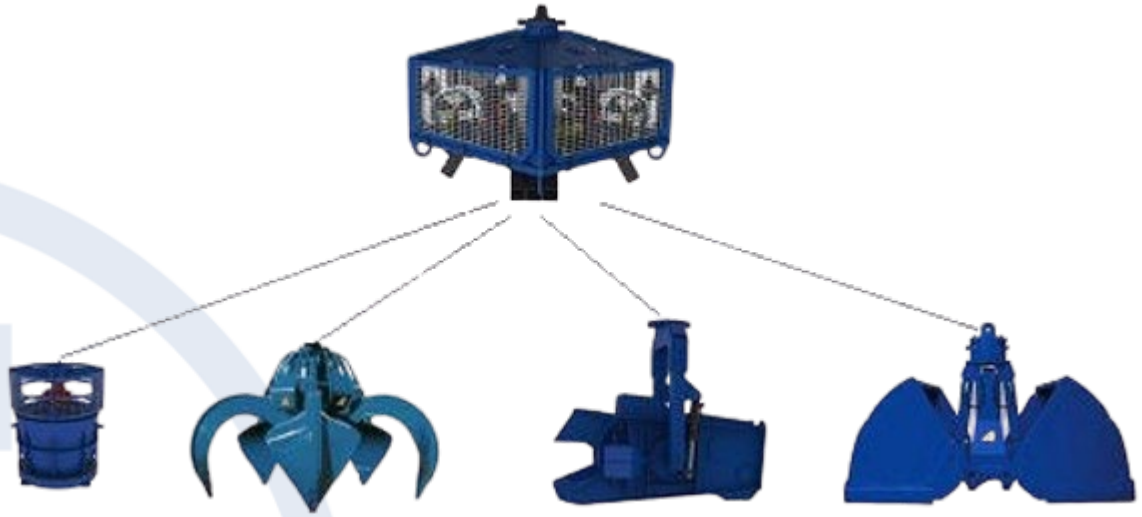
offshore
MARINE EQUIPMENT

Introducing

iGRAB SUBSEA

IGRAB SYSTEM

The i Grab system is a versatile subsea platform based around a series of interchangeable hydraulic tooling, survey electronics and subsea sensors that allow for a wide range of subsea tasks to be undertaken.



The flexibility of the system allows for multiple tasks to be undertaken without the need for extra equipment.

IGRAB ATTACHMENT VARIATIONS

About iGrab

Our Experience

Technical Specs

Service Options

IGRAB MODELS

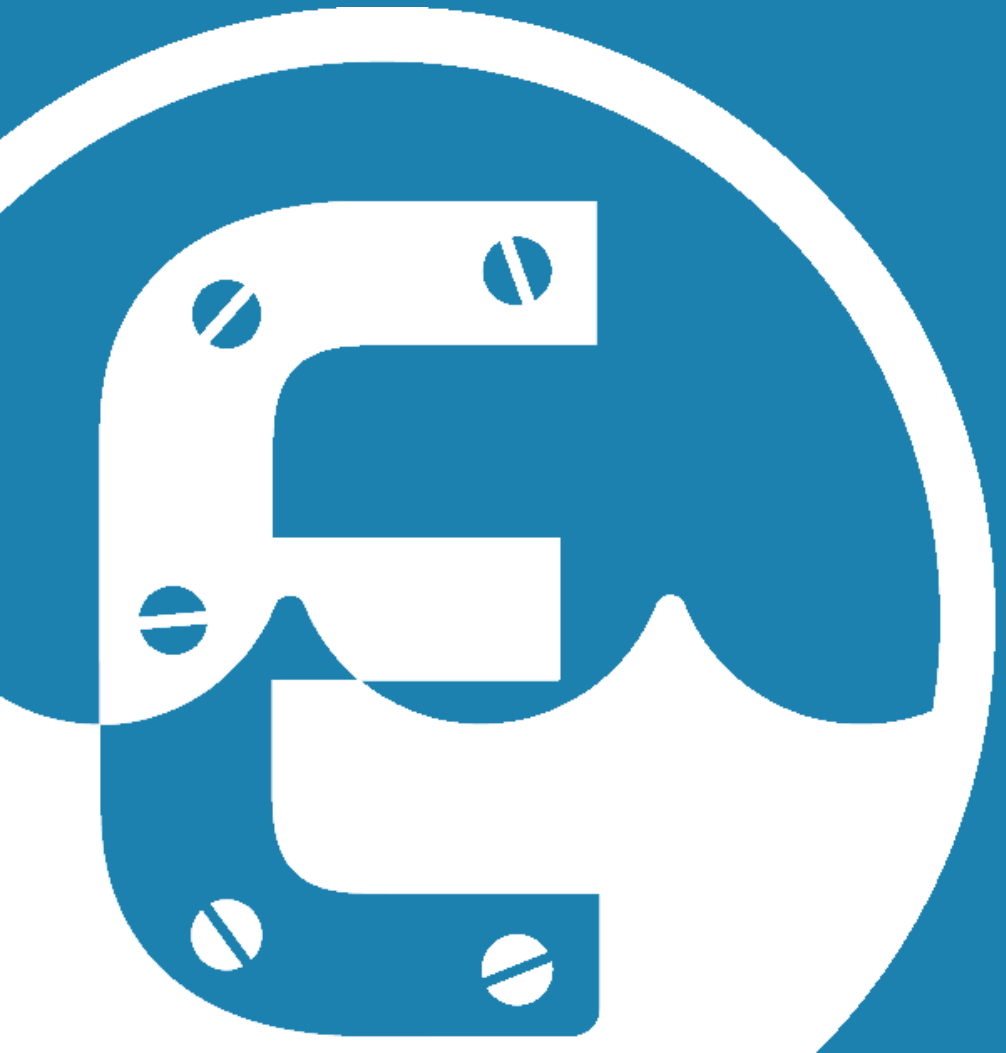
i Grab 200

- Deep sea operations
- Permanent mobilised on the Atlantic Explorer
- 1 available

i Grab 300

- Upgraded system following feedback from i Grab 200
- Both deep sea AND shallow water operations
- Containerised – can be moved between vessels
- 2 available

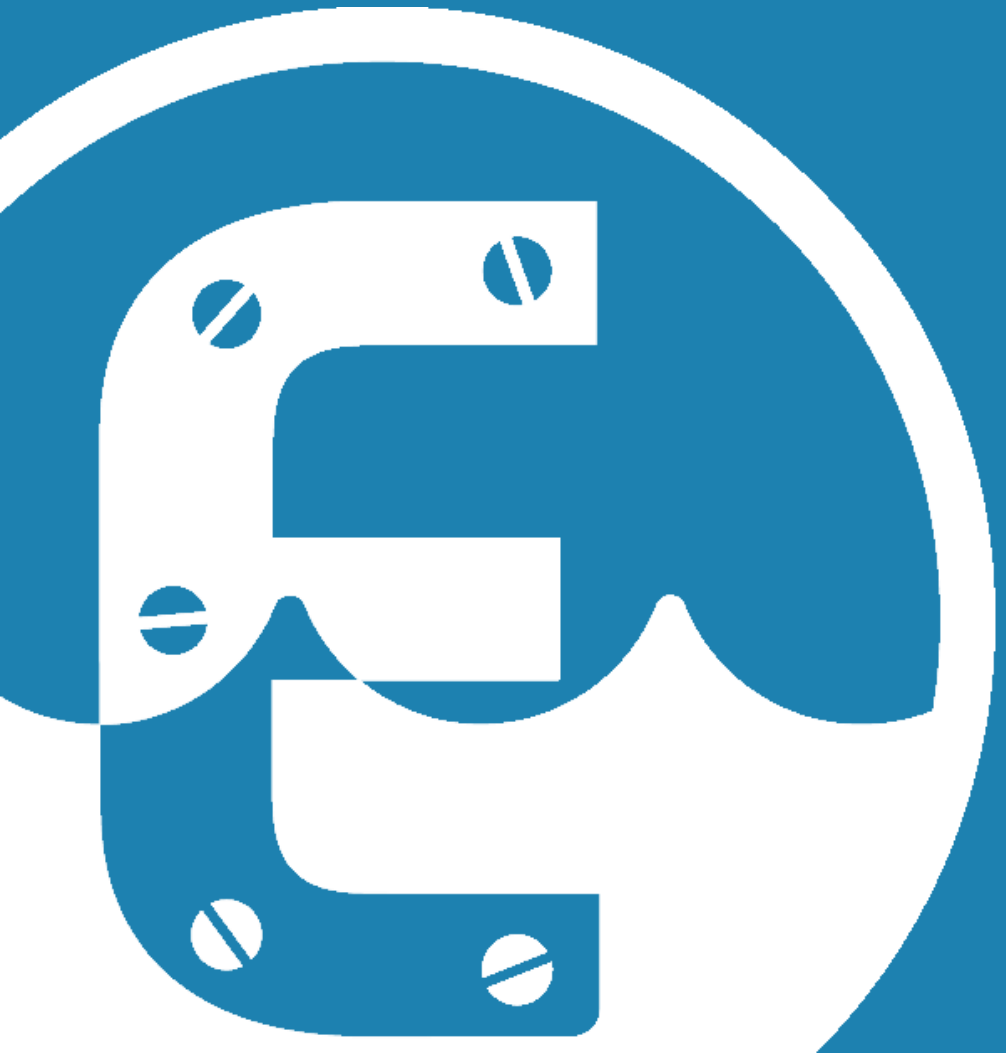
Previous Experience



iGRAB SUBSEA

PREVIOUS EXPERIENCE

Year	Offshore Site/Wind Farm	Role - Project	Client	*No. Targets / Boulders
2020	Kincardine OWF	Boulder Removal/DMA Removal/Rock Bag Placement	23 Degrees	**21**
2020	Pentland Firth	Rock Bag Placement	23 Degrees	**46**
2020	Moray East OWF	Boulder Removal	DEME	
2017-2018	Hornsea OWF	Boulder Removal	Orsted / GeoSea	**1000**
2017	Wikinger OWF	Boulder Removal	Prysmian/50hz / OMM	**>2,000**
2017	East Anglia 1 EA1	Geotechnical Coring	Horizon	
2017	Groix / Belles Isles OWF	Geotechnical Coring	G-Tec	
2017	Atlantic Ocean SW Eire	Deep Salvage	BGL Britannia's Gold	**3 wrecks surveyed ROV.**
2017	Trianel OWF	UXO & debris & removal	Sea Terra	**20**
2017	Tahkoluoto OWF Finland	Trench / seabed leveling	Jan de Nul	
2017	Rentel OWF	UXO & debris & removal	Sea Terra/Tideway	**>800**
2017	Race Bank	Mass Flow Excavations	DONG Energy	
2017	Race Bank	Subsea Salvage	DONG Energy	**Anchor, chain, wreckage**
2017	Walney OWF	Boulder & debris removal	DONG Energy	**>250**
2016	Race Bank	ROV survey & Debris removal	DONG Energy	
2016	Western Aldegrund	Boulder/UXO removal	Prysmian/50hz / OMM	**>2,500**
2016	Rampion	Boulder/UXO removal	EON	**>2,600**
2016	Rampion	Boulder/UXO removal	EON	**>2,600**
2016	Channel Isle	Subsea Cable Removal	HSSE	
2016	Western Aldegrund	Boulder/UXO removal	Prysmian/OMM	**>5,900**
2016	DolWin (Germany)	Mattress Lay & ROV survey	Prysmian / OMM	
2016	Race Bank	Boulder/UXO removal	DONG Energy	**>800**
2015	S.North Sea	Pipeline inspection with ROGE	Pangeo Subsea	
2015	Gwynt y Môr	Mass Flow Excavations	HSSE	
2015	Race Bank	Boulder/UXO removal	DONG Energy	**>3,200**
2015	Western Aldegrund	Boulder/UXO removal	Prysmian/OMM	**>5,900**
2013	Humber Gateway	Boulder removal	EON Renewables	**>8,500**
2013	St Nazaire	Subsea Geotechnical Survey	Fugro	
2013	Baltic 2	Subsea cables ROV inspection	Alstom	
2013	Humber Gateway	Inter array cable lay	EON Renewables	
2012	Rampion	Subsea Geotechnical	Fugro	
2012	Westernmost Rough	Boulder and UXO removal & survey	VBMS	**>3,700**
2011	London Array	Offshore Trenching /	London Array	



Technical Specifications

iGRAB SUBSEA

SPECIFICATIONS

Size & Capacity:

- Thruster Head Unit:
  - 2040mm x 2040mm x 1440mm
  - 2 Ton
  - Additional tooling used will increase size & weight
- Max Lift:
  - Approx. 20 tons
  - Depends on umbilical, tooling & application
- Grab Jaws:
  - 1000ltr capacity
  - Jaw size: 2.5m open, 1.7m closed
  - 1.5 Ton

SENSORS

Standard:

- Sonar x 2 (Teledyne Blueview P900 / GEMINI)
- Cameras x 3
- Optional cameras fitted depending on task
- E.g. 1 x Tritech Typhoon colour / 2 x Tornado lowlight
- USBL transponders
- Lights x 4 (Rovtech Seabeam)

Optional Sensors (depending on iGrab configuration):

- RESON MULTIBEAM SONAR (Seabat)
- PANGEO SUBSEA Sub Bottom Profiler
- Side Scan Sonar
- HD Cameras

DECK EQUIPMENT

Umbilical Winch

The umbilical winch provides the conduit for electrical power and communications between the i Grab vehicle and control cabin. Umbilical winch provides controlled spooling in both manual and automatic (constant tension) modes. Winch hydraulic and electrical power transmitted from the control cabin power pack and switchboard via umbilical slip-rings.

Control Cabin

The Control Cabin is the main control hub for the full system and provides the following functions:

- Control of i Grab unit - Joystick, keyboard, mouse and switch panel
- Monitoring of i Grab - Alarms and diagnostics
- Monitoring of sensor info – Sonars, cameras, depth & heading
- Display camera and sonar images via 4 x monitors
- Communications to crane/vessel via radio
- Remote survey screens

REQUIREMENTS & LIMITS

Electrical Power Requirements:

Component	Power Supply
i Grab Frame	440V or 2000V (Supplied by Umbilical)

Personnel Requirements:

Number	Team
1	Offshore Manager
6	i Grab Team (2x Supervisors, 4x Pilots/Technicians)
2	Survey Team (if not provided with vessel)

Other Requirements:

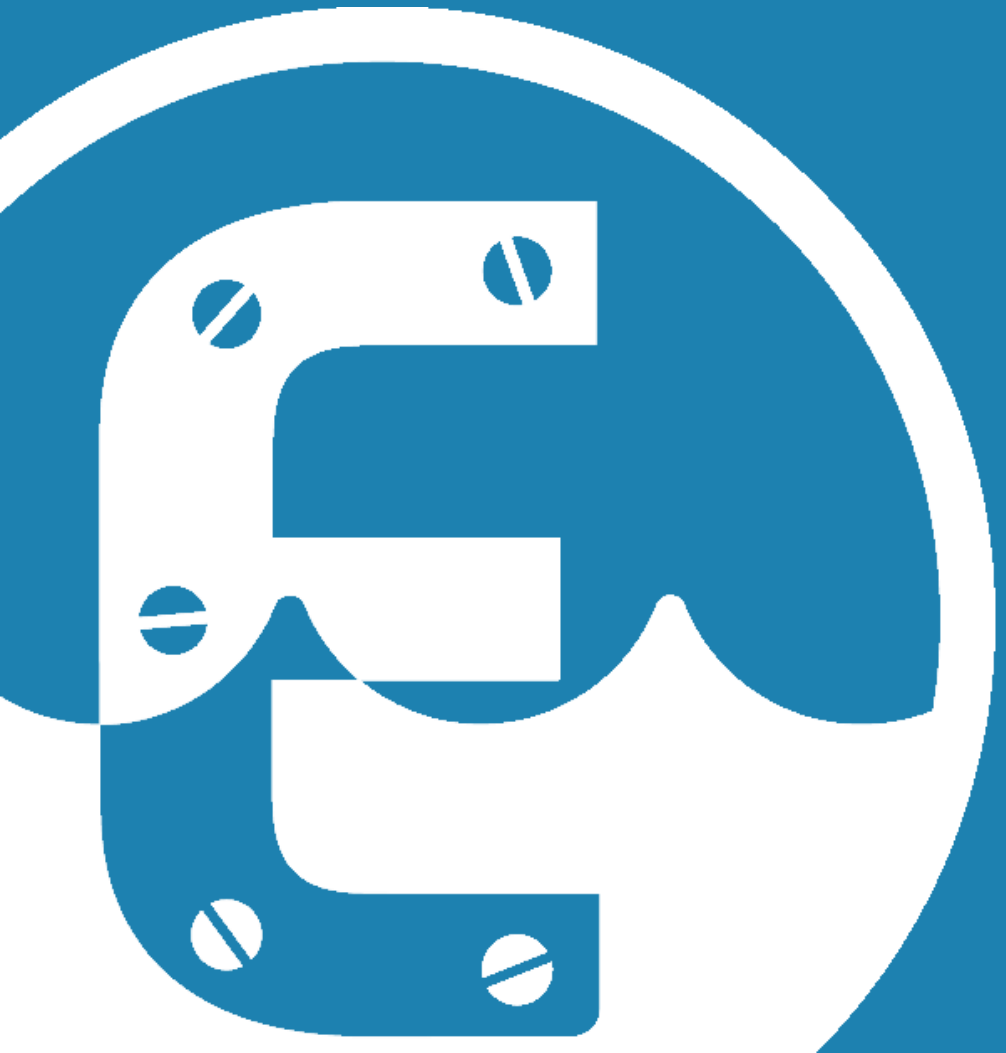
Item	Requirement
Crane	30 tonnes

Weather Limits:

Parameter	Condition
Sea State	4-5
Significant Wave Height	2.5 metres
Wind	30 knots
Current	3 knots max

Depth Limits:

Parameter	Condition
Max Depth (determined by umbilical length)	4000m
Umbilical lengths	250m, 2000m



Service Options

iGRAB SUBSEA

IGRAB SERVICE OPTIONS

Uses of i Grab system:

1. Boulder/UXO Grab Removals & Boulder Survey
2. Subsea Mattress Protection: Position & Lay
3. Sub-Bottom & Cable/Pipeline Route Surveys
4. Debris Salvage & Removal

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Our Experience

Technical Specs

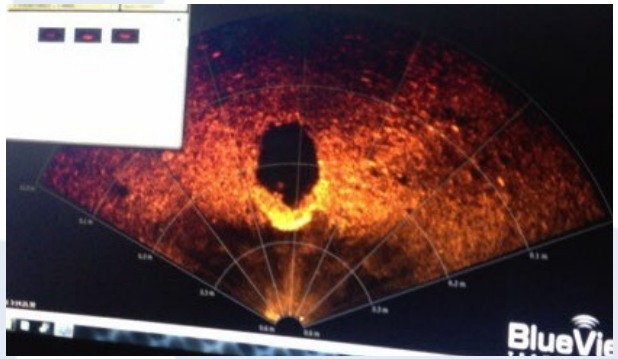
Service Options

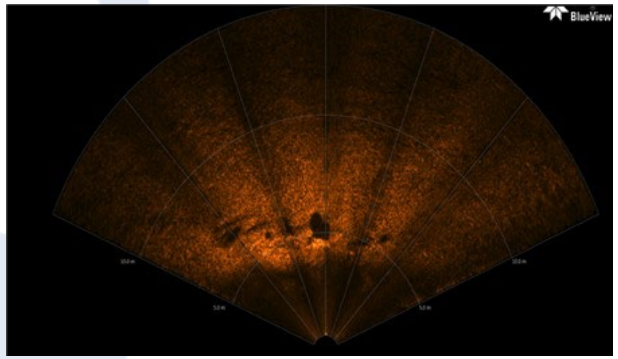
BOULDER/UXO GRAB REMOVALS & BOULDER SURVEY

The large Tyne grab allows for excellent boulder picking capabilities.

The onboard sensors and thrusters allow for easy finding and repositioning of the boulders as well as as-laid surveys for proof of the completed work.

The grab also allows for easy removal of any UXO's present in the site.

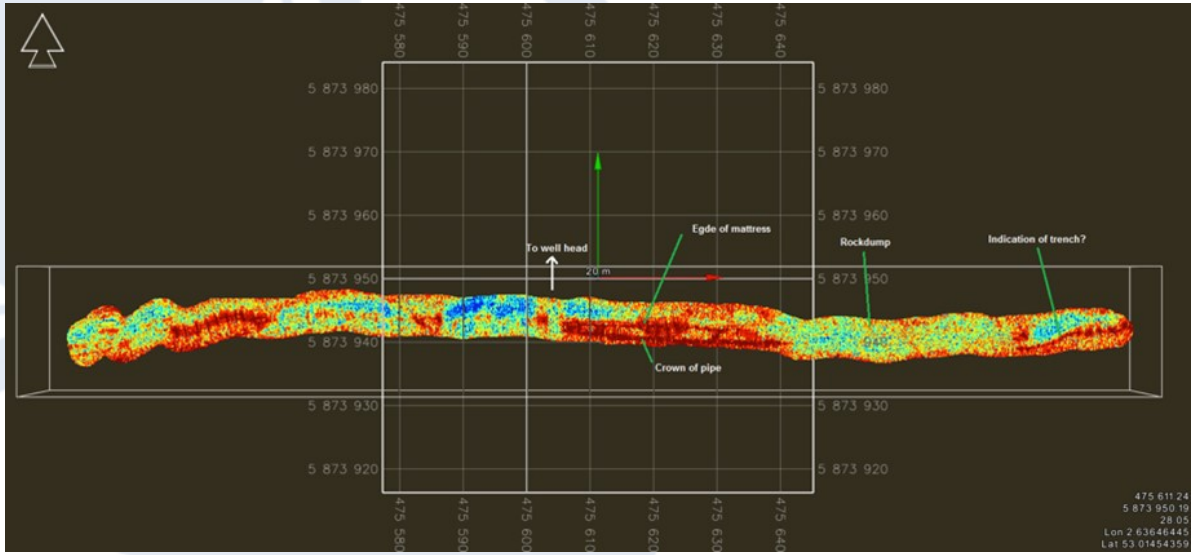


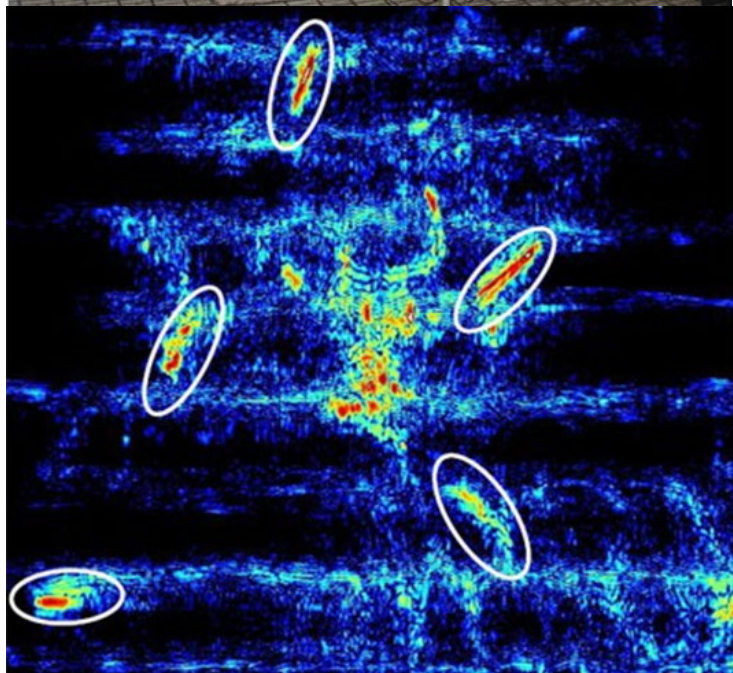


SUB-BOTTOM & CABLE / PIPELINE ROUTE SURVEYS

The iGrab can utilise third party sensors as listed below to undertake comprehensive subsea surveys and profiles.

- RESON MULTIBEAM SONAR (Seabat)
- PANGEO SUBSEA Sub Bottom Profiler
- Side Scan Sonar
- BlueView Sonar (Included)
- HD Video Cameras



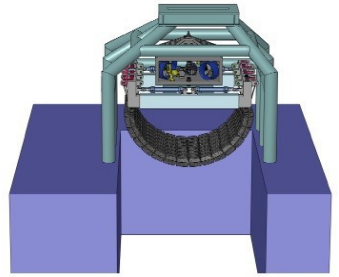


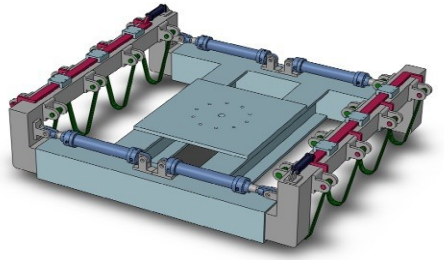
SUBSEA MATTRESS PROTECTION: POSITION & LAY

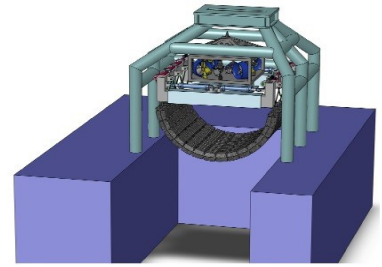
The versatility of the system allows for it to utilise both the standard and custom mattress laying platforms pictured top and bottom respectively.

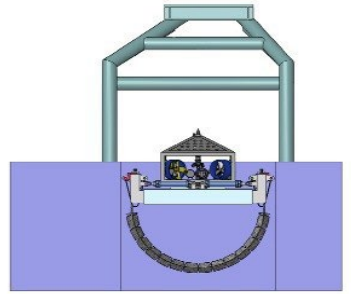
However, the iGrab's onboard thrusters and sensors give it an advantage over the competition with a greater laying precision being achieved.

Addition of sensors to the frame allow for easy as-laid surveys of the mattress positions to be conducted.









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SUBSEA DEBRIS

The grab tool allows the user to easily pick up any objects from the seafloor ranging in size from the smaller objects pictured to the much larger items and salvage present on the seafloor.

With a 20 ton max lift and 1000 litre capacity, large amounts of salvage can be recovered with each lift.

Pictured: recovered remains of an inspection class ROV that had entered the propellers of another vessel

offshore
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Thank You For Your Time

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