maritime week 2023 PORT RÉUNION

WEDNESDAY 13 AND THURSDAY 14 SEPTEMBER 2023
MOCA DOMAINE DE MONTGAILLARD, LA RÉUNION




14th September 2023

MARITIME ENGINEERING AND TECHNICAL EXPERTISE SUPPORTING FUTURE PORT DEVELOPMENT

PORT REUNION
L'ESPRIT DE L'EUROPE, LE CŒUR DE L'OCEAN INDIEN

Sophie DESPREZ – Maritime Project Director

ARTELIA
Passion & Solutions

5 Markets

An independent multi-disciplinary engineering & project management company

100% employee owned

8,500
employees
at 1st August 2023

€ 930M
2022 turnover

> 40
countries

65%
private-sector clients

ARTELIA
Passion & Solutions



A full range of services from technical expertise through to complex project delivery

We partner on the entire lifecycle of your project

CONSULTING

Regional strategy
Audits, programming
Financial engineering
Training, certification

MASTER PLANNING & FEASIBILITY

Master plan
Feasibility study
Environ. & social impact assessments
Modelling

DESIGN & ENGINEERING

Design services
Procurement assistance
Construction supervision
Environmental management

CONSTRUCTION & PROJECT MANAGEMENT

Program management
Cost & risk management
Assistance to the Owner
Technical assistance

ASSET & FACILITY MANAGEMENT

Asset management
Commissioning assistance
Operations and maintenance

TURNKEY SOLUTIONS

Turnkey projects
General contracting
Public-Private Partnerships
Energy Performance Contracts

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MARITIME & PORTS

A LEADING MARITIME & PORT DESIGNER

ARTELIA within the Top 10 International Design Firms for Marine Design & Construction services for more than one decade

THE CONSTRUCTION RESOURCE

ENR

Engineering News-Record

WORLD TRADE CENTER

MARINE AND PORT FACILITIES

RANK	FIRM	REVENUE ($ MIL.**)
1	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	376.7
2	WSP GLOBAL INC.	81.7
3	ROYAL HASKONINGDHV	75.8
4	AECOM	73.7
5	JACOBS	72.6
6	RAMBOLL GROUP A/S	34.0
7	KHATIB & ALAMI	30.4
8	HATCH LTD.	29.0
9	ARTELIA	25.1
10	MOTT MACDONALD	25.0

enr.com December 12/19, 2022 ▪ ENR SOURCEBOOK ▪

ARTELIA
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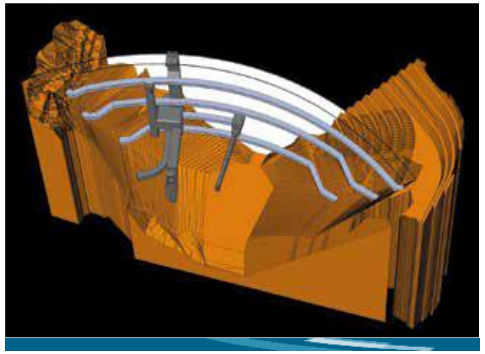
A **network** of experts and a **hundred** or so business communities

600 employees involved in research projects

10 patents pending

€ 20m /year allocated to R&D

Constantly driving innovation



PHYSICAL AND NUMERICAL MODELLING

World-class expertise in the design of buildings and infrastructures

DATA SCIENCE LAB

Data analysis, predictive maintenance,... Artificial intelligence applied to our projects

ARTEDRONES, 4D BIM, ARTELIA 360°

Combining in situ experience and virtual project management

PATENTED TECHNOLOGIES

ACCROPODES ™ II, Armour protection, marine energies, waste management,... key technologies, result of the Group's research work

ARTELIA
Passion & Solutions

World renowned laboratory

Hydraulic & hydrosedimentary physical scale models

Scale model wave stability studies

Measurements of waves-induced loads & pressures

Wave-induced movements on floating structures

100 years
1917 – 2017
Hydraulics laboratory

https://www.laboratory.arteliagroup.com

Contributor and member of HYDRALAB III

Certified ISO 9001 OHSAS 18001

25 models per year
11,000 m² of testing halls
5 wave tanks
3 wave flumes

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2018 - La Cotinière Harbour Extension (France)

FROM MODEL…

…TO REALITY

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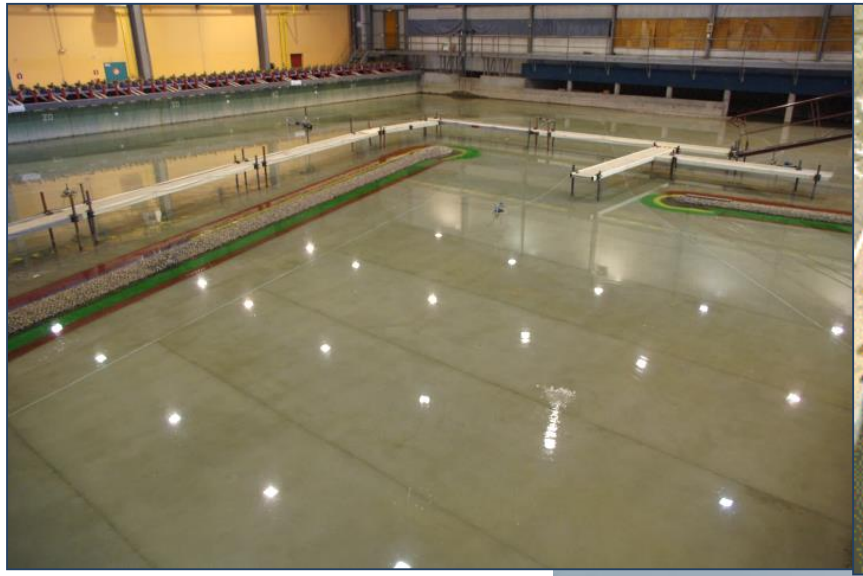
FROM MODEL…



2014 - Extension of the commercial harbour

Port La-Nouvelle (France)

…TO REALITY

Shiphandling training centre

Port Revel is owned and operated by ARTELIA since 1967.

The facility is dedicated to ship handling training for professional mariners and pilots (150 to 200 participants each year, coming from shipping companies and pilotage stations worldwide).

The fleet includes 12 vessels perfectly reproducing real ships (bulk carriers, oil tankers, 8 500 TEU container vessel and Qmax LNGC).

Advanced ship handling courses (including emergency / pods) are provided by **highly experienced pilot-instructors and tug captains working for ARTELIA.**

12 1:25 model ships
5 1:25 tractor tugs
A **5-hectare** lake
A **DGPS ship** tracking system

www.portrevel.com

Stabilisation of the Grand-Lahou sandy belt (Ivory Coast)

Climate change resilience

- Building resilience into national policies and private activities
- Reducing greenhouse gas emissions through mitigation policies
- Helping cities and regions to anticipate and to adapt to extreme events

An innovative floating platform to harness offshore wind (Spain)

Energy transition

- Committing to reduce consumption
- Implementing local and decentralized renewable energy production and distribution methods
- Fostering access to energy for all

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France - Réunion

2009-2016 / 2019-2027

Port-Est

Client

Grand Port Maritime De La Réunion (GPMDLR)

Services

Complete design and construction supervision services

- Extension - Phase 1: between 2001 and 2008
- Extension - Phase 2: between 2009 and 2016
- Phase 1 includes the creation of 600 m of quays and the development of the access channel and turning circle
- Phase 2 mainly includes the extension of the container dock (160 m extension of the quay and 2 m deepening)
- Framework agreement for the “Reorganization, security and extension of Port-Est” (2019 – in progress)
  - to increase the land capacity of the container terminal
  - optimize the surface area
  - improve the port's security level
  - to increase the GPMDLR's expertise in sustainable development

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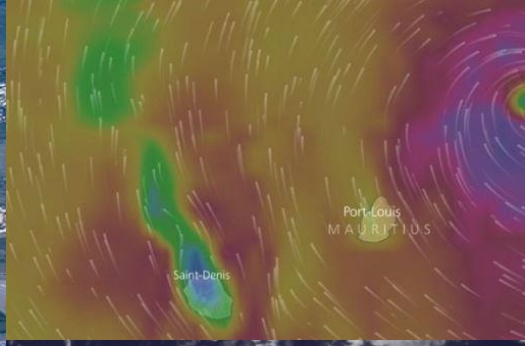

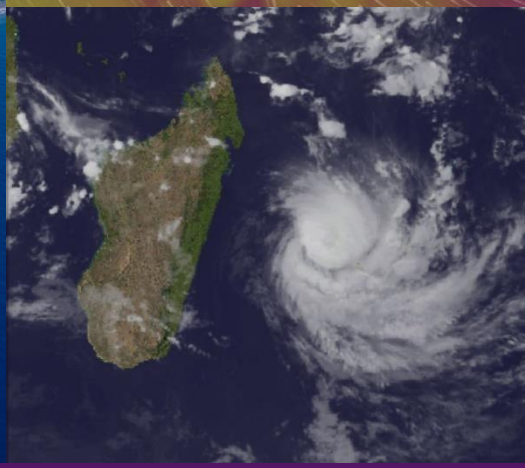

France – La Réunion island

2020-2022

Client

GPM de La Réunion

Services

Hazard trends under climate change
Vulnerability of issues to climate hazards
Identify, select and prioritize adaptation measures to form the adaptation strategy..

Development of an adaptation strategy for La Réunion harbour

The Grand Port Maritime (GPM) of Reunion Island is a critical infrastructure of vital importance for the whole island. This infrastructure is exposed to climatic hazards: wind, marine submersion and rainfall runoff in particular. The effects of climate change - sea level rise, increase in average temperatures, changes in precipitation patterns, etc. - are leading to an increase in the frequency and intensity of these hazards.

Artelia assisted in assessing the risks associated with climate change and taking them into account in its strategy for the management and development of port infrastructures and activities over the medium (2030) and long term.

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Mauritius

2018-2020

Port Louis Harbour

Building resilience to the impacts of climate change

Client

Climate Technology Centre & Network

Services

Technical studies

- The Port Louis port is exposed to meteorological and climatic risks (sea level rise, cyclones, impact of waves and wind, rainfall, floods, rising water temperatures). Port operations are often temporarily suspended due to bad weather and flooding, and disruptions are expected to increase and become more costly as the climate changes. To reduce these risks to critical infrastructure and operations, adaptation solutions must be identified and implemented.
- Vulnerability assessment and definition of adaptation solutions to reduce risks for harbour facilities and operations

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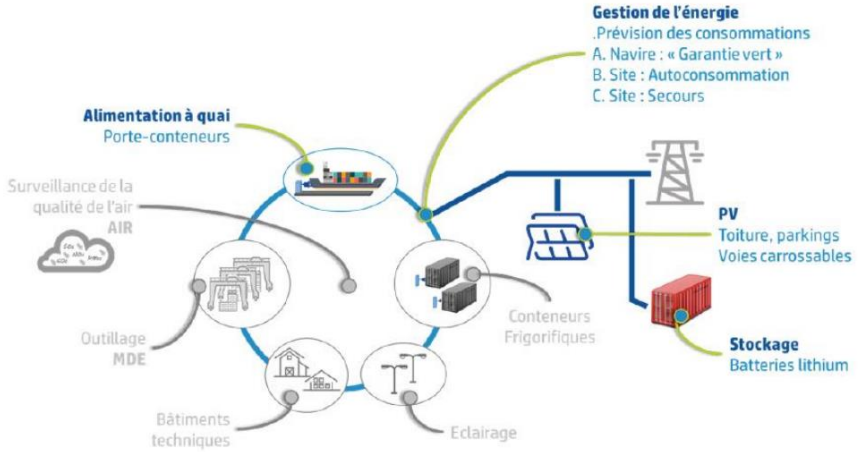
Developing the ports of tomorrow

Port design & development are no longer just technical issues but now involve other key-aspects:

- environment
- territory strategy
- ecodesign
- sustainability
- digital/smart
- etc.

Martinique Hub Caraïbe



France - Martinique

2021-2023

Client

Grand Port Maritime de la Martinique

Services

Project Management Assistance

Pointes des Grives - SMART Grid

Intelligent electrical network integrating photovoltaic installations, shore power supply and a lithium battery storage system at the Pointe des Grives container terminal

The GPMLM wishes to design, build and operate a Smartgrid energy system on the Pointe des Grives, in order to contribute to its energy transition and improve air quality. The programme includes :

- The design and construction of new infrastructure and equipment: Photovoltaic power plants on roofs and car parks, Lithium battery storage, power supply to container ships at the quayside, Hypervision and emergency thermal unit),
- Optimising the energy management of existing infrastructure and equipment: Lighting, technical buildings, reefer outlets for refrigerated containers, gantries, straddle carriers...,
- Adapting power grids and communication systems accordingly

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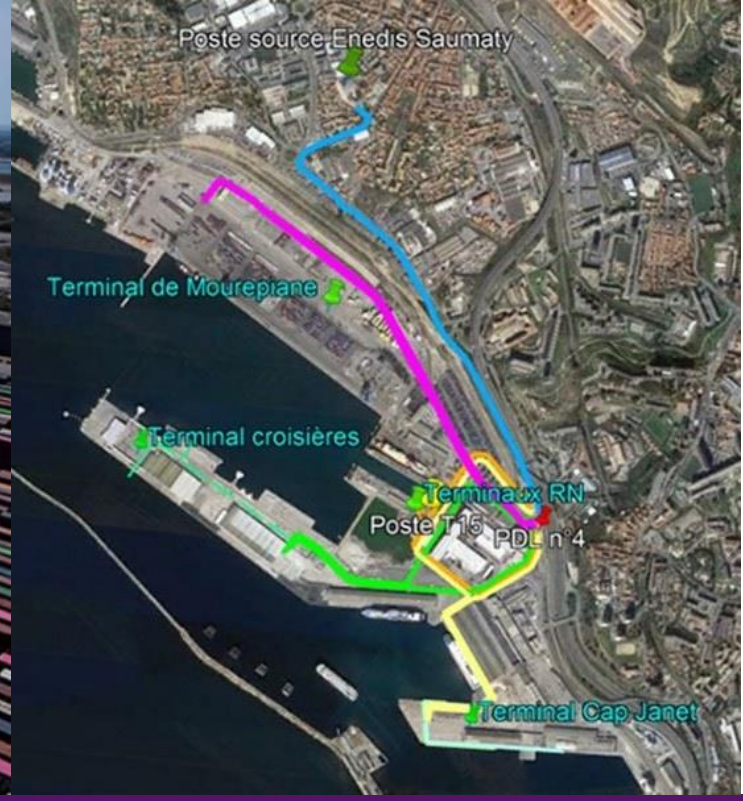

France

2020-2023

MARSEILLE FOS le French smartport in med

Client

GPMM

Services

Preliminary design

Project

Assistance with the award of the works contract

Compliance and approval of the project

Grand Port Maritime de Marseille

Project management for the reinforcement of the HV 20Kv network for the connection of ships in port

The project consists of the supply of at least an additional 37.5MW, with the creation of a new delivery station at PDL4. The creation of the internal 20 KV distribution network will serve the nearby terminals, namely :

- The Cruise Terminal of the Marseille Shipyard (Green Route)
- The Cap Janet (passenger and international) public worksite (Yellow Route),
- The Mirabeau dry dockyard of Monaco Marine (orange line),
- The Mourepiane container terminal (Chantiers ferroviaires and Caribbean frigo sockets) of Intramar (purple line).

The project will also include :

- The creation of a delivery station on the Mourepiane Terminal,
- The creation of a delivery station on the Cap Janet terminal and distribution networks (Turquoise line) to serve the 4 11 KV berths.

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Thank you for your attention

www.arteliagroup.com