



Co-financed by the European Union
Trans-European Transport Network (TEN-T)



















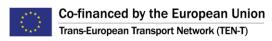


Nantes Saint-Nazaire Port Authority

- A major port on the Atlantic coast
 - . 4th French port
 - 1st port on the French and 3rd port on the European Atlantic coast
 - Traffic in 2016 : 25 million tons (energy, containers, roro, bulk, etc)
 - Estuary port with transfers by river barges
- A port connected to the European Union and the world
 - Node of the TEN-T core network close to the Atlantic Corridor
 - . Connected to the central railway network
 - . More than 60% of exchanges with the EU
 - . Connected to nearly 500 ports around the world
- ► A port committed in the ecological and energy transition



























Project presentation in Nantes Saint-Nazaire Port

- Risk Security Study on marine LNG (Activity 2)
- LNG Training (Activity 4)
- Environmental impact assessment (Activity 5)



Port of Nantes Saint-Nazaire Roro terminal in Montoir:

- Motorway of the sea to Vigo
- Project to relaunch the mototway of the sea to Gijon

















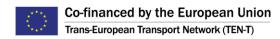






Port risk security study on marine LNG (Activity 2)

- ▶ A **risks assessment** should be carried out to set the rules for authorizing this type of refueling, but also 'barge to ship' and 'ship to ship' scenarios.
- A more precise study should be carried out to identify hazards in different sites of the Port. The hazard identification study will aim to ensure that the security and operational risks are eliminated by clearly identifying:
 - The risks of LNG bunkering operation by one or more tankers.
 - ▶ The impact of bunkering LNG on the port operation and surrounding facilities.
 - The application of safety barriers to prevent the risks.
 - The implementation of additional measures to reduce the risks.
- After the risks assessment, the local regulation concerning handling dangerous goods will be adapted to allow LNG refuelling operations.























LNG training (Activity 4)

- This activity will be implemented by the ports of Rouen and Nantes Saint-Nazaire.
- ▶ Due to the characteristics of LNG as gas and cryogenic liquid, requirements for the use of engine fuel, for loading, unloading, supervising and transportation are of complex nature. Therefore, operations with LNG in port and inland navigation require specific knowledge and skills of the crew members as well as of staff working ashore.
- The TEN-T SAFE SECA has already defined security standards for LNG refuelling operations in the Atlantic arch.
- ➤ The SamueLNG project will liaise with theses TEN-T projects to take stock of the defined standards and develop a coherent set of measure for all ports involved in the project. Different categories of personnel have already been selected:
 - Navigation crew members
 - Terminal personnel and staff of the ports
 - Bunkering personnel
 - Shore staff for the maintenance.

























Environmental impact assessment (Activity 5)

- The ports of Le Havre, Rouen and Nantes Saint-Nazaire will implement two different studies at two different levels:
 - ➤ A carbon footprint assessment in order to evaluate the impact of the engine retrofit. An air quality assessment will then be carried out in each estuary (Loire and Seine) to assess the contribution of the engine retrofit to the improvement of air quality, according to several parameters (SOx, NOx, PM, CO2...).
 - Extra carbon footprint assessment in each port and extra air quality assessment in each estuary will be carried out.



