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ARAMIS

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Aramis project update

CATO, 4 March 2025

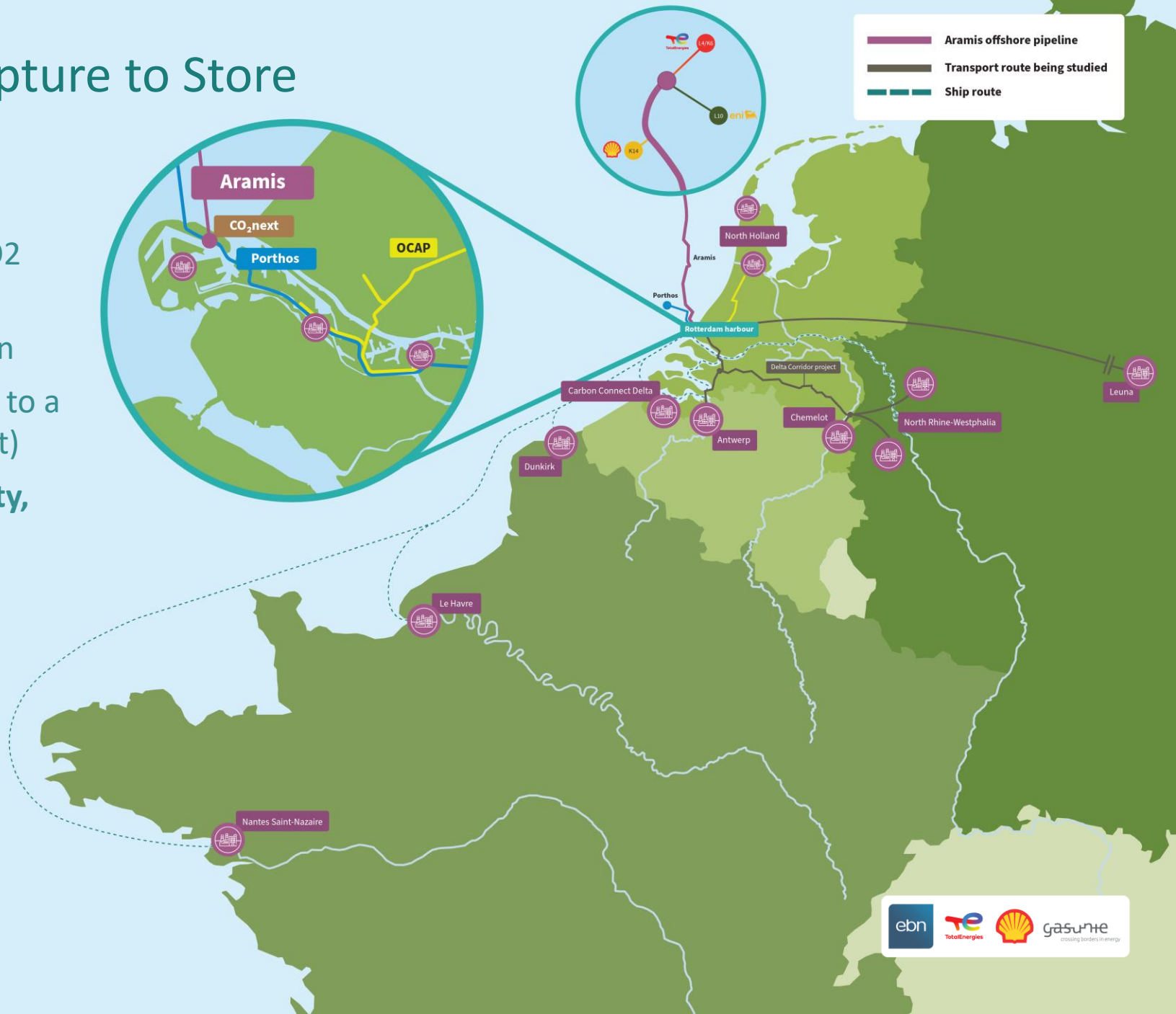
From Capture to Store

Transport

- Transport of both gaseous and liquid CO2
- Gaseous: Porthos onshore pipeline and expansion of Porthos compressor station
- Liquid: Shipping via coasters and barges to a new receiving terminal (CO2next project)
- **New offshore pipeline, 22 Mtpa capacity, to storage locations (dense phase)**
- Option for future onshore tie-in

Storage

- Depleted gas fields, multiple operators



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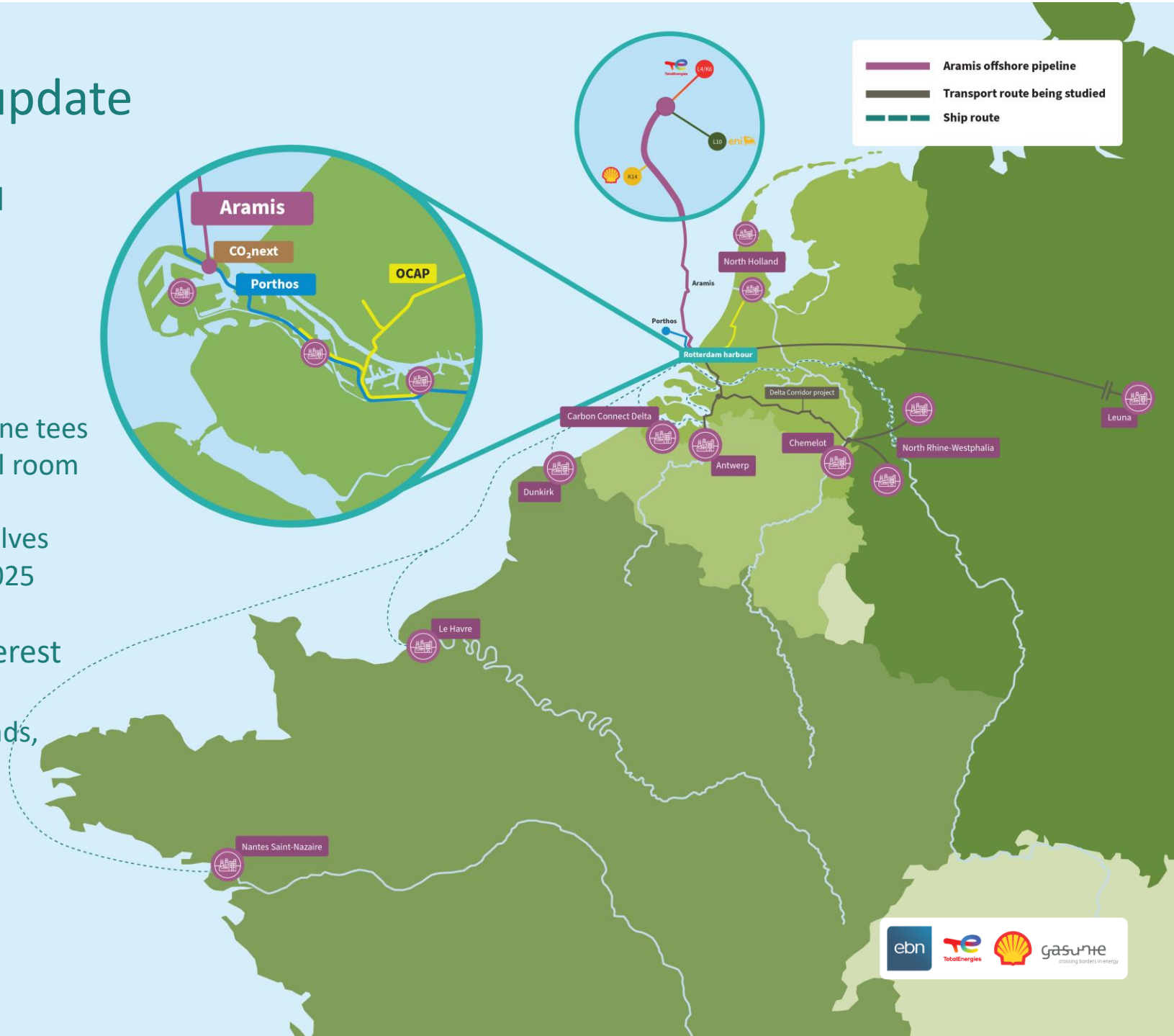
Project update

- Joint Team to manage Trunkline FEED and Aramis Value Chain Integration
  - FEED completed end-2024.
  - Value engineering ongoing
  - Preparing to launch the Call for Tenders
    - Tunnel shore crossing
    - Offshore pipeline ~200km with In-line tees
    - Onshore pipeline 2.5km and control room
    - Distribution hub offshore platform
    - Long lead items – line pipe, large valves
  - Final permits to be published in Spring 2025

- Re-applied for EU Project of Common Interest status
  - Member State support by: The Netherlands, Belgium, France and Germany
  - Secured CEF subsidy for trunkline



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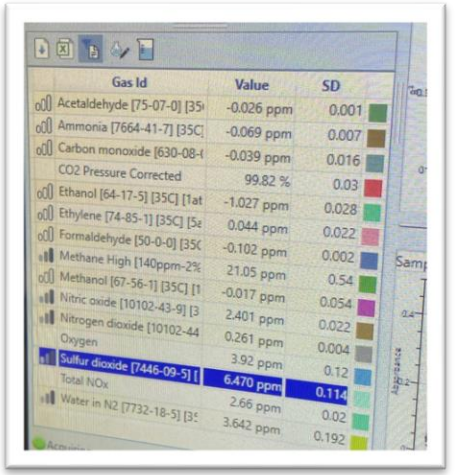
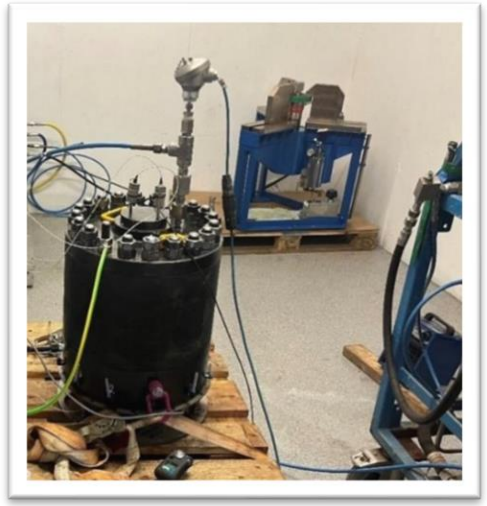
Novelty Aspects

- **Dense phase CO2 behaviour**
  - Flow assurance and process design interfaces for value chain
- **Vent design**
  - Vent design for depressurization for maintenance or emergencies
    Performance of CO2 vents
- **Running ductile fracture (RDF):** testing in April 2025
  - Aramis pipeline parameters outside of code for RDF, testing required to confirm ductility
- **Metering and Quality monitoring**
  - Technology under development for accurate metering of gaseous and cryogenic CO2 volumes
  - Analyzer technology selection enable real time monitoring of CO2 composition
- **Inline inspection (pigging)**
  - Pigging in CO2 conditions
  - High wall thickness measurements

RDF test preparation



Analyzer test



Pigging tool test

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