

Turning information highways into intelligent information superhighways

 By [Roger Hislop](#)

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Wow, is it 1991 already? Yes, on this 28th anniversary of Al Gore popularising the phrase "information superhighway", Internet Solutions (IS) brings you an even better phrase: "the intelligent information superhighway" for a fully connected supply chain. How about that?



Roger Hislop, executive head of Internet of Things at Internet Solutions

The term "information superhighway" was appropriate at the time – getting information from one side of the United States to another was expensive and slow. Basically, each company had to set up its own expensive, narrow private road to send its data down.

The internet changed this model – network operators built a massive highway system crossing the country, touching every town and city. The cost of building it was shared by all the companies and individuals using it. Technology and commercial standards were established to allow this information highway to be shared reliably, securely and equitably.

Everybody won

Fast forward almost 30 years, and the internet has evolved incredibly. Instead of connecting computer systems that generate and process transaction, customer and operational data, the internet is now both how we move data – and how we process it. Data is gathered here, goes into the cloud, comes out the other side in a new and more useful form. Within minutes of a transaction completing, machine learning systems are already refining our understanding of customer trends.

Supply chain intelligence

So why can't we do the same thing with our supply chains? Right now, we have very little idea of what happens after something leaves a manufacturing plant and arrives at a retail shop, construction site or port terminal. Our supply chain "information super-highway" – from a business information point of view – is a black hole. Goods go into it and maybe comes out the other side. While it's in the black hole, we're in the dark.

Inventory management, logistics optimisation, cold chain assurance, time-to-delivery notification, physical security. Very little of this can happen in real time, or pervasively, or consistently. Unlike our global, Cloud-connected transaction, customer and operational data, our supply chains are largely unconnected, and not very smart.

How can we make them smart? Easy. Internet of Things (IoT) sensor devices talking over both private/local and public/nationwide sensor network.

Three major technology waves hit

The combination of three major technology waves makes the intelligent supply chain a reality.

The first of these is low power Wide Area Network (LPWAN) technologies. This allows us to deploy very low-cost sensor devices, cheaply. The radio networks like Sigfox and LoRaWAN (and ultimately Narrowband-IOT) are long range, with excellent penetration. They can easily be battery powered, with batteries lasting many years. Fitting them requires very little drilling, cabling or other fiddling. The network operator charges are very low – we're talking R70-R170 per year, per device, for a couple of messages a day to a message every 10 minutes.

The second is a range of national LPWAN network operators. This includes new companies, such as Squidnet, Comsol and Nerospec, as well as the big mobile operators adding LPWAN services to their networks over the next year or two. Just as with the Internet, we can all use these networks, sharing the flexible, pervasive connectivity available anywhere you have operations (towns, cities, major roads).

The third is increasing maturity in aggregating all these connectivity systems to bring sensor data from the road back to your operational enterprise resource planning and management systems. This is where IS is building an increasingly sophisticated solution set. We take care of the network integrations, the mapping between proprietary and standards-based technologies, and the practicalities of moving around sensor data. We also take care of interoperability and governance concerns – archival, chain-of-custody, service assurance, billing management. All you need to worry about is what to do with all the information that we hand over to you using standard enterprise data exchange protocols.

The intelligent, connected supply chain will rapidly become a critical differentiator for manufacturers, logistics companies, exporters and retailers. With a connected supply chain, you can know exactly where your stuff is, what state it's in, whether it's safe, what's happening in its immediate physical environment. All the time.

You will be able to solve problems before they blow up. Manage risks before they bite. Optimise your processes as they run and always be in the know.

And because you're using a shared, smart connected supply chain, you will be able to choose which real-time information to share with partners, suppliers or customers, so they can also benefit. Greater trust. More loyalty. Better relationships.

ABOUT ROGER HISLOP

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