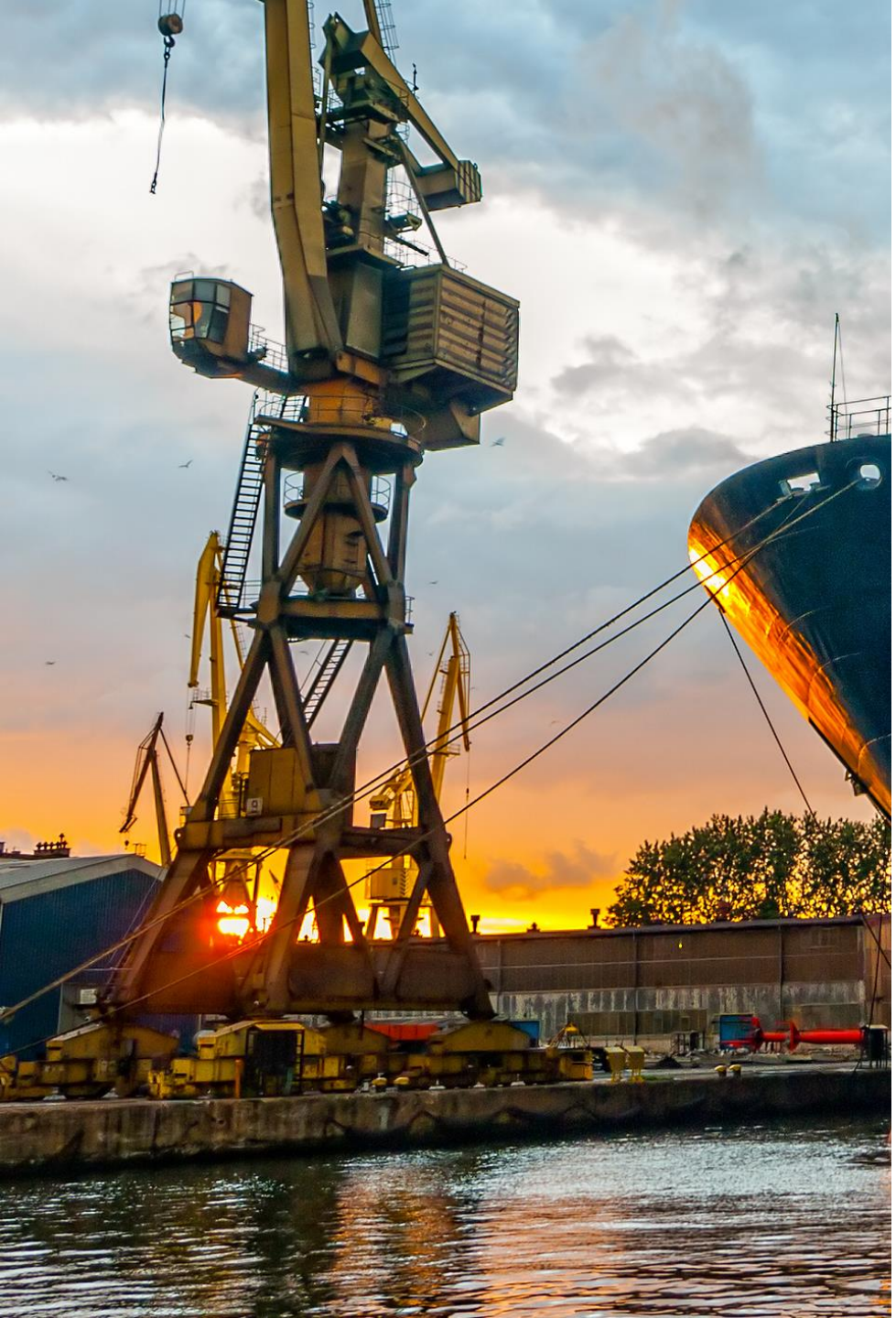


ABTO Conference 2026

Implementing a terminal operating system



Agenda

1. What is a Terminal Operating System?
2. The Procurement Process
3. The Importance of Real-Time Data
4. The Business Case
5. Conclusion



What is a TOS?

T | B | A

Dashboard Tools

Realtime view of operations and KPIs across all locations

Reporting

View report across all locations at local or group level

Mobile access

Web platform allows for access to operational data across mobile devices



CommTrac

Billing

Manage customer contracts and billing from one central location

Planning & Execution of Terminal Activities

TERMINAL 1

TERMINAL 2

TERMINAL 3

Managing Terminal Operations and Administration

Vessel

- Create manifest
- Assign berth
- Create delivery orders
- Discharge/load vessel
- Real-time progress
- Calculate demurrage

Stock

- Create storage area
- Allocate commodity
- Create storage rules
- Manage customs clearance
- Real-time inventory
- Handle working loss

Rail & Truck

- Create truck/train visits
- Weighing integration
- Visibility of trucks on site
- Create sampling specifications
- Real-time inventory
- Generate/print gate receipts

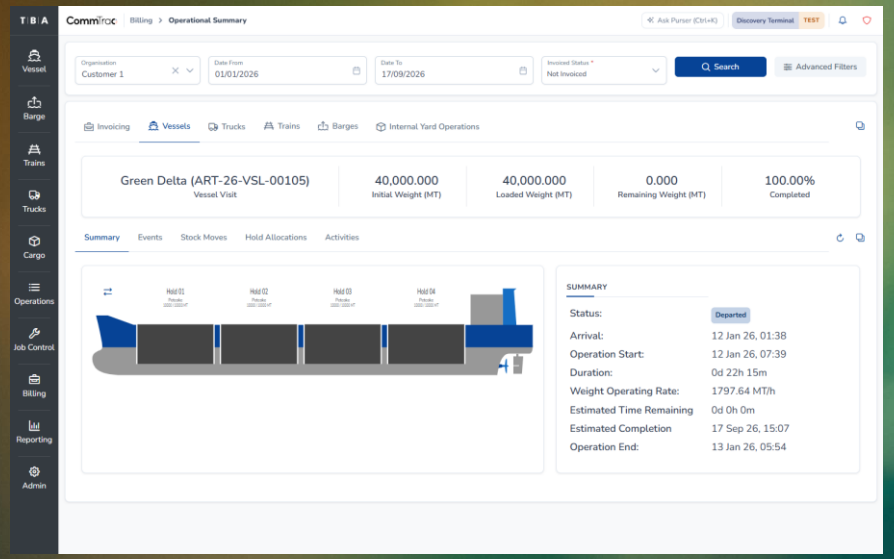
Invoicing

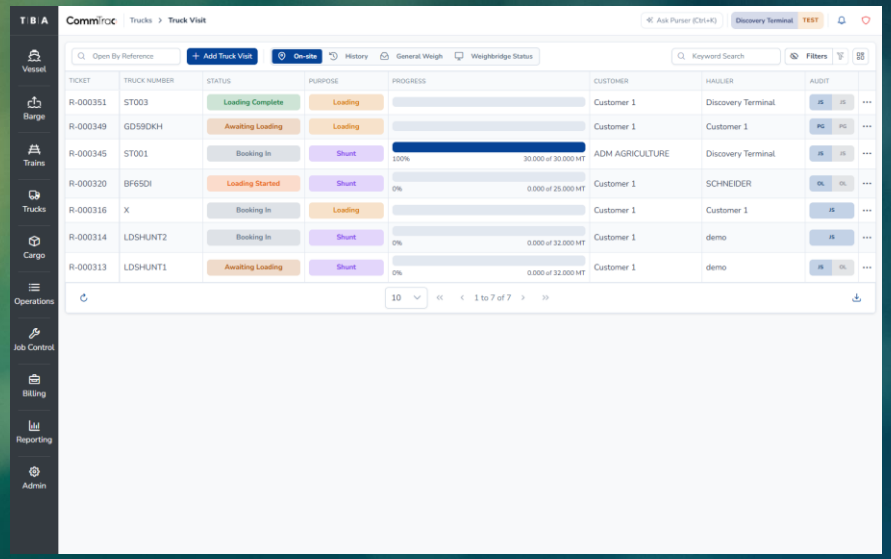
- Create customer contracts
- Automatically accrue rentals
- Generate vessel invoices
- Work orders to capture billing
- Complex billing supported
- Interface with finance/ERP

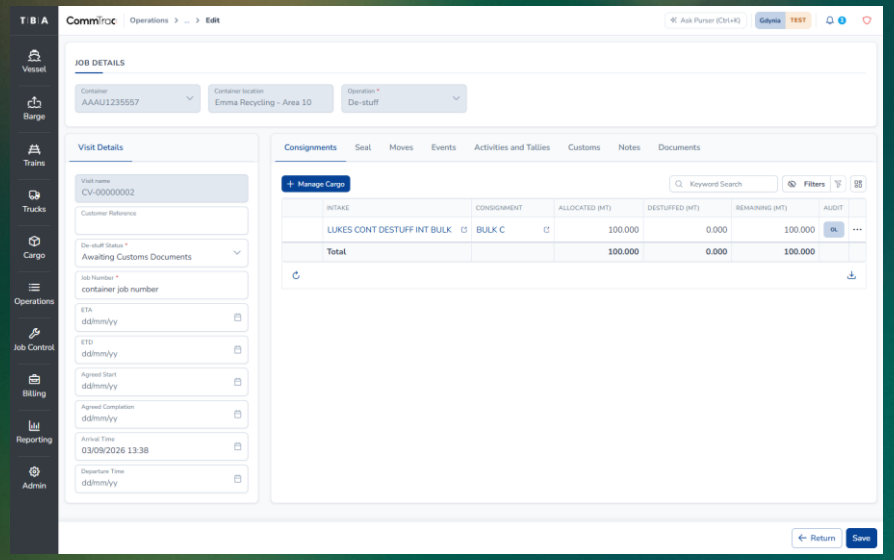
Repo rting

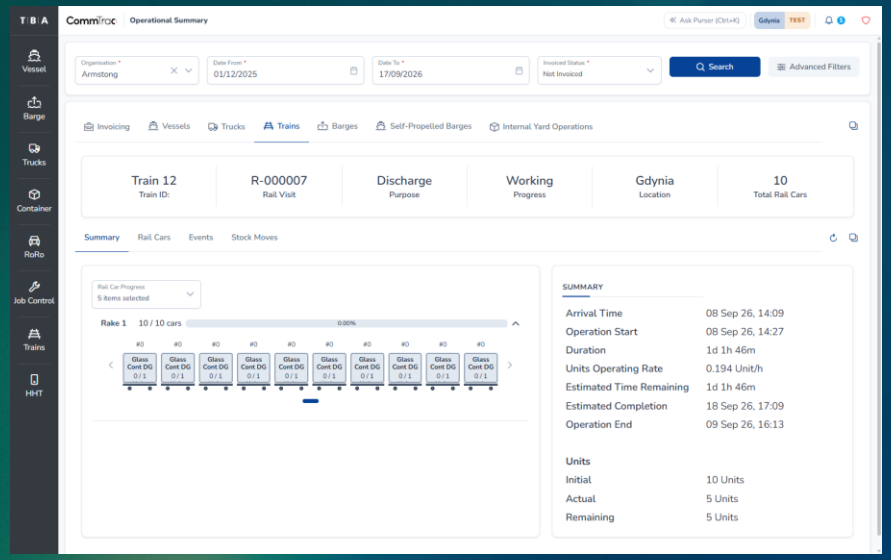
- Generate fixed reports
- Automatically send via email
- Receive alarms and notifications
- Create your own ad hoc reports
- Create your own dashboards
- Report at terminal and company level

T | B | A


CommTrac
Billing > Operational Summary
Vessel
Barge
Trains
Trucks
Cargo
Operations
Job Control
Billing
Reporting
Admin
Search
Advanced Filters
Invoicing
Vessels
Trucks
Trains
Barges
Internal Yard Operations
Green Delta (ART-26-VSL-00105)
Vessel Visit
40,000.000
Initial Weight (MT)
40,000.000
Loaded Weight (MT)
0.000
Remaining Weight (MT)
100.00%
Completed
Summary
Events
Stock Moves
Hold Allocations
Activities
SUMMARY
Status:
Departed
Arrival:
12 Jan 26, 01:38
Operation Start:
12 Jan 26, 07:39
Duration:
0d 22h 15m
Weight Operating Rate:
1797.64 MT/h
Estimated Time Remaining
0d 0h 0m
Estimated Completion
17 Sep 26, 15:07
Operation End:
13 Jan 26, 05:54


CommTrac
Trucks > Truck Visit
Add Truck Visit
On-site
History
General Weigh
Weighbridge Status
Filters
TICKET
TRUCK NUMBER
STATUS
PURPOSE
PROGRESS
CUSTOMER
HAULIER
AUDIT
R-000351 ST003 Loading Complete Loading Customer 1 Discovery Terminal
R-000349 GD59DKH Awaiting Loading Loading Customer 1 Customer 1
R-000345 ST001 Booking In Shunt 100% 30.000 of 30.000 MT ADM AGRICULTURE Discovery Terminal
R-000320 BF65DI Loading Started Shunt 0% 0.000 of 25.000 MT Customer 1 SCHNEIDER
R-000316 X Booking In Loading 0% 0.000 of 32.000 MT Customer 1 Customer 1
R-000314 LDSHUNT2 Booking In Shunt 0% 0.000 of 32.000 MT Customer 1 demo
R-000313 LDSHUNT1 Awaiting Loading Shunt 0% 0.000 of 32.000 MT Customer 1 demo


CommTrac
Operations > ... > Edit
Gdynia
JOB DETAILS
Container
AAAU1235557
Container location
Emma Recycling - Area 10
Operation
De-stuff
Visit Details
Visit name
CV-00000002
Customer Reference
De-stuff Status
Awaiting Customs Documents
Job Number
container job number
ETA
ETD
Agreed Start
Agreed Completion
Arrival Time
03/09/2026 13:38
Departure Time
Consignments
Seal
Moves
Events
Activities and Tallies
Customs
Notes
Documents
Manage Cargo
INTAKE
CONSIGNMENT
ALLOCATED (MT)
DESTUFFED (MT)
REMAINING (MT)
AUDIT
LUKES CONT DESTUFF INT BULK
BULK C
100.000
0.000
100.000
Total
Return
Save

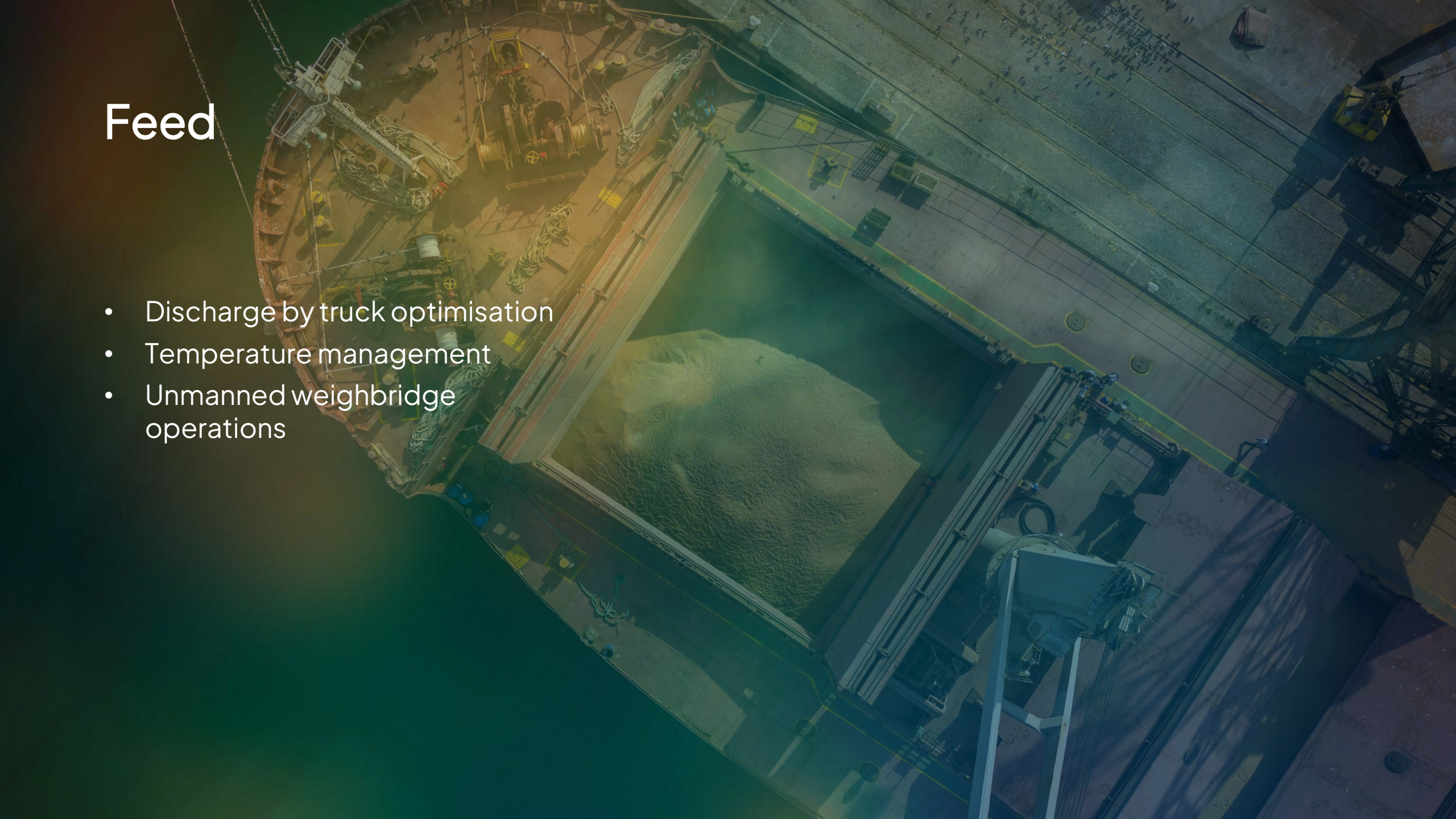

CommTrac
Operational Summary
Gdynia
Organisation
Armstong
Date From
01/12/2025
Date To
17/09/2026
Invoiced Status
Not Invoiced
Search
Advanced Filters
Invoicing
Vessels
Trucks
Trains
Barges
Self-Propelled Barges
Internal Yard Operations
Train 12
Train ID:
R-000007
Rail Visit
Discharge
Purpose
Working
Progress
Gdynia
Location
10
Total Rail Cars
Summary
Rail Cars
Events
Stock Moves
Rail Car Progress
5 items selected
Rake 1
10 / 10 cars
0.00%
Glass Cont DG
0 / 1
SUMMARY
Arrival Time
08 Sep 26, 14:09
Operation Start
08 Sep 26, 14:27
Duration
1d 1h 46m
Units Operating Rate
0.194 Unit/h
Estimated Time Remaining
1d 1h 46m
Estimated Completion
18 Sep 26, 17:09
Operation End
09 Sep 26, 16:13
Units
Initial
10 Units
Actual
5 Units
Remaining
5 Units

Coal



- Export blending
- Demurrage and Dispatch Optimisation
- Automated Statement of Facts

Feed



- Discharge by truck optimisation
- Temperature management
- Unmanned weighbridge operations

Grain

- Product segregation and traceability
- Complex conveyor routing control
- Complex consignee/consignor order management

Our Customers

Framework agreement for all bulk & general cargo terminals	Midstreaming in USA	General Cargo in Bahrain	Three terminals in South Africa.	Portbury and Avonmouth	General Cargo and Bulk in Beira Mozambique
All bulk operations at Tilbury Docks	Terminals in Sierra Leone and Philippines.	Three terminals in the UK	Framework agreement for all bulk terminals.	Two ports in Western Australia.	Texas International Terminal, Galveston
Two terminals in South Africa.	Multi-commodity bulk and liquid gas export terminal in Canada.	Two terminals in the UK			



The Procurement Process

Start with the Decision Makers



TOS touches on all the business functions and delivers a business case to most, but we are talking about software, so who decides?


COO?
CFO?
Operations Manager?
CIO/IT Director?

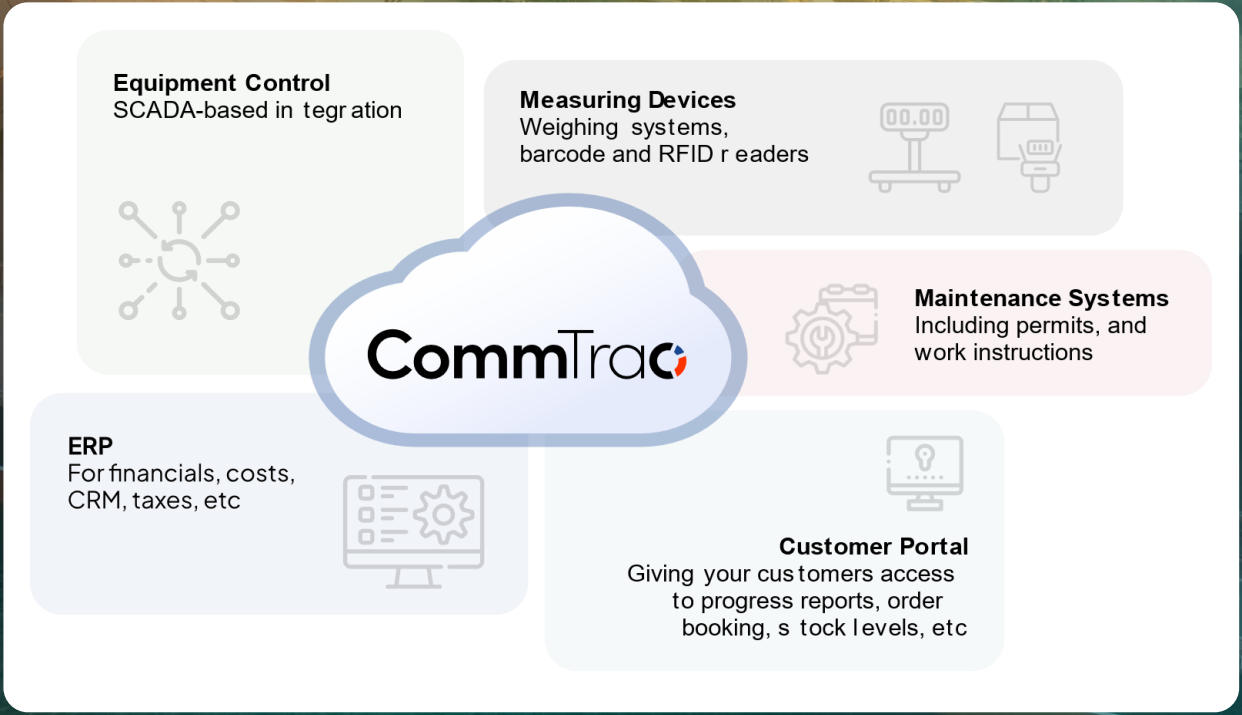
Project Goals

There will be “hard” and “soft” goals for a TOS implementation:

Improved efficiency	Reduced revenue leak	Reduced headcount	Prevent cargo losses	Cyber resilience and security
One version of the truth	Improved customer experience	Easy adoption by users	Support the business for ten years	

The IT Landscape – Early Decisions

It can look complicated!



- Multiple systems all needing to interact
- However early decision making on how this works saves lots of pain later
- API Methodologies and mapping tools make the integration straightforward
- Outcomes outweigh the simplicity of stand-alone systems

In House, Proprietary or Hybrid?

It's really hard to make a case for total in-house solution
- but a hybrid model is starting to make sense:

Using a well proven TOS at the core of your business:

- Proven and robust
- Data rich
- Resilient and secure
- R&D by others

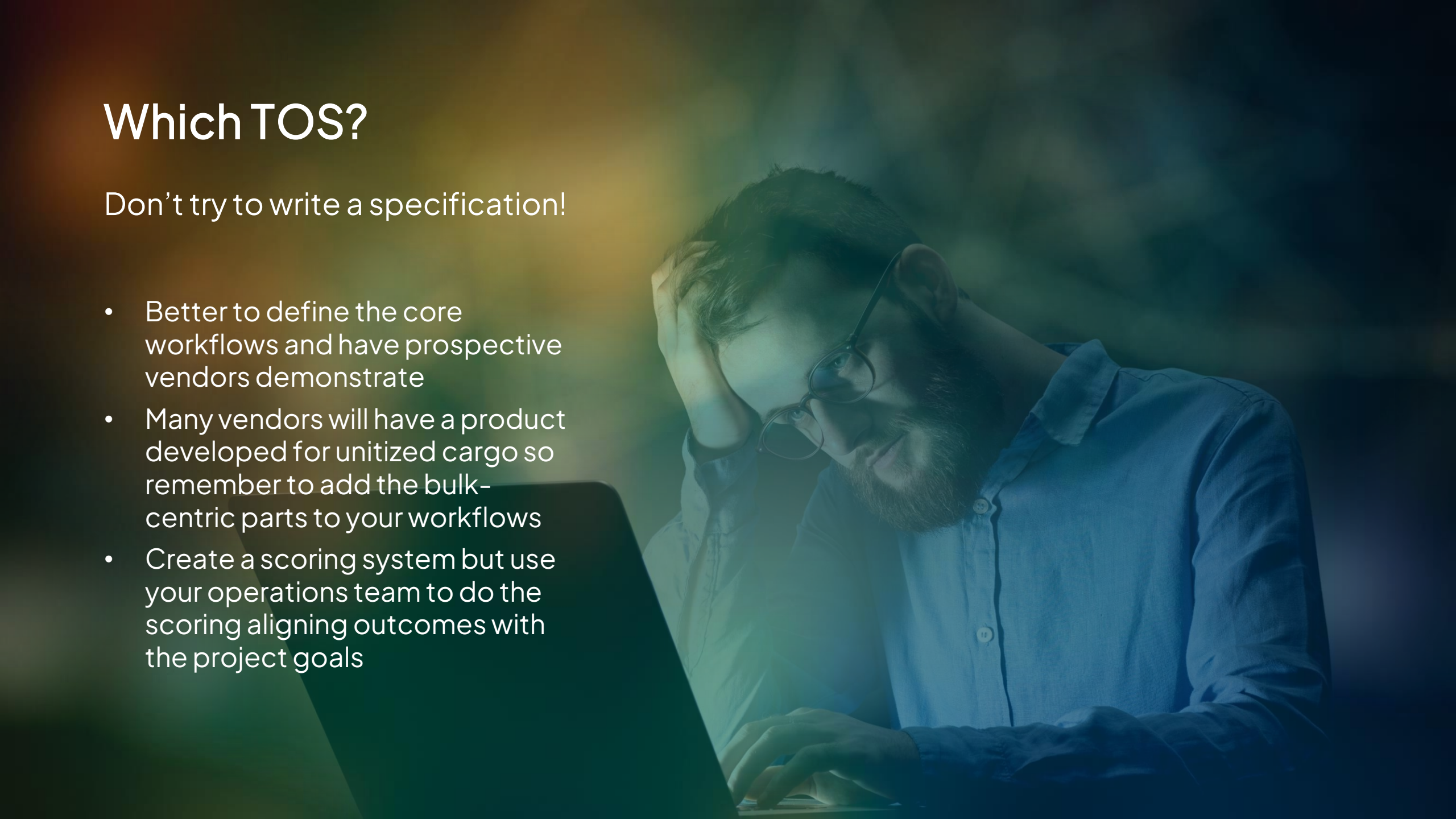
In-house team using AI to build:

- Reporting, dashboarding and forecasting
- Micro Apps for focused optimization
- Built on proven data from the TOS via API

Which TOS?

Don’t try to write a specification!

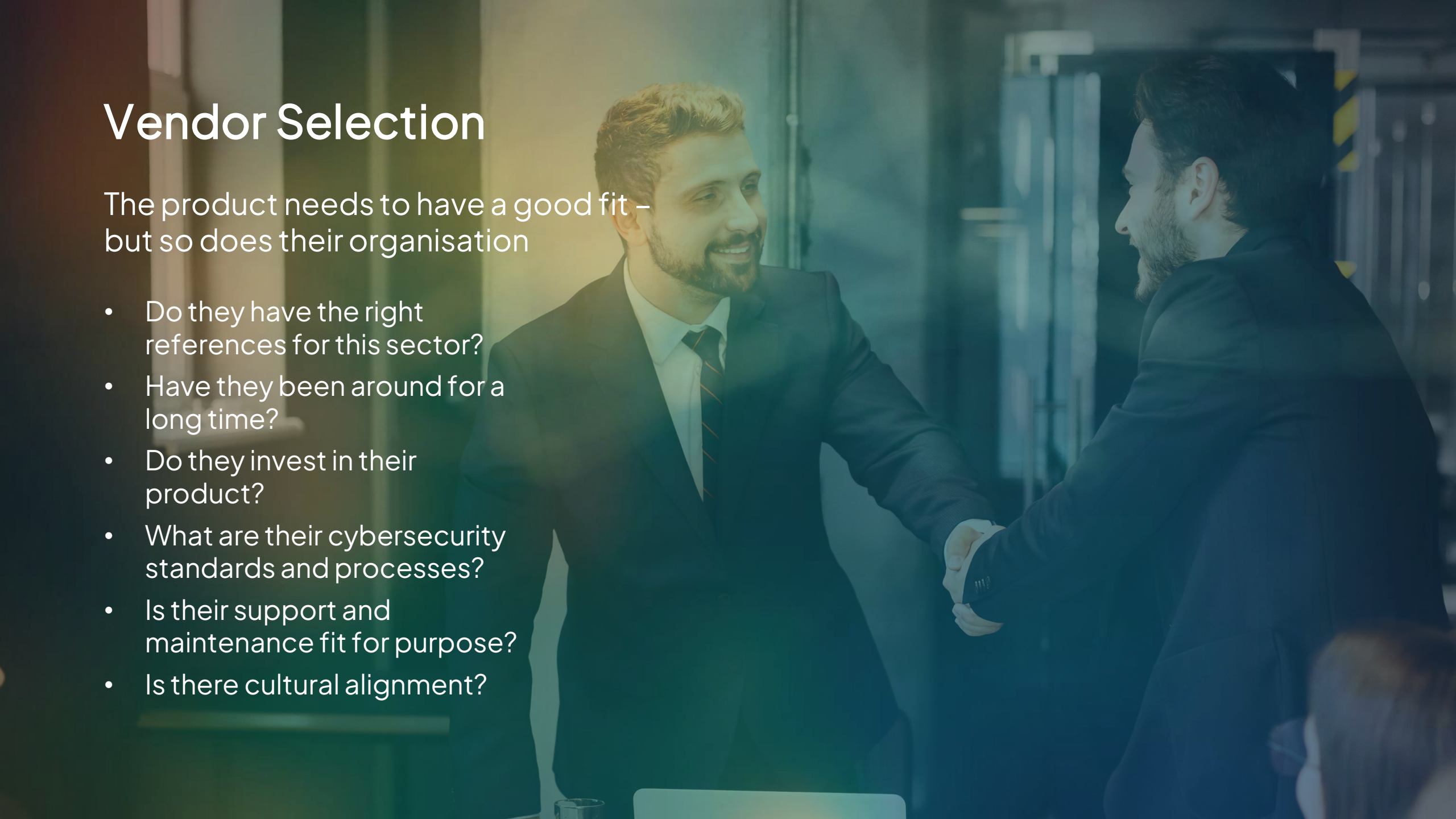
- Better to define the core workflows and have prospective vendors demonstrate
- Many vendors will have a product developed for unitized cargo so remember to add the bulk-centric parts to your workflows
- Create a scoring system but use your operations team to do the scoring aligning outcomes with the project goals



Vendor Selection

The product needs to have a good fit – but so does their organisation

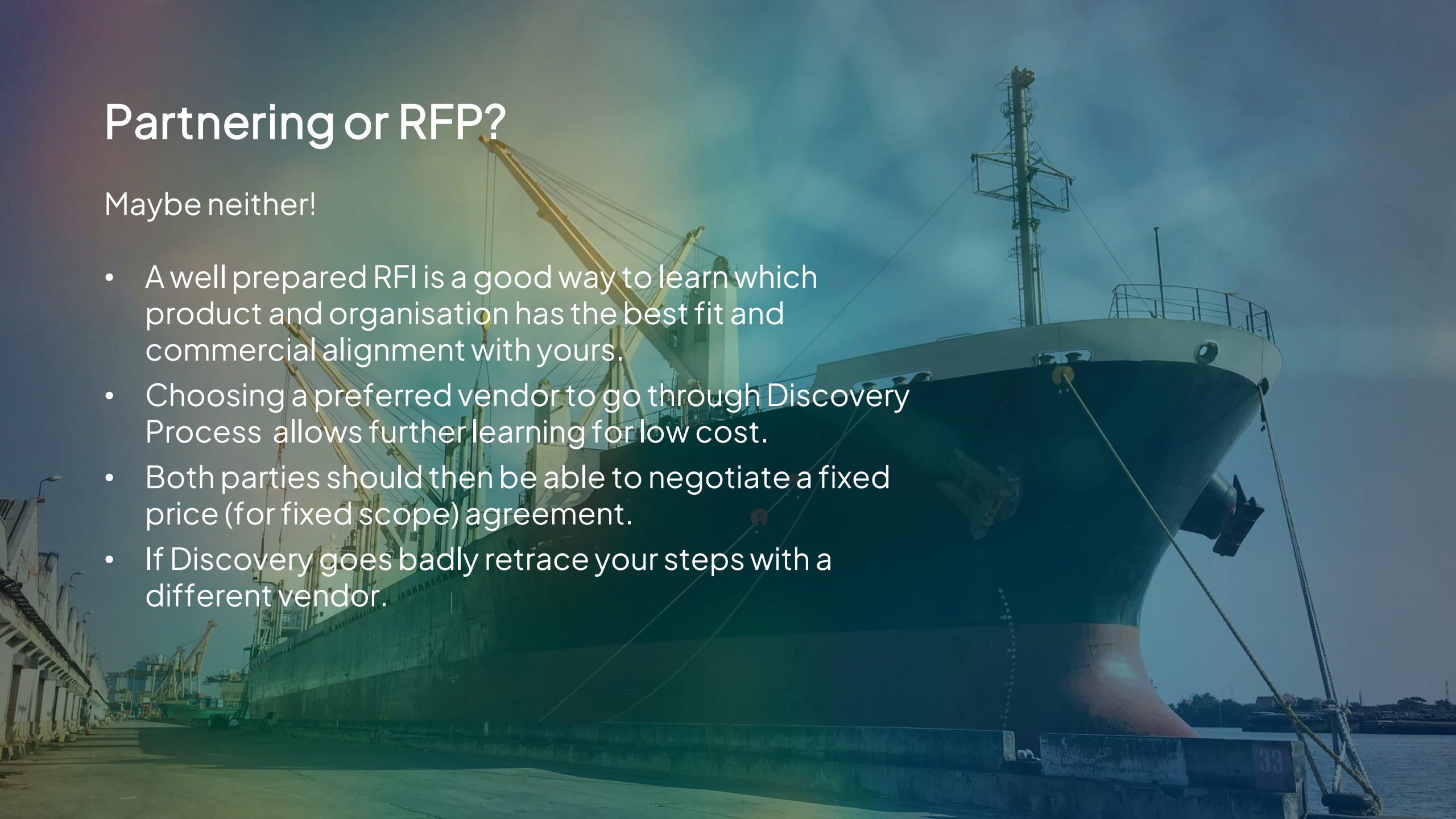
- Do they have the right references for this sector?
- Have they been around for a long time?
- Do they invest in their product?
- What are their cybersecurity standards and processes?
- Is their support and maintenance fit for purpose?
- Is there cultural alignment?



Partnering or RFP?

Maybe neither!

- A well prepared RFI is a good way to learn which product and organisation has the best fit and commercial alignment with yours.
- Choosing a preferred vendor to go through Discovery Process allows further learning for low cost.
- Both parties should then be able to negotiate a fixed price (for fixed scope) agreement.
- If Discovery goes badly retrace your steps with a different vendor.



Establishing Governance

Critical to success.

- The original decision makers need to steer the project at a high level.
- The project charter and goals need to provide a “North Star”.
- If consultants are used to support project delivery their terms of reference need to be clearly established.
- The user community must engage with the project early and throughout .





The Importance of Real-Time Data

Real Time Data

- On bulk terminals each operational workflow is usually linear and therefore any delay event affects the overall plan.
- For terminal managers, the ability to know what is happening exactly as it happens is vitally important, informing and improving decision making in an ever-changing environment.
- TOS Systems need to support this by capturing real time data, either directly from the machine or control system OR by providing superintendents with mobile devices to enter data “in the now”.
- This may require changes to mechanical equipment or workflows (weigh bridges for internal cargo moves), but your TOS provider should advise on this topic.



Future-Proofing & Scalability

The Business Case

- Should be constructed alongside the Project Goals
- Improved productivity is almost always possible
- Reducing revenue leak is almost always possible
- Surprisingly, the business case is often "Our legacy system isn't supportable"! (An IT decision, not a business decision)

The Business Case

PRIMARY	SECONDARY
Demurrage costs 5%	Decision making
Handling capacity 10%	Customer service & trust
OPEX 10%	Scalability
Customer claims 10%	Compliance
Admin workload 50%	Continuous improvement
Financial and quality audits 50%	Sustainability goals
Revenue leaks 90%	



Small Terminal



Large Terminal

Small Terminal



Throughput:
500,000 tons/year

Revenue:
€4.5 million

Net margin:
12.5%

Operational efficiency:	€60,000
From capacity to handle one further vessel per annum:	€15,000
From reduction in revenue leak:	€30,000
From reduction in back-office administration:	€35,000
Improvement in P&L:	€140,000
Return on investment period:	12 months

Large Terminal



Throughput:
10 million tons/year

Revenue:
€115 million

Net margin:
12.5%

Operational efficiency:	€850,000
From capacity to handle one further vessel per annum:	€145,000
From reduction in revenue leak:	€170,000
From reduction in back-office administration:	€340,000
From reduction in claims:	€55,000
Improvement in P&L:	€1.7 million
Return on investment period:	9 months



Conclusion

Conclusion

- Investing in TOS is a core business decision, which the company has to live with for a substantial period, the vendor is as important as the product.
- Establishing Goals for the project and C Suite governance are essential to good outcomes.
- The IT world is rapidly changing, and AI is accelerating that but at the core of your business systems you need a "real time true data generator" and TOS is perfect for this.