

Green Inland Ports

GRIP- Environmental Sustainable Management System

Funded by the
European Union





What is a SMART and Sustainable Inland Port

- **Sustainable** - Inland ports aim to *develop and execute practices* to **monitor and reduce** their negative environmental effects. Inland ports **engage with their local stakeholders** to ensure minimal negative impact to the communities in their vicinity.
- **SMART** – **Efficient and resilient integration** in global logistics chains with a focus on **digitalization** while ensuring sustainable development.

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ESMS in inland ports

- **Inland ports** differ from maritime ports:
 - **Operational** scope and **main activities**
 - **Reliance** on inland waterways transport
 - **Vicinity with** urban and rural regions
- ❖ ESMS system **tailored to the needs of inland ports** that helps them:
 - ❖ Monitor and **reduce environmental effects**.
 - ❖ Foster **digitalization**.
 - ❖ Ensure **environmental sustainability** and **competitiveness**
 - ❖ Consult with their **local stakeholder** communities.
 - ❖ Compliance with **regulation**.



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Why to apply the GRIP – ESMS?

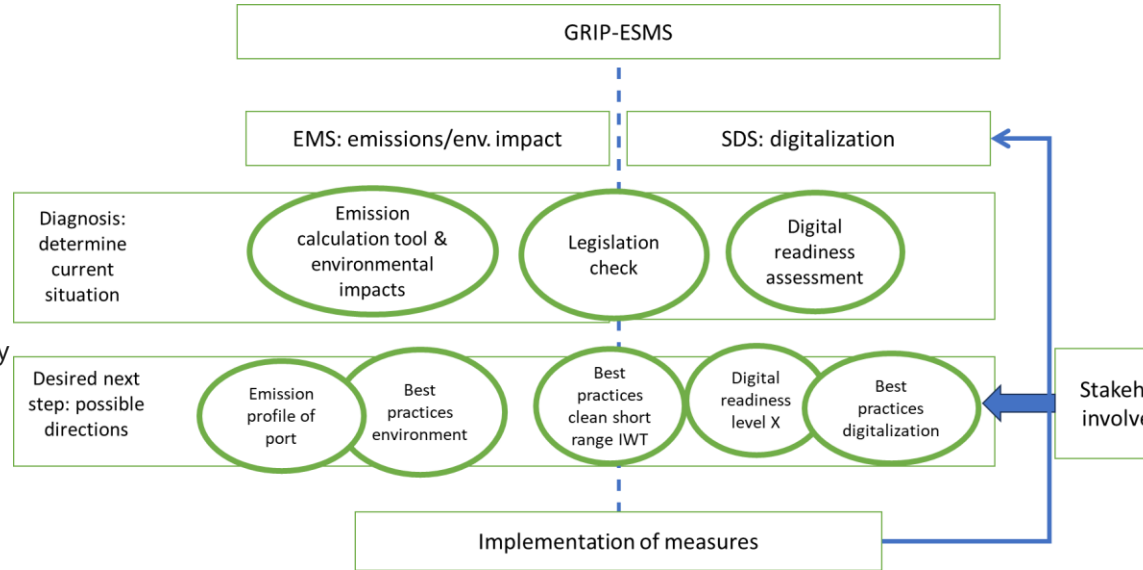
- It generates an **emission profile** of the inland port as well as a digital readiness report.
 - Assists in **setting environmental and sustainable priorities**, so that proper measures can be taken.
 - **Facilitates the engagement of local stakeholders** whose operations have significant impacts. **Offers guidance** on stakeholder engagement, detailing when, how, and with whom to engage.
 - **Checks compliance** of chosen actions and targets with International and **European regulations**.
- GRIP –ESMS** currently offers a set of applicable and operational modules. Its modular design allows for further development into a quality management system tailored for the IWT sector.



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GRIP-ESMS

- **Quality management system** to monitor and improve environmental and sustainable performance.
- Consists of **two components**:
 1. **The GRIP-EMS-** Helps inland ports :
 1. **Environmental impact**
 2. **Transparency on their environmental performance**
 3. **Check regulatory compliance**
 4. **Engagement with local stakeholders**
 2. **The GRIP-SDM :** Sustainability is a business opportunity
 1. **Digital readiness / Digitalization**
 2. **Implementation of IWT short range solutions**



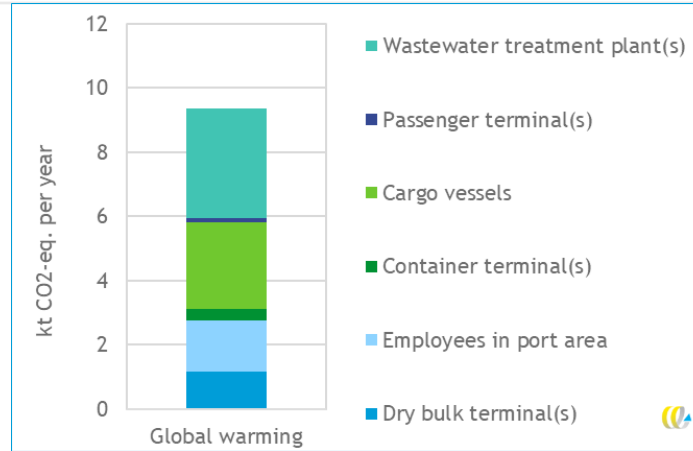
➔ Each module can be applied **independently**.
Implementation can stop after every step.

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Diagnosis component

- **Emissions calculation tool:**
 - Identification of operational hotspots.
 - Calculation of emissions profile.
- **Digital Readiness**
 - Assessment of how digitally advanced is an inland port based on a set of questions.
- **Legislation check**
 - European legislation.



Level	Category	Description	Score
Level 1	Manual processes with minimal digital support	Reliance on manual processes, use of basic digital tools like spreadsheets.	0
	Basic communication tools	Use of email, mobile phones, radios for communication.	0
	Minimal data collection and reporting	Basic data collection using simple tools (e.g. Word, Excel, Access, etc.) and absence of automated systems.	0
	Level 1 intermediate score:		0
Level 2	Digital invoicing and billing systems	Use of digital invoicing systems for managing payments and billing.	0
	Digital calculation of port fees and tariffs	Implementation of software for digital calculation of tariffs, fees, and service charges.	0
	Digital customs declaration	Electronic submission and processing of customs documentation.	0
	Digital cargo documentation	Use of digital systems for managing cargo-related paperwork (e.g. waybills, manifests, etc.).	0
Level 3	Basic administrative automation	Partial digital automation of administrative tasks without digitalization of port infrastructure.	0
	Level 2 intermediate score:		0
	Infrastructure connectivity	Sensors on physical objects – connectivity of quays, gates, bridges, storage areas, etc.	0
	Operational monitoring	Real-time monitoring of port activities (cargo, vehicles), basic automation.	0
Level 4	Data collection and storage	Centralised data collection, basic data storage systems.	0
	Digital infrastructure interoperability	Different digital tools (e.g. IoT sensors, monitoring systems, databases) within the port fully integrated and capable of seamless data exchange.	0
	Initial data-driven decision-making	Use of collected data for basic operational decisions.	0
	Level 3 intermediate score:		0
Level 4	Data sharing with internal & external port stakeholders	Secure data sharing within the port and with external partners.	0
	Collaborative planning	Joint planning tools for coordinating operations with stakeholders.	0
	Supply chain visibility	Real-time tracking and visibility of goods throughout the supply chain.	0
	Digital communication platforms	Degree of use of advanced communication tools (portals, collaborative software) that provide broader and more advanced digital spaces for all types of interactions.	0
Advanced data analytics		Implementation of data analytics tools for improving decision-making.	0

Scoring	Description
0	Non-existent or very minimal.
1	Basic or initial efforts.
2	Moderate or partially implemented.
3	Advanced or nearly complete.
4	Fully implemented and optimized.

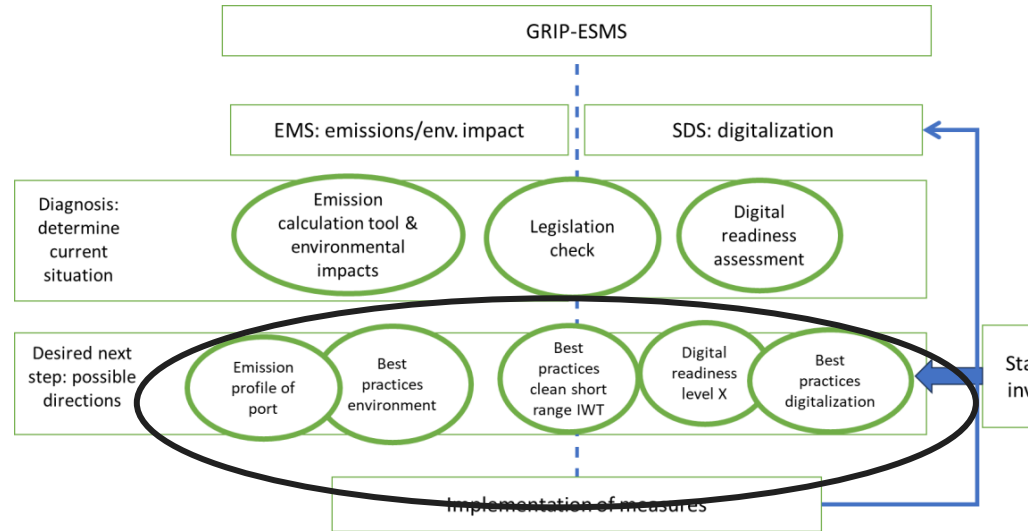
*Note: Select score from the dropdown menu in white cells only.

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Possible directions component

- Inland Port can define a set of actions to improve **environmental and digital performance**.
- Input:**
 - Emissions calculations** and **digital readiness** from the diagnosis part
 - Set of best practices** on emissions reduction, short range IWT and digitalization
 - Inland ports can learn from the sector.
 - Stakeholder engagement** guidelines.
 - It is important to **mobilize stakeholders** whose operations create impact to help reduce those impacts, GRIP- ESMS helps:
 - Identify** which type of stakeholders and when to engage.
 - Provides** a set of guidelines on:
 - How ?**– using surveys, one-to-one interviews, workshops.
 - About what?** – information required from them.



Examples of GRIP-ESMS implementation

1. Emissions calculation tool implementation

- **GRIP-ESMS outputs:**
 - Detailed emissions profile of the port.
 - Identification of key sources of emissions.
 - Insights on operational hotspots.
- **Inland Port capacity input:**
 - 2-3 days from the port depending on the scope.

2. Comprehensive tool implementation

- **GRIP-ESMS outputs:**
 - Comprehensive diagnosis of both **environmental performance** and **digital readiness** (diagnosis component).
 - Legislation checking.
 - Input from stakeholders.
 - **Identification of:**
 1. Operational inefficiencies.
 2. Digitalization improvements.
 3. Regulatory check with EU legislation.
- **Inland Port capacity input:**
 - Application can require **7 days** (over time) and may extend depending on the complexity and the depth of the analysis.

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**Are you interested in
becoming a pilot port?**

Please contact us

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