

An aerial photograph of a port area, showing a vast expanse of shipping containers stacked in neat, colorful rows. The containers are in various colors including yellow, red, blue, and green. The perspective is from directly above, looking down on the containers. The word "DATA" is written in large, white, sans-serif capital letters, and the word "PORT" is written in large, yellow, sans-serif capital letters below it.

# DATA PORT

The “Internet of Things” has long been a daily reality for logistics giant DP World. Chief Information Officer **YOUSIF ALMUTAWA** tells Brunswick’s **HASSAN FATTAH** how the power of data transforms his business

A view from above hints at the complexity of data handling for the world’s 17 million-plus shipping containers. This image is one in a series, *Aerial Views*, by German photographer Bernhard Lang [www.bernhardlang.de](http://www.bernhardlang.de)



Executives at DP World chuckle at the use of buzzwords such as “Big Data,” the “Internet of Things” and “The Cloud.” As the world’s fourth-largest ports operator, DP World got there long before most companies began hoovering data from their customers and operations.

On the docks run by this Dubai success story, Big Data is a way of life, guiding everything from workmen who oversee the ships to robots that run the intricate stacking and arrangement of shipping containers.

DP World manages more than 65 marine terminals across six continents, including the port of Jebel Ali, the largest between Asia and Rotterdam. Founded in 1972 as an ambitious effort to attract shippers to Dubai, DP World quickly became a global juggernaut with operations from Australia to England and all points in between. DP World aims to have the capacity for 100 million “20-foot equivalent units,” or TEUs, of containers carrying goods through its yards by 2020 – depending on market demand – making it a central cog in the wheels of the world economy.

At the heart of its growth is the ability to control, measure and improve movement and placement of every box, crane and truck. For example, when each 10,000 TEU-sized vessel docks, it may unload and then load some 2,000 boxes. Sensors monitor the operation through a staggering total of 246,000 steps, letting operators manage and optimize traffic at every point. Some of the sensors supply continuous data, others only at stages. Inventories of the steel containers are tracked, together with repeated checks for damage, placement within available spaces on the ships, efficient pooling and travel time for trucks on shore, and a host of other variables. Intelligently parsing that data can shave seconds – and costs – from each operation. Even minor changes are measured for impact. And still, all that vessel-handling activity represents only about a third of the data collected and analyzed from DP World’s total operations.

In addition, since DP World’s principal port-managing operations strongly benefit from emerging technology, the company is seeding its own future by running an incubator for startup tech companies. This investment branches out into areas seemingly far removed from port concerns, such as retail, 3-D printing, educational robotics and virtual reality interfaces.

In the following interview, Yousif Almutawa, Chief Information Officer at DP World, explains how the company has used Big Data to grow its operations, bringing clients ever deeper into its business while maintaining its role as the world’s most cutting-edge ports operator. Being prepared for the future, →

Almutawa says, means not just having the right tools, but learning to ask the right questions.



### What does Big Data mean to you and your business?

There has always been a lot of data to deal with and questions about how to leverage that data. And the flood of information will continue to grow. The real challenge is not even the technical part anymore; it's not about how to get data, it's about what you have to ask – what are you trying to find out?

You have your benchmarks – you know your market, your competitors and your customers. But to move forward, to grow, innovate and transform yourself for the future, you have to know the right questions to ask that will get you there. I basically know what I need to ask today. It's what I need to ask tomorrow that I'm worried about. The questions change every week and every day. You have to do more homework, be more pragmatic and look at the streams of data coming in from so many sources to see what it's telling you and what it's not telling you.

Answers are out there for any question – the issue is, what is the question to be asking? That is the real challenge of Big Data.

### How do you harness all this data?

We developed a system in-house that analyzes and integrates with all the others in our ports around the world and presents dashboards linking into our key performance indicators, and the performance indicators and agreements of the shipping lines and our customers. That visibility gives us a lot of insight into areas that in the past were simply taken for granted.

### What else does Big Data offer?

It allows you to reach people who are part of the trade who are not necessarily your customers – manufacturers, the retailers, the banks, insurance companies. Once you have the data, it ultimately opens up revenue streams you may never have known were possible before.

### Give an example of how Big Data works for you?

Just by measuring waste, we were able to save more than \$50 million on activities that previously we were not even aware were a waste. Using data, we were able to calculate the most efficient way to complete a job – rather than rely on previous best practice. As a result we were able to save tens of millions in costs.

You can see it from the performance of Jebel Ali, for example, not just in terms of rising volumes, but also in terms of bottom-line performance. That was all about reducing waste. For example, we were able to make big savings by identifying heavily

### YOUSIF ALMUTAWA

Yousif Almutawa is the Chief Information Officer of DP World, responsible for information systems and technology. Previously Vice President of *du*, the UAE telecommunications service, he holds a degree in electronic engineering.

### DP WORLD

The fourth-largest port operator in the world with 65 terminals in 31 countries on six continents, DP World serves 66,000 ships each year. The company handles 150,000 containers daily and it estimates its annual container capacity could hold nearly 6 billion washing machines. The company is based in Dubai, United Arab Emirates, where its flagship port, Jebel Ali, is located. [web.dpworld.com](http://web.dpworld.com)

used equipment that had low productivity yield. We then reconfigured the operational process allowing for higher productivity, better efficiency and smarter use of our resources.

### How do you measure efficiency?

For us, things go beyond improvements benchmarked against our past. We try to understand our customers better, their points of pain and the solutions expected from us as an operator, as well as our customers' strategies for improving their own efficiency. So it's not just about efficiency within our ports, but also how we can leverage all the data we hold to help our customers.

### What are your interests beyond your core business?

We are doing things that people may not see as directly related to our ports, such as our engagement and active support of the startup ecosystem. Take Turn8, our startup seed accelerator. The ideas and teams that we invest in may have nothing to do with ports – in fact, many are not related to our ports at all. But we pursue these investments because this innovation will have an indirect impact on ports and on global trade itself. We see ourselves as a global trade player, a small piece of the global trade chain.

Or take 3-D printing, another example. It's a potential threat to many businesses, including our industry, but we want to embrace it as an opportunity. And we have to start thinking right now, how will this impact our business model?

### What does the future look like?

We have a lot of ports, some small and in developing markets, and some – like Jebel Ali – which are very sophisticated and modern. We pick various new technologies and try working with them in different ports and choose ports that have the ability to use them.

In the future, there will basically be no people on the dock. It will mainly be robots and automated cranes, guided vehicles and a terminal operating system that will be the brains behind everything. It will be safer, because you won't have humans moving around and it will be more accurate. But you don't necessarily get higher productivity just because you have new technology. We use technology and add automation, but incrementally and pragmatically, to make sure that we get the best out of it.

**HASSAN M. FATTAH** is a Partner in Brunswick's Abu Dhabi office and advises on public affairs and the diversification economy, away from oil, in the Gulf region. Formerly a journalist, he helped found and led *The National* newspaper in Abu Dhabi.