

AI-Powered Dynamic Knowledge System for Rapid Changes Onsite Challenge

BACKGROUND

In an era of rapid technological and market transformations, organizations within the port and logistics sector face constant challenges in adapting to new trends, policies, and operational frameworks.

The dynamic nature of global trade, regulatory updates, and technological advancements makes knowledge management a critical component for maintaining competitiveness. However, traditional knowledge management systems often fall short in providing real-time insights or anticipating future changes. These systems tend to be static, fragmented, and unable to adapt to the rapid rhythm of information updates.

Incorporating AI into a dynamic knowledge management system could bridge this gap, offering real-time data analysis, predictive capabilities, and tailored recommendations for decision-making.

The challenge lies in designing a **scalable, user-friendly solution** that caters to diverse stakeholders while fostering collaboration and ensuring data integrity.

CHALLENGE

- **Real-Time Updates:**
Develop mechanisms to continuously update the system with relevant information from trusted sources without manual intervention.
- **Predictive Insights:**
Implement AI algorithms capable of identifying patterns and forecasting future industry trends to support proactive decision-making.
- **User-Centric Design:**
Ensure the platform is intuitive and accessible for all users, including technical and non-technical staff.
- **Collaboration and Integration:**
Facilitate seamless data sharing and integration across different departments and external partners while safeguarding sensitive information.
- **Scalability:**
Design the system to accommodate growing datasets and expanding user needs over time.



CASE STUDY

The Port of Barcelona, with a workforce of over 500 employees and a diverse ecosystem of companies, plays a vital role in the Mediterranean's logistics network. In a highly competitive global environment, the port distinguishes itself through its commitment to innovation and sustainability.

Recognizing that rapid changes in regulations, markets, and technology are constant challenges, the Port of Barcelona seeks to enhance its decision-making processes to maintain its strategic position and agility.

An AI-powered dynamic knowledge management system would allow the port to process real-time data, identify trends, and anticipate changes. This capability would enable faster, more informed decision-making to adapt to regulatory updates, market shifts, and operational needs. By doing so, the Port of Barcelona can continue to provide added value and strengthen its role as a proactive and adaptive hub within the global logistics landscape, while aligning with broader goals of sustainability and digital transformation.

EXPECTED OUTCOME

Participants are expected to propose a **framework or prototype** for a dynamic knowledge management system that incorporates AI-driven features such as real-time updates, predictive analytics, and user-friendly interfaces.

The solution should enable faster and more informed decision-making to adapt to perceived rapid changes in regulations, market dynamics, and operational contexts. Additionally, it should prioritize scalability, data integrity, and cross-departmental collaboration.

Port of Barcelona

AI-Powered Dynamic Knowledge System for Rapid Changes Onsite Challenge

EVALUATION CRITERIA

- **Impact:** Evaluate the extent to which the proposed solution can effectively address the challenge and deliver tangible benefits to stakeholders in the port and logistics sector.
- **Innovation:** Assess the novelty and creativity of the proposed solution in terms of its approach, features, and problem-solving mechanisms.
- **Feasibility:** Examine the practicality and technical viability of implementing the proposed solution within a realistic timeframe and resource framework.
- **Scalability:** Measure the solution's ability to accommodate future growth, including expanding data volumes and user needs.
- **User Experience:** Evaluate the accessibility, intuitiveness, and ease of use of the proposed system for both technical and non-technical users.
- **Readiness Level:** Assess the level of maturity of the solution, including its development stage (conceptual, prototype, or near-implementation) and its readiness for real-world deployment.
- **Presentation Quality:** Consider the clarity, organization, and persuasiveness of the team's presentation, including how well the idea is communicated and justified.



PRIZE FOR THE WINNER

The winning team of the Ideathon will receive:

- 1. Exclusive Access to Tomorrow Blue Economy at Smart City Expo World Congress:** The three finalist teams will receive entry to the Tomorrow Blue Economy, taking place at the Smart City Expo World Congress later this year. Additionally, the winning team will be guaranteed a pitch slot in the event's official program and the opportunity to have a booth in the Innovation Corner, providing exposure to industry leaders, investors, and potential collaborators.
- 2. Mentorship and Facilitated Access to the B-Blue Program:** The winning team will benefit from exclusive mentorship sessions with experts in AI, logistics, and port management to help refine their solution. Additionally, they will receive support to join the B-Blue program, coordinated by Barcelona Activa, which fosters innovative projects in the blue economy sector by providing business development guidance, networking opportunities, and potential funding connections.
- 3. Support for Puertos 4.0 Funding:** The Port of Barcelona will provide direct support and guidance to the winning team to refine their idea and prepare a strong proposal for submission to the Puertos 4.0 funding program, helping transform their concept into a viable project with real-world impact.
- 4. Recognition and Visibility:** The winning solution will be highlighted in PIONEERS project communications, including press releases, newsletters, and social media channels, offering visibility within the European innovation ecosystem.


Port of Barcelona

AI-Powered Dynamic Knowledge System for Rapid Changes Onsite Challenge

- 5. Showcasing at other Key Industry Events:** The winning team will have the opportunity to present their solution at future events or conferences related to the PIONEERS project, including international forums on logistics and innovation.
- 6. Certification:** An official certificate acknowledging their achievement in the Ideathon, validating their contribution to the challenge and their innovative approach.

EVENT DETAILS

 **Date & Time:** May 14, 2025, at 16:00

 **Venue:** World Trade Centre Barcelona
Moll de Barcelona, s/n, 08039 Barcelona

 **Register here:** [Click to Register](#)

Registration Deadline: March 31, 2025

CONTACTS

 **Estefanía Sanles Mareque**
Innovation Project Leader - Port of Barcelona

 **E-mail:** estefania.sanles@portdebarcelona.cat

 **Phone:** +34 677261865

