

SmartPort: port information in your hand



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Ports opening up communication lines

In recent decades, ports have been going through a continuous transition of becoming more open to their communities. They have evolved from being civil works managers to service providers, and this transformation has led to more and more information being exchanged between the port and its environment. Thus, port authorities began to exchange information electronically with their partners, first using electronic data interchange (EDI), and later implementing port community systems (PCS).

With the development of the internet, ports also started to publish information on their websites, first static data and subsequently dynamic information,

creating a communication channel with its environment that is firmly consolidated. This opening up process has affected the interaction with ports' business partners, like ship agents, terminals, shipping lines etc. and also the relationship with its local community. A vast number of ports are located in the vicinity or heart of cities. This fact has meant that the opening up of the ports has needed to respond to pressure from citizens wanting to know about the port as a part of their home city. In this spirit, a lot of port-city integration projects have been developed all around the globe. Furthermore, the increasing number of cruises arriving with tourists eager to visit a city in just a few hours, who need to start and finish their stay in the port, has resulted in the need for both

an improved and faster communication exchange. Port authorities are seeing how citizens and tourists have become relevant stakeholders in the port's community. These significant stakeholders are not a passing trend, they are here to stay, and they provide port business with crucial revenue. Thus, sharing port information with community business partners, citizens and cruise passengers becomes a must.

Looking at the Port of Cartagena

The Port of Cartagena is located on the south-east coast of Spain. It had a cargo turnover of around 30 million tonnes in 2013 - the top Spanish port in handling bulk traffic. It has also a growing number of cruise passengers using its dedicated cruise terminal with 560 metres of quay, and ongoing works to widen land access.

The Port Authority of Cartagena decided some years ago to share information with its port community through its corporate website, giving open access to a wide range of content. The most visited section of the website provides the user with the current situation of the port regarding ships, berths and operations. It is based on a product of the suite Posidonia Port provided by Prodevelop, which is installed in the cloud, and integrated with the internal Port of Cartagena's port management system (PMS). The intention of the Port of Cartagena was to strengthen this information sharing and to offer a new means of connecting with port visitors (both local citizens and cruise passengers).

Information everywhere

The way that information is obtained has changed with the spread of smartphones with internet connection. The use of mobile devices for accessing information

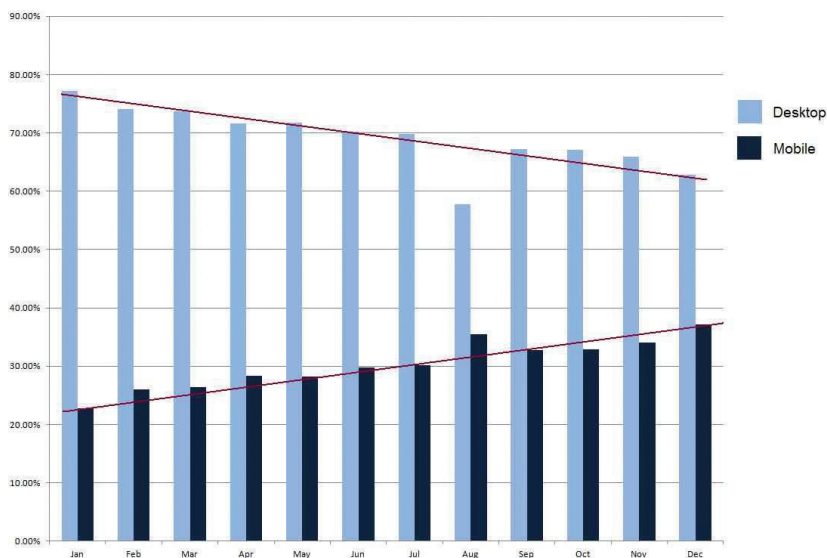


Figure 1: Desktop versus mobile and tablet traffic (January – December 2013). Source: Intelligent Positioning.

is growing at very high pace. The evolution of desktop versus mobile traffic trends during the last months shows that mobile traffic will overcome desktop during 2014.

Moreover, an explosion of mobile data traffic is expected in the coming years. Therefore, giving specific access to mobile users is not a recommended option anymore, it is a must.

The solution adopted by the Port of Cartagena

The convergence of sharing information to port's business partners, citizens and cruise passengers, with the universalisation of smartphones, and the changing traffic trends led the port authority of Cartagena to acquire Posidonia SmartPort, a product developed by Prodevelop consisting in an application (app) for accessing port information. With this decision, the Port of Cartagena now reinforces its relationship with the port community, consolidates the integration of the port within the city environment and boosts the positioning of the port within the cruise industry.

Posidonia SmartPort is an app that supports the most common mobile platforms (iOS, Android and Windows Phone). It is delivered through the most popular app marketplaces (Google Play, Apple's App Store etc.) and generates a very low impact on the port's IT infrastructure, as all the services the smartphones access are located in the

cloud, using Amazon Web Services.

The adoption of this product has allowed the Port of Cartagena to share instant information about vessel situation, movements, operations, traffic history and forecasts.

Apart from vessel and call information, the Port of Cartagena also offers access to its corporate news, integrated with its Twitter account, allowing the user to find out what is going on in the port without

needing RSS feeds or Twitter accounts. News information can also be shared using the usual mobile apps (Facebook, WhatsApp, Google+, email).

The application also offers weather data at the port, with current information and forecasts, and it can provide direct access to webcams located throughout the port, displaying real-time images.

Finally, the application includes a complete list of port facilities (docks,

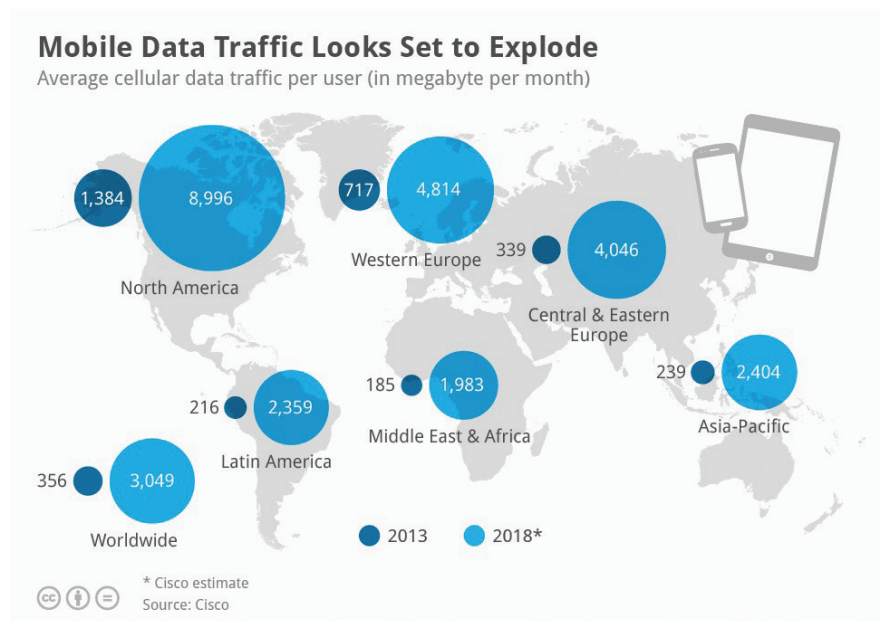


Figure 2: Mobile data traffic looks set to explode. Source: Cisco, via Statista.

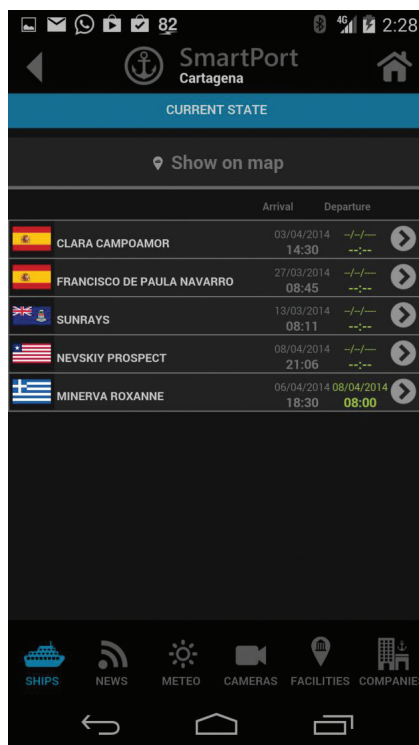


Figure 3: Example of current port situation on Posidonia SmartPort for the Port of Cartagena.

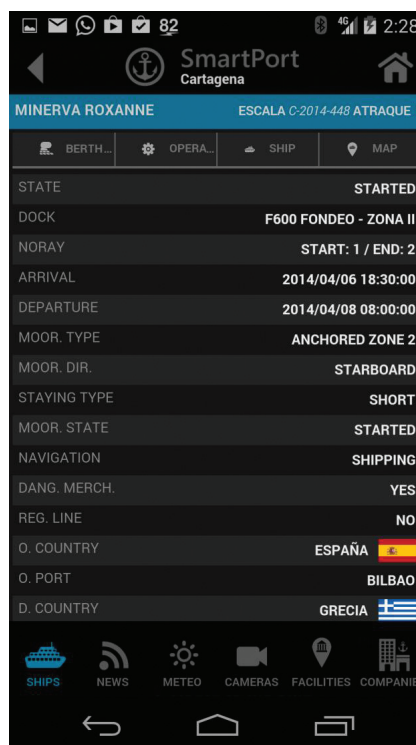


Figure 4: Access to twitter posts of Port of Cartagena from the app.

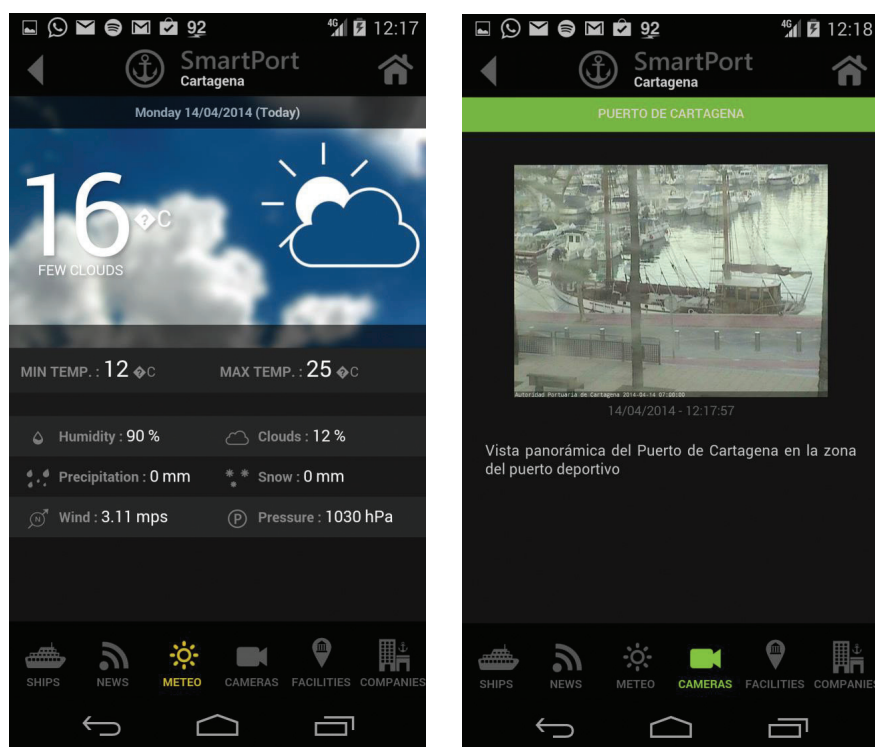


Figure 5: Weather information and webcam access in the Port of Cartagena.

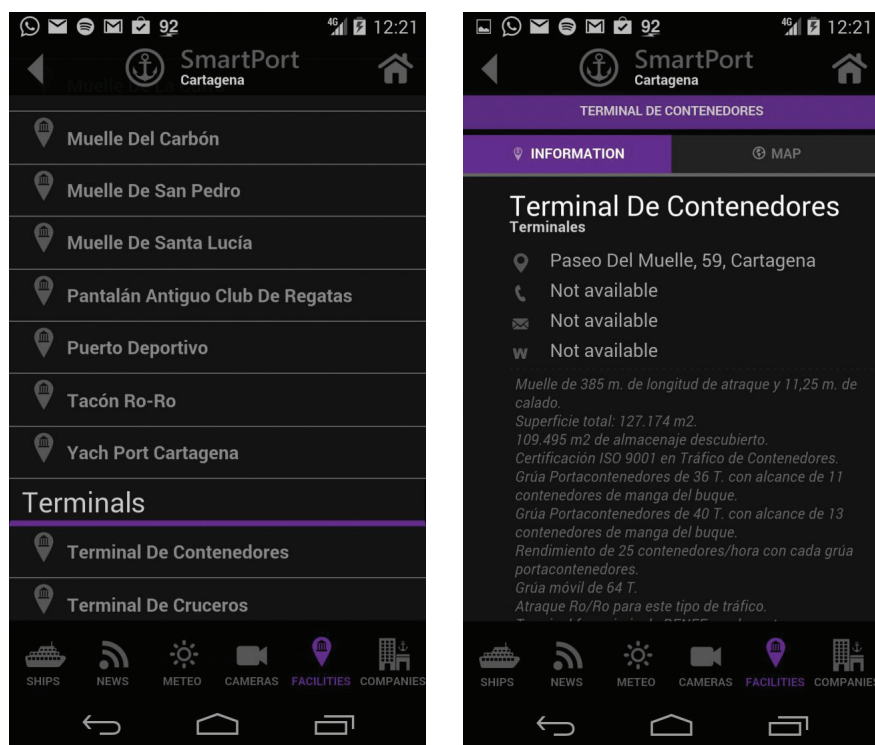


Figure 6: List of facilities available at the Port of Cartagena.

buildings, places of interest, terminals, public bodies, etc.) and a directory of all the companies working or offering services at the port (ship agents, freight forwarders, custom agents, stevedores).

Conclusion

The deployment of this solution has helped the Port of Cartagena to strengthen

its relationship with the port stakeholders, make the port known to Cartagena citizens, and offer a useful tool to the growing number of cruise passengers.

Posidonia SmartPort is a successful solution for the Port of Cartagena so far, but its full potential has yet to be realised given the evolution of smartphone usage for accessing information.

About the authors

Miguel Montesinos is a telecom engineer and has a master's in business administration. He is a partner and CTO at the Spanish IT firm, Prodevelop, where he has been responsible for IT projects in the maritime sector for more than 20 years. He is also responsible for research and development and applying technology to the company's products and projects in the sector.

Juan Antonio Sánchez has a master's in computer engineering as well as management port planning and intermodal transport. He is chief information officer (CIO) at the Port Authority of Cartagena. Since 1993 he has carried out projects related to the port community and internal management. His department currently coordinates the area of management control (business plans, dashboards and management indicators).

About the organisations



The Port Authority of Cartagena, located on the south-east coast of Spain in the Mediterranean, is the public body responsible for running and managing two state-owned ports, Cartagena and Escombreras. Cartagena is the top Spanish port in bulk cargo, fifth in total cargo in Spain and one of the most important industrial ports in the Mediterranean. Prodevelop is a company highly specialised in information and communications technology (ICT) application for the maritime industry, which prides itself on its ability to offer innovative and flexible solutions, specially designed to meet the requirements of each and every one of its clients. It offers comprehensive port information system platforms, which focus on meeting the needs of port authorities. The portfolio of Prodevelop covers: integrated port operation management systems; port community systems; safety and security; environmental management systems; space management; mobile workforce.

Enquiries

Website: www.smartport.prodevelop.es