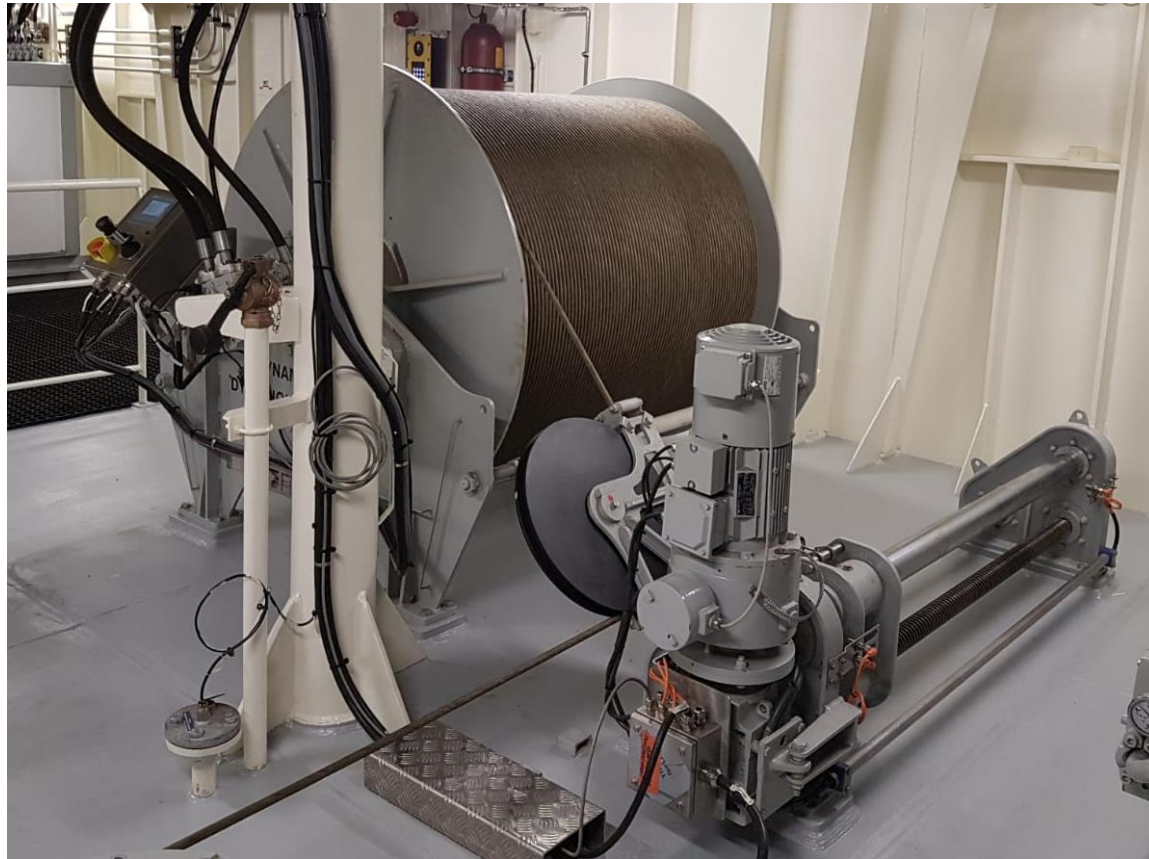


RESEARCH VESSELS



WINCHES



WINCH DEFINITION

- **MAXIMUM SPEED**
- **MAXIMUM TORQUE**
- **CABLE SIZE**
- **CABLE LENGHT**
- **FUNCTIONALITY ???**

**CTD, HYDROGRAPHIC, GENERAL PURPOSE,
OCEANOGRAPHIC...**

WINCH CONTROL DEFINITION

- ELECTRIC / HYDRAULIC
- HEAVE COMPENSATION
- DATA TO BE SHOWN
- REGENERATIVE
- TORQUE/LOAD MEASUREMENT

DRIVE & CONTROL SYSTEMS



PROBLEMS

- **BAD SIZE DEFINITION**
- **BAD DRIVE TYPE CONFIGURATION DEFINITION**
- **NOT ENOUGH INFORMATION ABOUT FINAL
REAL USE**
- **BAD LOAD/TORQUE MEASUREMENT**
- **BAD USE OF HEAVE COMPENSATION**
- **BAD USE OF REGENERATIVE & CONFUSION
WITH ARMONIC FILTERS**

SOLUTION

**WORK TOGETHER WITH THE FINAL
USERS OF THE SYSTEMS TO KNOW
EXACTLY WHAT THEY NEED, BEFORE
DESIGN THE SYSTEMS.**



THANK YOU