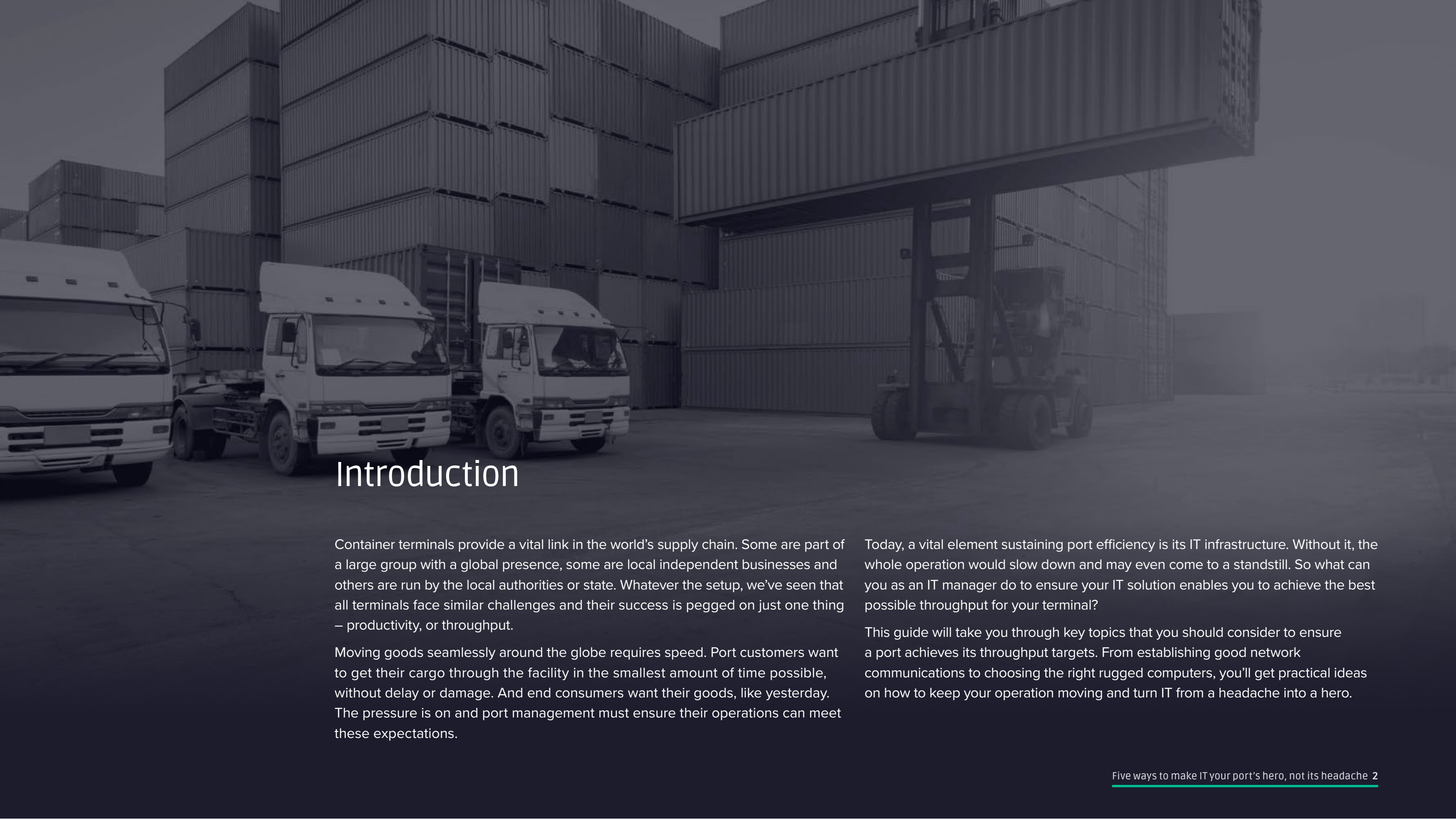




GUIDE

Five ways to make IT your port's hero not its headache

This guide takes you through five key topics that you should consider to ensure a port achieves its throughput targets, and you'll get practical ideas on how to turn IT from a headache into a hero.



Introduction

Container terminals provide a vital link in the world's supply chain. Some are part of a large group with a global presence, some are local independent businesses and others are run by the local authorities or state. Whatever the setup, we've seen that all terminals face similar challenges and their success is pegged on just one thing – productivity, or throughput.

Moving goods seamlessly around the globe requires speed. Port customers want to get their cargo through the facility in the smallest amount of time possible, without delay or damage. And end consumers want their goods, like yesterday. The pressure is on and port management must ensure their operations can meet these expectations.

Today, a vital element sustaining port efficiency is its IT infrastructure. Without it, the whole operation would slow down and may even come to a standstill. So what can you as an IT manager do to ensure your IT solution enables you to achieve the best possible throughput for your terminal?

This guide will take you through key topics that you should consider to ensure a port achieves its throughput targets. From establishing good network communications to choosing the right rugged computers, you'll get practical ideas on how to keep your operation moving and turn IT from a headache into a hero.



Five IT challenges facing container terminals

In this guide we look at five areas that challenge a port's throughput. Although we focus on rugged computers, much of the advice is relevant to other related aspects of IT too.

1 The wrong hardware

Ports work 24/7 so you need devices that can keep up with the pace. Sub-standard or not fit for purpose rugged computers won't support your operation. In fact, they'll slow things down, break or malfunction, leading to downtime and missed throughput targets.

2 A bad supplier

Buying IT hardware or solutions often has a large price tag, so you want to make sure you get a good return on your investment. A bad supplier can mean inferior goods and slow or no support when you need to fix them.

3 Poor network communication

Container terminals need a constant flow of information from container handling equipment to back-end systems to keep moving. Problems with signal coverage, network equipment and devices can cause hold ups or even stoppages.

4 Disengaged employees

A disengaged and unmotivated workforce has a negative effect on a port's ability to meet its throughput targets. And one unhappy employee can soon spread unease among colleagues.

5 An out-of-date container terminal

Taking a short-term view on IT investments can lead to your port ending up with tools or services that quickly become obsolete and your operation getting left behind by the competition.



Key actions for finding the right hardware

Before making a final decision, try before you buy. A rugged computer that looks good on paper may perform totally differently when it's put to the test in real conditions.

1 The foundation for facilitating good throughput with your rugged computers is good IT hardware. Out of date, low quality or not fit for purpose devices can interrupt operations, cause downtime and slow down productivity. What you need are reliable computers.

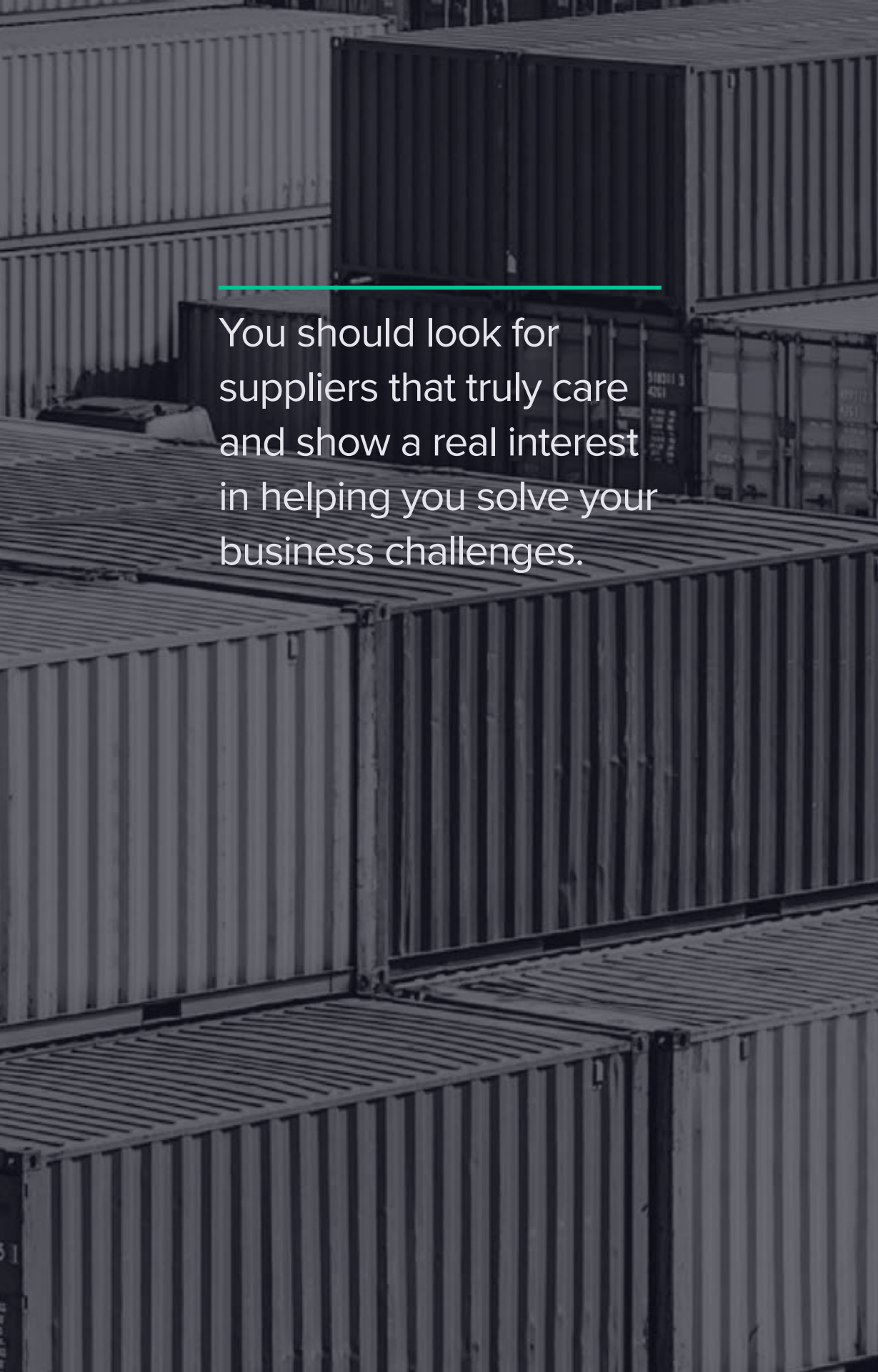
As a general rule, buy the best equipment you can. Look beyond the price tag, which can account for just 30% of the total cost of ownership once you factor in things like servicing, warranties and premature replacement costs. Taking this view can suddenly make a device with a higher price tag seem much more attractive.

Also scan the market to see what's available and take time to draw up a specification that matches your needs, not just today but tomorrow too. Think about your IT roadmap and what's coming up. For example, maybe you're going to update your terminal operating system (TOS) next year and you need to make sure what you buy now is compatible.

And even if you're not planning on updating your TOS you should still make sure it works seamlessly with your hardware. Also, some TOS providers validate hardware as ready for integration into a terminal or shipping port. Verify any hardware you are considering has been tested and is validated for your TOS.

Before making a final decision, try before you buy. A rugged computer that looks good on paper may perform totally differently when it's put to the test in real conditions. Use the devices for several days and don't forget to involve the users. They will be able to tell you if something is fit for purpose. If you are about to select and buy new rugged hardware, we have another guide for you: [How to choose and buy the right rugged hardware for your business.](#)

As well as having the right hardware, it's important to be prepared for breakdowns. Have a supply of swap out units ready to go and set up remote maintenance on devices; this way you can minimize downtime.

A background image showing a stack of grey and white shipping containers, with the text overlaid on the left side.

You should look for suppliers that truly care and show a real interest in helping you solve your business challenges.

Key actions for finding the right supplier

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Alongside purchasing the right equipment, you need to find the right supplier. Many manufacturers or service suppliers are just out for the sale and once you've settled the invoice, they disappear into the sunset and you're left high and dry. The right supplier, on the other hand, will become a partner to you and your business.

Because purchasing new IT, especially rugged computers, is such a major investment you should look for suppliers that truly care and show a real interest in helping you solve your business challenges. It's even better if they've previously worked with the port sector. Then they can share their insight and experience with you, and you'll get an even better solution.

Also look for companies that offer more than just a good product. Decent suppliers of rugged computers should offer a solid guarantee and extended service contracts too. These can protect you in the future, vital in case things go wrong.

Suppliers that are invested in helping you and can offer more than just cheap computers tend to be more financially sound. This means you can be sure that they will still be around in years to come. An important factor if something breaks and you need spare parts or support later down the line. Watch the video with Eric Miller, CEO, JLT Mobile Computers, Inc. for more tips on [how to find the right partner and solutions provider](#).

Key actions for securing stable network communication

3 Container terminals rely on good network communication for vital data transmissions between port vehicles and back-end systems. And if your port has problems in this area, you need to look at more than just the network itself.

For terminals using WiFi the first action should be to check access points (APs). Make sure you have enough of them and that they are positioned in a way that offers coverage over the entire area where the container handling equipment operates. You might also want to consider antennas to help direct the signal down narrow passageways.

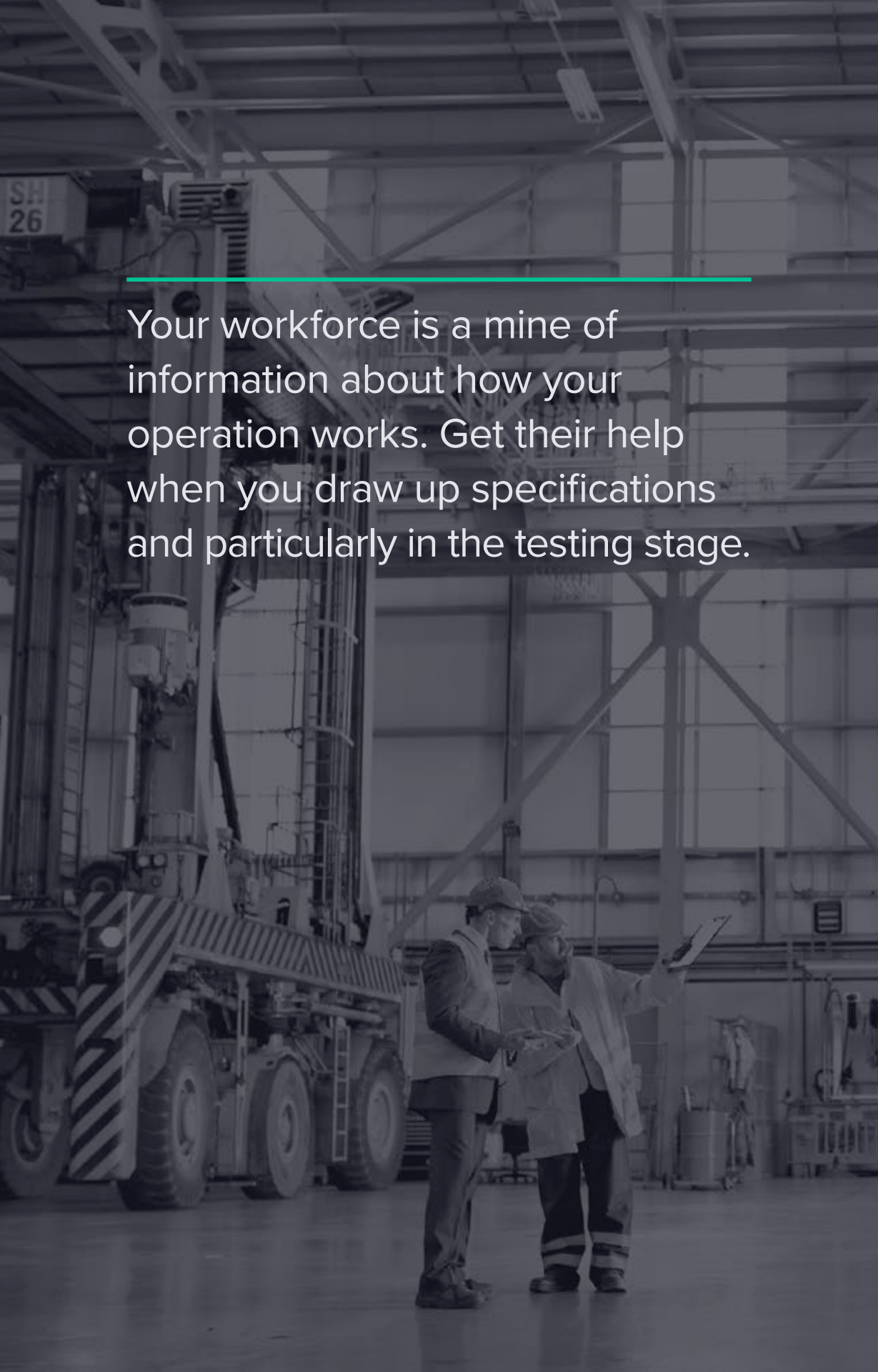
Compatibility can also be an issue. Over time, network infrastructure and the devices that connect to it get updated at random, so it's easy to end up having problems with performance. Always check specifications to make sure devices can connect to your chosen network technology and vice versa.

Talking about devices – you should also make sure that they support both 2.4 and 5 GHz bands to get the best signal reception.

Having a backup plan, or failover route, can help overcome, though not address, network communication problems too. For container terminals running WiFi, the failover route is 4G, and for those using 4G already, consider a second 4G modem.

A multi-window network survey can help. It will give you an idea of the coverage, saturation and noise. However, it won't tell you about any traffic issues, so you also need to look at the logs, APs, switches, devices and any other network equipment to get the full picture.

Container terminals rely on good network communication for vital data transmissions between port vehicles and back-end systems. If you have connectivity problems, you need to look at more than just the network itself.



Your workforce is a mine of information about how your operation works. Get their help when you draw up specifications and particularly in the testing stage.

Key actions for engaging and motivating employees

4

Your port's workforce is vital in ensuring throughput targets are met. Engaged and motivated workers have a vested interest in getting the job done. Disengaged, clock-watching ones just want to finish their shift.

Making sure your workforce has got the right tools, i.e. the right rugged computers, to do their job promotes engagement. They want reliable devices that work, are intuitive to use and maintain a stable network connection.

Another element of keeping your workforce happy is comfort. Many employees at a port spend their days sitting in cramped cabins so good ergonomics is important. Make sure the viewing angle and the position of the computer can be adjusted as well as checking it's got the right size screen for the space.

If you have team leaders or other members of staff out on the port yard, they may be using handhelds. If so, you need to think about the size, weight, screen visibility and battery life. You may also want to consider providing them with a harness, so they don't have to carry the device for their entire shift.

Another way to boost your workforce's motivation is to involve them. After all, they are a mine of information about how your operation works. Get their help when you draw up specifications and particularly in the testing stage. This level of involvement can also reduce resistance to change.

Key actions for future proofing a port

5

Not that long ago, ports used printouts of tasks, an access database and radios to keep operations moving. A real analogue set up. Fast forward to today and it's all gone digital with rugged computers, a TOS and a network.

This change has already facilitated higher throughput and ports are more efficient than ever before. But there are processes on site that take time and are ripe for improvement. These are long-term projects though. Projects that demand a lot of planning and a lot of investment.

An example of this is gate automation. When a truck arrives at a port it can take up to 12 minutes to carry out all document handling and checks if done manually. Automating the process can cut that time to just one minute. That's a massive saving, especially when you think about the hundreds or even thousands of trucks that arrive each day.

But automating a gate is not an overnight fix. You need to think about driving lanes and signage. You may even need to work with the local authority to change road layouts or install OCR (Optical Character Recognition) readers on the approach. You need to think about the ergonomics of the gate kiosk and design an intuitive user interface. And then you need to put it all in place.

It's a big undertaking, but it will deliver huge time savings. Taking 100 trucks as an example, with manual gates it will take 20 hours to do all the checks. With automated gates it would take 1 hour, 40 minutes. That's an enormous difference.

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Five ways to transform your IT into a hero instead of a headache

In a port, IT should help you achieve your throughput ambitions. However, this is not always the case and many ports find their rugged computers cause more headaches than anything else.

Here are five ways to kick start your IT into becoming a hero and boosting productivity today:

1 Work with quality suppliers

Finding good suppliers can take time, but it's worth it. When you find the right one, you not only get a great solution for your business and a solid return on your investment, but you also gain a partner who will help you solve your productivity challenges.

2 Select reliable hardware

When you rely on rugged computers in your port vehicles you need to know that they will be up to the job. Always buy reliable hardware that you can depend on and a top-class service contract in case of breakdown.

3 Invest in your network

Check the positioning of APs and antennas, make sure network and devices are compatible and install a failover route to achieve optimal network communication. This way you'll keep data and your port moving.

4 Involve your workforce

It's no secret that your employees can make or break your throughput levels. It's also no secret that they know a lot about your operation. Get them involved in IT purchases, search out their opinions and to motivate and engage, ask them to test.

5 Consider automating paper processes

Technology moves fast, and new solutions are launched each week. Take a long-term view to solving throughput issues and consider automating your gates. You could cut truck check-in time down from 12 minutes to one.



JLT – 25 years of making data communications work

Our story starts in 1994. The Internet was new. Industrial computers were basic and 3G was still a dream. Over the following decades, JLT pioneered the rugged computing market. By taking design and quality to new levels, we brought the possibilities of computing to industries where a typical office machine might last just minutes. We think every business should be able to utilize the power of communication technology without restrictions – anytime, anywhere.

Today we are one of the leading companies in the rugged computer market and have shipped over 100,000 units worldwide. Our mission remains the same as ever: we're here to empower customers' business by enabling hassle-free data communication in challenging environments.

Ports have been an important focus for JLT since the start, and we have gained a deep understanding of the unique requirements of operations in this challenging sector. When there's no margin for error, you need computers you can depend on without question. We collaborate with leading Terminal Operating System providers to ensure that our rugged computers and tablets meet or exceed the reliability and performance requirements in ports.

Explore our solutions

www.jltmobile.com/products-services

Talk to an expert

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