

# Pilot action final report

## Port of Bari

### D.4.2.7

05/2022

## **DISCLAIMER**

This document reflects the author's views; the Programme authorities are not liable for any use that may be made of the information contained therein.

## Table of contents

1. Ex-ante situation – Background of the pilot action.....	3
2. Pilot action description .....	3
3. Stakeholders.....	6
4. Impacts and replicability .....	6

## 1. Ex-ante situation – Background of the pilot action

The pilot action that ADSPMAM carried out within the PROMARES project aims to find a solution to the challenges and problems that hinder the full development of the maritime and multimodal transport sector. This is mainly caused by the unbalanced development of multimodal transport options, weak coordination and poor communication between stakeholders, between those responsible for territorial development policies at the port-hinterland interface. The digitization of port logistics and the implementation of the GAIA Information System has made it possible to give greater impetus to the activities of tracing, connecting and streamlining the processes of exchange processes for ships, people and goods, and to speed up the timing of control of goods and passengers. The pilot action carried out by the project has laid the foundations for improving the management of multimodal transport to / from the port, favouring the development and continuous improvement of the knowledge and skills needed for employment and personal fulfilment both for private people and public bodies, including the whole maritime and multimodal transport community.

## 2. Pilot action description

PROMARES project has foreseen the upgrade of the Port Community System GAIA (*Generalized Automatic exchange of port Information Area*), an IT platform, active for some years not only in the Port of Bari but also in Barletta, Brindisi, Manfredonia and Monopoli, was planned. The PCS GAIA allows to trace, connect and facilitate the exchange processes of ships, people and goods and was created with the aim of implementing the intelligent and secure exchange of information between public and private entities of the maritime-port cluster, to optimize, manage and automate port and logistic services by creating efficient processes, reducing procedure times and minimizing the use of paper documents. Detailed information, in particular on traffic conditions, is also made available to haulers who can thus decide the best possible route to reach boarding, and request online authorizations for accessing the port and security areas. GAIA also constantly monitors the entire port process in real time, provides for information on the status of boardings, weather conditions, departure and arrival times of ships through the tracking function by which passengers are

also aware of the travel information, which they can instantly view on their mobile devices for free with constant and timely updates, making the travel experience more peaceful.

The PROMARES project has enabled the Southern Adriatic Sea Port Authority (ADSPMAM) to implement targeted interventions capable of improving and strengthening IT security, in relation to:

- **Perimeter security:** strengthening the technological safeguards for the protection of networks and their perimeters with the aim of increasing the ability to promptly identify an intrusion attempt and to improve their defensive capabilities. (PCS Gaia, in the five ports of the ADSPMAM, was equipped with a technological solution known as NGFW Firewall “Next- Generation Firewall” able to guarantee continuous protection through the functionalities of Web Content, Filtering, Anti-Virus, Anti-Spam, Intrusion Detection and Prevention, Application Intelligence, SSL VPN Client, Web Application firewall (WAF), SD-WAN "Software-Defined Wide Area Network" solutions);
- **Backup and Disaster Recovery:** with the aim of guaranteeing the continuity and operational availability of the Gaia PCS, and its rapid recovery following serious damage caused by cyber-attacks, accidental events, sabotage, natural disasters or other problems. In particular, it was necessary to equip the five ports of the ADSPMAM with a new hardware server capable of meeting the minimum-security objectives in terms of:
  - *storage capacity:* in order to ensure a longer period of data preservation/maintenance (RPO - Recovery Point Objective) as well as high disk performance in I/O operations (read/write cycles)
  - *size and performance:* capable of guaranteeing high performance in terms of data processing and network speed to support backup and/or recovery activities, ensuring at least one daily copy of the entire virtual infrastructure, as well as small physical dimensions capable of being hosted in high density environments
  - *recovery time:* RTO (Recovery Time Objective) refers to the concept of ensuring adequate recovery times for core services between the occurrence of the damaging event and the complete restoration of the systems themselves.

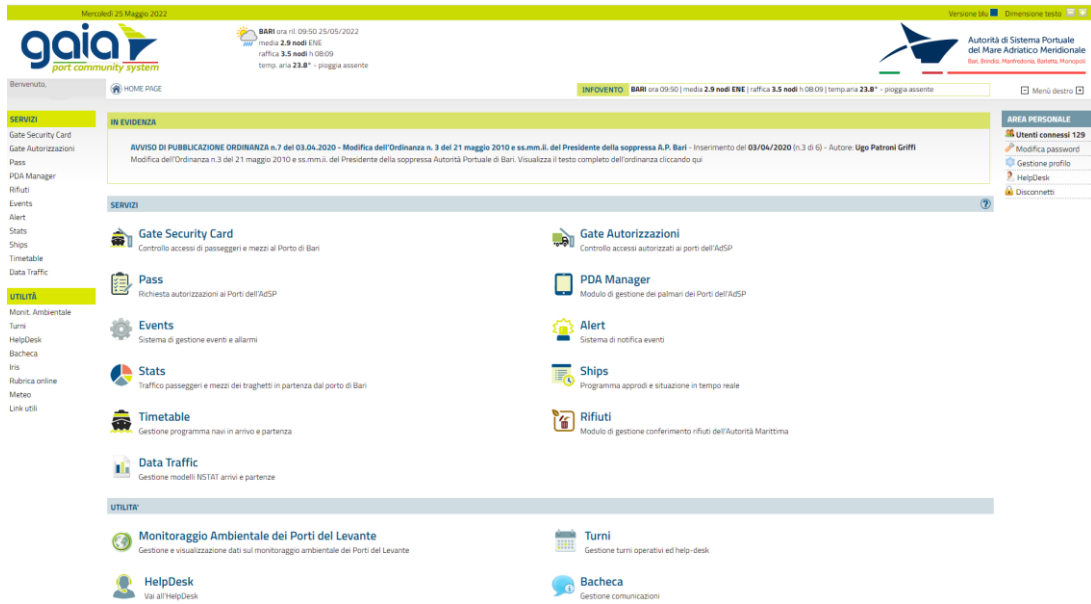


Figure 1 - GAIA homepage

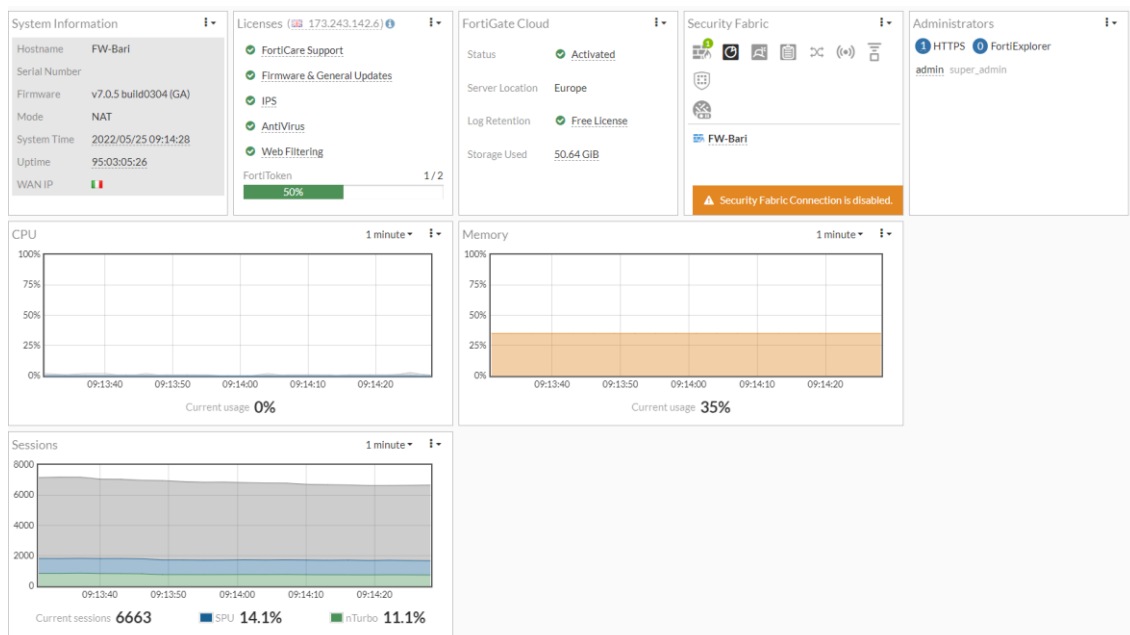


Figure 2 - Firewall-Port of Bari

### 3. Stakeholders

Among the stakeholders involved in the project are the public bodies (Customs Agency, Ministry of Health, Arpa Puglia, the Port System Authorities), the Police Forces (Financial Police, Port Authority, Border Police, Security Guards), port operators (shipping companies, mooring companies, port companies) and companies in the logistics sector (freight forwarders, transport companies). The GAIA PCS information system allows the implementation of numerous services, including the control of access to the port of passengers by vehicles in real time, the possibility of requesting the Port Access Pass online, of monitoring the containers entering and exiting both the port and from the port depots, to check the routes of ships between the ports of the Authority through the AIS "Automatic Identification System", to analyse and validate the data of passenger and freight traffic in real-time, to analyse the data warehouses obtained with an archive automatic and integrated for statistical purposes. In this way it will be possible, both for public and private stakeholders, to have a tool capable of facilitating and speeding up the operations to be carried out within the port.

### 4. Impacts and replicability

The construction and upgrade of the GAIA Port Community System had a positive impact in the intervention area, improving some services already present and implementing others. In particular, the system allows for the digitization of embarkation and disembarkation and entry and exit procedures from port nodes, the tracking of the status of goods within the port space and the computerization of port tax payments. The implementation of the system allows you to manage the services present with maximum security and traceability and with a significant reduction in waiting times. This will make it possible to have real-time statistical data on the nature, origin and final destination, as well as all the administrative information regarding customs procedures. A series of facilities that significantly enhanced the attraction of investments to the area, strengthening its strategic importance.

The PROMARES project has made it possible to develop intelligent solutions and a general management model that make it possible to exploit innovative technologies in favor of ports and related services.

There are several concrete advantages and positive effects that the pilot action has brought to the port and their stakeholders. These include the verification and location of goods, the

verification of customs control operations for goods, the obtaining of detailed data on port taxes and on the nature, origins and destinations of goods, the streamlining of the flows of vehicles, containers and goods with digital tracking, to streamline the flow of people.

The PSC GAIA system represents a model with a high potential for replicability: the use of ICT solutions to optimize freight transport in ports will allow ports to have innovative and powerful tools capable of increasing communication and coordination between terminal operators and logistics and public institutions, reducing transit times and increasing the competitiveness and productivity of multimodal transport.