



Port of the Future Serious Game (PoFSG)

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Agenda

13:00-13:15 Welcome and introduction

13:15-13:30 Development and new features of the PoFSG

13:30-13:45 Game instruction

13:45-15:15 Gameplay (2 rounds)

15:15-16:00 Evaluation and survey

16:00-16:30 Closure and drinks





Introduction – PoFSG development

Development path:

- 2015: Initial development of PoFSG for a trade mission to Colombia (RVO, Boskalis, RHDHV, WWF, WMR, TUD, Deltares)
- 2017: Submitted proposal to further develop PoFSG in EU-H2020 COREALIS project (Cor Schipper)
- 2018-2020: Award and start of COREALIS project

Objectives of this meeting:





- Inform initial partners about progress/development
- Test & evaluate the new functionality/gameplay





COREALIS vision-main goals

COREALIS proposes a **strategic, innovative framework**, supported by **disruptive technologies**, including Internet of Things (IoT), data analytics, next generation traffic management and emerging 5G networks, for cargo ports to face current and future challenges regarding:

-  **Optimization of port operations** (towards embracing circular economy models)
-  **Reduction of environmental footprint** (associated with intermodal connections for three major transport modes, road/truck, rail and inland waterways)
-  **Increase of efficiency & reduction of traffic within and around ports** (by optimising yard capacity and streamline cargo flows without additional infrastructural investments)
-  **Sustainability of the socioeconomic development of the port and its surrounding area** (by Enabling the port to become an innovation hub of the local urban space)



COREALIS Technologies

Port of the Future Serious Game
(simulation tool for decision making)

RTPORT

(5G-enabled smart terminal operations, IoT)

Brokerage Platform

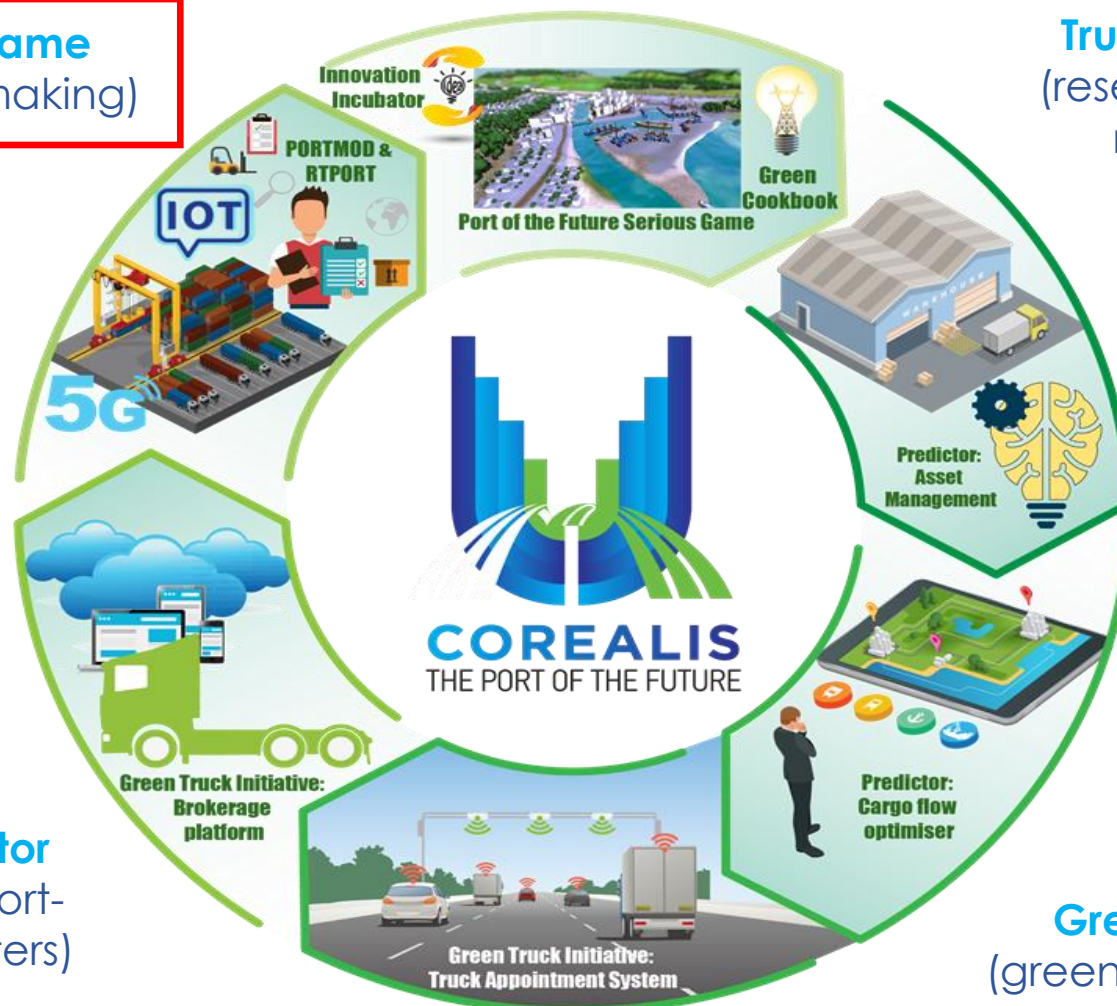
(cloud based marketplace for leasing intra-CT trucks)

PORTMOD

(optimization planning tool for CT operations)

Innovation Incubator

(development of port-city innovation clusters)



Truck Appointment System

(reservation system including real-time traffic data)

Just-In-Time Rail Shuttle Service

(feasibility study for key port-hinterland corridors)

Cargo Flow Optimiser

(optimization of cargo flows ocean/rail/inland-waterway)

Predictor for Asset Management

(machine learning based Just in Time inventory)

Green Cookbook

(green energy solutions)



1. Piraeus Port, Greece



2. Valencia Port, Spain



3. Haminakotka Port, Finland



4. Livorno Port, Italy



5. Antwerp Port, Belgium



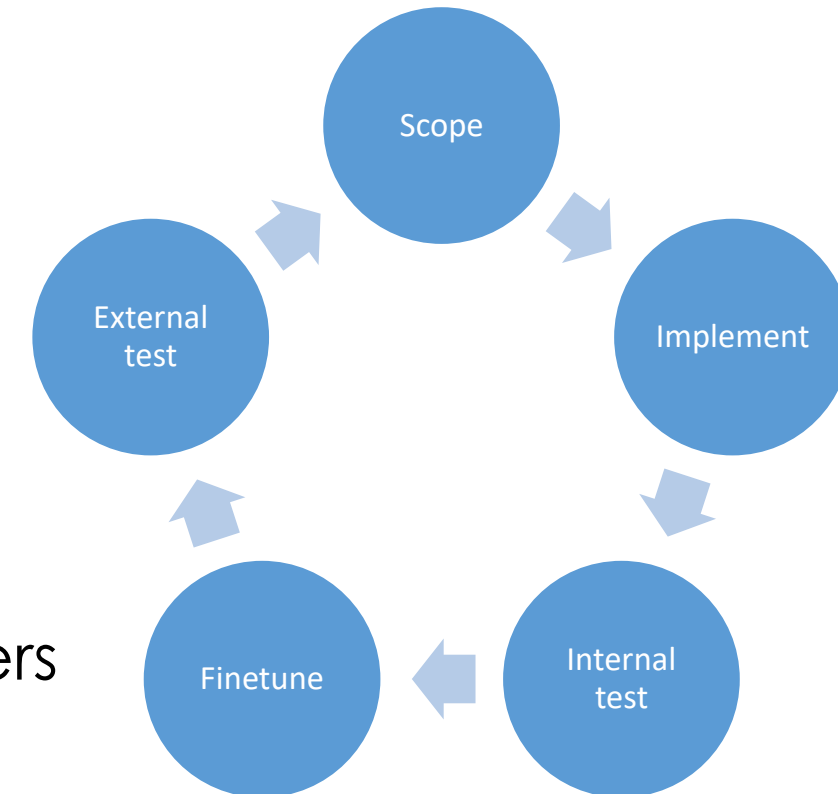


PoFSG (goals):

- Raise awareness
- Support stakeholder discussions
- Education/training
- Qualitative rather than quantitative

Implementation:

- Scoping sessions with COREALIS and existing users
- Game implementation
- Benchmarking tests internally & during plenaries





PoFSG game concept

- Group divided in teams of stakeholders
- Each round (~10 years) consists of the following steps:
 - Select team captain and decide strategy (1st round)
 - Select 2 measures that fit strategy (be aware there are multiple rounds)
 - Captains pitch measures and discussReach decision and implement 2 measures (review effects)
- Next round
- Events: affecting the port's PPP scores – requiring adequate response!

⌘ **SPECIAL NEWS** ⌘

Jobless rate at highest since 1990



The unemployment rate is sky high. There are big demonstrations in the city and politicians put increasing pressure on the port to take action.

⌘ **SPECIAL NEWS** ⌘

Hurricane Corealis hits port



A huge hurricane has hit the port and shut down port activities for days. Companies ask for better protection, else they will relocate their activities.



PoFSG new features

Stopwatch
0:00

Cards

Summary
Round 1

People
0

Planet
0

Profit
0

Bank
80

Environmental measures

Habitat creation | mangroves

Restoration of a mangrove forest to promote biodiversity or to compensate the loss of habitat in other areas. This mangrove forest is located outside of the port and urban area and will mainly have natural and recreational benefits.

People +2

Planet +4

Profit +2

Costs

10

1

1

10

+2

+4

+2

Habitat creation | mangroves

Restoration of a mangrove forest to promote biodiversity or to compensate the loss of habitat in other areas. This mangrove forest is located outside of the port and urban area and will mainly have natural and recreational benefits.

ROUND 1

TIMER 02:00

RESET

PAUSE

PEOPLE 0

PLANET -4

PROSPERITY -3

BUDGET 150

Provide on-shore power to ships

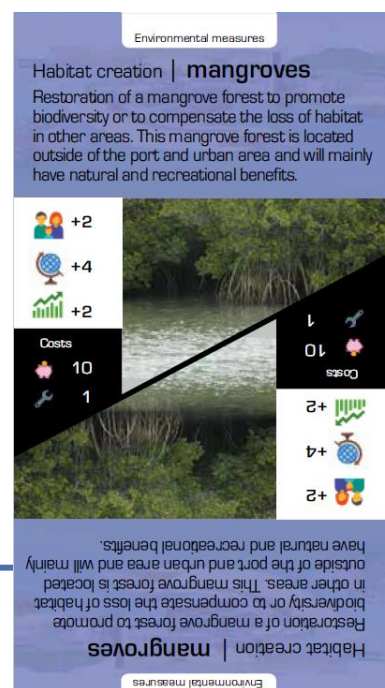
Use onshore electrical power supply for moored vessels as an alternative to onboard fuel-based power generation

Energy system



PoFSG new features

- Defined new measures (beyond ‘green’ measures)
- Re-evaluated scores for People-Planet-Prosperity (PPP)
- Added events/scenarios triggering debate/conflict
- Upgraded, interactive simulation environment (visual feedback)
- Redesigned game cards



Icons & scores

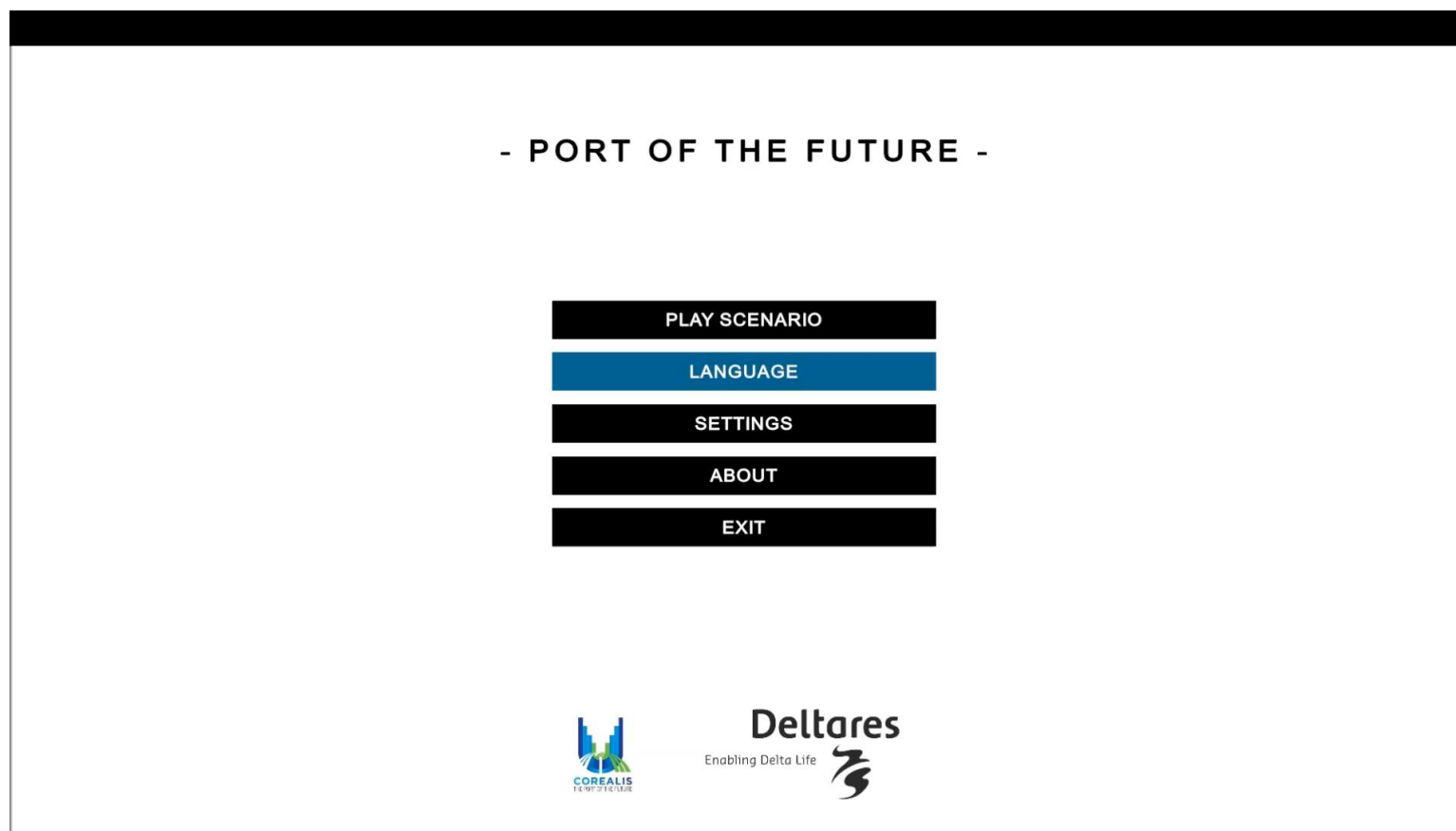
Categories



Description
& image



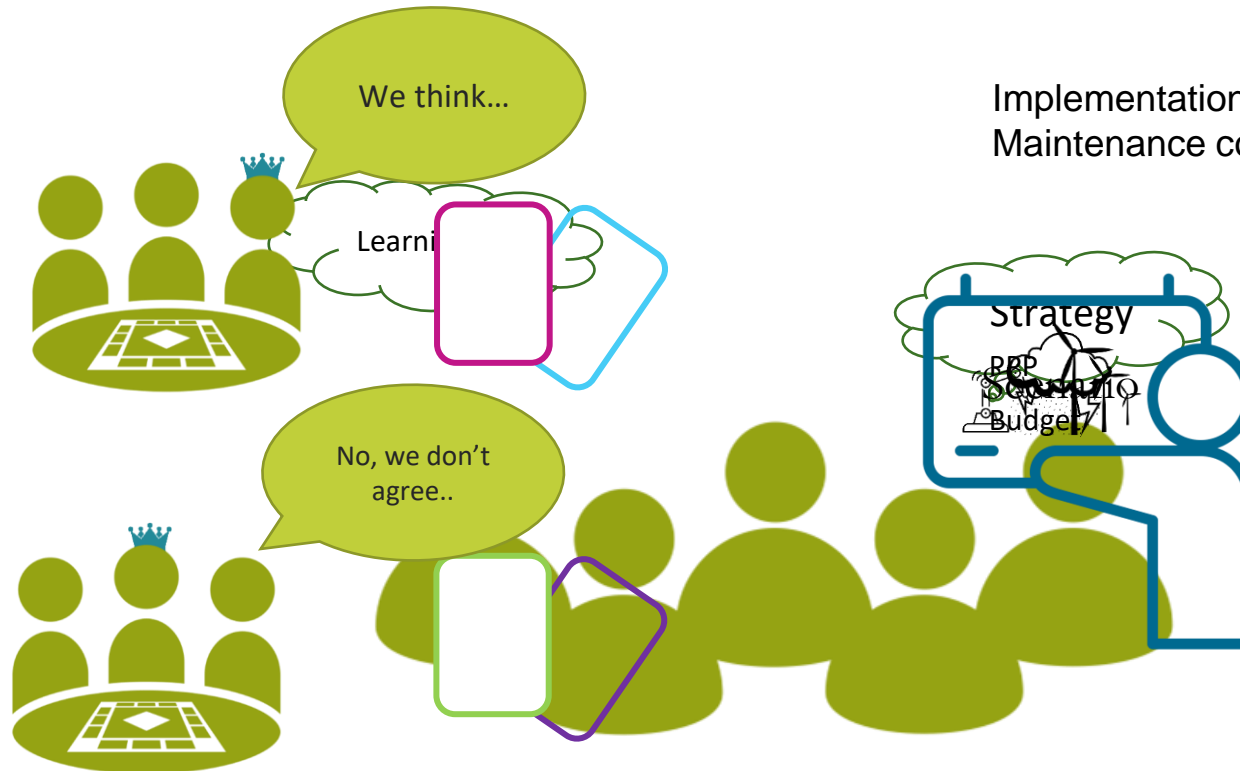
PoFSG: fly through new game





How to Play

Fictional Port



Implementation costs
Maintenance costs

Category

People → **P**

Planet → **P**

Prosperity → **P**

Title and description of measure

Effects on

- People
- Planet
- Prosperity

Investor

Category

10 Years

Repeat 2-3 rounds

Hinterland connection



Program of play session

Round 1:

Select team captain, define strategy and select 2 measures	20 min
Pitch selected measures to other teams (1 minutes each)	15 min
Reach consensus	5 min
Implement measures	5 min

Round 2 (10 years later):

Define strategy and select 2 measures	10 min
Pitch selected measures to other teams (2 minutes each)	15 min
Reach consensus	5 min
Implement measures	5 min

OPT Round 3 (10 years later)

Evaluation

45 min



Port is committed to combating climate change and wants to play a leading role in the global energy transition.





Stakeholder Roles

Stakeholder	Port Authority	Terminal Operator	Environment NGO	Financial investor
Role	Land owner of the port responsible for the planning, maintenance and replacement of the port's basic infrastructure (e.g., quays, basins, channels)	Owning/leasing space in the port for terminal operations (e.g., handling, storing and transporting of goods and materials)	Non-governmental organization aiming to protect and/or improve the environment	Financing port developments by providing loans; steering by means of loan conditions
Players	Matthijs, Bouke	Cor, Maaïke	Joost, Martijn	Tiedo, Almar



www.corealis.eu



[corealis_eu](https://twitter.com/corealis_eu)



[COREALIS EU Project](https://www.youtube.com/COREALIS_EU_Project)



[Corealis_eu](https://www.linkedin.com/company/Corealis_eu)



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THANK YOU FOR YOUR ATTENTION

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