

# PowerFlex project description

## Low-cost and flexible onshore power supply for containerships and onboard battery charging

### Background

Containerships rely on the highly pollutant marine fuel to operate, contributing to 50-60% of all ship emissions. Onshore power supply (OPS) is the delivery of shore side electrical power to a ship at berth so its main and auxiliary engines can be turned off. In the cases where the electricity comes from renewables, OPS is a local mitigation measure that eliminates all CO<sub>2</sub>, air pollutants, noise, and vibration at the port terminal. However, with the possibility to charge onboard batteries, OPS can also have a significant global CO<sub>2</sub> mitigation potential.

### PowerCon pushing the boundaries

PowerCon has in the recent years been a part of the success of OPS systems for the cruise ships segment by adding significant savings to cruise ports, making it obvious to offer the same savings to the containership segment and expand the system capabilities to charge onboard batteries. Therefore, the main objective of this project is to advance the technological and market readiness of a competitive OPS solution - named OPS-Charger - to provide electricity to containerships when at berth to supply their consumers and charge onboard batteries. For 36 months, we will mature, test, and demonstrate OPS-Charger in a real case scenario.

### Outcome

The main outcome of the project is a market ready solution to offer for the first time a cost-competitive and flexible OPS solution for containership ports around the world, ensuring a reasonable payback period. The market adoption of our solution is expected to contribute to:

- 1) reduce greenhouse gas emissions, pollution, noise, and vibration from containerships at the port berth and sea, thereby contributing to the UN Sustainable Development Goals 3, 7, 9, 11, 13, and 14.
- 2) the circular economy.
- 3) the creation of high-value blue economy jobs.

Overall, the ambition of this project is to significantly impact the blue economy areas of “New facilities that support the diversification or energy efficiency of ports” and “Cleaner shipping”.

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