Course goal
This course provides a deeper understanding of the Azipod propulsion systems, and how to operate, maintain and troubleshoot the system components.

Learning objectives
Upon completion of this course the participant will be able to:
- describe the functions of the different Azipod V* sub-systems and how they interact
- understand the importance of correct maintenance
- understand the monitoring possibilities and how to troubleshoot the discussed systems
- perform adjustments on critical system components e.g. hydraulic steering gear pump and EMRI servo unit

Contents
- Safety procedures while working on the Azipod
- Terminology and evolution of Azipod propulsion
- Basics of Azipod hydrodynamics
- Sub-systems, maintenance and conditioning monitoring
- Power, liquid and data transmission system
- Encoder signal fault tracing
- Hydraulic steering gear
- Hydraulic pump settings and monitoring (inner control loop)
- The servo unit settings
- Steering angle feedback assembly and adjustment (outer control loop)
- Remote control vs. local control
- Review of Azipod unit space safety
- Azipod vessel operation basic

Methods
Lectures and demonstrations
Workshop exercises with demo equipment
Visits to machine factory and Azipod propulsion unit assembly factory

Student profile
Marine engineers and electro-technical personnel at operational and management level

Prerequisites
Marine power plant basic for technical staff in ABB propulsion and Azipod space safety or similar knowledge is advisable

Duration
5 days

Venue
Helsinki, Finland

Additional information
Minimum 6, maximum eight participants
On-site training on request

*Previously called “Large Azipod”
H881 – Azipod® V technical training
Course outline

Course outline:

Day 1
Course overview
ABB marine systems overview
Electrical machines
Visit to machine factory

Day 2
Azipod propulsion evolution
Main mechanical components
Azipod propulsion systems
Power and data transfer technology including exercises
Power drive control interface including exercises
Visit to Azipod unit assembly factory

Day 3
Steering gear system including exercises

Day 4
Remote control system
Exercises on joystick simulator
Propeller hydrodynamics
Steering gear control unit – EMRI servo including exercises

Day 5
Steering gear monitoring technology
Azipod propulsion unit space safety discussions
Exam and course evaluation

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