



## The Internet of Things - an introduction

THE INTERNET OF THINGS – NOT ONLY DOES IT SOUND AMAZING, BUT IT PROMISES BIG CHANGES IN THE WAY THAT PEOPLE LIVE AND WORK. BUT WHAT DOES IT MEAN FOR LOGISTICS AND WHERE DOES THE INDUSTRY GO FROM HERE?

SPECIFICALLY, THE INTERNET OF THINGS (IOT) PROVIDES THE MEANS TO DELIVER EFFICIENCIES FROM EXISTING OPERATIONS AS WELL AS NEW LOGISTICAL SERVICES AND CAPABILITIES ON THE BACK OF EXISTING OPERATIONS.

NUMEROUS TREND REPORTS THIS YEAR ARE HIGHLIGHTING THE HUGE POTENTIAL OF IOT IN TRANSFORMING THE FORTUNES OF LOGISTICS COMPANIES. THE REPORTS INDICATE THAT INTERCONNECTING THE LOGISTICS NETWORK COULD PROVIDE ENDLESS OPPORTUNITIES FOR NEW, SMARTER APPLICATIONS, PERHAPS DELIVERING UP TO \$1.9 TRILLION OF REVENUE TO BOOST SUPPLY CHAIN AND LOGISTICS OPERATIONS.

HOWEVER, WHILE INDIVIDUAL REPORTS FOCUS ON SPECIFIC AREAS OF NEW CAPABILITY, PRIME VISION IS LOOKING AT THE BIGGER PICTURE IN ITS ROLE AS AN INNOVATION PARTNER AND CO-ENTREPRENEUR WITH MANY GLOBAL SUPPLY-CHAIN AND LOGISTICS COMPANIES. THE FACT IS, THERE IS NO LIMIT TO THE IMPACT THAT AN IOT STRATEGY COULD HAVE ACROSS THE BUSINESS, FROM DOORSTEP TO DOORSTEP, THROUGH OPERATIONS, TO NEW SERVICE DEVELOPMENT.

### INTRODUCTION

There are numerous pain points for today's logistics companies, not least profitability, cost management, customer satisfaction and flexibility. The real problem, however, is that logistics operators are often geared to defined processes and predictable flows of goods. Whilst the logistics and supply-chain sector is overtly innovative and forward thinking, this has led to fixed, routine work practices, equipment, products and capability. As a consequence, the ability to respond to a rapidly evolving market is hampered by an inflexible processing environment.

This also applies to large numbers of transport vehicles that follow fixed timings and routes. Many logistics



companies have a transport network where trucks leave and arrive at the same places, following the same routes daily regardless of volumes and in the absence of an understanding of network demand.

To help overcome such issues, logistics companies need to instill greater levels of flexibility into their business models, a move that will provide a multitude of benefits in areas that include capacity planning, working practices and transportation.

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## A BEST-FIT IOPT STRATEGY

This is where an effective IoT strategy can pay real dividends. Most logistics companies collect a large amount of data from their day-to-day operations, which is used typically to report what happened in the past. However, knowing what happened yesterday does not prepare a logistics service for what happens today, tomorrow or next week. What's needed is real time processing of big data to predict what will happen in the coming hours. Such data can be used to match capacity to demand, and have the right resources in place to deal with that demand at the lowest possible cost.

Without doubt, the IoT is relevant to every logistics company, regardless of their current level of automation and technology in their processes. Furthermore, it can be applied to all parts of the business to improve operating efficiency and service provision, while allowing a given logistics company to exploit new business models and provide new smarter features to an increasingly demanding client base.

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## DATA IN - INTELLIGENCE OUT

At present, there essentially exists a perfect storm of need versus capability. With regard to capability, integral to an IoT strategy would be integrating data generators, such as microchips or sensors, into processes and physical points across the supply-chain. Combined with ubiquitous access to data networks, these would gather live data from across the operating area.

In terms of operational efficiency and performance, the familiar adage 'knowledge is power' remains true, namely the power to make informed decisions based on current (or predicted) circumstances. Unfortunately, essential assets in current logistics infrastructures are pretty much living in a data black hole, in that their whereabouts at any specific moment in time may not necessarily be known, nor their status or serviceability.

However, with sensors employed across infrastructure in an IoT strategy, all assets have the potential to become 'smart' assets, which in turn delivers the power to make decisions in a timely (even predictive) manner.

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## THE REAL WIN:WIN

And yet there's far more on offer from IoT than business-specific benefits. By utilizing a dense mobile and fixed physical network to collect data, a logistics company will amass a wealth of intelligence that isn't just valuable from an operational standpoint, but attractive to other businesses too. Logistics companies are in a unique position: they are present in every inhabited part of their market, almost every day of the year. Very few businesses can match that.

For instance, there is potential for drivers to collect all manner of data while they are out and about



doing their regular job, and combine that with data collected by fixed infrastructure such as buildings across the supply-chain. For example, information could be gathered on air quality or noise levels, while infrastructure status reports could be generated for municipalities and utilities. It would even be possible to collect data about traffic hot-spots or roadworks. Remember, this is in addition to information that is of direct benefit to the logistics company. In essence, all real-time data can become a lucrative service to others. The IoT allows companies to think outside the box and introduce new products to complement their core activities.

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## NOT AS COSTLY, AS YOU MAY THINK

Of course, a common misconception is that implementing an IoT strategy is expensive. In reality, however, nothing could be further from the truth. Recent years have seen the market witness a marked reduction in the cost of sensor and mobile data collection technology, enabling the economic transformation of passive assets into smart ones. The availability of cloud-based storage is also far cheaper than when it first arrived.

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## TIME TO ACT IS NOW

So, what of the market need? Well, all players in the industry are presently facing unprecedented challenges to improve operating margin as well as differentiate their offering from increasingly smart and flexible competitors. Growth areas such as the boom in cross-border commerce, strategic staging warehousing located next to demand centers and increasing volumes of B2C and B2B traffic back towards Asia are presenting new opportunities, but along with them arrive challenges in keeping up with client expectations for lead-times, options and a higher percentage of returns. With this in mind, it's clear that all logistics firms should go for smarter, value-added services in order to survive.

Overcoming such challenges will undoubtedly reap significant rewards. For instance, in a recent report published by DHL & Cisco at the DHL Global Technology Conference, which estimates that "IoT will deliver a \$1.9 trillion boost to supply chain and logistics operations," along with "game-changing consequences from creating more 'last mile' delivery options for customers, to more efficient operations and freight transportation".

In terms of specific advantages for the logistics market, there is potential to offer deeper level track-and-trace capability, along with new services, such as live re-direct, and live collection/returns based on the current and predicted location of mailmen and vehicles, potentially even using autonomous robots and drones in the handling process. The possibilities are almost endless.

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## ■ ACT NOW!

To learn about the available solutions and how to best implement an effective and class-leading IoT strategy, please download part two of this white paper by clicking [here](#).