



# The Supply Chain Goes Mobile @ IHS

A new marriage of information and technology is driving the next generation of global supply chain visibility and risk mitigation

*By Editorial Staff*

**R**on Crean paints a vision for a brave new world of global supply chain visibility that sounds like a plot device from a big-budget science fiction movie.

Here's Crean's vision: Say you find yourself down on the docks looking for the ship with your company's containers. You pull out your smartphone and fire up a light-weight app that activates the phone's GPS and spatial locating capabilities. You scan the phone about the port, taking in the ships tied up at the dock and those still offshore. As you point the phone at a given ship, the app uses the phone's screen to display the name of the ship, along with a picture that you

can match to the vessel in front of you. You continue scanning until – Bingo! – you locate the ship you've been waiting for, and you head off to investigate the status of your long-awaited containers.

Futuristic as this scenario might have sounded even a year ago, today the merger of technology and information required to fulfill this vision has already taken place at IHS Fairplay, where Crean is director of strategic marketing. Fairplay, based in Redhill, Surrey, south of London, has roots stretching back to 1764 as the authoritative publisher of Lloyd's Register of Ships. Today it is the top provider of information and insight to the maritime industry, maintaining databases on ships, real-

time and historic vessel movements, owners, managers, casualties, ports and maritime companies, as well as extensive news archives.

Leveraging this wealth of information and the new capabilities enabled through technologies like GPS, "augmented reality" and geospatial information systems, IHS is offering up solutions that are helping to drive the next generation of supply chain visibility and risk mitigation.

## **The Drive to Visibility**

Initiatives to improve global visibility have been a priority for companies looking to mitigate risk and improve the efficiency of their supply chains.



A survey of more than 400 companies by Aberdeen Group for its “Global Supply Chain Benchmark Report” found that the lack of supply chain process visibility is the top concern for 79 percent of large enterprises. In addition, 77 percent of the companies participating in the study cited “supply chain visibility” as a top target for supply chain technology investments. The most commonly cited business pressures driving visibility adoption included the need to improve on-time performance, the need to proactively alert customers of late shipments, and the desire to reduce lead times and lead-time variability.

Yet even as companies recognize

the need for increased supply chain visibility, they continue to pursue supply chain strategies that make that visibility more difficult to obtain. In search of lower costs, for example, companies have outsourced production to overseas suppliers, requiring greater reliance on extended supply lines. That means that ever larger shares of a company’s assets are in motion at any given time throughout the supply chain.

In a recent study of the pharmaceutical sector, for example, 78 percent of 112 industry executives from pharmaceuticals, medical devices and biotechnology companies surveyed said global sourcing outside of the US will be increasing, while 76 percent said their global manufacturing outside of the US will be increasing. All these forces are driving the industry to develop a supply chain that is more extended, globally dispersed and virtual, according to the report (“Achieving Global Supply Chain Visibility, Control & Collaboration in Life Sciences: Business Imperative, Regulatory Necessity,” co-sponsored by consultancy PwC and published by industry analyst firm Axendia).

Meanwhile, the transportation industry and supply chain technology vendors have only recently started to offer solutions that allow customers to track their goods in motion, most typically now through information portals that register significant “events” as a shipment moves along the transportation chain. (Think package tracking capabilities offered by a UPS or FedEx, only applied to containers.) The Axendia study, for instance, found that visibility into the supply chain is primarily based on “snapshots in time” rather than “real-time” information. As a result, the study noted, threats that were considered limited or small scale as few as 10 years ago, such

as drug counterfeiting and illegal product diversions, are becoming major concerns, with 44 percent and 35 percent of industry executives, respectively, citing them as business risks in the next five years.

### **The Worldwide DMV for Ships in the Palm of Your Hand**

IHS closes key gaps in the information chain that underlies the global supply chain. The company’s Fairplay business traces its origins back to 1883, and its Lloyd’s Register of Ships (bought out by IHS in 2009) has continuously published since 1764. The registry now contains information on every ship in service over 100 tons – approximately 175,000 vessels in all, with about 500 fields of information on each ship. “It’s basically the industry bible,” says Crean. IHS Fairplay also is the sole global issuing authority of IMO ship identification number on behalf of the International Maritime Organization. The seven-digit IMO number uniquely identifies every vessel and is never reassigned to another ship, regardless of transfers of ownership, making IHS, in Crean’s words, essentially a Department of Motor Vehicles (DMV) for ships.

In addition, IHS leverages the Automatic Identification System (AIS), a standard established six years ago for transponder-based identification systems mounted on all ships of 300 tons or more, primarily for purposes of collision-avoidance. IHS’ AISLive was the first global AIS network to provide an online application with access to real-time ship movements, and the network now offers current position information in more than 2,500 ports and terminals around the world, in over 100 countries, updating the position of all tracked ships within the coverage areas every three minutes on a round-the-clock basis. Accessing the system

through a graphical interface on a PC or laptop, users can drill down to view an individual vessel's details, such as IMO number, Maritime Mobile Service Identity (MMSI) number, latitude, longitude, course, speed and next port.

Crean is enthusiastic in describing IHS' work to bring the maritime industry into the 21st century by leveraging technologies to automate what often are centuries-old workflows. But he is positively energized by the prospects of marrying all the information that IHS is collecting on the movement of ships through the global supply chain with new mobile technologies, including smartphones and devices like Apple's iPad. "The GPS chip in a smartphone pinpoints that device's position," he says, "and we can tell whether you're pointing it at a harbor. We can marry that with the location information on all the ships in our databases. So wherever you point your phone, we can identify the ships you're looking at and provide you with a variety of information on each of those ships in real time." This application employs a solution from IHS called AISLive, which is in use by customers like customs agencies, the Coast Guard, law enforcement agencies and ship agents who want to be able to identify ships. IHS developed an app for the iPad and a platform-agnostic application for Android, Blackberry and other mobile platforms to give these clients untethered access to ship information – useful for ship crews who can't be tethered to a PC or even a laptop.

### Maritime Visibility 2.0

From the supply chain perspective, the prospect of marrying this kind of comprehensive information on the movement of goods with other "intelligence" offers up new

possibilities for supply chain visibility and risk mitigation. For example, Crean points to the Terrorism Events Spatial Layer offering from IHS Jane's, which displays ongoing global terrorist and counter-terrorist activity around the globe to provide a comprehensive view of risks and trends in terrorism activity in various regions of the world. The layer can be imported into various GIS applications to provide a comprehensive view of terrorist events, and it can be married with Fairplay data on ship locations to understand whether a terrorism-related event will cause a disruption to a supply chain. "Previously you would have had to pull together many different sources of information in order to get this kind of complete picture," says Crean. "But with this kind of layered approach, you can immediately start to build an action plan for how to react to a specific event."

The convergence of all of these data sets, Crean continues, make it possible for companies with global supply chains to begin advancing global location intelligence strategies. For instance, a car manufacturer bringing parts out of Asia could see that a vessel carrying critical components has encountered an interruption in service – say, being hijacked by pirates off the Horn of Africa – well in advance of reports from government sources, suppliers, carriers or the general media. With that kind of advanced warning, the automaker could turn to other suppliers or expedite new shipments in time to head off a disruption in production. "Everything they do will be linked in some way to spatial data so they can give it immediate context," Crean says. "That changes the nature of the way our customers operate." ■

## Information Solutions for the Global Supply Chain

IHS Fairplay offers several solutions for tracking movements through the global supply chain:

**Sea-web** is a maritime reference tool that combines comprehensive ships, companies, shipbuilders, fixtures, casualties, port state control, ISM, real-time positions and historic vessel movements data into a single application. It offers details of more than 180,000 ships of 100 GT and above, including newbuildings and casualties, and it provides up to 500 data fields. A Movements Module provides real-time ship positions, as well historic movements and port callings. iPad and smartphone versions of Sea-web are available, too.

**AISLive** was the first global AIS (Automatic Identification System) network and continues to provide an online application with access to real-time ship movements. Its growing network coverage extends from Europe to North America, the Caribbean, Mediterranean and Far East, currently providing real-time information in over 100+ countries and over 2,500 ports and terminals around the world. The solution shows the live positions of about 35,000 vessels a day, with each vessel's position displayed on a chart and updated every three minutes, 24/7. Clicking on a vessel yields additional details such as IMO number, MMSID, latitude, longitude, course, speed and next port. Users of AISLive include port authorities, ship agents, brokers, charterers, port service suppliers, ship owners and civil authorities.

**LNGLive** brings together the resources of IHS Fairplay and energy trading software specialist Innovez Ltd. to provide a state-of-the-art daily reporting service on the global flow of gas. LNGLive offers reports on source and destination of global gas cargoes, ship location, destination, port calling history and movement analysis for the LNG fleet, including terminal type and ship capacity. Advanced predictive algorithms are used to determine port callings that occur even when a ship's AIS transponder is not switched on and to improve the accuracy of crew-entered data.