Vinturas
A collaboration of Finished Vehicle Suppliers
Our chapter

1. Key business references, why did we start this initiative

A number of logistics service providers in the Finished Vehicle Logistics ("FVL") industry in Europe have taken the initiative to work together, to use the possibilities of technology to solve key issues in the industry, and to create sustainable value for themselves and other stakeholders in the industry.

The key issues in the Finished Vehicle Supply Chain in Europe can be described as:

1. A structural lack of real time supply chain visibility as a result of paper-based, non-integrated processes.
2. A high inefficiency in operational processes in the industry, as investment in modern IT-systems has been lacking in this segment for decades.

3. The remarketing industry in Europe (the sales and logistics process for used cars) has become increasingly European rather than national. With fast growing cross-border volumes, fleet owners struggle to manage their operations efficiently in an industry which also has to cope with integrity issues.

With the Automotive Industry in transition to new business models, break-through solutions are necessary to deal with the enormous challenges in the industry to improve customer experience of the brand and at the same time to fundamentally reduce costs in operations.

Ad 1. Structural lack of supply chain visibility and the problems this creates

In the supply chain process from factory to dealer, a new vehicle is generally distributed by 3 or 4 logistics service providers ("LSP") before it arrives at its final destination (a dealer in Europe or a port for shipment overseas). Most transactions in these logistics processes are executed in a paper-based process. Paper documents are created (out of isolated LSP systems) and travel with the vehicle to its next point in the chain (for example another terminal). Papers are then signed to hand over responsibility, including comments on damage etc.

Any information on the logistics status of the vehicle is then transferred to shippers (Automotive OEM's or fleet owners) with time delays, scattered and incomplete, through traditional EDI connections.

As a result of these incomplete, non-real-time, scattered information flows from LSP's to

OEM's/Fleet owners there is no integral view of the supply chain on a real-time basis.

Which leads to the following key issues:
1. Dealers are unable to inform their customer of the actual delivery date of their new vehicle, as they have no access to the location and the logistics status of the vehicle while it is in the supply chain. This situation is difficult to understand for customers, who are used to full track-and-trace whenever they purchase an article.
2. Dealers are unable to plan their delivery process or inform their customers in a professional way. Inadequate workshop planning and late deliveries are all "waste", due to lack of planning in the process.
3. Importer/national sales organisation/OEM/ Fleet owners have no information on expected deliveries or vehicles on hold due to damages and therefore no information on expected business results.
4. OEM's/Fleet owners are unable to manage their supply chains operationally. Capacity management, S&OP processes with suppliers are all impossible because real time information is unavailable. A key issue in the industry is the inability of any given party involved in the process to locate all vehicles in the supply chain, a significant audit issue.

Ad 2. High inefficiency in operational processes and the problems this creates.
OEM's and Fleet owners have tried for decades to improve their cost base by tendering for

activities in the logistics process (transport, storage, value added activities). In this industry, with high asset investments for LSP's and a high entry barrier (asset costs, skilled staff), this has led to very low margins for LSP's and limited value creation in the processes over the years.

Neither LSP's nor OEM's/fleet owners have managed to invest significantly in IT to enable value creation, leading to a situation today where the Finished Vehicle Logistics Industry is lagging far behind other industries, many of which are already showing improvements through digitalisation.

The Automotive industry finds itself increasingly pressured now that business models change, cost reduction becomes imperative and LSP capacity is becoming limited, because the number of truck drivers in this industry is decreasing sharply.

This situation creates the following key issues:
a. OEM's/ Fleet owners may see their costs rise in the future as a result of capacity shortage. At the same time, they are setting double digit cost reduction targets, which their traditional tendering processes are unable to deliver.
b. With the growing issue of driver shortage, LSP margins will be pressured even more in the foreseeable future, as it is impossible to make optimal use of available assets at this time.
c. Many LSP's and OEM's/fleet owners need to invest significantly in IT functionality in order

to deal with the high levels of inefficiency of paper-based processes.
d. At the same time there is a growing demand for improvements in customer experience and brand image from the industry.
e. The waste in all stages of the operational process (damage handling, lead-time, missing vehicles, lack of collaboration) continues, because there is no coherent approach to fixing these problems in the structures currently in the market.

Ad 3. The European remarketing industry and the problems it faces
Large fleet owners sell their (ex-lease or ex-rental) cars more and more across borders. Import and export volumes of used vehicles in this cross-border process are growing fast.
A truly European market has emerged over the past decade, driven by the transparency of the Internet, by which the optimum price-point for a used car can often be found in another country.

In the remarketing business, "time is money". The prime KPI for international fleet owners is the lead-time in the logistics process, the value of a used car depreciating every day.

End-to-end supply chain visibility is therefore a necessary condition for a successful remarketing business.

Many of the larger fleet owners are still relying on national/local systems. However, end-to-end visibility is key in the effective management of European flows.

The European remarketing industry also has to deal with the integrity of its processes. Mileage fraud, VAT fraud and evasion of import-tax are well known issues in the European landscape. The economic damage incurred by mileage fraud alone is estimated at a staggering 5-10 Billion Euro every year in Europe[1].

Organisations supporting the car marketing industry, such as CARA, are taking steps to improve the integrity of the European remarketing process (see https://cara-europe. org/deliverables).

The key issues in the industry can therefore be summarised as follows:

a. International traders and consumers are confronted with issues of trust and reliability of information, as integrity of mileage and configuration are uncertain in European cross-border sales processes.

b. Authorities struggle with the effects of mileage fraud, VAT carrousels and import tax evasion in largely paper-based cross-border processes.

c. The export processes of scrapped vehicles cannot be monitored, which leads to environmental damage in (mainly) Eastern Europe where import rules are less strict. Neither authorities nor fleet owners/sellers of used vehicles have developed an infrastructure which gives reliable end-to-end information on vehicle status during its journey through the supply chain.

2. Business trends, more focus on consumers

The Automotive industry is gradually evolving from a product-oriented industry towards an industry more focused on delivery of services. Therefore, the role of the consumer, the buyer or user of the car, becomes more prominent. Consumers can purchase anywhere, and the image and experience of the brand is much more important these days than the provenance of the product (i.e. the car).

Customer expectations are based on experiences e-commerce has created over the past decade. Purchases can be made instantly, processes are transparent, and availability of services is assumed to be a given.

The purchasing process of a vehicle (the supply chain process) is an important part of the customer's "journey" with the brand.

Brand positioning and brand integrity can not be separated from a reference to sustainability. A credible track record and proof of features such as CO2 footprint, process efficiency, integrity and responsible waste disposal processes are all very relevant for a credible brand promise of automotive service providers.

The supply design of the future should be based on these imperatives: optimised customer experience and integer, sustainable processes.

[1] Report European Parliament nov 2017

3. Developments in international Supply Chains

Supply chain processes have improved over the past decades as a function of the growing possibilities IT has delivered. In the traditional customer-supplier process the availability and exchange of data has improved and organisations have been able to optimise processes over this 1:1 relationship axis. Keywords have been lean management (elimination of waste) and supply/demand improvement (better forecasting) from a national to a global scope.

With focus on efficiency in operational processes and alignment of specifications from customers with those from suppliers (a 1:1 relation), supply chain businesses have not been focusing on integration of processes where multiple service providers play a role in an international supply chain. So many of these international supply chain processes are still characterised by scattered, paper based, transactional processes, with a lot of waste and inefficiencies. This issue also applies, although not uniquely, to the automotive FVL business.

Key to fundamental value creation in (international) supply chains at this time is not only the full digitalisation of all processes (which is clearly needed), but also, building on that, a structured collaboration of all players in the supply chain, from factory to customer.

Structured collaboration will lead to process standardisation and network optimisation. Structured collaboration will also lead to the generation of a standardised dataset of the end-to-end supply chain. The availability of such a data-set will create possibilities to improve operational supply chain processes (e.g. a professional S&OP process) as well as grant access to new business models (supply chain risk management, insurance, supply chain finance).

Structural collaboration between all stakeholders in the supply chain has historically been difficult to realise. The way to force this collaboration has often been the implementation of "Supply Chain Control Towers". These control towers generate data from service providers and aggregate them to a level where operational supply chain processes can be managed effectively by the party collecting all the data. This is an undesirable way of collaborating for many service providers, as they are forced to release their data to third parties who then monetize their data, reducing them to service providers with even less value for their customers.

Control towers are not an attractive option for OEM's either: they create a customer lock-in, they still only cover part of the network, they are costly and they are vulnerable (one database).

Will technology be able to solve these issues? Can technology produce a more democratic system of data sharing, in which the parties creating data will also be the ones monetizing these data, and therefore be the ones benefiting from the value they create?

And can a healthy process of collaboration create significant value?

4. How to realise this breakthrough and create fundamental value in the FVL Industry

A new relationship between OEM's/fleet owners and LSP's is necessary to achieve the fundamental efficiency gains that are needed in our industry.
The classical tendering process will not achieve the goals automotive players have in mind, and is destroying value rather than creating it.

The FVL industry of the future needs to provide real-time information for all stakeholders in the supply chain process in a trusted IT-environment where integrity of operations can be guaranteed.

Technology facilitates the sharing of this information, optimisation of loads, integration of networks and many other efficiency improvements in the (OEM/fleet owner) network, and is in itself no barrier to achieving these objectives.

What is more, all of this real-time information is already available today. LSP's generate their own logistics data (starting a transport, delivering a vehicle etc.) and it is perfectly possible for them to share these data with other stakeholders in the chain.

Also, relevant information about the configuration of a car (mileage, technical history), its origin and its destination are all elements that are, or can be, made available today.

So bringing all these data together for all stakeholders in a trusted environment where everybody benefits, is key to fundamental process improvements and value creation for all involved in the FVL business.

5. The role of technology

Blockchain technology is the obvious enabler of this new supply chain design because of its fundamental characteristics:

- All participants in the network are able to share their data in a safe way
- All participants benefit from sharing their data
- The network provides "one truth" for assets that flow through the supply chain

A blockchain network enables all participants (in this case all LSP's) to share their data in a safe environment, not only with their customers, but also with other stakeholders to whom they want to make these data available. Participants in the network can choose how they want to share their data and on which conditions. Customers like OEM's, can "collect" the data of all of their LSP's in a standard, secure way, thus providing them with real-time information on all logistics elements in their supply chain, replacing costly multiple EDI connections with one data-exchange infrastructure with much more functionality.

As blockchain enables safe data sharing, this technology is also the solution to healthy collaboration between all participants within a given network, making fundamental process improvements possible in all sections of the supply chain.

By uploading the car configuration data (including mileage) in a blockchain network, the entire provenance of a vehicle can be immutably stored and made available to all stakeholders in the (cross-border) supply chain process. Tax authorities can be certain that the configuration offered at the border is the original configuration. Consumers can be certain that the vehicle they are buying has the original mileage, and the exact delivery location and identity of the new owner of a vehicle can

be obtained through a logistics process in the blockchain, eliminating VAT-fraud possibilities.

The unambiguous information on assets and activities also makes digitalisation of all processes feasible, first of all of the electronic CMR (the "proof of delivery"), but also of all (very costly) damage processes. Once events are immutably recorded, automatic processes like payments can be triggered, addressing yet another source of waste in international supply chains.

6. The consortium Vinturas
The consortium Vinturas is a legal entity created by a number of LSP's in the FVL business. The objective of Vinturas is to provide a blockchain based infrastructure for the industry in Europe where all participants can share data in a safe, immutable way.

All stakeholders in supply chain processes can be given access to these data (as needed) immediately, without running costly "middle men" processes and applications that take away value from stakeholders.

The platform that Vinturas will provide is open for all stakeholders to join: for LSP's and other parties creating valuable data (inspection processes for example), as well as for OEM's and fleet owners who consume data and (supply chain visibility) services, and for application

service providers, who can generate more value from standardised data sets.

The Vision of Vinturas is that fundamental value creation in our business can be achieved by collaboration, digitalisation and democratic data sharing.

By building a true value-added eco-system, Vinturas aims to contribute significantly to the improvement of business processes in our industry and deliver a significant contribution to a more sustainable world.

7. Key propositions for our markets
Vinturas, therefore, has the following fundamental propositions for its customer segment and other stakeholders:

Dealers
- You will be able to inform your customer about the location and actual delivery time of a new vehicle, once it is in the supply chain.
- As you can identify the supplier and the expected date of arrival, you will be able to advance or postpone delivery, providing differentiated services to your customer.
- Understanding when the vehicle will arrive, you will be able to plan the delivery process better and faster, which will give you benefits in workshop planning, admin and cashflow.

Dealer groups (multibrand)
- You will have all information on the order and the delivery process concerning your locations and brands digitally available, which will allow you to manage and forecast your business, inventories and administration much more efficiently.
- You will be able to monitor the performance of service suppliers working for the various brands you carry.

National Sales organisations
- You will have an overview digitally available of all previous deliveries, future deliveries, damage, and performance of your suppliers, enabling you to manage your business much more efficiently.

OEM
- We give you real-time information about all logistics activities in your supply chain, enabling you to manage your supply chain on a real-time basis.

- Having all data available will allow you to re-engineer your network.
- We provide real-time, auditable access to all your inventories in Europe.
- We provide real-time insight in the performance of all service providers in Europe, not only in delivery data, but also in damage performance. This insight will help you identify root causes fast and take corrective action immediately.
- In case of a recall, all information on the vehicle in the supply chain will be available to you. You will be able to see who touched it, who changed the configuration and where it was delivered.

Fleet owners
- By using our infrastructure, you will be able to understand your inventory of used vehicles in Europe in one overview (location, duration in the supply chain, logistics status)
- By using our infrastructure, you can manage your lead-time and suppliers actively, improving your supply chain processes and lead-time in an unprecedented way.

- If you participate in our network transport, we provide you with digital Proof of Delivery (e-CMR), which proves the vehicle has been delivered. We also provide you with the identity of the recipient, so that you can be certain of a tamper-free process in your cross-border sales process.
- If you make use of our import process functionality, we can automate this process for the authorities, thereby reducing your throughput time by many days.

Consumers
- Finally an infrastructure exists which allows you to understand where your newly bought vehicle is at any given time after production.
- This allows you to arrange with your dealer when your vehicle will be delivered to you, in line with your expectations.

Authorities
- We provide digital proof of the configuration of a vehicle in the cross-border process. One can import a vehicle from behind one's desk, as the configuration is integer and immutable.

This will save costs, and give the industry a much faster throughput-time.
- Our solution will reduce the risk of VAT, mileage and tax-evasion fraud and will therefore generate significant value.

EU and national governments
- We provide a digital infrastructure which supports the elimination of fraud in all cross-border sales processes of used and end-of-life vehicles.
- We provide an infrastructure which also reduces the risk of mileage fraud to national sales processes of used cars.
- We provide an infrastructure which makes a fully digital supply chain in Europe possible. This is one of the key objectives of the European Commission, striving for a single digital market.

VINTURAS
sharing progress