

DBDD Data sheet

GPS locations	Latitude	Longitude
CIL Dun Laoghaire HQ	53°17.810'N	006°08.340'W
Dublin Port VTS	53°20.685'N	006°12.192'W
Baily Lighthouse	53°21.691'N	006°03.158'W
Kish Lighthouse	53°18.650'N	005°55.542'W
Dublin Bay buoy	53°19.912'N	006.04.646'W

Baily Lighthouse

AIS base station (Saab R40)
 Optic LED in original rotating lens
 Flash white every 15 seconds (0.7 + 14.3)
 18 nautical mile range
 41 meters above MHWS
 Day mark 13 meter high granite tower
 Videograph fog detection
 Datalink 932 with 3G link to AIS base station for trials
 Dublin port VTS radar and VHF DF
 ESB mains & mains fail diesel generator
 PSTN
 Attendant lives at station
 Accessible by road (prior notification to CIL)

CIL Dun Laoghaire HQ

Broadband and Wi-Fi connectivity
 ESB mains & mains fail diesel generator
 Quay side access
 Mobile crane
 Buoy yard
 Workshop facilities
 Meeting rooms
 Accessible by road 7am to 7pm

Kish Lighthouse

AIS Station (Kanatun unit AIS AtoN)
 Optic Rotating sealed beam lamps
 Two white flashes every 20 seconds - (0.4+3.6+0.4+15.6)
 22 nautical mile range
 24 hour station
 Daymark 31 meters above MHWS
 Biral HSS VF-500 sensor
 LIDAR (ZephIR)
 Racon (Phalcon THM) X & S bands, code 'T'
 12kW diesel generator with backup generators
 Datalink 932 RTU with dual GSM
 Accessible by boat or helicopter (prior notification to CIL)

Dublin Bay Buoy

Water depth 13 meters
 Racon (SeaBeacon6) Morse 'M'
 Lantern LED Vega VLB-44/10 range 7 NM
 Two white flashes every 10 seconds (0.5+1.0+1.5+7.0)
 10 tonne steel bowl
 8 off 12 VDC 72 Ah batteries, total: 576 Ah
 4.4 meters above water line
 10 off 50W solar panels, total: 500W or 41.67 A
 Daily power requirements for CIL equip = 64 Wh
 Accessible by boat

Approximate Distances		
CIL Dun Laoghaire HQ	Dublin Port VTS	3.7 nautical miles
Dublin Port VTS	Baily Lighthouse	5.5 nautical miles
Baily Lighthouse	Kish Lighthouse	5.1 nautical miles
Kish Lighthouse	CIL Dun Laoghaire HQ	7.2 nautical miles
CIL Dun Laoghaire HQ	Baily Lighthouse	5.0 nautical miles
Kish Lighthouse	Dublin Port VTS	9.7 nautical miles
Dublin Bay Buoy	CIL Dun Laoghaire HQ	3.0 nautical miles
Dublin Bay Buoy	Dublin Port VTS	4.6 nautical miles
Dublin Bay Buoy	Baily Lighthouse	2.0 nautical miles
Dublin Bay Buoy	Kish Lighthouse	5.1 nautical miles

Wi-Fi

The Dublin Bay Wi-Fi trial will connect three strategic CIL sites along with a single Dublin Port site using high speed wireless communications. The primary fixed sites chosen for the DBDD project are:

- CIL Dun Laoghaire HQ
- Baily Lighthouse
- Kish Lighthouse
- Dublin Port HQ

To provide Wi-Fi access to the largest group of users possible, the access point network utilises the 2.4GHz band. In addition, the 2.4GHz band should theoretically use less power, which is important for Buoy Wi-Fi trials. At each DBDD site an Omni-directional or a sectorial Antenna is used to radiate the Wi-Fi signal over the desired coverage area.

1. Backhaul network, Wirelessly connects each DBDD primary site
2. Access point network, provides access to marine users and Buoys

Figure 1
Dublin bay 5.4GHz backhaul connectivity

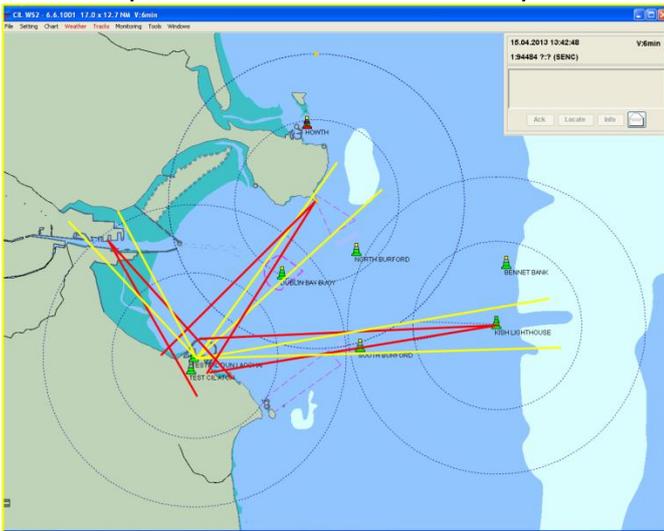
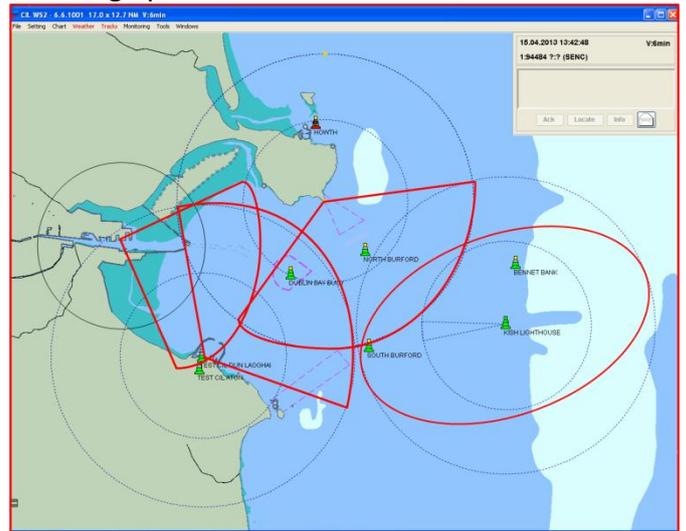


Figure 2
Coverage plot for 2.4GHz



From the backhaul connectivity map the yellow lines show the outgoing (from Dun Laoghaire) coverage regions for maximum data rates specified in the paragraphs above. The red lines show the incoming coverage regions (into Dun Laoghaire). Coverage will extend beyond the regions specified at a lower bit rate/availability. This could also provide 5.4GHz Wi-Fi access to Buoys within this region.

Wi-Fi communications to the Dublin Bay Buoy will utilise the 2.4GHz Wi-Fi access point network. The Buoy will be fitted with an Omni-directional 13dBi 2x2 MIMO Antenna along with a Wi-Fi radio modem and use the 802.11n MCS9 standard for a maximum theoretical data rate of 60Mbps.

ILV GRANUAILE SPECIFICATION AND CAPABILITIES



GENERAL PARTICULARS

Built by:	Damen Shipyards Holland
Date:	31st January 2000
Official Number:	403374
IMO Number:	9192947
MMSI:	250191000
Radio Call Sign:	EIPT
Class:	Lloyds 100A1, +LMC, +UMS + DP (AM)
IMO DP Notation:	Class 1

DIMENSIONS

Length Overall:	79.69m
Breadth Moulded:	16.10m
Depth of Hold:	6.0m
Working Deck Width:	15.80m
Gross Registered Tonnage:	2625 tonnes
Net Registered Tonnage:	787 tonnes
Loaded Displacement:	3,903 tonnes
Operational Draft:	4.60m

DECK EQUIPMENT

1 x Liebherr Crane, 20 tonne SWL with heave compensation, outreach 20 metres
 2 x 15 tonne Chain capstans
 1 x 26' wooden motor boat

 1 x 8 metre RIB with inboard engine
 2 x Karmform 'chain grabbers'
 1 set of Hydraulic Towing Pins

Container Capability: 16 TEU Single Stack
 Moonpool: diameter 0.5m, length 7.7m

ENGINE CONFIGURATION (DIESEL ELECTRIC)

Power:	3,500 kW
Generator:	5 x 700 kW MAN B&W engines Type 8L 16/24 driving 690v AC AVK generators
Propulsion:	2 x 1,100 kW INDAR variable speed AC motors driving 2 x Schottel rudder propellers type SRP 1010 ZSFP
Bow Thruster:	1,100 kW INDAR variable speed AC motor driving Elliot White Gill Jet type 50T3S 360°

TOWING EQUIPMENT

1 x towing winch, 40 tonne bollard pull
1 x 32mm x 300m towing wire with 30cm soft eye.
60 tonnes breaking strain
1 x 200m 9" octoplat with large soft eye one end and wire tail with large eye other end.
Ancillary gear of slips, strops, shackles, etc.

HYDROGRAPHIC PACKAGE

1 x ELAC Multibeam Bottom Chart Mk II

1 x Trac C Automatic Track Guidance
1 x CARIS Post Processing System
1 x Furuno CN 36 forward looking Sonar

1 x ELAC LAZ 5000 echo sounder (single beam)
1 x Seatex MRU-5
1 x Marimatech SVP-HMS1820
1 x Kongsberg Seatex Seapath 200 attitude GPS

INTEGRATED BRIDGE SYSTEM

2 x DGPS Northstar MX500
1 x Loran C Furuno LC90
2 x 6 CH Motorola GPS receivers + MBX-3 Differential Receiver

2 x Simrad GC80 Gyro Compass

Kongsberg Dynamic Positioning (Class 1 DP)

Radars: 2 x Furuno FAR 2xx7 RPU-013 (1 S-band, 1 X-band)
Electronic Charts: 2 x Furuno FMD-3200-BB ECDIS system

CLOSE QUARTERS DP WORK

1 x Fan Beam Radar

Stabilising: Interling System (Passive)

OIL RECOVERY

Bilge Water Tank – 30 tonnes

HELICOPTER OPERATIONS

Daylight operations only

Pad: Located forward – semi-circular with 13 metre diameter

Max weight: 3.2 tonnes

Fuel: Direct pumped fuelling Jet A1 – 1700 litres

Underslinging: Available from the afterdeck.

LIQUIDS

Bunkers Maximum: 320 tonnes

Fresh Water: 457 tonnes

Water Making: Not available

Maximum Speed: 13.00 knots

Endurance: 45 days @ cruising speed

MGO Consumption 24 hrs:

2 engines @ 80% = 6 tonnes per day

3 engines @ 80% = 10 tonnes per day

ACCOMMODATION

Crew: Depending on contractual requirements and area of operations.

Others: There is single room en-suite accommodation for 10 or 9 + 2 (2 in double berth). All cabins are air-conditioned

SECURITY

CCTV External and Internal Monitoring (5 cameras and 3 monitors)

ISPS approved access control system