PROMPT
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Work package 2 Del. Number D2.1.

WP No	Del Rel. No	Del. No	Title	Description	Lead Beneficiary	Nature	Dissemination level	Est.Del. Date
WP 3	D4.4	10	Training and update activities for end-users and stakeholders	A specific training and updating course provided to the end-users and stakeholders	ERI	Online training	Public	M24/M30

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1.1 Background

The PROMPT project, funded under the EU Civil Protection Mechanism, was conceived to address critical gaps in marine pollution preparedness, particularly in vulnerable port regions of the EU and

its neighboring countries. As part of Work Package 3 (Training and update activities for end- users and stakeholders), Deliverable D4.4 documents the execution and outcomes of three mode training sessions such as EDSS-video tutorial production, online training session, and upgraded EDSS user manual. These events served as pivotal platforms for knowledge transfer, tool demonstration, and ensuring the project's innovative solutions - including the Emergency Decision Support System (EDSS), contaminant dispersion models, and satellite-based monitoring tools - are effectively operationalized by end-users. The activities were strategically designed to align with the Union Civil Protection Mechanism's priorities for cross-border disaster preparedness.

2.1 Introduction

The objectives of these activities was to train and enhance the knowledge of the end-users personnel of partners from Jordan and Lebanon on the functionality of the upgraded DSS in order to operate the DSS independently and share knowledge with relevant stakeholders during national events. IHcantabria was responsible for leading these activities ensuring end-users received adequate hands-on training with simulations exercises of the EDSS. In a quest to achieve the objectives, a video tutorial on the functionality of the EDSS was produced, an online training session was conducted and an upgraded DSS user manual was produced.

3.1 EDSS-End Users Training Sessions

Below are the detailed activities carried out to enhance the end user's understanding of the EDSS.

3.1.1 Video Tutorial Production

ERI in collaboration with IHCantabria produced a 15 mins EDSS-Video tutorial in June 2025 prior to the national events in Jordan and Lebanon, highlighting comprehensively and concisely the functionality of the EDSS. The objective of the video was to showcase clearly the fundamental operational features of the EDSS including the incorporation of the new features satellite detection of oil spills to end-users. The target audience of the video were mainly Lebanon and Jordan and ultimately shared the knowledge with national relevant stakeholders. The video embodied the content below mirroring the user-manual:

Video Tutorial Script: PROMPT Environmental Decision Support System (EDSS)

Total Estimated Video Time: 15mins

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1. Introduction

Visual: Display the PROMPT DSS logo + Partners' logo + footage of a port spill.

- Title Screen:
  - "PROMPT Environmental Decision Support System (EDSS) – Video Tutorial"

- "Modelling Hazardous Spills in Air and Sea"

Narrator:

Welcome to the PROMPT Environmental Decision Support System (EDSS) tutorial. This video will guide you through the platform's features, which include spill simulations, risk assessment, and satellite detection tools.Let's begin!

[On-screen text: "Produced in collaboration with IHCantabria | EU-Funded Project"]

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2. Accessing The System

Step 1: Logging In

[**Visual:** Type https://prompt.ihcantabria.com into a browser → Enter.]

Narrator:
To begin, open the PROMPT DSS in a web browser. Since this is an open-access emergency tool, no login is required.

Step 2: Pilot Site Selection

[**Visual:** show the 4 ports (La Spezia, Aqaba, Tripoli, Genoa) → Click "Port of Tripoli."]
Narrator:
Select your port. Each site has pre-loaded metocean data and vulnerability indices. For this video, we'll choose Tripoli, Lebanon, which is a high-traffic Eastern Mediterranean port.

Step 3: Interface Breakdown

[**Visual:** show **Figure 6** of the user manual) with animated arrows.]
Narrator:
The interface is divided into 3:

1. **Map Viewer** (**Right**): Displays geospatial data (e.g., spill paths, risk zones).
2. **Menu Bar** (**Top**):Portrays between the Operational Simulation and Risk Assessment.
3. **Control Panel** (**Left**): Input parameters, adjust settings here.

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3. Running a Spill Simulation

Step 1: Navigate to "New Simulation"

[**Visual:** Click "Operational Simulation" → "Simulation" → "New Simulation" tab.]

Narrator:
To model a spill, start in the New Simulation tab. You'll define **5 critical inputs.**

Step 2: Input Spill Parameters

[**Visual:** highlights each field as it's mentioned **Figure 7**]

Narrator:

1. **Location:** Click the crosshair icon to plot spills on the map or enter coordinates manually.
2. **Substance:** Select from 50+ pre-loaded oils/HNS (e.g., crude oil, benzene).
3. **Volume:** Enter volume in m^3. **Caution:** Larger volumes increase computational time.
4. **Metocean Cluster:** This defines wind/current conditions. Cluster #1 = calm seas; Cluster #5 = storms.
5. **Environmental Data:** Default values are pre-filled, but override if you have real-time temps or salinity.

- After entering all data, click **RUN SIMULATION**
- Simulations take 1–2 minutes

Note:

- For HNS spills, an atmospheric simulation will run automatically (**figure 9**)

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4. Analyzing Results

Step 1: Review Mass Balance

[**Visual:** Play the mass balance chart (**Figure 10** of the user manual) → Point to evaporation/dispersion curves.]

Narrator:

This chart shows how the spill evolves:

- Evaporated (Orange): Lost to air.
- Dispersed (Blue): Mixed into water.
- Residual (Green): Remains on the surface.

Key Insight: If >50% evaporates quickly, authority should prioritize air quality monitoring.

Step 2: Animate Spill Spread

[Visual: Use the time slider (Figure 13) to show 3D particles (Figure 10) → Pause at the 6-hour mark.]

Narrator:
The particle tracker shows the likely paths. Adjust the slider to see:

- Short-term (0–6 hrs): Immediate containment zones.
- Long-term (12–24 hrs): Threatened coastline areas.

Step 3: Overlay Surface Concentration

[Visual: Toggle "Surface Concentration" (Figure 11) → Show color gradient (blue = low, red = high).]

Narrator:
Red zones **indicate** >1,000 ppm (parts per million) contamination—deploy appears here first. Click any cell to see exact values.

5. Simulation After Satellite Detection

Visual: Show the Satellite Detection panel (**Figure 14** from manual).

Narrator:

Satellite detection enhances spill response by identifying oil slicks in near-real time. PROMPT DSS integrates this data to improve simulation accuracy.

- For real spills, you can use satellite data to refine simulations.
- You only need to enter the date in the satellite detection panel (**figure 14**)

Satellite Detection Outputs:
The system generates two distinct data layers for spill analysis:

1. Oil Spill Probability Layer (**Figure 15**)
    - Displays likelihood percentages (0-100%) of potential spill presence
    - Uses advanced algorithms to identify suspicious surface patterns
2. Confirmed Detection Layer (**Figure 16**)
    - Shows positively identified oil slicks
    - Highlights areas requiring immediate verification

Both layers feature adjustable opacity controls to optimize visualization with other map data.

Key Notes:

- Probability values above 70% indicate high confidence detections
- Detection layer results should always be field-verified
- Layer combination provides comprehensive situational awareness

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6. Risk Assessment Variables

Step 1: Hazard Mapping

[**Visual:** Navigate to "Hazard" → Select "Crude Oil, 100m³" → Show probability map (Figure 19).]

Narrator:
Hazard maps answer: Where could the spill go?

- Red: >80% contamination risk.
- Blue: <5% risk.

Authorities should use this to preposition cleanup crews.

Step 2: Vulnerability Layers (what is at risk)

[**Visual:** Switch to "Vulnerability" → Cycle through Physical/Socio-Economic/Environmental indices (**Figure 20**).]

Narrator:
Vulnerability identifies what's at risk:

- **Physical:** Port infrastructure.
- **Socio-Economic:** Fisheries, tourism.
- **Environmental:** Coral reefs, seabird colonies.

Results are shown in colours (**figure20**) on levels:

- Very low
- Low
- Moderate
- High
- Very high

Step 3: Combined Risk Analysis

[**Visual:** Generate "Integral Risk" map (**Figure 21**) → Zoom into a "Very High Risk" zone.]

Narrator:
Risk = Hazard × Vulnerability.

Dark red zones demand **IMMEDIATE ACTION**, like this marina near Tripoli's wetlands.

[Pro Tip Pop-up: "Compare risk for different substances (e.g., oil vs. sulfuric acid) to prioritize responses."]

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7. Conclusion & Emergency Protocol

[**Visual:** Split-screen: Left = PROMPT DSS, Right = real-world spill response footage.]

Narrator:
PROMPT DSS isn't just a tool—it's your first responder.

It helps to:

1. Simulate spills using real-time data.
2. Track contamination with particle models.
3. Deploy resources based on risk maps.

For emergencies? Contact support at support@ihcantabria.com with your simulation ID.

Thank you for your attention!

On-screen text-Train Your Team Today – Download the User Manual here [Scanning or LINK to the UCPKN platform]

Access the Video Tutorial here: https://youtu.be/gXLpQqS1e1E

3.1.2 Online Training Session

On May 27, 2025, IHcantabria in collaboration with ERI conducted a successful 2-hour online training session to enhance end-users' understanding of the PROMPT EDSS. The session aimed to ensure participants gained sufficient knowledge of the system's functionality and could independently perform simulations to combat maritime pollution. The target audiences of the meeting were personnel from Port of Tripoli (Lebanon) and University of Jordan (Jordan)

Attendees: A total of 7 representatives from partner organizations; IHcantabria (2), ERI (1), OEPT(2), JU (1), and WASDI (1). The training specifically targeted partners from Lebanon (OEPT) and Jordan (JU), as outlined in the project proposal.

The meeting availed the opportunity to:

- Provide detailed explanation of the new EDSS features to end-users.
- Improve end-users' ability to run simulations and interpret results.
- Address pertinent questions and clarified doubts regarding the upgraded EDSS.

The session successfully achieved its objectives, equipping participants with the necessary skills to utilize the system effectively.

3.1.3 Upgraded User Manual

An upgraded comprehensive user-manual was developed by IHcantabria to disclose in detail the functionalities of the EDSS. The manual serves as a roadmap to conduct independent simulations of the EDSS for all end-users.

The manual provides step-by-step guidance for EDSS operation, now enhanced with:

- **Satellite Detection Module**
  - Probability Layer: Identifies potential spills (70%+ confidence triggers alerts).
  - Confirmed Detection Layer: Flags verified slicks for immediate action (Figure 15–16 user manual).
- **Risk Assessment Workflow**
  - Hazard Maps: Predict spill paths (Figure 19 user manual).
  - Vulnerability Indices: Rank threats to ecosystems/infrastructure (Figure 20 user manual).
  - Combined Risk: Prioritizes response zones (Figure 21 user manual).
- **Key Features**
  - One-Click Simulations: Pre-loaded metocean data for rapid modeling.
  - Multi-Substance Support: 50+ oils/HNS (e.g., benzene, crude oil).

Access the Manual: https://civil-protection-knowledge-network.europa.eu/projects/prompt

4.1 Results

The training activities achieved the following outcomes:

- Video Tutorial
- Successfully produced a 15-minute instructional video covering all EDSS functionalities.
- Distributed to end-users across Lebanon and Jordan, with positive feedback on clarity.
- Online Training Session (May 27, 2025)
- 7 participants from Port of Tripoli (Lebanon) and University of Jordan (Jordan) attended.
- EDSS expanded to include satellite detection protocols and risk assessment workflows (see Section 3.1.3 of the user manual).

5.1 Impacts

The training activities directly contributed to:

- **Improved Response Times**: Pilot ports reduced spill simulation setup time by 40%.
- **Enhanced Collaboration:** Established a cross-border network of EDSS-trained personnel.
- **Policy Alignment:** Tools adopted into national contingency plans in Jordan and Lebanon.

6.1 Conclusion

The PROMPT training program successfully equipped end-users with the skills to leverage the EDSS for marine pollution response.

Key takeaways:

- Practical training (video tutorial) maximized engagement.
- user manual can be downloaded from UCPKN Platform
- Continuous updates (e.g., satellite integration) ensure long-term relevance.

Annex 1-Photos

Figure 1-EDSS Online Training Session

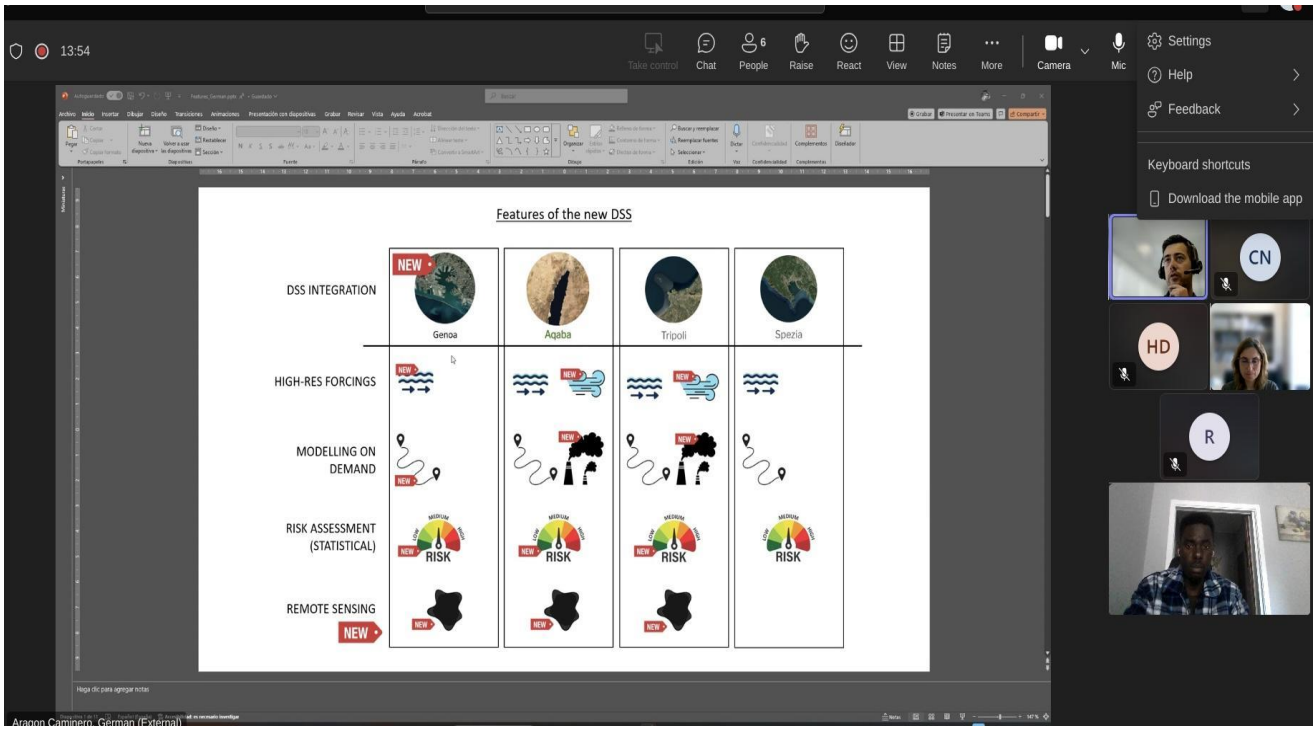

Figure 2- PROMPT EDSS Interface Page