





PIXEL

Bordeaux use case

28/09/21

PIXEL – Bordeaux use case

Port of Bordeaux : decarbonization strategy

- Global **awareness** is growing about overexploitation of non-renewable resources
- Port of Bordeaux initiated **decarbonization** of industrial and port activities
- Our objective : **environmental excellence**
- Port of Bordeaux is involved in PIXEL project and overall in **decarbonization projects** :
 - PEEPOS: Port à Energie et à Economie positive (**2014**)
 - H2Bordeaux : studies about exploitation of fatal hydrogen (**2020**)
 - GH2 : Renewable hydrogen production (**2021**)

PIXEL – Bordeaux use case

Our experience with the PIXEL project

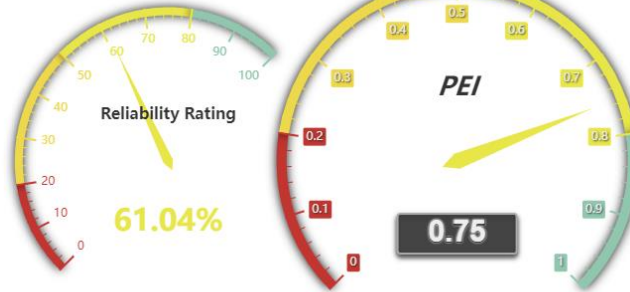
- PIXEL : a great project for Port of Bordeaux
- A very varied and complementary **team of experts**
- Taking into account port specificities requiring **flexibility** and **scalability**
- **Multi-skill** methodological approaches
- Participation in the birth of a ambitious port environmental index
- First **decision** based on **PIXEL results** regarding energy

PIXEL – Bordeaux use case

PIXEL : impacts for Port of Bordeaux

- Port environmental index (PEI)
 - PEI : a **composite indicator** of the port activity
 - A innovative **quantitative approach** (due to IoT) complementary to the “**demarch**” **approach** of Green Marine program (North America)

Current environmental performance



2021

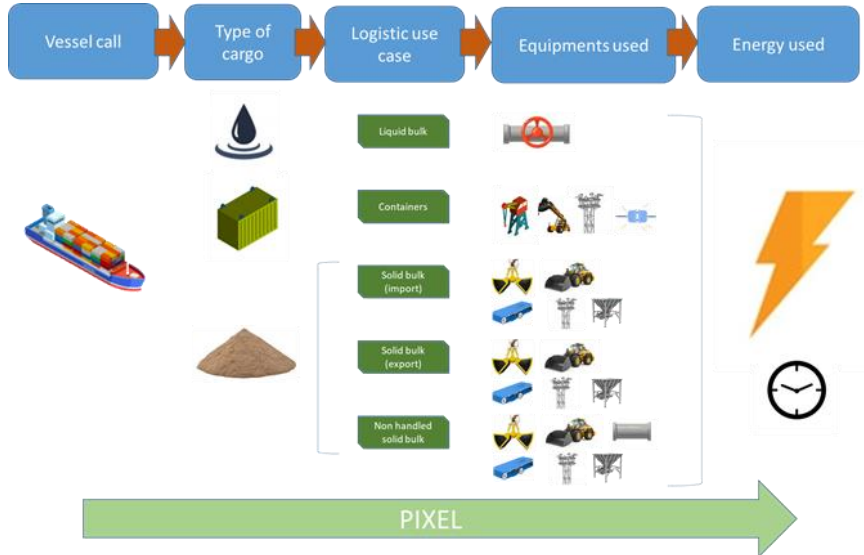
August

Score of Bordeaux PEI (August 2021)

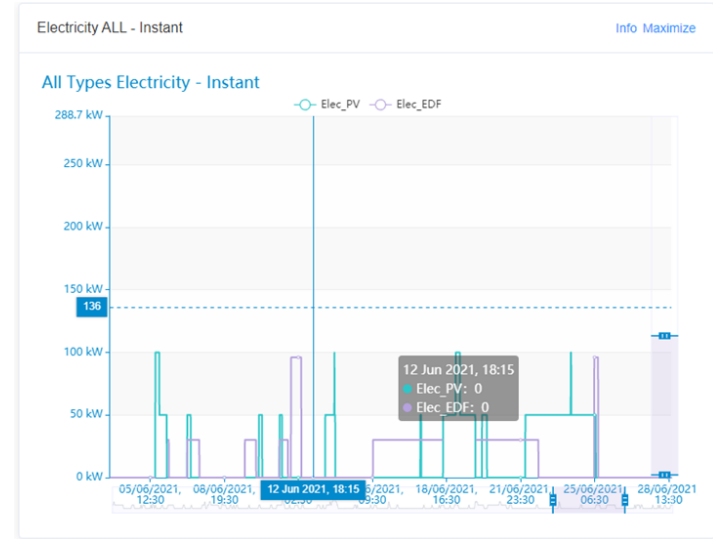
PIXEL – Bordeaux use case

PIXEL : impacts for Port of Bordeaux

Energy monitoring



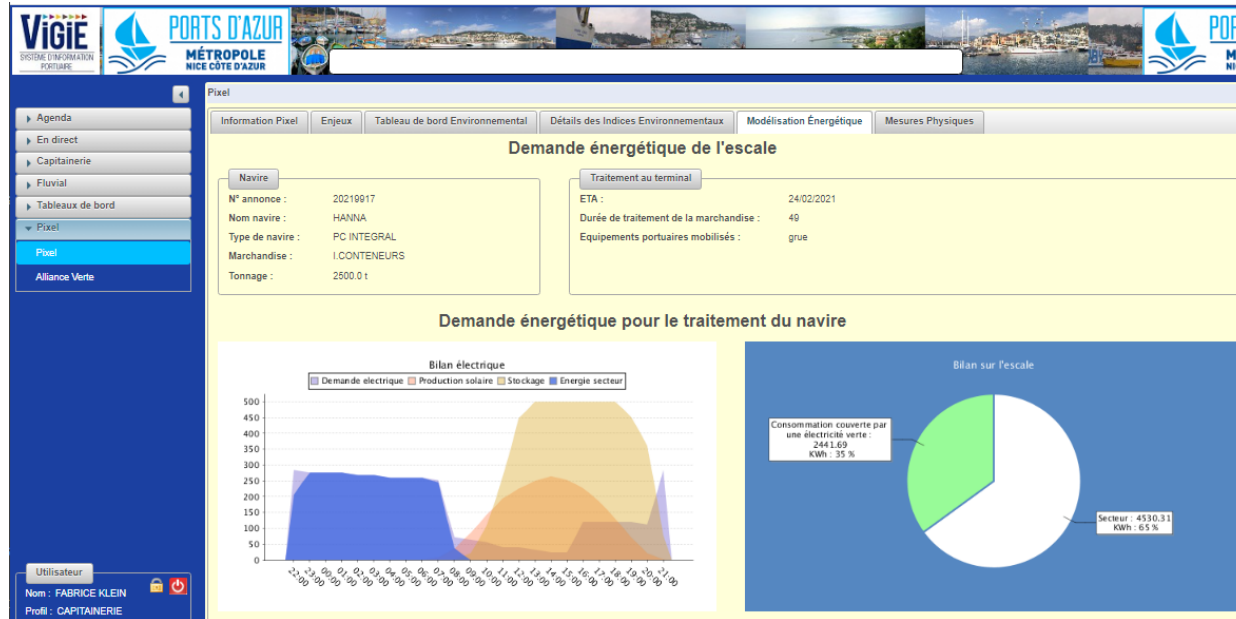
Matrix of energy logistic chain implemented in PIXEL



Terminal electricity instant consumption

PIXEL : impacts for Port of Bordeaux

- Integration of PIXEL works into Port community system VIGIEsip

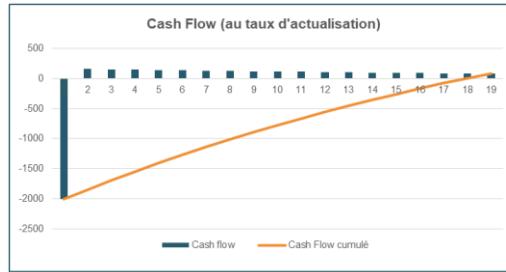


Example of simulation of production of renewable energy

PIXEL – Bordeaux use case

PIXEL : impacts for Port of Bordeaux

- First use of PIXEL results
 - Estimation of ROI for installing solar panels on rooftop of terminal's hangar for energy self-sufficiency : 2 900 kWc – 2 M€



- Our first **decision** based on PIXEL results : launch the operation of **production and supply of renewable energy** (Port Supervisory Board - **June 24, 2021**).

PIXEL – Bordeaux use case

PIXEL : impacts for Port of Bordeaux

- Our interests to PIXEL
 - **Common reference** for port stakeholders,
 - **Global vision** of the activity
 - Stopovers: better follow abnormally long stopovers
 - **Energy**: better understand the energy needs, in particular electricity, hour by hour, of each **logistics chain**
 - **Emissions**: have information to study the correlation between port activity and emissions
 - **Exchanges** with others ports about the interest of PIXEL
 - Port of Quebec
 - Port of La Rochelle (EIG VIGIE member)
 - Port of Bayonne (EIG VIGIE member)

PIXEL – Bordeaux use case

Thank you



Fabrice Klein

Transversal innovation project manager

F-klein@bordeaux-port.fr

[linkedin.com/in/fabriceklein](https://www.linkedin.com/in/fabriceklein)