Container terminals are living ecosystems built over complex and large infrastructures with a significant number of parties interacting in a coordinated way to offer highly complex logistic services under strict operational planning and tight cost controls.

Due to the port and shipping industry’s competitiveness, challenging requirements and demanding needs, port operations must be carried out in a very accurate manner to achieve high operational efficiency, while also ensuring safety. Port efficiency is typically characterised by maximising terminal cargo operations productivity rates and minimising holistic idle time during the end-to-end port call process.

Whilst maritime transport is playing a key role during the COVID-19 global pandemic, ensuring the non-stop delivery of basic products and health goods around the world, COVID-19 is also having a strong economic impact not only on port operations, but also on the entire maritime transport business.

For example, in Spain, 4.9 million tons less were moved in April 2020, representing a 10% fall; both conventional and container cargo has fallen by 10.9% and 4.6%, respectively. This has resulted in an overall decrease of 6.4% in cargo operations when comparing the same indicators during the same period in 2019. This according to a

THE NEW NORMAL

FOSTERING INNOVATION WHILE MAINTAINING PROFITABILITY AND SAFETY

Ángel Martínez Cavero, Product Manager, Prodevelop; Dr. Francisco de los Santos, Chief Information and Innovation Officer, Algeciras Port Authority; Jesús Medina Blanco, IT Business Relationship and Innovation Manager, Algeciras Port Authority
report by the Spanish Government and Puertos del Estado published in June 2020 which highlights that general interest ports moved 174.8 million tons during the first four months of the year.

While it is true that this worldwide health crisis is not affecting all nations in the same way, it is also true that global trade and the whole shipping industry is adapting actual operational processes, business rules and ICT tools to what is being dubbed by media the New Normal or the 1.5 meters economy. It is generally expected that social distancing and other prevention measures will remain for a long period of time. Much has been said about resilience, flexibility and efficiency of global supply chains. Therefore, one of the highest priorities of logistics providers, and Port Authorities in particular, is to try to adapt their local needs, processes and working conditions to the current climate and conditions which are undoubtedly different from pre-COVID conditions.

Algeciras Port Authority (APBA) is a good example of an entity which is continuously looking for innovative solutions which will enable nations to resume business and reopen their economies without assuming health risks, and carrying out their duties in the safest and most performing possible way.

YOU CANNOT MANAGE WHAT YOU CANNOT MEASURE

APBA, in collaboration with its technological partner Prodevelop, has been working on the development of a Port Collaborative Decision Making product (Posidonia PortCDM) that aims to optimize Port Calls through the promotion of a common understanding and data sharing among all parties involved to improve operational coordination and to make the maritime supply chain greener due to a reduction of fuel consumption and unnecessary waiting times.

According to the feedback provided by end-users, on one hand what they appreciate the most is the opportunity to be able to follow end-to-end how a Port Call is progressing, in real-time, to have situational awareness and be able to react as soon as possible in case of operational disruptions. On the other hand, accurate forecast of operational events (Estimated Time of Arrival/Cargo Completion/Departure, etc.) are needed to coordinate and optimize resources.

Besides that, Posidonia PortCDM was conceived bearing in mind the opportunity to put a situational awareness system, which could increase efficiency, reliability, confidence and safety while reducing costs, idle times, waste of resources and inefficiencies, at the disposal of all the ac...
tors involved in the operational process. Furthermore, this is also a good opportunity to create a culture of continuous improvement in the Port Community of Algeciras, led by its Port Authority, making an operational change that drives and returns measurable value possible.

Specifically, Posidonia PortCDM estimates the most important key performance indicators available during the different stages, which makes up the whole cycle of a Port Call (i.e. arrival at pilot boarding place, berthing process, cargo operations preparation, cargo operations execution, cargo operations closure process, etc.), and compares estimated and actual timeframes. Last but not least, a Port Call Process could not be improved or optimized if an agreement between all the different involved parties (shipping lines, ship agents, Port Authorities, terminals, pilots, linesmen, etc.) is not reached first.

One of the strengths of Posidonia PortCDM is that it has been elaborated taking advan-

### Events currently available in the Port of Algeciras automatically gathered by Posidonia PortCDM

<table>
<thead>
<tr>
<th>Acronym</th>
<th>PCO Acronym</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arrival Operations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APS</td>
<td>ATA PBP</td>
<td>Arrive at Pilot Boarding Place</td>
<td>Local time/date when vessel is at pilot boarding place with pilot arrangements in place</td>
</tr>
<tr>
<td>PBA</td>
<td>ATS pilot service</td>
<td>Pilot Onboard Arrival</td>
<td>Local time/date when pilot puts first foot on vessel at agreed location</td>
</tr>
<tr>
<td>FLA</td>
<td>ATA Berth</td>
<td>First line Ashore Secured</td>
<td>Local time/date when first line is secured around the bollard</td>
</tr>
<tr>
<td>AFA</td>
<td>ATC mooring service</td>
<td>All Fast</td>
<td>Local time/date when vessel alongside, last line secured and all lines fast</td>
</tr>
<tr>
<td><strong>Cargo Operations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FCL</td>
<td>ATS Cargo</td>
<td>First Container Lift</td>
<td>Local time/date when first productive container is engaged with spreader</td>
</tr>
<tr>
<td>LCL</td>
<td>ATC Cargo</td>
<td>Last Container Lift</td>
<td>Local time/date when last productive container is disengaged from spreader</td>
</tr>
<tr>
<td><strong>Departure Operations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTS</td>
<td>RTS pilot service</td>
<td>Ready to Sail</td>
<td>Local time/date when vessel is seaworthy and ready to receive pilot on board</td>
</tr>
<tr>
<td>PBD</td>
<td>ATS pilot service</td>
<td>Pilot on Board Departure</td>
<td>Local time/date when pilot puts first foot on vessel for departing</td>
</tr>
<tr>
<td>LLA</td>
<td>ATD Berth</td>
<td>Last Line Released</td>
<td>Local time/date when the last line is released off the bollard</td>
</tr>
<tr>
<td>POF</td>
<td>ATC pilot service</td>
<td>Pilot Disembarked</td>
<td>Local time/date when pilot disembarks from vessel and “pilot boat clear” is reported</td>
</tr>
</tbody>
</table>

(The names of the vessels have been digitally removed from the actual screenshots of the solution for data protection purposes)
A telecom -

IS IT BUSINESS

cloud-based and environmentally friendly -

actively working on the deployment of a

in collaboration with Prodevelop, has been

and avoid spread the virus.

distancing in order to protect ourselves

protection measures as citizens like social

ness. The New Normal demands us certain

features that were not so important in the

change in our scale of values and priori

wide crisis like COVID-19 produces a

Unfortunately, the appearance of world-

IF YOU CANNOT MEASURE IT, YOU CANNOT

IMPROVE IT (AND WHAT IS NOT IMPROVED IS ALWAYS DEAD)

Unfortunately, the appearance of world-

contract and International Maritime Organi-

zation resolutions, which apply to any Port

and Trade around the world dictated by the

International Taskforce Port Call Optimiza-

tion Group (PCO) where APBA has been an

active partner since the beginning. The de-

liverables, recommendations and outcomes

from the PCO are not an option in a global

port and maritime industry, but mandatory

in order to ensure the acceptance and un-

derstanding of high volumes of diverse data

coming from distributed and heterogeneous

sources of information.

solution which is already up and running

in the live environment. It enables the Port

Community to improve the management

of cargo operations through the optimiza-

tion of their operational processes with a

collaborative approach. Limit close contact

with others and staying away does not

mean remain isolated. In fact, it is impera-

tive to promote new initiatives like Posi-

donia PortCDM which will enable the staff

and parties to stay connected while keep-

ing them safe and protected, especially be-

cause working from home is not always an

option in the maritime sector. In the same

way that flattening the curve has required

us to work collaboratively as a society, it

is key in order to retaining customers and

generate new business opportunities in the

Port Industry to align criteria and work

towards a common global goal: the collab-

orative data sharing is essential and will im-

prove the operational excellence of Ports,

as well as the quality of the service(s) they

bring, while increasing the competitiveness

and reliability.

The partnership between the Algeciras

Port Authority and Prodevelop is a real ex-

ample that demonstrates how it is possible to

optimize and improve the overall per-

formance of the Port Community without

making a major investment in new and ex-

pensive infrastructure which is not always

affordable for all.

ABOUT THE ORGANIZATIONS

Prodevelop is a 25-year experience

company highly specialized in ICT solu-

tions for the maritime industry, which

prides itself on its ability to offer inno-

vative and flexible solutions, specially

designed to meet the requirements of

port authorities and terminals. It offers

comprehensive port information sys-

tem platforms and terminal optimiza-

tion through automation.

Algeciras Port Authority, located at the

Strait of Gibraltar, is the first Spanish

and fourth European port in terms of

total cargo. With more than 110,000

ships/year crossing the Strait of Gibral-

tar and 7,500 ha of deep and sheltered

waters, Algeciras is promoting a one-

stop-shop port concept for vessel ser-

vices (bunkering, repairs, ship supplies

and others).

ENQUIRIES

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ABOUT THE AUTHORS

Ángel Martínez Cavero is a telecom

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solid and innovative technological ICT

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ance, user experience and Rol of in-

dustrial partners.

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Jesús Medina Blanco is IT Business

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at Algeciras Port Authority. His duty is

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IT department and the rest of the Port

Authority’s departments. He oversees

aligning business engagement and

strategic demand management with IT

and innovation strategy.