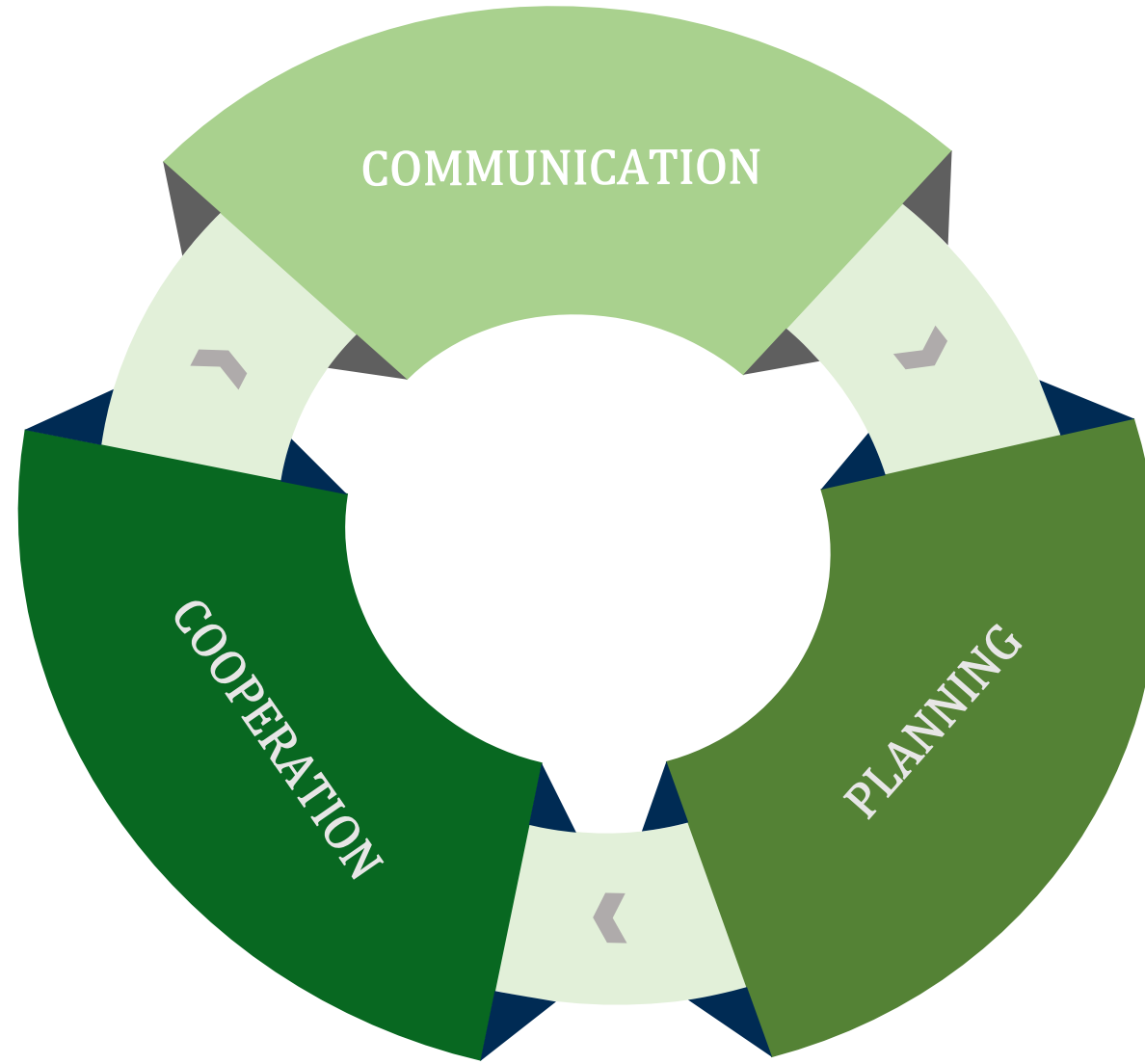




# RECOMMENDATIONS FOR ENERGY EFFICIENT HARBOUR TOWAGE





# GOAL

**Goal:** to optimise the energy efficiency on the tugs and the assisted vessel during the harbour towage.

Consider the following:

- Weather
- Berth availability
- Tide
- Traffic
- Tug availability
- Pilot availability
- Cargo operations

01

## Stakeholders

Work in unison with all key stakeholders of the port call of the assisted vessel

02

## Technology

Utilise communication technologies to improve the engine outputs of tugs and assisted vessels

03

## Planning

Plan the operation together with all involved parties

04

## Cooperation

Strengthen cooperation between Pilots and Tugmasters by common training on energy efficiency

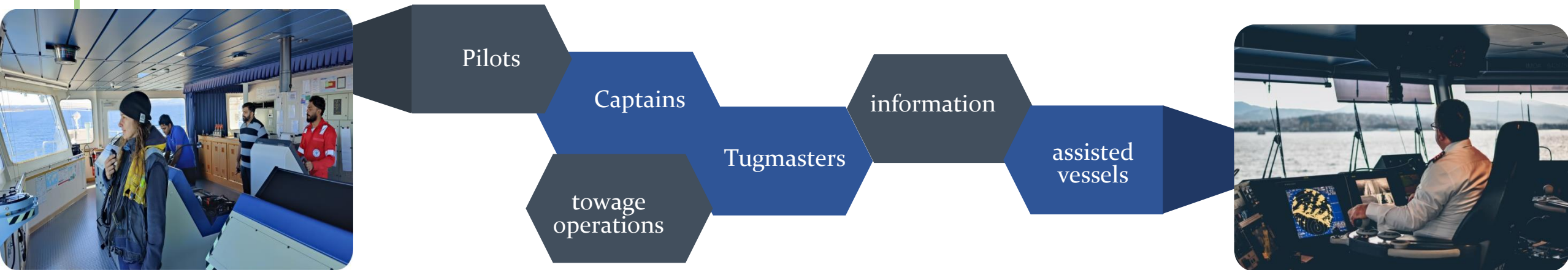
# COMMUNICATION



## Maintain Clear Communication:

between Pilots, Captains of the assisted vessels and Tugmasters before and during the harbour towage operations in order to avoid unnecessary use of propulsion forces on tugs or on the assisted vessels.

“ Share the information of changes in the planned operation immediately with all the parties involved ”



# PLANNING



1



**Plan harbour towage operations in advance with all the parties involved to enhance the energy efficiency of the operations**

2



**Plan early, as that allows the towage operator to choose the best available tugs for the operation**

3



**Create the towing plan together with other parties so that the sideways movements of the vessel can be minimised**

4



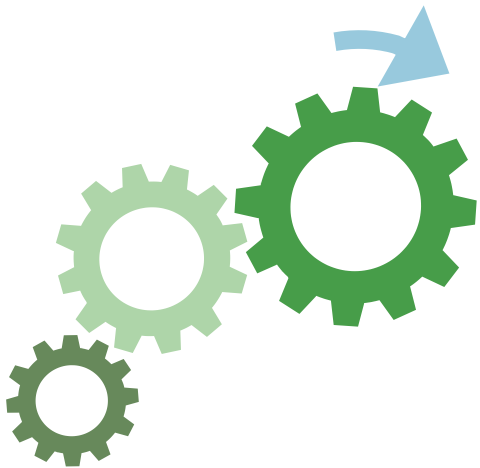
**Share all the relevant information with the other parties involved:**

- ☐ When the cargo operations will take place
- ☐ When the berth is free
- ☐ When the Pilot is available
- ☐ When the tug(s) are available
- ☐ When the mooring party is available
- ☐ Are there any traffic restrictions

# COOPERATION



- By clear communication and advance planning of operations the harbour towage is safe and energy efficient.



- Improve cooperation by sharing the knowledge of best practices with all the stakeholders;
- Arrange cooperation meetings with all the players involved in harbour towage operations to minimize the environmental footprint of the operations.

## Stakeholders:



- Pilots
- Tugmasters
- Port authorities



- Vessel operators
- Mooring parties
- Shipping Agents



- VTS