OUTLINE SPECIFICATION – eCSOV

Zero Emission Commissioning Service Operation Vessel

FIRST IN CLASS ELECTRIC CSOV

BIBBY MARINE LIMITED

Zero Emission Electric CSOV

Setting a new benchmark in the offshore Walk-to-Work (W2W) market

Delivering unmatched reductions in emissions and fuel consumption

Equipped with a market-leading battery system and a methanol fuel system**,** **it will be the world's first truly zero-emission CSOV**, capable of operating on battery power alone for extended periods.

Designed from the ground up for zero-emission operations:

- **Large 24.4MWh LFP battery,** with a DC power system
- **DP2 capability,** with closed bus-tie qualifier
- **Offshore charging ready**
- **Fully Methanol System** (Commissioned and tested)
- **Premium accommodation and outfitting**
- **Best-in-class mission equipment**
- **'Digital Ready' with AI integration**

Key Features

Purpose designed dual fuel methanol battery hybrid vessel, designed for maximum efficiency and redundancy

Spacious, high-end accommodation for 120 personnel in 84 cabins, certified to DNV Comfort Class COMF (V2, C2).

Large working deck and spacious warehouse with side and top access via hydraulic doors/hatches

DP2, with closed BUS notation “DYNPOS AUTR-CB” and DC Switchboard solution

Fully Methanol ready at delivery (installed & Commissioned), acc. DNV “LFL Fuelled” notation with two large Wartsila dual fuel fixed speed engines for flexible operations

Large 24,400 kWh LFP ESS, divided into a three-split system, with offshore and onshore charging capabilities

Full Kongsberg propulsion package, featuring Rim Drive propulsion units for optimal efficiency

Advanced Mission Equipment:

- SMST 3D Motion compensated Gangway,
- SMST 3D Motion compensated Offshore crane 10Te, upgradable to 40Te subsea AHC

Large Helideck, “T” value - 12.6Te, “D” Value - 21.0m (Sikorsky S-92)

Future-ready, with provisions for:

- Prepared for Hybrid Daughter craft integration
- Prepared for ROV integration

Mission Overview

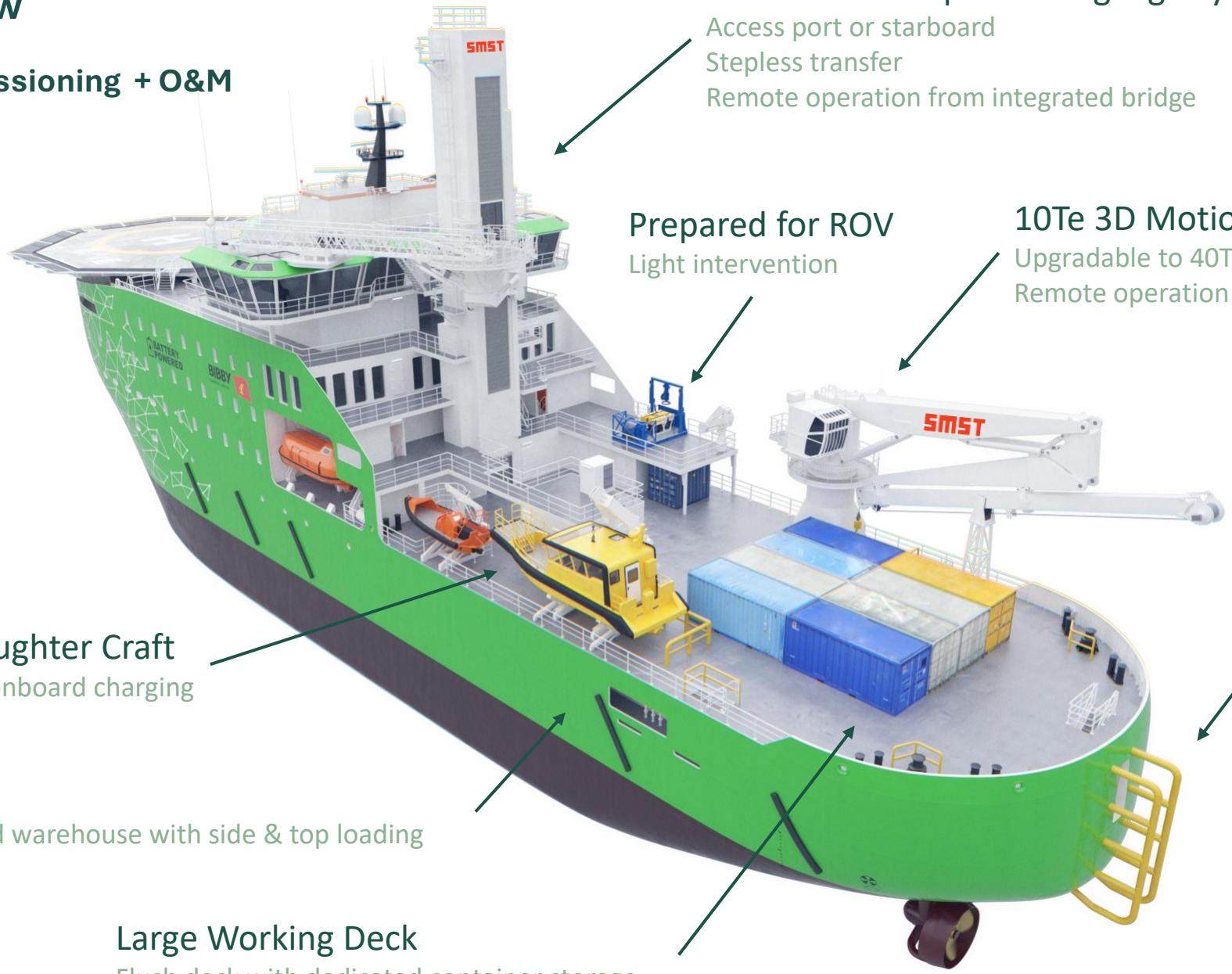
Prepared for Commissioning + O&M

3D Motion compensated gangway
Access port or starboard
Stepless transfer
Remote operation from integrated bridge

Prepared for ROV
Light intervention

10Te 3D Motion compensated Crane
Upgradable to 40Te subsea
Remote operation from bridge

Helideck
21m/12.6Te (S-92)



Prepared for Large Daughter Craft
Battery hybrid option, with onboard charging

CTV Transfer
Stepless transfer

Large Warehouse
Environmentally controlled warehouse with side & top loading

Large Working Deck
Flush deck with dedicated container storage

Vessel Specification

Main Particulars

Length Overall	89.63m
Breadth Moulded	19.80m
Depth Moulded	7.55m
Draught (Design)	5.00m
Gross Tonnage	6773Te

Capacity

Fuel oil (MGO)	501 m3
Fuel oil (Methanol)	450 m3
Fresh water	270 m3
Warehouse area	535 m2
Cargo deck area3	500 m2
Deadweight	2283 t

Flag UK

DNV Class Notations

+1A Windfarm Service, **Battery Power**, E0, **LFL Fuelled**, DYNPOS(AUTR-CB), COMF(C-2, V-2), SPS, Walk2work, Clean (Design, Tier III), Cyber Secure (Essential), LCS, BIS, Strengthened(dk), Smart(EEN), BWM(T), ER(SCR), HELDK(SH), Recyclable, Shore power, NAUT (OSV)

Trial speed

13.0 knots at 5.0 m draft in calm weather and with clean hull
10 knots at 5.0 m draft, eco speed

DP Capability

Kongsberg
DP Capability according to DNV-ST-0111 (9,7,8,6)

Engine & Propulsion:

Wartsila
6L32, Dual Fuel Methanol
Main gensets (Fixed speed)
2 off 3480 kw @ 750rpm, 50hz
Combined Power of 6800 kw(e)

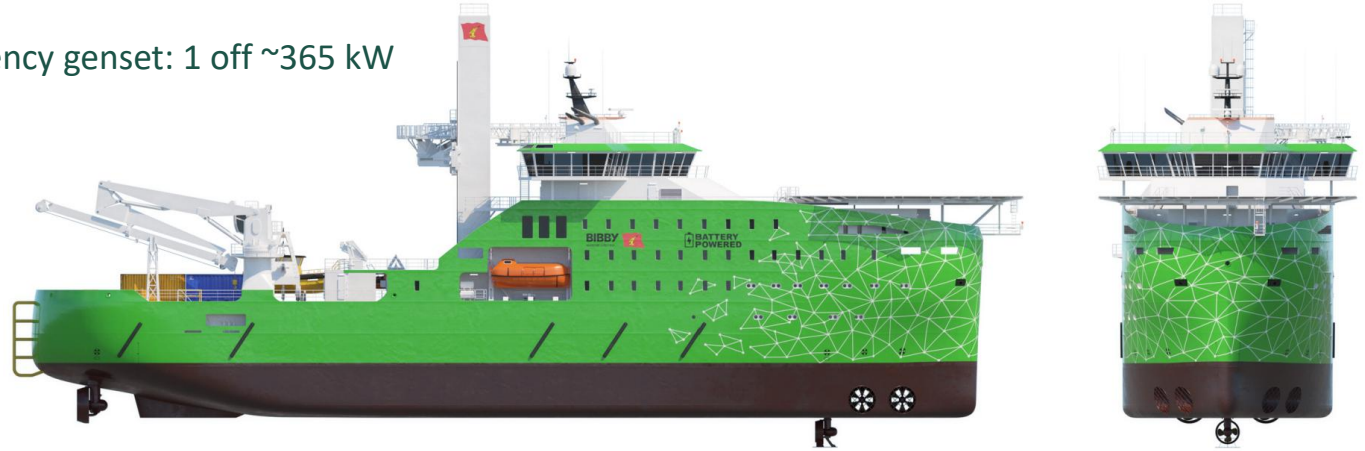
Emergency genset: 1 off ~365 kW

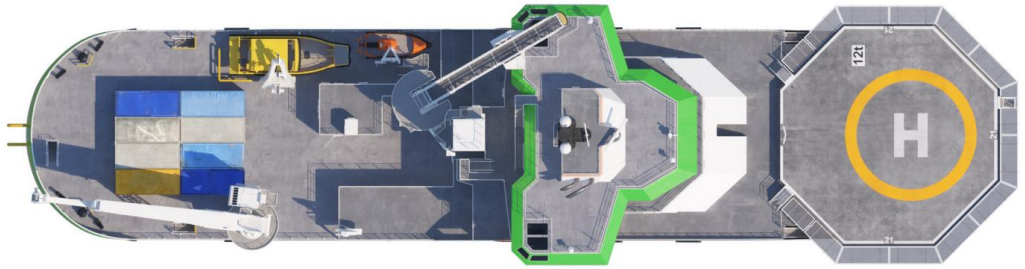
Energy storage system:

Corvus Energy
Lithium Iron Phosphate (LFP)
24,400 kWh
Split across 3 compartments

Main Propulsion:

Kongsberg
2 off 2000 kW RIM Drive Main Azimuth Units
2 off 1500 kW RIM Drive Tunnel Units
1 off 1200 kW Retractable Unit

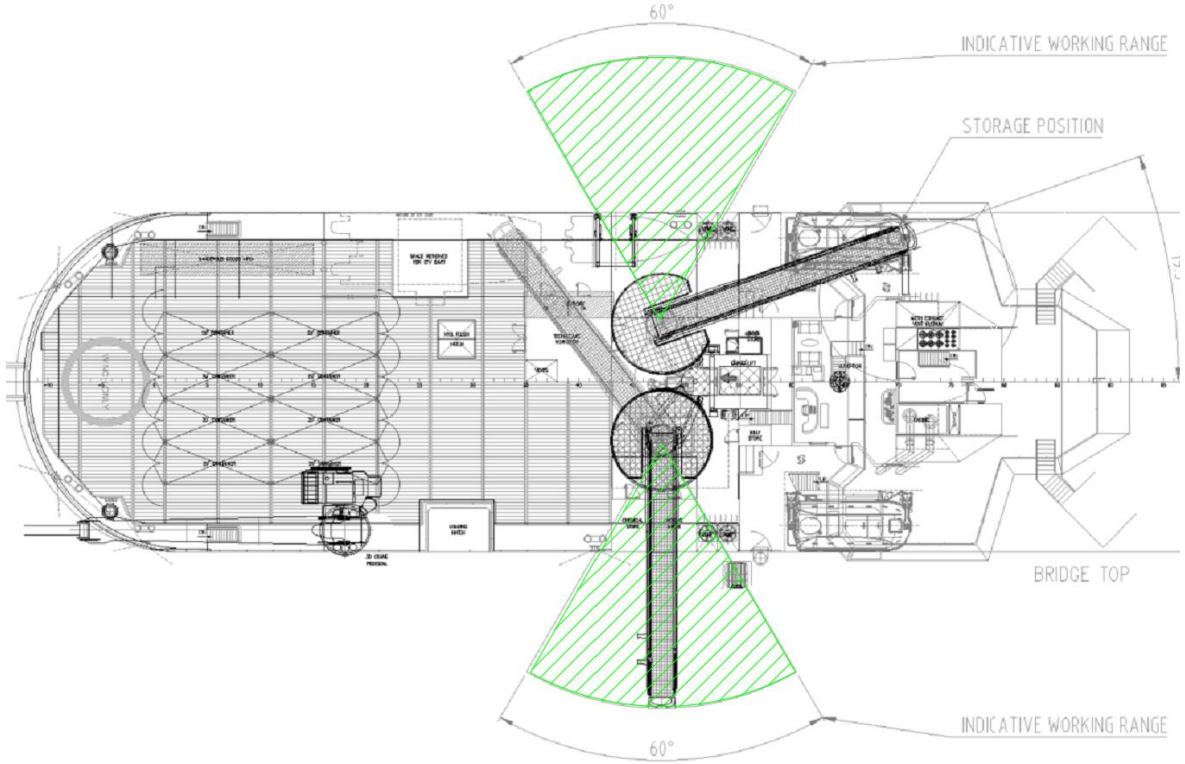


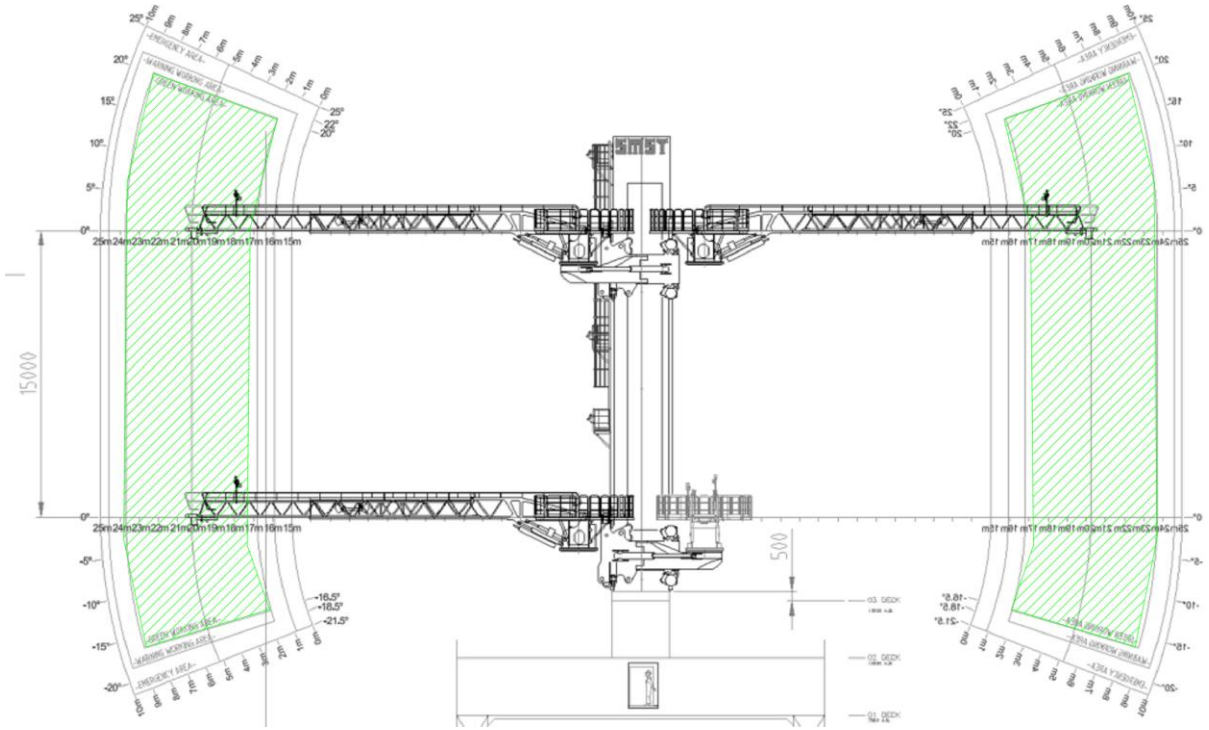


Walk 2 Work Gangway

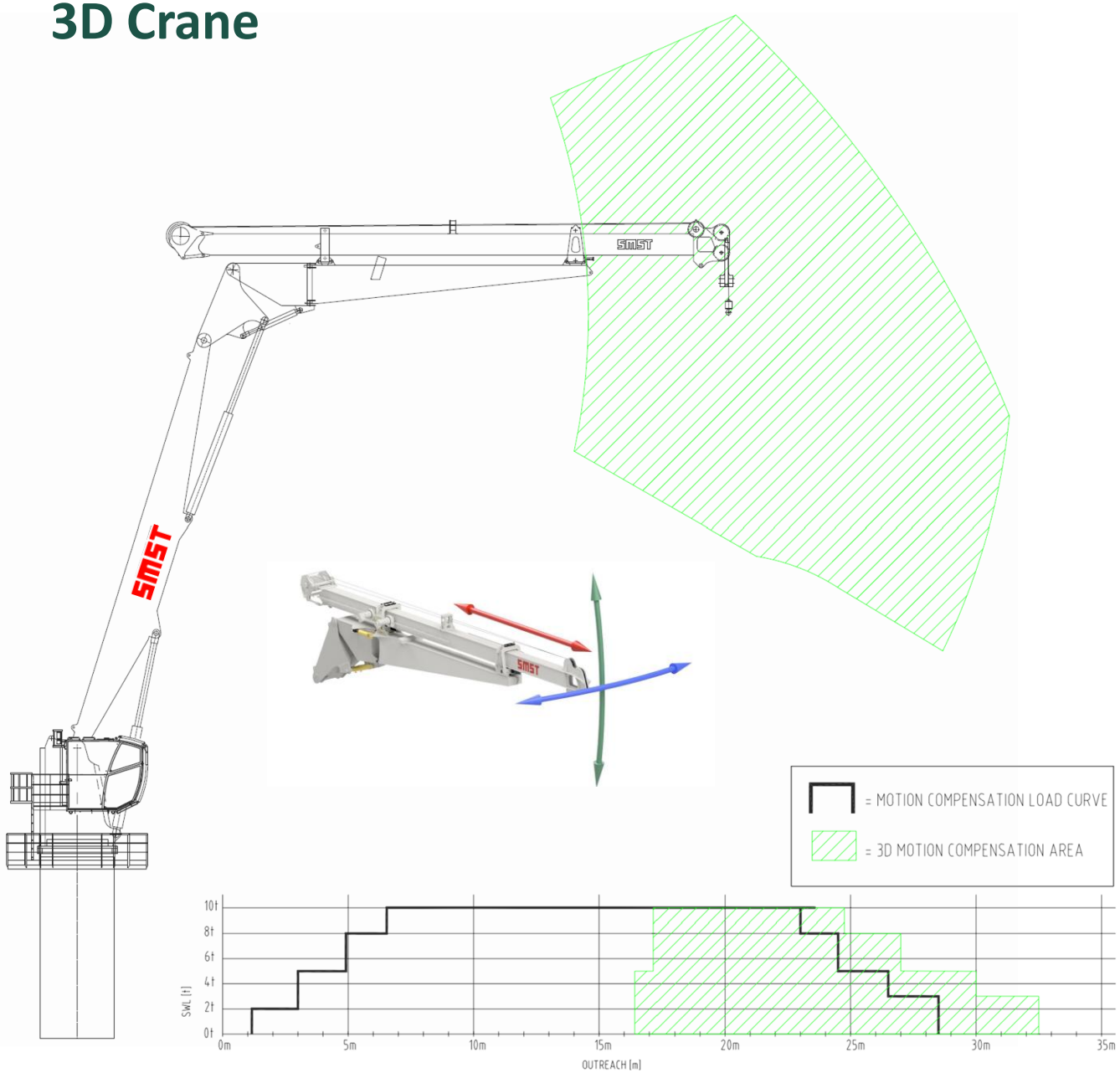
- **Maker:** SMST TAB-L1 + Access & Cargo Tower
- **Internal Width:** 1,200mm
- **Load Capacity:** 850kg
- **Elevator Capacity:** 2,000kg
- **Parking Location:** Wheelhouse Top
- **Winch at Tip:** 1,000kg , 3D Motion Compensated

- **Operation Side:** Port and Stbd Side
- **Control Positions:** Port BW (W2W), Stbd BW (W2W & Crane)
- **Cursor Height:** 13 – 28m (horizontal from waterline)
- **Gangway Tip Height:** @+/- 5degrees 30m & 11m
- **Gangway Length:** 28.9m from Centreline
- **Slewing Range:** + 240 degrees (with articulating cursor)
- **Luffing Range:** +25 / -21.5degrees





3D Crane



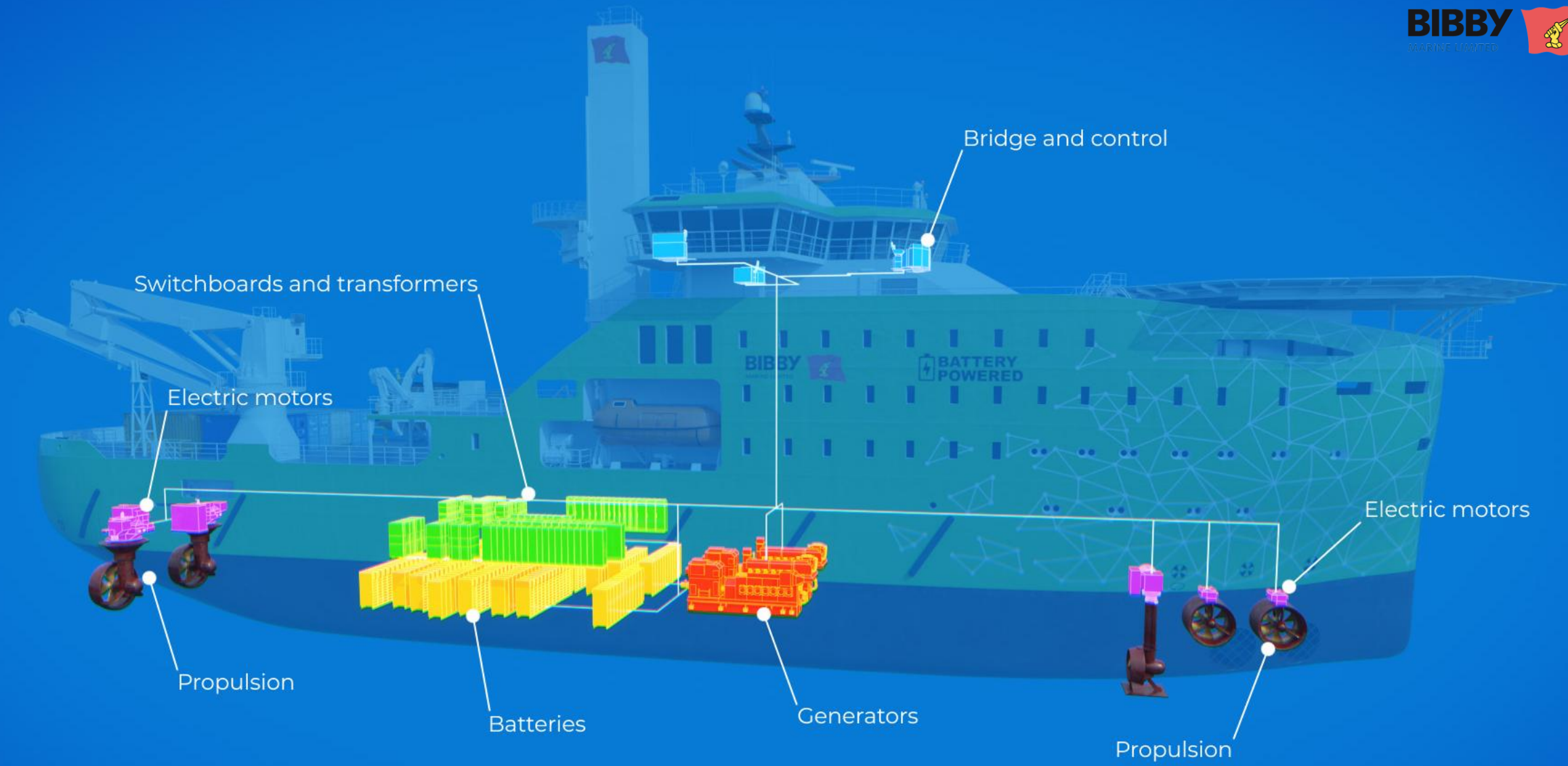
- **Maker:** SMST L Type Knuckle Boom

- **3D Comp Load Capacity:** 1,000kg - 10,000kg
- **3D Comp Working Radius:** 10,000kg @ 24.7m, 5,000kg @ 30m, 3,000kg @ 32.5m

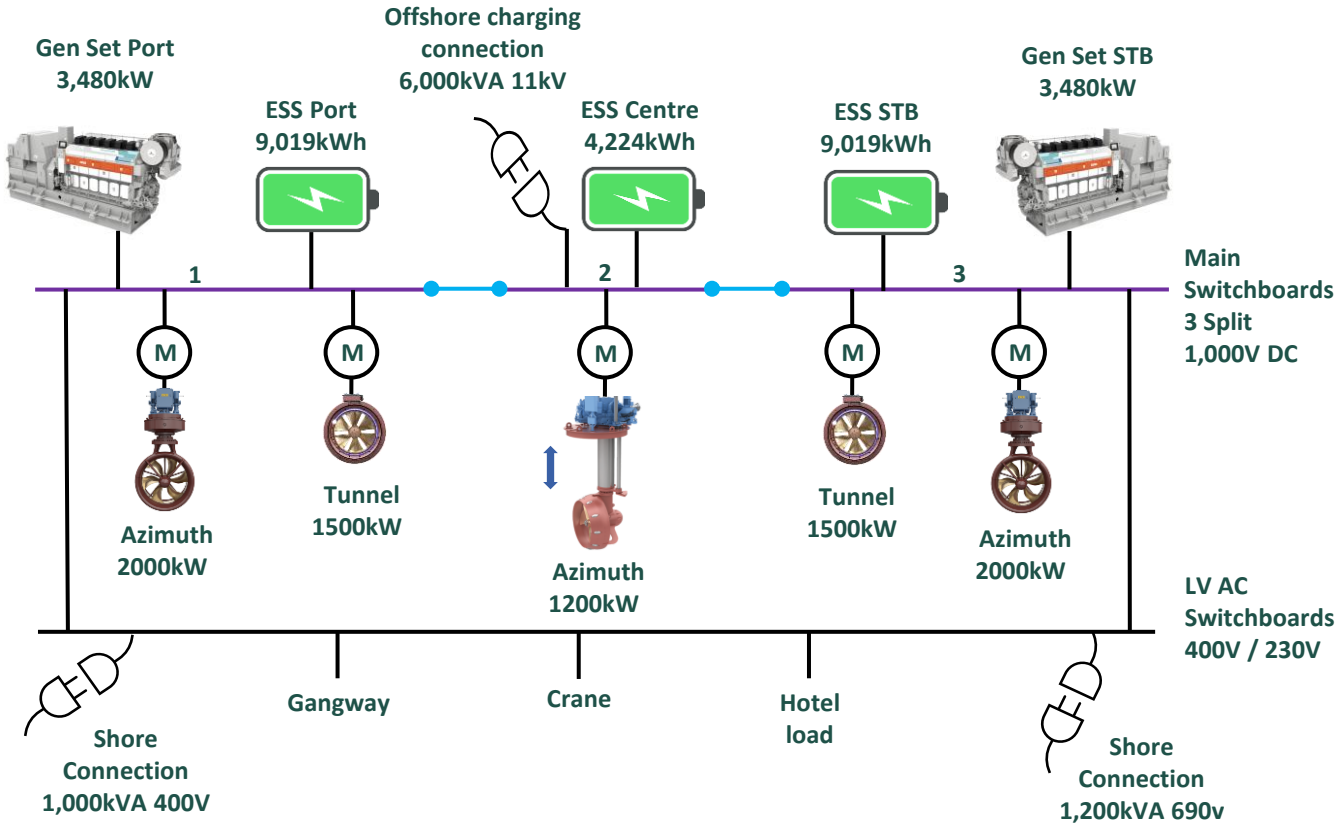
- **Harbour Load Capacity:** 20,000kg
- **Harbour Working Radius**: 20,000kg @ 19.5m, 6,000kg @ 34.5

- **Hook Travel**: 70m
- **Location:** Starboard
- **Control**: Remote from Stb Bridge Wing station (W2W & Crane)
  Operators Cabin
  Remote Control

- **Other:** MOPS & AOPS
- **Option**: Crane upgradable to 40,000kg subsea AHC


BIBBY
MARINE LIMITED
Bridge and control
Switchboards and transformers
Electric motors
BATTERY POWERED
Electric motors
Propulsion
Batteries
Generators
Propulsion

Electrical distribution



Configuration

- Purpose designed power system for maximum flexibility and efficiency
- ESS designed as primary power source
- Dual Fuel Methanol Gen sets operate at constant speed/load to charge ESS - Optimal efficiency
- Designed to operate in closed Bus-tie configuration
- Open Bus-tie operation possible with no loss of capability or fuel consumption
- Battery packs are electrically and physically divided into a three-way split for enhanced redundancy and safety.

Zero Emission Operation

Average Power **Required/day 17MWh**

24 Hour battery endurance 1.5Hs
>20 Hours @ 2.5Hs
>15 Hours @ 3.5Hs

Full charge = transits over 130NM @10kts

Dual Fuel Engines ready to come online for safety/emergencies

Connected to charger at night

Charging

Fully prepared for offshore charging

- 11kv AC charging at up to 6MVa at 50Hz
- Specialised Dynamic positioning mode for offshore charging
- Stern and Bow connections
- Option ready for future upgrade to DC charging (floating installations)

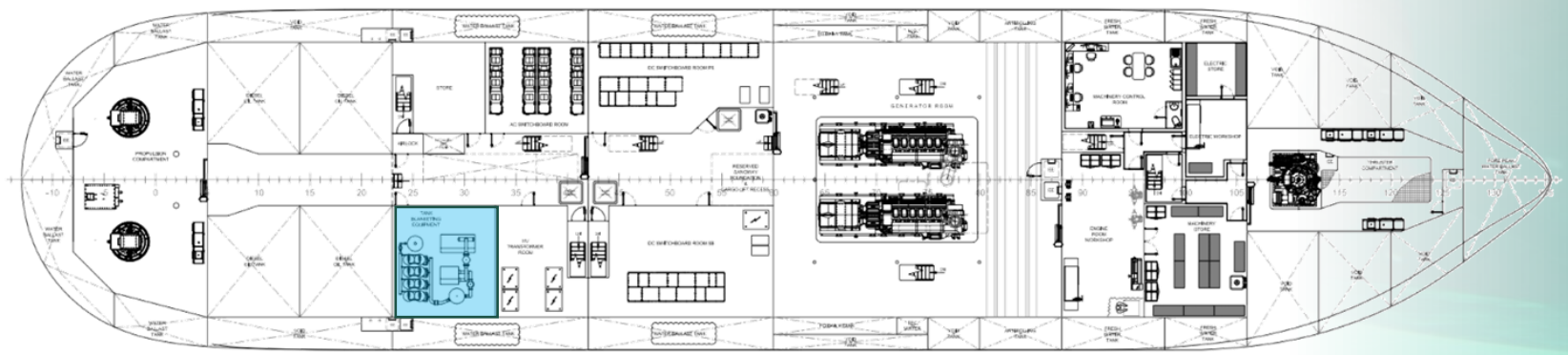
Full Charge
4-5 hours

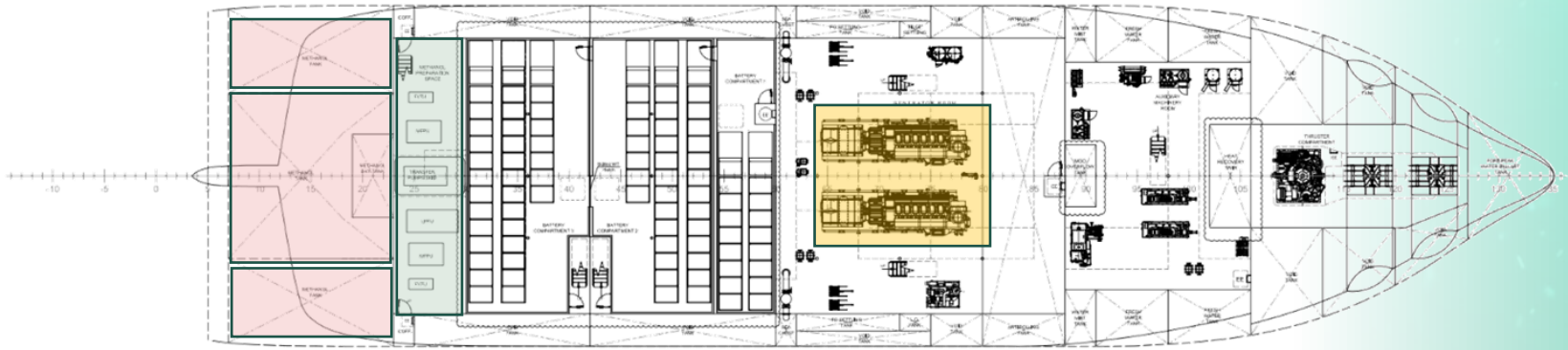
Fully prepared for Shore charging

- 11kv AC
- 690v AC
- Optional DC Connection

Methanol Fuel

- Separate Methanol Fuel tanks with 30 days endurance
- Dedicated Fuel Preparation Room
- Nitrogen generator
- Methanol Engines
- Fixed foam firefighting systems (Bilges etc)
- Fire & Gas detection
- Atex areas with double walled pipe





Power Arrangement & Batteries

- DC Switchboard Rooms Port & Starboard
- AC Switchboards
- Transformers
- 3x Battery Compartments
- Dedicated Battery Fire Fighting (CO2 total flooding & Water Mist)

Accommodation Design

Design Focus comfort for crew and passengers

- High end outfitting standard
- Open and bright spaces and recreation
- Ergonomics and flow
- Minimising Noise & Vibration Comf C(2)V(2)
- Separation of working areas from sleeping and social spaces
- High Speed internet & Cabin Entertainment system

Persons On Board (POB)

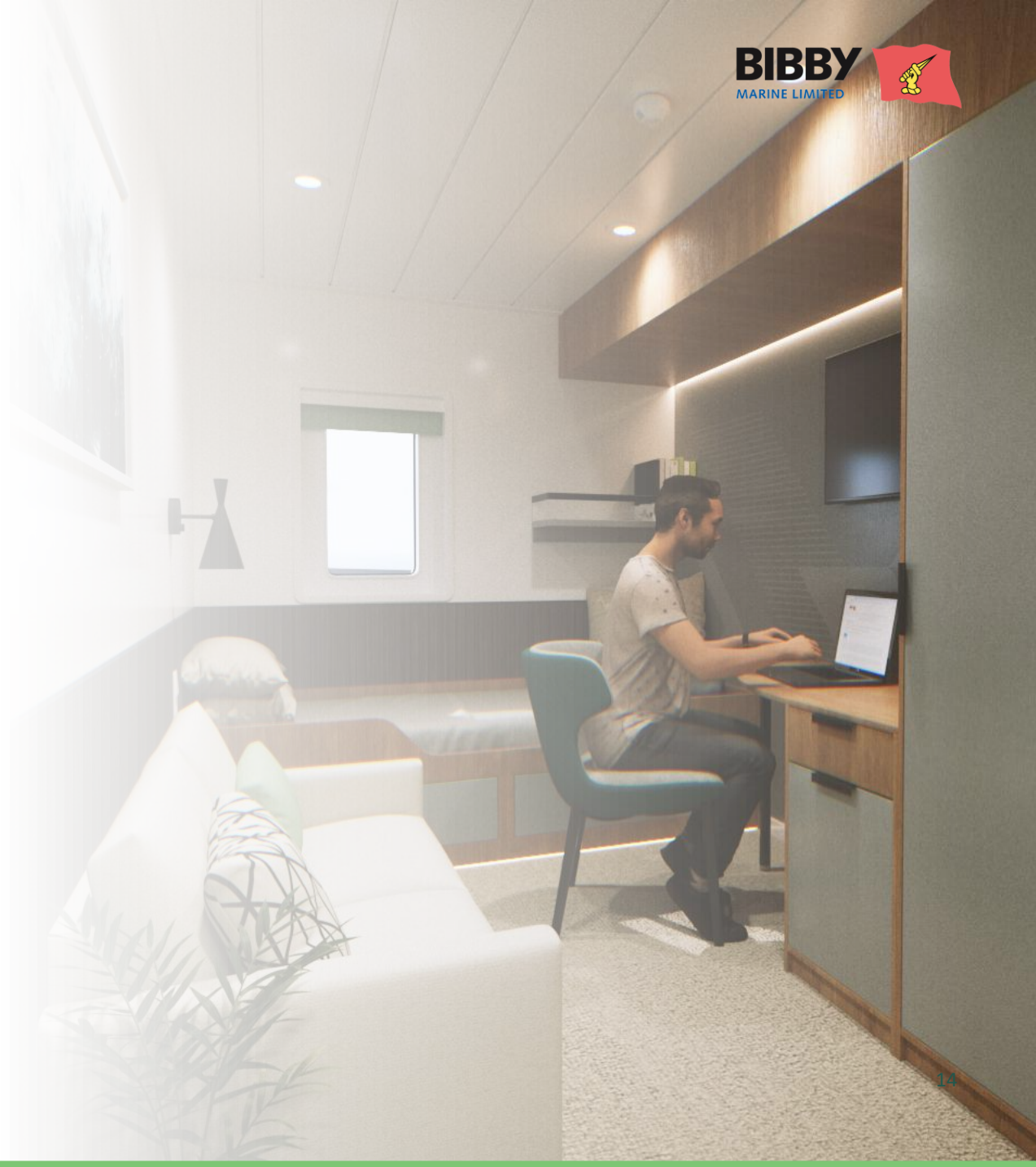
Max 120 Persons onboard with maximum flexibility in configuration:

- Single occupancy - 84 Persons
- Single and Double occupancy - 120 Persons

- **Crew Capacity – 24**
  - 2 x Single Senior Officer Suites
  - 22 x Single Crew

- **Client Capacity – 60/96**
  - 2 x Single Client Rep Suites
  - 58 x Single Client Cabins

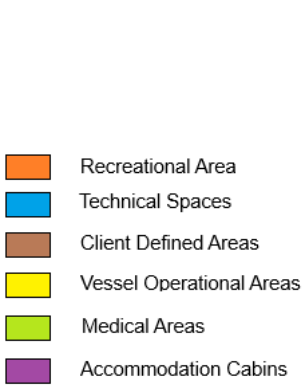
  OR
  - 2 x Single Client Rep Suites
  - 22 x Single Client Cabins
  - 36 x Double Occupancy Cabins (Pullman bunk style)

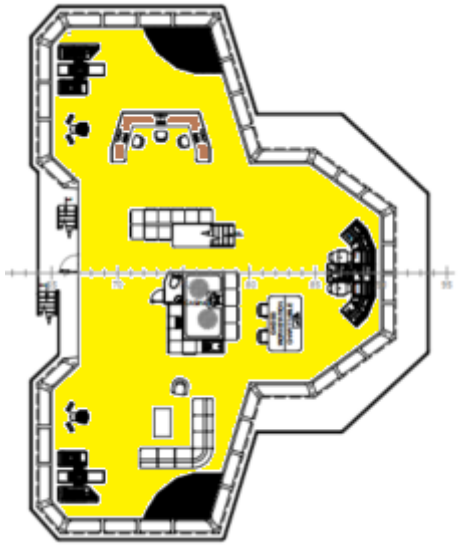


Accommodation Design

Bridge Deck

- Fwd Nav + DP Console
- Pt & Stbd Bridge Wing DP Consoles
- Pt Side W2W Workstation
- Stbd Side Combined W2W & 3D Crane Workstation
- Client Workspace
- Comfortable Lounge Area
- Coffee Area

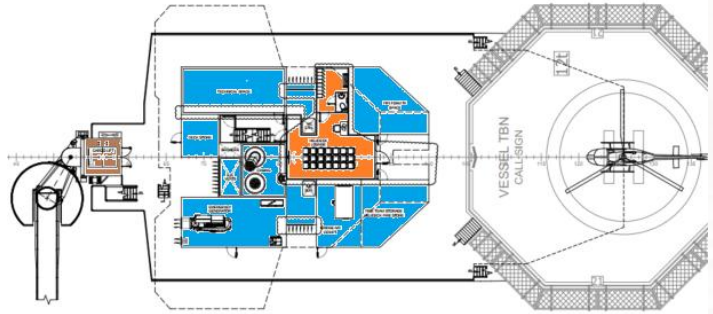




Accommodation Design

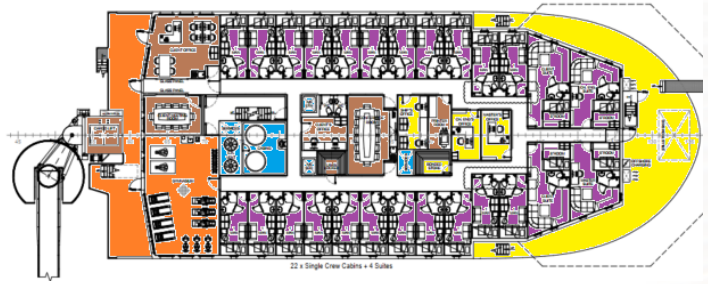
05 – Deck

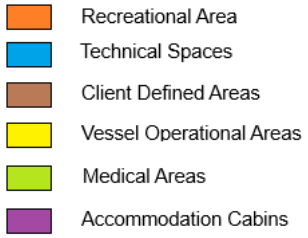
- Heli-Reception Lounge
- Electronic Equipment Rm
- Heli-Deck Stores
- Heli-Suit Storage
- Technical Spaces



04 – Deck

- 4 Cabin Suites
- 22 Single Cabins
- 1 Capt & C/E Office
- 1 Conference Room
- 1 Client Printer Room
- 2 Client Office (1 with Panoramic view)
- 1 Client Meeting Rm
- 1 Gymnasium (with Panoramic view)
- Clients Lockers and Store Rooms



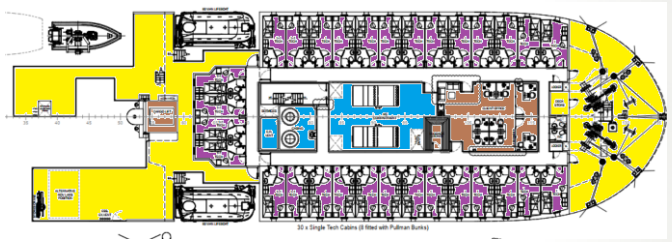


Accommodation Design

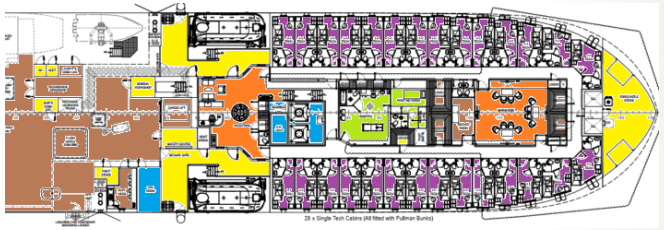
- Recreational Area
- Technical Spaces
- Client Defined Areas
- Vessel Operational Areas
- Medical Areas
- Accommodation Cabins

03 – Deck

- 22 Single Cabins
- 8 Pullman Berth Cabins (1+1)
- 3 Client Office Spaces
- Vessel Operational Areas
- Clients Lockers & Stores
- Technical Spaces (HVAC)



02 – Deck



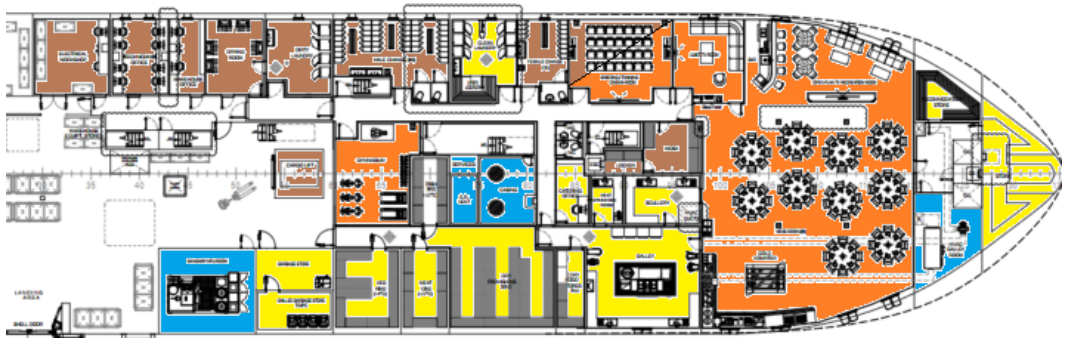
- 28 Pulman Berth Cabins (1+1)
- Large Games Rm
- Hospital and Treatment Rm
- Client Lockers & Stores
- Main Reception Area
- Client's Duty Mess / Technicians Workshop / COSH locker
- Main Working Deck (500m^2)
- Pain Store / Bosin Workshop / CO2 Rm / Safety Centre
- Boat Store
- ROV Mezz Deck / Daughter Craft landing Area

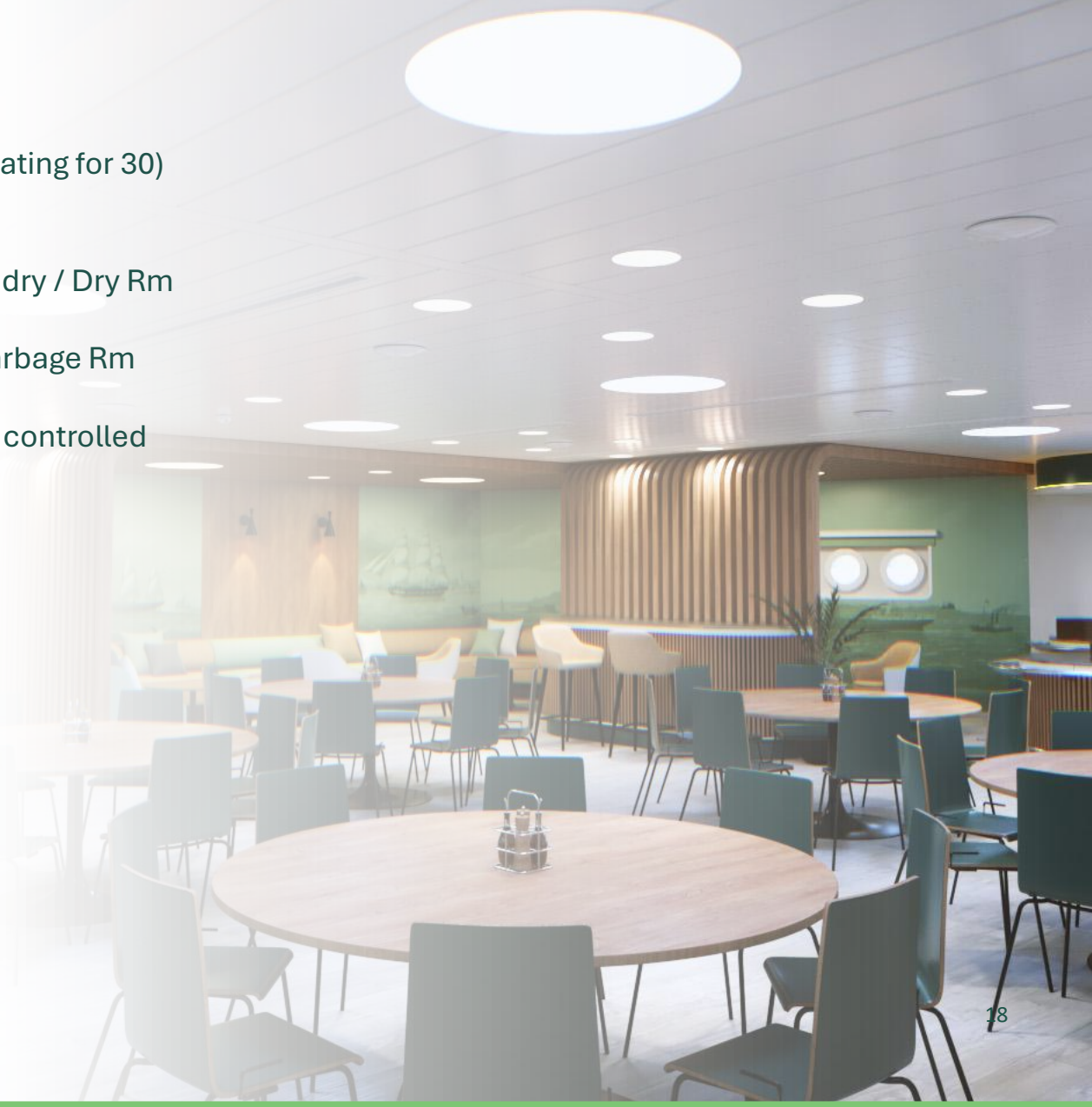
Accommodation Design

- Recreational Area
- Technical Spaces
- Client Defined Areas
- Vessel Operational Areas
- Medical Areas
- Accommodation Cabins

01 – Deck

- Mess Rm (seating for 80)
- Galley / Scullery / Meat Prep Rm
- Day Provision Store and Dry Store
- Meat Freezer / Fish Freezer / Veg Cold Rm
- Catering Office / Shop / Locker
- 1 Hotel Stores
- 1 Bar and Open Plan Lounge
- 1 Quiet Day TV Room
- Client Warehouse Office
- Technicians Office
- Main Warehouse (535m^2)
- 1 Cinema / Briefing Rm (seating for 30)
- Female Wardrobe (16)
- Male Wardrobe (80)
- Clean Laundry / Dirty Laundry / Dry Rm
- Gymnasium
- Garbage Store / Chilled Garbage Rm
- Electrical Workshop
- Electronic Stores (Climate controlled



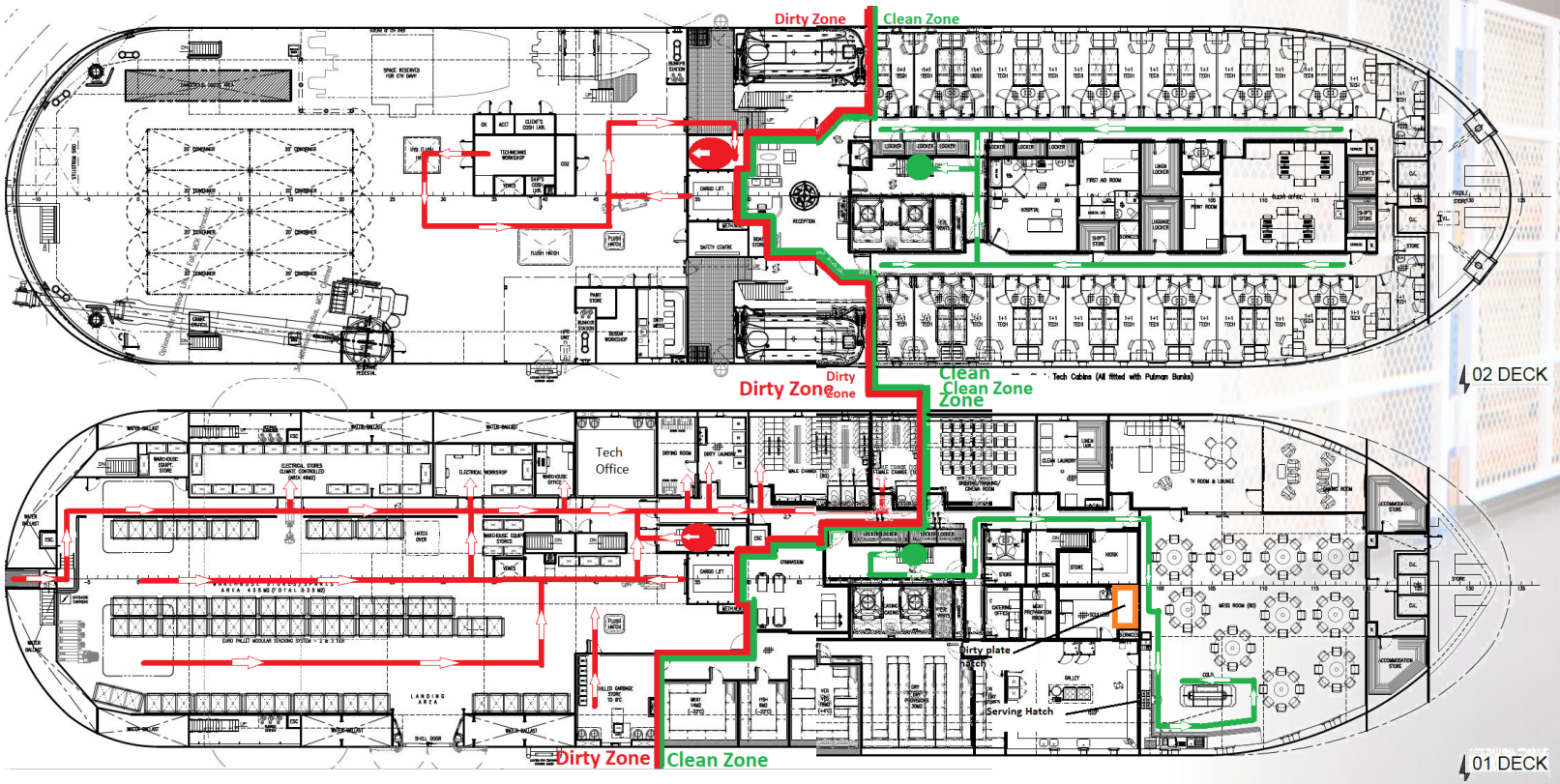


Accommodation Design

Design Focus on workflow for Technicians and Crew

Focus on:

- Transfer of Technicians to/from CTV
- Transfer of Technicians to/from gangway
- Flow through accommodation
- Handling of cargo onboard, side and top loading into warehouse via hydraulic hatches
- Separated working and living zones, minimising noise



‘Innovation is no longer an option, it is a moral imperative’

Bloomberg 2024