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Orientation: Technological Progress, Engineering and Business
Specialization Area: Energy
Research Area: 4.11. Alternative energies

PhD project: **Energy analysis in port areas**

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Summary: Analysis of the energy use in port areas, with regard to possible use of renewable energies, energy supply systems, improved energy efficiency and reduction in energy costs.
Energy is a key pillar to develop port activities, from both the supply and the consumption points of view. Its correct management is essential to contribute to the reduction of polluting emissions in ports.
Concepts such as Smart Port, Smart Grid and Green Port are becoming more and more important, and their integration more necessary in order to achieve:

- An efficient and competitive port, which optimizes its infrastructures through the application of information-communication technologies (ICTs) and software automation.
- An efficient port from the energy point of view, that includes the implementation of an electrical microgrid that can manage the renewable energies production, the use of storage systems, and the supply of electricity from the electrical network and to ships.
- A port that respects the environment, the city where it is integrated and its socioeconomic context.