

# Converging technologies unlocking greater efficiencies for logistics operators

 By [Martin Vergunst](#)

9 Nov 2015

The convergence of technologies such as Cloud computing, mobility, Big Data and the Internet of Things (IoT) are creating unprecedented opportunities for logistics operators to better manage their assets and vehicle traffic. For shipping ports, airports, warehouse dispatch centres, production sites, and fleet company yards, there are scores of benefits for adopting what we refer to as SmartHub Logistics (SHL). All of these environments have similar constraints: limited opportunity for expansion, growing volumes of cargo and traffic, high costs associated with downtime, and the constant drive to 'do more with less'.



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An intelligent SHL platform integrates information from various different logistical functions within the yard and combines that data with external insights like local weather patterns or traffic congestion information. This provides operations managers with real-time information to help them allocate resources and create schedules in the most optimal way. A shipping port, for example, could consolidate real-time information from truck drivers, hauliers, parking space operators, port road management and vessel tracking systems. This data could be used to schedule and stagger the flow of trucks entering the port, off-loading or on-loading containers, and exiting the port.

## Right place, right time

The result? Fewer traffic jams, fewer 'empty runs', and shorter waiting times. In one of the world's best examples of SHL, Germany's Hamburg Port manages throughput of an astonishing 40,000 trucks and a quarter of a million shipping containers each day. Or - as another example - an airport could coordinate the arrivals schedule with the logistics of baggage handling services, refuelling, and disembarking equipment. We use the adage of making sure things are 'at the right place at the right time', to describe the coordination of these various logistical elements. Essentially, SHL platforms draw on the momentous leaps in three fields of technology:

- Mobility - geofencing, geolocation, telematics and mobile apps.
- Cloud computing - hosted information services, instantly made available to users wherever they may be.
- Big Data - advanced analytics software which transforms data into actionable insights.

## Visibility across the chain

Using geofenced 'zones', and interactive mobile apps on smart devices, the users 'on-the-ground' (such as a truck driver) can submit information about where they are, and when they expect to arrive at a destination; as well as receive instructions from operations managers. Therefore, an operations manager could instantly divert trucks to a different route when the SHL platform indicates an accident or a traffic jam is delaying the flow of vehicles.

By knowing where every vehicle and asset is, at any given time, managers have the ability to target their messages to the right individuals. In fact, SHL platforms give logistics hub managers visibility over an entire value-chain (seeing all the inter-related components and players), allowing them to provision resources according to current demands. Other role-players like fleet managers, port managers, truck drivers, or baggage handling crews can be presented with information that is relevant to their particular role in the broader ecosystem.

## Proactive management

However, the truly transformative advantages of SHL lie not in the reactive ability to quickly make changes to logistics schedules, but in the proactive opportunities made possible by Big Data. Sensors on vehicles and assets (telematics) record things like speed, waiting times and journey distances. When this is combined with productivity-based reports, such as cargo throughput in a port, and with other data sources, patterns within the data start to emerge. By tracking various patterns - like the movement of equipment, or the flow of trucks - the advanced analytics competent of an SHL platform is able to advise operations managers on more efficient scheduling and route planning in the future.

In this way, SHL platforms breathe life into the concept of 'The IoT', producing meaningful results by tracking the interconnected individuals, assets, and vehicles that swarm around yards and ports on a daily basis.

## ABOUT MARTIN VERGUNST

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