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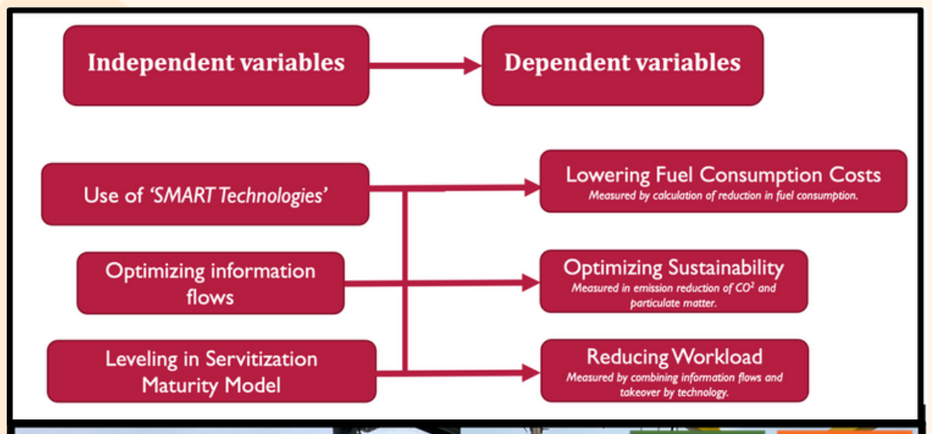
MARITIME OFFICER
INDUSTRIAL ENGINEERING AND MANAGEMENT

OPTIMAL PLANNING

MAIN RESEARCH QUESTION:

HOW CAN A CHANGE IN INSPECTION WORK AND INFORMATION FLOW CONTRIBUTE TO A REDUCTION OF FUEL CONSUMPTION, WORKLOAD AND OPTIMISE SUSTAINABILITY?



STAGE 2: FIELD RESEARCH

- WHAT IS THE MATURITY LEVEL OF SERVITIZATION?
- HOW DO SMART SENSORS OPTIMIZE INSPECTION WORK?
- WHAT TYPE OF PLANNING OPTIMIZES THE INFORMATION FLOW?
- INTERVIEWS WITH INSPECTION SERVICE, DREDGING SERVICE, ROBOTICS, ETC.

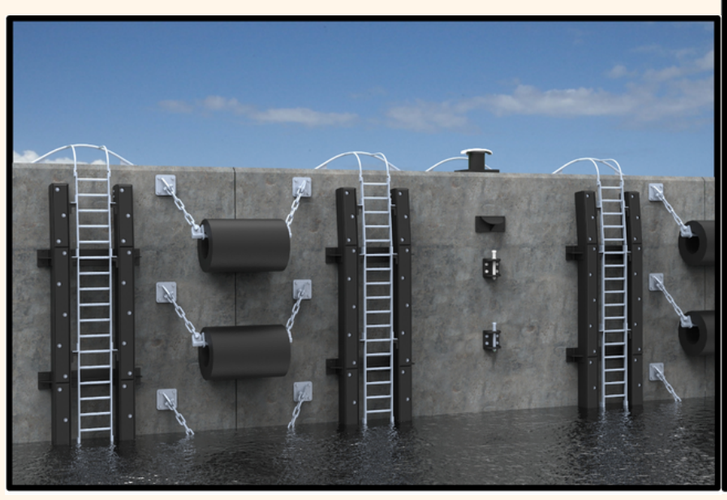
	Small Gap		Big Gap
Sensors in Quay Walls.		→	
Combining information flows.			→
Adjustment			→
Contractor tasks	←		
Types of maintenance		→	
Fuel consuption			→
CO^2 en particulate matter.	←		
Lowering workload	←		

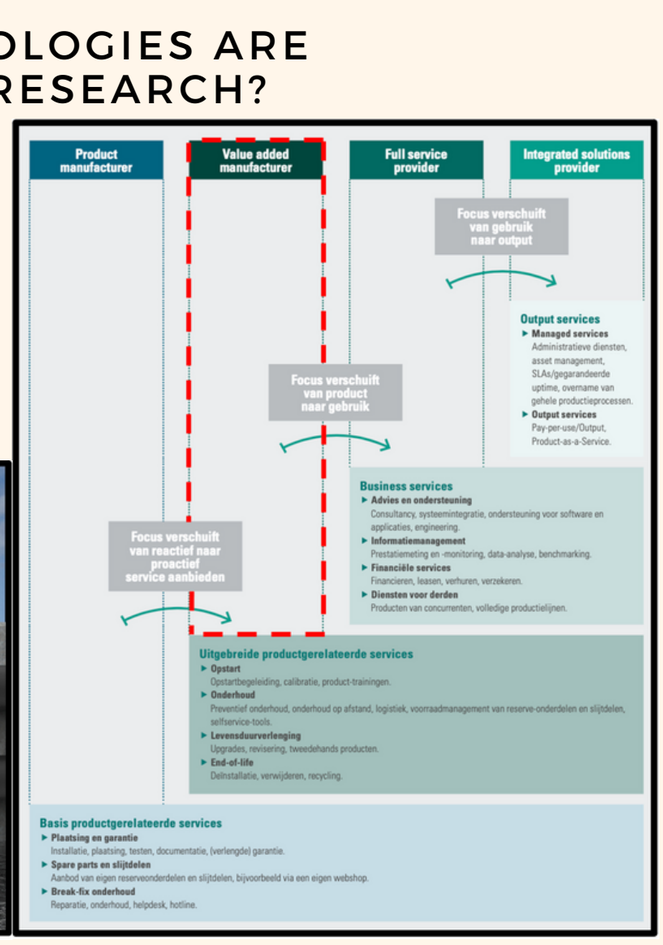
SEPTEMBER - OCTOBER

STAGE 1: CURRENT SITUATION

- WHAT KIND OF INFORMATION FLOWS EXIST IN THE AM C&D DEPARTMENT?
- WHAT KIND OF SERVITIZATION DOES THE PORT OF ROTTERDAM USE?
- WHAT SMART TECHNOLOGIES ARE APPLICABLE IN THIS RESEARCH?

NOVEMBER





DECEMBER

STAGE 3: ANALYZING

- SENSORS ARE NOT USED IN INSPECTION WORK. IN NEAR FUTURE A FOLLOW-UP RESEARCH CAN BE DONE TO INVESTIGATE ITS POTENTIAL TO SUSTAINABIITY AND WORKLOAD.
- THE DEPARTMENTS PREFER HAVING CONTROL OF THE ASSETS AND KEEPING RESPONSIBILITY. SHARING DATA FROM SENSORS CAN OPTIMISE LEVEL OF SERVITIZATION.
- ADJUSTING THE CURRENT PLANNING OF THE HYDROGRAPHIC SERVICE TO INSPECTION WORKERS OFFERS CHANCE TO REDUCE SHIP MOVEMENTS AND REDUCE FUEL EMMISION.

REDUCING 112,21 KG CO2 90 GRAM PARTICULATE MATTER AND €25,87 PER HOUR

SMART LOGISTICS IN ASSET MANAGEMENT

HOGESCHOOL ROTTERDAM
SUPERVISOR: P.M.J. WARFFEMIUS

PORT OF ROTTERDAM
SUPERVISOR: W. SNOEK