

SMART PORT INNOVATION, a voluntary and inclusive approach.

Ambitions and motivations

The port sector is facing a fundamental challenge, which is to move to a new level of development by giving greater priority to "Soft" actions, through the overhaul and optimization of port processes, taking advantage of Innovation, new technological resources and the digital revolution.

To achieve this, the Agence Nationale des Ports has embarked on a voluntary, inclusive and creative approach involving all stakeholders in the port ecosystem, placing the economic operator at the heart of the various projects.

Through this approach, the Agency aims to respond to the various challenges facing the port sector by developing creative and innovative solutions, drawing on the collective intelligence of the port ecosystem to create the right conditions for smart ports (SMART PORT), by coordinating the actions of the various stakeholders to provide practical solutions to the needs of port users.

Open-mindedness, the ability of employees and managers to innovate, to think outside the box, to reinvent working relationships, thanks in particular to a shared approach, is the key to improving the level of competitiveness of the supply chain and ports.

Digitization plays an essential role, but it is the ability of men and women to make the best use of it that will enable us to achieve the expected acceleration and facilitation of port and foreign trade processes.

In fact, 80% of processes in the logistics value chain have been dematerialized, thanks in particular to the collective synergy of the port community and the deployment of holistic solutions such as port reform and the single port office.

Implementation

The innovation process in the port sector follows an agile and pragmatic logic spread over several essential stages:

- **Identifying innovation challenges and opportunities;**
 - Organization of the first international Hackathon in 2020 dedicated to innovation in the Moroccan port sector, "SMART PORT CHALLENGE 2020", in partnership with
 - The global alliance for trade facilitation
 - The Moroccan port ecosystem
 - Partners from France, Singapore, Switzerland, Tunisia...
 - 500 Participants from all over the world.
 - **Organization of the second international SMART PORT CHALLENGE Hackthon in 2022, "**, in partnership with :

- The global alliance for trade facilitation
 - The Moroccan port ecosystem
 - Partners from France, Germany, Switzerland, ...
 - 300 Participants from all over the world.
- **Collecting and consolidating innovative ideas ;**
 - **115 projets innovants** in response to major port challenges have been consolidated and shared with the port community in Morocco and elsewhere.
 - **7 winning projects** jury prizes awarded by representatives of the national and international port community.
 - **The experiment;**
 - Prototyping of the hydromode solution for simulating the propagation of hydrocarbon naps in the port of jorflasfar in response to the challenge of protecting the port environment.
 - Feasibility study of the Jefile solution for optimizing port scanner queues with PORTNET
 - Visit to the ports of Casablanca and Mohammedia to evaluate ECO WAVE POWER's solution for generating electricity from waves.

The Agence Nationale des Ports is federating an innovation ecosystem in the port sector, bringing in new players from the scientific and start-up worlds to strengthen the port community's ability to provide effective responses to the issues and challenges facing the port sector.

By grouping the challenges facing the port sector into specific themes, each contributor to the innovation process can easily find his or her way around one of the four identified themes, which are in line with the United Nations' sustainable development goals in more ways than one:

- **Sustainable development, environmental protection and energy transition ;**



- **Performance, logistics fluidity and trade facilitation;**



- **Security Safety & Compliance;**



- **Port service continuity and infrastructure availability.**



Results

Sharing, deploying and developing innovative solutions in the field.

As part of this approach, ANP has carried out several structuring projects that address a large number of port issues through the dematerialization of several key port management processes:

- Port conference management;
- Call management;
- Appointment scheduling for import and export goods collection;
- Automated management of public port authorizations;
- Online payment of port dues for ships and goods;
- Port access control;

Other innovative projects carried out by ANP as part of the innovation process:

- Tide gauge data acquisition systems,
- Port inspection and surveillance using remotely operated marine vehicles (marine drones),
- Port inspection and surveillance via aerial remote sensing vehicles (aerial drones),
- Holographic data acquisition systems.

And it continues to develop new community solutions for port management and foreign trade facilitation.

Also, several innovations have been taken up by players in the port community at national level, such as PORTNET, MARSAMAROC and OCP, covering disruptive technologies such as Artificial Intelligence, dynamic ship mooring and other innovations.

In a context where the resolution of port challenges depends heavily on research and training provision emanating from the scientific community, the contribution of the academic world has been formalized by the association of several schools and universities, namely :

- UM6P University,
- Chouaib Doukali University,
- Casablanca Central School,
- Hassanya School of Engineering,
- School of Engineering Sciences.

The training offered by these schools and universities is a major asset in the long term, providing the port community with qualified resources to guarantee the sustainability of the solutions proposed as part of this approach.