Pilot action at the Ravenna Port

INTESA| WP4 Pilot Actions|PP04 APRA

National event|16 December 2021

OUR GOALS

The pilot carried out by the Port of Ravenna Authority aims at improving the nautical accessibility and nautical safety through the implementation of navigation aids based on geo-localization, high precision cartography, and real-time AIS data sharing as well as the evaluation of environmental effects related to the stay of vessels at port.
More in detail, the following tasks will be performed:

1. **Test of PPUs (channel pilot)**
2. **Integration of real time meteorological data from 9 stations installed along the canal;**
3. **Improvement of Port Monitoring System;**
4. **Update of bathymetry using aquatic drones**
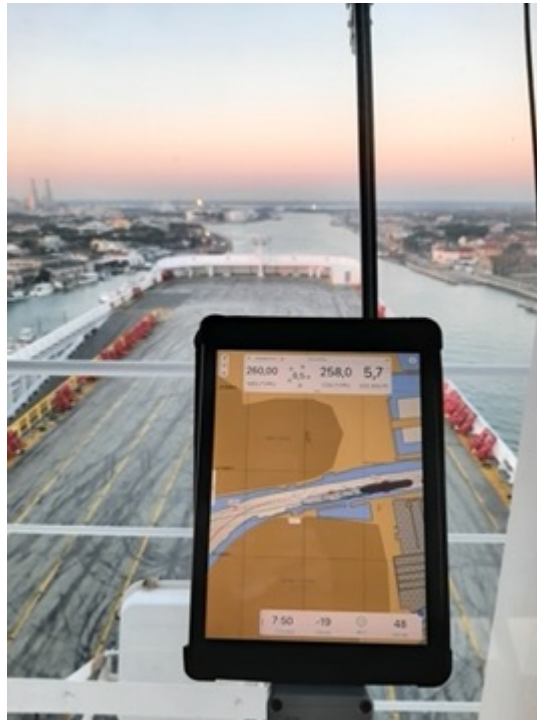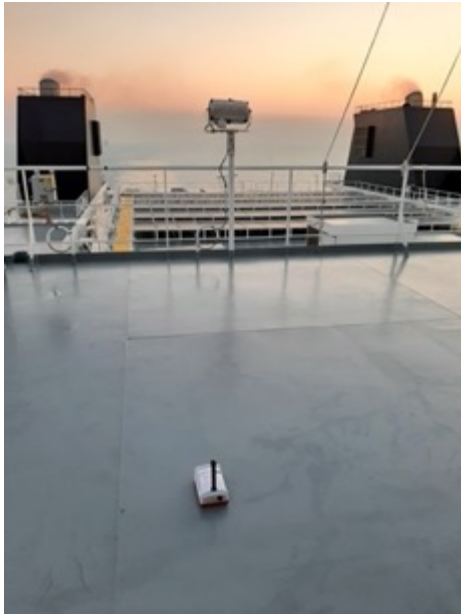5. **Evaluation of emissions for vessels in port**

Autorità di Sistema Portuale
del Mar Adriatico Centro Settentrionale
Port of Ravenna

PILOT ACTION
1 – Test of Channel pilot devices

HW:

3 ChannelPilot RTK devices (PPUs)
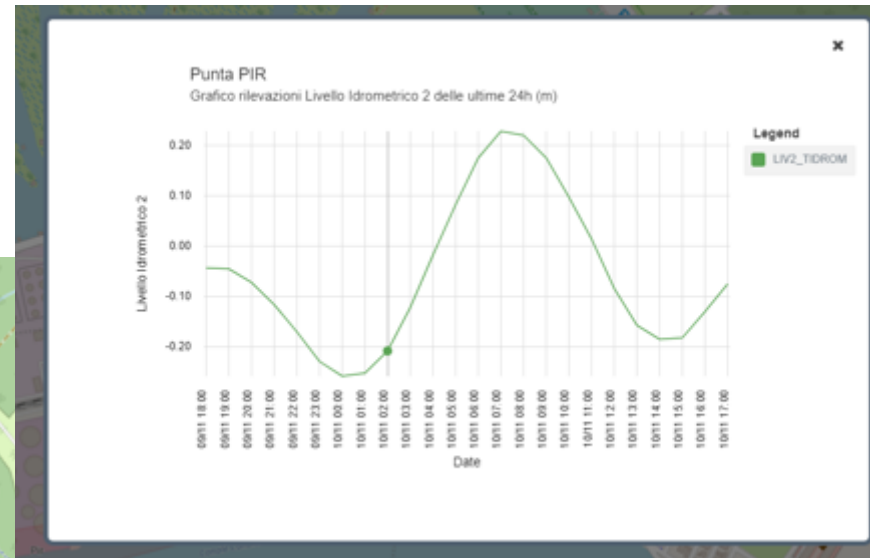

Delivered by:

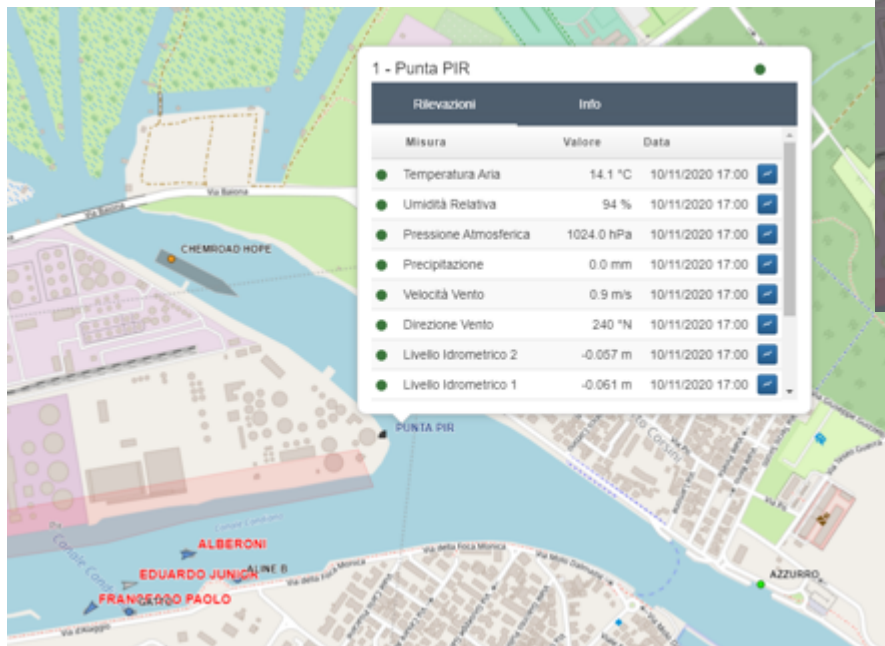at the beginning of 2021 and already used by the pilots of the port
configuration of RTK service and test already performed

PILOT ACTION
2 – Integration of real-time meteorological data

Visualization of real-time meteorological data from 9 "stations" installed along the canal.

Awarded to:

LOGISTICA DIGITALE

On-line since 2020

Next: visualization and download of hystorical data and transmission via AIS

PILOT ACTION
3 – Improvement of Port Monitoring System

Currently our PCS offer a feature called "Monitor Canale" for viewing ship traffic along the canal (both in real-time and in replay mode). We will test the improvement of this feature in order to:

- Using AIS data from the national AIS network (by MARICOGECAP) for an improved reliability of the feature
- Using a "certified" vessel directory for an improved accuracy of the feature
- Using position data for the estimation of the quantity of emissions for each vessel calling our port

PILOT ACTION
4 – Update of bathymetry using aquatic drones

Test of an aquatic drone for measuring the depth along the canal, especially in areas with specific problems of accessibility with traditional boats.
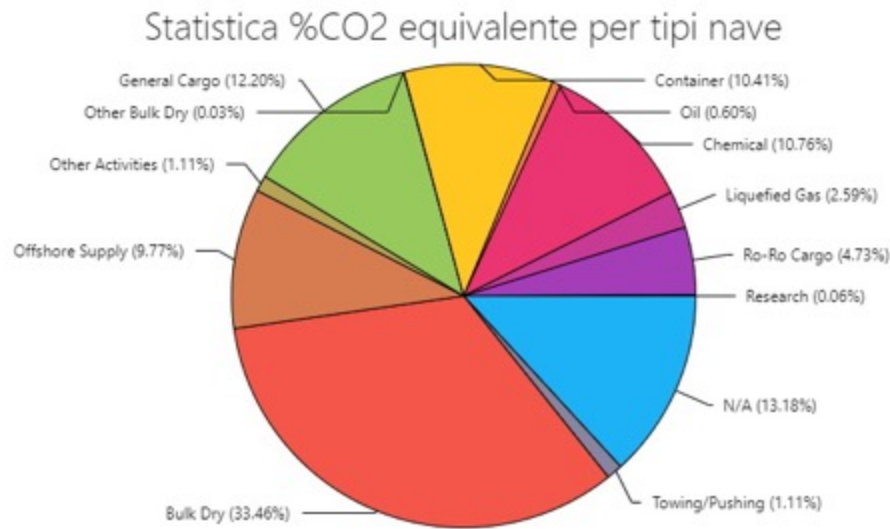

Performed in collaboration with:

PILOT ACTION
5 – Evaluation of emissions for vessels in port

Test of a software that calculate the emissions levels for each vessel in port. The calculation is based on: the AIS data, the vessel characteristics and the IMO emissions tables and is certified by the University of Pisa – Department of Civil and Industrial Engineering

Statistica %CO2 equivalente per tipi nave

- General Cargo (12.20%)
- Other Bulk Dry (0.03%)
- Other Activities (1.11%)
- Offshore Supply (9.77%)
- Bulk Dry (33.46%)
- Container (10.41%)
- Oil (0.60%)
- Chemical (10.76%)
- Liquefied Gas (2.59%)
- Ro-Ro Cargo (4.73%)
- Research (0.06%)
- N/A (13.18%)
- Towing/Pushing (1.11%)

Riepilogo dati del viaggio 5551 per l'intervallo 04-12-2021 15:21 - 15-12-2021 15:18

Velocità media (nodi)	Banchina	Inizio discretizzazione	Fine discretizzazione	Tempo discretizzazione (ore)	Fase	Energia motore princ. (kWh)	Energia motore ausil. (kWh)	Energia boilers (kWh)	Energia totale (kWh)
10.06		04-12-2021 15:20	04-12-2021 15:35	0.250277	Manouvering	362.96	400.44	72.58	835.99
8.06		04-12-2021 15:35	04-12-2021 15:51	0.255277	Manouvering	190.44	408.44	74.03	672.91
5.09		04-12-2021 15:51	04-12-2021 16:06	0.255555	Manouvering	47.97	408.89	74.11	530.97
5.38		04-12-2021 16:07	04-12-2021 16:22	0.253055	Manouvering	55.94	404.89	73.39	534.21
3.29		04-12-2021 16:22	04-12-2021 16:37	0.252222	Manouvering	12.80	403.56	73.14	489.50
2.26		04-12-2021 16:37	04-12-2021 16:52	0.250833	Manouvering	4.11	401.33	72.74	478.18
1.88	N/A	04-12-2021 16:52	04-12-2021 17:07	0.248888	Hotelling	0.00	318.58	72.18	390.75
0.31	TCR 1	04-12-2021 17:07	04-12-2021 17:24	0.282777	Hotelling	0.00	361.95	82.01	443.96
0.00	TCR 1	04-12-2021 17:24	04-12-2021 17:39	0.250277	Hotelling	0.00	320.35	72.58	392.93
0.00	TCR 1	04-12-2021 17:39	04-12-2021 17:54	0.25	Hotelling	0.00	320.00	72.50	392.50
0.00	TCR 1	04-12-2021 17:54	04-12-2021 18:12	0.3	Hotelling	0.00	384.00	87.00	471.00
0.00	TCR 1	04-12-2021 18:12	04-12-2021 18:30	0.3	Hotelling	0.00	384.00	87.00	471.00
0.00	TCR 1	04-12-2021 18:30	04-12-2021 18:48	0.3	Hotelling	0.00	384.00	87.00	471.00
0.00	TCR 1	04-12-2021 18:48	04-12-2021 19:03	0.25	Hotelling	0.00	320.00	72.50	392.50
0.00	TCR 1	04-12-2021 19:06	04-12-2021 19:21	0.25	Hotelling	0.00	320.00	72.50	392.50
0.00	TCR 1	04-12-2021 19:24	04-12-2021 19:39	0.25	Hotelling	0.00	320.00	72.50	392.50
0.00	TCR 1	04-12-2021 19:39	04-12-2021 19:54	0.25	Hotelling	0.00	320.00	72.50	392.50
0.00	TCR 1	04-12-2021 19:57	04-12-2021 20:12	0.25	Hotelling	0.00	320.00	72.50	392.50
0.00	TCR 1	04-12-2021 20:12	04-12-2021 20:27	0.25	Hotelling	0.00	320.00	72.50	392.50
0.00	TCR 1	04-12-2021 20:27	04-12-2021 20:42	0.250277	Hotelling	0.00	320.35	72.58	392.93

Esporta   Chiudi

Performed in collaboration with: DATACH TECHNOLOGIES Software solutions

Interreg Italy - Croatia INTESA
European Regional Development Fund
EUROPEAN UNION

Autorità di Sistema Portuale del Mar Adriatico Centro Settentrionale
Port of Ravenna

THANKS!

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