



Inventory Management Module

Quick Start Guide



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1 Equipment

1.1 The equipment library

The IMS equipment library contains all devices that can be used or deployed on science voyages. To distinguish different devices, they are subdivided. Devices fall under different equipment types and equipment type families, and these equipment type families fall into one or more main categories.

Main categories

Standard equipment	Equipment that does not qualify for any of the below categories
Container equipment	Equipment that can hold one or more other devices (e.g., ROV frames or boxes). Go to Appendix A - List of container Equipment for a list of container equipment.
Mooring equipment	Equipment that is suitable for mooring deployment (e.g., landers, current profilers, or buoys).
Generic equipment	Equipment that is available in significant numbers or different versions (e.g., boxes, current profilers, or acoustic releases). See 1.6 Generic equipment for how to create a generic equipment template.

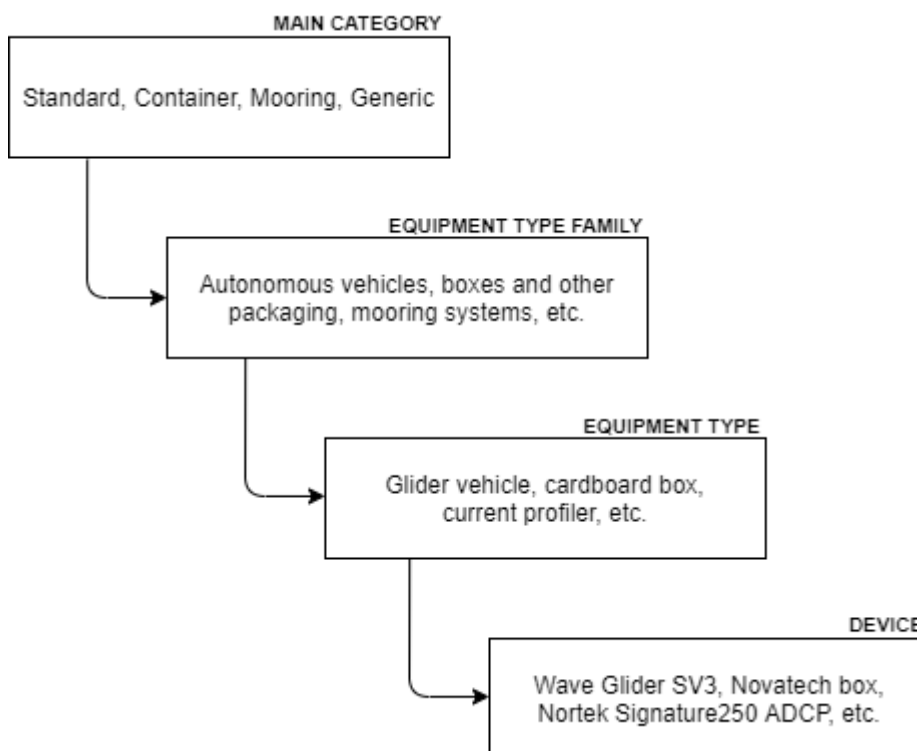
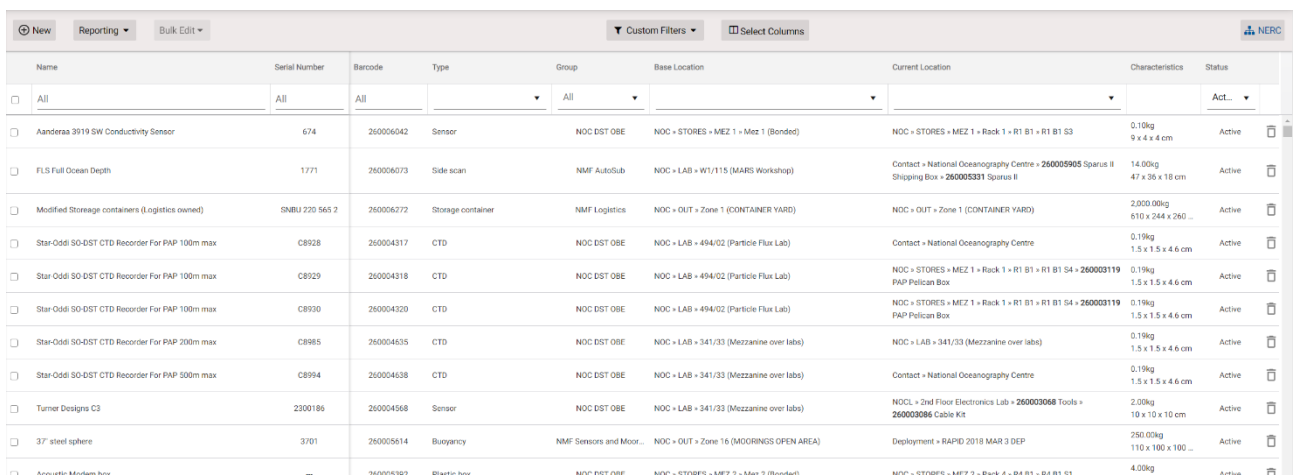


Fig 1. How devices are subdivided in the IMS.

1.2 Equipment overview

The equipment overview page shows all equipment currently present in the database. The top bar offers equipment related actions:

Button	Description
New	Add new equipment to the database
Reporting	Create different types of equipment related posts
Bulk edit	Edit specific equipment properties for multiple items at once
Custom filters	Create custom filters based on usage, project, customs type and maintenance status
Select columns	Show or hide specific columns
Location	Switch equipment storage location



Name	Serial Number	Barcode	Type	Group	Base Location	Current Location	Characteristics	Status
All	All	All		All				Act...
Aanderaa 3919 SW Conductivity Sensor	674	260006042	Sensor	NOC DST OBE	NOC + STORES + MEZ 1 + Mez 1 (Bonded)	NOC + STORES + MEZ 1 + Rack 1 + R1 B1 S3	0.10kg 9 x 4 x 4 cm	Active
FLS Full Ocean Depth	1771	260006073	Side scan	NMF AutoSub	NOC + LAB + W1/115 (MARS Workshop)	Contact + National Oceanography Centre + 260005905 Sparus II Shipping Box + 260005331 Sparus II	14.00kg 47 x 36 x 18 cm	Active
Modified Storage containers (Logistics owned)	SNBU 220 565 2	260006272	Storage container	NMF Logistics	NOC + OUT + Zone 1 (CONTAINER YARD)	NOC + OUT + Zone 1 (CONTAINER YARD)	2,000.00kg 610 x 244 x 260 ...	Active
Star-Oddi SO-DST CTD Recorder For PAP 100m max	C8928	260004317	CTD	NOC DST OBE	NOC + LAB + 494/02 (Particle Flux Lab)	Contact + National Oceanography Centre	0.19kg 1.5 x 1.5 x 4.6 cm	Active
Star-Oddi SO-DST CTD Recorder For PAP 100m max	C8929	260004318	CTD	NOC DST OBE	NOC + LAB + 494/02 (Particle Flux Lab)	NOC + STORES + MEZ 1 + Rack 1 + R1 B1 S4 + 2600003119 PAP Pelican Box	0.19kg 1.5 x 1.5 x 4.6 cm	Active
Star-Oddi SO-DST CTD Recorder For PAP 100m max	C8930	260004320	CTD	NOC DST OBE	NOC + LAB + 494/02 (Particle Flux Lab)	NOC + STORES + MEZ 1 + Rack 1 + R1 B1 S4 + 2600003119 PAP Pelican Box	0.19kg 1.5 x 1.5 x 4.6 cm	Active
Star-Oddi SO-DST CTD Recorder For PAP 200m max	C8985	260004635	CTD	NOC DST OBE	NOC + LAB + 341/33 (Mezzanine over labs)	NOC + LAB + 341/33 (Mezzanine over labs)	0.19kg 1.5 x 1.5 x 4.6 cm	Active
Star-Oddi SO-DST CTD Recorder For PAP 500m max	C8994	260004638	CTD	NOC DST OBE	NOC + LAB + 341/33 (Mezzanine over labs)	Contact + National Oceanography Centre	0.19kg 1.5 x 1.5 x 4.6 cm	Active
Turner Designs C3	2300186	260004568	Sensor	NOC DST OBE	NOC + LAB + 341/33 (Mezzanine over labs)	NOCL + 2nd Floor Electronics Lab + 260003068 Tools + 260003086 Cable Kit	2.00kg 19 x 10 x 10 cm	Active
37" steel sphere	3701	260005614	Buoyancy	NMF Sensors and Moor...	NOC + OUT + Zone 16 (MORRINGS OPEN AREA)	Deployment + RAPID 2018 MAR 3 DEP	250.00kg 110 x 100 x 190 ...	Active
Annexette Modem box	---	260005169	Blavetin box	NOC DST OBE	NOC + STORES + MEZ 2 + Mez 2 (Bonded)	NOC + STORES + MEZ 2 + Rack 2 + R2 B1 S1	4.00kg	Active

Fig 2. Equipment Overview example.

1.3 Add new equipment

Before you add a new device to the database, check if it already exists in order to prevent duplicates. You can do this by:

- consulting with colleagues.
- checking if the device is already marked with an MFP barcode.
- searching on the device name or serial number. Be aware that entering a serial number for equipment is not mandatory.



If you find a device without barcode in the database, generate a barcode and label the device if possible.

Start adding a new device by clicking the 'New' button. This shows multiple forms (e.g., Details, Financial, Customs, Asset). The available forms may vary by organization. Fill out the forms as completely as possible. This makes it easier to find the device at a later stage.

After saving the forms, additional forms will appear (e.g., Work History, Maintenance and Tracking).

For a complete overview of the different forms and field, go to [Equipment forms and fields](#).

Fig 3. New Equipment page.

1.4 Archiving equipment

Newly added equipment automatically receives the 'Active' status. If a device is discarded or lost, this status must be set to 'Discarded' or 'Lost' accordingly on the equipment details form. This archives the device which means that it is no longer available for planning.

Archived equipment can be reactivated at any time by changing its status. The status change date and executing user are registered and can be viewed in the status change history.

Fig 4. Equipment status history example.

1.5 Deleting equipment

Equipment should under normal circumstances not be deleted. When a specific device is no longer in use or got lost, change the status of the equipment accordingly at the equipment Details form. If for some reason the equipment needs to be deleted, Administrator rights will be required to do so.

1.6 Generic equipment

Generic equipment is a template that can be created for devices or instruments that are available in larger numbers, such as current meters, Niskin bottles or. All items within a generic type have identical properties such as weight and dimensions, but separate serial numbers and barcodes, if applicable. For an overview of the existing templates, see GroundData -> Generic Equipment.

Creating Generic Equipment can only be done by users that have permissions to edit Ground Data.

Start adding a new Generic Equipment type by clicking the 'New' button. Fill out the form as completely as possible. Click 'Save' when you're done. After saving the forms, additional forms will appear (e.g., Customs, Financial and Maintenance).

1.7 Equipment forms and fields

The following is a list of form fields and their descriptions. The fields and input options available may vary by organization.

Equipment Details form

Field	Description
Type	This is a list of predefined equipment types. If a template is available for the selected type, an additional field called 'Generic Equipment' appears.
Name	The name of the device
Status	Active, Apply for disposal, Discarded, Lost
Serial number	The serial number of the device
HS code	An international standardized code for classifying products
Export license required	Indicate if the government has granted a licensee the right to export this device to specific countries.
Pool equipment	Check if the equipment belongs to an equipment pool
Barcode	The MFP barcode of the device
Base location	The storage location of the device
Current location	The current location of the device
Remarks	Additional information related to the device
Organization	The organization that owns the device

Group	The owner's group responsible for the device. Groups can be managed in the User Management module.
In use by	The user who is currently using the device
Characteristics	The dimensions of the device
Weight	The weight of the device
Serviceable	Indicate whether the device is serviceable or not
Equipment codes	Addition code (e.g., IMEI for mobile equipment)
Hazardous characteristics	UN numbers for when the device contains hazardous content

Equipment Financial form

Field	Description
Nett. Purchase price	Net purchase price of the device
Purchase date	Purchase date of the device
Order number	The supplier order number
Requisition number	The internal order number of the organisation
Supplier	The supplier of the device
Manufacturer	The manufacturer of the device
ZVAT	
Funding	Funding information related to the device purchase (e.g., funding source no.)
Project	Project information related to the device purchase
Asset number	Organisation specific asset number
Asset note	Organisation specific asset notes

Equipment Customs form

Field	Description
Customs price	The value used for calculating import duties
Tariff	The tariff, if applicable
Customs type	Free or bonded
HS code	An international standardized code for classifying products
Export license required	Indicate if the government has granted a licensee the right to export this device to specific countries.
Country of origin	The country of production
Customs description	A short description of the device

Remarks	Additional customs information related to the device
Customs codes	Additional customs codes
BAFA Güter-ID	
ECCN	The Export Control Classification Number
Zutreffende AL	

Equipment Asset form

Field	Description
Asset number	Organisation specific asset number
Asset code	Organisation specific asset code

Equipment Deployment Properties form

Field	Description
Buoyancy	The buoyancy force of the device
Max. depth	The maximum mooring depth of the device
Height	The height of the device that protrudes above the water
Checklist	

Equipment Work History page

Here you can register work carried out on the device.

- Details
- Financial
- Customs
- Asset
- Work History**
- Maintenance
- Documents
- Tracking
- Planning
- Usage

AUV Ops - RDI ADCP 300 kHz

250003446 / 00979

Add
 Export

Type	Start	End	User	Note	Tags	Properties
M	2/1/2021		Rienk Douma	Jira NOCSUBOPS-765 - Beams repaired	Faulty, Repair	
M	10/14/2019		Daniel Roper	Fault: Jira NOCSUBOPS-765 2 beams not working		

Fig 5. Work history page example.

Equipment Maintenance page

Here you can schedule and register maintenance events for the device. See [1.8 Equipment maintenance and repair](#) on how to manage device maintenance and repair.

The screenshot shows the 'Maintenance' page for the asset 'AUV Ops - RDI ADCP 300 kHz'. The left sidebar contains navigation links: Details, Financial, Customs, Asset, Work History, Maintenance (selected), Documents, Tracking, Planning, and Usage. The main content area has a 'Maintenance Policy' link and a 'Subscribe to Notifications' button. Below these are two buttons: 'Add corrective maintenance event' and 'Plan corrective maintenance event'. A table lists maintenance events:

Name	Performed By	Next Expiry	Description
Jira NOCSUBOPS-765	Register	7 D 4h 0m	No expiry
Jira NOCSUBOPS-765	Rienk Douma 2/17/2021	1d 5h 0m	No expiry Beams repaired

Fig 6. Maintenance page example.

Equipment Documents page

Here you can upload device related documents such as data sheets, user manuals, calibration certificates and pictures.

The screenshot shows the 'Documents' page for the asset 'G3 Slocum Glider'. The left sidebar contains navigation links: Details, Financial, Customs, Asset, Work History, Maintenance, Documents (selected), Tracking, Planning, Usage, and Contents. The main content area has a 'Documents' section with 'Upload', 'Bulk Edit', and 'Sort' buttons. Below this are two document entries:

Document Name	Date	Author
11021.4-Glider-NOC-G3 Glider REVISED 05.18.20.pdf	30/06/2020	Stephen Woodward
Gliders on IMS - split assets_06032017.xlsx	06/03/2017	Stephen Woodward

Fig 7. Documents page example.

Equipment Tracking page

Here you can find the movement history of the device such as previous locations, transport dates and responsible persons.

Used symbols:



Ship / Voyage / Cruise



External Contact



Transport



Home Contact



Internal Location


<div>←</div> <ul style="list-style-type: none"> Details Financial Customs Asset 	G3 Slocum Glider 260006680				
	Display	EPU	Customs Codes	Store Date	End Date
	▶ 	Teledyne Webb Research		30/06/2020 10:28	

Fig 8. Tracking page example.

Equipment Planning page

Here you can see if the device is already planned for cruises, transports or mooring deployment. You can also plan or register a maintenance event as an appointment blocker. For detailed maintenance management see [1.8 Equipment maintenance and repair](#).

Color codes:



External contact



Transport



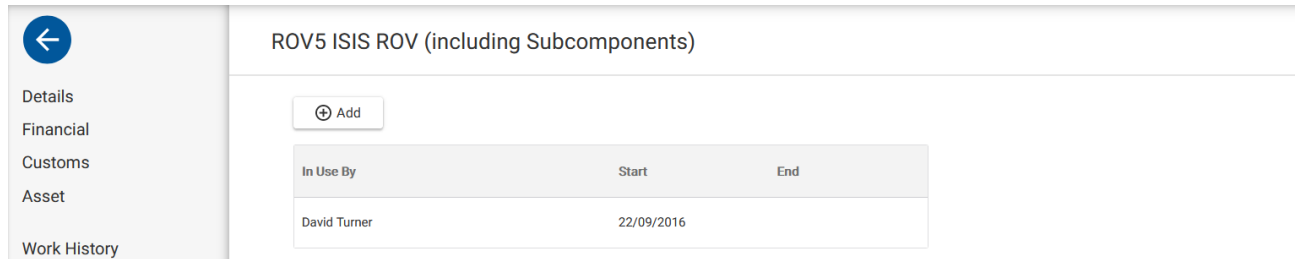
Voyage or Cruise

<div>←</div> <ul style="list-style-type: none"> Details Financial Customs Asset Work History Maintenance Documents Tracking Planning Usage Contents 47 	ROV5 ISIS ROV (including Subcomponents) 250002356						
	Plan or register a maintenance event						
	Today ◀ ▶ 📅 June 2017 ↻						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	29	30	31	01	02	03	04
	05	06	07	08	09	10	11
	DY080/081 Mob GBSOU-> GBSOU						
	DY076, DY077, DY078, DY079, DY080, DY081 ▶						
	12	13	14	15	16	17	18
	◀ DY076, DY077, DY078, DY079, DY080, DY081 ▶						
	19	20	21	22	23	24	25
	◀ DY076, DY077, DY078, DY079, DY080, DY081 ▶						
	26	27	28	29	30	01	02
	◀ DY076, DY077, DY078, DY079, DY080, DY081 ▶						
	03	04	05	06	07	08	09
	◀ DY076, DY077, DY078, DY079, DY080, DY081 ▶						

Fig 9. Planning page example.

Equipment usage page

Here you can see the current user and user history of the device.



The screenshot shows the 'Usage' page for the 'ROV5 ISIS ROV (including Subcomponents)'. On the left is a sidebar menu with options: Details, Financial, Customs, Asset, and Work History. The main area has a title bar with the device name and a back arrow. Below the title bar is an 'Add' button. A table displays usage data with columns 'In Use By', 'Start', and 'End'. One row shows 'David Turner' as the user and '22/09/2016' as the start date.

In Use By	Start	End
David Turner	22/09/2016	

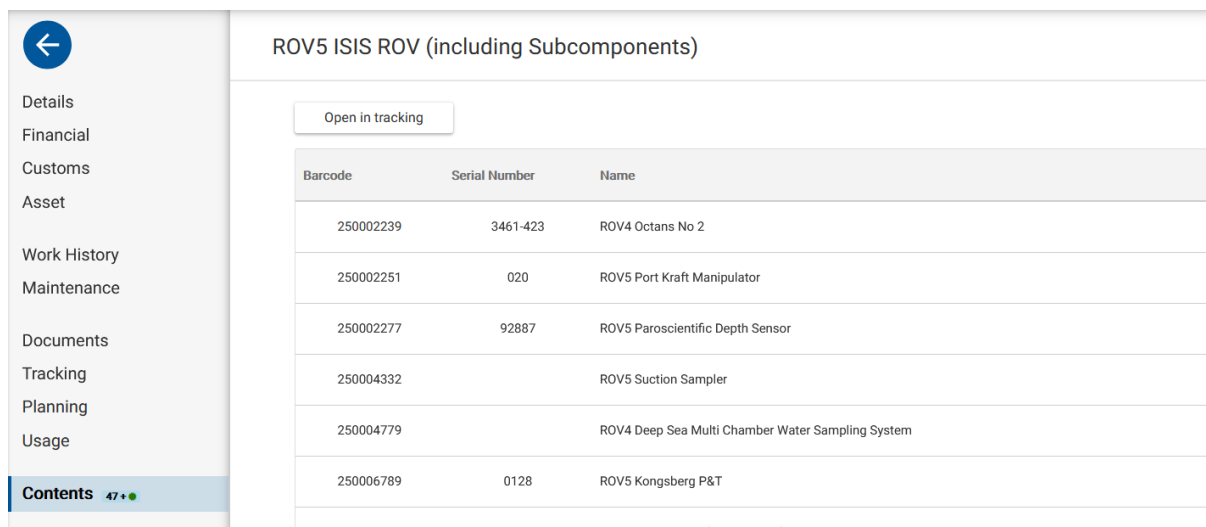
Fig 10. Usage page example.

Equipment contents form

Here you can see a contents list for the device. Managing of the contents can be done on the Tracking page. See [1.9 Add contents to container equipment](#) for how to manage the contents.



The Tracking page is the main tracking page, accessed from the main menu. This is a different page than the device specific equipment tracking page.



The screenshot shows the 'Contents' page for the 'ROV5 ISIS ROV (including Subcomponents)'. The sidebar menu includes: Details, Financial, Customs, Asset, Work History, Maintenance, Documents, Tracking, Planning, Usage, and Contents (which is highlighted with a green dot and the number 47). The main area has a title bar with the device name and a back arrow. Below the title bar is an 'Open in tracking' button. A table lists equipment contents with columns 'Barcode', 'Serial Number', and 'Name'. The table contains seven rows of data.

Barcode	Serial Number	Name
250002239	3461-423	ROV4 Octans No 2
250002251	020	ROV5 Port Kraft Manipulator
250002277	92887	ROV5 Parascientific Depth Sensor
250004332		ROV5 Suction Sampler
250004779		ROV4 Deep Sea Multi Chamber Water Sampling System
250006789	0128	ROV5 Kongsberg P&T
250007343	2159	ROV5 Innerspace Thruster Module

Fig 11. Contents form example.

1.8 Equipment maintenance and repair



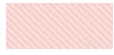

Some devices require maintenance or need repair after being damaged. This can be periodic maintenance, pre or post deployment maintenance or maintenance needed because the device does not function properly anymore. But also, calibration or inspection of the device are maintenance events.

Equipment maintenance or repair is managed at the 'Maintenance' page of a device. Here you will see two tabs: 'Maintenance' and 'Maintenance Policy'.

On the 'Maintenance' tab you can see an overview of past and upcoming events and add or plan corrective maintenance events. Use 'Add corrective maintenance event' when the maintenance is already done, and you want to register the event. Use 'Plan corrective maintenance event' if you want to plan an event that falls outside the maintenance policy scope.

On the 'Maintenance Policy' tab you can add new maintenance definitions. Use this for periodic maintenance events or pre and post deployment maintenance.

Color coding used on the 'Maintenance' tab:

-  Maintenance is postponed.
-  The due date for the maintenance expires soon.
-  The due date for the maintenance is expired.
-  Unscheduled maintenance event.

An overview of all maintenance events for equipment can be found on the home page under 'Maintenance'.

Add a corrective maintenance event

Click the 'Add corrective maintenance' button to register a new event. Fill in the form as completely as possible. Click 'Save' when you are done.

Field	Description
Name	The name of the event
Duration	The time it took to perform the maintenance
Reason for repair	Select a reason from the list
Safety related	Check if the maintenance is needed to secure safety
External contractor	Check if the maintenance is done by an external contractor
Contact*	Select an external contractor from the list of contacts
Add file	Add images or documents related to the event
Notes	Additional information related to the event.

* Only available when external contractor is checked.

ADD CORRECTIVE MAINTENANCE EVENT

Name

Drag And Drop A File Or
Browse Files

Duration

Days
Hours
Minu...

Notes

Reason For Repair

- Reason -

☐ Safety Related
☐ External Contractor

CANCEL

SAVE

Fig 12. Add corrective maintenance event form.

Plan a corrective maintenance event

Click the 'Plan corrective maintenance' button to plan a new event. Fill in the form as completely as possible. Click 'Save' when you are done.

Field	Description
Name	The name of the event
Time expected to perform work	The time it took to perform the maintenance
Reason for repair	Select a reason from the list
Description	A description of the event
Safety related	Check if the maintenance is required due to safety reasons
Equipment is not operational	Check if the device is not operational due to the reason for repair
External contractor	Check if the maintenance is conducted by an external contractor
Expected time out of action ¹	The expected number of days the device will be out of action
Contact ¹	Select an external contractor from the list of contacts
Add file	Add images or documents related to the event
Next usage	Select when the maintenance should be conducted before the next usage
Due date	Select when the maintenance should be conducted before a specific date
Before ²	Enter the date before which the maintenance should be conducted

¹ Only available when external contractor is checked.

² Only available when due date is selected.

PLAN CORRECTIVE MAINTENANCE EVENT

Name

Time Expected To Perform Work

Days

:

Hours

:

Minu...

Reason For Repair

- Reason -

Description

☐ Safety Related
 ☐ Equipment Is Not Operational
 ☐ External Contractor

Drag And Drop A File Or

Browse Files

☐ Next Usage
 ☒ Due Date
 Before

CANCEL

SAVE

Fig 13. Plan corrective maintenance form.

Add a new maintenance definition

Click the 'Add new maintenance definition' button to plan a new event. Fill in the form as completely as possible. Click 'Save' when you are done.

Field	Description
Name	The name of the maintenance definition
Notify before expiry (days)	The number of days before expiry of the event when a notification must be given
Time expected to perform work	The expected time for performing the maintenance
Safety related	Check if the maintenance is required due to safety reasons
Environment related	Check if the maintenance is required due to environmental reasons
Legal requirement	Check if the maintenance is required due to legal reasons
Calibration	Check if it is a calibration event
Periodic interval	Check if it is a periodic event
Conduct every	Select the period after which the maintenance has to be conducted
Start on	Enter the date when the first maintenance event should be conducted
Maintenance needed to be conducted at start date	Check if the maintenance must be conducted at the start date
Automatically defer maintenance after expiry	Check if the maintenance should be automatically deferred when the due date is expired.

Activity / usage	Check if the maintenance should be conducted before or after deployment
Post-deployment	Check if the maintenance should be conducted after deployment
Pre-deployment	Check if the maintenance should be conducted before deployment
Add file	Add images or documents related to the event
Description	A description of the event
Required capability	Select required capability from the list
External contractor	Check if the maintenance should be conducted by an external contractor
Expected time out of action ¹	The expected number of days the device will be out of action
Contact ¹	Select an external contractor from the list of contacts

ADD MAINTENANCE DEFINITION

1 Create Policy Definition

2 Job Description

Name

Notify Before Expiry (Days)

Time Expected To Perform Work
Days : Hours : Minu...

☐ Safety Related
☐ Environment Related
☐ Legal Requirement
☐ Calibration

Schedule Maintenance Based On

☐ Periodic Interval
☐ Activity / Usage


CANCEL

NEXT

Fig 14. Add new maintenance definition form.

Notifications

If you want to receive notifications for maintenance events, click the 'Subscribe to notifications' button to the 'Maintenance' main page. When you are subscribed, notifications will appear on the home page and in your email.

 **Subscribe to Notifications**

1.9 Add contents to container equipment

Devices labeled as container equipment such as ROV's, AUV's, boxes and lander frames can have contents. For example, an ROV can have thrusters, flotation vehicles, sensors, and samplers as contents. Or a cardboard box can carry different consumables.

Follow these steps to add contents to a container device:

1. Select the container device or create a new one.
2. Go to the equipment contents page and click the 'Open in tracking' button. This brings you to the tracking page with on the left side of the screen your selected container device. On the right side you can browse through locations and search for the required contents.


The screenshot shows a software interface for tracking equipment. On the left is a vertical sidebar with icons for various functions. The main area is divided into two panels. The left panel, titled 'ROV5 ISIS ROV (including Subcomponents)', lists various ROV components. The right panel, titled 'S1/55 (ROV Hangar)', lists items stored in the hangar. Both panels have columns for Name, Barcode, Type, and a status icon. A 'Move To' button is visible at the top of the left panel.

Name	Barcode	Type	S
ROV4 Deep Sea Multi Chamber Water Sampling System	250004779	ROV frame	
ROV5 Kongsberg P&T	250006789	ROV frame	
ROV5 Kongsberg P&T OE10-102SS-0099	250007895	ROV frame	
ROV5 Paroscientific Depth Sensor	250002277	ROV frame	
ROV5 Port Kraft Manipulator	250002251	ROV frame	
ROV5 Std Titan T4 Manipulator	250007901	ROV frame	
ROV5 Suction Sampler	250004332	ROV frame	
ROV5 Tritech Super Seaking DFS 385/725KHz 6500m	250007770	ROV frame	
ROV4 Niskin Water Sampler Rig	260003151	ROV Equipment	
ROV4 Octans No 2	250002239	On board electronics	

Name	Barcode	Type	S
ALR 030 Mission Control Laptop	260003760	Aluminium box	
ALR Blue Tool Box (Not In Use)	260002311	Tool box	
ALR Personal Effects	260002366	Aluminium box	
ALR Personal Effects (Catherine)	260002367	Aluminium box	
ALR Personal Effects (Miles)	260004641	Aluminium box	
ALR Personal Effects (Terry)	260004774	Aluminium box	
ALR Personal Gear (Mike)	260004631	Aluminium box	
ASUB3 Box 01 Control Systems Laptops	250004224	Aluminium box	
ASub3 Box 05 Office Supplies	250004212	Aluminium box	
ASub3 Box 06 Emergency Beacon Deck Unit	250008638	Aluminium box	

Fig 15. Container device opened in Tracking.




3. Contents can then be drag and dropped to your container device. After you added all desired contents, go back to the equipment contents page. You will now see the contents you have just added.
4. You can assign contents permanently to the device by clicking on the 'Set as base location' button, if required.

 Set as baselocation

2 Consumables

Consumables are goods that will be used up during a cruise. There are two types of consumables: single (just called consumable) and multiple. Single consumables are goods without stock management. These are relevant for complete packing lists required by customs. Multiple consumables are goods for which stock is managed in the IMS.

On the 'Consumables Overview' page and in the Planlists, different types of consumables are marked with specific icons:

-  Single consumable
-  Multiple consumable
-  Hazardous content

2.1 Add new consumable

Start adding a new consumable by clicking the 'New' button. This opens the 'New consumable' form. Fill in the forms as completely as possible. The available fields may vary by organization. After saving the form you will have the option to add additional information. To do this, look up the newly created consumable and click on it. This expands four tabs: Properties, Purchase History, Locations and Customs. Use the buttons on each tab to add additional information.

New consumable form

Field	Description
Name	Name of the consumable
Group	The owner's group responsible for the consumable. Groups can be managed in the User Management module.
Type	Consumable (single) or multiple
Unit	Unit, liter, meter, kilogram
Kg/unit ¹	The weight per unit/liter/meter/kilogram
Description	A description of the consumable
Container	State if the consumable can contain other items
Hazardous	State if the consumable is hazardous
Hazardous substance ²	Select UN number for the hazardous substance
Hazardous outer package	State if the outer package of the consumable is hazardous
Hazardous inner package	State if the inner package of the consumable is hazardous
Mooring suitable	State if the consumable is suitable for mooring
Checklist ³	
Dimensions	The dimensions of the consumable

Buoyancy ³	The buoyancy force of the device
-----------------------	----------------------------------

¹ Appears when multiple and a unit is selected.

² Appears when the consumable is stated as hazardous.

³ Appears when the consumable is stated as suitable for mooring.

Properties tab

Here you can see the different properties of the consumable. These properties reflect the ones entered at the new consumable form.



For multiple consumables the price will be automatically calculated based on the purchase history.

Purchase History tab

Here you can register previous purchases of the consumable as well as register deducted or lost quantities of the consumable. This tab is only available for multiple consumables.

Name	Description	Group	Quantity	Mooring Suitable	Buoyancy	Dimensions (lxbxh)
consumultiple	All	- All -				
ConsuMultiple		NMF Ocean Engineering	50l	Yes		
<div> <div>Properties</div> <div>Purchase History</div> <div>Locations</div> <div>Customs</div> </div>						
<div> <div>Register purchase</div> <div>Register Deducted / Lost</div> </div>						
Type	Date	Quantity	Nett. total purcha...	Supplier / Remarks		
Purchase	24/02/2021	50l	£ 600.00	2CL Communications Ltd		

Fig 16. Purchase history tab example.

Locations tab

Here you will find a list of storage locations for the consumable. Each storage location is for the entire quantity for a single purchase. If you want to distribute the purchased quantity over multiple locations, please register the purchase in several postings. This tab is only available for multiple consumables.

Name	Description	Group	Quantity	Mooring Suitable	Buoyancy	Dimensions (lxbxh)
consumultiple	All	- All -				
ConsuMultiple		NMF Ocean Engineering	50l	Yes		
<div> <div>Properties</div> <div>Purchase History</div> <div>Locations</div> <div>Customs</div> </div>						
<div> <div>To move consumables from one location to another use the tracking form</div> </div>						
Location						
NOCL -> Sedimentation Lab			50			

Fig 17. Locations tab example.

Customs tab

Here you can find and edit customs information for the consumable.

Field	Description
HS code	An international standardized code for classifying products
Export license required	Indicate if the government has granted a licensee the right to export this device to specific countries.
Customs description	A description of the consumable
Remarks	Additional customs information in regard to the consumable
Customs codes	Additional customs codes

Name	Description	Group	Quantity	Mooring Suitable	Buoyancy	Dimensions (lxbxh)
consumultiple	All	- All -				

ConsuMultiple

NMF Ocean Engineering

50l

Yes

Properties

Purchase History

Locations

Customs

HS Code

-

Export License required

-

Customs Description

-

Remarks

Customs codes

No customs codes have been specified.

Edit

Fig 18. Customs tab example.

2.2 Register purchases and deductions

To register a purchase, click the 'Register purchase' button. Fill in the form as completely as possible and click 'Save' when you are done.

Register purchase form

Field	Description
Quantity	The purchase quantity of the consumable
Nett. total purchase price	Net purchase price of the consumable
Customs price	The value used for calculating import duties
Purchase date	Purchase date of the consumable
Customs type	Free or bonded
Order number	The supplier order number
Requisition number	The internal order number of the organisation

Supplier	The supplier of the consumable
Manufacturer	The manufacturer of the consumable

To register a deduction, click the 'Register Deducted / Lost' button. Fill in the form as completely as possible and click 'Save' when you are done. The deduction will be displayed in the purchase history.

Register deduction form

Field	Description
Type	The type of deduction (e.g., lost or broken)
Quantity	The quantity of deducted items
Customs type	Free or bonded
Location	The location from which the items are deducted
Purchase date	The date of deduction
Reason	Additional info in regard to the reason of deduction



If the stock of a multiple consumable is 0, the item can still be added to Planlists. You will only get a warning during loading of the shipment.

3 Planlists

A Planlist is a list containing all devices and consumables intended for a specific transport, cruise, or deployment. Transports are used to get equipment from one location to the other, for example from its base or current location to the port of departure prior to a cruise. Or to get equipment back to its storage location when a cruise has ended.

If the transport or cruise for which the Planlist is intended already exists, the Planlist should ideally be linked to this transport or cruise. This will automatically reserve the items on the Planlist for the duration of the transport or cruise. The items can then not be planned by others.

For voyages there are three different mobilization variants which define the reservation of the equipment.

1. Mobilize and demobilize on the same voyage. The equipment is mobilized for the start of the voyage and demobilized at the end. The equipment will be reserved for the duration of the voyage.
2. Mobilize only. The equipment is mobilized for the start of the voyage and then remains on board or is intended for a mooring deployment. The equipment will be reserved for an indefinite period from the start of the voyage.
3. Demobilize only. Equipment is still on board a ship and returning from a previous voyage or mooring deployment. The equipment reservation ends when the voyage ends and the ship is back in port.



Unless linked to a voyage or transport, the Planlist is only a shopping list, an intention to transport or deploy equipment. It does not create a reservation for the equipment.

3.1 Create a new Planlist

There are two ways to create a new Planlist:

1. Go to the Planlist Overview page and click on the '+' button. Fill in the form and click 'Save'.

NEW PLANLIST

Name

May Be Edited By **My group** ▼

Type **Normal Planlist** ▼

Usage **- Link to -** ▼

☐ Create This Planlist Based On A Template

CANCEL **SAVE**

2. Go to the Voyages and Transports page, select the cruise for which you want to create a Planlist, click on 'Mobilisation details', scroll down to Planlists and click 'Add Planlist'. Fill in the form, click 'Save' and then click on the newly created Planlist.

ADD PLANLIST TO PLANNING

PlanList **- PlanList -** ▼

Create New

Direction **Mobilise only** ▼

Mobilisation **Cape Town (Western Cape) - Sout...** ▼

CANCEL **SAVE**

NOTE: When creating a new Planlist via the Voyages and Transports page, it is not possible to do this based on a Planlist template. If you want to use a Planlist template, please start at the Planlist Overview page.

You are now in the Planlist editor. On the top-left you will find generic options related to the planlist:

Change

Change the name of the planlist, select who has the permissions to edit the planlist, and specify or change the purpose of the planlist (e.g. a specific cruise or transport).

Report

Download documents and files related to your planlist:

- Planlist in Excel format
- Packing list for customs
- Shipping labels for specific equipment on your list
- All documents related to the equipment on your list (e.g., calibration certificates, data sheets and work history)
- PDF export of the Planlist content including the content of container equipment

Duplicate

Duplicate the planlist.

Move to

Move the entire content of the planlist to a new storage location.

Just below the generic options is the content area of the planlist. On the right side you can browse for items to include on the Planlist such as equipment, consumables, and hazardous materials.

3.2 Add items to a Planlist

To include an item on the Planlist drag and drop it from the equipment, consumables, or hazardous materials page at the right to the content area on the left. For equipment you can use the filters to narrow down the selection:

Availability Filter Only show equipment that is available in a certain deployment time window and have not yet been planned elsewhere in MFP. If the planlist is linked to a movement operation, the data are automatically transferred from there. The time window can also be entered manually.










Custom Filters Filter on person, project, customs type or equipment status.

Select Columns Show or hide columns.

Equipment Owner Select the equipment owner. Default settings is the user's organization.

Make sure the planlist reflects the actual packing structure. For example, if you need a certain quantity of glass bottles for samples, first drag and drop a box to the planlist. Then drag and drop the glass bottles onto the box in the content area. This will create a tree structure.

Different type of items are denoted with symbols in the Planlist content area and Planlist Overview.

-  Equipment
-  Equipment with overdue maintenance work
-  Container equipment
-  Container equipment with overdue maintenance work
-  Hazardous goods
-  Consumable (single)
-  Consumable with hazardous characteristics
-  Consumable (Multiple)
-  Consumable (Multiple) with hazardous characteristics

When adding container equipment with contents to the Planlist, a pop-up appears asking if you also want to include the contents to the list. These contents can consist of items required for deployment or leftovers from a previous deployment. If you are not sure if the contents are required, click 'Yes'. You can always remove specific content that is not required.

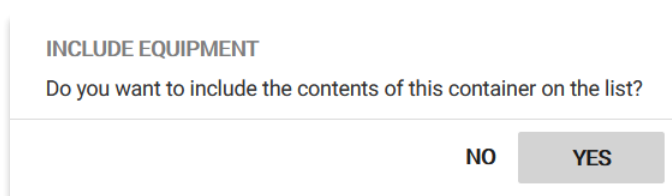


Fig 19. Include equipment dialogue box.

Equipment that is planned elsewhere for the period of use cannot be included. If you try to include equipment that is already planned for the period in question, a warning message appears, and the equipment will not be included. If you try to include multiple equipment items and some of them are already planned elsewhere, none of the equipment items are included. The items already planned elsewhere has to be unchecked first.

Example Planlist

change

delete

report

duplicate

move to

Not specified

CONTENT

EDIT MODE

REVIEW

250002356 ROV5 ISIS ROV (including Subc...

260005392 Acoustic Modem box

250008945 LinkQuest UWM1000 Acoust...

4x DY PC811800240L

250001463 Tinsley 5647 Precision Temper...

15 I UN1013: CARBON DIOXIDE

2x 1 Lt Glass Bottle

Equipment	Consumables	Hazardous Materials					
Name	Description	Group	Mooring Suitable	Price	Buoyancy	Dimensions (lxbxh)	
All	All	- All -					
PO# 4060137310 Ex Rolls Royce Norway			No	650.00		50.00 x 31.00 x 22.00 cm	
1 1/8" BST Socket			No	20.00			
1 CBM Wire Cage	1 CBM Wire Cage		No	0.60		120.00 x 100.00 x 100.00 cm	
1 Lt Glass Bottle	1 Lt Glass Bottle		No	0.00			
1 Lt Plastic Bottle	1 Lt Plastic Bottle		No	0.00			
1/2" -> 3/4" Square Driver Adapter			No	20.00			

Fig 20. A Planlist example.

3.3 Remove items from a Planlist

To delete an item from the Planlist, select the item in the content area and click 'Remove from list' at the top of the content area.

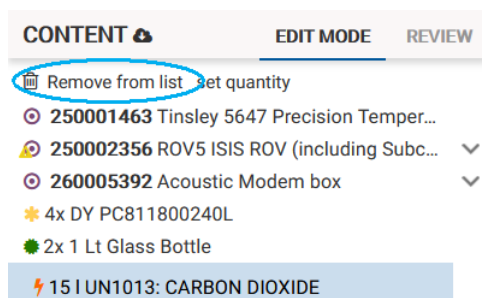


Fig 21. Remove item from Planlist.

4 Voyages

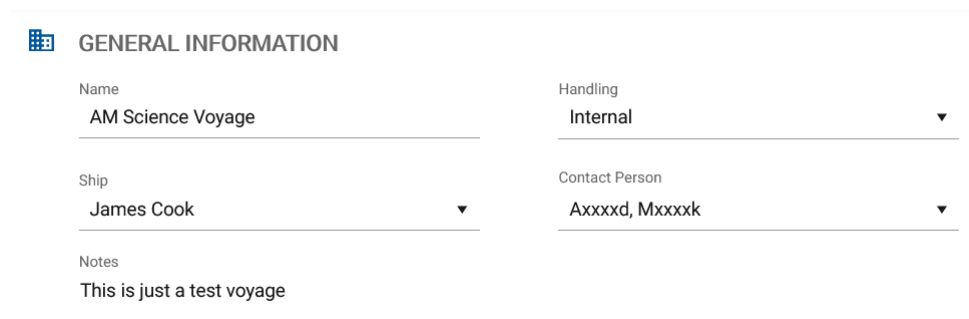
NOTE: Voyages can also be created in the Programme Construction Module directly from the cruise application.

4.1 Create a new voyage

1. Go to the 'Voyages and Transports' page.
2. Click 'New'.
3. Select 'Voyage'.

This brings you to the 'General Information' setup.

4. Fill out the fields and click the 'Save' button to create the new voyage.

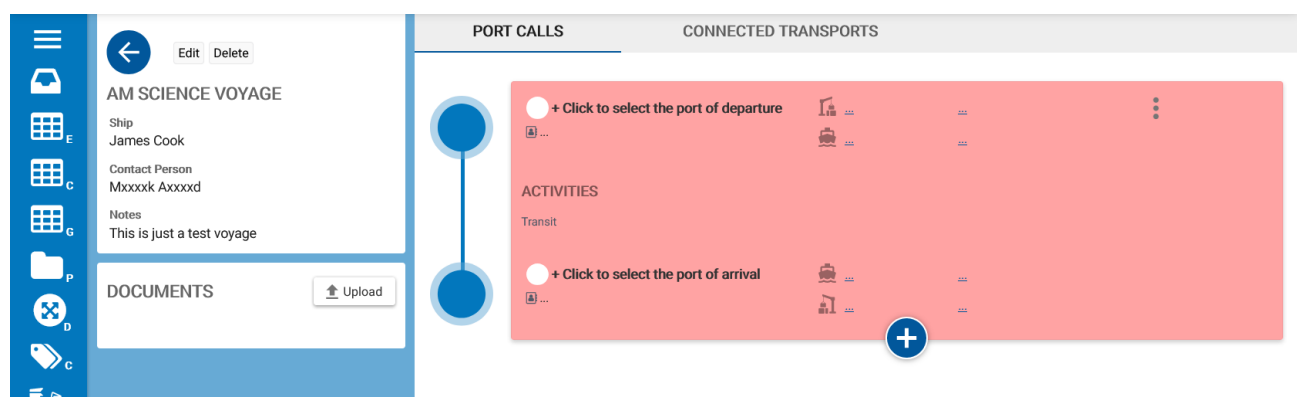


The screenshot shows a form titled 'GENERAL INFORMATION' with the following fields:

- Name:** AM Science Voyage
- Handling:** Internal (dropdown menu)
- Ship:** James Cook (dropdown menu)
- Contact Person:** Axxxxd, Mxxxxk (dropdown menu)
- Notes:** This is just a test voyage

Fig 22. New voyage general information fields.

Now that you have created a new voyage, you can add port call details such as departure/arrival dates and ports, or connected transports. The port call details background remains red until departure port and date, and arrival port and date are selected. After selecting ports and dates, additional fields become available.












The screenshot shows the 'PORT CALLS' and 'CONNECTED TRANSPORTS' section for a new voyage. The left sidebar shows the voyage details: 'AM SCIENCE VOYAGE', Ship: James Cook, Contact Person: Mxxxxk Axxxxd, Notes: This is just a test voyage. The main area is divided into two tabs: 'PORT CALLS' and 'CONNECTED TRANSPORTS'. The 'PORT CALLS' tab is active, showing a red background with a blue circle and a plus sign. The 'CONNECTED TRANSPORTS' tab is also visible, showing a red background with a blue circle and a plus sign. The 'PORT CALLS' section includes a 'Click to select the port of departure' button and a 'Click to select the port of arrival' button. The 'CONNECTED TRANSPORTS' section includes a 'Click to select the port of departure' button and a 'Click to select the port of arrival' button. The 'PORT CALLS' section also includes a 'Click to select the port of arrival' button. The 'CONNECTED TRANSPORTS' section also includes a 'Click to select the port of departure' button and a 'Click to select the port of arrival' button.

Fig 23. A new created voyage.



4.2 Add additional voyage information



After creating a voyage, additional information such as ports, dates, activities and Planlists can be added.



List of used icons:


-  Select agent for handling import and export of goods.
-  Mobilization start date and time.
-  Demobilization end date and time.
-  Departure/arrival date and time.
-  Manage Planlists and download customs reports.
-  Number of scheduled technicians.
-  Number of return samples.
-  Add a destination port to the voyage.
-  Delete individual voyage segments.


Activities can be used to add cruises or deployments to the voyage. When no activities are added the voyage is treated as a transit.


**Southampton (Hampshire) - United Kingdom**
 Nxxxxe

**Planned Mobilisation**
31/05/2021 **08:00**
Actual Mobilisation
...
**Planned Departure**
01/06/2021 **08:00**
Actual Departure
...



**Equipment: 0 / 0**
**Technicians: 0**



**Mobilisation Details**







ACTIVITIES 

Transit

**Achao (Los Lagos) - Chile**
 ...
EPU
Please enter customs informations

**Planned Arrival**
15/06/2021 **08:00**
**Planned Demobilisation**
16/06/2021 **08:00**

**Equipment: 0 / 0**
**Technicians: 0**
**Samples: 0**

**Demobilisation Details**


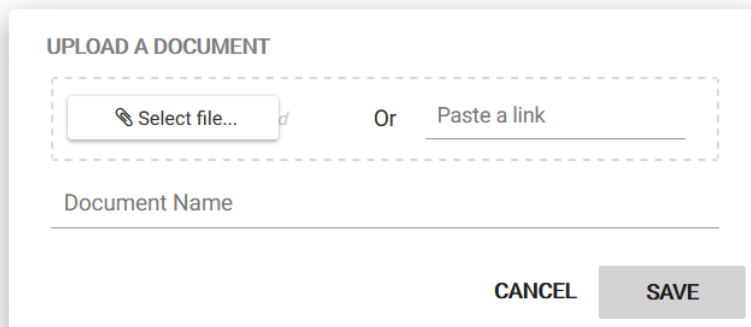


Fig 24. Voyage including departure/arrival ports and dates.

4.3 Attach documents to a voyage

1. Click the 'Upload' button in the 'Documents' section. This opens the document upload dialogue box.
2. Click 'Select file...' to browse for a file on your computer or paste a link to an online document.
3. Enter an alternative document name. When left empty the file name is used.
4. Click 'Save' to attach the document to the voyage.

Repeat the above to attach more than one document.



The dialog box is titled "UPLOAD A DOCUMENT". It contains a dashed border area with two options: "Select file..." with a file icon and "Or Paste a link" with a text input field. Below this is a "Document Name" text input field. At the bottom right are "CANCEL" and "SAVE" buttons.

Fig 25. Upload document dialogue box.

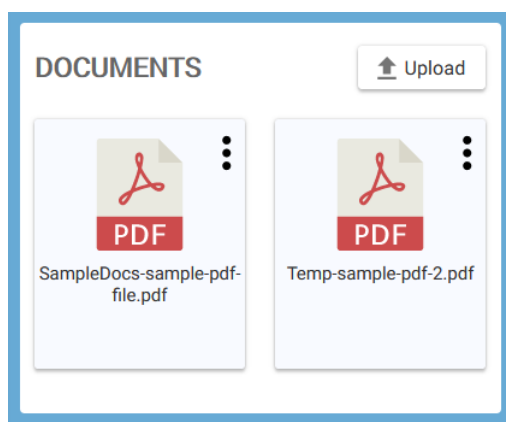


Fig 26. Documents section including documents.

5 Transports

Transports can be used to move equipment or other goods between locations or between location and ship.

5.1 Create a new transport

1. Go to the 'Voyages and Transports' page.
2. Click 'New'.
3. Select 'Transport'. This opens the configuration page for the new transport.

The screenshot displays the 'New transport configuration page' with the following sections:

- GENERAL INFORMATION**: Includes fields for Name, Courier (dropdown), Purpose (dropdown), Tracking Code, Project Number (dropdown), and Notes.
- DEPARTURE**: Includes Expected Pick Up (calendar icon), National Oceanography Centre (dropdown with a plus icon), - Contact - (dropdown), and a detailed address: National Oceanography Centre, European Way, Empress Dock, Southampton, SO14 3ZH, UK.
- DESTINATION**: Includes ETA (calendar icon), - Contact - (dropdown with a plus icon), and No address selected.
- RESPONSIBLE AGENT**: Includes Agent (dropdown with 'No address selected' and a plus icon).
- LINKED VOYAGES AND TRANSPORTS**: Includes Pick Up Items From (dropdown with '- Link to -') and Destination (dropdown with '- Link to -').

At the bottom right, there are two circular buttons: a close button (X) and a save button (floppy disk icon).

Fig 27. New transport configuration page.

4. Fill out the fields as complete as possible and click the 'Save' button to create the new transport.
5. After clicking 'Save' a pop-up with follow-up actions is opened. Select follow-up actions if required and click 'Save'.

The transport is now available in the Voyages and transports overview, with status 'Planning'. When the transport departs, status will change to 'Active'. You can now add existing Planlists to the transport, create a new Planlist, or upload documents.

Add new transport form fields

Field	Description
Name	Name of the transport
Courier	Select a courier from the list
Purpose	Select the purpose of the transport
Tracking Code	The tracking code
Project Number	Select a project from the list
Notes	Any additional information

Handling	Internal or External
Shipping	The type of shipping (e.g., air freight or ship)
Bar Code	Automatically generated bar code
Contact Person	The name of the contact person for this transport
Project Number	Sequential number for the selected project
Expected Pick Up	Expected date/time for the pick-up
Departure Contact	Select a contact from the list or add a new contact
ETA	Estimated date/time of transport arrival
Auto arrive transport	When checked, the arrival is automatically registered on ETA
Destination Contact	Select a contact from the list or add a new contact
Entry Processing Unit	
Custom Entry FCG	
Customs Entry CW	
Agent	Select an agent from the list or add a new agent
Pick Up Items From	Select a voyage/cruise or transport from which the items should be picked up
Destination	Select a voyage/cruise or transport to which the items should be delivered



Please note that when 'cruise/voyage' was selected under 'purpose', you will be reminded to link the transport to the cruise/voyage the equipment is meant for. Linking transports to cruises has advantages, such as an actual reservation of the selected equipment and automatic loading of the equipment during mobilisation.

TRANSPORT LOADING PLAN Planned: 182 Hazardous Substance: No Actual: 70			
Planlists		Add Existing Planlist Create a new Planlist	
		Content	
DY130 PAP OEG DEMOB	Hxxxxx Kxxxxx	0/15 0/10	
DY130 SSS Demob	Zxxxxx Nxxxxx	0/3 0/5	
HYBIS DY130 Return	Mxxxxx Yxxxxx	0/26 0/37	
S&M DY130 MOORINGS DEMOB	Nxxxxx Rxxxxx	20/20 50/55	
S&M DY130 PAP DEMOB GBSOU->GBSOU	Bxxxxx Pxxxxx	0/5 0/6	

Fig 28. Transport loading plan example.

5.2 Linking transports to voyages

When, for example, a transport is used to get cruise specific equipment to the ship or to return equipment used on a cruise, it can be linked to that cruise. There are two ways to link a transport to a voyage:

1. Fill out the 'Linked Voyages and Transport' section when creating a transport. If the transport is used to get goods to a ship prior to a cruise, select the cruise under 'Destination'. If the transport is used for return equipment, select the cruise under 'Pick up items from'.
2. If the Planlist loaded onto the transport is linked to a cruise, then the transport will be automatically linked to that cruise.

5.3 Load Planlist items prior to departure


The Planlist, or specific Planlist content must be loaded prior to departure. Loaded items will be displayed as 'Actual' under the Transport Loading Plan and the transport will become the 'current location' of the equipment. Once the transport has departed loading is no longer possible. Click 'Load' to start loading. This will bring you to the Tracking page. On the left side you will see the transport. On the right side you can browse to a Planlist. See the table below for a description of the grouping. Using drag and drop you can add a complete Planlist, or specific items from a Planlist, to the transport.

The screenshot shows the National Oceanography Centre interface. At the top left is the logo with a Union Jack and the text 'National Oceanography Centre'. To its right is a blue button with a download icon and the text 'Reports'. Below this, the text 'Expected Pick Up' is followed by '15/04/2021 12:00'. Underneath are two buttons: 'Register Departure' and 'Lock transport' (which has a padlock icon). Below these buttons, the following text is displayed: 'Nxxxxe', 'Exxxxxy', 'Empress Dock', 'Southampton', 'S014 3ZH, UK', 'Cxxxxr', and '4000000006'. At the bottom are two buttons: 'Load' and 'Validate'.

Fig 29. Options related to departure.

All (flat)	All items on all planning lists belonging to the transport are displayed, without consideration of the package structure; items can only be loaded individually.
All (hierarchy)	All items on all planning lists belonging to the transport are displayed in the package structure; items or packages can be loaded individually here.
Other planlists	All Planlists belonging to the transport that were created by other MFP users are displayed; each Planlist is loaded completely in one go, a query is made from which storage locations the multiples are to be loaded on the Planlist.
Own planlists	All the Planlists belonging to the transport that you have created yourself are displayed; each Planlist is loaded completely in one go, a query is made from which storage locations the multiples on the Planlist are to be loaded.

5.4 Generate reports


Different reports can be generated, such as a packing list or a proforma invoice for customs. Use  to open the selection of reports that can be generated. Select a report from the list and click 'Create Report'.

5.5 Registering departure and arrival

When the transport is picked up by the courier, the departure should be registered in MFP. The status will then change from 'planning' to 'Active'. At this stage, it is no longer possible to load equipment onto the transport.

Upon arrival of the transport at the destination, the arrival should be registered in MFP. If the transport was linked to a cruise, the equipment will automatically be transferred to the ship when mobilisation is registered. If the arrival of the linked transport wasn't registered, you will receive a message if you try to register the departure of the ship, notifying you that a linked transport has not been loaded and asking if you want to load the equipment now.

Appendix A - List of container Equipment

Below is a list of all equipment types that have the attribute 'container' in the MFP. Other devices within the device database can be inserted into these device types. They are marked with the  symbol in the task lists.

AUV -> Glider -> Glider component
AUV -> Glider -> Glider vehicle
AUV -> Long Range AUV -> frame
AUV -> Long Range AUV -> hull
AUV -> Long Range AUV -> onboard electronics
AUV -> Short Range AUV -> frame
AUV -> Short Range AUV -> hull
AUV -> Short Range AUV -> Towfish systems
AUV -> Towed systems -> frame
AUV -> Towed systems -> hull
AUV -> Unmanned Surface Vehicle -> USV vehicle
Boxes and other packing - > all entries
Geophysics -> Magnetism -> Frame
Geophysics -> Seismic systems -> Frame
HOV -> HOV Vehicle
Laboratory infrastructure -> Liquid Nitrogen Generator
Mechanical handling equipment -> Lifting and loading equipment -> Container baseplates
Mechanical handling equipment -> Trolleys
Mooring systems -> Landers
Mooring systems -> Mooring hardware -> Instrument frames
ROV -> ROV frame
Samplers and profilers -> Profiling Body
Samplers and profilers -> Towed body
Samplers and profilers -> Underwater multiplexer
Samplers and profilers -> Water samplers -> CTD frame
Samplers and profilers -> Water samplers -> Rosette
Samplers and profilers -> Water samplers -> UCC
Sea containers - > all entries
Video equipment -> HD towed video frame -> Frame
Video equipment -> Video drone
Winches, sheaves, and cables -> Winches - > all entries