



Vision and challenges towards the port of 2030 and beyond

Innovative ICT services in the 5G era

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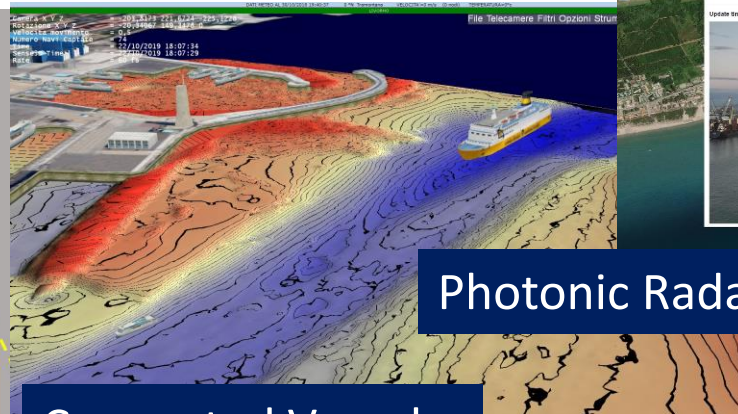
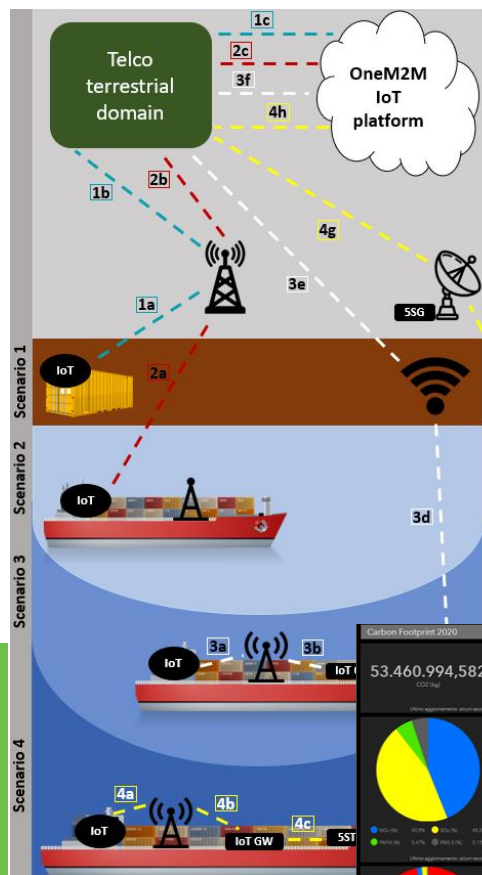
Port profile

- Mid-size historical port:
 - passengers and freight;
 - multipurpose(containers, break/dry/liquid bulk);
 - freight village, car stocking (25,000 cars capacity);
 - along TEN-T SCANMED corridor (core node);
 - door of Tuscany;
 - minor ports (Piombino, Elba) under the same organization.



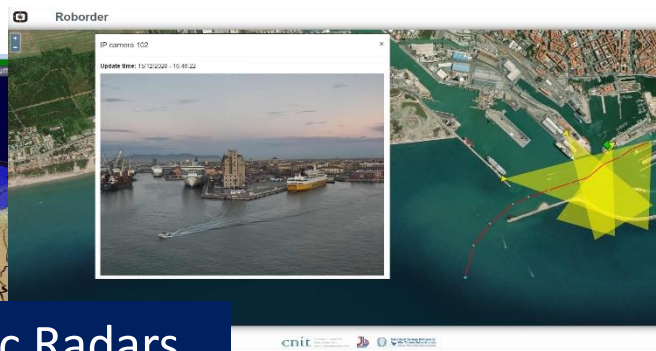


Gallery of ICT innovation services



Photonic Radars

Connected Vessel



YARD VEHICLES MANAGEMENT SYSTEM

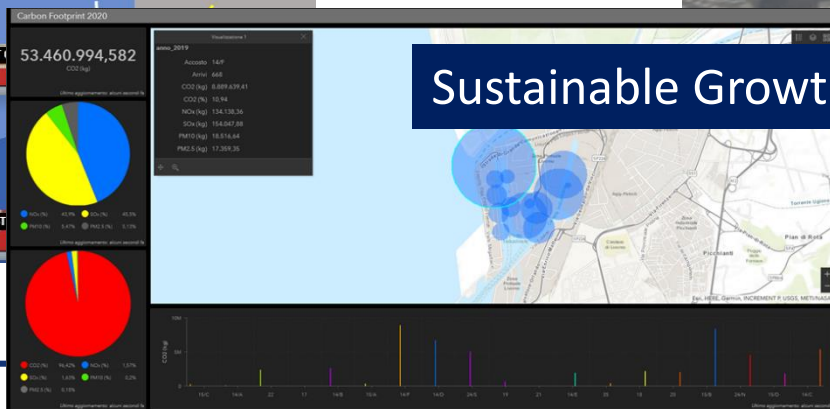


5G and e-Freight

Camera X Y Z
Rotazione X Y Z
Velocita movimento
Numero Navi Captate
Time
Sense3D Time
Rate

= 1081,247 78,89444 -288,114
= -25,64947 233,8445 0
= 0,5
= 55
= 01/10/2018 12:51:01
= 01/10/2018 12:51:30
= 20 fs

Sustainable Growth



CCAM





From demonstration to execution

- Port Master Plan 2021/23 :
 - Complete 5G coverage of the port industrial areas;
 - Monitoring and control of the landside and the port waters (weather, pollution and carbon footprint);
 - Navigation aid system for real-time assistance to pilots, captains, and coast guard;
 - Real-time information system of supply chain logistics:
 - integration with the land segment (rail-road);
 - simple (and standardized) information sharing.
 - Integration and harmonization of vertical applications developed over the years by the port system authority (i.e. PCS, Gate Transit, etc.), to efficiently share data and information.
- In 2023 the Port of Livorno:
 - will have a complete and digital management of the goods cycle;
 - will have a complete control of intermodal traffic;
 - will have a complete environmental management;
 - will support autonomous navigation in port waters;
 - will support the mobility of citizens and tourists.





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THANK YOU FOR YOUR ATTENTION



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