Executive Summary / Key Learnings

- *Brexit is a big worry for UK economy and logistics*

- *Blockchain will still take time, however in combination with IoT a much wider range of applications becomes imaginable.*

- *Data collection without turning it into actionable data and using it, is useless. Today our industry is „data rich, but information poor." need to turn it into actionable data.*

- *The technology enabled consumer is driving the future of retail and logistics*

- *Tech is easy, application of tech to the business process and business model is hard.*

- *There are a few smart companies, that are already generating profits from their business models. However there remains a lot of noise and bullshit too.*

- *There is a generation conflict. The „new customer" , the millennial workforce is different.*

General comments

The overall mood in the UK is quite a different one, than in other parts of Europe. While the economy is doing well, eCommerce drives logistics needs and finding staff has become hard in our industry here too, they have the uncertainty of Brexit and its potential impact at all times over their heads. Questions like: „If we invest now (in staff or assets) to handle the current growth, what if Brexit kills consumer demand through an economic downturn?" form the daily quandary of most players in this market.

Overall, the Multimodal UK fair, is rather a national event, with international participants and exhibitors, also much smaller in scale. The maritime focus is also limited, with MSC, Cosco and CMA CGM being the only container lines to have an own stand. In LCL only Vanguard was represented.

Thus I used the opportunity to catch up with some old friends and to attend a few of the seminars that covered areas of my interest.

Seminar 0: Logistics is the new retail!
Presenter(s): Peter Ward (UKWA), John Munnelly (John Lewis), Lynn Parnell (Logistics Partners), Andrew Starkey (Spiral4).

The seminar started with an interesting finding. Retail drives the UK economy, as a net importer and retail is being highly influenced by the „technology enabled consumer".

John Munnelly gave a very clear presentation about their journey at John Lewis over the past 10 years. From the previous objective of ever more shops and a legacy distribution system based on wholesale bulk replenishment that overstocked selling branches, to an omnichannel distribution system today where 40% of sales happen online already and 50% of sales involve some kind of delivery to the consumer. Following a serious network consolidation, now a single source of stock serves all sales channels on a first come first serve and sell one pick one basis. With 70% of their service already at next day delivery, mostly from their Magna Park distribution center. What used to be a week of demand, has become 2 hours of demand today.

Production and procurement has changed to be entirely demand led. Key challenges for John Lewis today are clearly:
- The potential impact of Brexit on the behold/fulfilment cycle.
- Managing Demand Peaks (e.g. Black Friday)
- Reverse Logistics

Their outlook is very clear, that the 60/40 offline/online sales ratio will further move towards 50/50 by 2020 and that robotics will play a vital role in fulfilment within their distribution centers, as labour is harder and harder to find.

The panel agreed that the name warehouse is hardly adequate anymore in todays time and would rather talk about OrderFactories.

Logistics Partners, Lynn Parnell gave a brief overview on benchmarking for warehouse logistics, which is based on a recent UK and US wide survey where the UK warehousing association and its members have been part of. This revealed a few interesting findings:
- 66% of all picking is picking on case level now, the orders and SKU sizes have become more and more consumer driven.
- Shortage of labour has been found as the key challenge (45% of respondents), Brexit was second at 25%.
- Quite shocking was the fact that only 64% of warehouses are using a WMS

- Change and the ability to adapt become the key success factor

More interesting facts came from Andrew Starkey, underlining how delivery drives client loyalty. 45% of online clients abandon their shopping cart, if the delivery option is not liked. 50% of consumers are influenced by social media comments on delivery service. However this focus on delivery from his view has also led on overpromising which is being followed by underperformance. In fact most online retailers are now offering next day delivery which has reduced any contingency in the delivery chain and thus resulted in a reduction of on-time deliveries over the past year. However this race for ever faster and more frequent delivery is hardly let by the customer, but more by service providers that can offer this kind of service and use it as a differentiator. Customer surveys have found that convenience in delivery is more important for them, than speed of delivery. Andrew used Black Friday as an example, where no service provider guarantees next day delivery but sales is still continuing to grow. Therefore Andrew's take is, that reliability and communication with the customer will become more important than speed. Delivering when it is convenient for the customer will become more important than delivering fast.

Further, the panel agreed that freight tracking will continue to move to the level where courier services already are, as warehousing is always behind courier and freight is behind warehousing, this takes more time.

With delivery times being a competitive race and becoming shorter, the only way to resolve is holding more stock as buffer and that goes to capacity and cost. Stores will continue to close and more and more become showrooms.

A side discussion ensued on the rise of collection points, which might be a great advantage for some players with many locations, however as long as there is no cost benefit for the customer, the shift from home delivery to pickup will not really be driven. In the UK only Argos and Amazon can win the race for faster delivery times, thus other players will have to work on making the click & collect model more attractive. The panel agreed that there are underused third party resources, like the Royal Mail offices and others that could play a role.

Employment remains a key challenge. The Gig Economy and independent contractors that on self-employed basis (transient labour) work in a pay-as-you-go mode do deliveries or work in warehouses might become a reality, however only if supported by strong systems it can overcome the efficiency gap versus full-time experienced employees (knowledge transfer issue).

Seminar 1: Innovation or Disruption
Presenter(s): Peter Ward (CEO UKWA), Mark Thornton (Maginus), Jon Nicholas (Llamasoft), Martin Galloway (Gist)

Incumbent players must innovate to avoid getting disrupted by incumbents.
The technological enabled consumer is suddenly more advanced than the logistics industry, thus indirectly driving them to change.

How can any company survive without a WMS or without being up to date on technology? Some players still understand their customer well and are favourably connected to him, which serves as their advantage, however it will not last if they do not keep up. They will need tech to enhance their service.

Interesting discussion on Gist, as one of their main functions on the international transportation part, is the operation of „4PL Control Towers" for large customers. Those are and have been a means to integrate information for the customer, due to industry fragmentation, including customs complexities etc. With the enhancements of data quality and information flow, these business models are to some degree under threat. Therefore they focus more on trying to deliver value from this data, through analysing it, learning from it and helping the customer to improve his supply chain.

Thereafter the seminar drifted a bit into a blockchain discussion, starting with a too complex explanation about what it actually is. However the panel agreed that application of blockchain in our industry will make more sense with the advent of IoT, when information is not „manually" added or delivered into a blockchain but when sensors that are constantly reducing in price, will transmit information directly and automated actions will follow from those.

In the UK, Brexit might be a driver for blockchain application, as all parties, including authorities are looking for means to minimise the impact of customs processes etc.

The panelists agree that in practice however Blockchain so far has little to no practical application, nothing has gone beyond proof of concepts or trial examples.

Seminar 2: Digitisation Session
Presenter(s): Simon Clark (VP Wisetech), Daniel McGregor (Nexiot), Mike Holdsworth (Inmarsat)

Whilst being a panel of more technical experts, this one turned out one of the most exciting ones of the day, as one of their key statements came very early: „Tech is easy, process is key." The useful application of the technology for the business requirement is what matters and the key point where things fail or succeed.

One of the issues thereby being that many people can not envisage what is technologically possible and thus have a limited horizon to consider how it can be employed to solve business challenges. Getting the know how on available technology up, can help develop new partnerships and business models, which are the key for any functioning innovations.

Nexiot, a startup out of Zürich ETH, outlined a bit their journey and the way it led along. From initial key challenges, e.g. how to power their tracking devices in transit, how to ensure usability and end to end coverage. Daniel reiterated, the importance of the business model and process for any application of technology. What is the problem that the technology shall solve for the customer or internal efficiency, how is the process structure. Applying technology only for technologies sake does not make any sense.

Mike of Inmarsat joined into that tune, having met many people that did not have a strategy behind their application of technology. His division inside Inmarsat developed from the fact that they found several customers using their technology to collect data but then not doing anything with it. Not tuning it into actionable data and build processes and actions or even automated actions based on it. Too often nothing is being done with the data they have or collect.

An interesting discussion on IoT technologies ensued, where much progress has been made. Technology is not the hurdle, understanding what is possible, is the hurdle. We only understand a very small part thus can not imagine their application. Thus sensors and printed electronics are now being more and more cost efficiently available, allowing new applications, that have previously been proven among higher value cargo only.

Mike outlined the end customer or the technology enabled consumer often being the driver now, stating the example of a pharma client recently making certain IoT elements a requirements for any logistics service provider bidding for their cargo, because they are aware the technology for it is available. Clients no longer want to wait for logistics service providers to wake up and offer proactively.

NexIoT outlined how different technologies can be combined in the future, e.g. the intelligent printed label on the package, talking to a sensor in the pallet, the pallet to the container it is in and that then transmitting data.

Technology is not the hurdle, understanding what is possible, is the hurdle. We only understand a very small part thus can not imagine their application. Cost is no longer the barrier, components are affordable and change of thinking has occurred. "The digitally enabled consumer", is also the employee today.

Mike used the example of sensor technology, especially in temperature controlled scenarios has allowed opening new trades, like bringing bananas to Russia.

The panel agreed that the increase of communication speeds and network availability, has progressed a lot. Communicating data was slow and expensive. Richness and price point have all improved.

Simon Clark asked the question, why paper is still so prominent and a brief discussion on the blockchain ensues. However in a bit a different fashion, as in an IoT enabled future, the asset (package, unit, container, whatever) might actually communicate directly into the blockchain and then trigger automated actions or smart contracts. However they also agreed that Blockchain is still in the adoption phase, where the form in which it will be used is still unclear and it will take more time before it becomes clearer. Blockchain as a solution for proof of origin might be the first potential application, like today in cobalt and diamonds already.

Discussing the reasons why progress is so slow today, delivered a few main reasons:
- Information silos are blocking efficiencies today
- Change only comes gradually and problem specific
- Innovators inside organisations are cautious (if it does not work, they get blamed, if they waste money and time, they get blamed, if it works, they just did what was expected of them).
- People are needed to drive change and often they are too busy, have the wrong focus or are unaware of available technology.
- Compliance requirements and lack of standards are further items.

Even though the panel had merely participants with a tech background, they all agreed that the device is only an enabler but the process is the key.

Upon the question why the carrier is always behind, the panelists outlined the need for standards through a central organisation or a market leader. Further, often technology being used in the wrong way, picking the right technology for the right time and to serve the actual business need. Implementing technology just for technology sake is of no use. More awareness is needed on the available tools.

Another recommendation from the panel was relating to data again. Data is useless until used properly. Companies should analyse their data, make use of it to learn and then take action.

Before closing, the panel engaged in a brief discussion on automation potentially making people obsolete and the advance of robots. While agreeing that the technology would actually be there, it is not being implemented. Humans are good at thinking outside the box and complex decisions based on changing circumstances will always need people.

Mundane tasks on the other hand do not need people. The typical carrier or forwarders calls in regards to „where is my container" was cited as an example of something that could and should be eliminated by automated proactive information.

Disrupters might not disrupt but drive change and Daniel sees the world in 9 year cycles of consolidation, with the next one just having begun. Mike agreed that IoT will be key to survival in the future and those that do not get into it today will lose out. Things like platooning are already being trialled today and will be a game changer for certain sectors.

Before closing, Brexit or proof of origin (food supply chain) had been cited as application scenarios where regulators could drive technology application.

Asked on their projection in 2018, Daniel hopes it to be the year of value. Not talk about cost but about adding value. Driving for outcomes from the industries. Mike added that Automotive, Aerospace and Pharma will become more demanding for actionable data.

Seminar 3: Rise of digitisation
Presenter(s): Jim Bralsford (INTTRA), Zvi Schreiber (Freightos), Ivan Tintore (iContainers), Neel Ratti (Tuscor Lloyds), Steve Walker (SWG)

Nice round, a shipping tech guy (Jim), a marketplace (Zvi - Freightos), an eForwarder (Ivan - iContainers), a traditional local forwarder (Neel Ratti) and an old wise man from the industry (Steve).

During the introduction round, Freightos stated that they have around 1000 freight forwarders as their clients after their 6 years in business. It remains unclear, whether this for tariff engine services only or includes forwarders using their marketplace to offer their services. iContainers is in business since 10 years and thus one of the earliest eForwarders around, learning from losing customers due to being too slow in quotation, they built a proactive instant quotation offering back then. Need Ratti, represents a local forwarder Tuscor Lloyds a 150 staff local forwarder in Manchester. Steve Walker used to own SWS Consol which together with the TMS he co-developed is today part of DSV and works as a consultant today.

The round initially refers to the difficulty of buzzwords, where everyone wants to be a disrupter and starts the discussion based on what each of them understands as digitisation. Zvi starts with outlining, what it is not: manual process steps, email, fax and verbal communication through various hands. iContainer joins in, by bringing the usual travel agency analogy, where online booking of flights needs no human intervention anymore. Ivan makes however clear that for freight he only sees this potential in the 72% that form standard shipments, dry cargo in full containers or LCL. Neel sees digitisation in the automation of mundane tasks. Steve expresses more sceptical views, arguing that we see too much hype today and what is happening has little to do with disruption. As an analogy he states that we are seeing new apps for the iPhone but not a disruptive new device. No groundbreaking change.

Ivan outlines that part of the industry today is making its money from intransparency, like travel agents historically and sees that replaced by online solutions at least for standard freight. Complex requirements, e.g. safari planning (staying with his analogy), will remain with experts requiring expertise. He sees only those that evolve and adapt to the new normal quickly will survive and Zvi agrees with his views. Steve sees forwarders not really selling to their strengths here as they are not noisy enough, while a lot of them deliver cutting edge solutions for their customers and constantly improve (e.g. K&N, DSV, etc.). Thus, he sees innovators from within the industry winning the race in the longterm. He uses the opportunity to bitch on Flexport and the hype their marketing creates with fake news that almost resemble the comedy channel. The

existing players welcome the new competition to the 3PL table, but the new guys should show better table manners.

Ivan uses the opportunity to point out the generation gap and the changing behaviours and requirements of the millennial generation, that are result oriented and driven by convenience, following star ratings, rather than having lunches or golf rounds with their service providers.

Freightos points out that they also see their role in supporting forwarders, helping to push them in the right direction.

Upon the question what forwarders can do to avoid commoditisation, Ivan of iContainers states clearly that he sees commoditisation for standard cargo already there and that forwarders should use transparency as a tool to succeed in the market, rather than trying to avoid it. Invoice what you quote.

As the discussion continues to be around online pricing and rate engines, Steve makes a point by saying that digitisation is bigger than just rate engines. Greater operational benefit for the customer must be the key focus and pricing is only a small part.

The panel is in agreement, that human interaction will remain vital and not be fully automated away. In the end, behind every good moving there are a seller and a buyer that interact with each other to make it happen. A fact the industry sometimes seems to forget.

If Amazon killed off high street, why can't an app kill forwarding?
Steve and Neel argue that the forwarder considers the human element and understands the clients problem. Online alone can not do that. Exception management, solving daily complexities of shipments, require human intervention.

Zvi draws the comparison to courier business, where shipment per employee with freight forwarders are still too low. The orders of magnitude.

Interesting input from the audience: Containerisation commoditised shipping operationally 58 years ago, now the forwarding frontend does the same in form of a late catch up. Thus it's a natural process now and we should take it easy.

Zvi agrees with that and argues the problem in freight being that, standardisation in the process only happens now (while in travel it happened much earlier). He further states that those earn from intransparency mainly will suffer.

Steve continues to question what is disruptive about all that. Some digital players now move into standard 3PL, people and assets. Thus where is the disruption then?

Neel makes clear that transparency on price is already there anyway and there is no low hanging fruit left, where high margins are achieved easily. Forwarding remains very competitive, cards are all on the table and everyone is under pressure.

Upon the question, which industry verticals have mainly moved online?
Freightos and iContainers agree that its mainly general dry cargo: apparel, toys, consumer goods.

Some interesting figures on conversion rates from both Freightos and iContainers, both have around 5-6% of enquiries turning into bookings, agreeing that a large part that enters their open platform is research only. However as the quotation process has no cost for them, they do not mind. What for Neel on the other hand is a key issue, as every manual quote has a cost. iContainers points out that they are also not very worried about conversion rates, however they use the enquiry data to gain a better understanding whether the customer preference is price or transit time.

The discussion on transit times reveals how poor and unreliable the data of carriers is there today, with same product being promoted with often largely different transit times among carriers, many of which far from reality. Indicating a clear data quality problem. Zvi points out that Freightos in the meantime works mainly with actual historic data they have and provides those transit times to the customers, rather than schedules that are simply not correct and result in disappointing customer expectations later.

Upon the question, whether shipping lines will adopt are more digital approach to go directly to customers. Zvi and Ivan definitely agree, seeing initiatives from the main carriers and expecting them to continue. Neel points out, that carriers always tried that and never succeeded. Steve agrees that the forwarder will always have a place. It might become more of a 4PL role and innovate, but remain there.

Neel agrees that forwarders are under attack from silicon valley startups but that exceptions remains a given in the industry and good teams to solve them will remain important. „Speed is key but expertise is vital".

For simple shipments Zvi and Ivan believe that further automation will happen and the younger workforce will choose the convenient online options wherever possible. Thus those that will not

embrace that will fail. Ivan sees few millennials in the audience but is confident they make the difference. Their own success proves it and they see searches going up significantly over the past 2 years. And lastly it frees up time to more important things. People do not always buy from people.

In a closing statement, Steve agrees that we will see change and smart forwarders will adapt. Disrupters will have a place but need to make money with their business model, otherwise they will not survive themselves.

Seminar 4: How digital technology disrupts trade
Presenter(s): Charlie Pool (Stowga), Graham Parker (Kontainers), Richard Frattal (ZenCargo), David Jennison (OnTruck), Evgenia Plotnikova (Dawn Capital).

Also an interesting panel. Stowga is a copy cat of Seattle based Flexe, Kontainers a SaaS provider for forwarders and carriers supporting their advent into digital sales, ZenCargo an eForwarder, OnTruck an efficiency provider for trucking services (online brokerage) and Evgenia an amazingly smart lady that talks fast and invests a lot of money in digital startups.

Starting with what each panellists vision of the future is and what tech will be most influential. What is your vision of the future and what tech will be most influential?
Graham considers it a very exciting time in the industry, as freight comes late to digitalisation than other. Blockchain will play a role but later and IoT is interesting, however for the moment AI being the most influential tech. Richard of ZenCargo agrees and sees that automation will have a major impact on the industry. However there are many stakeholders involved in every shipment today, many data silos. Structuring data is a main job. Software will lead, hardware will follow. David from OnTruck takes the role of the pragmatist in the panel and make clear that key is to understand what makes a difference today and what in the long-term. So he sees AI driven elements, things like route optimization, forecasting, traffic, freight matching, as essential today. Blockchain is cool and provides many opportunities but not yet today. Evgenia looks at it from the finance side and also sees AI and data analysis tools as key technologies. Inventory days reduction is key to reduce finance cost and thats what they like to invest in. Today the industry is data rich but information poor, because it is not turned into actionable data and used to forecast decision, anticipate exceptions etc.

Discussing the challenges that lead to the delay of digitalisation in the industry, Graham outlines the biggest one being mindset, complexities of the business itself, legacy system. The travel

analogy is nice, but cargo is much more complex than travel. They use a nice saying within their group to approach that complexity: „How do you feed an elephant? One bite at a time.".

David from OnTruck continues pragmatic as before, key being the true application case, not the technology itself. What is the business question? Connecting the underlining challenge is important. No technology just for tech's sake.

Evgenia sees the reason for the slow progress in the fact that Supply Chain Management is mission critical and thus changes go slow, people are risk averse to changing running systems. Price is thereby not the key decision maker, but service.

ZenCargo goes a bit into the usual hype speak for his answer, also arguing that service is the most important and that „technology is augmenting the service proposition.", citing the recent Chicken Logistics disaster of DHL/KFC as an example.

The panel agrees that service, availability, reliability and trust are essential success factors.

Graham comments briefly that they are quite surprised by the demand they are facing for a small startup. They are currently providing their services to several of the leading forwarders and carriers, finding them very open-minded and have yet to expand their offering to smaller/ medium sized players through further standardisation. One new functionality they are very excited about, being a dynamic pricing feature, what they consider a novum for the industry.

Upon the question about successful exits in the logistics and SCM sectors, Evgenia from Dawn advises that there is an interest of incumbent players to buy into some of the startups and that more deals are to be expected.

On the subject of automation eliminating jobs, David outlines that the UK is currently lacking 40,000 truck drivers, if automation can help reduce the problem, it will be welcome, however he believes less in autonomous vehicles but in other technological means to increase the efficiency by reducing empty trips, etc. The panel agrees that drones are also difficult due to regulatory limitations and things in that space will need time.

Being asked on what they would be keen to invest in, Evgenia argues that they are very interested in predictive technologies and consider this a vital area of interest. Predicting events and taking action before exception management would become necessary, from their view is something that can generate a lot of value. Asked on blockchain, she advises that it is becoming

difficult to separate the hype from reality on the subject, but that it will take more time as she yet to see a working business model that can earn money today or in the future.

Richard Frattal closes by saying that the logistics industry has been 3 technologies behind and is catching up, which often requires compromise. A key challenge for them is sorting and cleaning data, where they take an approach moving the easiest way possible and take whatever format they can get and convert. This is sometimes a challenge for your programmers, as they first have to learn historic standards like Edifact. Graham agrees that legacy data systems being one of the key challenges when helping their client to go digital.

By the way, had a very interesting meeting with Graham Parker after the panel discussion and must say that I found him to be very focused on providing a service to his customers in helping their digitalisation with a business model that is also about generating profits for Kontainers today instead of focusing on the hype of potential future cash flows, by quite some of the business models. Thus less noise but more action which is a nice change in todays world.