

Capacity with a pOsitive enviRonmEntal and societAL footprInt: portS in the future era



D.8.3: COREALIS incubator activities

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List of Acronyms

Abbreviation / acronym	Description				
D1.3	Deliverable number 3 belonging to Work Package 1 "Port of the Future Need and Requirements"				
D5.2	Deliverable number 2 belonging to Work Package 5 "Valencia LL Scoping Document"				
D8.3	Deliverable number 3 belonging to Work Package 8 "COREALIS incubator activities"				
EUR	Euros				
GDPR	General Data Protection Regulation				
ICT	Information and Communication Technologies				
IT	Information Technology				
LL	Living Lab				
NDA	Non-Disclosure Agreement				
Q&A	Questions and Answers				
SME	Small and Medium Enterprises				
Т8.2	Task number 2 belonging to Work Package 8 "COREALIS Innovation Incubator"				





Executive Summary

Deliverable D8.3 "COREALIS Incubator Activities" (i.e., this report) is the result of Task T8.2 "COREALIS Innovation Incubator", which aims to facilitate the development of port-city innovation clusters within the port-logistics community to promote innovation in the port industry. This report describes the path covered and the activities that have been carried out in the Living Lab (LL) of the Port of Valencia to set up the COREALIS Incubator scheme through the organization of the Valenciaport Hackathon.

The Valenciaport Online Hackathon was a one-week event where the innovation and entrepreneur ecosystem faced the challenges proposed by the stakeholders of the port community of the Port of Valencia, having stakeholders' support to solve the challenges through mentoring sessions with port-logistics experts. The event was held between the 20th and the 27th of November 2020 through an online platform where 245 participants grouped in teams had the chance to develop their solutions during one week and exchange with the stakeholders, mentors and organizers. During the event, four challenges completely aligned with the strategic plan of the Port of Valencia, were proposed by the challenge owners of the port community covering the following areas: (i) Optimization of hinterland connections, (ii) Digitalization of port processes, (iii) International trade facilitation and (iv) Circular Economy. Besides the challenge proposal, challenge owners were also responsible of carrying out the mentoring sessions with the participants in order to adapt their proposed solutions to the specific requirements of each challenge and get the opportunity to be on the final demo day.

The Valenciaport Online Hackathon semi-final was held on the 26th of November 2020 with 25 project proposals, being eight of them the ones that passed to the final in the first cut done by the mentors. On the 27th at 12:00, the eight finalists presented their solutions to the five jury members and to the general public that followed the event on a YouTube streaming link. After the jury deliberation, three out of the eight finalists were awarded as the winners of the Valenciaport Online Hackathon.

The grand prize of 3.000EUR of the Valenciaport Online Hackathon was announced through a video of the Fundación Juan Arizo Serrulla, the entity sponsoring the grand prize, to the solution "**Book-a-Slot**" of the COSCO Shipping Lines Spain challenge that optimizes road transport delivery/pick-up operations.

Secondary prizes of 1.000EUR were awarded by representatives of the collaborating entities ALICE and Propeller Valencia to **ChainGO Freight** and **AI Rates** respectively. "ChainGO Freight" solution faced the challenge of the Global Alliance for Trade Facilitation to ease international trade through ePayments and eSignatures procedures while "AI Rates" proposed a solution to the Grupo ROMEU challenge to facilitate oceanic rates processes to freight forwarders.

After the Online Hackathon Event, the key stakeholders of the hackathon assessed the event and the lessons learned. Some of them also started discussions with the innovators (not only the winners) to continue the developments proposed in the COREALIS innovation incubator scheme and explore the possibility to do some pilots with them in the near future. In general, the organizers, main stakeholders and sponsors were really satisfied with the hackathon results and are starting to plan the next edition as well as exploring possibilities to support participants with upcoming funding opportunities.







1.0verview

The ambition of the COREALIS Incubator Scheme in the LL of the Port of Valencia is to promote collaboration between the port-logistics community and the innovation and entrepreneur ecosystem. This collaboration pursues to establish synergies between both communities as well as a win-win framework between them by combining the academic and innovative knowledge with the operational perspective of the port industry.

The innovation incubator scheme was led by the Fundación Valenciaport, which is the research and innovation centre of the cluster of the Port of Valencia, with support from the Port of Antwerp, one of the major ports in Europe and one of the leaders in carrying out similar initiatives in the port-logistics environment.

The result of the COREALIS Incubator Scheme consisted of the organization of a Hackathon to develop solutions to tackle the main challenges of the Port of Valencia from the operational, environmental and commercial point of view. In this Hackathon, participants were invited to present innovative solutions to the main challenges proposed and the most promising solutions were selected and awarded. Besides, further development of the solutions was assessed after the event for their continuity and potential implementation in the LL of the Port of Valencia.

1.1 Initial approach of the Valenciaport Hackathon

The initial plan for the Valenciaport Hackathon of the COREALIS Incubator Scheme was to organise a face-to-face event where local stakeholders, Small and Medium Enterprises (SMEs) and entrepreneurs come together to face the challenges and develop innovative ideas in a short event (2-3 full days). For this reason, personnel of the Fundación Valenciaport attended to ChainPort Hackathon¹ Organized in the Port of Antwerp in October 2018. The personnel of the Fundación Valenciaport participated in the hackathon in different teams with the objective of learning from the experience and bring ideas to organize a similar event in the LL of the Port of Valencia.

The experience in the ChainPort Hackathon together with the support of the Port of Antwerp was highly productive and was also the starting point to establish the roadmap of the Hackathon of Port of Valencia. This collaboration provided the necessary knowledge to define a format and the duration of the event, the number of challenges to be faced, the importance of key stakeholders and sponsors supporting the challenges as well as the prize pool structure. From that moment onwards, the Fundación Valenciaport started to plan the event of the LL of the Port of Valencia and to contact key stakeholders for its organization (partners, sponsors, challenge owners, etc.).

In the end, the Valenciaport Hackathon event was planned to be held within the Webit Conference between 17th to 20th of June 2020 in Valencia, which was a great opportunity for engagement and communication purposes but also for participants. In the Webit Conference, the Valenciaport Hackathon was going to be one of the activities of the Maritime Summit but in the end, due to the COVID-19 outbreak, both the Webit conference and the Valenciaport Hackathon were cancelled.



¹ <u>https://www.nxtport.com/agenda/chainport-hackathon</u>



1.2 Online edition of the Valenciaport Hackathon

After the COVID-19 outbreak in March 2020, the Fundación Valenciaport in close collaboration with the main stakeholders already involved in the face-to-face event started a discussion about the two main possibilities for the Valenciaport Hackathon: an online event in 2020 or postpone the hackathon to the first quarter of 2021. The final decision was to go ahead with the online proposal to meet with the COREALIS project timeline and also because part of the job done during 2019 and 2020 could be reused in the online version (e.g. contacts with partners, challenge discussions, etc.). On the contrary, there was no certainty about the possibility of doing a face-to-face hackathon event at the beginning of 2021, which was a risk that organizers did not want to take.

The online format of the hackathon presented new challenges and requirements to be fulfilled and for this particular case there was no prior experience on similar events. The new approach of the Valenciaport Online Hackathon required a complete change of the format and scope. In terms of the format, the online hackathon required a change from a 2-3-day event to a one-week hackathon. The reason behind this is that in face-to-face events participants, mentors and stakeholders meet in a venue, which helps to concentrate the work and the development of the solutions. However, online events are not suitable for this work concentration but, on the contrary, they offer more flexibility to participants and mentors. The scope of the hackathon also changed. The face-to-face event targeted mainly on SMEs, start-ups and entrepreneurs of the local ecosystem of the Port of Valencia due to physical proximity. However, an online event allowed to reach a broader audience and reduced the barriers to participate. Finally, the online hackathon required a reliable and secure platform as the central point where all participants, mentors and stakeholders met in contrast to the venue that is required in a face-to-face event.







2. Valenciaport Online Hackathon

The Valenciaport Online Hackathon is the result of T8.2 "COREALIS Innovation Incubator", which consists of the organization of the Hackathon event to create synergies between startups, IT companies and entrepreneurs with the port community of the Port of Valencia. It fulfils the requirements of the incubator activities listed in D1.3 "Port of the Future Needs and Requirements" for the LL of the Port of Valencia and on D5.2 "Valencia LL Scoping Document" about participation, challenges, audience targeted and stakeholders' involvement.

The following subsections explain in detail how the Valenciaport Online Hackathon was organised and tackle the requirements of T8.2, including the dates and format (Section 2.1); the timeline followed and the deadlines proposed (Section 2.2); the Hackathon platform used and its functionalities (Section 2.3); the partners and stakeholders involved in the event (Section 2.4); the challenges proposed for the hackathon (Section 2.5); and finally how the Valenciaport Online Hackathon was conducted (Section 2.6).

2.10verview and format

The Valenciaport Online Hackathon was a one-week online event held between the 20th and the 27th of November 2020 and it was the first hackathon organized in the Port of Valencia. The hackathon was organized completely online through the hackathon website and the hackathon platform. The website was launched on the 26th of October 2020 aiming to reach a broad range of participants all over the globe to participate in the challenges proposed by the port community of the Port of Valencia. The platform was the main tool for the interaction between participants and mentors and was set up in parallel to the website, aiming to be the main contact point for all the people involved in the event.

The Valenciaport Online Hackathon proposed four challenges agreed between the main stakeholders of the Port of Valencia:

- Optimization of hinterland connections and, in particular, road transport delivery and pick-up operations;
- Digitalization of port processes related to the processing of the ocean rates sheets (i.e. documents with container tariffs) that freight forwarders receive in different formats from the shipping lines;
- Facilitation of international trade and in particular the port processes;
- Solutions for circular economy and waste management in ports including collection, management, traceability and valorisation of port waste.

Each of the four challenges of the Valenciaport Online Hackathon was supported by a particular stakeholder of the port community. These entities sponsored the challenge and guided the participants in the resolution of the problem to be addressed through mentoring sessions with dedicated personal during the hackathon week.

After the one-week event, the jury of the Valenciaport Hackathon selected on the 27th of November the best solutions of the Hackathon. The best solution was awarded with a grand prize of 3.000EUR and there were also two secondary prizes of 1.000EUR each. Besides the cash prizes, the sponsoring entities of the hackathon showed their commitment to support the development and implementation of the solutions proposed.





2.2Timeline

The Valenciaport Online Hackathon event lasted one week for the entire development of the solutions (Figure 1). Registration opened on the 26th of October with the launch of the website and the configuration of the hackathon platform. From 26th of October until the 20th of November registrations were open for the on boarding of participants.

On the 20th of November started the Valenciaport Online Hackathon week with the opening ceremony, which was held at 16:00h through the hackathon platform and also broadcasted on YouTube (Annex 1 includes all YouTube Links). From the 20th until the 27th of November participants developed their ideas with mentors' support. During this week participants had two milestones to accomplish:

- Project page creation on the 23rd of November
- Project submission on the 25th of November

The mentors evaluated the project proposals and selected the top 8 projects that went into the hackathon final on the 26th of November. Finally, the closing ceremony of the Valenciaport Hackathon was held on the 27th of November with the final demos and the winners' announcement. The closing ceremony was also broadcasted on the hackathon platform and YouTube (Annex 1).



Figure 1. Valenciaport Online Hackathon timeline

2.3Hackathon Platform

The Valenciaport Hackathon platform is a customizable space created by BeMyApp, designed to foster interactions between participants and mentors in an online hackathon (Figure 2).

The selection of this platform was done due to the complete set of functionalities that it offered and also due to the project management support from BeMyApp, a leading company organizing online hackathons. This last fact was highly appreciated when choosing the platform given that it was the first hackathon organized in the Port of Valencia and, moreover, in a novel online format.

Platform main features include:

- Message publications by mentors and participants
- Video conferences
- Resources shared by mentors
- Collaboration on project presentations and publications by participants





- One-on-one video mentor-participant interviews
- Chat room with direct contact to customer service for mentors and participants

The Valenciaport Hackathon platform can be accessed via:

https://valenciaport-hackathon.bemyapp.com/#/event



Figure 2. Valenciaport Online Hackathon platform

Hackathon platform include following tabs on which participants and mentors can navigate:

- Projects tab: this tab lists all the projects submitted on the platform.
- 1:1 Meeting tab: this tab is used to do the mentoring sessions between mentors and participants.
- Agenda tab: this tab shows the agenda of the hackathon with all the events, videos and deadlines to accomplish.
- Talks tab: this tab lists all the videos and webinars submitted on the platform.
- Sponsors tab: this tab is a space for the sponsors and organisers.
- Lobby tab: the lobby tab is used to open communications and general notifications.
- News tab: this tab is used to make announcements and share interesting articles, news and materials with participants.
- Mentors tab: this tab shows mentors and jury profiles and allows participants to book slots for mentoring sessions with them.

Join the platform:

Participants were able to join the Hackathon Platform since the 26th of October 2020, when the on boarding started with the Hackathon website launch.

Mentors and jury members were invited via email to create their profiles on the Hackathon Platform. From November 5th 2020 mentors joined Valenciaport Hackathon platform to mentor teams before the hackathon.

Profile creation:





All participants and mentors have to create their profile on the platform. In the profile the description box must be filled as much as possible with info such as profession, expertise and profile picture. Besides, mentors can also state their availabilities for one-on-one video sessions with participants.

Project pages

The Project Page is a pre-formatted space for teams to publish a presentation of their projects. It is composed of the following elements: banner, title, baseline, issue, magic solution, how it works, presentation slides, screenshots, list of team members, external link.

Participants can edit and save their project-page as a "draft" or a "published" page. Project pages are visible at any time by mentors who have an account on the platform, and "published" pages can also be shared with external profiles.

Chat

Participants can launch one-to-one chats or group chats from any page on the platform. Chats can be launched either to mentor or customer service. In the chat attached files are supported and notifications are displayed through a small non-invasive bubble.

Live conference and webinars

Conferences and webinars are live video presentations delivered by mentors or experts in the field. They can be heard, share his/her webcam or screen and read the chat while presenting the webinar.

The audience cannot speak back but can communicate with the mentor using the chat feature. Conferences are recorded (up to 1hour and 30 minutes) and published on the platform shortly after. All Hackathon videos can be seen in the "Talks Tab" of the platform.

During the Valenciaport Online Hackathon a set of webinars were planned to help participants in the development of their solutions. The webinar lasted around 40 minutes of general speech plus 10 additional minutes of Q&A through the chat.

2.4Partners and Stakeholders

The Valenciaport Online Hackathon was supported by a wide range of stakeholders of the port community of the Port of Valencia (Figure 3). The hackathon was the main result of the innovation incubator scheme of the COREALIS project, co-organizer of the Hackathon together with the Fundación Valenciaport. The latter was the main responsible for the hackathon organization and management.

Besides the organizers, the Valenciaport Online Hackathon was supported by four main sponsors from the port community of the Port of Valencia: The Port Authority of Valencia "Autoridad Portuaria de Valencia", the freight forwarding corporate "Grupo ROMEU", the shipping agency "COSCO Shipping Lines Spain" and the "Global Alliance for Trade Facilitation" of the World Economic Forum. They were also the challenge owners, which meant that they were in charge of proposing the challenges to be addressed and the supporting of





participants during the ideation and prototyping phase of the hackathon week through the mentoring sessions.

The Valenciaport Online Hackathon also had the support of other entities of the port community. The following entities sponsored the prize awards: the European Technology Platform ALICE, which is set-up to develop a comprehensive strategy for research, innovation and market deployment of logistics and supply chain management innovation in Europe; the Propeller Club Valencia, whose objective is the defense and support of the Merchant Navy and all its auxiliary and related activities; and finally the Fundación Juan Arizo Serrulla, which aims to contribute to the comprehensive training of civil engineering in the Valencian Region through the award of prizes and grants. IT companies such as Here Technologies and Next Port contributed to the Valenciaport Hackathon by sharing their IT tools and resources as well as their knowledge on the port processes.

The involvement of such a broad range of partners in the Valenciaport Hackathon is a clear example of the commitment of the port community of the Port of Valencia with open innovation and the entrepreneur ecosystem. Besides, their support has been key for the successful development of the initiative.



Figure 3. Valenciaport Online Hackathon stakeholders, sponsors and organizers

2.5Challenges

The Valenciaport Online Hackathon had four challenges completely aligned with the strategic plan of the Port of Valencia that were sponsored by an entity of the port community. The four areas covered in the challenges were:

- Optimization of hinterland connections sponsored by "COSCO Shipping Lines Spain".
- Digitalization of port processes sponsored by "Grupo ROMEU"
- International trade facilitation sponsored by "The Global Alliance for Trade Facilitation" of the World Economic Forum
- Circular Economy sponsored by the Port Authority "Autoridad Portuaria de Valencia"

2.5.1 Challenge description





The challenge descriptions were the main input for the participants. It is the document that details the problems to be faced, the objectives and the resources available. The challenge description template included:

- Title of the Challenge
- Entity that proposes the challenge
- Motivation behind the challenge
- A detailed description of the problem
- The main objectives to overcome
- A list of data resources available to face the challenge

Draft versions of the challenge descriptions were submitted to the Hackathon Platform 2 weeks before the official kick-off of the Valenciaport Online Hackathon. The aim of the early submission was to allow participants to know in advance the main requirements for each of the challenges.

Annex 3 includes the detailed challenge descriptions of the Valenciaport Online Hackathon.

2.5.2 Challenge resources and datasets

Additionally, participants had a set of resources available to develop their solutions. Datasets and other resources were uploaded to a google drive in different folders for each challenge. Some challenges also included videos explaining the main features of the datasets to facilitate the understanding of the resources provided. Datasets were submitted to the drive folder one week before the official start to allow participants to preprocess the data sources.

All datasets provided to the participants were anonymized so that no personal data was included. Datasets contained information of real operations but they were treated and modified to avoid General Data Protection Regulation (GDPR) issues. Despite this, participants were requested to sign and Non-Disclosure Agreements (NDA) in order to get access to the drive folder with the datasets. Without the signature of the corresponding NDA participants did not have access to the datasets of the hackathon.

Annex 2 includes the NDA to be signed by participants in order to be able to get access to the google drive that contained the datasets.

2.6 Online Hackathon Event

2.6.1 Opening ceremony

The Opening Ceremony of the Valenciaport Online Hackathon was held on Friday 20th of November 2020 at 16:00h and it was the official start of the hackathon. The ceremony was broadcasted through the hackathon platform for all participants, who were able to ask questions in a Q&A session. Besides, a YouTube link was shared through different social media channels for those who were not registered on the platform but that wanted to follow the Valenciaport Online Hackathon kick-off.

The ceremony started with a general presentation of the hackathon as well as a welcome speech by Antonio Torregrosa, the Managing Director of the Fundación Valenciaport. In this speech the commitment of the Port of Valencia with the innovation and the objectives of the Valenciaport Online Hackathon were presented.







After the welcoming words, the ceremony continued with a general overview of the hackathon, which included the main deadlines and deliverables to present, the judging criteria, the data resources and the procedure to get the datasets (i.e. NDA required), the prize pool and a short introduction about how to use the platform.

Later on, the Hackathon challenges were presented by each of the challenge owners: COSCO Shipping Lines Spain, Grupo ROMEU, Global Alliance for Trade Facilitation and Autoridad Portuaria de Valencia. In each challenge presentation, challenge owners made a short presentation of the company, the motivation behind the challenge, the problem be faced, the specific objectives to be addressed, the data resources available to solve the challenge and the mentors that supported the participants during the event.

Finally, the opening ceremony closed with a Q&A session to solve the doubts of the participants and a matchmaking session to help participants to team-up in case they were looking for one to join (See the Agenda of the Opening Ceremony in Figure 4). The ceremony was recorded and uploaded to the platform once it finished.

Duration	Concept	Responsible	Comments
2-3min	Welcome to participants (Adelaide of BeMyAPP)	BeMyApp	 Intro and welcome
5-10min	Welcoming words by Antonio Torregrosa (General Director of FVP)	FVP	 Presentation of the port Objectives of the Hackathon Etc.
10min	The Hackathon in general (Adelaide of BeMyAPP)	ВеМуАрр	 Key info Deadlines Data and resources (NDAs) Judging Criteria Prize pool General Mentors presentations Use of the platform: how to submit the projects, formats, etc.
10-15min (each)	Challenge presentation (x4) Order: 1. COSCO 2. ROMEU 3. GAFTF 4. APV	Challenge owners	 Presentation of the company Motivation Problem / Challenge Objectives Data and Other resources Mentors
45min	Matchmaking session (Adelaide BeMyAPP)	ВеМуАрр	 Support to participants for team creation and on boarding Q&A

Figure 4. Agenda of the Valenciaport Online Hackathon Opening Ceremony

2.6.2 Ideation and Prototyping

Hackathon participants started to develop their ideas right after the opening ceremony held on the 20th of November. From that moment onwards participants worked by teams in the proposed challenges with the supports of the mentors.

During the hackathon week participants had to accomplish the two milestones previously mentioned: the project page creation on the 23^{rd} of November and the project submission on the 25^{th} of November. For the project submission the participants needed to provide a presentation explaining the solution, how it works, the business model, etc. together with a short video of the solution proposed. Both elements, the video and the presentation, were the main inputs for mentors in the assessment process during the semi-final.

During the ideation and prototyping phase 25 projects were completely submitted targeting the following challenges:





- 11 projects to the COSCO Shipping Lines Challenge on road transport optimization
- 5 projects to the Autoridad Portuaria de Valencia Challenge on circular economy
- 5 projects to the Global Alliance for Trade Facilitation Challenge on international trade facilitation
- 4 projects to the Grupo ROMEU Challenge on digitalization of ocean rates processing

2.6.3 Mentoring sessions

One key factor to ensure that the development of innovative solutions really fitted the challenges are the mentoring sessions and the follow up of the solutions. For this reason, a group of experts in port logistics operations, IT technologies and business models were involved in the hackathon to support the participants in the development of their solutions.

The mentor's objective is to guide the hackathon teams and support them through mentoring sessions in which they solve the questions that teams may have. Initially, it was recommended to have mentoring sessions in slots of 20 minutes during 1-2h per day and mentor. However, in some cases it was required to increase mentoring dedication and duration of the sessions due to team needs.

Mentoring sessions were conducted through the hackathon platform. The platform allowed teams to book available slots for mentoring as well as perform 1 to 1 meetings. Besides this, other IT resources such as TEAMS and ZOOM were used when it was required a mentoring session with more people involved.

To facilitate participants understanding of the mentoring sessions it was decided to differentiate two types of mentoring:

- Challenge Owner Mentoring: these mentors focused on the details of the challenge and how to adapt the solution to the particular needs of the challenge. Experts in operations from each of the entities involved in the challenge definition (i.e. COSCO Shipping Lines Spain, Grupo ROMEU, Global Alliance for Trade Facilitation and Autoridad Portuaria de Valencia) were involved in the Challenge Owner Mentoring session together with experts from Fundación Valenciaport.
- 2. General Mentoring: general mentors focused on more generic aspects of the solutions when supporting participants such as business model development, scalability of the solution, support on how to use ICT tools and resources, etc. They were requested to have the same availability than the challenge owner mentors but their dedication was finally smaller.

2.6.4 Webinars

A set of webinars were planned to provide the participants with more knowledge about the port industry as well as more resources and insights into developing their solutions during the hackathon. All webinars were live broadcasted through the hackathon platform and the participants were able to interact with the panelists through the chat. Besides, all webinars were recorded and uploaded to the platform for those who were not able to watch them in live (See Annex 1).

The webinar agenda was planned based on the hackathon timeline, starting from general topics on logistics (ALICE – Physical Internet Concept webinar and the COREALIS project and the





set of innovations that are being tested in the different ports) to more specific webinars such as the Next Port webinar about the potential of the Artificial Intelligence in port processes or the webinar on UX UI design by Gusta Studio to provide tips on how to create attractive logistics applications. Finally, on the evening of the 26th of November a webinar providing tips about how to pitch in the Hackathon final was carried out by BeMyApp. Following Table 1 shows the webinar agenda of the Valenciaport Online Hackathon.

Table 1. Agenda of the Webinars of the Valenciaport Online Hackathon

	22-nov	23-nov	24-nov	25-nov	26-nov
16.00 – 16:40 +Q&A	ALICE - PI	COREALIS	Next Port	UX UI / GUSTA STUDIO	BEMYAPP - PITCH

2.6.5 Semi Final

The semi-final of the Valenciaport Online Hackathon was held on the 26th of November at 18:00h (CEST) where 8 out of 25 project proposals were announced as the eight finalists of the hackathon. The selection of the eight finalists was done by the mentors according to the judging criteria (Section 2.6.6) and followed the process explained below:

1. <u>Challenge owner's pre-selection:</u> (26th November until 14:00h)

The mentors of the each of the four challenges selected **individually** the best three projects of their challenges.

After this individual selection, the mentors of each challenge put in common their proposals and agreed on the three finalist of each particular challenge.

2. <u>Selection of the eight finalists:</u> (26th November from 14:00-16:00)

All mentors met online to decide together the eight finalists of the Valenciaport Hackathon. In this online meeting each of the challenge owners announced the three finalists of its challenge and all them watched the short videos of the twelve candidates for the hackathon final.

The selection of the eight finalists proceeded after an open discussion with all mentors. The opinion of the general mentors was heard (under their will) to enrich the selection of the finalists but the final decision fell under the votes of challenge owner mentors'.

The eight finalists of the Valenciaport Online Hackathon announced in the semi-final were:

- **Team#1 eDocumentHub** [International trade facilitation sponsored by "The Global Alliance for Trade Facilitation"]
- **Team#2 Book-a-slot** [Optimization of hinterland connections challenge sponsored by "COSCO Shipping Lines Spain"]
- Team#3 Wave Node [Digitalization of port processes sponsored by "Grupo ROMEU"]
- **Team#4 NetWaste** [Circular Economy challenge sponsored by "Autoridad Portuaria de Valencia"]
- Team#5 DuckTheLine [Optimization of hinterland connections challenge sponsored by "COSCO Shipping Lines Spain"]
- Team#6 aiRates Technologies [Digitalization of port processes sponsored by "Grupo ROMEU"]





- **Team#7 ChainGO Freight** [International trade facilitation sponsored by "The Global Alliance for Trade Facilitation"]
- Team#8 Optimization of logistics [Optimization of hinterland connections challenge sponsored by "COSCO Shipping Lines Spain"]

2.6.6 Jury and Judging Criteria

The jury had the mission to rate the solutions proposed by the eight finalist of the Valenciaport Online Hackathon during the final demo day and select the best three projects according to the judging criteria in the hackathon final on the 27th of November 2020.

The jury of the Valenciaport Online Hackathon was composed of five members with a huge expertise and knowledge on port-logistics operations. In particular, the jury was composed of one representative of each of the challenge owner entities and by the Innovation & Port Cluster Development Director of the Fundación Valenciaport as a representative of the COREALIS project.

The solutions were evaluated and ranked according to four judging criteria: feasibility (25% of the total score), creativity (25% of the total score), quality of the prototype (25% of the total score) and desirability (25% of the total score).

The jury deliberation was done online in a meeting room with all jury members. Besides, BeMyApp provided a jury platform that was used to facilitate the evaluation process. The jury used the specific platform to rank each solution from 1 to 5 on each of the evaluation criteria. Then the platform calculated the total score of each solution and ranked them.

2.6.7 Hackathon final demos and winner's announcement

The final demos and winner's announcement ceremony of the Valenciaport Online Hackathon was held on Friday 27th of November at 12:00h and it was the official end of the hackathon. As in the opening ceremony, the final was also broadcasted through the hackathon platform for all participants and also through a YouTube link that was shared in social media channels for those who were not registered on the platform but that wanted to follow the final of the Valenciaport Online Hackathon.

The ceremony started with a short presentation of the agenda and then the finalist presented their solutions to the jury and the general public. Each final pitch, eight in total, consisted of a 5 minutes' presentation of the solution and then 3 minutes of Q&A of the jury to be answered by the teams. Once the eight finalist finished their pitches, the jury went into deliberation to select the best solutions according to the judging criteria.

The winners of the Valenciaport Online Hackathon were announced after jury deliberation. Firstly, second prizes were awarded by representatives of the collaborating entities ALICE and Propeller Valencia, which did also a short speech to the winning teams. Finally, the grand prize and final winner of the Valenciaport Online Hackathon was announced through a video of the Fundación Juan Arizo Serrulla, the entity supporting the grand prize. Jury members also mentioned few words to the hackathon winners.

The winners of the Valenciaport Hackathon were (Figure 9):

1. Grand prize of 3.000 EUR sponsored by Fundación Juan Arizo Serrulla to "**Book-a-Slot**" solution of the COSCO Shipping Lines Spain challenge to optimize road transport delivery/pick-up operations.





- 2. Second prizes of 1.000 EUR each sponsored by:
 - a. ALICE Platform to "**ChainGO Freight**" solution of the Global Alliance for Trade facilitation challenge to facilitate international trade through ePayments and eSignatures procedures.
 - b. Propeller Valencia to "AI Rates" solution of the Grupo ROMEU challenge to facilitate oceanic rates processes to freight forwarders.



Figure 5. Winners of the Valenciaport Online Hackathon

The Valenciaport Hackathon final ceremony ended with a closing speech by Antonio Torregrosa, Managing Director of Fundación Valenciaport, who thanked the participants, partners, sponsors, organizers, etc. and the involvement of all of them in making the first Valenciaport Online Hackathon a reality and encouraging all them to repeat the experience.





3.Communication and Dissemination

3.1Communication and dissemination campaign

The communication and dissemination campaign of the Valenciaport Online Hackathon was led by the Fundación Valenciaport (the main organizer of the hackathon) together with SEAbility (communication responsible of the COREALIS project) and BeMyApp (the hackathon platform manager). The main tool used for the communication and dissemination campaign of the Valenciaport Online Hackathon was the hackathon website, which was designed by BeMyApp. The website was launched on the 26th of October and it included all the info of the event (companies involved, mentors, jury and judging criteria, prizes, etc.) as well as the links to register in the hackathon platform was also launched on the 26th of October. Both sites were designed in accordance to the color scheme used in the COREALIS project in order to keep a uniform style and followed the guideless on communication and promotion of H2020 projects.

Besides the website, a set of banners, images and figures were created to be shared through the different social media channels and mailing campaigns.

The on boarding campaign of participants started right after the website and the platform were officially launched. A planning of social media posts was carried out for each of the main channels used (Facebook, Twitter and LinkedIn) to broaden the scope of the communication campaign of the event. The planning of posts and dates per channel was shared with the main actors involved in the communication campaign even though they were free to adapt them under their will. Besides, the communication and dissemination material was also shared with the main stakeholders involved in the hackathon so that they could use it in their networks to spread dissemination.

Social media channels were also used intensively during the hackathon week to announce the webinar links and the main live events such as the opening and closing ceremonies. Besides, the hashtag **#ValenciaportHackathon** was created so that participants, stakeholders and the public in general could use it in their social media channels.

The hackathon platform was the main tool used for communication purposes with participants during the hackathon week. For the general public, social media platforms were the main channel to announce and communicate the advances of the hackathon such as the deadlines, the selection of the eight finalists or the final winners. As it was done for the on boarding campaign, a planning of posts for the different social media channels was also carried out for hackathon week aiming to have a uniform communication and dissemination plan. This planning was also shared with the main actors involved in the hackathon.

3.2 Results

The on boarding campaign of the Valenciaport Online Hackathon was successful considering that it started only four weeks before the opening ceremony and, based on BeMyApp guidelines, it is suggested to have between six to eight weeks. Despite the short but intense on boarding campaign, in the end 245 participants registered in the Valenciaport Online Hackathon and presented 25 projects. Besides the 245 participants enrolled by teams, it is important to add





the mentors, the jury as well as the organizers profiles that were supporting participants during the entire event solving their doubts (chat, mentoring sessions, etc.).

The website of the Valenciaport Online Hackathon had more than 18290 visits from people all over the globe. Figure 10 illustrates the main countries of the people that visited the hackathon website and the main source to do it. As can be seen, Facebook and BeMyApp website were the main sources to access the Valenciaport Online Hackathon website.

In reference to the website visits by country, there was a huge volume coming from the north African countries. This is mainly explained due to the participation in the Hackathon of the Global Alliance for Trade Facilitation, which is organizing in parallel a Port Hackathon in Morocco under the name "Smart Port Challenge 2020 – Innovate and design the port of tomorrow"².



Figure 6. Website statistics of the Valenciaport Online Hackathon

In reference to the videos, webinars and opening and closing ceremonies of the Valenciaport Online Hackathon the attendance to each of them is depicted below:

- **Ideation webinars** held during the hackathon week had a total of 244 attendees combining both, the ones that followed in live through the platform and those that also watched them during the week.
- **Technical asset videos** describing the challenges and the datasets had a total of 120 attendees.
- **Opening ceremony and Closing ceremony**, which include final demos and winner's announcement, had a total of 610 attendees combining both, the ones that followed in live through the platform or YouTube and those that also watched them during the week (only Opening Ceremony).

² <u>https://smartportchallenge-</u>



^{2020.}bemyapp.com/?utm_source=bemyapp.com&utm_medium=referral&utm_campaign=bemyapp%2 0events



4. Post Hackathon

A meeting to recap the outcomes and main figures of the event was organized after the Hackathon with the closest stakeholders (Port Authority of Valencia, COSCO Shipping Lines Spain and "Grupo Romeu"). The hackathon assessment process covered the following aspects:

- Assessment of the key figures of the hackathon event: registration of participants, number of projects presented, communication and dissemination figures, engagement of the participants in the event, feedback from mentors, etc.
- Assessment of the hackathon challenges: suitability of the challenges to the format proposed (online), ways to improve datasets and resources provided to participants, timing of the availability of the challenge descriptions' and the datasets, etc.
- Assessment of the hackathon week: dedication for mentoring sessions, number of mentors per challenge, evaluation of the format and duration of the event, evaluation of the activities and webinars carried out during the hackathon week, etc.
- Assessment of the quality of the solutions proposed and potential ways of continuing the development of the most promising ones.
- Overall evaluation of the first edition of the Valenciaport Online Hackathon, the feedback from participants and next steps to organize the second edition (format, duration, scope, etc.).

The general conclusion of the assessment process was that the first edition of the Valenciaport Online Hackathon was a successful experience based on the number of participants, the platform functioning, the format chosen and most importantly due to the quality of the projects proposed. This conclusion was reinforced by all parties involved for two main reasons. Firstly, because of the last-minute format change due to the COVID-19 outbreak and, secondly, due to the online format itself, which was as risk due to the lack of experience of the stakeholders involved in its organization. However, despite the lack of experience and the tight time frame for the organization of the event, the stakeholders involved came to the conclusion that the results obtained were really interesting and promising. As a sign of this success, all the stakeholders committed to repeat the experience in 2021, adjusting the format of the next edition to the possibilities that the COVID-19 will allow such as a face-to-face hackathon, continuing with the online format or looking for a hybrid edition that combines the strengths of both formats.

The end of the Valenciaport Online Hackathon did not necessarily mean the end of the collaboration between the participants and the stakeholders involved in the event. Actually, challenge owners were really satisfied not only with the way of conducting the hackathon by involving their workers into the innovation process but also with the quality of the solutions proposed during the event. Moreover, the stakeholders are exploring funding opportunities to continue the development of some of the solutions proposed as well as planning pilot activities with other initiatives that are closer to market. In this regard, the Fundación Valenciaport will support interested participants to continue developing their solutions in funding programs such as Ports4.0³, a Spanish model of corporate open innovation adopted by State Ports and Spanish





³ <u>https://ports40.es/</u>



Port Authorities to attract, support and facilitate the application of talent and entrepreneurship to the logistics sector. Ports4.0 is a unique program that has grants, specialized equipment, and the necessary infrastructure to accelerate innovative ideas and projects (products, services or processes) with market orientation, which provide benefits to the port-logistics community in any part of its value chain.

4.1 Feedback

Participants were also requested to provide feedback on the first edition of the Valenciaport Online Hackathon after it finished. In the feedback form they were requested to provide inputs about the entire hackathon event, the challenges proposed, the platform used, the technical support they received during the hackathon event but also during the registration, the work of the mentors and the quality of the assets provided (data, videos, etc.) and finally the customer challenges. Following figure 11 illustrates the rating of the different categories assessed:



Figure 7. Overall rating of the feedback from participants

Besides the fixed questions for feedback, participants had also the possibility to suggest specific improvements for next editions. A list of the most relevant ones is listed below:

- It would be nice if the teams that make it to the finals can receive a small price. Even \$10 per participant is still fine.
- Give participants an e-certificate to show that they were involved in the hackathon.
- The 1:1 meeting could be more useful if they also allow mentor group meetings
- The platform could benefit from:
 - A link to project in project page
 - The timeline of the hackathon with deadlines being always visible and updated
- Increase the time for submission





- Feedback to the other projects to tell them why they didn't make it to the finals or why they didn't win.
- It took us a while to really understand the problem and the data. Maybe a few extra days of duration would be useful.
- Hands-on workshops with the data in the first days
- Digital hackathons are lacking the "goodies" given at physical events. Sending a small thing, a poster or something to put teams in the mood would have been fun.

4.2 Lessons learnt

As a result of the assessment process and the feedback of the first edition of the Valenciaport Online Hackathon, the following lessons learnt are highlighted:

- Audience, format and communication campaign: The format of the event (face-to-face or online) are closely related to the registration of participants. Online events allow to reach broader audiences but face-to-face events facilitate the enrollment of the local entrepreneur ecosystem if the objective is to promote it. In the same way, the communication campaign to involve the local innovation ecosystem will require more efforts with local and regional entities of the innovation community.
- Challenges: The challenges need to address real problems of the challenge owners because they are the ones interested in the solutions and also in the possibility of developing and implementing them. It is also important to take into account the hackathon duration when proposing the challenges. The problems to be solved and the results expected have to be clearly defined considering the hackathon duration. Challenges that require digital solutions facilitate the development of proposals, especially in online events.
- **Resources for participants:** It is essential to provide good resources to the participants. This refers to datasets and documentation to work with but also guidelines, videos and other resources to explain the problem, the processes, the content of the datasets, etc. It is recommended to share all the resources before to the start of the hackathon event so that participants know in advance the material they will have to develop their solutions.
- Prize pool: The prize pool is very important to get the interest of the participants. This becomes even more important in online events due to the lack of proximity and networking opportunities during the event. Goodies and participation certificates are also highly recommended so that all participants have something to show and share from the event.
- Involvement of the mentors: The involvement of the mentors during the event is key for the success of the hackathon. They are the main contact point of the participants and the main source of information. Challenge owners should allocate at least two people for mentoring in the event to solve the doubts that participants may have. Mentors should participate in the challenge definition phase and they need to know the problem to be solved in detail. Besides, it is recommended that mentors collaborate producing the material to be shared with participants (datasets, videos, etc.) to make easier doubts resolutions. The involvement of general mentors to help participants in





other areas such as business model development, solution design, use of IT tools, etc. is also highly recommended.

- Stakeholders: It is fundamental to involve key stakeholders for organizing a hackathon event. All stakeholders are important even though they have different roles in the event (challenge owners, IT providers, sponsors for the prize pool, etc.). Organizers must coordinate stakeholders, especially challenge owners, to ensure that the hackathon event runs as planned. Their role during the on boarding campaign is very important to attract participants to the hackathon.
- Others:
 - Parallel activities during the event (especially in online hackathons) help to move the attention of the participants from the challenges and provide them insights about the industry itself, in our case the port-logistics industry. This could be also a useful space for stakeholders to get them known.
 - For online hackathons the platform of the event has to cover all the requirements. Project management support is also recommended in case of lack of expertise in this type of events.
 - The on boarding campaign should last between 6 to 8 weeks for online events, being social media (especially Facebook) the main channel of communication. Face-to-face events require intensive contacts with local and regional actors of the innovation and entrepreneur ecosystem.





5. Conclusions

COREALIS incubator activities have resulted in the organization of the first edition of the Valenciaport Online Hackathon, which aimed to facilitate the development of port-city innovation clusters for the promotion of the open innovation in the port-logistics industry.

This document reported the activities and timeline for setting up the hackathon of the Port of Valencia. The report covers an overview of the path covered to organize the hackathon, a description of the event including the format, the platform, the timeline, the partners and stakeholders involved, the challenges and finally a complete description of the different activities carried out during the hackathon week. Besides, the document also reports the communication and dissemination campaign done to on board participants in the Valenciaport Online Hackathon.

The organization of the first hackathon in the Port of Valencia has shown the following outcomes as the main and key success factors:

- Have a clear view on the audience targeted, the format and the communication campaign of the event, which are all closely related.
- Propose attractive challenges for participants that face real problems of the port community and provide them with sufficient resources for their resolution.
- Propose an interesting prize pool to attract participants to the hackathon.
- Be selective when choosing the stakeholders for each of the different roles. Pay special attention to challenge owners and make them know the resources required from their side in each step of the event.

The hackathon has been a first step to promote open innovation in the port-logistics community that directly faced the main concerns and challenges of the port community of the Port of Valencia. After the assessment process carried out by all parties involved, the hackathon has been considered as a successful experience with promising results and all them are committed to repeat the experience in 2021. In this regard, the involvement of the workers in the innovation process as mentors of the event has been highly appreciated by both, the companies and the own workers. Future editions will probably explore new formats and possibilities: face-to-face event, continuing with the online format or even a hybrid edition that combines both, online and face-to-face teams.

Finally, challenge owners have shown their interest in continue developing the solutions with more potential, which not necessarilly are the ones that were awarded in the closing ceremony. The Fundación Valenciaport, as the research and innovation centre of the cluster of the Port of Valencia, will support them acting as a facilitator for upcoming funding opportunities as well as for implementing their solutions (products, services or tools) in pilot activities.







Annex 1: YouTube Links

Opening conference: https://youtu.be/9Nlet_Z1SfU ALICE-PI webinar: https://youtu.be/n3cBIMtbkQw COREALIS webinar: https://youtu.be/5r8VUyoXSHg Next Port Webinar: https://youtu.be/EWhuh4JrrCI UX/UI design by Gusta Studio: https://youtu.be/dYhKqfg4Ekw Final Demos: https://youtu.be/k5iL1BBz_so Valenciaport Online Hackathon winners' announcement: https://youtu.be/m85bXLSp308







Annex 2: NDA

CONFIDENTIALITY AGREEMENT

BETWEEN:

Mr./Mrs.:

Born on Nationality: Address: Referred to as the "the Participant", in Bonn

AND,

Fundación de la Comunidad Valenciana para la Investigación, Promoción y Estudios Comerciales de Valenciaport, a Spanish-based company with a capital of 978.382,24 euros, whose registered office is located Avda. Muelle del Túria, s/n – 46024, Valencia, Spain], company registration number G-97360325

Referred to as "the Organizer",

Referred to collectively as "the Parties" or individually as "the Party"

THE FOLLOWING AGREEMENT APPLIES :

ARTICLE 1: OBJECT

1.1 The following contract ("**the Contract**") is a confidentiality agreement for the participation of the Participant in Valenciaport Hackathon ("the Competition") organized by the BeMyApp company for the Organizer.

1.2 All information relating to the Competition is stated in the Competition's Terms and Conditions, to which the Contract is added.

1.3 In accordance with the conditions and modalities of participation for the Competition, the agreement to and signature of the Contract is planned in the rules of the Competition and is mandatory to validate the participation of the Participant in the Competition.

ARTICLE 2: CONFIDENTIALITY REQUIREMENT

2.1 The Participant may receive written or spoken information, in any form and/or format,





belonging namely to the Organizer. This information is confidential and the disclosure of its content may harm the interests of the Organizer. The Participant acknowledges consequently that communication of this information demands a duty of confidentiality in the terms and conditions stated below, which s/he expressly accepts.

2.2 In this contract, considered confidential are all information, data, documents, methods and/or objects, in any form, whether bound or not to a creation protected by a title or an intellectual property right, that the client is made aware of in the execution of the Contract (referred to as "Confidential Information").

In this contract, not considered confidential are:

- information communicated by the Organizer which is officially in the public domain at the time of its communication or which has entered in the public domain after its communication, if, in this last case, it doesn't imply a prior breach of a duty of confidentiality by the Participant
- information designated as "non-confidential information" when delivered to the Participant
- information regularly communicated to the Participant by a third party or which the Participant can prove s/he knew before it was communicated by the Organizer

2.3 The Participant acknowledges the highly confidential nature of the Confidential Information.

2.4 The Organizer is only inclined to unveil Confidential Information to the Participant for the sole purpose of allowing him/her to execute the Deliverable. No disposition of the present article can be interpreted as granting a privilege to the Participant for the usage of the Confidential Information, nor as creating a partnership, collaboration or association relation between the Parties, nor as creating an obligation of entering into an agreement for both Parties.

2.5 The Participant commits to hold secret and refrain from unveiling directly or indirectly to any third party (referred to as "Third Parties") all elements or the full content of the Confidential Information s/he comes to access, for a duration of ten (10) full consecutive years from the day of its communication.

2.6 The Participant will only be allowed to use the Confidential Information to execute the Deliverable for the Competition. S/he will consequently have to take all the necessary measures for the safety and protection of the Confidential Information. The Participant will consequently refrain from using it directly or indirectly in any way, be it for him/herself or for any Third Party. A non-limiting example is: the Participant commits to refrain from communicating Confidential Information relating to the Competition or Deliverable on social networks.

2.7 The Participant commits to refrain from issuing any communication regarding the Competition, the organization of the Competition and his/her participation in the Competition for the full duration of the Competition. A non-limiting example is: on social networks, using

Initials







Twitter, Snapchat, SMS, etc.

2.8 The Participant commits to immediately alerting the Organizer in the event of loss or unauthorized disclosure of all or part of the Confidential Information.

2.9 The Participant acknowledges that any violation or attempt of violation of this agreement may harm the Organizer, and that, without renouncing any possible recourses to obtain any form of compensation for the damage incurred, the Organizer will be free to take any emergency action in order to stop the infringement.

2.10 If the Participant is submitted to an legal obligation to disclose the Confidential Information (or a part of it), the Participant will notify it to the Organizer with sufficient advance notice to allow conciliation with the Organizer to establish the frame of planned disclosure and to allow the Organizer, insofar as possible and in accordance with the applicable legislation, to protect the confidentiality of the Confidential Information.

2.11 At the end of his/her participation in the Competition, the Participant will have to immediately return to the Organizer any Confidential Information, including any copy that may have been created and any partial or full retranscription of this Confidential Information. The Participant guarantees the Organizer that any total or partial reproduction of the Confidential Information, in whichever form it may be, which has not been returned, will immediately be destroyed.

ARTICLE 3 : PROTECTION OF PERSONAL DATA

3.1 In accordance with the Competition's Terms and Conditions, the Organizer collects and uses, directly or indirectly, personal and professional data files in order to manage applications and registrations to the Competition and to communicate information regarding the organization and the logistical follow-up of each Participant.

3.2 The Participant's personal data is processed by the Organizer in compliance with European legislation.

3.3 The Participant allows the Organizer to communicate his/her first name and last name on the internet, if s/he comes to be a member of one of the Competition's winning teams.

3.4 Participants have the right to access, update and/or obtain deletion of their data by requesting directly to BeMyApp at the following address: BEMYAPP, 86 rue de Charonne, 75011 Paris.

ARTICLE 4: NULLITY

If any of this agreement's stipulations is declared to be null or unenforceable by a competent authority, such a nullity or unenforceability would not invalidate the entirety of the commitment. In this case the affected stipulation would be modified and interpreted in such a

Initials







way that enables the execution of the aforementioned stipulation, in accordance with the legally applicable norms.

ARTICLE 5 : APPLICATION OF THE CONTRACT

In case of dispute or litigation that may arise between the Parties, regarding the execution or interpretation of the Contract, both Parties commit to cooperating with diligence to find an amicable solution to the dispute.

Drafted in Hong-Kong

On 13/11/2020

In two copies,

The Participant

Mr./Mrs.

The Organizer Fundación Valenciaport





Annex 3: Challenge descriptions









Circular Economy in Ports

Waste management Centre 4.0. for circularity in ports: Collection, management, traceability and valorisation of port waste with the aim of achieving km zero solutions with a positive impact both on the port and the city, balancing the environmental footprint.

What we are looking for: evolved and advanced waste management systems, new energy models based on waste, innovative waste solutions-as a service, creative and collaborative solutions to integrate port stakeholders waste schemes, etc...

WEBSITE TITLE

Waste management Centre 4.0. for circularity in ports: Collection, management, traceability and valorisation of port waste with the aim of achieving km zero solutions with a positive impact both on the port and the city, balancing the environmental footprint.

What we are looking for: evolved and advanced waste management systems, new energy models based on waste, innovative waste solutions-as a service, creative and collaborative solutions to integrate port stakeholders waste schemes, etc... Motivation:

Ports play a crucial role as facilitators of the transition to the circular economy (CE) as they are strategic infrastructures for international trade, playing a key role in traffic of goods as modal exchanges between the maritime and land environments. As value-added centres, the ports support the creation of a productive and logistical environment in the areas where they are located. They can therefore be the locomotives for the development and implementation of CE initiatives and the creation of new value chains.

In this context, ports are presented as drivers of this new trend promoted by the European Union to close the circle of the products/services life cycle. They are ideal places to develop CE since they are crossing-points of industrial flows and all types of waste. Ports may result in logistical hubs for the export and import of waste materials, setting-up location of industries that are active in the treatment, collection and shipment of waste and they are also active promoters in innovation ecosystems. It is therefore necessary to actively involve the ports in this new model of production and consumption, as 90% of the products consumed are transported by sea.

One of the most interesting opportunities of CE in ports is to create circular flows on waste management, considering the different types of waste generated by the ships calling at the port or the terminals located in the port facilities. This can involve working with authorised waste management companies to increase the separate collection of waste flows, a joint management among port stakeholders or to create synergies in the port cluster. Such activities are aimed at generating sufficient economies of scale for recycling, sorting out, composting and transforming activities, when the port waste alone might be insufficient.

In order to carry this out, the key element is the governance model of the port and the regulations applicable within these infrastructures. Some of the CE strategies developed at national level in Spain include recommendations for the maritime/port sector but should be adjusted to the type of port and its actual capacity to engage a circular economy strategy. What seems clear is that this concept is very much linked to cities, industries and consumers; and ports, as hubs for the transfer of goods/waste, are a bit left out of this unless that port turns to be specifically very industrial.

Description:

The challenge aims to reinvent waste management through km 0 solutions in the port of Valencia, improving the traceability of waste generated in port facilities as well as the creation of new business models for the valorisation of waste, leading to a 4.0. version of the already existing waste management centre in the port of Valencia. The circularity of the project should be addressed as well to improve port stakeholder's integration with new collaboration schemes while avoiding the transport of tons of waste for treatment with the subsequent environmental impact.

The main waste flows identified in the port of Valencia are:

 The <u>waste unloaded from ships</u> (particularly MARPOL I & MARPOL V) that is treated by private companies through public contracts. Concretely, MARPOL I waste follow a different regulation and do not depend on the Port Authority of Valencia. Some MARPOL I are valorised by the private waste manager as a proved business model. MARPOL V, which is comparable to municipal solid waste (MSW), is not sorted out and triage on board. Most of the MARPOL V waste is managed outside the port. ****This waste is not** to be included in the challenge scope as the Port Authority of Valencia does not have management competencies on it.

- The <u>waste generated in the port area, under the responsibility of the Port Authority</u> of Valencia (this category includes any waste that is generated and collected outside port concession terminals and facilities) is collected in a waste transfer centre (Figure 1), which is managed by a private company through a public contract.
- The <u>waste generated in the concession areas</u> (terminals and facilities included in the port area). In this case, the terminals and facilities subcontract an authorised waste management company/ies (registered as authorised companies that can provide services in the port area) and inform the Port Authority of the waste collected by them. All the waste collected in the concession areas must comply with Customs Formalities' before taking them out from the port area.



Figure 1: Valenciaport Waste Transfer Centre

Objectives:

- Management, commercial and technical solutions for an innovative Waste Transfer Centre 4.0 to respond to all waste flows within the port. The use of innovative technologies (AI, IoT, track-and-trace, etc.) for advanced waste management is suitable.
- To build, creative, applicable and reliable business models on circular economy to deal with waste and other best practices linked with the WTC (aforementioned)
- To take advantage of the joint management of port stakeholders waste to valorize it and to positively reverse in the port and in the neighboring areas.
- To find new energy models based on waste to be developed in the port and reduce the carbon footprint
- To enable waste-as-a-service solutions

Data sources (*):

- 1.- List of waste classified by LOW code in English (LER code in Spanish) (Excel file)
- 2.- Good practices guidelines on waste Management in ports: Gestión e infraestructuras de residuos en los puertos (guía de buenas prácticas)
- 3.- General Administrative Terms and Conditions collection of MARPOL waste in Valenciaport
- 4.- General Administrative Terms and Conditions waste collection service in Valenciaport not MARPOL
- 5.- List of authorized waste management companies of the port of Valencia
- 6.- MARPOL revised text
- 7.- Revised amendments Marpol V
- 8.- Directive (EU) 2019-883 on port reception facilities for the delivery of waste from ships
- 9.- Waste and Containated Soil Law (Ley 22/2011, de 28 de julio, de residuos y suelos contaminados).
- 10.- Waste Law of the Valencian region (Ley 10/2000, de 12 de diciembre, de residuos de la Comunidad Valenciana):
- 11.- Spanish Ports Law 2-2011
- 12.- Environmental Best Practices guideline Puertos del Estado
- 13.- 2018 852 Directive (EU) packaging and packaging waste
- 14.- Directive (EU) 2018 851 on waste



Challenge





Optimization of road transport operations and elimination of downtimes in container transport operative Challenge: Optimization of road transport operations and elimination of downtimes in container transport operative



Motivation:

The Port of Valencia is a key logistics node being one of the leaders in the Mediterranean Sea in container transport with more than 5.4 million TEUs moved in 2019. Almost half of these movements are imports and exports, resulting in 2.5 million TEUs entering and leaving the hinterland of the port in yearly basis.

The Port of Valencia, as other major hub-ports, is evolving and increasing their digitalization gathering better information about cargo flows, developing automated, standardised and connected processes, opening new intermodal services and increasing asset utilization, transport performance and infrastructure throughput. ValenciaportPCS, the Port Community System (PCS) of the Port of Valencia, is being developed to increase visibility of all services provided by the port community members in a digital manner so customers can access these services seamlessly and extending them to their hinterland. This makes the Port of Valencia (and its PCS) a facilitator that boosts collaboration in the port ecosystem to become a truly interconnected ecosystem that acts as a digital platform.

This idea links with the **Physical Internet** concept that transfers the principles of data exchange in the Internet to goods transport in the real world in terms of automatic transport control. Ports, as key logistics nodes, will play a key role in this paradigm as major consolidation and deconsolidation centers aggregating a massive variety of transport and logistics services that will be easily accessible for end users. The challenge here is to develop automated, standardised and connected processes and procedures in nodes belonging to logistics network.

In this context, road transport plays a key role in the port of Valencia to carry out foreign trade operations efficiently. In the Port of Valencia there are more than 800 transport operators (including self-employed and fleet operators) that gather approximately 2,300 trucks. Depending on the distances covered, there are trucks that can make two or even three trips per day, which makes an average number of 6,000 trucks movements a day performing delivery and pick-up operations (full and empty) in the port of Valencia.

With all this traffic generated by container operations and the expected foreign trade growth foreseen in Spanish for the coming years, congestion at certain times of the day is an operational challenge for transport companies, terminals and the Port Authority of Valencia. In fact, these peaks of activity have a huge impact on port activity and its surrounding area, causing delays in deliveries, being at the same time a cause of inefficiencies that contribute to a greater risk of accidents and increasing fuel consumption and their related pollutant emissions.

For this reason, an adequate synchronization and optimization of road transport operations through greater use of available assets (avoiding empty trips), a greater visibility of operations (in the arrival of trucks at the port and in the knowledge of the time of stay of trucks in port, terminals and also at factories) and a reduction of inefficiencies and downtime is essential. Road transport optimization will translate into a proper functioning of transport companies, but also will have a great impact on port activity and the activity of importers/exporters, which ultimately impacts on the citizen as a final consumer

Description:

On the one hand, the challenge aims to propose one or more technological solutions that help to optimize road transport operations in the port of Valencia, increasing the number of double operations in which the same truck consecutively performs an export operation and then an import operation (or vice versa). On the other hand, associated with the optimal functioning of the transport chain, the solutions proposed must provide greater transparency and visibility (Estimated Time of Arrival (ETA) of trucks to the port, time spent in port and in carriers' facilities, origins and destinations of the goods, predictions of departure time from the port based on port congestion, minimization of incidents and streamlining of incident reporting processes...) that result in an optimized planning of port operations. This brings important benefits, not only for carriers but also for the entire supply chain, both from the point of view of multimodal operational costs and from the environmental aspect, since the

Challenge: Optimization of road transport operations

and elimination of downtimes in container

transport operative

optimization of routes allows savings in the total kilometres covered and the related reduction of fuel consumption and emission of pollutant gases.

Objectives:

- Increase the number of trucks performing double operations at port container terminal (e.g. deliver a full container and pick up another one, full or empty, right after the delivery operation)
- Decrease the number of kilometres of empty trucks, both those that trucks go without any container and those that transport empty containers.
- Increase the knowledge of which trucks arrive to the port and which operations they will perform
- Reduce the time trucks stay in port, terminals and also in import/exporter factories
- Increase the knowledge of the Estimated Time of Arrival of trucks to factories and to port terminals
- Know operational times, both in factories and in port terminals (start/end of container loading/unloading operations)
- Predict date and time of trucks arrival/departure based on an estimated time of arrival
- Increase end to end vehicle traceability
- Speed up the processes of replacing an empty container when the driver considers it unsuitable for the loading operative due to container damages, etc.
- Minimize the number of incidents of trucks in the port, mainly:
 - Import operations: the truck arrives to the terminal to pick-up containers before they have been unloaded from the vessel (trucks waits inside the port/terminal).
 - Export operations: truck arrives to container terminals to deliver containers that have not yet been authorized or for incorrect destinations not included in the rotation of the vessel.

Data sources (*):

- HERE REST APIs
- HERE SDK
- Simulation of:
 - o Transport orders
 - o Bookings
 - Entry and operation confirmations
 - Delivery/pick-up confirmations
 - Record of historical truck flows in and out the terminal (peak and off-peak hours)



New technologies and solutions to simplify and accelerate international trade processes

International trade involves many complex processes intertwined across international borders. Despite massive technology advances in recent years, many trade processes remain manual – in particular when dealing with governments. While B2B automation has made significant advances, exchanging data with governments is often a challenge due to dated legacy systems, regulatory restrictions and bureaucratic drags.

These factors slow down the entire trade processes and thus affect the entire economy: Cargo takes longer to get from manufacturer to consumer, processes are prone to errors and can even lead to fraud. E.g. cargo manifests, customs declarations, port release notes – sometimes automated but often still require paper copies. Government licenses and permits are still mostly manual in many parts of the world.

Stakeholders are many and each require both internal processing flows and exchange other stakeholders, both public and private. Government entities such as customs, ministries and controlling agencies are interacting with commercial stakeholders such as shipping lines, clearing and forwarding agents, transportation and warehouse operators, etc...

The benefits to be gained from new technologies such as AI, Machine Learning, Blockchain, and others, and the knowledge of how those technologies can be used and for what purpose in the Trade Facilitation world still need to be demonstrated in many countries as they are expensive, often still experimental and often lack harmonisation and consistency.

There are a number of areas to be explored and processes to be accelerated. Your help is needed to uncover how:

- payments could be automated or dematerialised? There are many payments to be made at different steps of the supply chain. Every document, permit, license issued by governments usually requires some form of payment; duties and taxes and other government charges need to be settled; transportation and terminal operation services require payment require payment; demurrage, detention – this list goes on.
- eSignatures can be introduced with government agencies for approvals. Customs declarations, manifests, releases – how many documents require signatures either by the trader, by his representative or by government officials. The solution can be technical but needs to consider legal frameworks, regulations and ease of use.
- we can improve the visibility on the supply chain. How do you inform the owner of the goods where the goods are, what processes need to be overcome and importantly where do blockages and bottlenecks create additional challenges?

What skills we are looking for? To tackle these important challenges in international trade, we are looking for tech-savvy participants, ready to step out of their comfort zone and address issues in the world of trade facilitation. Many of these challenges need to be looked at through a different lens. These challenges have been around for decades and solutions are not quite there yet...



Resources:

- <u>https://www.unece.org/fileadmin/DAM/trade/Publications/ECE-TRADE-457E_WPBlockchain</u> <u>TF.pdf</u>
- <u>https://uncefact.unece.org/pages/viewpage.action?pageId=9603195</u>
- <u>https://www.unece.org/fileadmin/DAM/trade/Publications/ECE_TRADE_448-UNECE-Region</u> <u>alReport.pdf</u>
- https://www.wto.org/english/res_e/booksp_e/blockchainrev18_e.pdf
- <u>https://www.weforum.org/whitepapers/windows-of-opportunity-facilitating-trade-with-blo</u> <u>ckchain-technology</u>
- <u>https://blog.oceanprotocol.com/introducing-blockchain-powered-minimum-viable-logistics-data-marketplace-56b1be9a4e01</u>
- <u>https://www.weforum.org/agenda/2020/08/this-is-how-drones-and-other-tradetech-is-tran</u> <u>sforming-international-trade/</u>
- http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-an d-tools/tools/disruptive-technologies/wco_disruptive_technologies_en.pdf?la=en
- <u>http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-an</u> <u>d-tools/tools/single-window/compendium/swcompendiumvol2partiv.pdf</u>
- <u>http://tfig.unece.org/contents/e-payments.htm</u>
- <u>http://www.unece.org/fileadmin/DAM/cefact/GuidanceMaterials/WhitePaperBlockchain.pd</u> <u>f</u>
- <u>https://www.wto.org/english/res_e/reser_e/04_b_maria_ceccarelli_mtp_rev_corrected_20</u> <u>19-12-02_wto_final.pdf</u>
- <u>https://unctad.org/system/files/non-official-document/cimem7p16_Lance%20Thompson_e</u> <u>n.pdf</u>
- <u>https://worldcustomsjournal.org/Archives/Volume%2012%2C%20Number%202%20(Sep%20</u> 2018)/1855%2001%20WCJ%20v12n2%20Macedo.pdf
- <u>https://www.wto.org/english/res_e/publications_e/world_trade_report18_e.pdf</u>
- <u>https://etradeforall.org/7-intelligent-trade-technologies-preparing-trade-facilitation-future/</u>
- <u>https://ieeexplore.ieee.org/document/8586834</u>
- <u>https://www.unescap.org/sites/default/files/Day%2019%20Emerging%20Tech%20for%20Tr</u> <u>ade%20Facilitation%20by%20Somnuk.pdf</u>

RO MEU



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ROMEU

ROMEU is one of the largest Spanish logistics holding company, present in 25 countries and with more than 2,000 employees.

We have more than 150 years of experience in the international cargo transportation and more than 30 subsidiary companies dedicated to the logistics industry.

We believe in specialization, which is why each of our companies fulfills a unique purpose within the logistics chain to provide better quality to each of the customer profiles.

Our companies are mainly dedicated to Consignments, Freight Forwarding, LCL Consolidation, Logistics and Warehouses, Liquid Bulk, among others.

BUSINESS CASE: HOW CAN WE TRANSFORM THE ACTUAL OCEAN RATES PROCESSING

MOTIVATION

Today, 90% of the world's goods are transported in a container. In 2019, an estimate of 800 million containers were moved globally.

Behind each container there is a negotiation, in which expenses related to maritime transport are invoiced. Behind every invoice lies a transport quote. These quotes are managed through sophisticated quote management systems of forwarders and shipping companies.

The usual process is that a forwarder, as a logistics operator, aggregates and compares the rates of multiple shipping companies to be able to offer transport services from and to any part of the world to importers and exporters. Each shipping company has its own format and varies with a periodicity that can be quarterly or monthly. In the case of tariffs originating in China, sometimes the update is more frequent.

Carriers usually send their rates to forwarders through large excel files. The most important carriers have more than 6,000 lines per sheet. There is no standard format and the input process of the sea rates is slow and painful.

DESCRIPTION

The challenge aims to discover technological solutions that create value by helping process the current massive amount of rate sheets and different formats into one single standard output for logistics operators and quotation management systems.

OBJECTIVES

-To create one single source of consultation for rates (REST API recommended).

-To be able to search for port-to-port ocean rates and local charges (specifically explicated in the upcoming extended documentation).

-To be able to provide the rates to the system via excel attached in email to an email address, as currently provided by carriers.

SHIPPING QUOTE KEY CONCEPTS:

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Shipments vary greatly depending on the **origin** and **destination** of the cargo, whether it is a **full container** load or **groupage**, whether they are **dangerous** or **oversized** goods and therefore the terms used are also very varied.

1. The difference between FCL and LCL

FCL (Full Container Load)

FCL refers to **full container** load shipping. When we contract this service, the forwarder will use an entire container for us alone.

LCL (Less than Container Load)

LCL refers to shipping groupage. LCL is a method of transporting goods which in themselves are not large enough to fill a 20 ft container and so they share the space with the goods of other clients. In terms of price, for freight of up to 12 m3 it is normally preferable (depending on various constraints) to opt for groupage. For shipments of more than 12 m3 a 20 ft container would probably be cheaper.

here are various items on a freight forwarder's quote. It is important to check what these items apply to Let's have a look at what we are most likely to see on a quote depending on the type of shipping involved:

2. FCL cost. Calculation factors.

Cost per container.

There is no issue here. More containers means greater cost.

Cost per TEU

The TEU (Twenty-foot Equivalent Unit) is a unit of measurement used to calculate the capacity of shipping containers. The basis for this measure is a standard 20 ft container. Therefore:

- One 20 ft container = 1 TEU
- One 40 ft container= 2 TEU

Therefore, if our shipment is with 40 ft containers and there is a price per TEU we have to double that price for every 40 ft container.

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Cost per B/L or shipment.

Cost per B/L or shipment usually means that the price is only applied once for the shipment in question.

3. LCL cost. Calculation factors.

Per B/L or shipment

As we have already seen above.

Per W/V (Weight/Volume)

Per W/V, that is, per weight or volume (tonnes or cubic metres). You can find out more about weight/volume in our post on <u>chargeable weight</u>.

Per Ton/m3

T/m3 is the same as W/V.

After a run through of the different types of international freight transport, in this post we will be looking at the main surcharges that apply to FCL and LCL freight.

1. Basic concepts and surcharges in shipping:

• O/F (Ocean Freight)

Ocean freight refers to the 'pure' cost, prior to any surcharges. It is the transport service, generally from 'port to port'. For FCL shipping, the cost is usually calculated based on the type of container, whereas for LCL shipping the price is usually expressed in USD/t.

• BAF (Bunker Adjustment Factor)

The BAF is a surcharge applied to offset fluctuations in fuel prices.

• CAF (Currency Adjustment Factor)

The CAF is a surcharge applied to cover possible variations in the exchange rate. It is quoted as a percentage of the freight and all of the surcharges that are in a foreign currency.

• Banking charge

A 1% charge is applied to the freight and all of the surcharges quoted in USD, for both FCL and LCL shipping.

The BAF and the CAF are freight surcharges that change frequently and are specifically associated with a particular consignment, that is, with a port of origin and a destination port. **VATOS** (Valid At Time Of Shipment) is a related term meaning that whatever the estimate shown on the forwarder's quote, the BAF and

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CAF will be charged by the forwarder at the rates in force when the goods are sent, generally the date the goods are loaded on board

- EBS (Emergency Bunker Surcharge)/ BRC (Bunker Recovery Cost)/ BUC (Bunker Contribution)
 - The EBS, BRC and BUC are 'emergency' surcharges applied by shipping companies to cover extra fuel costs.
- SCT (Suez Canal Transit)
 - The SCT is a surcharge applied to goods that are transported via the Suez Canal.
- **PCS** (Panamá Canal Surcharge)
 - The PCS is a surcharge applied to goods that are transported via the Panama Canal.
- Adén (Aden Gulf Surcharge)
 - The Aden Gulf Surcharge has arisen as a consequence of pirate attacks on ships crossing the gulf.
- **CSF** (Carrier Security Fee) / SEC (Security Surcharge)
 - The CSF and SEC are security surcharges collected at ports.

2. Temporary shipping surcharges:

- WRS (War Risk Surcharge)
 - The WRS is a surcharge applied to freight when the ship's route crosses an area that is either in conflict or in which there is a high risk of war being declared.
- **WS** (Winter Surcharge)
 - The WS is a surcharge applied during the winter period to cover the extra costs incurred by ports due to adverse weather conditions.
- Port Congestion
 - The port congestion surcharge is applied by shipping companies to cover costs caused by congestion and times of ship inactivity. The surcharge may also be applied where congestion is caused by labour disputes.
- PSS (Peak Season Surcharge)
 - The PSS is a surcharge applied by shipping companies during the high season depending on the type of traffic, for example, with imports from China the surcharge tends to be applied from a few weeks before Chinese New Year to a few weeks after it.
- GRI (General Rate Increase)/ GRR (General Rate Restoration)/ ERR (Emergency Rate Restoration)
 - GRI (General Rate Increase)/ GRR (General Rate Restoration)/ ERR (Emergency Rate Restoration)

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3. Surcharges related to the characteristics, origin or destination of the goods:

- **OWS** (Overweight Surcharge)
 - The OWS is charged by shipping companies to transport heavy containers. It applies to 20ft containers and each shipping company sets the rate at their own discretion.
- **OOG** (Out of Gauge)
 - The OOG surcharge is applied to cargo that is larger than the dimensions of a container in width and/or height. It is mainly applied to open top or flat rack containers.
- **SEP** (Special Equipment Surcharge)
 - The SEP is incorporated into standard dry container freight rates in order to secure special equipment freight (usually open top and flat rack).
- ICD (Inland Container Depot)
 - Also known as dry ports, ICDs are depots for handling and temporarily storing goods. The use of these depots is very common in countries like India, and enables clients located inland, who are far from a port, to conveniently and quickly carry out port operations closer to their own facilities.
- **IMO** (International Maritime Organization)
 - The IMO surcharge is applied to shipments of dangerous goods.
- **CDD** (Cargo Data Declaration)/ ENS (Entry Summary Declaration)
 - The CDD and ENS are surcharges related to submitting a declaration on the details of a shipment, of any type of goods, destined for the European Union.
- **AMS** (Automated Manifest System)
 - The AMS is a control and prior authorisation system for goods destined for the United States or for transhipment there. The AMS surcharge applies to the electronic submission of the declaration to the American authorities. Without prior authorisation, the goods cannot be shipped.

In the vast majority of FCL cases, the surcharges mentioned above are applied per container or per TEU.

In the vast majority of LCL cases both the freight and the surcharges are applied per t/m3, or per W/M or W/V which, as we explained in the post about calculating chargeable weight, are essentially the same thing.

The surcharges for submitting declarations (CDD / ENS / AMS) are applied per B/L for both FCL and LCL freight.

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It is currently common for both shipping companies and forwarders to offer 'allin' freight rates, that is, a fixed price per container or t/m3 (depending on whether it is FCL or LCL) which includes the freight and main surcharges.

4. Shipping rates. Local costs.

The following are the main local costs affecting shipping rates for both FCL and LCL groupage:

THC (Terminal Handling Charge)

The THC, also known as THC/L, THC/D, port handling, etc. refers to the handling charges both at the port of loading and the port of discharge.

- In the case of FCL, each shipping company sets its own rate which will vary depending on the geographical area and type of container involved.
- In the case of LCL, handling is calculated based on W/V. Normally a different amount is quoted for each unit of measurement, for example, 22 EUR/t or 11 EUR/m3. Whichever is the greater of the two is the amount charged.

ISPS (International Security Port Surcharge)

The ISPS is a surcharge applied by the shipping companies to offset the additional costs of security measures.

- In the case of FCL, it may be quoted per container, per TEU or per B/L.
- In the case of LCL, it is normally quoted per B/L.

B/L (Bill of Lading)

This cost is for issuing the Bill of Lading and it is applied per document, i.e. per B/L issued.

Other costs

Quotes may contain other items depending on the shipping company being used for the shipment, for example, **logistics management, equipment cleaning, on-wheels** (a fee for handing over the transportation of the container to the freight forwarder), **container inspection**, etc. These will be charged by container or by B/L depending on the type of cost involved.

Т3

The T3 is a fee charged for the movement of goods through the quays, the use of berthing facilities, handling areas, access roads and other port facilities. The fee is charged for imports, exports and the transit of goods.

En caso de FCL, existen dos formas de aplicar la T3 (a elección del consignatario/naviera):

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- The simplified charge system: a fixed amount per container...
- The goods group system: in this case the T3 is the sum of the following amounts:
 - An amount per tonne, according to the relevant tariff heading group of the goods (there are 5 groups).
 - An amount according to the container type.

There is no single approach among shipping companies, they may use either of the two systems interchangeably for each shipment. In addition, the goods group system varies according to the port authority which means that different T3 amounts would be charged for the same goods if they were imported into Valencia or Barcelona.

In the case of LCL, each consolidator sets a price per tonne at their own discretion depending on whether the goods are being imported or exported, whether they are using the simplified or the goods group system and depending on the port. Generally, charges can range from 3.05 EUR/t to 4.14 EUR/t.

P.L.I. (Public Liability Insurance)

This charge arises from the freight forwarder's public liability insurance which is compulsory. It is quoted per B/L.

Collection or delivery (Haulage)

In the case of FCL, prices are quoted per container and they may be expressed in terms of kilometres, so much per "radius" (different circular distance bands between the port and the loading and unloading points) or a lump sum. We prefer a lump sum and we think it is clearer for our clients.

In the case of LCL, prices are usually quoted depending on chargeable weight as we explained in a previous post on the subject. We will look at two examples here anyway:

- 1. The shipment of one 1,800 Kg, 1.8 m3 pallet. 1.8 m3 x 333 Kg/m3 = 599.4 Kg which is less than the actual gross weight of 1,800 Kg. Therefore, the chargeable weight will be 1,800 Kg.
- 2. The shipment of one 400 Kg, 1.8 m3 pallet. 1.8 m3 x 333 Kg/m3 = 599.4 Kg which is more than the actual gross weight of 400 Kg. Therefore, the chargeable weight will be 599.4 Kg.

IMO goods and OWS for land transport

On average a 25% surcharge is added to the haulage price for dangerous or overweight goods for both FCL and LCL freight over and above the standard price due to the increased risk involved.

Customs clearance

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The charge for <u>customs clearance</u> may be quoted in various different ways: per commercial invoice, per container or per B/L depending on the complexity of the shipment i.e. the type of goods, whether they are for export or import, the number of tariff headings to be declared, whether certain services are required (customs inspections, procedures for medical or pharmaceutical consignments, goods have to be scanned, etc.).

Forwarders often group all or part of the origin and destination costs into a flat fee per container to make it easier for clients to calculate exactly how much it will cost to send their consignment.

Finally, this terminology used in this document is the most general terminology. EACH CARRIER uses their own terminology therefore you will find different names across the dataset. Don't hesitate to ask us.

5. MONTHLY DATA

As an example, here you have the date from TIBA SPAIN for the last 2 months regarding how many lines* that were to be added to the Rate Management System:

A line is a Service from port A to Port B with different characteristics

Carrier, Carrier Service (route), "Named account" (VIP clients), Commodity and prices.

Any change on these values will result on an additional line in the Rate Management System

As an example, same carrier can offer you different price for 3 different clients plus two commodities therefore we will have 6 lines.

1) General price + 3 for Named Accounts + 2 for commodities.

week	38	39	40	41	42	43	44	45
TOTAL	2337	9438	4147	4091	3968	3704	12418	4748
UPDATED LINES	613	3082	1202	922	539	1286	5335	2255
NEW SPOT LINES	167	178	317	199	79	141	138	133
LINES UPDATED BY 3RD PARTY	1557	6178	2628	2970	3350	2277	6945	2360





6. OUTPUT

Enclosed to the documentation you will find a "EXCEL TEMPLATE" of how all the information is stored.

This is an example therefore the columns could be modified is necessary.

7. DATA EXAMPLES

Enclosed to this document you will find PDF and Excel data that you could use to analyze the problem.

We are copying here two examples of email inputs.

EMAIL 1 example:

Customer: TIBA MEXICO SA DE CV

Dear Valued Customer,

Thank you for your interest in our services. We are pleased to offer you the following conditions.

When placing a booking or for any other exchanges with our organization regarding this quote, please mention reference number **NLXXXX-001**

Quote Line N°	100
Validity	01-Jan-2019 / 31-Mar-2019
Load Port	VALENCIA
Discharge Port	MX001**
Commodity	Ceramic flags and paving, hearth or wall tiles; ceramic mosa