



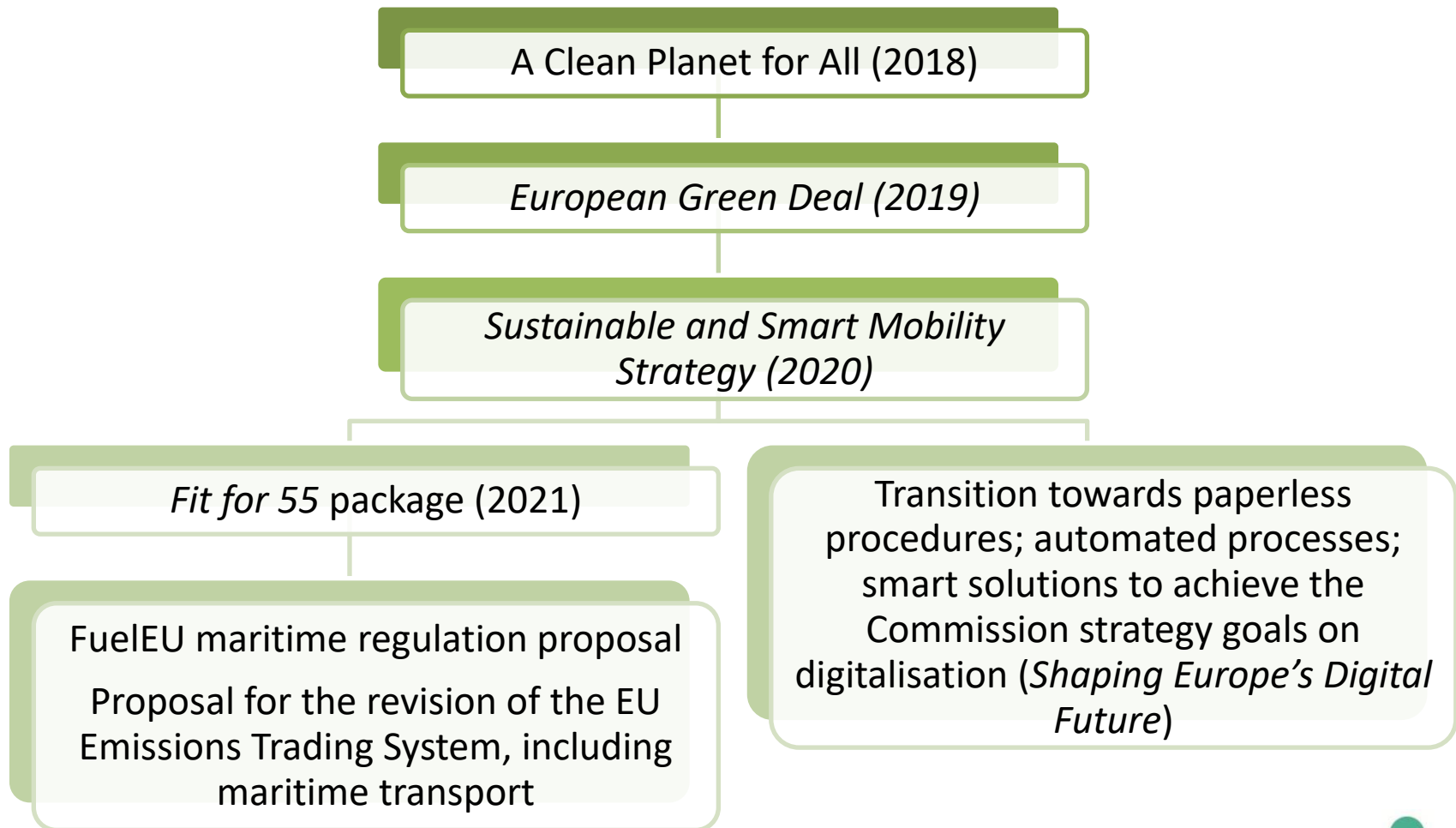
# ISSUE PAPER IV

## *Green and Smart Ports*

POLICY BACKGROUND AND CONCEPT



# GREEN AND SMART PORTS POLICY AND LEGAL BACKGROUND (NEW POLICY FRAMEWORK)



# PORTS ROLE AND TARGETS IN THE NEW POLICY FRAMEWORK

- 1. Green and smart ports form part of Europe's strategic infrastructure**
  - Multimodal hubs connecting road, rail and IWW networks with maritime routes
  - Key nodes of logistics as well as industry, energy, trade and tourism clusters
- 2. Green and smart ports are critical to:**
  - Reach the sustainability targets set in the new policy framework
  - Ensure interconnectivity within the EU and between the EU and global trade
  - Making Europe a world connectivity hub (another target of the European Green Deal, the Next Generation EU and the Open Strategic Autonomy strategies)

*Ports Urban Dimension:* many ports are both transport and urban nodes , i.e. city ports of the TEN-T network, the possibility of achieving the EU objectives largely depends on these ports becoming green, resilient, integrated and digital



# EUSAIR TEN-T PORTS



# 2014-2020 PROJECT EXAMPLES

## ZERO EMISSIONS IN PORTS

	ADRION	IT-HR	IT-AL-ME
Alternative clean fuels, cold ironing and green accessibility to marinas (vessels, motorboats...) (4)	SUPER-LNG	DEEP-SEA, METRO	SuMo

## DIGITALISATION

	ADRION	IT-HR	IT-AL-ME	GR-IT	IT-SI
ICT/digital solutions to upgrade information and data management and support multimodal integration and land accessibility to ports (10)	ADRIPASS	DIGLOGS, E-CHAIN, MIMOSA, PROMARES, STEP-UP, TRANSPGOOD	EFINTIS, ISACC	INVESTMENT	
ICT/digital solutions to improve sea traffic management, and safety and security of transport operations, including cybersecurity (6)	ADRIPASS, EUREKA	CHARGE, DIGLOGS, INTESA			SECNET
ICT/digital solutions to monitor the performance and impact of maritime transport operations at ports (3)		ECOMOBILITY, GUTTA, TRANSPGOOD			



# 2014-2020 PROJECT EXAMPLES

## CONNECTIVITY

	ADRION	IT-HR	IT-AL-ME	GR-IT
Promote integration and connectivity between different transport modes, including last mile and hinterland connections (8)	ADRIPASS, ISTEN, INTER-PASS	ADRIGREEN, MIMOSA, MOSES, PROMARES		SWAN
Improve conditions and competitiveness of existing or new MoS and/or small cruises infrastructure and services (6)	MULTI-APPRO		ALMONIT-MTC, PORTS	DOCK-BI, FRESH WAYS, THEMIS
Promoting accessibility of tourists to inland destinations by maritime transport integrated with green transport solutions (4)		ICARUS, SUTRA	PORTS	TRUST

## CIRCULAR ECONOMY IN PORTS (0)



# 2014-2020 PROJECT EXAMPLES

## ZERO EMISSIONS, DIGITALISATION AND CONNECTIVITY

	ADRION	IT-HR	IT-AL-ME	IT-SI
Governance of planning, implementation and monitoring of projects/set up of transnational strategies and action plans (12)	ADRIPASS, INTER-CONNECT, MULTIAPPRO, SUPAIR, NEWBRAIN	FRAMESPORT, PROMARES, SUSPORT	SAGOV, PORTS 4.0, ISACC	CLEAN BERTH
Knowledge sharing and cooperation support (4)	SUPAIR		TRADAM, ECSYT, PORTS 4.0	
Capacity building (2)			PORTS, ISACC	
Resilience and risk management of transport operations (1)			CRISIS	
Support the preparation of projects to improve their maturity for funding and financing (1)	NEWBRAIN			



# GREEN AND SMART PORTS FLAGSHIP: POSSIBLE ACTIONS

## Zero emissions in ports

- Energy efficiency and alternative clean fuel measures (*Cross-pillar relevance*)
  - Electrification of berths and small scale investments for deposits of LNG (interim transitional fuel), hydrogen, e-ammonia and e-methane...
  - Construction of new vessels prototypes, retrofitting of vessels
  - Procurement of green vessels, greening of ports' fleets and terminal cargo equipment/facilities
  - Develop harmonised guidelines for construction and operation of storage/fueling equipment and vehicles
  - Support the development of low carbon multimodal transport chains

## Circular economy in ports

- Valorise local urban and industrial symbiosis, using ports as circular economy incubators to develop actions in line with the Circular Economy Package and EU Plastics Strategy (*Cross-pillar relevance*):
  - Use of secondary materials in production and construction (e.g. dredging sand in cement production (Aalborg Portland))
  - Waste-to-energy facilities (transform hydrocarbon waste into carbon-neutral fuels to be used for integrated electricity systems)
  - Reconversion of industrial and port areas into eco-districts, exploring possibilities to set up ship decommissioning operations
  - Provide platform for start-ups and pilot projects for further development





# GREEN AND SMART PORTS FLAGSHIP: POSSIBLE ACTIONS

## Digitalisation

- Develop smart ports, smart cargo, smart chains/clusters
  - Instalment of new technologies such as 5G/6G, digitalisation of public administration
  - Virtualisation (digital twin), Internet of Things, Artificial Intelligence, Automated/unmanned terminal operations and blockchain
  - Measures to develop standardised digital data sharing to support coordinated and synchronised operations
  - Solutions to set up automated and paperless procedures and speed up processes at nodes and throughout the logistics chain (incl. custom, security, phytosanitary checks etc.)
  - Just in time sea traffic management to improve safety, environmental performance and efficiency of maritime transport
  - Real time information systems to users for traffic management and multimodal travel planner solutions
  - Enhance cyber security
  - Tools and actions to improve measurement and management of waste collection and treatment, land degradation, light and visual intrusion, soil and water contamination, noise and vibration impacts, loss of biodiversity and coastal erosion



# GREEN AND SMART PORTS FLAGSHIP: POSSIBLE ACTIONS

## Connectivity

- Last mile & hinterland connections, territorial continuity
  - Enhancing connectivity to islands from mainland and between islands
  - Integrate Short Sea Shipping routes and Motorways of the Sea with road, rail and IWW networks
  - Develop/improve hinterland accessibility to freight nodes and touristic sites
- Strengthening resilience
  - Measures to ensure continuity of the operation of the European strategic infrastructure in case of emergency situations (e.g. Covid-19)
  - Actions to contrast the impact of climate change such as extreme weather conditions and sea level rise

## Cross-theme

- Developing and maintaining human capital
  - Training activities for the improvement of human skills and competences accompanying technological evolution, ecologic, energy and digital transition
  - Support the participation of ports to research and development activities to test and deploy innovative solutions, attract innovative businesses and services and qualified skills

*Electrification of berths, development of alternative clean fuels and last mile connections is also supported by the CEF; VTMS & PCS as well as ICT initiatives applied to synchronisation of transport operations and flows along logistics chains are also included in the CNCs project list*

*Cold ironing, renewal of fleets, digitalisation of public administration and last mile connections & promotion of territorial continuity are also supported by the PNRR in Italy*





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