

Collaborative and green European transport & logistics is no longer a utopia

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Data is a major driver of change in supply chain and logistics. According to [research by IDC](#), supply chains had over 50 times more data available to them in 2018 than just five years before. The potential of this is enormous. Data which previously wasn't analysed or simply wasn't available can now be processed and acted upon in real-time with the help of machine learning and AI capabilities. Insights can become part of decision-making processes that enable greater efficiency as well as the emergence of more sustainable business models.

But what is the current state of affairs?

The IDC research paper claims that less than a quarter of the data available is actually being analysed in near real-time for value. Indeed, information and analytics gaps are quoted as major sources of a relatively slow progress towards a digitally transformed supply chain.

SELIS project initiates a shared intelligence space

[SELIS \(Shared European Logistics Intelligent Information Space\)](#), a €17 million flagship European Commission-funded research project and part of the EC's €77 billion Horizon 2020 research and innovation programme, was set up to address some of the key challenges of the fragmented European logistics chains, marked by information hoarding, disjointed legacy systems and territoriality.

The main aim of SELIS has been the creation of a platform that every logistics provider and every supply chain actor could have access to through a cloud-based information sharing infrastructure. This shared space would eliminate problems associated with exchanging information and finding the optimum way of transporting goods.

Utopia?

An exceptionally strong consortium of 37 European logistics stakeholders and ICT providers, co-ordinated by Inlecom Systems, was brought together to develop and validate the platform, paving the way for large-scale adoption.

Collaboration, trust, open standards and interoperability as key pillars of the new model

The creation of the new intelligent information space has been based on the following key principles:

- **Collaboration**

The platform is aiming to bridge information gaps by pooling data from a myriad of different sources to drive information sharing. Collaboration is enabled through the federation of Supply Chain Community Nodes (SCNs), which essentially interconnects different logistics stakeholders and facilitates interaction between them.

- **A trusted data-sharing environment**

The use of blockchain technology has created a trusted data layer, integrating multiple sources of data to provide greater transparency and visibility of supply chain transactions. All participants using the platform also maintain full control over their own commercially sensitive data, including who they share their data with, the duration of time data is shared, and the ways shared data is used and managed.

- **Open standards**

The use of open standards and open source data management frameworks ensures that data stored by various stakeholders in multiple types and formats is transformed into a recognised standard that can generate maximum value.

- **Interoperability**

The cloud-based platform easily integrates with existing IT environments in a non-disruptive way, thus not replacing operational systems but rather adding a layer of collaboration and intelligence onto them.

- **Built-in industry knowledge**

Operations can be optimised by analysing the available data using SELIS Big Data Analytics module with built-in algorithms in the form of 'recipes'. Such provision of pre-packaged industry knowledge and predictive analytics matches transport demand with available resources, accurately estimates cargo's arrival time, optimises routes and ultimately increases operational efficiency.

Transport that respects the environment

Smarter and more effective supply chains are also more sustainable and environmentally friendly. The overarching goal of SELIS was to demonstrate that new collaborative models can lead to a 30% reduction in energy consumption and greenhouse gas emissions.

One way to achieve this is through greater use of multimodal transportation – a combination of different means of transport in order to facilitate the movement of cargo. Most companies still rely heavily on road transportation, and modal shifts to rail and water have remained modest at best.

SELIS is addressing this imbalance by taking a holistic supply chain view of the modal shift process and increasing the share of intermodal rail and barge transportation. As a result, the environmental footprint of freight activities can be significantly reduced.

Towards wide-spread adoption

With the SELIS project coming to a close in August of this year, we are delighted to see promising results recognised by 26 pilot use cases spread across a wide range of industries throughout Europe. These include very positive environmental impact and measurable economic benefits.

For example, DHL Supply Chain Iberia addressed the issue of limited transport optimisation due to isolated Transport Management Systems and unstructured information. SELIS facilitated data consolidation and normalisation which will allow the organisation to effectively identify operational inefficiencies and increase fleet capacity utilisation by at least 10%, resulting in projected overall cost savings of several 100,000 €/year.

In the case of Port of Rotterdam, and in collaboration with inland cargo terminals (West-Brabant corridor), SELIS demonstrated a modal shift and increased utilisation of inland vessels thanks to more accurate measurement of barge reliability and optimised cargo bundling, consequently leading to reduced per-container emissions. Reduced port stays have also decreased idle time when a barge engine is kept running to provide electricity and steering control to the vessel, further reducing environmental impact.

Following the project's successful completion, a significant number of follow-up activities are scheduled to continue with the wide-spread adoption of SELIS' green, collaborative and agile logistics model.