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**NEWSLETTER**

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# EDITORIAL

CORE is heading towards its final months officially ending in April next year, so the results of focused research and findings from the demonstrations are now coming together. In a €50-million project with 23 different work packages, this is like harvesting an enormous apple tree orchard, where the fruit falls from all the trees after having ripened. Of course, some apples need more ripening, some remain small in size and some cannot be eaten, but the majority is delicious.

With our data pipeline concept and visibility platforms, CORE is accelerating the digital transformation in logistics. CORE starts from the belief that supply chain visibility is the key to achieving highly efficient global trade and logistics and enhancing supply chain security. We can read in the first article of this newsletter how sound commercial business cases have been realised with the global data pipelines and how it helps border agencies. With 30% efficiency savings at Warrant customer Kirkby Tyres, and up to €1M savings within the Port Health Authority in Felixstowe alone, these results are truly convincing.

The second article shows how different Global Navigation Satellite Systems (EGNOS, GALILEO, GPS, GLONAS, BeiDu) can be integrated to offer a highly reliable and precise real-time track and trace solution for the transportation of chemicals and gas by road and rail on the corridor Duisburg (Ger) – Terni (Ita). Real-time track and trace not only has commercial value, it contributes to the safe transport of dangerous goods.

The third article shows how the supply chain visibility platform is used to apply predictive analytics to synchronise supply chain processes in the import of home appliances of BSH from China to Spain. This creates more accuracy around delivery estimates, and more efficient pipeline inventory and safety stock levels. Again, a sound commercial business case.

The last article shows how Seacon Logistics not only applied the concept of trusted trade lanes, but went further. They created a trusted trade lane blueprint that has potential for global application. They can apply it to different contracts of carriage, governed by different INCOTERMS. Also, if certain processes are beyond their control, it shows how they can still ensure trustworthiness. Seacon pushes hard for trusted trade lane recognition models.

Just four juicy apples from the CORE Orchard, a taste that's very moreish. Look out for our final newsletter early next year.



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# DATA PIPELINES: DRIVING A GLOBAL SUPPLY CHAIN REVOLUTION



Two highly sophisticated data pipelines, developed for CORE to enable complete supply chain visibility, are delivering lower costs and improved efficiency for UK importers.

Now the seamless pipelines are poised to transform risk management and targeting for the country's border authorities – and they also present a solution for handling the five-fold increase in import declarations that Brexit is set to generate.

Integrating IT systems all the way along the supply chain gives everyone involved a detailed and constantly updated real-time picture of the precise goods in transit, as opposed to the freight described in vague terms on the manifest. Having full visibility of the exact make-up, status, position and progress of the shipment is invaluable for the buyer, for whom logistics costs and complexities become transparent.

The CORE data pipeline model is fed from four key waypoints and has been developed as the Ingot Portal by supply chain management company Warrant Group, and as My Visibility Tool (MVT) by Metro Shipping.

Customers appreciate the commercial benefits, which make a compelling business case for using data pipelines.

- Warrant customer Kirkby Tyres showed a 30% saving with supply chain efficiencies alone. "They also achieved additional savings with greatly reduced demurrage and detention costs," said David Roff, Warrant's Director of Information Technology.

- MVT has given Metro customer Bunzl Catering Supplies much better control of the import process. "It provides us, at SKU level, with a monitoring and tracking facility which allows real-time monitoring of shipments to our branches," said Imports Manager Andrew Steele.

Data pipelines also have the power to deliver huge regulatory advantages. Some 60% of the information required by the UK import authorities is available at the point of loading a container, but border agencies do not receive it until the goods arrive. Supplying it ahead of time via a data pipeline would improve risk management and targeting, enhance security, and speed clearance.

Metro's MVT pipeline has proved the value of this concept for the country's largest Port Health Authority, responsible for enforcing legislation on the import of foodstuffs into the EU through the Port of Felixstowe.

Making comprehensive and reliable information available in advance, enables Port Health to detain far fewer consignments, dramatically reducing unproductive and unnecessary work. Richard Jacobs of Suffolk Coastal Port Health estimates that data pipelines have the potential to deliver savings of €1 million a year – and that's just at Felixstowe. Robust supply chain intelligence also enables the authority to intelligently target known or emerging risks.

From the customer's perspective, supplying Port Health with advance information cuts the administrative

burden at the point of entry and reduces costly delays. Metro's Automotive Director Tom Fernihough cited a recent example with a shipment from the Far East for customer AB World Foods.

"When the manifest just says 'foodstuffs', Port Health has to pull the container as a precaution," he explained. "By offering data to Border Force via our MVT pipeline 30 days ahead of the shipment's arrival, we were able to de-risk those shipments."

The Holy Grail for the man leading this CORE work package, David Hesketh - now research consultant at BMT but previously Director of Research and Development with HMRC - is to see the pipeline data fed into the UK Border Force's freight targeting system (AFTC) to meet the requirements of all border enforcement agencies.

"The process of electronic data exchange is fundamental to all aspects of customs, border management, and government modernisation," he said. "In these days of information management, the role of export data is increasingly important: more so than the physical control of goods."

"Data pipelines can also deliver a real Brexit dividend. When we leave the EU, import declarations will rocket from 70 million a year to around 350 million, but data pipelines, in conjunction with customs self-assessment, could dramatically reduce that burden."

# HARNESSING GLOBAL SAT-NAV TECHNOLOGY TO PROTECT LIVES AND THE ENVIRONMENT



Tankers of liquid Argon, winding their way hundreds of kilometres through Europe by road and rail, are being precisely tracked and monitored by an integrated system of global sat-nav technologies (GNSS - Global Navigation Satellite Systems) under a CORE mission to improve safety.



Transporting hazardous materials inevitably poses risks, both to people's lives and to the environment. The aim is to pare these to the bone by using multiple, enhanced GNSS for track and trace.

GNSS (primarily the American GPS) has long been a mainstay of intelligent logistics for companies transporting dangerous goods and, over the past decade, various initiatives have employed the European GNSS EGNOS (European Geostationary Navigation Overlay Service) in addition to the American GPS in a bid to better monitor road tankers and therefore enhance safety, security, and efficiency. The further enhancement with the intermodal CORE demonstrator is that it provides a single, harmonised solution for integrating other GNSS.

It harnesses the American GPS system, the European systems EGNOS and Galileo, the Russian system GLONASS, and the Chinese BeiDou system to track and trace the transportation of chemicals and gas by road and rail.

The more precise tracking enabled by multi-GNSS, combined with sensor information about the status of the material being transported, not only improves efficiency but is a boon for risk assessment and law enforcement.

The detailed data can be made available to regulatory authorities, and it can also be integrated with local information in real time, enabling risks to be assessed against current conditions and any alarms raised if necessary.

The CORE solution is being tested on the road/rail route between Duisburg in Germany and Terni in Italy. Coordinated by CORE partner Telespazio, one of the world's leading players in satellite solutions and services, the demonstrator involves transport specialist HOYER and the French and Italian Ministries of Transport.

Launched in April 2017, the demonstrator will run until February 2018 and will be evaluated through KPIs to assess the flexibility of the architecture, its capability to support best practice in different countries, and its benefits for different stakeholders.

# REVOLUTIONISING TRANSIT DECLARATION AND ETA



New software developed to simplify the submission of transit declarations and improve delivery estimates has the potential to radically reduce workload and free-up pipeline inventory, saving importers and exporters hundreds of thousands of euros a year.

The technology platform covers two areas: automated transit declaration, being developed by port specialists, PortIC, and the collection of live supply chain data for more accurate projection of arrival time, under the supervision of the Zaragoza Logistics Center (ZLC). Testing of the platform is being carried out by home appliance manufacturer Bosch and Siemens Hausgeräte (BSH) on its trade lane between China and Spain.

By collecting live data throughout the supply chain, the software also creates more certainty around delivery estimates, which in turn allows buyers to cut the amount of capital tied-up in high levels of pipeline inventory and safety stocks.

The new platform benefits the authorities too. Sharing the data gives customs better visibility of arriving shipments, enabling them to allocate resources more effectively.

Now, as well as honing technical aspects of the system, ZLC is trying to quantify its financial benefits for customers. Early calculations are exciting, as ZLC professor Luca Urciuoli explains.

"Our experience with this living lab reveals additional benefits that could be achieved with this software in the future," said Prof Urciuoli. "For example, customs brokerage could be replaced by cheaper automated platforms."

"We also realised that importing companies spend an enormous amount of time tailoring their shipments to customs' requirements, which typically change substantially within a year or two.

Outsourcing to an automated customs brokerage would mean getting rid of additional administration and bureaucracy to comply with changing regulations"

So, could an algorithm replace traditional customs brokers altogether? Not yet, says the professor.

"Today, there is some rigidity in what the technology can do; in some countries brokers have very good relationships with customs administrations and their domain knowledge is also valuable in order to problem-solve different cases.

Perhaps customs brokers will choose to invest in the new technology and become involved in managing and developing the platform."



# BLUEPRINT FOR A TRUSTED TRADE LANE

Trusted trade lanes are the Holy Grail for cargo owners and freight forwarders looking to cut any remaining slack from an already well-performing supply chain. CORE partner Seacon Logistics has succeeded in creating a trusted trade lane blueprint that has potential for global application.

In fact, Seacon's demonstrator lane, connecting Malaysia with Rotterdam, has highlighted the opportunities so well, that Dutch Customs are expanding their IT capability and landscape specifically to take full advantage of the efficiencies and improved risk assessment it offers.

The CORE design challenge was to create a trade lane framework that would enable all interested parties to maintain complete confidence in the integrity of the data and the goods. But, Seacon wanted to take the mission further than simply proving the concept on one demonstrator route.

The Netherlands-based logistics group was determined to come up with a potential blueprint for global trade lanes with multiple incoterms.

"We wanted to make our work more useful in a wider context," says project manager Joris Tenhagen. "The key was to use AEO (authorised economic operator) standards as minimum thresholds for procedures throughout."

Step one was to create a trustworthy data pipeline, with robust onboarding processes, before moving on to the operational building blocks required for a trusted trade lane.

"As a freight forwarder, there are sections of the trade lane where you have very limited control," explains Senior Manager Air and Ocean Gé Coenen. "So, we created a multiple-step decision diagram to make sure that the parts which are out of our direct control can nevertheless

be trusted. If all these steps get green lights, then we can be confident the entire trade lane is secure."

Realising this additional risk analysis meant they now had a potential blueprint for trusted trade lanes worldwide, Seacon brought in Dutch Customs to discuss the possibility of certification, and then the European Shippers' Council to explore roll-out across Europe.

"It would have been a shame to stop where we were: to have done all the research, to get really good results, and then not to try to move forward with certification or another step to valorise the R&D investments of customs authorities and business partners," adds Joris.

"Seacon Logistics has a long history of cooperating with Dutch Customs on innovations and we are very excited by the potential for this project."

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# WHAT'S NEXT?

November was a busy dissemination month. On 23rd November we delivered a successful dissemination session organised by Dutch Customs targeted at European policy makers from DG TAXUD and DG HOME, World Customs Organisation and customs from several countries including the U.S.

The CORE team then presented its findings at the recent Intermodal Europe conference which was quickly followed by a presentation at the Dutch Logistica Fare and corresponding ICT & Logistics conference.

Preparation is underway for our final dissemination event – further details on the date and venue will be announced shortly.

[www.coreproject.eu](http://www.coreproject.eu)