THE PORT OF MARSEILLE FOS

A GREEN SMARTPORT TO DEVELOP THE BLUE ECONOMY
Marseille Fos a multipurpose port

One port, two harbors

Eastern Harbors in Marseille: the Shortsea Port (400 ha).

**Activities:** RoRo, ConRo, Cars, Breakbulk, Passengers (cruise & ferries)

Western Harbors around Fos: the Global Port (10 000 ha).

**Activities:** Containers, Solid bulk, Cars, Petro-chemical complex, Energy, Industry & Logistics Zone
Marseille Fos 2019 vs. 2018

- **TEUs**: 1.5 M
- **Liquid Bulk**: 46 MT
- **Dry Bulk**: 12.7 MT
- **Passengers**: 3.1 M Pax

**79 MT**

**Cargo +2%**
**Cars +23% (Q2)**

- **Containerized goods TEUs**: +4%
- **Liquid Bulk**: +1%
- **Dry Bulk**: -15%
- **Chemical & food +11%**
- **Ferries & Cruise**: +5%
- **Biofuels +22%**
- **LNG +5%**

**45,000 direct and indirect jobs** (Source: INSEE)

**3.5 billion euros of added value**
Onshore power supply – “CENAQ”

Marseille
➢ Long experience on low voltage for longer calls (up to 1 MW) and also for small ship repair (400 V and 50Hz), representing 7 to 8 GWh/year.
➢ Marseille - 1st Port in Mediterranean to plug commercial ships on a regular basis: since Jan. 2017 for the passenger ferries to Corsica.

*CENAQ 2024 project:* A >40M€ investment plan has been decided by the port authority to expand the CENAQ solution to international passenger ferries, shiprepair and cruise until 2024.
Localisation of the CENAQ2024 cold ironing projects in the port of Marseille
Cold ironing deployment – NEXT STEPS

- It is proposed a phasing in 3 stages. The main technical issues are 1) when needed, the frequency conversion from 50 to 60 Hz to match that of the ships and 2) the power levels called.

<table>
<thead>
<tr>
<th>Phases</th>
<th>Targets</th>
<th>Number of targeted ships</th>
<th>Voltage</th>
<th>Frequency</th>
<th>Estimated maximum power per ship</th>
<th>Possible break on connection</th>
<th>Number of berths to equip</th>
<th>Nb of simultaneous connections</th>
<th>Total est. investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Corsica Linea / ships dedicated to the Corsican public service</td>
<td>1 to 4</td>
<td>High</td>
<td>50 Hz</td>
<td>2 MW</td>
<td>No</td>
<td>3 at Quai du Maroc</td>
<td>1 to 2</td>
<td>2 M€</td>
</tr>
<tr>
<td>1</td>
<td>Ships in small ship repair or long-term parking</td>
<td>Tous</td>
<td>Low</td>
<td>60 Hz</td>
<td>1 MW</td>
<td>Yes</td>
<td>1 mobile converter</td>
<td>1</td>
<td>0,5 M€</td>
</tr>
<tr>
<td>2</td>
<td>Ferries of international lines</td>
<td>5</td>
<td>High</td>
<td>50 Hz</td>
<td>3 MW</td>
<td>No</td>
<td>2 to 3 at Cap Janet</td>
<td>1 to 2</td>
<td>3 M€</td>
</tr>
<tr>
<td>2</td>
<td>Ships in industrial ship repair</td>
<td>All</td>
<td>High</td>
<td>50/60 Hz</td>
<td>6 MW</td>
<td>Yes</td>
<td>F8, F9, F10, P190</td>
<td>1 to 2</td>
<td>12 M€</td>
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<tr>
<td>3</td>
<td>Cruise ships</td>
<td>12 to 15</td>
<td>High</td>
<td>60 Hz</td>
<td>12 MW</td>
<td>No</td>
<td>2 to 3 at MLG</td>
<td>1 to 2</td>
<td>18 M€</td>
</tr>
</tbody>
</table>
THANK YOU FOR YOUR ATTENTION

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