



Patent  
pending

# The Cube™ Solutions

Future-proof Containerized Multi-Mission Modules  
For Coast guard, SAR and Navy vessels



**Cutting-edge equipment solution** that allows conversion of navy and coast guard vessels in less than 4 hours – without costly rebuilding between missions.

**Flexible and cost-efficient vessel conversion**

Modern naval vessels must be capable of carrying out different missions and roles both in peacetime and in wartime. Reconfiguring vessels for new missions can be both costly and time consuming. That is why SH Defence developed The Cube™.

The Cube™ is a flexible and cost-efficient solution consisting of modular equipment that enables reconfiguration of vessels in less than 4 hours. All you need to do is unload the Cube™ modules that are no longer required and load the modules that support the vessel's next mission.

**Modular system with standardised interface**

The Cube™ is a system developed by SH Defence to reduce the cost and time required to reconfigure multipurpose naval vessels to new missions.

The idea is that mission equipment is installed in the Cube™. Cubes are standard 20' and 40' high-cube container units that are provided with the necessary

connections (compressed air, clean air, water, power, communications etc.) to provide a plug-and-play system that fits in any Cube™-ready mission bay.

**New build or retrofit**

For a mission bay to be Cube™-ready it must be provided with a standard connection cabinet CubedIn™, fully automatic twist-lock system, dedicated tracks and pockets for Mobile Cube™ loaders and hydraulic jacks. The system is mainly intended for new-built navy vessels, but can also be included in a retrofit.

**Simple system, endless possibilities**

When you have your Cube™-ready mission bays in place, there is no limit to the equipment that can be transformed into a Cube™, so your vessel truly becomes a multi-mission vessel that can be reconfigured in just hours.

The flex frame, base frame and engineered frame offer a plug-and-play solution for equipment of almost any kind. So far, we have identified 120+ mission modules, but with this system, the sky is the limit!

**The Cube™ concept** consists of the following components and equipment:



Base Frame



Flex Frames - 20' and 40'



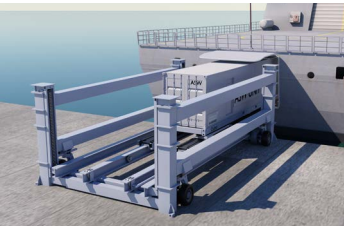
Engineered Frame



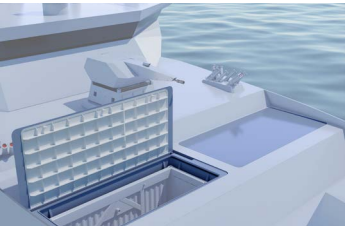
Fully aut. twist-lock system



Mobile Side Loader



Mobile Stern Loader



Deck hatch cover



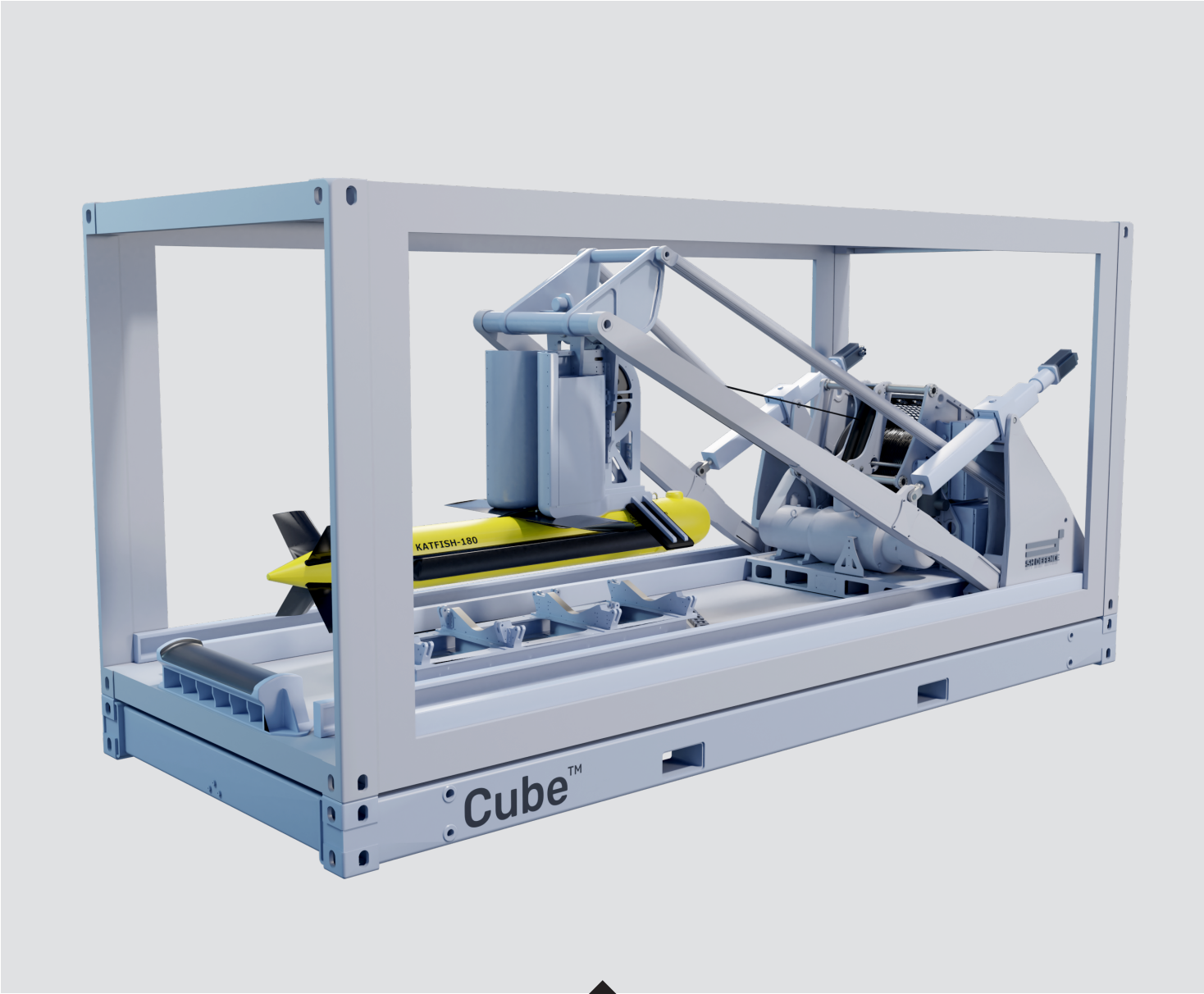
Mission Bay Doors



OMT

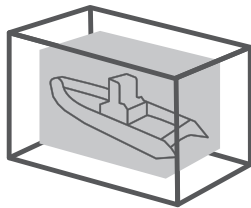
Multi-Mission Patrol Vessel  
by OMT Ship Design with  
Cube™ Multi-Mission Modules





# Stern Probe and Tow Launch and Recovery System

The Cube™



Multi-Mission Module

## Complete Cube-ready launch and recovery system for probes and towed vehicles (towfish). Fits in a 20' Cube-ready mission bay.

### Seamless deployment and recovery of hydrographic survey equipment

This Cube-ready launch and recovery system for probes and towfish ensures reliable deployment of hydrographic survey equipment from the stern of the vessel.

The system consists of a winch and an A-frame with a gripper installed on a 20' Cube™ Engineered Frame.

The 20' Cube™ Engineered Frame is a plug-and-play structure compatible with the mission bay standard connection cabinet CubedIn™, allowing installation and easy connection in any 20' Cube-ready mission bay.

The A-frame is mounted on rails and equipped with a hydraulic extension boom. The A-frame is automatically transported along the rails towards the rear of the frame, and the hydraulic extension boom extends the A-frame over the stern of the vessel for deployment of the equipment. The A-frame is of non-welded aluminium, offering high strength, low weight and a reduced magnetic signature.

### Autonomous operation

Winch and A-frame operation is automatically synchronised without operator intervention, ensuring that the rope length is perfectly aligned with the A-frame position at all times.

### Versatile and customisable system

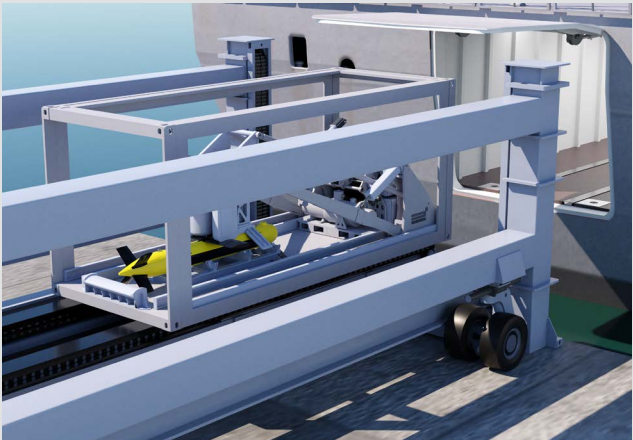
The system is very versatile and can be provided in many different configurations and sizes depending on the specific type of equipment to be deployed.

The system can be delivered with hydraulic or electric winch according to customer preferences. The length of the winch rope can be adjusted to fit the required mission and hydrographic equipment to be used as can the gripper.

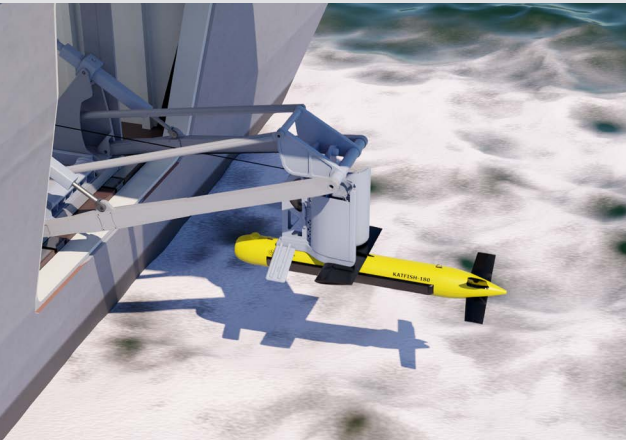
The system can be supplied as a fully automatic or semi-automatic system, again depending on the mission at hand and customer preferences.

If you want to know more about the possibilities and available options, please contact SH Defence.

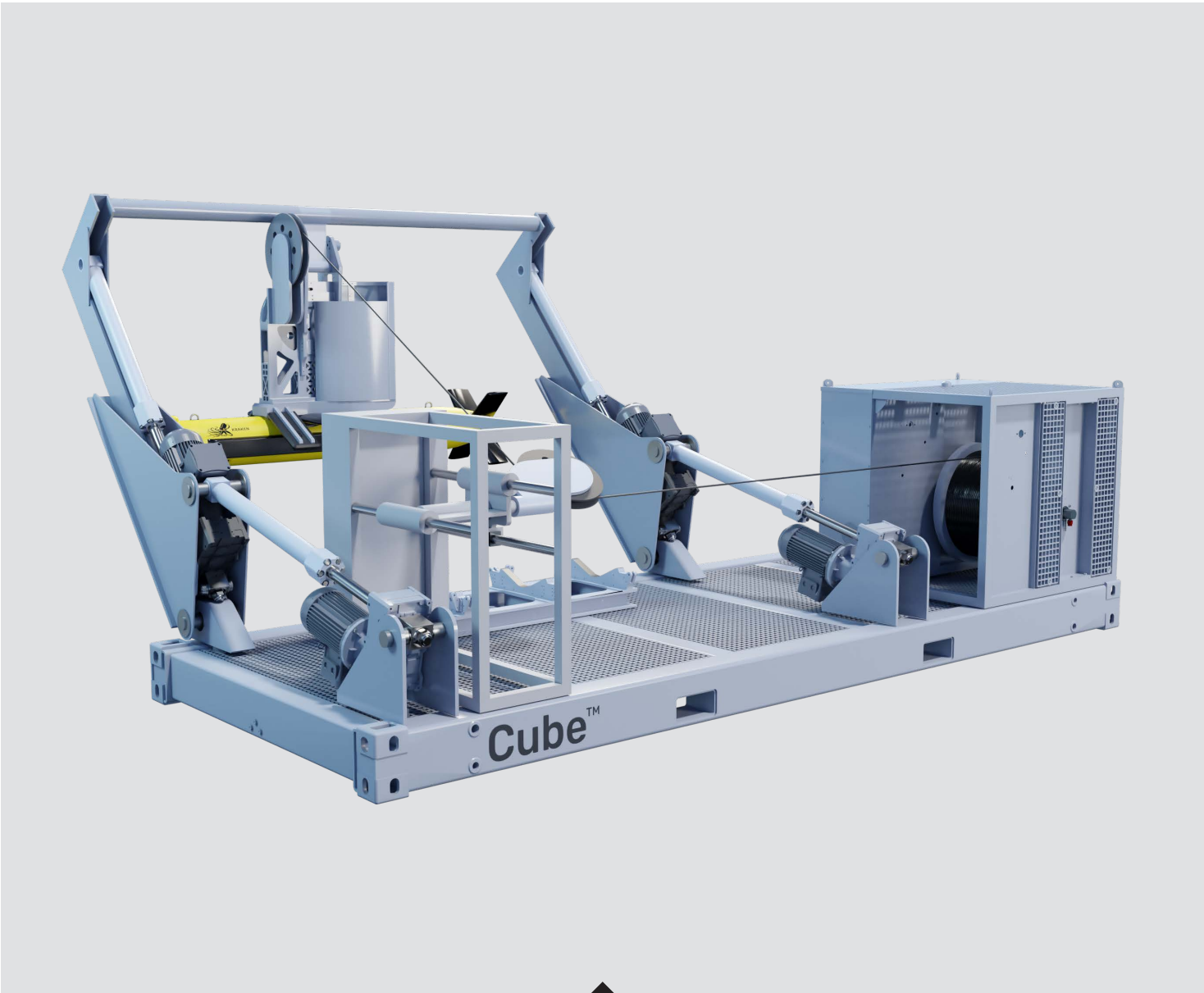
Description	Value
Demensions (H x L x W)	2900 mm x 6058 mm x 2438 mm
SWL	2,5 ton
Winch line lenght	1500 m
A-frame material	Aluminium



Mobile Cube™ Stern Loader

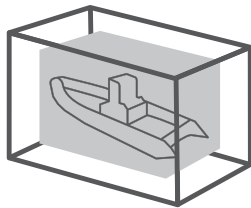


Stern loaded launch and recovery



# Side Probe and Tow Launch and Recovery System

The Cube™



Multi-Mission Module

## Complete Cube-ready launch and recovery system for probes and towed vehicles (towfish). Fits in a 20' Cube-ready mission bay.

### Seamless deployment and recovery of hydrographic survey equipment

This Cube-ready launch and recovery system for probes and towfish ensures reliable deployment of hydrographic survey equipment from the side of the vessel.

The system consists of a winch and an A-frame with a gripper installed on a 20' CubeTM Engineered Frame.

The 20' CubeTM Engineered Frame is a plug-and-play structure compatible with the mission bay standard connection cabinet CubedIn™, allowing installation and easy connection in any 20' Cube-ready mission bay.

The A-frame is mounted on a CubeTM Engineered Frame and by means of a hydraulic extension boom it extends over the side of the vessel lowering the hydrographic survey equipment down the side of the vessel for deployment and towing operation.

The A-frame is of non-welded aluminium, offering high strength, low weight and a reduced magnetic signature.

### Autonomous operation

Winch and A-frame operation is automatically synchronised without operator intervention, ensuring that the rope length is perfectly aligned with the A-frame position at all times.

### Versatile and customisable system

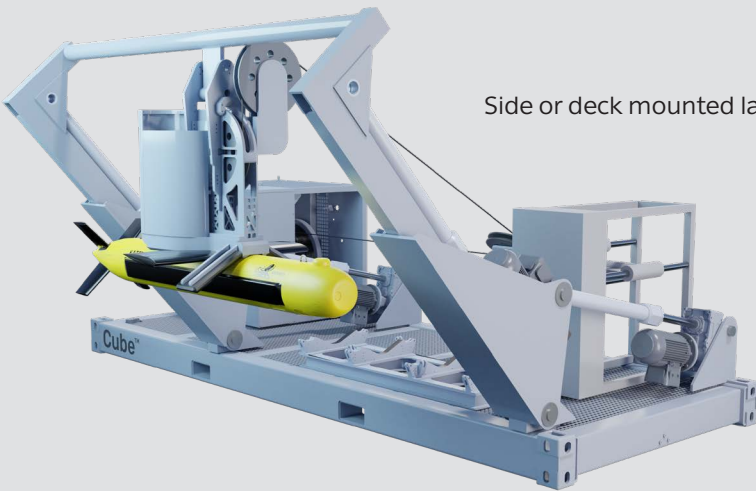
The system is very versatile and can be provided in many different configurations and sizes depending on the specific type of equipment to be deployed. The system can be delivered with hydraulic or electric winch according to customer preferences.

The length of the winch rope can be adjusted to fit the required mission and hydrographic equipment to be used as can the gripper.

The system can be supplied as a fully automatic or semi-automatic system, again depending on the mission at hand and customer preferences.

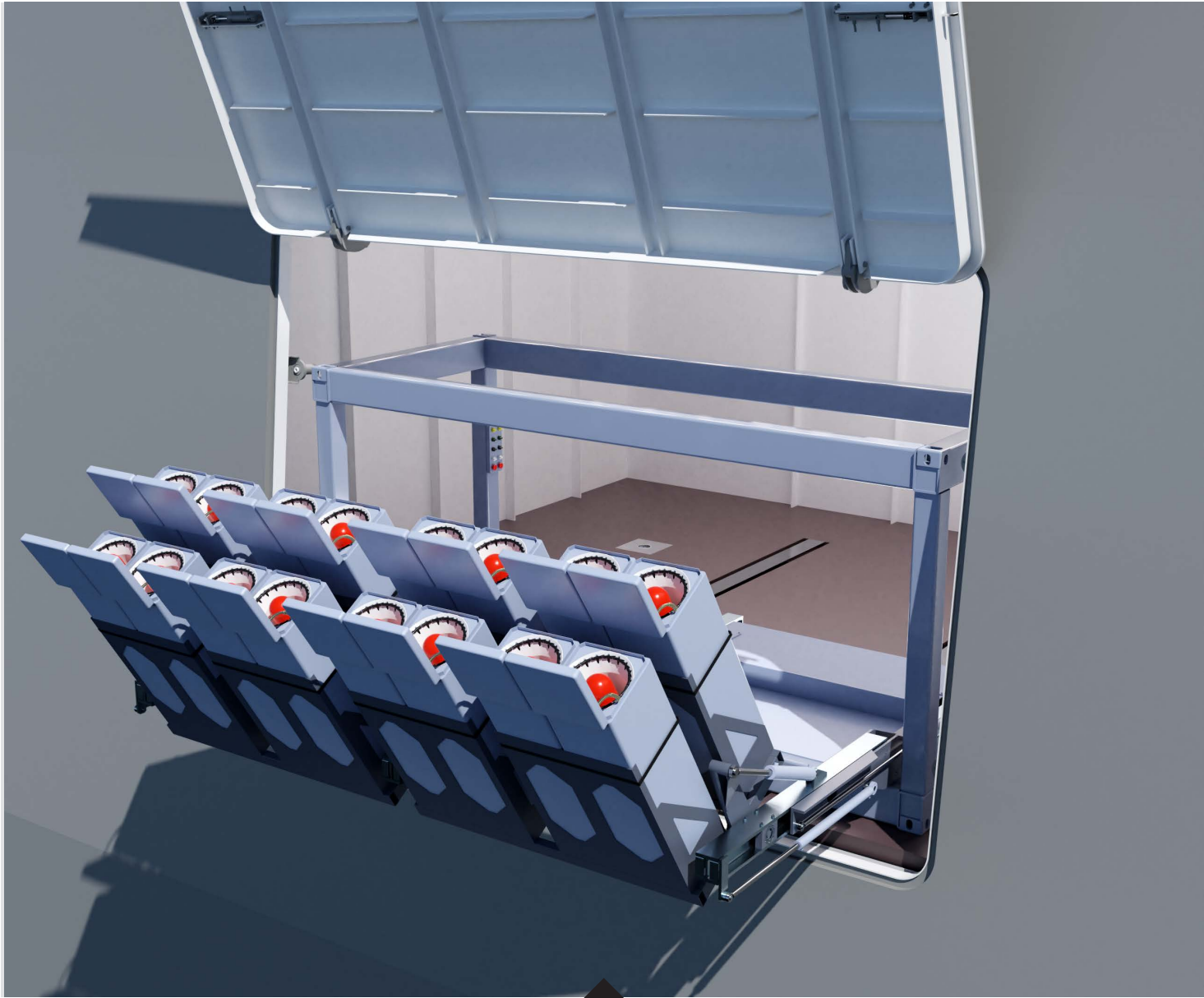
If you want to know more about the possibilities and available options, please contact SH Defence.

Description	Value
Demensions (H x L x W)	2900 mm x 6058 mm x 2438 mm
SWL	2,5 ton
Winch line lenght	1500 m
A-frame material	Aluminium



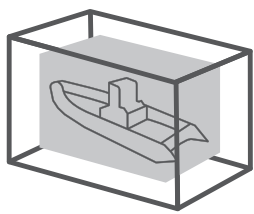
Side or deck mounted launch and recovery





# UAV Side Launch

The Cube™



Multi-Mission Module

## Cube™-ready containerised UAV launch and recovery system with CMS interface.

### Standard solution, versatile application

Unmanned aerial vehicles – UAVs or drones – have become an important part of many naval operations. From search and rescue operations over detection of oil or chemical spills to intelligence operations and extension of radio/ telecom signals, the UAVs are an excellent tool capable of covering large areas.

SH Defence has developed a UAV Side Launch and Recovery System Cube™ consisting of a dock for multiple UAVs installed on a Cube™ 20' Base Frame. A hydraulically operated telescopic arm extends the UAV dock from the side of the vessel, allowing almost vertical launch and recovery of the UAVs.

### Fits in a 20' Cube™-ready mission bay

As with all other Cubes™, the UAV Side Launch and Recovery System has the footprint of a standard 20' high-cube container and comes with the standard connection interfaces that are compatible with the Cube™-ready mission bay standard connection cabinet CubedIn™ for plug-and-play charging and communication functionality.

The UAV Side Launch and Recovery System also comes with an interface to the CMS.

The open base frame structure provides easy access to service and maintenance of docks and UAVs from the mission bay.

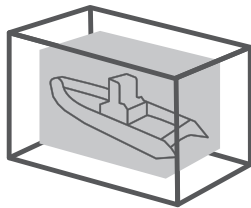
Description	Value
The Cube™ Engineered Frame	
Dimensions (L x W x H)	6058 mm x 2438 mm x 2896 mm
Weight	10,5 MT
StrobelTEK - UAV	
UAV Weight	65 KG
UAV Diameter	300 mm
UAV Endurance	15 min.
Launch Direction	Vertical
Recovery Direction	Vertical
Recovery Feature	Active ship roll compensation





# UAV Top Launch

The Cube™



Multi-Mission Module

## Cube™-ready containerised UAV launch and recovery system with CMS interface.

**Standard solution, versatile application**  
Unmanned aerial vehicles – UAVs or drones – have become an important part of many naval operations. From search and rescue operations over detection of oil or chemical spills to intelligence operations and extension of radio/ telecom signals, the UAVs are an excellent tool capable of covering large areas.

SH Defence has developed a UAV Top Launch and Recovery System Cube™ consisting of a 20' Base Frame container with an open top for vertical launch and recovery of UAV swarms.

**Fits in a 20' Cube™-ready mission bay**  
As with all other Cubes, the UAV Top Launch and Recovery System has the footprint of a standard 20' high-cube container and comes with the standard connection interfaces that are compatible with the Cube™-ready mission bay standard connection cabinet CubedIn™ for plug-and-play charging and communication functionality. The UAV Top Launch and Recovery System also comes with an interface to the CMS.

**Easy UAV recovery**  
When UAVs return to charge or UAVs from other vessels need to charge before continuing their flight, a skeleton funnel made of bars is extended from the individual

UAV dock in order to catch and guide the UAV into the charging dock.  
  
The UAV Top Launch and Recovery System Cube™ is provided with a door for easy access to service and maintenance of docks and UAVs.

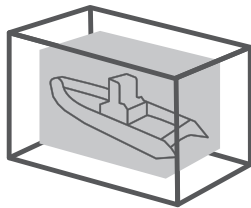
Description	Value
The Cube™ Engineered Frame	
Dimensions (L x W x H)	6058 mm x 2438 mm x 2896 mm
Weight	10,5 MT
StrobelTEK - UAV	
UAV Weight	65 KG
UAV Diameter	300 mm
UAV Endurance	15 min.
Launch Direction	Vertical
Recovery Direction	Vertical





# Fast Interceptor system

The Cube™



Multi-Mission Module

## Complete Cube-ready launch and recovery system with integrated painter line for interceptor boat.

### Fast and safe deployment of interceptor boat

Modern navy vessels must be capable of carrying out different missions in both peacetime and wartime. The SH Defence launch and recovery system (LARS) with integrated painter line is a versatile solution that can be used for the fast and safe deployment of a variety of boat types. In this instance, the SH Defence LARS with integrated painter line is used in combination with an interceptor boat manufactured by Fassmer, enabling quick and safe deployment of crew for navy operations.

The LARS consists of a Cube™ Engineered Frame, a SH Defence davit crane with integrated painter line and a SFB 10.1 MK2 Rigid Inflatable Boat from Fassmer. The SH Defence launch and recovery system with integrated painter line is designed according to DNV GL ST-0378 Offshore and platform lifting appliances and complies with the SOLAS Convention.

### Cube-ready, easy connection

The system is Cube™ ready and only requires a 40' Cube™-ready mission bay including the fully automatic twist lock system and standard connection cabinet CubedIn™. The Cube™ Engineered Frame comes with compatible outlets allowing for easy connection to the mission bay connection cabinet CubedIn™.

### Safe transport and controlled deployment

The interceptor boat is secured in a cradle and connected to the davit boom during voyage. At deployment of the interceptor boat, the vessel crew operates the davit from the mission bay control panel. The davit crane lifts the interceptor boat out of the cradle and starts lowering the boat down the side of the vessel. When the davit boom is clear of the mission bay and vessel hull, the end of the boom, to which the painter line is attached, is extended to provide optimum angling of the painter line for safe deployment of the interceptor boat when it reaches the water.

### Cube™ Engineered Frame

The Cube™ Engineered Frame is provided with corners castings enabling secure sea fastening by means of the fully automatic twist-lock system developed by SH Defence. The frame is customised to withstand the loads

introduced by the davit system. The surface of the Cube™ Engineered Frame is made of glass-reinforced plastic (GRP) grating, which provides a very strong and anti-slip surface.

### SH Defence davit

The SH Defence davit is a compact system supplied with hydraulic pump unit (HPU) and hydraulic control panel (HCP) mounted on the frame. The hydraulic lowering of the davit structure reduces the height of the davit, and the base of the davit is embedded in the frame to reduce the structure height even further.

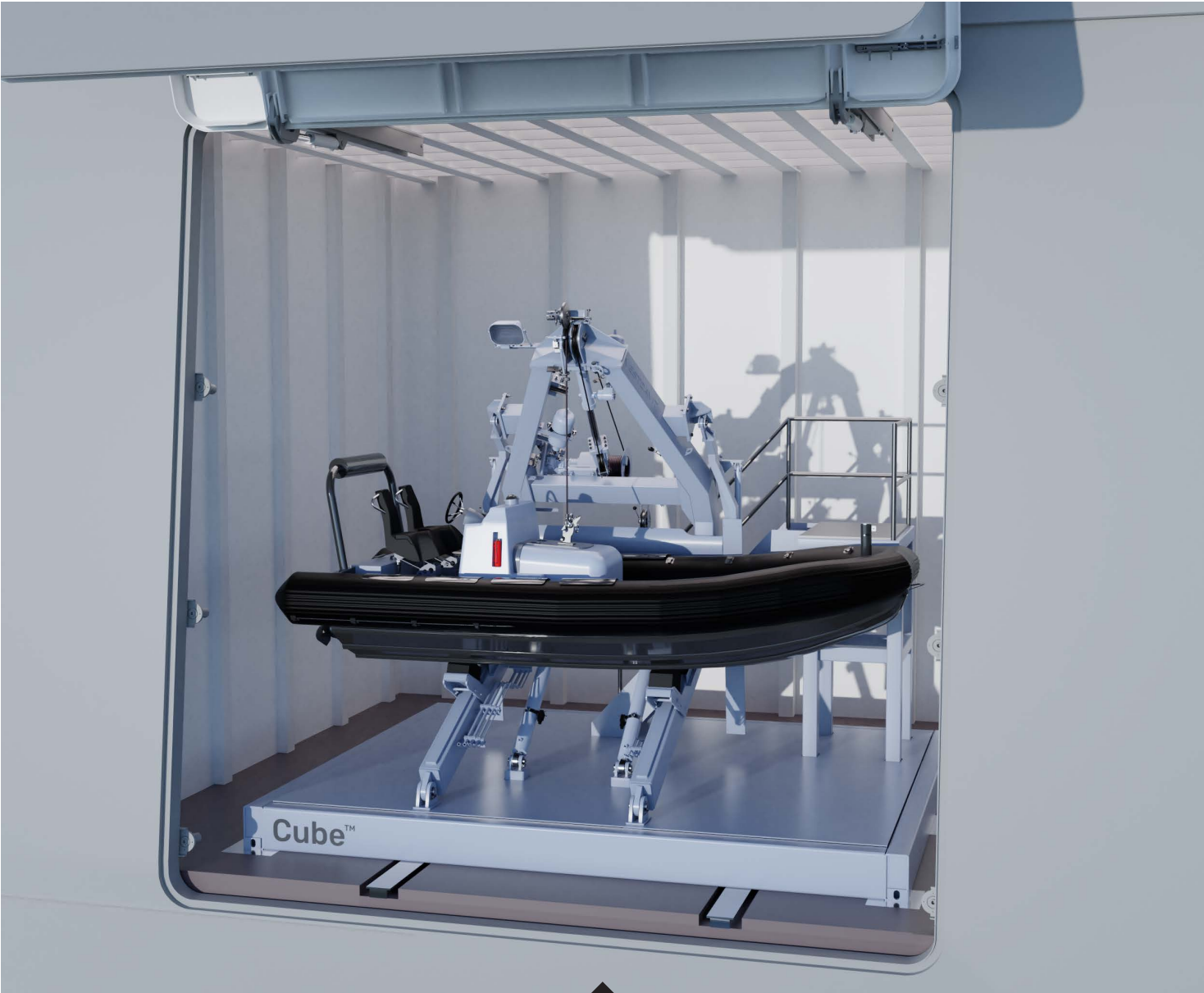
As an option, the system can be delivered in a NORSOK R-002 compliant setup, introducing gravity lowering with hydraulic braking. This eliminates wear on the system and enables use of stored mechanical power.

### Interceptor boat

The interceptor boat is a Fassmer SFB 10.1 MK2 RIB. It is one of a variety of available models. For further information, please visit Fassmer's website, [www.fassmer.de](http://www.fassmer.de).

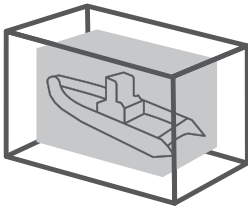
Description	Value
<b>Cube Engineered Frame</b>	
Manufacturer	SH Defence
Dimensions (L x W x H)	12192 mm x 4901 mm x 5570 mm
<b>Davit</b>	
Manufacturer	SH Defence
Lifting capacity (SWL)	17 MT
Extension beyond Cube™ edge	3000 mm
<b>Interceptor boat</b>	
Manufacturer	Fassmer GmbH & Co. KG
Boat length	10100 mm
Boat width	3500 mm





# Fast Rescue Boat Launch and Recovery System

The Cube™



Multi-Mission Module

## Complete Cube™-ready launch and recovery system for fast rescue boat. Fits in a 20' Cube™-ready mission bay.

**Safe and fast deployment in any weather**  
In emergency situations, safe and fast deployment of the rescue team is essential. This complete 20' Cube-ready Fast Rescue Boat (FRB) Launch and Recovery System (LARS) comprising an SH Defence Cube™ Engineered Frame, a Vestdavit davit crane and a Fassmer Fast Rescue Boat, ensures safe and fast deployment of your rescue team in even the most extreme weather conditions.

**Cube-ready, easy connection**  
The system is Cube-ready and only requires a 20' Cube-ready mission bay including the fully automatic twist-lock system and the standard connection cabinet CubedIn™. The Cube™ Engineered Frame comes with compatible outlets allowing for easy connection to the mission bay connection cabinet CubedIn™.

**Safe transport and controlled deployment**  
The FRB is secured in a cradle and connected to the davit boom during voyage. At deployment of the FRB, the vessel crew operates the davit from the mission bay control panel. The davit crane lifts the FRB out of the cradle and safely lowers the FRB into the water, ready for operation.

**Cube™ Engineered Frame**  
The Cube™ Engineered Frame is provided with container corners enabling secure sea fastening by means of the fully automatic twist-lock system developed by SH Defence. The frame is customised to withstand the loads introduced by the davit system. The surface of the Cube™ Engineered Frame is made of glass-reinforced plastic (GRP) grating, which provides a very strong and anti-slip surface.

The Cube™ Engineered Frame is designed according to DNV GL ST-0378 Offshore and platform lifting appliances and complies with the SOLAS Convention.

The Cube™ can be delivered with detachable crash frame and tarpaulin as an option.

**Davit crane**  
The davit crane manufactured by Vestdavit is a VESTDAVIT PL-3600R, which is a proven design used by navies and coastguards around the world. For further information on the VESTDAVIT PL-3600R, please see product sheet from Vestdavit.

The system also includes a Vestdavit painter line system integrated in the Cube™.

**Fast Rescue Boat**  
The Fassmer Fast Rescue Boat is a FRIR 625 Fast Rigid Inflatable Rescue Boat, applied in many naval vessels world-wide. For further information on the Fassmer FRIR 625 Fast Rigid Inflatable Rescue Boat, please see product sheet from Fassmer.

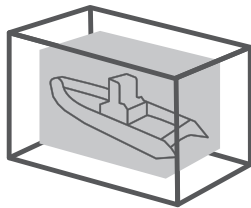
Description	Value
<b>Cube Engineered Frame</b>	
Manufacturer	SH Defence
Dimensions (L x W x H)	6058 mm x 4901 mm x (5000 mm)
<b>Davit</b>	
Manufacturer	Vestdavit
Lifting capacity (SWL)	4 MT
Paint system	Corrosion class C4
<b>Fast rescue boat</b>	
Manufacturer	Fassmer GmbH & Co. KG
Boat length	6250 mm
Boat width	2630 mm





# Fire Fighter Launch Recovery System

The Cube™



Multi-Mission Module

## Complete Cube™ - ready launch and recovery system with integrated painter line for work/transfer boat. Fits in a 40' Cube-ready mission bay.

### Fast and safe deployment of firefighting boat

In an emergency it is important for navy vessels to be able to launch their firefighters in a fast and safe manner. The SH Defence launch and recovery system (LARS) with integrated painter line is a versatile solution that can be used for the fast and safe deployment of a variety of boat types.

In this instance, the SH Defence LARS with integrated painter line is used in combination with a firefighting boat manufactured by Tuco Marine Group, enabling quick and safe deployment of crew for firefighting operations. The LARS consists of a Cube™ Engineered Frame, an SH Defence davit crane with integrated painter line and a ProZero 12m DC Light Pilot boat from Tuco Marine Group.

The SH Defence launch and recovery system with integrated painter line is designed according to DNV GL ST-0378 Offshore and platform lifting appliances and complies with the SOLAS Convention.

### Cube-ready, easy connection

The system is Cube ready and only requires a 40' Cube-ready mission bay including the fully automatic twist lock system and standard connection cabinet CubedIn™. The Cube™ Engineered Frame comes with compatible outlets allowing for easy connection to the mission bay connection cabinet CubedIn™.

### Safe transport and controlled deployment

The firefighting boat is secured in a cradle and connected to the davit boom during voyage. At deployment of the firefighting boat, the vessel crew operates the davit from the mission bay control panel. The davit crane lifts the firefighting boat out of the cradle and starts lowering the boat down the side of the vessel. When the davit boom is clear of the mission bay and vessel hull, the end of the boom, to which the painter line is attached, is extended to provide optimum angling of the painter line for safe deployment of the firefighting boat when it reaches the water.

### Cube™ Engineered Frame

The Cube™ Engineered Frame is provided with corner castings enabling secure sea fastening by means of the fully automatic twist-lock system developed by SH Defence. The frame is customised to withstand the loads

introduced by the davit system. The surface of the Cube™ Engineered Frame is made of glass-reinforced plastic (GRP) grating, which provides a very strong and anti-slip surface.

### SH Defence davit

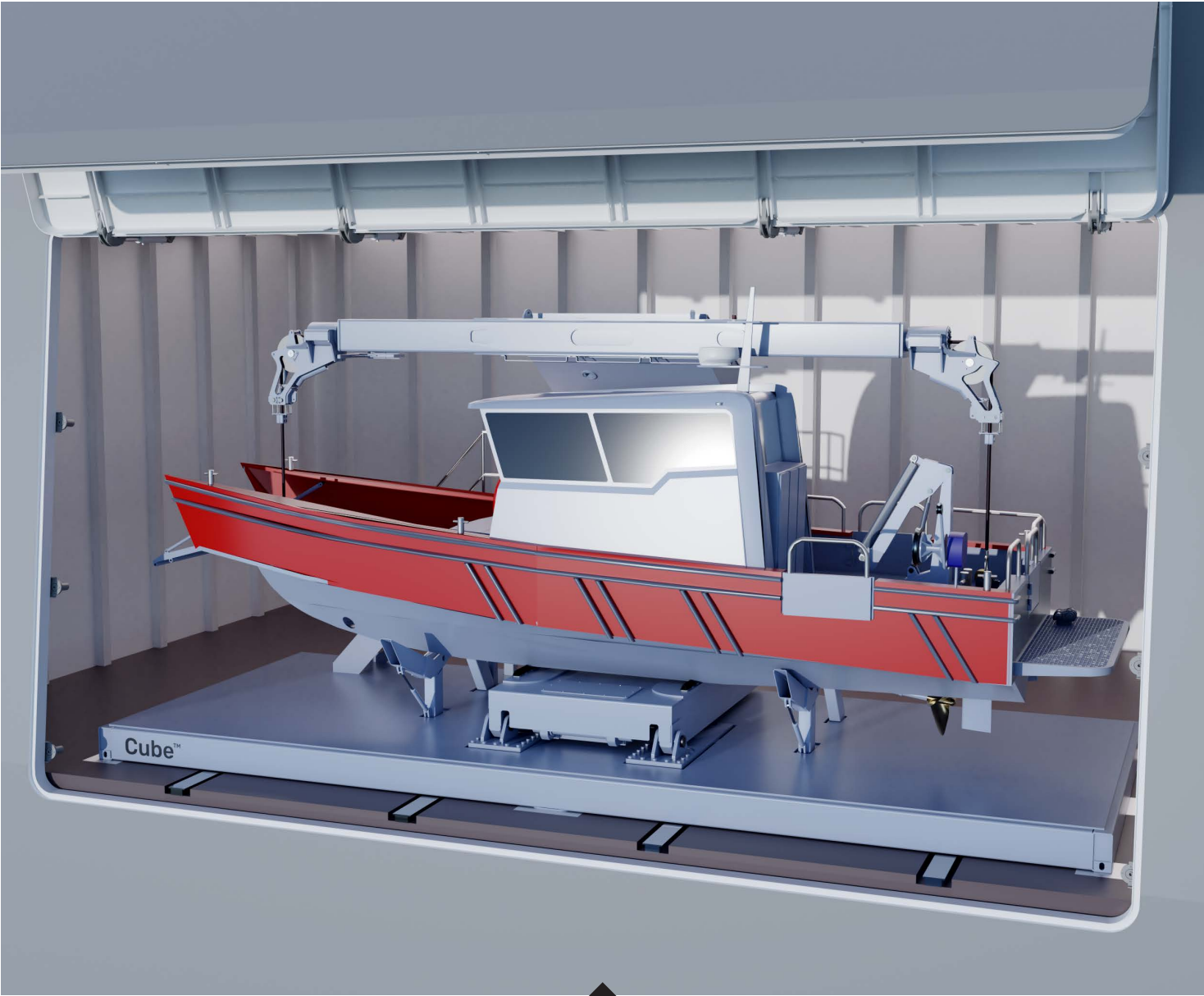
The SH Defence davit is a compact system supplied with hydraulic pump unit (HPU) and hydraulic control panel (HCP) mounted on the frame. The hydraulic lowering of the davit structure reduces the height of the davit, and the base of the davit is embedded in the frame to reduce the structure height even further.

As an option, the system can be delivered in a NORSOK R-002 compliant setup, introducing gravity lowering with hydraulic braking. This eliminates wear on the system and enables use of stored mechanical power.

### Firefighting boat

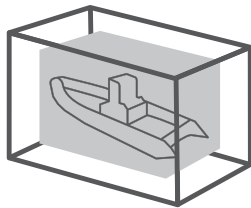
The firefighting boat is a ProZero 12m DC Light Pilot from Tuco Marine Group. It is one of a variety of available models. For further information, please visit Tuco Marine Group's website, [www.tuco.dk](http://www.tuco.dk).

Description	Value
<b>Cube Engineered Frame</b>	
Manufacturer	SH Defence
Dimensions (L x W x H)	12192 mm x 4900 mm x 6058 mm
<b>Davit</b>	
Manufacturer	SH Defence
Lifting capacity (SWL)	17 MT
Extension beyond Cube™ edge	3000 mm
<b>Fast rescue boat</b>	
Manufacturer	Tuco Marine Group
Boat length	12000 mm
Boat width	3000 mm



# Launch and Recovery System with Integrated Painter Line

The Cube™



Multi-Mission Module

## Complete Cube™ - ready launch and recovery system with integrated painter line for work/transfer boat. Fits in a 40' Cube-ready mission bay.

### Reliable and safe deployment of work/transfer boat

Modern navy vessels must be capable of carrying out different missions in both peacetime and wartime. The SH Defence launch and recovery system (LARS) with integrated painter line is a versatile solution that can be used for the reliable and safe deployment of a variety of boat types. In this instance, the SH Defence LARS with integrated painter line is used in combination with a work/transfer boat manufactured by Tuco, enabling quick and safe deployment of boat crew or technicians.

The LARS consists of a Cube™ Engineered Frame, an SH Defence davit crane with integrated painter line and a Tuco work/transfer boat.

The SH Defence launch and recovery system with integrated painter line is designed according to DNV GL ST-0378 Offshore and platform lifting appliances and complies with the SOLAS Convention.

### Cube™ - ready, easy connection

The system is Cube™ ready and only requires a 40' Cube™ ready mission bay including the fully automatic twist-lock system and the standard connection cabinet CubedIn™. The Cube™ Engineered Frame comes with compatible outlets allowing for easy connection to the mission bay connection cabinet CubedIn™.

### Safe transport and controlled deployment

The work/transfer boat is secured in a cradle and connected to the davit boom during voyage. At deployment of the work/transfer boat, the vessel crew operates the davit from the mission bay control panel. The davit crane lifts the work/transfer boat out of the cradle and starts lowering the boat down the side of the vessel. When the davit boom is clear of the mission bay and vessel hull, the end of the boom, to which the painter line is attached, is extended to provide optimum angling of the painter line for safe deployment of the work/transfer boat when it reaches the water.

### Cube™ Engineered Frame

The Cube™ Engineered Frame is provided with container corners enabling secure sea fastening by means of the fully automatic twist lock system developed by SH Defence. The frame is customised to withstand the loads

introduced by the davit system. The surface of the Cube™ Engineered Frame is made of glass-reinforced plastic (GRP) grating, which provides a very strong and anti-slip surface.

### SH Defence davit

The SH Defence davit is a compact system supplied with hydraulic pump unit (HPU) and hydraulic control panel (HCP) mounted on the frame.

The hydraulic lowering of the davit structure reduces the height of the davit, and the base of the davit is embedded in the frame to reduce the structure height even further.

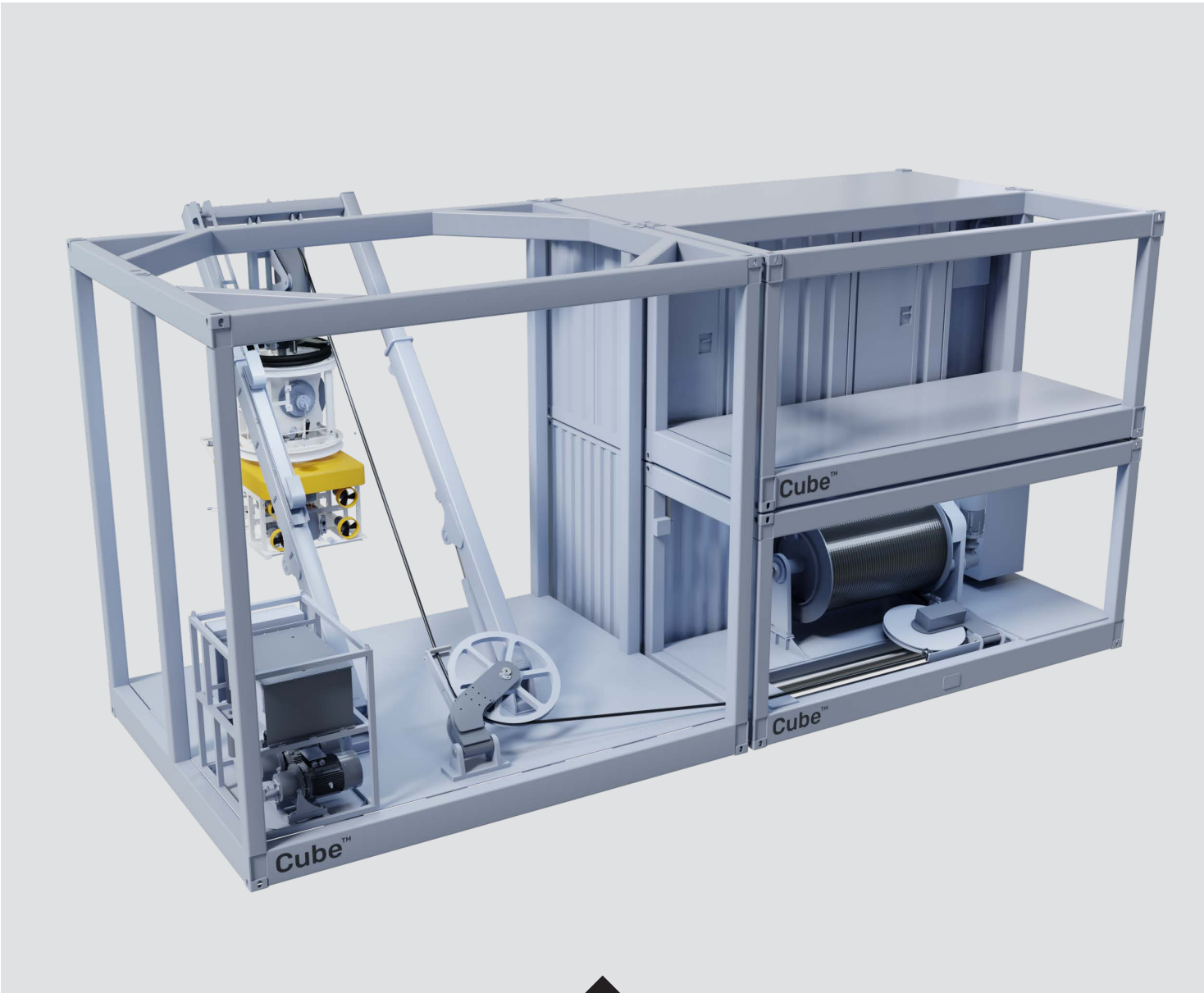
As an option, the system can be delivered in a NORSOK R-002 compliant setup, introducing gravity lowering with hydraulic braking. This eliminates wear on the system and enables use of stored mechanical power.

### Work/transfer boat

The Tuco work/transfer boat is of the 10 m model. It is one of a variety of available models. For further information, please visit Tuco's website, [www.tuco.dk](http://www.tuco.dk).

Description	Value
<b>Cube Engineered Frame</b>	
Manufacturer	SH Defence
Dimensions (L x W x H)	12192 mm x 4901 mm x 5580 mm
<b>Davit</b>	
Manufacturer	SH Defence
Lifting capacity (SWL)	17 MT
Extension beyond Cube™ edge	3000 mm
<b>Fast rescue boat</b>	
Manufacturer	Tuco Marine Group
Boat length	10,8 m
Boat width	3,5 m

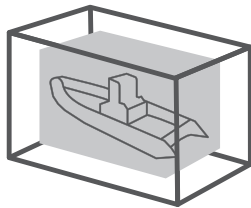




# A-frame with Winch

Launch & Recovery System

The Cube™



Multi-Mission Module

## Complete Cube-ready launch and recovery system with winch for deployment of unmanned and remotely operated vehicles and drones. Fits in a 40' Cube-ready mission bay.

**Reliable and safe deployment of equipment**  
Modern navy vessels must be capable of carrying out different missions in both peacetime and wartime. Unmanned underwater vehicles (UUVs or drones) and remotely operated vehicles (ROVs) are used in many types of missions and thus there is a great need for reliable and safe launch and recovery of such equipment.

In the design of this versatile Cube-ready LARS, SH Defence has applied several decades of experience designing and delivering launch and recovery systems (LARS) for the offshore segment.

The system can be provided in many different configurations and sizes depending on the specific type of equipment to be launched. Examples of equipment could be an ROV with a floating umbilical, an ROV with a tether management system, scientific probes or underwater drones.



ROV / Drone  
Launch & Recovery System

**Standardised modules, easy connection and sea fastening**  
In this example, the 3.5-tonne A-frame is mounted on a double 20' Cube™ Engineered Frame which is combined with two 20' Cube™ One engineered frame containing a appropriately dimensioned winch, a 20' container equipped with operators cabin. The entire LARS Cube™ with winch and storage modules is ready for installation in a 40' Cube-ready mission bay.

The Cube™ Engineered Frame and the Cube™ Base Frame come with standard corner castings for reliable sea fastening by means of the Fully Automatic Twist Lock System from SH Defence and with standard connection interfaces for easy connection to the mission bay standard connection cabinet CubedIn™. The surface of the frames is made of glass-reinforced plastic (GRP) grating, which provides a very strong and anti-slip surface.

For further information on the Cube™ Engineered Frame, the Cube™ Base Frame and the Automatic Twist Lock System, please refer to the relevant product sheets or contact SH Defence (see contact details below).

**Versatile application**  
In this configuration, drones are handled with a tailored gripper that is lowered from the A-frame with a double-line winch system. If you replace the gripper with a latch beam, the A-frame can be converted to handle survey ROVs. If the ROV has an umbilical, an optional umbilical winch can be added. Thus, by changing the handling tools, this LARS is capable of launching and recovering a wide range of equipment.

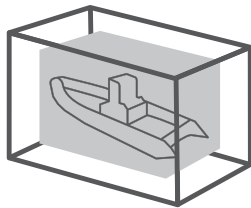
The SH Defence LARS is designed according to DNV GL ST-0378 Offshore and platform lifting appliances.

Description	Value
Dimensions (H x L x W)	5800 mm x 12192 mm x 4901 mm
SWL	3.5 MT
Maximum extension over Cube™ edge	3500 mm
<b>Optional umbilical winch</b>	
Umbilical diameter	Ø25 mm
Drum capacity at started diameter	2250 m
SWL	24 kN



# Command Center

The Cube™



Multi-Mission Module

## DC-Supply command center container mounted on Cube™ 20' Flex Frame.

### Flexible and cost-effective vessel conversion

Modern naval vessels must be capable of carrying out different missions and roles in both peacetime and wartime. Reconfiguring vessels for new missions can be both costly and time consuming. That is why SH Defence developed The Cube™.

The Cube™ is a flexible and cost-saving solution consisting of modular equipment with standardized interfaces enabling reconfiguration of vessels in less than 4 hours. All you need to do is unload the Cube™ modules that are no longer required and load the modules that support the vessel's next mission.

Here we have taken a DC-Supply command center container and turned it into a 20' Cube™ with our Cube™ 20' Flex Frame.

### Turning standard containers into Cubes™

The purpose of the Cube™ 20' Flex Frame is to convert standard 20' shipping containers into Cube™-ready high-cube containers that can be loaded and unloaded using the Mobile Cube™ Side Loader or the Mobile Cube™ Stern Loader.

The 20' Flex Frame is a flexible welded steel structure with standard ISO corner castings for lifting and sea fastening.

With the Cube™ 20' Flex Frame from SH Defence, you can turn any of DC-Supply's 20' containers into a Cube™.

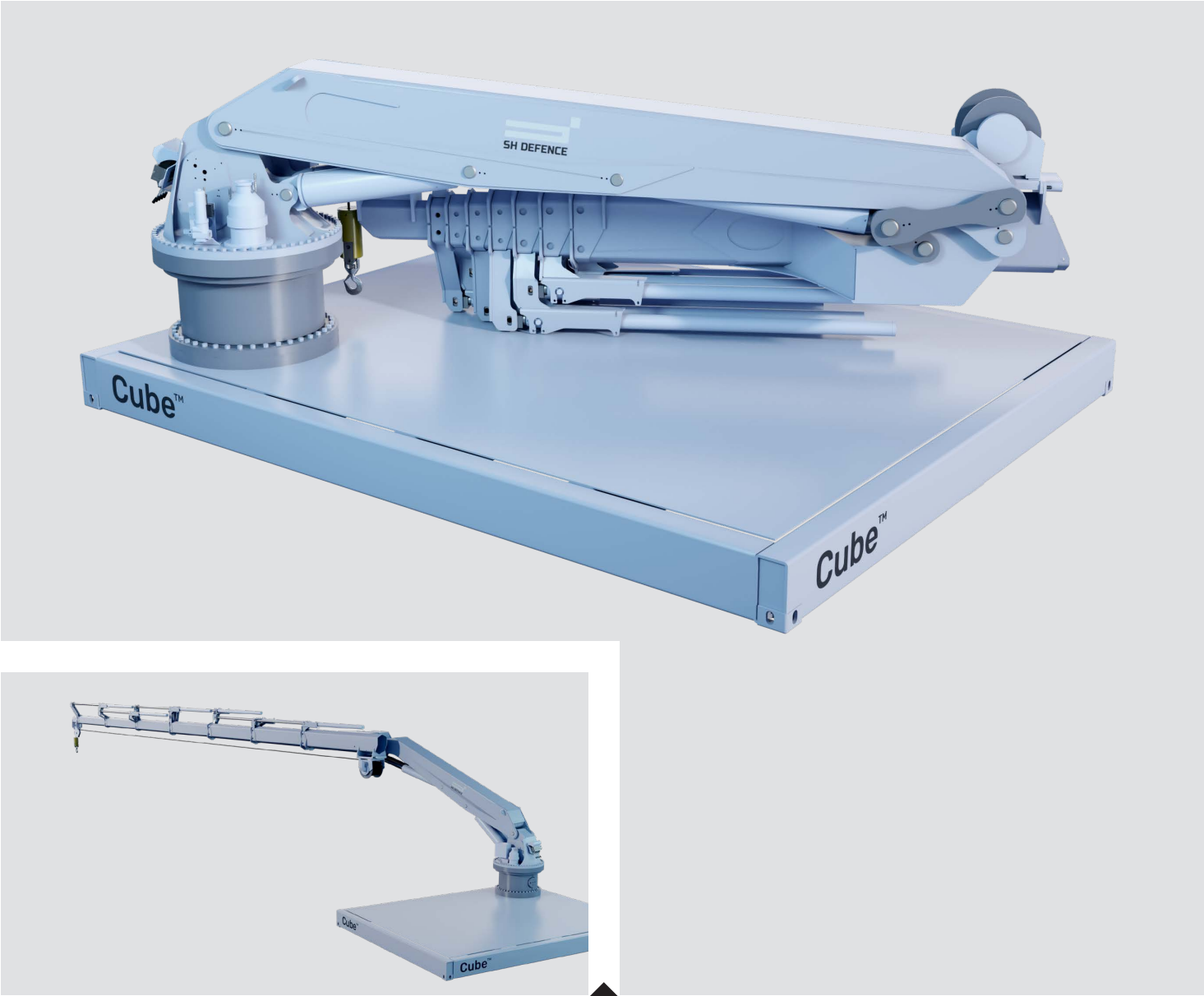
Please visit DC-Supply ([www.dc-supply.dk](http://www.dc-supply.dk)) for more information on available standard and customised navy containers.

### Type-approved design

The Cube™ 20' Flex Frame is designed and type-approved according to DNV GL ST-0378 for offshore and platform lifting appliances. The frame conforms to ISO 668 and is delivered with a CSC certificate for shipping.

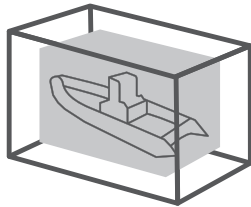
Description	Value
Cube™ 20' Flex Frame	
Manufacturer	SH Defence
Dimensions (H x L x W)	275 mm x 6058 mm x 2438 mm
Weight	1.6 MT
Max gross weight	24 MT
Command center	
Supplier	DC-Supply
Dimensions (H x L x W)	2590 mm x 6058 mm x 2438 mm





Crane  
Cargo loading

The Cube™



Multi-Mission Module

Guerra MC 1200.55A6 cargo crane installed on a Cube™ Engineered Frame. Fits in a 20’ mission bay.

The Cube™ – revolutionising vessel conversion

SH Defence has developed The Cube™ to significantly reduce the time and money spent on reconfiguring navy vessels between missions. The Cube™ is a flexible system consisting of modules with standardised connection interfaces that can be loaded into Cube-ready 20’ and 40’ mission bays and seafastened using the Automatic Twist Lock System developed by SH Defence. With the Cube™ you can prepare your vessel for a new mission in less than 4 hours.

A strong foundation for your crane

The Cube™ Engineered Frame provides a strong and safe foundation for your cargo crane. In this case we have chosen a MC 1200.55A6 Guerra hydraulic marine crane manufactured by Industrias Guerra S.A. The crane is built according to UNE-EN 13001 class HC2/HD4-S2. For more information on the crane, please refer Industrias Guerra’s website [www.iguera.com](http://www.iguera.com).

A customised frame with plug-and-play features

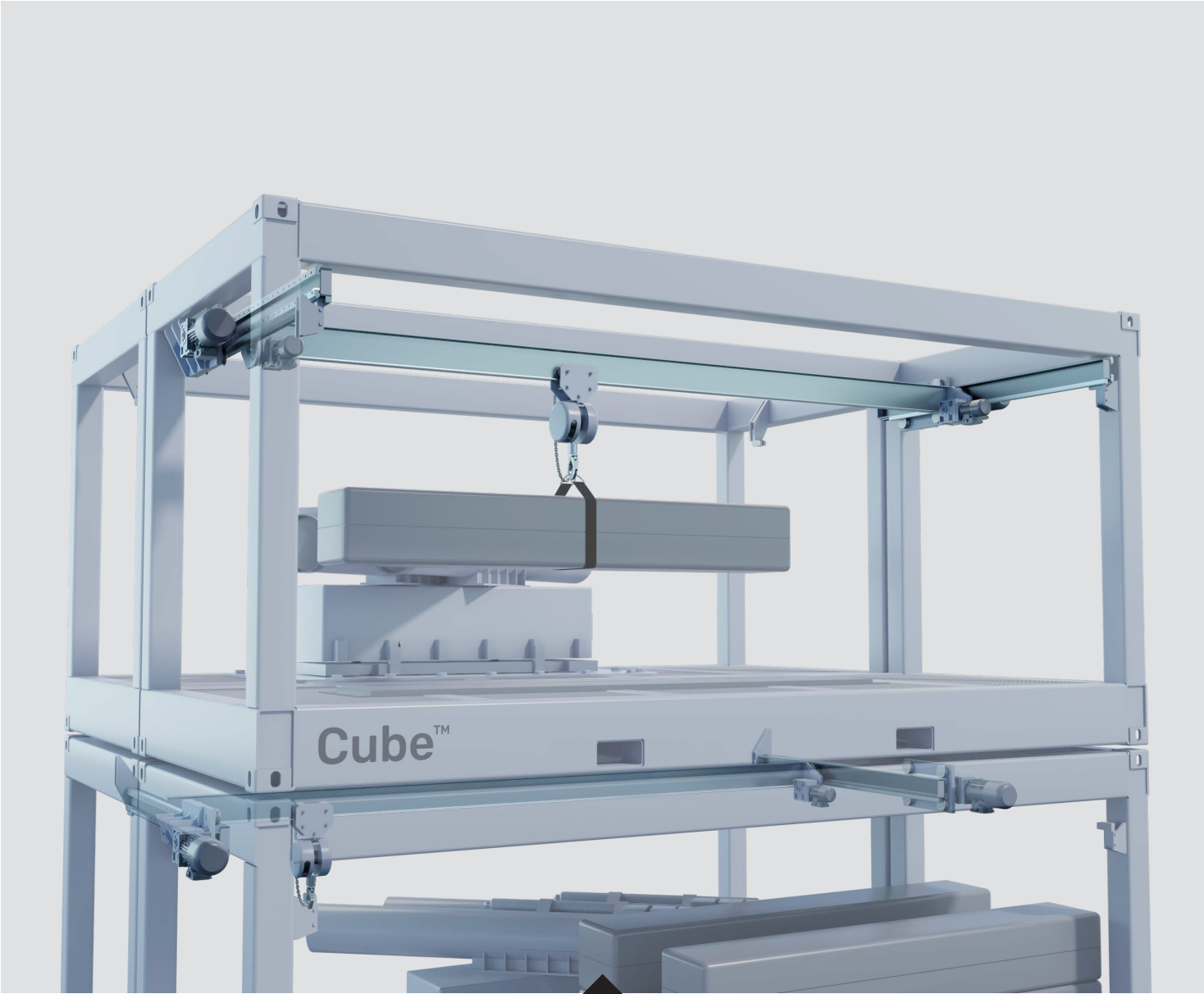
The Cube™ Engineered Frame is customised to withstand the forces introduced by the cargo crane. The frame is provided with ISO corner castings enabling secure sea fastening by means of the fully automatic, retractable twist lock system developed by SH Defence.

The surface of the Cube™ Engineered Frame is made of glass-reinforced plastic (GRP) grating, which provides a very strong and anti-slip surface. The Cube™ Engineered Frame is a plug-and-play structure provided with standard connections compatible with the mission bay standard connection cabinet CubedIn™. The Cube™ Engineered Frame can be delivered with crash frame and tarpaulin as an option.

Designed to the highest standards

The Cube™ Engineered Frame is designed according to DNV GL ST-0378 Offshore and platform lifting appliances. The crane it selves is a Iguera crane MC 1200.55A6 built according EN 13001-2 HC2-HD4-S2

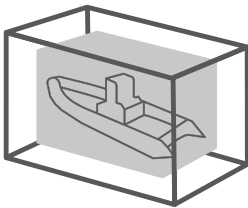
Description	Value
Weight of complete Cube™	18 Mt
Cube™ Engineered Frame	
Manufacturer	SH Defence
Dimensions (L x W x H)	6058 mm x 4901 mm x 2520 mm
Crane	MC 120055A6



# Traverse Crane

Handling and Launch System

The Cube™



Multi-Mission Module

## Integrated traverse crane capable of moving equipment from one Cube™ module to another.

**The Cube™ – revolutionising vessel conversion**  
SH Defence has developed The Cube™ to significantly reduce the time and money spent on reconfiguring navy vessels between missions. The Cube™ is a system of modules with standardised connection interfaces that can be loaded into Cube-ready 20’ and 40’ mission bays and seafastened using the Automatic Twist Lock System developed by SH Defence. With the Cube™ you can prepare your vessel for a new mission in less than 4 hours.

**Building your Cube™**  
Basically, a Cube™ consists of either a 20’ Base Frame or an Engineered Frame upon which equipment is installed. Frames can be supplied with a crash frame. The crash frame protects the equipment mounted on the frame, allows stacking of Cube™ modules and can be delivered with an integrated traverse crane capable of travelling between the modules in a Cube™.

For example, one Cube™ module may function as a torpedo launcher while the neighbouring Cube™ module functions as torpedo storage with a traverse crane integrated in the crash frame. These modules are assembled into one Cube™ allowing the integrated traverse crane to travel between the two modules, delivering torpedoes from the storage to the torpedo launcher.

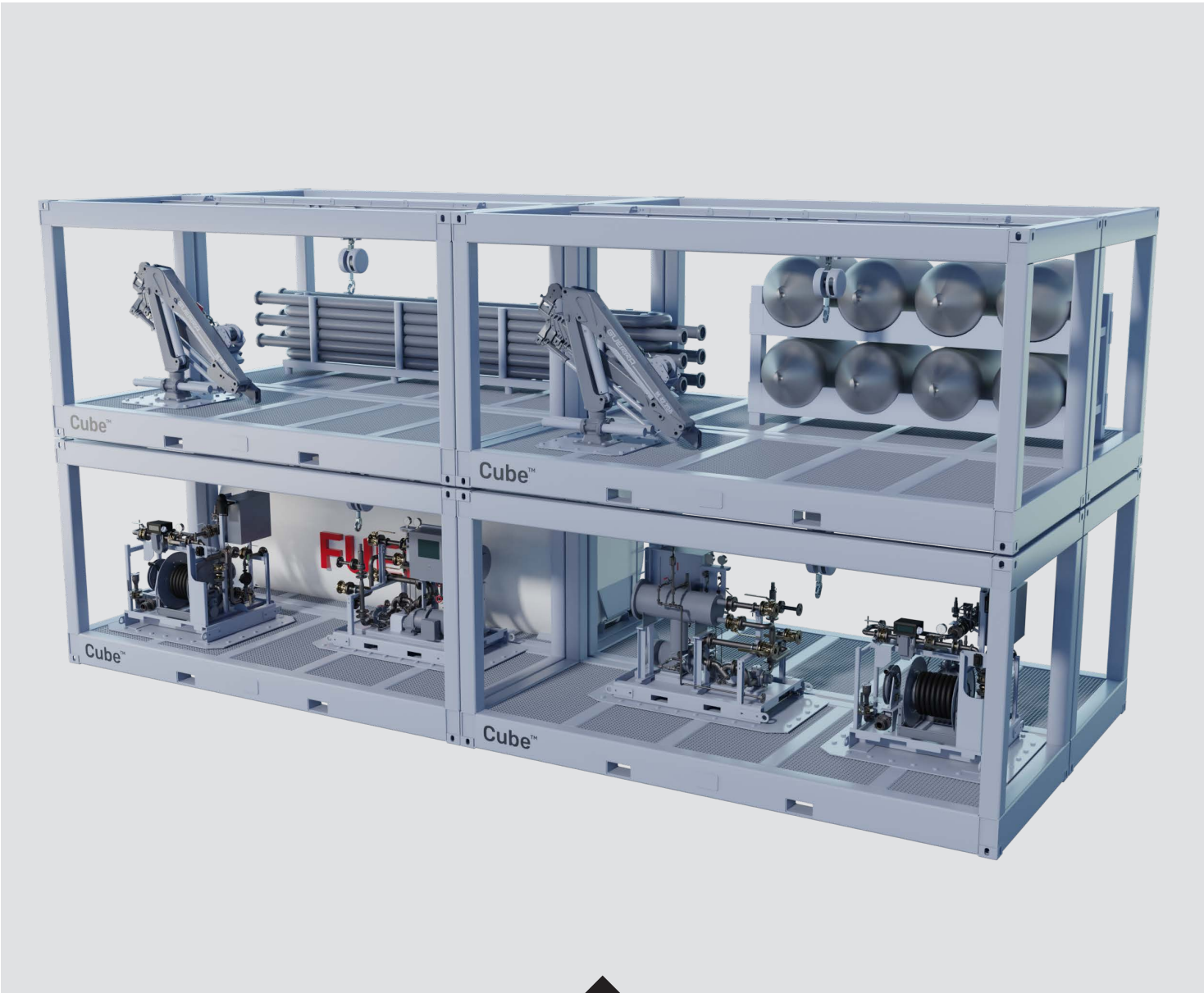
The unique design of the traverse crane makes it suitable for a large variety of other applications, for example, missile launcher and STS/RAS system. The crane is capable of carrying loads up to 500 kg.

**Safe and reliable design**  
The design of the traverse crane complies with DNV GL ST-0377 for shipboard lifting appliances.

Description	Value
Dimensions (H x L x W)	2896 / 6188* mm x 6058 mm x 4901 mm
SWL	500 kg
Weight	1 MT
Hoist chain length	10 m
Crane motor type	Electric with failsafe brake
Carriage driving type	Rack and pinion

\*Height of one High Cube Container

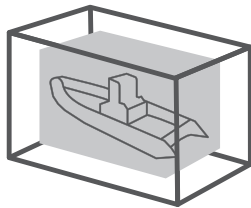




# STS/RAS system

DESMI Ro-Clean

The Cube™



Multi-Mission Module

## DESMI Ro-Clean STS/RAS system installed in a Cube™ setup

### The Cube™ – revolutionising vessel conversion

SH Defence has developed The Cube™ to significantly reduce the time and money spent on reconfiguring navy vessels between missions. The Cube™ is a system of modules with standardised connection interfaces that can be loaded into Cube™-ready 20' and 40' mission bays and seafastened using the Automatic Twist Lock System developed by SH Defence. With the Cube™ you can prepare your vessel for a new mission in less than 4 hours.

### Building your Cube™

Basically, a Cube™ module consists of either a 20' Base Frame or an Engineered Frame upon which equipment is installed. Frames can be supplied with a crash frame. The crash frame protects the equipment mounted on the frame, allows stacking of Cube™ modules and can be delivered with an integrated traverse crane capable of travelling between the modules in a Cube™. For more information on the 20' Base Frame and the Engineered Frame, please see the relevant product sheets or contact SH Defence (see contact details below).

### STS/RAS system

This STS/RAS System demonstrates the versatility of the Cube™ Multi-Mission Modules.

We have installed the DESMI Ro-Clean DES Helicopter Refuelling System in a Cube™ setup. The system consists of a fuel tank, two pump systems and a storage module. The equipment is mounted on four Cube™ 20' Base Frames with crash frame and integrated traverse crane assembled into two Cube™ modules. On top of the two bottom Cube™ modules, we have installed another two Cube™ modules consisting of four Cube™ 20' Base Frames with integrated traverse crane. The top Cubes™ are intended for storage and provide additional crane capacity for loading and unloading over the side of the vessel.

This STS/RAS System fits in a 40' Cube™-ready mission bay.

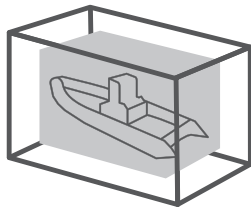
Description	Value
Dimensions (L x W x H)	12192 mm x 4900 mm x 5822 mm
Traverse crane capacity	300 kg
Pump capacity	130 m³/h



# DESMI Ro-Boom system

Effective, reliable and durable oil containment boom

The Cube™



Multi-Mission Module

## The trusted DESMI Ro-Boom Clean system installed in a Cube™ setup

### The Cube™ – revolutionising vessel conversion

SH Defence has developed The Cube™ to significantly reduce the time and money spent on reconfiguring navy vessels between missions. The Cube™ is a system of modules with standardised connection interfaces that can be loaded into Cube™-ready 20' and 40' mission bays and seafastened using the Automatic Twist Lock System developed by SH Defence. With the Cube™ you can prepare your vessel for a new mission in less than 4 hours.

### Building your Cube™

Basically, a Cube™ module consists of either a 20' Base Frame or an Engineered Frame upon which equipment is installed. Frames can be supplied with a crash frame. The crash frame protects the equipment mounted on the frame, allows stacking of Cube™ modules and can be delivered with an integrated traverse crane capable of travelling between the modules in a Cube™.

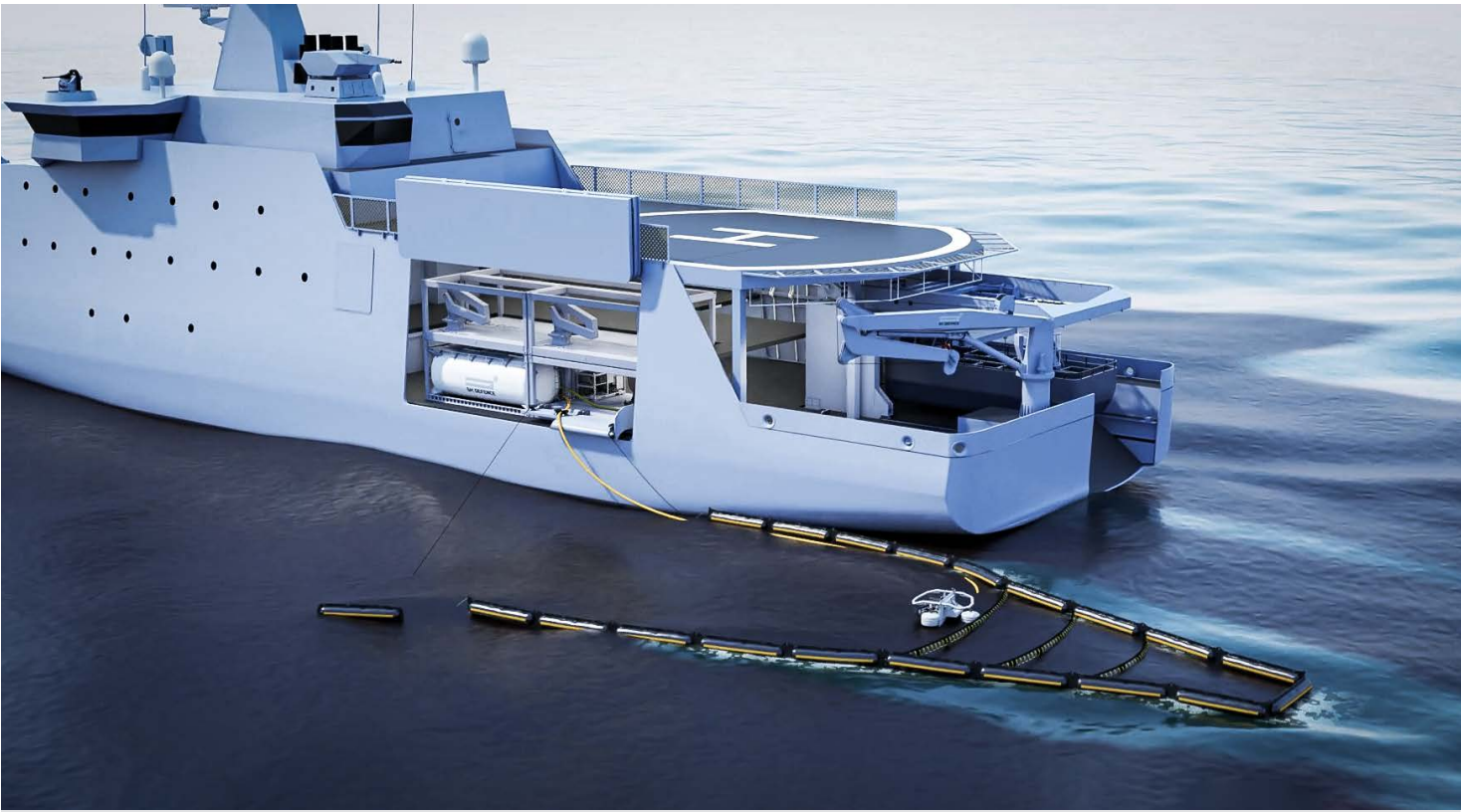
### DESMI Ro-Boom Clean system

This Ro-Boom Clean system demonstrates the versatility of the Cube™ Multi-Mission Modules.

We have installed the DESMI Ro-Boom System in a Cube™ setup. For coastal and near-shore use DESMI provides the well known Ro-Boom but in smaller sizes whilst maintaining the integrity of the larger product offerings.

The systems being able to recover a wide range of oils including emulsions and weathered compounds to high capacity. This Ro-Boom Clean system fits in a 40' Cube™-ready mission bay.

For more information on DESMI EnviRo-Clean system:  
[www.desmi.com/products-solutions-library/ro-boom](http://www.desmi.com/products-solutions-library/ro-boom)

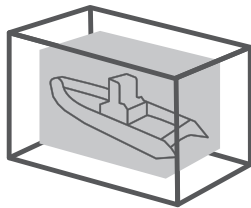






# Missile Containerized System

The Cube™



Multi-Mission Module

## Cube-ready containerized missile system with CMS interface.

### Cube-ready plug-and-play solution

Missile systems installed in standard shipping containers offer highly mobile weapons systems. With The Cube™ Multi-Mission Modules, SH Defence takes this technology to the next level, offering a Cube-ready plug-and-play container missile system.

The system is installed in a 20' standard container, which can be loaded into any Cube™-ready mission bay and connected to the standard connection cabinet CubedIn™. The Container Missile System comes with an interface to the CMS and is provided with hydraulic input, which can be connected to the SH Defence Deck Hatch Cover HPU, enabling hydraulic actuation of the missile cradle to firing position.

The container is provided without top, which means that a SH Defence Deck Hatch Cover is required to protect the missile system from weather impact. The SH Defence Deck Hatch Cover, however, also ensures that it is easy to access and deploy the missile system. See the relevant product sheet for further information on the Deck Hatch Cover or contact SH Defence (see contact details below).

### Safety first

The Container Missile System Cube™ is equipped with a strong door designed to resist the recoil from firing the missiles. The CMS is provided with sensor input from the container to ensure that the door is locked and secured before missiles are launched.

Description	Value
Demensions (H x L x W)	2896 mm x 6058 mm x 2438 mm
Weight	7 MT
Material	Structural steel S355
Force absorption	Up to 53 kN
Weight af carriage	1.7 MT

# Endless functions

The Cube™ currently contains the following equipment solutions

Patent  
pending

**BOAT SOLUTIONS (INCLUDING DAVITS)**

- Fast interceptor boat
- Fast rescue boat
- Rescue boat
- Drone boat
- Work boat
- Crew boat
- Diver boat
- Ambulance boat
- Police boat

**INVESTIGATION TOOLS SOLUTIONS**

Launch & recovery systems for:

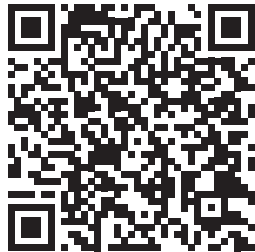
- ROV
- AUV (underwater drones)
- USV (surface drones)
- Mini submarine
- Diving equipment
- Sonar equipment

**WORK TOOLS SOLUTIONS**

- Telescopic gangway  
(ship to shore - ship to ship)
- Telescopic crane
- Elevator module
- Overhead crane
- Foldable crane
- Winch systems for sonar, mooring, towing, lifting etc.
- STS fuel transfer systems

- FIFI firefighting systems
- Tank storage module for fluids
- Floating barrier systems
- Environmental pump suction systems
- Pump module for emergency support and salvation
- Air compressor module
- Pre-Hospital module
- Hospital module
- Test Lab module
- Hazmat module
- Office module
- Kitchen module
- Canteen module
- Accommodation/passenger module
- Bath and toilet module
- Command center module
- Storage module
- Freeze storage module
- Various weapon systems
- Freshwater purifier module
- Electric power module (diesel genset)
- Cleaning workshop module
- Workshop module
- Central heating module
- Search and work light module
- Air drone bay

and many more...



Watch product movies on YouTube.  
Scan QR Code with your smartphone.



# The Cube™

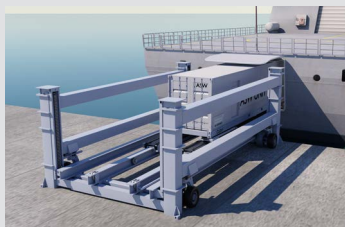
## Future-proof Containerized Multi-Mission Modules for Coast guard, SAR and Navy vessels

The Cube™ is a **flexible** and cost-efficient solution consisting of **modular equipment** that enables **reconfiguration of vessels** in less than 4 hours.

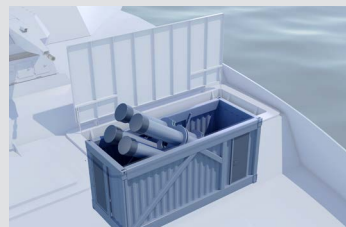
All you need to do is unload the Cube™ modules that are no longer required and load the modules that support the vessel's next mission.



Side Loaded



Stern Loaded



Deck loaded

Fully compliant with NATO STANAG 4830 / ANEP-99  
- Design and Interface Standards for Containerized Mission Modules



Member of  
**NavalTeamDenmark™**



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[www.shdefence.com](http://www.shdefence.com)