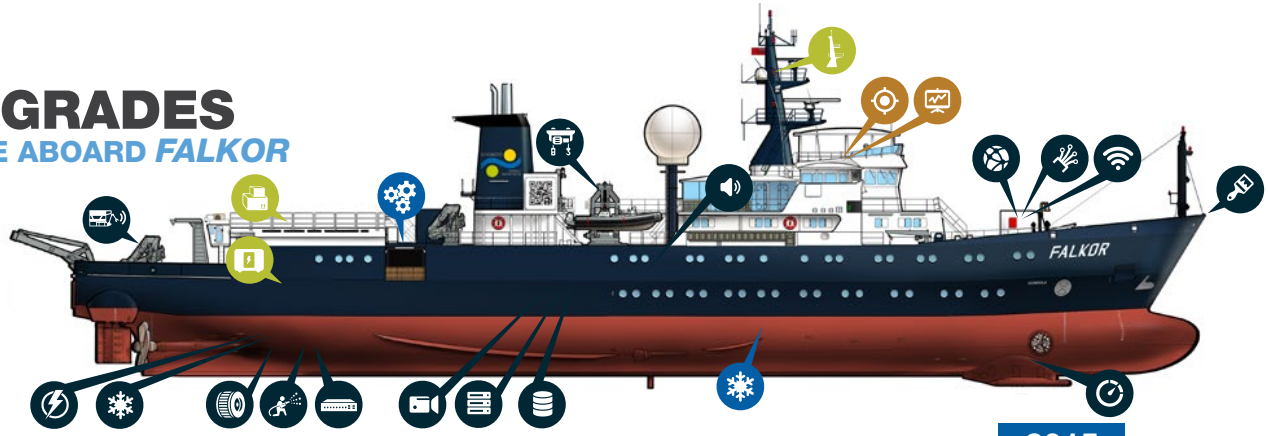
FALKOR UPGRADES

5 YEARS OF SCIENCE ABOARD *FALKOR*



2013

OUR JOURNEY ABOARD *FALKOR* BEGINS

2014

SCIENCE STORAGE DECK
Above Wet Lab and Staging Bay

Removed the helideck and replaced with a custom new deck with fittings for 10 foot and 20 foot sized international standard shipping containers. Added connections for power, water, and compressed air to support science laboratory and control vans. Deck also has a special foundation to support the ROV winch system.

REPLACED EMERGENCY GENERATOR
Main Deck

Replaced existing generator with a new, higher-capacity generator.

MODIFIED MAIN MAST
Main Deck

Installed more yardarms and platforms on upper mast for additional science sensors and better access for maintenance.

2015

REPLACED #1 SEAWATER COOLING PUMP
Engine Room

Upgraded to a higher capacity pump.

INSTALLED NEW CTD LAUNCH & RECOVERY SYSTEM
Starboard Launching Bay

Installed new custom-built crane with docking head for launch, recovery and towing of science gear and equipment from the starboard side of the ship.

2016

UPGRADED INTEGRATED BRIDGE SYSTEM (ELECTRONIC CHARTS)
Bridge

A new version of the Electronic Chart System that involved software and hardware upgrades was installed.

UPGRADED THE DYNAMIC POSITIONING SYSTEM
Bridge

To increase efficiency during station-keeping and to reduce wear on the main engines, the dynamic positioning system received an extensive software upgrade.

UPGRADED STARBOARD WORKBOAT DAVIT
Boat Deck

Replaced the Davit's active heave compensated winch with a new system for improved at sea launch and recovery.

ADDED SECOND SPEED LOG
Gondola

A second speed log that works with a different technology (magnetic versus acoustic) was installed to increase sensor redundancy.

ATSC MODULATION
Science Control Room and AV Room

Installation of Internal Video Modulation System over ATSC (Advanced Television Systems Committee). The system is capable of modulating video signal from the Digital Matrix into TV channels around the vessel.

WIRELESS NETWORK
Falkor

All access points have been upgraded to support the latest wireless technology and increase bandwidth over WiFi.

SHIP'S NETWORK
Falkor

Switches replaced by chassis switches connected over 10Gbps fibre optics, with a redundant power supply.

NEW MAIN ENGINE OIL FILTERS
Engine Room

Installed automatic oil filters for main engines to improve lube oil filtration on engines.

2017

NEW COLORS
Falkor

The entire ship was repainted from mast to keel to reflect the new *Falkor* branding and better reflect modern ship color schemes.

NEW WATER MIST FIRE FIGHTING SYSTEM
Engine Room

Installed new automatic sprinkler system in the Engine Room and Emergency Generator Room.

HA SERVER
AV Room

Falkor's primary server was updated to HA (High Availability) architecture.

NETAPP SCIENCE STORAGE
AV Room

Additional 50TB was added to the NetApp Array.

INTERCOM ROV COMMUNICATIONS
Science Control Room, Library and Aft Deck

Installation of a state-of-the-art communication system for ROV operations available for the ROV Pilot Technicians and Science Team.

SHIP'S NETWORK
Falkor

Upgrades of cybersecurity inside the ship, including access control list for the network, training of the crew, implementation of password management system, ethical hacking and penetration testing conducted, monitoring software for network control, backup and recovery for configuration files, and monitoring of configuration changes.

UPGRADE MAIN SWITCHBOARD
Engine Control Room

Main switchboard upgraded to support the power from the new generators.

LIBRARY AUDIO UPGRADE
Library

Audio capabilities from ROV and science operations brought into the library.

REPLACED MAIN GENERATORS
Engine Room

Installed two new MTU 16V2000 generators to replace original MWM generators and shaft generators. Increased electrical capacity from 500 KW to 720 KW for each generator.

AUTOMATED CONTROL SYSTEM FOR COOLING WATER PUMPS
Engine Room

Installed variable frequency drive system to control seawater cooling pumps to optimize their electrical power consumption.