Scheduling Employees

Objective based scheduling

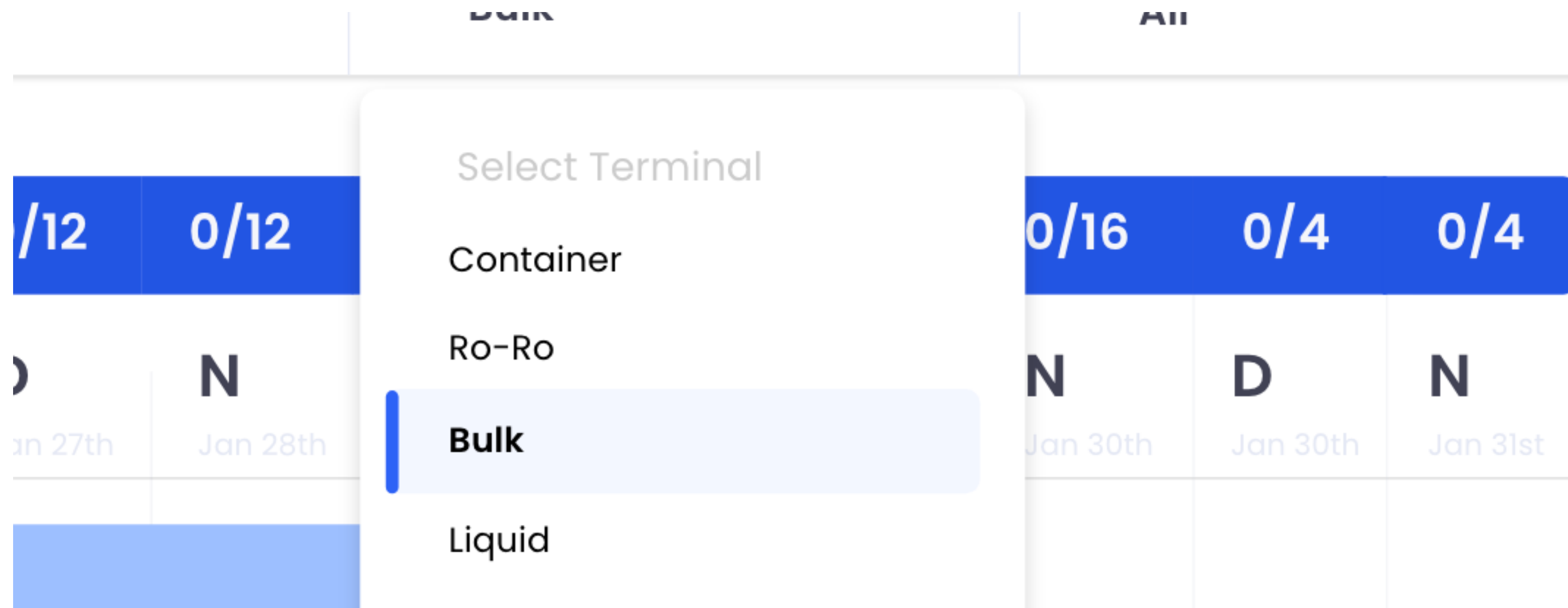
When choosing how the schedule is to be made, choose from several priorities, such as efficiency, cost minimisation or improving shift structures.

The image shows a software interface for scheduling employees. On the left, a blue button labeled 'Action' is visible. Below it, a dark blue sidebar contains the text 'Vess'. A white dialog box titled 'Set Allocation Objective' is open, showing four options: 'Cost Minimisation', 'Efficiency Focus' (selected), 'Shift Structure', and 'Employee Preferences'. Each option has a brief description. On the right, a 'Vessel Editor' for 'Ocean Trader' is shown. It includes a 'Status: Unfulfilled' dropdown, search and download icons, and another 'Action' button. The editor displays several fields: 'Start time in port: 08:00am | 25th January, 2023', 'End time in port: 06:00am | 31st January, 2023', 'Berth: Berth 1', and 'Tonnage: 10,000'. Each field has an 'Edit' link next to it. A toggle switch is present between 'Vessel Editor' and 'Day Editor'.

Scheduling Employees

Cross Terminal Scheduling





















Schedule for all your terminals in one place. See labour availability across other terminals and 'borrow' employees for different shifts





Live Scheduling


Get live updates when people clock-in/clock-out


Our timesheets app is connected to the scheduling platform, providing live updates if operatives are late or don't turn up to shifts. Get notifications when shifts end and availability around the port.


No.	Name	Scheduled Shift Time	Clock in
1	 Carlos Rodriguez Cargo Supervisor	08:00am - 18:00pm	
2	 Jamie Prowse Crane Operator	08:00am - 18:00pm	
3	 Nathan Ball Crane Operator	08:00am - 18:00pm	
4	 Yi Cui Forklift Driver	08:00am - 18:00pm	
5	 Stefano Hangeiras Cargo Supervisor	10:00am - 18:00pm	
6	 Lara Skeet Safety Officer	06:00am - 16:00pm	
7	 Yves Bisoma Truck Driver	08:00am - 18:00pm	
8	 Sancho Di Neyma Crane Operator	08:00am - 18:00pm	
9	 Jim Maguire Tugboat Officer	08:00am - 18:00pm	
10	 Javier Baderonola Forklift Driver	08:00am - 18:00pm	


 **Today, 27 August 2023**
This shows daily data in real-time

Total Employees: **158** 

On time: **153** 

Late in: **5** 

Overtime: **0** 







Absent: **0** 

Employee Attendance

Keep track of employee attendance on a daily basis

07 Aug 2023 Day Export

All employees Berth 1 Berth 2 Berth 3 Berth 4 Warehouse Filter

No.	Name	Shift Type	Clock in	Clock out	Overtime	Location
1	 Carlos Rodriguez Cargo Supervisor	Day	08:00	18:30	00:00	Berth 1
2	 Jamie Prowse Crane Operator	Day	08:00	18:30	00:00	Berth 1
3	 Nathan Ball Crane Operator	Day	08:00	18:30	00:00	Berth 1
4	 Yi Cui Forklift Driver	Day	08:00	18:30	00:00	Berth 1
5	 Stefano Hangeiras Cargo Supervisor	Day	08:00	18:30	00:00	Berth 1
6	 Lara Skeet Safety Officer	Day	08:00	18:30	00:00	Berth 1

Workforce Analysis

Skills and Training

A simple easy interface to manage training and qualification requirements. Filter for different job roles across the workforce within the interface.

The screenshot displays the 'Training Tracking' interface. At the top, there are tabs for 'Bulk Terminal', 'Warehouse', 'Container', and 'Ro-Ro'. Below the tabs are 'Filter' and 'Period' buttons. A '0 Results' button is visible on the right. The main content area shows a filter for 'Level 3 Supervision' and a 'Problems' section with 12 items. A profile card for Christopher Richardson, a Cargo Supervisor, is shown with a 'Qualification Timeline' for 'Level 3 Supervision of Maritime Operations'. The timeline indicates a 'Passed' status on 02/03/21 and an 'Expired' status on 13/08/23.

Reimagining scheduling



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