Where IoT meets the port of the Future

PIXEL PORTS

Port IoT for Environmental Leverage

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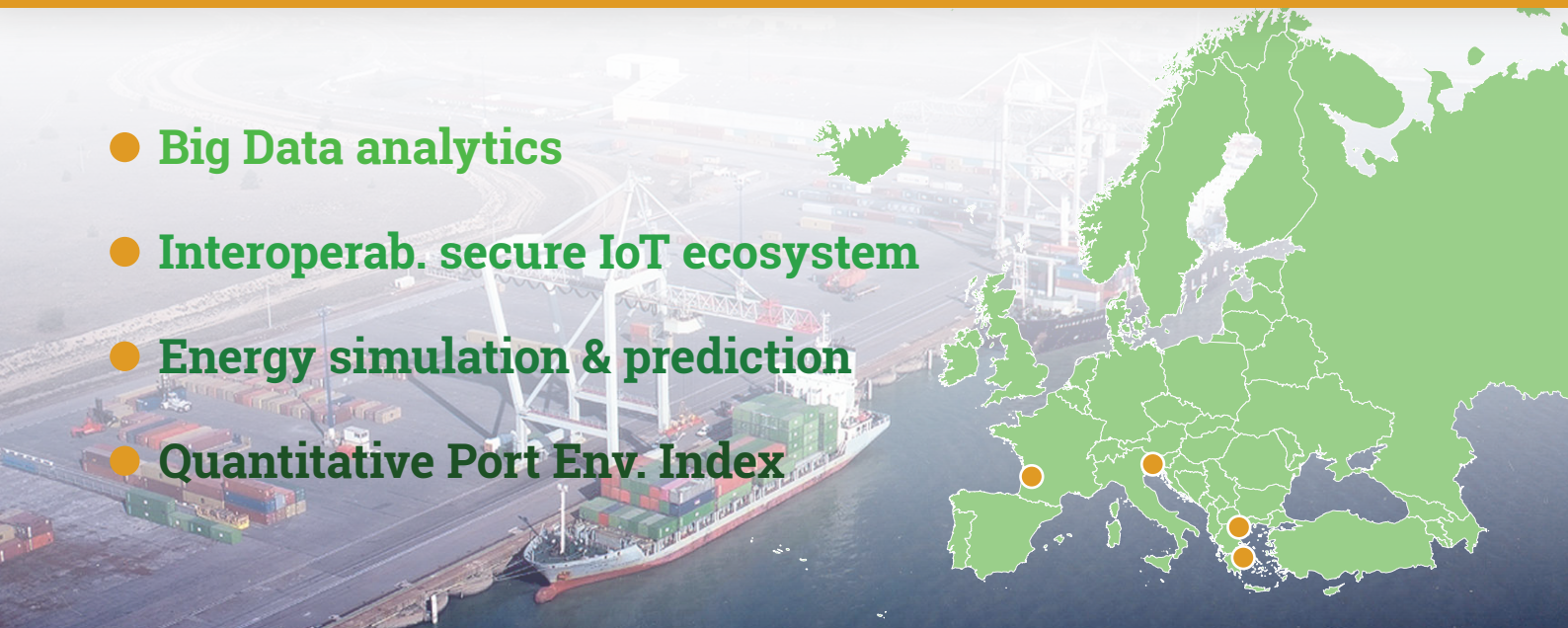
- Big Data analytics
- Interoperab. secure IoT ecosystem
- Energy simulation & prediction
- Quantitative Port Env. Index



PIXEL value proposition

Reduction of **environmental impact** of port activities

Increase of **renewables energy uptake** in small, medium and large ports

Adoption of a **Port Environmental Index** as a **global quantitative measure** to monitor and act on own environmental footprint

Reduction of **operational and infrastructural costs** with better Port-City integration

Improvement of logistics through data analytics over **waiting time for vessels, on-time performance**

Heterogeneous information hub tailored for interoperability over limited data **interchange of Port Community Systems** (PCS)

First **IoT integrated platform** focused on optimization of operations w/ reduction of **environmental impact**

Port Environmental Index (PEI) as a quantitative composite indicator of the overall environmental performance of a port

Secured dashboard with **operational tools** for decision support (real time monitoring and predictive analysis)

Information hub and optimization operations through **smart models** (energy, transportation, pollution and port-city integration)

Port environmental index

Today's environmental challenges must fit real global needs, enhanced by legislation and standards - Ports need clear understanding of their **overall environmental performance**

Ports can **optimise their use of resources** to include the appropriate monitor of environmental-related activity and act on it

PEI is a global indicator of the impact in ports that permits the ports to have **a real-time measure of their environmental footprint and to plan actions** to reduce it to desired levels

Emissions to the atmosphere — **Emissions of wastewater** — **Noise emissions** — **Production of waste** — **Light pollution** — **Odour emissions**