



Navigate Tomorrow **Today**

Predictive Insights with OCIANA® for Collaborative and JIT Marine Operations

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GSTS**

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About GSTS

- Global maritime company spun out of a Canadian space company that developed the world's first commercial global maritime monitoring satellite.
- **FOCUS:** Delivering predictive AI-powered solutions to solve major challenges faced by the maritime industry
- **SPECIALTY:** Customer-focused technical team intent on developing solutions in support of maritime safety and security, supply chain resilience and climate change using innovative data collection and analysis techniques and leveraging advanced AI technologies to adapt to a dynamic maritime environment
- **SOLUTION:** Proprietary SaaS platform, OCIANA[®], designed to enhance real-time decision making and enable collaboration across the maritime industry

OCIANA[®]: Maritime Collaboration Platform

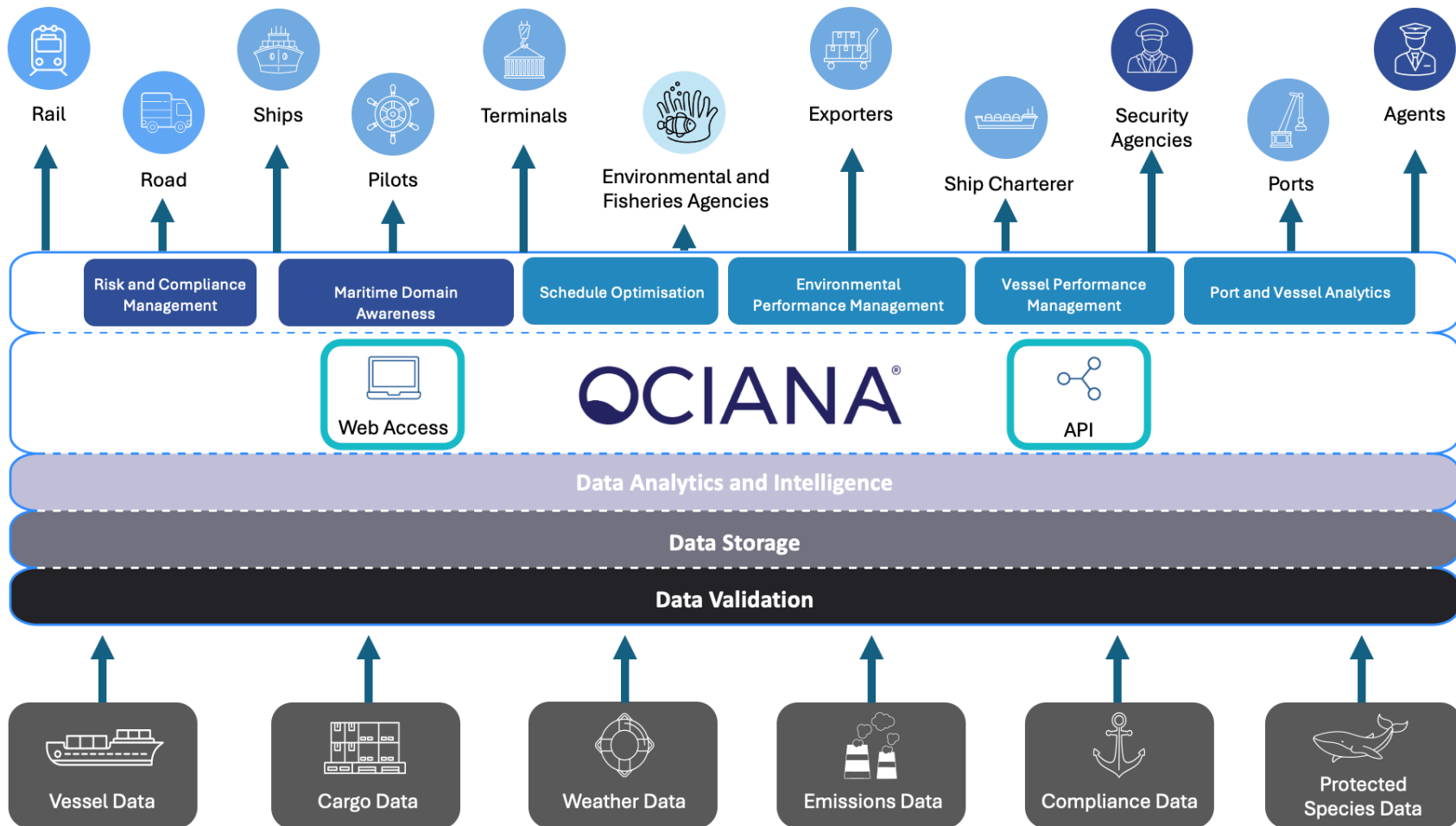
OCIANA[®] incorporates the latest developments in **Artificial Intelligence** and **Big Data Analytics** to improve maritime situational awareness and provide real-time decision-making intelligence.

Multi-Source Data Analytics

- Designed to ingest a wide range of data sources including global AIS data, an array of satellite imagery and third-party datasets
- OCIANA[®] spatially and temporally correlates the data and employs AI algorithms
- Output from the AI/ML trained models can be accessed through the web-based UI or API supporting data interoperability

Partner Communication

- Embedded communications channel enables multiple users to share information in real time
- Advanced chat and collaboration tools facilitate coordinated response
- Rooted in data governance - data quality, data stewardship, data protection and data management



Industry Collaboration

5+ years of successful collaboration with key maritime players resulting in several capabilities targeted at streamlining vessel berthing to support Just-in-Time Arrivals and Green Voyages.

Port Arrivals

- ETA Prediction – accurately predict ETA of all vessels arriving at port
- Intelligent Geofences – automatically receive alerts and updated ETA predictions when ships cross pre-defined checkpoints

Port Performance and Optimisation

- Port Analytics – provide current wait times and traffic conditions
- Schedule Optimisation Planner – explore a set of feasible sequences to process operations based on the optimal allocation of port resources

Environmental Performance Management

- GHG Emissions Calculator – calculate carbon footprint within port boundaries
- Digitized Trade Routes – tabulate emissions for all vessels globally; report on vessel voyages between two or more ports where Green Shipping Corridors are established



Customers & Collaborators



Route Optimization

Anchor Management

Berth Optimization

Environmental
Management

Emission Management

Compliance
Management

Protected Species
Management

Supply Chain Optimization and Resilience

Risk Management

OCIANA[®]
Maritime Collaboration Platform



Vessel Data



Cargo Data



Weather Data



Emissions Data



Compliance Data



Protected
Species Data



Ships



Environmental &
Fisheries Agencies



Terminals



Ports



Pilots



Exporters



Security Agencies



Forwarder

Ocean Supercluster Project

- Awarded a **\$12M two-year contract** to advance the capabilities of OCIANA[®] to enable all stakeholders involved in the port call process to improve efficiency and sustainability of maritime operations
- OCIANA's latest capability, the **Collaborative Optimisation Solution** will connect ports, terminals, ships, waterways and pilotage authorities via a common platform to:
 - Bring together operational data – currently stored in separate systems – **to facilitate data sharing and empower maritime collaboration**
- Based on IMO standards, OCIANA will:
 - Enable seamless data exchange between various systems
 - Ensure interoperability with various systems
 - Streamline processes for vessel reporting

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OCIANA® Collaborative Optimisation Solution

Optimizing Ports Calls and Supply Chain Operations through AI Predictive Insights

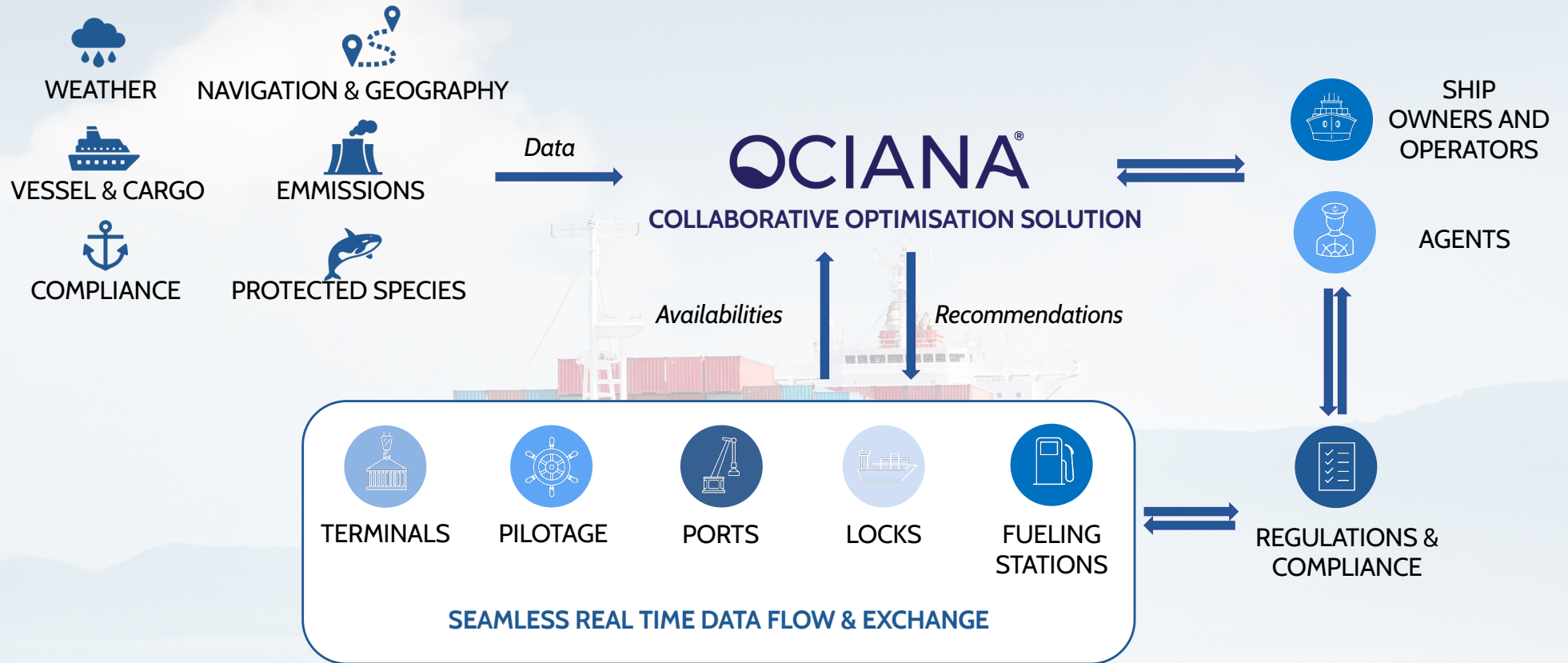
- Allowing for the sharing of real-time data, coordinated planning and enhanced decision-making through Just-in-Time Port Call Open API specifications

Facilitating JIT Arrivals aimed at:

- Enabling ships to optimise steaming speed, thereby lowering fuel consumption and reducing emissions
- Minimizing waiting times and maximizing operational efficiency across the maritime industry



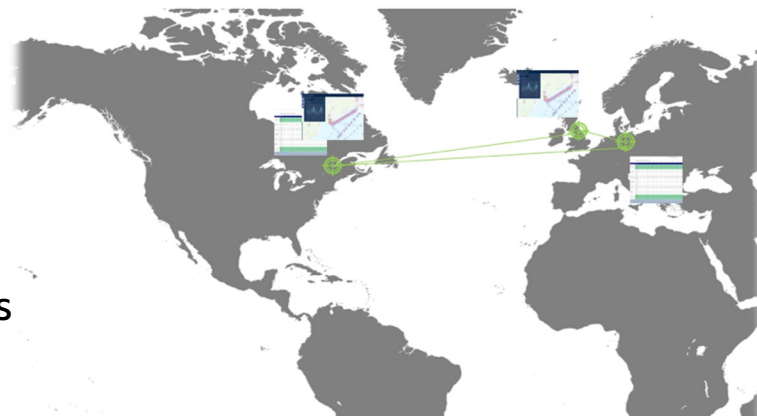
OCIANA®: Maritime Ecosystem Optimization



Key Objectives

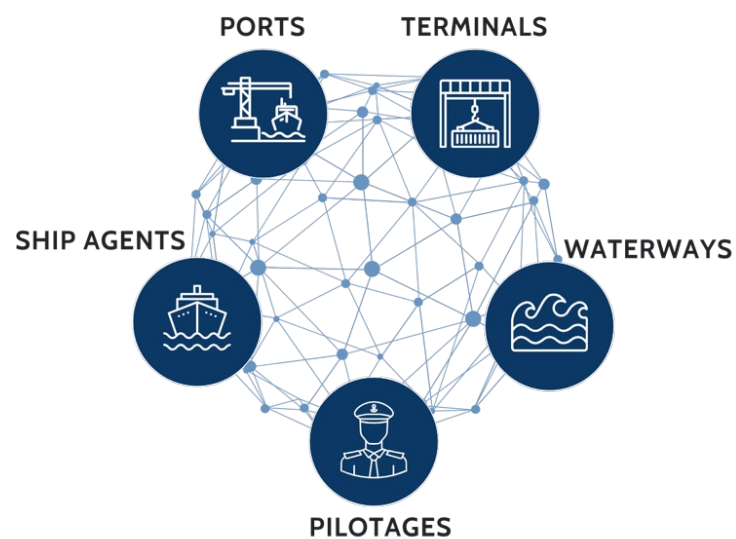
Connect all stakeholders via a common platform, OCIANA® to:

- Receive more accurate information on vessel movements and resource delays in real-time
- Leverage data insights to enhance planning and coordination and streamlining vessel berthing
- Provide decision-making intelligence for dynamic environments
- Support route optimization toward green voyages



Expected Outcomes

- Reduction of delays for all maritime stakeholders
- Improved transit times for ships
- Reduced fuel consumption and inherent reduction of GHG from JIT Arrival
- Human resource schedule optimization through improved planning and coordination
- Optimization of berth occupancy
- Long-term anticipated enhanced intermodal coordination

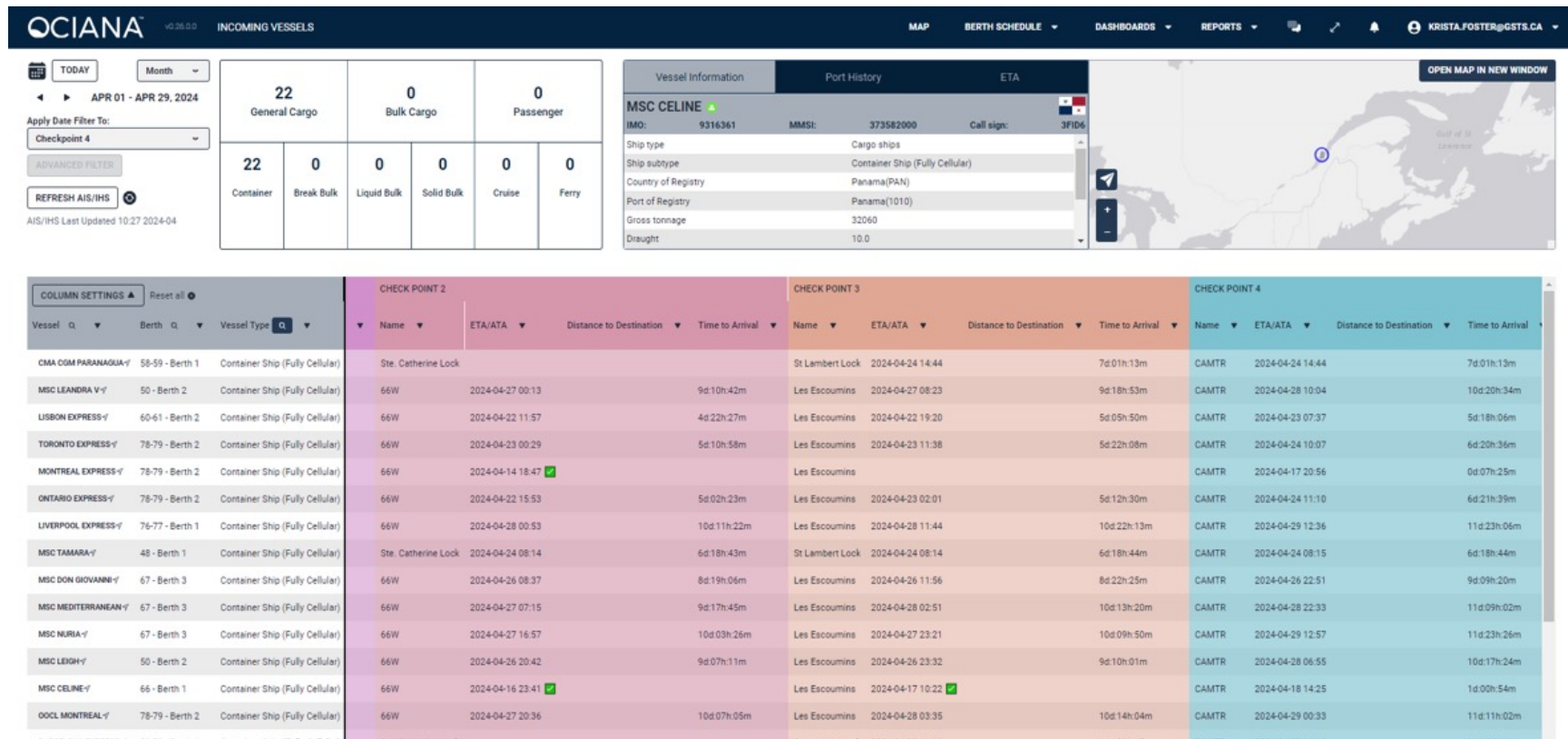


OCIANA's Collaborative Optimisation Solution



Incoming Vessels Screen

Leveraging OCIANA's ETA Prediction & Intelligent Geofences



Schedule Entries Screen

Leveraging OCIANA's Port Analytics

DRAFT

PUBLISHED

MASTER

Apply Date Filter To:
Any Date Fields

TODAY

Month

JUL 01 - JUL 30, 2024

REFRESH AIS/IHS

AIS/IHS Last Updated 19:59 2024-11

ePAN:

Vessel Name

IMO

MMSI

Call Sign

Commodities

Master Name

Country of Registry

Port of Registry

Length

9102722

357455000

GE2

210

Vessel Information

Port History

ETA

Destination [Self Reported]

ETA [Self Reported]

ETA [Prediction]

ETA [Date Prediction Made]

Last port visited

MONTREAL

2024-10-28 09:00:00

2024-11-13 07:02:10

2024-11-13 07:02:01

SAINT JOHN

Map

BERTH SCHEDULE

DASHBOARDS

REPORTS

KRISTA.FOSTER@GSTS.CA

Service Info

Terminal Info

Proforma

Initial Request

Change Requested

Confirmed

Actual

Notes

Ser...	Vessel	Terminal	Berth	Arrival	Departure	Arrival	Departure	Status	Arrival	Departure	Source	Status	Arrival	Departure	Arrival	Departure	Notes
SL1	EM Kea	STMG/NGTP RA...	BERTH 60	2024-07-01 8:00 AM	2024-07-03 8:00 AM	2024-07-23 4:17 PM	2024-07-24 4:17 PM	Rejected	2024-07-25 4:20 PM	2024-07-29 4:20 PM	Terminal	Pending	2024-07-23 8:18 PM	2024-07-25 8:19 PM			Notes
MSC Gulf	Genoa Express	TERMONT MAIS...	BERTH 67	2024-07-30 8:00 AM	2024-07-31 8:00 AM								2024-07-24 11:56 AM	2024-07-27 11:56 AM			This is a tes
AT1 / GEK1	MSC Roberta	TERMONT VIAU	BERTH 48	2024-08-23 8:00 AM	2024-08-23 8:00 AM								2024-07-16 11:06 AM	2024-07-18 7:06 PM			
MSC 2	MSC Nisha V	TERMONT MAIS...	BERTH 71	2024-05-10 8:00 AM	2024-05-11 8:00 AM	2024-07-16 8:05 PM	2024-07-17 8:05 PM	Rejected									
SL1	CMA CGM Paranagua	STMG/NGTP RA...	BERTH 58	2024-07-15 8:00 AM	2024-07-17 8:00 AM								2024-07-16 11:06 AM	2024-07-18 7:06 PM			
MSC 2	MSC Porto III	TERMONT MAIS...	BERTH 66	2024-05-03 8:00 AM	2024-05-04 8:00 AM	2024-07-16 11:06 AM	2024-07-18 7:06 PM	Confirmed					2024-07-16 11:06 AM	2024-07-18 7:06 PM			
MSC 2	MSC Hannah	TERMONT MAIS...	BERTH 66	2024-06-21 8:00 AM	2024-07-02 8:00 AM								2024-07-16 10:30 AM	2024-07-18 6:30 PM			
TRAMP	MONA USA	STMG/NGTP CA...	BERTH 77														
AT1 / GEK1	MSC Leigh	TERMONT VIAU	BERTH 50	2024-07-04 8:00 AM	2024-07-06 8:00 AM								2024-07-22 6:20 PM	2024-07-24 6:20 PM			
AT1 / GEK1	MSC Sao Paulo	TERMONT VIAU	BERTH 50	2024-07-11 8:00 AM	2024-07-13 8:00 AM	2024-07-22 6:20 PM	2024-07-24 6:20 PM	Confirmed									
MSC Gulf	MSC Celine	TERMONT MAIS...	BERTH 66	2024-07-02 8:00 AM	2024-07-03 8:00 AM												
MSC Gulf	MSC Mediterranean	TERMONT MAIS...	BERTH 67	2024-07-16 8:00 AM	2024-07-17 8:00 AM												
MSC Gulf	MSC Malena	TERMONT MAIS...	BERTH 67	2024-07-23 8:00 AM	2024-07-24 8:00 AM	2024-07-26 3:56 PM	2024-07-29 3:56 PM	Pending					2024-09-18 5:44 PM	2024-09-19 7:48 PM			Notes
TRAMP	EM Kea	APM/MPA	BERTH M-1	2024-07-01 3:12 PM	2024-07-25 3:12 PM								2024-07-24 11:56 AM	2024-07-27 11:56 AM			
TRAMP	ARICA EXPRESS	STMG/NGTP RA...	BERTH 58														
MSC Gulf	MSC Don Giovanni	TERMONT MAIS...	BERTH 66	2024-07-11 12:00 AM	2024-07-12 12:00 AM												
AT1 / GEK1	MSC Roberta	TERMONT VIAU	BERTH 51	2024-07-19 1:30 AM	2024-07-19 9:30 PM								2024-09-18 5:44 PM	2024-09-19 7:48 PM			
MSC 2	MSC Alyssa	TERMONT MAIS...	BERTH 70	2024-07-05 8:00 AM	2024-07-06 8:00 AM												
AT1 / GEK1	MSC Tamara	TERMONT VIAU	BERTH 49	2024-07-25 6:00 AM	2024-07-26 11:00 PM								2024-07-09 1:01 PM	2024-07-10 1:01 PM	2024-07-23 10:30 PM	2024-07-24 10:30 PM	
MSC 2	MSC Nuria	TERMONT MAIS...	BERTH 66	2024-02-13 7:00 AM	2024-02-14 7:00 AM	2024-07-09 1:01 PM	2024-07-10 1:01 PM	Rejected					2024-07-12 8:50 PM	2024-07-15 7:50 AM	2024-07-16 4:28 PM		
SL1	MSC Anya	STMG/NGTP RA...	BERTH 58	2024-07-08 8:00 AM	2024-07-10 8:00 AM	2024-07-10 2:46 PM	2024-07-12 2:47 PM	Rejected									

+ NEW SCHEDULE ENTRY

EDIT ENTRY

DELETE ENTRY

AUDIT LOG

COMMENTS

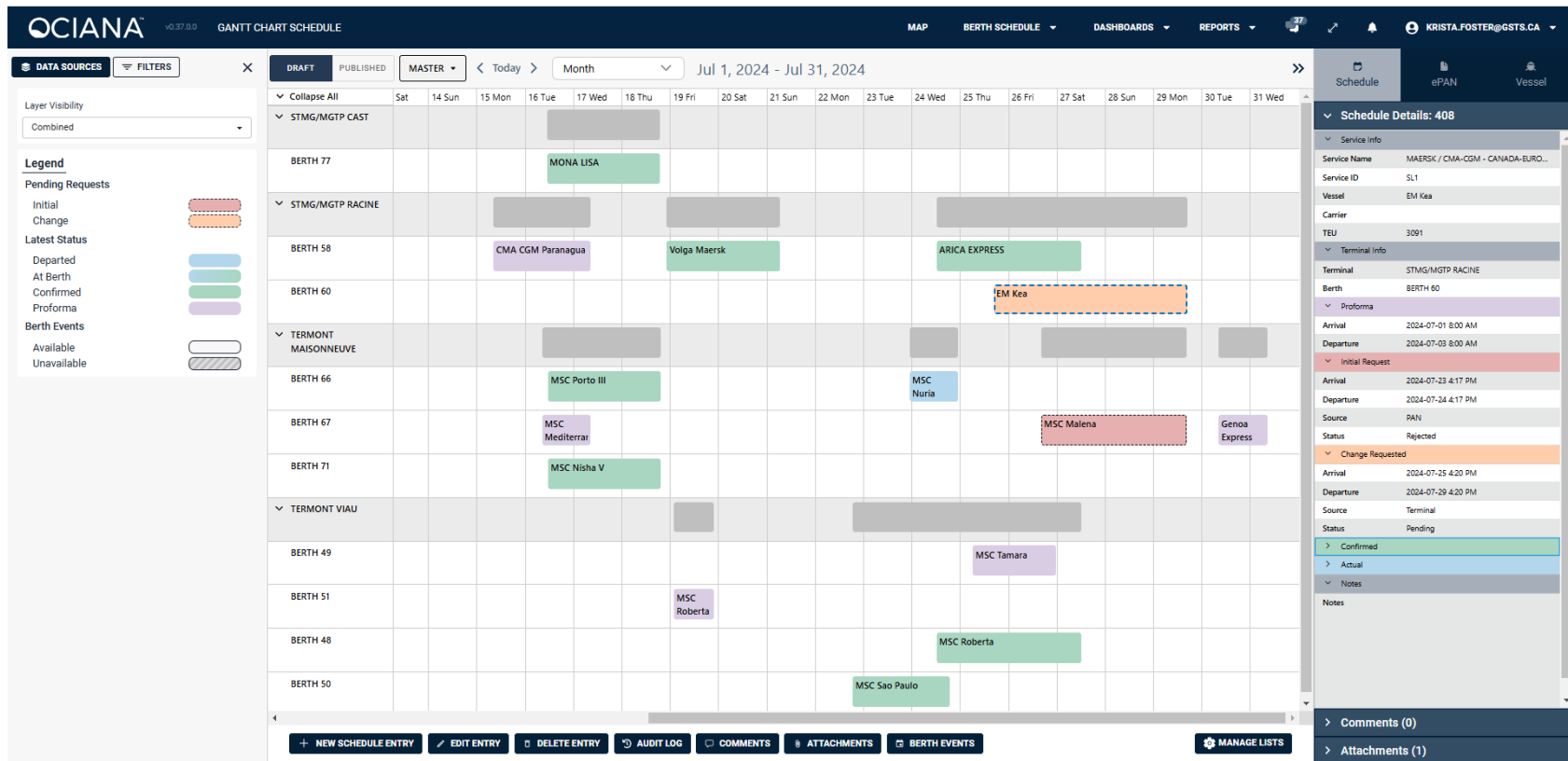
ATTACHMENTS

BERTH EVENTS

MANAGE LISTS

Gantt Chart View of Collaborative Optimisation Solution

Leveraging OCIANA's Embedded Communications Channel and Advanced Collaboration Tools



Enhanced Pre-Arrival Notification

Basic Booking Request:

- Service Selector (if applicable)
- Vessel Information
- Arrival & Departure
- Notes & Submit

Electronic Pre-Arrival Notice:

- Port Calls
- Discharge & Loading Information
- Crew
- Passengers
- Stowaways
- Certificates
- Notes & Submit

Voyage Planning Form (Pilot recommendations)

The image displays two screenshots of the Port of Montreal Extranet system. The top screenshot shows the 'Port calls' section, which includes a 'MESSAGE PAN' on the left with a search bar and a list of filters. The main content area has a tabbed interface with 'Port calls' selected. It contains a form with the following fields: 'Is the vessel arriving from overseas?' (Yes/No), 'Next port of call known?' (Known port/TBA foreign port/TBA Canadian port), 'Next port of call*' (Field required), 'Last port of call*' (Field required), and 'Date'. The bottom screenshot shows the 'Discharge Information' section, which also has a 'MESSAGE PAN' on the left. The main content area has a tabbed interface with 'Discharge' selected. It contains a form with the following fields: 'Description of cargo to discharge', 'Number of 20' containers', 'Total cargo weight', 'Number of 40' containers', 'Non-containerized cargo', 'Number of empty containers', 'Liquid bulk cargo', and 'Number of other containers', 'Solid bulk cargo'. Both screenshots show a 'Canada' logo in the bottom right corner.



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THANK YOU!

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