

There's an app
for that.

What is the business case for mobile applications in mixed cargo ports?

Mobile apps are everywhere these days. The number of available apps in the Google Play store was placed at 2.6 million apps (as of December 2018), with an average of 6,140 mobile apps released every day (measured Q1 2018). In the Apple world, their App Store has over 2 million apps on show, with over 1,400 being added daily (measured Q1 2018).

For the maritime world there is a vast array of digital tools. For example, the Equasis database of ships and shipping companies, that takes feeds from 45 different data-providers from the public sector and the maritime industry. Or the Cargo Handbook—billed as the world's largest database on transportation of cargoes, which provides access to carriage guidelines for over 800 commodities.

More specifically there are apps like Hazcheck DGL—a reference tool for handling dangerous cargo at sea, with a database of International Maritime Dangerous Goods code information contained in the dangerous goods list. Then there are completely useless apps, such as Carr Matey, an app that can tell you where you parked your car—in a pirate voice.

The evidence that mobile apps will impact the ports industry positively is increasingly clear.

What does this mean for ports?

What does this rush to mobility mean for improving the operations of a port? Mobile computing devices have of course been in cargo ports for a long time, particularly in areas like entry gate kiosks or straddle carriers. However, these were typically proprietary, ruggedized devices that were extremely expensive and lacked flexibility.

The new era is one of commodity hardware like tablets or phones, and highly intelligent software that integrates with your terminal operating systems (TOS) or other systems, most often in the form of responsive web applications.

What kind of processes are being automated by these mobile applications? Examples include:

- Cargo-focused activities, such as categorizing and grading and monitoring damage.
- Yard logistics around checking vehicles through gates and optimizing loading and unloading.
- Reefer management and monitoring.
- Integrating operations with a rail service or other terminals.

Slow progress

Ports have been relatively slow to adopt these modern 'apps' for their operations, says consultant Thomas Vitsounis in an article published in Port Strategy¹.

"The ports sector traditionally isn't keen on being 'disrupted', and the relatively slow development of mobile apps seems to reflect that conservatism," wrote Vitsounis. "In general terms, the use of apps will change the industry and everyone knows that. When it comes to ports themselves, things have so far moved slowly.

"In most cases we won't see global port apps, but will more likely see terminal operators or ports developing their own applications which will have local use. Ports would do well to take a look at successful apps in other industries; often they can be adapted to solve a similar problem in the ports sector.

For the ports industry, it is very early days, which makes it very exciting. Everyone knows the major trends and where the big problems are. The technology is ready to go."

Why have ports been slow to adopt mobile tech? A sunk investment in expensive existing technology has been one barrier for some. The lack of a TOS to drive these apps is a problem for other ports, as deploying mobile applications makes little sense without a core information system. Also, the complexity of automating processes in the busy, often 24/7 operational environment of a port has traditionally been another challenge.



The evidence that mobile apps will impact the ports industry positively is increasingly clear. A broad study undertaken by Red Hat Mobile of US and European businesses², showed strong levels of positive return on investment (ROI) in mobility.

Of the 85% of companies surveyed that measured their mobile ROI, 74% identified a positive result. Manufacturers had the highest positive return on investing in mobility at 92%, but transport and distribution was a very solid 75%. The data suggests modern mobile apps will deliver significant value in most port operations.

Building the business case

How can you build a business case for mobility at your mixed cargo port? There are a number of benefits from extending your information systems to all parts of your port, that could justify an investment.

Data gathering: Accuracy of data collection is an obvious and immediate gain of mobile apps. Instead of recording data onto paper forms, to be re-keyed later into your TOS, mobile devices enable easy, accurate and immediate data capture. Ports can free up data entry time from this process to focus on more productive activities.

Productivity: Labor productivity is one of a port's key variable costs. Anything that improves the return on investing in people can be an immediate bottom line gain. Mobile apps not only free staff up from manual data entry, they can also be used to guide workers to operate in the most efficient way. For example, improving straddle or forklift driver productivity with an app that optimizes their route around the port, based on auto-planning intelligence.

Real-time decision making: More importantly this easy and instant data gathering can transform your decision-making processes. Instead of collecting data for historical review, your operational and management leaders can see trends in real-time and react. A vessel unloading going slower than it should? A bottleneck in truck access? Instead of reviewing this after the fact, it can be addressed right away.

This real-time view of data can really change the game for port management, as mobile data can be plugged into business intelligence type software to help spot trends and empower managers to respond.

Revenue maximization: In the tight game of port operations, every dollar gained on service revenue can make a significant difference. Many mixed cargo ports implement a TOS to help drive revenue maximization, enabling them to accurately capture and process key service charges that are on-charged to their customers.

Mobile apps can extend and amplify this revenue maximization. Discharging containers from a ship, washing a container, plugging a reefer in, monitoring a reefer unit multiple times daily and so on, are all commonly charged activities. Manual, paper-based processes in the field tracking these kinds of charges are prone to inaccuracy and therefore leakage of potential revenue.

Customer experience: Benefits from mobility accrue directly to the port's operations, but can also positively impact on the port customer's experience. Increased productivity contributes to faster throughput of goods, enabling customers to better meet the demands of their markets. The visibility of real-time data, e.g. cargo status/cargo movement, can enhance the customer's experience with your port.

Future proofing

Implementing a mobile strategy also positions a port to take advantage of new technology developments. For example, the rapid growth of 'internet-of-things' technology, where all kinds of devices (computers, GPS locators, temperature sensors etc) can be linked online to help manage port operations and service customers better.

'Big data', the use of software tools to gain insights from large data sets, is the other major trend which promises to deliver value to ports. By gathering data electronically and in real-time with mobile solutions, ports put themselves in the position of being able to leverage these technologies.

Technology strategy considerations

If a business case for mobility exists in your port, what are some of the considerations you need to make before selecting a technology solution? The obvious one is choosing software that is easy for the user no matter their technical capability, and can operate on all major operating systems, enabling you to use commodity-priced hardware devices like smartphones or tablets.

It's critical that mobile apps have real-time integration to your TOS. Not having this seriously diminishes the value proposition of mobility.

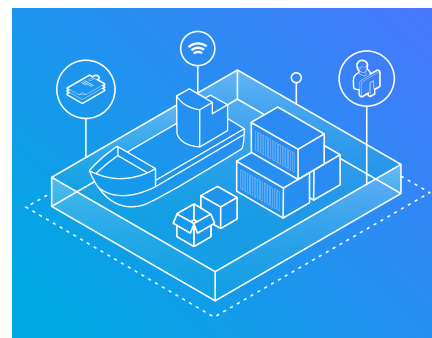
Deployment options include purchasing existing mobile apps for ports and integrating them with your TOS, or engaging a mobile software vendor to develop custom-made apps that connect with your TOS. Selecting a TOS vendor that offers mobile apps as an integrated part of their solution is the third option. Each option has their risks and benefits, but the latter is typically the lower risk path for ports.

For mixed-cargo ports particularly, you also need to be cognizant of ensuring any mobile apps can handle the complexities of both container and break-bulk cargo.

There is an app for that

Mobile apps are proliferating in every conceivable, and some inconceivable, aspect of our lives. The challenge for ports is determining how to best apply these modern mobile tools to increase efficiency, lower cost and open up revenue opportunities, without disrupting the complex and high-pressure task of keeping a working port operating.

If only there was an app for that.



About Master Terminal from Jade Logistics Group

Designed to handle all cargo types in one integrated system, Master Terminal is the world's leading terminal operating system (TOS) for mixed cargo ports.

Master Terminal is licensed at over 120 terminals worldwide, from vehicle terminals in Italy to steel terminals in North America.

Implementation is the key to success, and our implementation record is second to none in the industry. Our proven and robust methodology, partnership approach, thorough training and unrivaled implementation timeframes deliver tangible results fast.

Jade Logistics has been designing, building, and supporting innovative logistics software since 1993. Our experienced people understand the global logistics industry and are the foundation on which we build long-term relationships with our customers.

We have offices in New Zealand, Australia, USA, the Netherlands, the United Arab Emirates, and Indonesia.

*For more information, visit us at **[jadelogistics.com](https://www.jadelogistics.com)***

¹ Vitsounis, T. (2016). Portstrategy.com. Retrieved 11 October, 2017, from <https://www.portstrategy.com/news101/port-operations/planning-and-design/apps-ahead>

² Bourne, V. (2016). Redhat.com. Retrieved 11 October, 2017, from <https://www.redhat.com/en/about/press-releases/red-hat-survey-mobile-investments-are-paying>