

REMONTOWA MARINE DESIGN & CONSULTING

Comprehensive design and engineering services



Salish Orca (LNG Ro-Ro/Passenger Vessel)



Ben Woollacott (Hybrid Ro-Ro/Passenger Vessel)



Zodiak II (Multi-purpose Vessel)



Petrobaltic (Construction upgrade)



Malik Arctica (Arctic Container Vessel)



ORP Kormoran (Minehunter)



Siem Aimery (Cable Laying Vessel)



Fire-fighting Tug (Newbuilding)



Ile d'Yeu (Conversion to Cable Laying Vessel)



BC Ferries Spirit Class (LNG propulsion)



DFDS Fleet (BWTS)



Stena Scandinavica (Scrubber System)

Open collaboration and open Digital Twin infrastructure for Green Shipping (DT4GS)



Funded by the
European Union

- EU Founded Programme H2020
- Schedule – 36 months (06.2022-05.2025)
- 21 partners from 10 countries of the EU



DT4GS

Smart solutions for a sustainable water industry

Digital Tween (DT)

A highly complex virtual model that is the exact equivalent (or twin) of a physical object or process

PROJECT TARGET

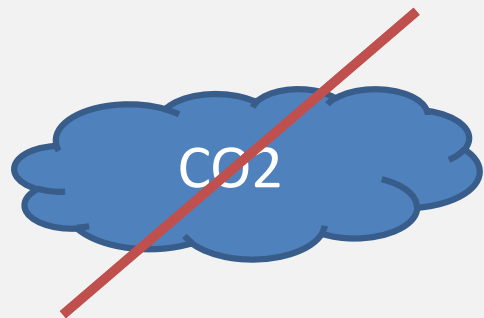
The operation of the entire waterborne transport, from initial ship design to end-of-life across all industries that support the ship's lifecycle.

Industry-wide decarbonization decision support system.

Main strategic objectives :

1.
20% CO2 reduction CO2 to 2026r

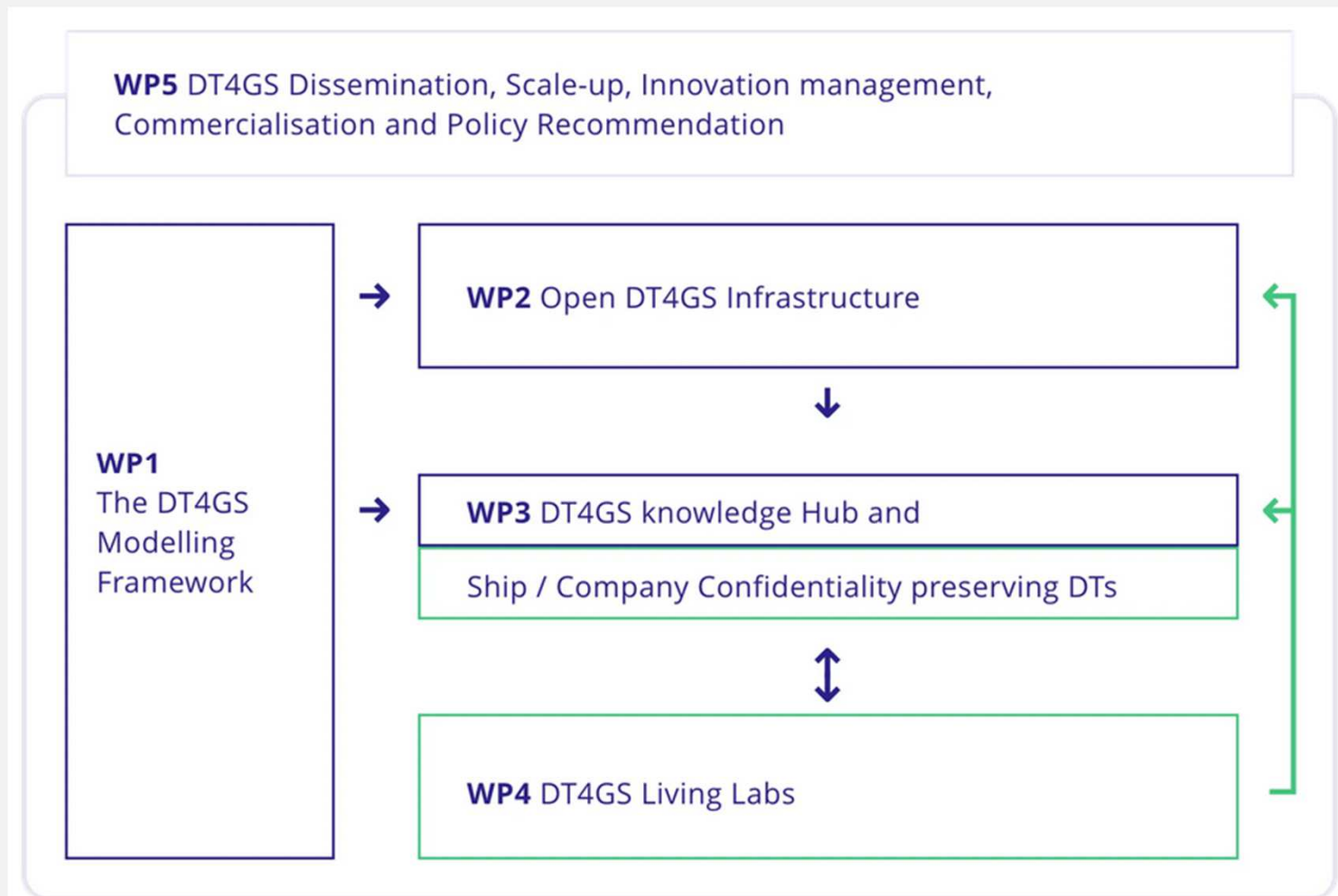
2.
20% improvement in the cost-effectiveness of "green solutions"



3.
55% CO2 reduction to 2030

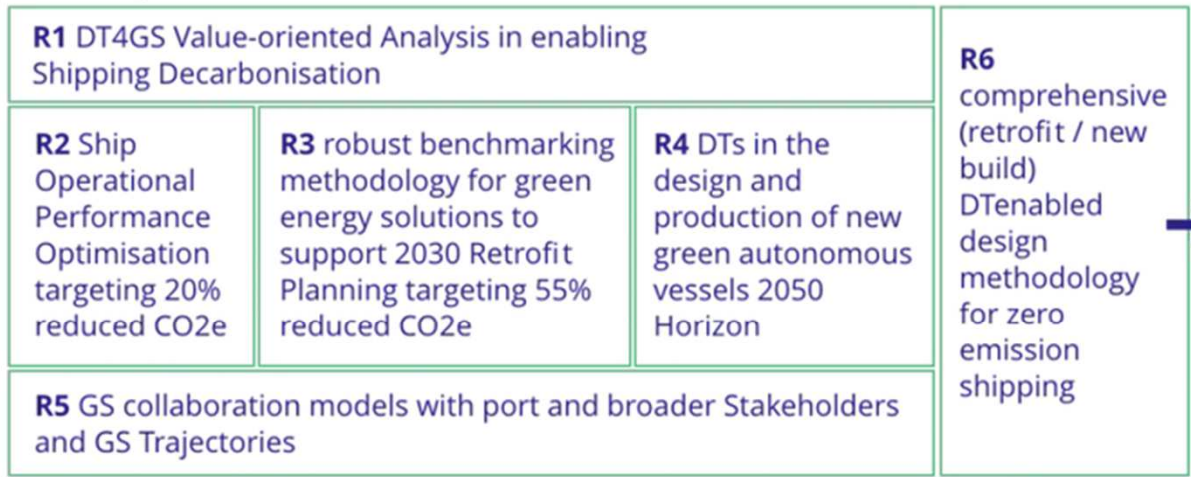
4.
Zero-emission waterborne transport by 2050

TASK OVERVIEW

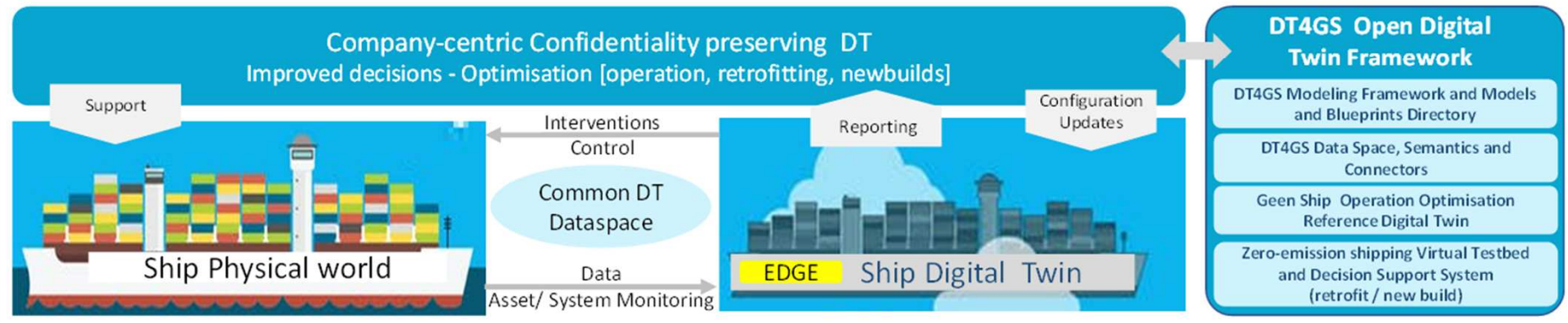


TASK REVIEW- WP1

O1_WP1 – Design structure DT4GS



DT4GS Modelling Framework O1-WP1



R11 DT4GS Smart Edge and
Orchestration infrastructure

R10 DT4GS Models Blueprints
directory

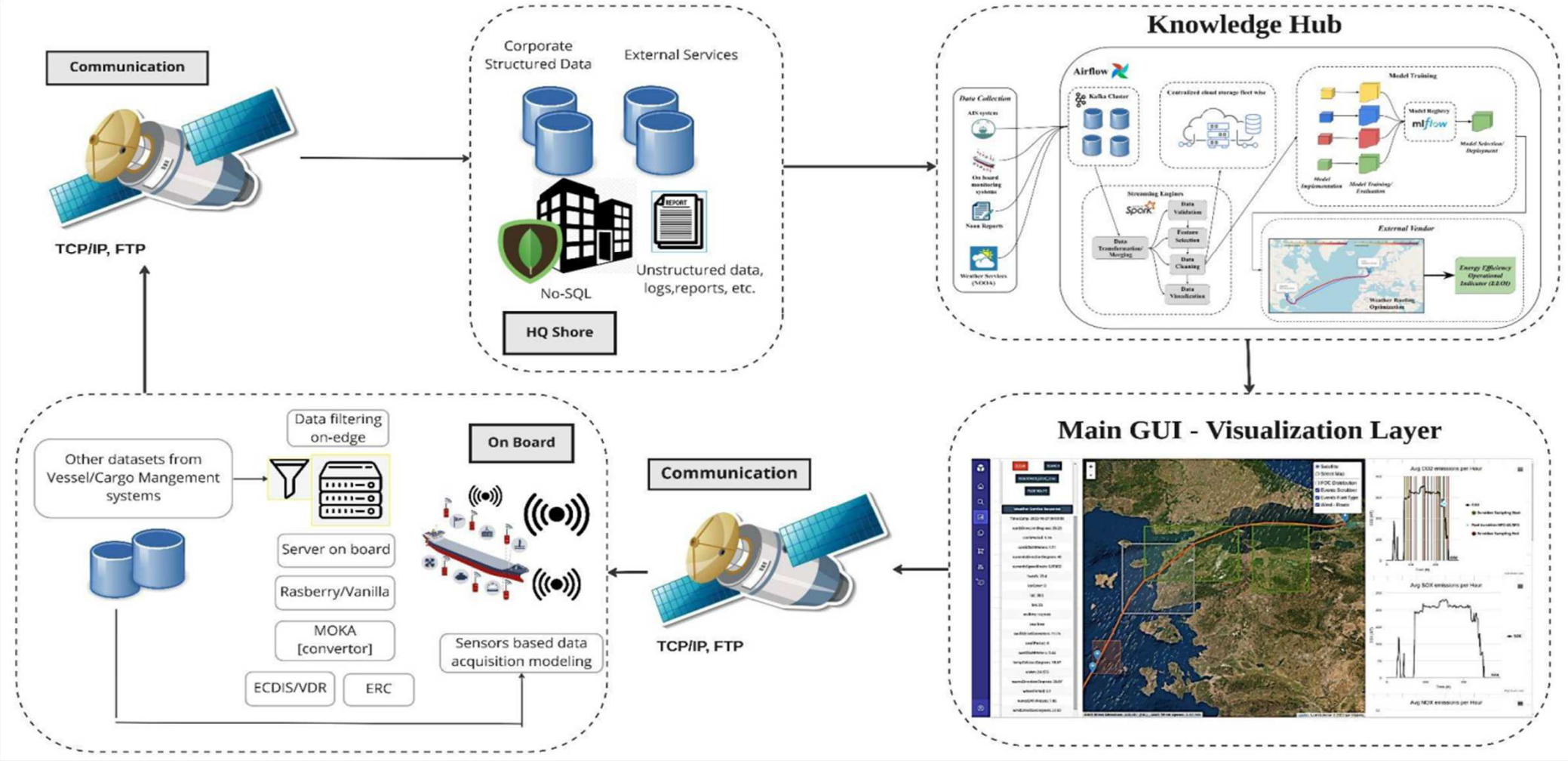
R9 Modelling, Analysis, Simulation
and Optimisation Tools

R8 DT4GS Data Space, Semantics
and Connectors

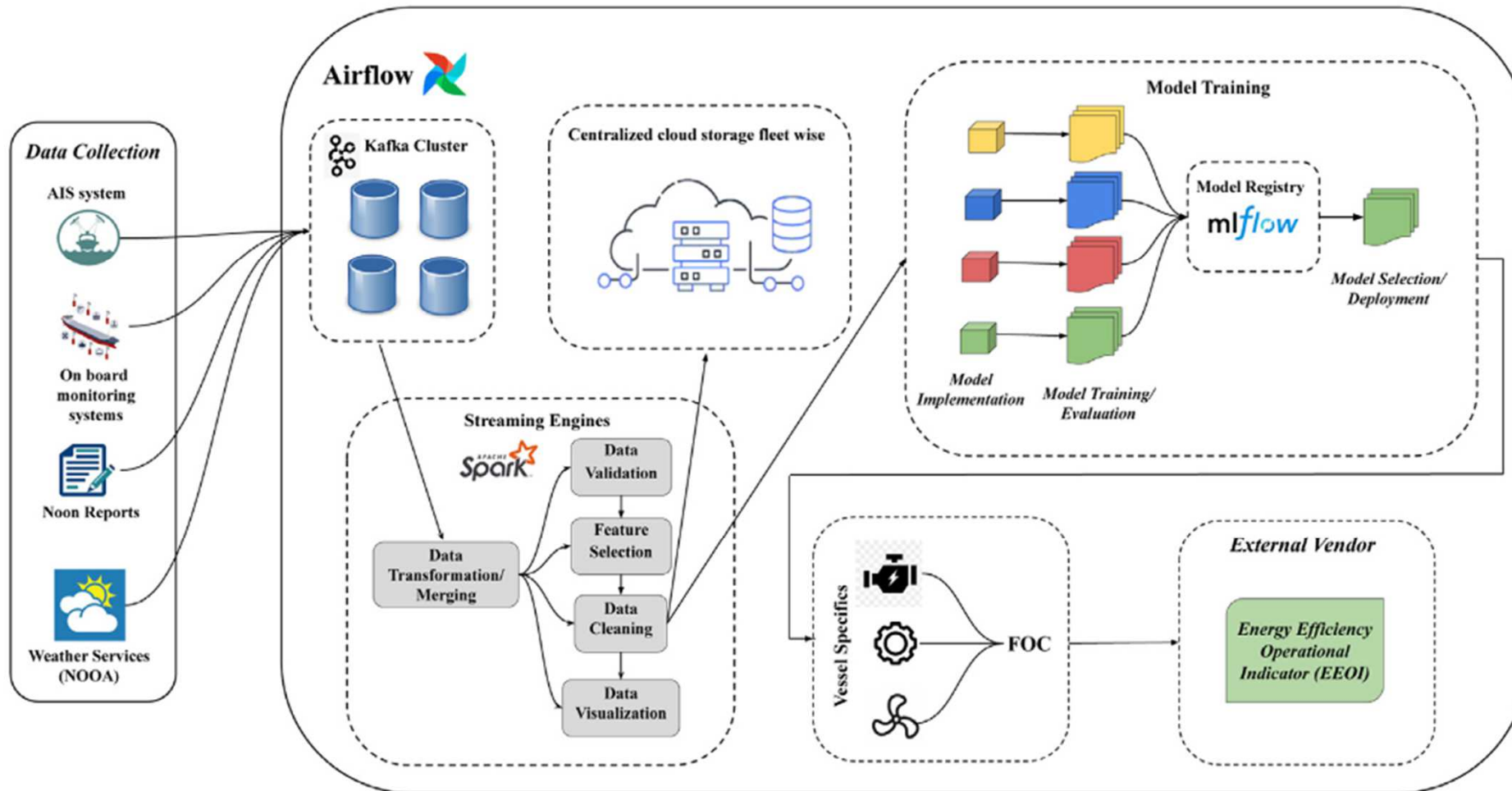
R7 Transferable DT4GS Architecture

Open DT4GS Infrastructure **O2-WP2**

WP2 –DT structure for maritime industry



WP2 – data flow for FOC (fuel oil consumption)



WP2 – routing optimization

DT4GS

Search Parameters

TOGGLE DROPDOWN

Routing

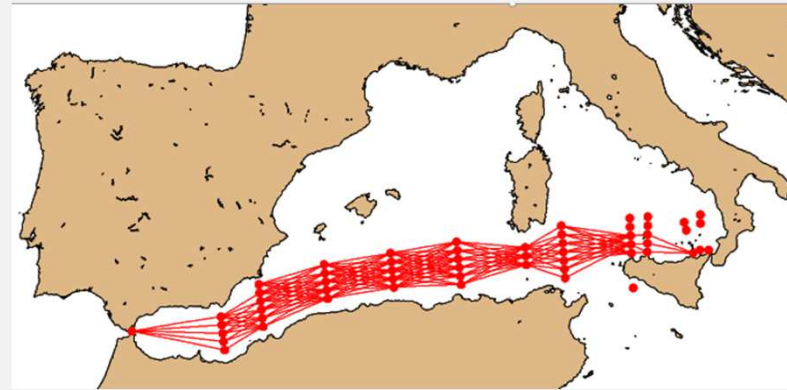
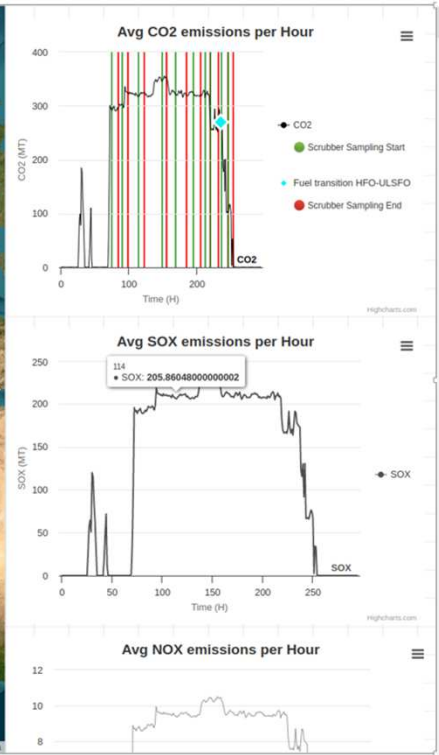
Origin
Tampa
Latitude...
Longitude...
05/05/2023, 12:30 PM

Destination
Tanger-Mediterranee
Latitude...
Longitude...
05/17/2023, 12:30 PM

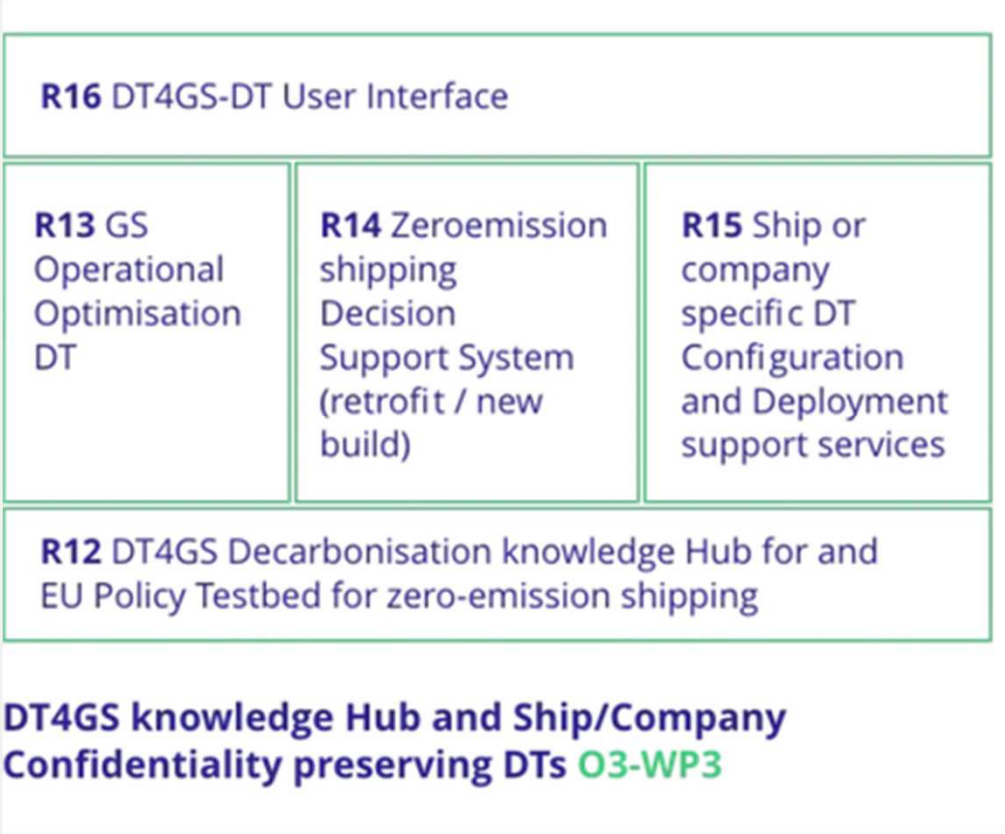
CLEAR CALCULATE

Routing Service Response

Route Length: 4452 nm
Avg. Speed: 15 kt
Time: 295 h
Total CO₂: 2500 MT



Voyage	Date	Latitude	Longitude
Departure	2019-09-21	27.7° N	82.5° W
Arrival	2019-10-03	35.8° N	6° W
BASIC COMPARISON		Actual route estimation	Optimized route estimation
Distance (nm)		4787.4	4369.36
Time (hours)		289.97	264.63
Avg Speed (kt)		16.52	16.51
Total FOC (MT)		774.53	759.97
CO ₂ (MT)		2411.88	2366.54



TASK REVIEW— WP4

O4_WP5 – Living Labs



LL1 – Euronav NV – Crude Oil Tanker



LL3 – Balearia – ROPAX

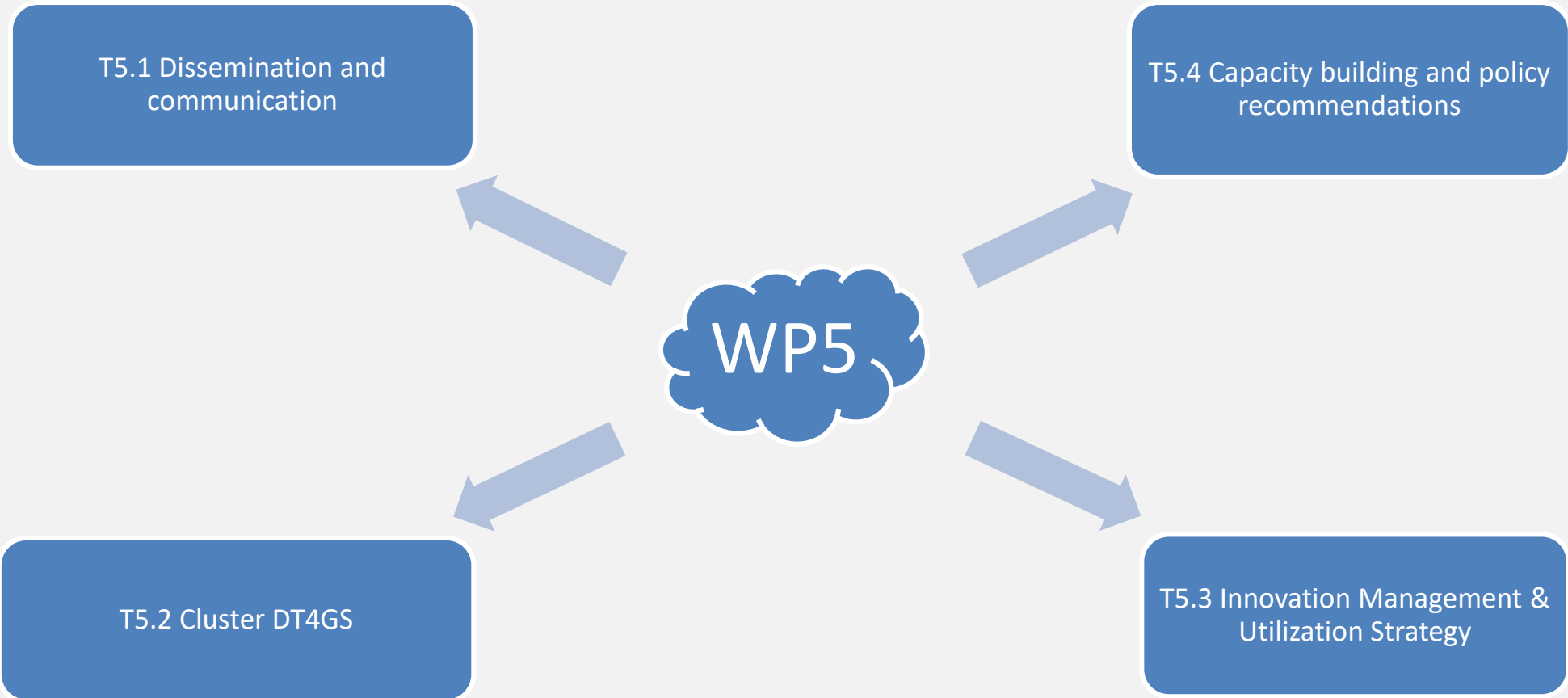


LL2 – Danaos Shipping Co – Container



LL4 – Star Bulk – Bulk Carrier

O5_WP5 – Commercialization DT4GS



MEMBER OF
REMONTOWA
HOLDING S.A.

REMONTOWA
MARINE DESIGN

THANK YOU

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