The Chartered Institute of Logistics and Transport

CILT AUSTRALIA NEWSLETTER

SEPTEMBER 2021

Our Chairman's Message

DR. KIM HASSALL

Welcome to our first CILT-Australia newsletter for this financial year. Like many of our state members we are also experiencing intermittent lockdowns on the back of 2020 (annus horribilis). Fortunately, the freight and logistics sector has been the backbone industry for most Australians.

The same can't be said for the domestic and international aviation industry. Just as we saw services regaining ground a new wave of lockdowns delivered another blow to what was emerging good news for the sector. Householder deliveries have boomed but international shipping is still having significant problems: imbalances of containers, loss of seagoing services, and COVID-19 at the container ports has resulted in reduced manpower and shipping rates have headed skywards; perhaps for some time.

In this issue

On our CILTA front, we have been invited to participate in a handful of safety research projects that have been driven by regulatory agencies. We have drawn on the expertise and experience of several of our fellows and Chartered members to assist in these projects. We have also joined the National Road Safety Partnerships Program and the large CLOCS-A construction community safety initiative.

A significant development on our IT side is the soon to be activated Member Engagement Hub which provides a highly interactive platform for discussions, closed groups, advertising, and interaction on topics of interest in a secure environment. The platform is undergoing Beta testing in early September. This will add a new dimension for engagement between our members both locally and internationally for professional exchanges.

The International conference is still on track for Perth, October 2022. Further to follow in the coming months.

Stay well, Stay Safe. Safe travels for those that can and stay safe for those that can't.

Kim
National Chair CILT-Australia

CILT International - Next-Day Delivery Demand Will Drive Up Carbon Emissions Without Change

Decarbonisation named “single greatest long-term challenge” to supply chain by international transport & logistics leader

POSTED ON BUSINESS WIRE

Growing demand for e-commerce delivery will result in 36% more delivery vehicles in inner cities by 2030 according to the Chartered Institute of Logistics and Transport (CILT) International. These findings come despite new policy proposals from the UK and EU in the ongoing global pursuit of net-zero carbon emissions.

Keith Newton, Secretary-General of the Chartered Institute of Logistics and Transport International, said:

“Policy commitments to decarbonisation are a necessary start, but if governments are to actually make a difference and achieve net-zero emissions, they need to act as the bridge between businesses, consumers, and transport industry professionals. Decarbonisation is the single greatest long-term challenge facing the transport and logistics industry, but lasting positive change will only come with changes in business and consumer habits.

"Put simply, businesses are influenced by consumer decisions. If there is continued consumer demand for services such as next day delivery, businesses will understandably continue to provide them, driving a rise in vehicle demand and emissions levels."

CILT International further found that consequently, emissions from delivery traffic will increase by 32% and congestion will rise by over 21%, equalling an additional 11 minutes of commute time for each passenger every day. These figures do not account for additional factors such as the impact of Next Day Delivery: same-day and instant delivery are the fastest-growing segments in the last-mile. For example, Amazon in their key markets despatch 75% of their parcels on a next day basis.

- In Europe, same-day delivery accounts for only 5% of deliveries so far.
- China is a fast-growing market in which same day and instant delivery already make up more than 10% of overall parcel deliveries – more than double European deliveries.
    - This accounts for roughly 3 million daily, same-day items with approximately 400,000-500,000 instant deliveries.
- Developed and developing markets are all seeing the Next Day Delivery offer increase the fastest.

Environmental Impact Factors:

The CO2 impact of the Next Day Delivery boom is accentuated by the fact that the traditional vehicle for home delivery is the white van. In the UK in the last quarter of 2020 after the 2nd wave of the pandemic van sales increased by 8.8% Y on Y.

Kilometre by kilometre emissions comparison:

Vehicle	CO2 emissions produced
Van	612g
Car	233g
HGV	78g
Goods train	25g

Keith Newton, Secretary-General of CILT International, added:

"There are many factors to build in when considering the environmental impact of the Next-Day Delivery phenomenon. These include safety on the roads, advanced transport & urban planning, managing vehicle use and routes, clean air factors, and safe segregation of vehicles and people. Governments internationally must work with professional bodies and industry practitioners to assess demonstrate viable alternatives and pursue new solutions to the Next-Day-Delivery demand."

Solutions to reduce Next Day delivery impacts include:

- Electrification of vehicles – targets in UK to deliver all home deliveries by 2030
- Reduction of the number of journeys through better delivery and service planning,
- Consolidation of deliveries or consolidated pick up and drop off points rather than home delivery
- Spreading deliveries over 24 hours and 7 days
- Alternative urban delivery methods such as bikes, milk floats etc
- The management of consumer expectations with more focus on delivery consistency rather than immediate delivery
- Engagement with the consumer to increase understanding of the "green" impacts of delivery choice

Source:*https://www.businesswire.com/news/home/20210721005428/en/CILT-International---Next-Day-Delivery-Demand-Will-Drive-Up-Carbon-Emissions-Without-Change*

Internet of Things in Logistics Industry

BY MARYIA SHAPEL
POSTED ON SAM SOLUTIONS

Logistics is a complex sector, which can profit with the help of Internet-of-Things technologies. With IoT devices, the process of storage at the warehouse and shipping from port to manufacturer and end customer will be more organized and cost-effective. Read on to learn about problems in logistics, the solutions that IoT offer, and the outcomes of its implementation.

How IoT Can Improve the Logistics Industry

Present and Future of Logistics

The global market has witnessed a rapid growth of e-commerce in recent years, and logistics has had to handle the increased demand, along with insufficient personnel and low profits. The burning today is to find new ways to optimize major procedures so they can face the upcoming challenges. Internet-of-Things cutting-edge will simplify process and make it more efficient.

Major Problems in Logistics

The logistics processes are fairly complex and usually include several stages that require close attention and constant enhancement. Let's consider the parts of logistics process that can benefit from extensive implementation of IoT:

- Storage and warehousing
- Planning, wrapping
- Inventory management
- Control of transportation

As the industry evolves, new issues emerge, caused by external factors such as the latest international market trends, higher customer requirements and skyrocketing demand.

"Logistics is a complex sector, which can profit with the help of Internet-of-Things technologies"

Analog Channels
One of the pressing challenges is that despite omnipresent digital technologies, companies still frequently get their orders through analog channels. In this context, it is more difficult for them to record shipment details and process orders quickly and efficiently.

Dedicated Time Booking
Clients of logistics companies are eager to book specific time windows for product pick-up and delivery. As a rule, they have to book dedicated time in advance, usually 24 hours before the interaction. When a definite time is scheduled, it is difficult to change afterward, which causes significant inconveniences for companies as the intended pick-up or delivery window becomes less flexible.

Barcode Recording
Customers want to monitor the current shipping status of their goods so that they are not lost, for example, on their way from the port to the warehouse or manufacturer. This level of transparency has become a real challenge for companies. Conventional barcode scanning procedures are inefficient because they are time-consuming. Transportation systems are not suitably equipped to provide this information to the client on a regular basis.

Transfer of Shipping Information
If logistics companies do not transfer their shipping information, it has to be transferred by the service provider, which can lead to incorrect recording of information. The situation is aggravated by a lack of qualified specialists. As a result, shipments are not reloaded on time due to the absence of recorded shipping data, which disrupts smooth delivery.

The Advantages of IoT for Logistics

IoT devices can collect and transmit data via sensors and actuators, scalable cloud solutions, and user-friendly communication networks. The advantages of IoT technologies for the logistics sector are:

- monitoring the state of a driver and vehicle
- real-time object identification and tracking

- ensuring proper storage conditions and product safety
- effective data transmission
- avoiding media breaks thanks to extensive digitization
- delivery time estimation
- remote control of the transportation process.

With IoT, old-fashioned supply chain patterns are left behind and the operational efficiency of the sector is increased. In terms of communication, there will be no more media breaks thanks to extensive usage of real-time digital interaction instead of such analog methods as phone, paper and fax. As a result, the transportation costs, resource allocation and the entire shipment process are significantly optimized.

4 Major Aspects of a Connected Ecosystem in Logistics

Even before the emergence of IoT technology, the logistics sphere used connected:

1) Communication System
The communication system facilitates continuous communication between drivers and managers. Usually, the main means of interaction between them are cell phones, which often lack the appropriate quality of connection.

2) Location Tracking
GPS devices are used to track the specific location of vehicles at a given moment in time. These tracking tools help logistics industries calculate the estimated delivery time and monitor the tracks on the way to the warehouse, port, or ultimate destination.

3) Monitoring of the Supply Chain
Supply chain real-time monitoring systems play an important role in the industry. These instruments help companies streamline the entire supply chain process, including acquisition of raw stuff and shipping of ready-to-use products.

4) Cybersecurity
The transportation industry has to handle various IT security threats, the number of which has amplified recently. Hacker attacks on confidential data can affect not only companies, but also third-party vendors and the end clients.

Applications of IoT in Logistics

Location Tracking

Delivery from Supplier to Manufacturer
A real-time location system (RTLS) is used to track the delivery of materials from each vendor to the producer. It is especially beneficial where there are multiple vendors — if the delivery from one vendor is postponed, you substitute it with another vendor's services.

Deliveries to the Manufacturing Facility
With RTLS, it is easier for truck drivers to unload the products at the correct place, avoiding product loss and wrong delivery. Similarly, for the manufacturer, it is easier to locate and pick up the products.

Tracking at the Manufacturing Facility
When materials arrive at the factory, they can be mixed up by mistake, which can lead to wrong cycle times and disrupted production. Thanks to RTLS, it is always possible to tell the exact location of the tagged goods and ensure correct manufacturing procedures.

Environment Sensors
To keep sensitive goods fresh and maintain their quality, certain environmental requirements need to be fulfilled. There are special IoT apps that help tag products and monitor a number of environmental characteristics. For example, they can check the humidity, light, and temperature, as well as shock and vibration exposure during transportation to and from the port, manufacturer, or warehouse. This data can be used to notify the managers of damaged goods before they reach the factory or end customer.

Data Analysis
Sensors collect huge amounts of data on a daily basis. To structure and analyze this data properly, IoT tools can be used. With these instruments, managers can implement predictive maintenance, make more efficient decisions, and improve the warehousing and shipping process.

Fleet Management

Timely updates on the driver's health, vehicle state and traffic conditions give insight into how to improve fleet management strategies. Thanks to this information, specialists can get a clear view of how the resources are used and create new ways to increase efficiency. Implementation of IoT can help reduce delivery time, fuel costs, and streamline car maintenance.

Demand Forecast

The application of IoT in logistics can also help keep up with demand, which facilitates effective supply chain management. Smart technologies can predict demand based on a comprehensive analysis of multiple factors such as user behavior, current market trends, customer intention and preferences, the reasons why the buyers make the purchases, and how they use the goods afterward.

Inventory Tracking

With IoT technologies, you can create a smart warehouse with the ability to remotely control inventory assets. These capabilities help prevent under- or overloading, monitor the fuel level and the condition of goods, and can easily locate the goods on their way to the warehouse, port, or end customer.

About the author

MARYIA SHAPEL

As a content writer, Maryia strives to create enlightening blog posts and technical articles based on the latest technology trends and established best practices. Her aim is to tell more about SaM Solutions and promote the company's expertise.

Source: *https://www.sam-solutions.com/blog/iot-in-logistics/*

Horizon Scanning Series

The Internet of Things

What Could the IoT mean for Supply Chains in Australia?

Associate Professor Kim Hassall – National Chair, Chartered Institute of Logistics and Transport Australia

The Supply Chain is a very significant part of every industry and is significant in a nation's total economy. This can vary between 5% for the United Kingdom, to 20% for China and Finland, 9.5% for the US and 14.6% for Australia, (Raptour Institute for Department of Industry Innovation and Regional Development (DIIRD), 2007). Any efficiencies achieved in the Supply Chain, can deliver savings of a few percent to a nation's GDP, which is usually worth billions of dollars.

Read the document here:

https://www.ciltahub.com.au/wp-content/uploads/2021/08/Acola-iot-input-paper_what-could-the-iot-mean-for-supply-chains-in-Australia_Hassall.pdf

Winning the Last Mile in the Supply Chain Race

BY SWISSLOG
POSTED ON INSIDE RETAIL

Micro-fulfilment centres (MFCs) are the next step in creating a harmonious omni-channel supply chain. Ongoing shifts in the retail landscape, driven by e-commerce, along with changing consumer demands and expectations, are creating an increased need for fast, efficient local fulfilment.

Automated MFCs allow companies with or without a brick-and-mortar footprint within a particular area to move fulfilment closer to consumers in order to reduce transportation costs and enable shorter delivery times, benefitting both the retailer (or Fast Moving Consumer Goods (FMCG) producer), and the consumer.

Companies can build a micro-fulfilment centre as a standalone facility, or inside or bolted on to an existing location, to expand fulfilment capacity. MFCs can support consumer curb-side pick-up, too, or a hybrid of pick-up and delivery.

MFCs are expected to grow sixfold in 2021, a trend that has been further accelerated by Covid-19. While utilising an MFC powered by automation may seem like a no-brainer, since it has benefits for both the retailer and the consumer, there are still a few challenges that inhibit the growth of MFCs globally.

Availability and cost of labour, expensive and appropriately sized real estate, and tricky government regulations can all pose challenges to the installation of an MFC and its ongoing ROI. It's crucial that an automation partner be aware of the full situation, in order to optimise the results from implementing an MFC.

To achieve the greatest return from an investment in an MFC, grocers, and retailers should look at synergising their online sales and physical storefront. This involves using an existing network of physical point-of-sale

infrastructure or real estate property for logistics automation, so the grocer minimises the need to build new pure online facilities.

Grocers that can remove the cost of new land from the equation have an easier path to ROI, especially at the early stages of an MFC automation rollout.

This online and storefront synergy also adds flexibility to operations, which enables expansion in the future. For example, curb-side pick-up could easily be added to meet consumer demand.

"MFCs have experienced huge year-on-year growth in the past three years, and they are expected to grow further in 2021, and in the years ahead," says Sean Ryan, Head of Sales and Consulting at Swisslog Australia.

"The rise of MFCs can be attributed to a range of factors, including the fact that they benefit both the consumer and the retailer or grocer. Consumers are rewarded with increased choice, shorter and more accurate delivery times and efficient curb-side pickup options. Grocers and retailers are able to utilise a more efficient order fulfilment method – one that reduces labour and transport costs, avoids clogging retail stores with pickers, and supports higher-order demand levels," says Ryan.

Partnering with an experienced automation provider

MFCs are a relatively new retailing strategy, so to maximise return on investment, it is important to partner with an experienced automation provider – ideally one that already has extensive experience with other models such as Dark Stores and Central Fulfilment Centres (CFCs).

An automation partner will not only have knowledge from other grocery projects, but they will have existing software with required functionality, and they will know the intricacies of handling delicate products or the requirements of cold storage, for example.

With more than 2000 warehousing and logistics automation projects completed worldwide, Swisslog not only has fundamental knowledge in food and beverage, e-commerce and retail, but it has the ability to deliver logistics automation for the whole supply chain network within these industries, starting with large CFC and moving through Dark Store, down to MFC.

In addition to experience with automation equipment, it is important to choose an automation partner with experience in software, too. The software drives the solution, keeps track of data, and analyses that data to further improve processes in the future.

Swisslog's modular WMS SynQ software provides warehouse management, material flow, automation and 3D visualisation all from a single point of control. It has been designed for dynamic, data-driven supply chains, such as those found in retail and e-grocery industries.

Swisslog has written an in-depth white paper Winning the last mile in the supply chain race: Using micro-fulfilment to synergise online and storefront, which can be downloaded here.

Source:*https://insideretail.com.au/business/winning-the-last-mile-in-the-supply-chain-race-202106*

Electric Aircraft Sets Australian-firsts for Quiet, Cheap, Speedy, Long-distance Travel

BY JODIE HAMILTON AND SARAH McCONNELL
POSTED ON ABC EYRE PENINSULA

Aviation pioneer Charles Kingsford Smith flew into small settlements on Eyre Peninsula almost 90 years ago, and this week a small plane nicknamed Bobby has become a modern pioneer by making historic landings at similar remote outposts.

The Pipistrel Alpha Electro, nicknamed "Bobby", is Australia's only certified commercial electric aeroplane.

Owner Barrie Rogers of Eyre to There Aviation bought it in February 2020 from a West Australian company that had planned trips to Rottnest Island but discovered the distance was too far for its battery capabilities.
As with electric cars, the plane needs to be recharged regularly.

But now Bobby's South Australian owners have clocked-up a distance endurance world record covering about 1,400 kilometres, eclipsing the previous 750km record set in Germany last year.

The logistics of the record attempt included two support vehicles and two support planes to help recharge Bobby and locate landing strips every 35 to 45 minutes.

"We're still learning about the aeroplane on a trip like this as well. We seem to average 40 to 45 minutes, but we've been able to land at places with a lot of battery left for a safety margin," Mr Rogers said.

"We've got an aircraft that has the recharger in it that weighs 75 kilos so we can't put it in the electric plane, it's a bit too big.

"We use a three-phase power outlet in the hangar, and if we're really offsite — which we have been the last few days — we plug it into the generator system and a recharge is about 45 minutes to an hour."

Mr Rogers said one of the outcomes of the record attempt would be looking at locations for future recharge points for electric planes.

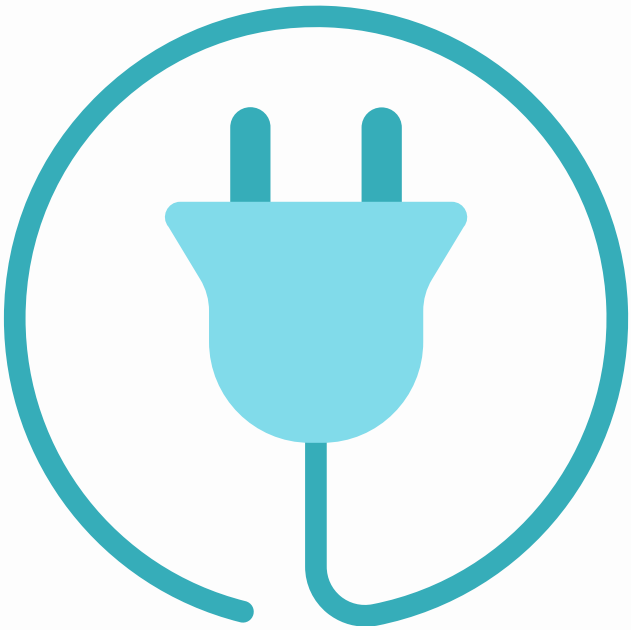
Outback landings
He said the distance between major airports had meant there were some unusual stopovers.

"We landed at Corunna and Nonning stations, basically out the back of Iron Knob up to the north-west," Mr Rogers said.

"Finding 1,000 feet of dirt runway in a million acres of scrub was very interesting, but with the technology now we plug those coordinates into our system and it takes you right there.

"We're not pioneering like the old days where they didn't have a landing strip and someone forged one out of the bush, but it's a challenge.

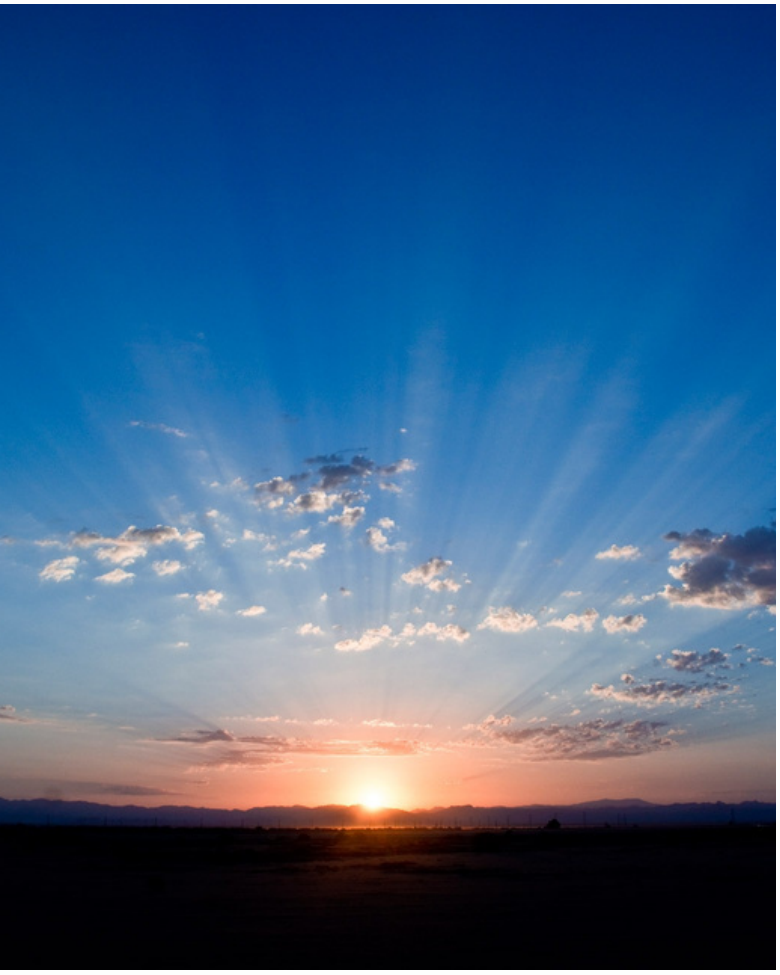
"It's a challenge finding anywhere to land when your airports are very far apart. So the stations were a highlight."



He said the plane was small but powerful.
"It has a very small electric motor in it and it's powered by two batteries. They're putting out about 200 volts," Mr Rogers said.

"Your car battery is 12 volts so it's a lot of power — that's about 58 kilowatts of power going to the aeroplane so it's quite a powerful little plane."

Mr Rogers said he was excited about the future of electric planes because they were quieter than conventional aircraft, cheaper to run, and had superior acceleration.



Future planes

He said that globally there are around about 400 companies investigating flying prototypes of electric and other variants of propulsion.

"From a mainstream point of view we may be a few years away from before we start seeing commuter planes from here [Port Lincoln] to Adelaide being electric, but it is coming," Mr Rogers said.

"There are governments around the world that have mandated their aviation authorities, Norway for example, has required their metro and regional fleets be electrified within the next decade, so it's coming."

He said one of the highlights of the trip was showing Bobby to students at Ungarra on Eyre Peninsula where they landed on a strip in a grain crop.

Mr Rogers said they had a great reception landing among the large commercial planes at Adelaide airport, particularly from the air traffic controllers who were used to much larger aircraft.

The world records have yet to be verified but include longest duration, longest distance over water, and fastest speed by an electric plane.

About the Authors

Jodie Hamilton is features reporter drawing on 20 years in print media, using her writing and photography skills to tell the stories about people and the unique places of Eyre Peninsula.

She came to the region for a year to work at the local paper and fell in love with the people and the places, so hasn't left yet.

Sarah McConnell producer at ABC Broken Hill. Get in touch on Twitter @SarahJMcConnell

Source: *https://www.abc.net.au/news/2021-07-01/electric-plane-breaking-new-ground/100253924*

Trucking Crisis Has the U.S. Looking for More Drivers Abroad

BY BLOOMBERG

A shortage of truckers across the U.S. has become so severe that companies are trying to bring in drivers from abroad like seemingly never before.

For the first time in her 10-year trucking career, Holly McCormick has found herself coordinating with an agency in South Africa to source foreign drivers. A recruiter for Groendyke Transport Inc., McCormick has doubled her budget since the pandemic and is still having trouble finding candidates.

The U.S. has been grappling with a chronic lack of drivers for years, but the shortage reached crisis levels because of the pandemic, which simultaneously sent demand for shipped goods soaring while touching off a surge in early retirements. The consequences have been both dire and far-reaching: Filling stations have had gasoline outages. Airports have run short on jet fuel. A stainless-steel maker declared force majeure. And lumber prices hit a record, with some suppliers partly blaming delivery delays.

As McCormick put it: “If we’re not able to haul these goods, our economy virtually shuts down.”

Trucking has emerged as one of the most acute bottlenecks in a supply chain that has all but unraveled amid the pandemic, worsening supply shortages across industries, further fanning inflation and threatening a broader economic recovery. “We’re living through the worst driver shortage that we’ve seen in recent history, by far,” said Jose Gomez-Urquiza, the chief executive officer of Visa Solutions, an immigration agency with a focus on the transportation industry.

As a result, demand for Visa Solutions’ services from the trucking industry has more than doubled since before the pandemic,

and "this is 100% because of the driver shortage," he said.

Bringing in more foreign workers faces a number of hurdles including visa limits and complicated immigration rules, but trucking advocates see an opening now to overcome some of those obstacles after the Biden Administration created a task force to address the supply chain problems impeding the economic recovery.

In July, Transportation Secretary Pete Buttigieg, Labor Secretary Marty Walsh, and Meera Joshi, deputy administrator of the Federal Motor Carrier Safety Administration, held a roundtable meeting with the trucking industry to discuss efforts to improve driver retention and reduce turnover. Among the measures the industry is seeking is lowering the minimum age to 18 from 21 for interstate drivers and adding trucking to the list of industries that can bypass some of the Department of Labor's immigration certification process.

"We've got 21 drivers right now who are qualified, who can come to this country the right way and are ready to come here and solve this problem," he said. "We can't seem to get an answer on what we need to do to move that forward."

On top of the pandemic early retirements, last year's lockdowns also made it harder for new drivers to access commercial-trucking schools and get licensed. Companies have offered higher wages, signing bonuses and increased benefits. So far, their efforts haven't done enough to attract domestic workers to an industry with grueling hours, a difficult life-work balance and an entrenched boom-bust cycle.

In 2019, the U.S. was already short 60,000 drivers, according to the American Trucking Associations. That number is an For an indication of just how acute the mismatch between supply and demand is, check out Truckstop.com's Market Demand Index. While the measure has cooled a bit since reaching an all-time high in May, it's up more than fourfold from this time in 2019.

That underscores why companies are increasingly turning to drivers from South Africa and Canada, according to Craig Fuller, the founder and CEO of the data and information firm Freightwaves. Workers from those countries can often speak English, making it easier to get the necessary license.

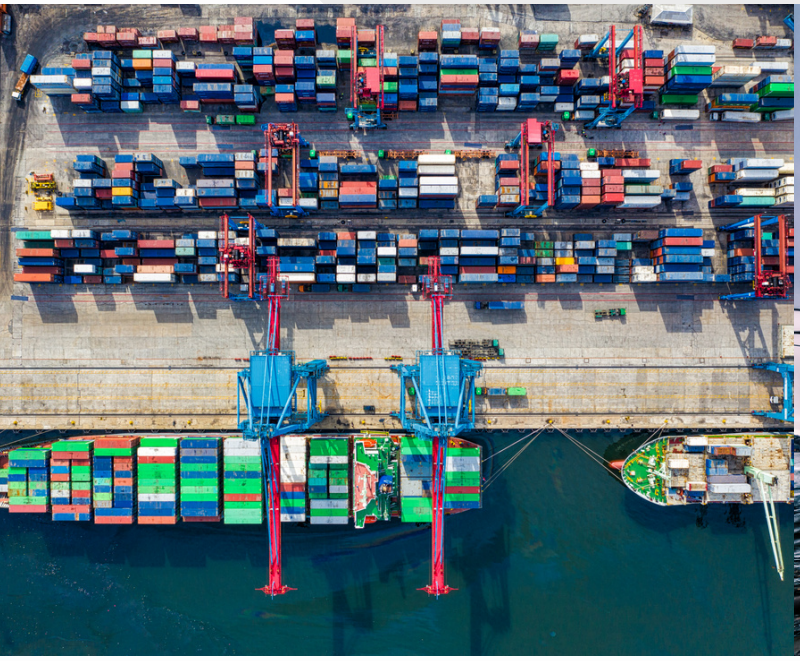
Still, Fuller points out that simply bringing in more foreign labor won't solve all the issues creating snarls in the industry. There's also a capacity shortage, or an unusually small number of trucks on the road, at the same time that demand had surged, he said.

"Even if there were drivers, there is a finite number of trucks at any moment in time, so you have two issues happening," Fuller said.

In the meantime, Andrew Owens, the CEO of A&M Transport, is looking to address his driver shortage with immigrant labor from Mexico, Europe, South Africa and Canada. The delivery company has brought in 20 foreign workers in the last year, but Owens would ideally like to hire at least a dozen more to meet demand needs. He's been waiting on approvals since 2017 for a contract with 15 workers, only two of whom are now through the process that he was first told would take about 13 to 18 months.

"They all have verifiable truck driving experience," Owens said. "The only thing we need to do is teach them to drive on the right side of the road, and they're good to go."

Source:
https://www.supplychainbrain.com/articles/33495-trucking-crisis-has-the-us-looking-for-more-drivers-abroad?oly_enc_id=5023H0643790A1Z



HOW SHIPPING PORTS ARE BEING REINVENTED FOR THE GREEN ENERGY TRANSITION

BY SYLVAIN ROCHE
POSTED ON THECONVERSATION.COM

When it comes to launching the energy transition, maritime policy is one of the key battlegrounds. But many ports, aware of their ecological and economic vulnerability, have committed to sustainable development strategies.

According to the latest research, sea levels will rise considerably (from 1.1 to 2 metres, on average) by 2100, putting about 14 per cent of the world's major maritime ports at risk of coastal flooding and erosion. Ports in France, including 66 that are used for maritime trade, are also under threat, and will have to adapt their infrastructure.

Maritime transport accounts for about 80 per cent of global merchandise trade by volume. Shipping is responsible for three per cent of global CO2 emissions, which have increased 32 per cent over the past 20 years. If nothing is done, shipping emissions could climb to 17 per cent of global emissions by 2050.

Shipping is responsible for three per cent of global CO2 emissions, which have increased 32 per cent over the past 20 years.

Enter the "ports of the future." Ports govern globalized economic activity and are true "energy hubs," bringing together all kinds of transport (maritime, land-based, waterway and aeronautic). Now, they're aiming to cut back on real estate, be more respectful of the environment and better integrated into cities, particularly through the concept of "urban ports."

Freedom from oil

At least US$1 trillion will have to be invested between 2030 and 2050 to reduce shipping's carbon footprint by 50 per cent by 2050. As of last year, oil-derived fuels accounted for 95 per cent energy consumption in transportation. Meanwhile, maritime traffic is predicted to increase by 35 to 40 per cent over the same period.

This dependence on hydrocarbons also represents an economic vulnerability for the maritime shipping sector due to new environmental standards.

In France, liquid bulk transport has been in decline since 2009 (decreasing three per cent on average since 2016), despite a slight uptick in 2017 (2.1 per cent). Fuel shipping (50 per cent of shipping by weight in major maritime ports) has also decreased by 25 per cent since 2008.

The golden age of oil cannot will not hold for much longer, given its environmental impact and increasing scarcity. As the consumption of hydrocarbons and coal drops, we should also see a steady decrease in fuel shipping.

The French government's National Low-Carbon Strategy ("Stratégie nationale bas carbone," or SNBC) aims to reduce emissions from the industrial sector by 35 per cent by 2030 and 81 per cent by 2050. This will mean a nearly complete decarbonization of maritime transport, creating a real technological challenge for the sector.

To meet these targets, ports are working to become carbon-neutral by redesigning their logistical operations (flow management) and means of production (value creation), as part of an industrial reconversion approach. They're banking on new environmental technologies to generate a double dividend, both environmental and economic.

Three approaches could be used to achieve these goals: energy efficiency, renewable energy production and industrial ecology.

Building the ships of tomorrow

A 2021 study by the Getting to Zero coalition found that zero-carbon fuels had to represent at least five per cent of the fuel mix by 2030 for international shipping to comply with the Paris Agreement. Around 100,000 commercial vessels will be affected by this energy transition, according to GTT, a company specializing in the transportation and storage of liquefied natural gas (LNG).

In this vein, an ambitious environmental certification program, Green Marine Europe, launched in 2020 in order to create the European maritime industry of tomorrow.

New fuels with smaller carbon footprints, such as liquefied natural gas, ammonia and ethanol, and the accelerated adoption of alternative propulsion systems will be needed for the sector to become greener.

Hydrogen fuel (initially "grey," now increasingly "green") represents another viable alternative in the medium-term for fleets subjected to heavy

rotation. Although the project is currently in its early stages (involving small vessels of 60-80 seats), more ambitious initiatives have been launched, such as the Hydrotug boat in construction for the port of Antwerp.

The arrival of steam-powered engines put an end to the use of large wind-propelled clippers in the late 1800s. But technologies that harness the wind could make a major comeback, with ships using sails and kites to reduce fuel use.

Offshore wind turbines, a promising solution

Developing electric facilities and technology is also essential to the energy transition, whether through electrified wharfs, turning port seawalls into energy producers, or developing electric ferries that use solar power, bioenergy or marine power.

As the energy transition progresses, we will see ports go from consuming large quantities of a single energy source to using multiple energy sources and becoming electricity producers.

On that note, offshore wind turbines will profoundly change French coasts over the coming years. The first sites will be near ports (with the first French offshore 80-turbine wind farm due to launch in Saint-Nazaire in 2022). In the medium term, the objective is to reach a capacity of 5.2 to 6.5 Gigawatts of offshore wind energy in France by 2028.

This technology brings a new vibrancy to port areas in search of industrial diversification, optimized real estate revenue and local expertise (construction and maintenance operations).

The forthcoming offshore wind farm near Quai Hermann du Pasquier in the city of Le Havre, which will launch in 2022, is being presented as

the “biggest industrial renewable energy project in France,” and symbolizes the port’s industrial and energetic transition. What’s more, after 53 years of service, the thermal power station in this area, which used 220 tonnes of coal daily, closed down on 31 March 2021.

Finally, it should be noted that offshore wind farms represent an opportunity for ports to produce their own hydrogen by electrolysing seawater.

Bringing city and port closer together

The energy transition forces governments to reconsider the connections between city and port. Development projects based on an entirely oil-based economy and the globalized boom in shipping container transport in the second half of the 20th century disconnected city and port at every level. Ports were removed from urban settings due to a lack of space, with huge industrial port zones created on the city’s outskirts.

Now this separation is being questioned, marking the return of the port as a space that’s open to the rest of the city.

For port cities, where ships coexist with residents, industry, businesses and tourism, pollution has motivated citizens into action. Local environmentalism has pushed ports to become open to cities, by promoting the development of circular economies and industrial ecology.

Many ports have launched energy transition projects, aiming to transform city-port relations. The setting to try out new practices founded on greater co-operation between local players.

In La Rochelle, for example, environmental and energy-based issues provided an opportunity to start a shared, collaborative discussion about the future of the metropolitan area. The La Rochelle Zero Carbon Territory project, where the greater urban area aims to become carbon neutral by 2040, the energy transition is being undertaken through concerted planning between the city and its port. The port has committed to initiatives that limit its environmental and energy-related impact, while providing benefits to the local economy.

In Le Havre, as in Bordeaux and elsewhere, this city-port interconnection is being strengthened by combining energy-related challenges and digital opportunities.

In time, this should lead to the birth of “smart port cities” (connecting “smart cities” with the “ports of the future”), for a “new model for urban and industrial port areas, blended together by innovation.”

Making ports the site of modern energy
Although the environmental challenge is clearly huge and complicated, this energy transition gives us the opportunity to reinterpret ports as laboratories, and to test new practices and technologies. Case in point: the Port of Rotterdam decreased its CO2 emissions by 27 per cent between 2016 and 2020.

Ports have always been showcases of industrial revolution, with the arrival of steam, propellers and then metal hulls. They often feature the most recent energy-related technology, as shown by the painting of the port of Le Havre, by Camille Pissarro.

Now it’s up to them to keep this legacy alive, as true gateways to a more durable and resilient economy.

Translated from French by Rosie Marsland for Fast ForWord.

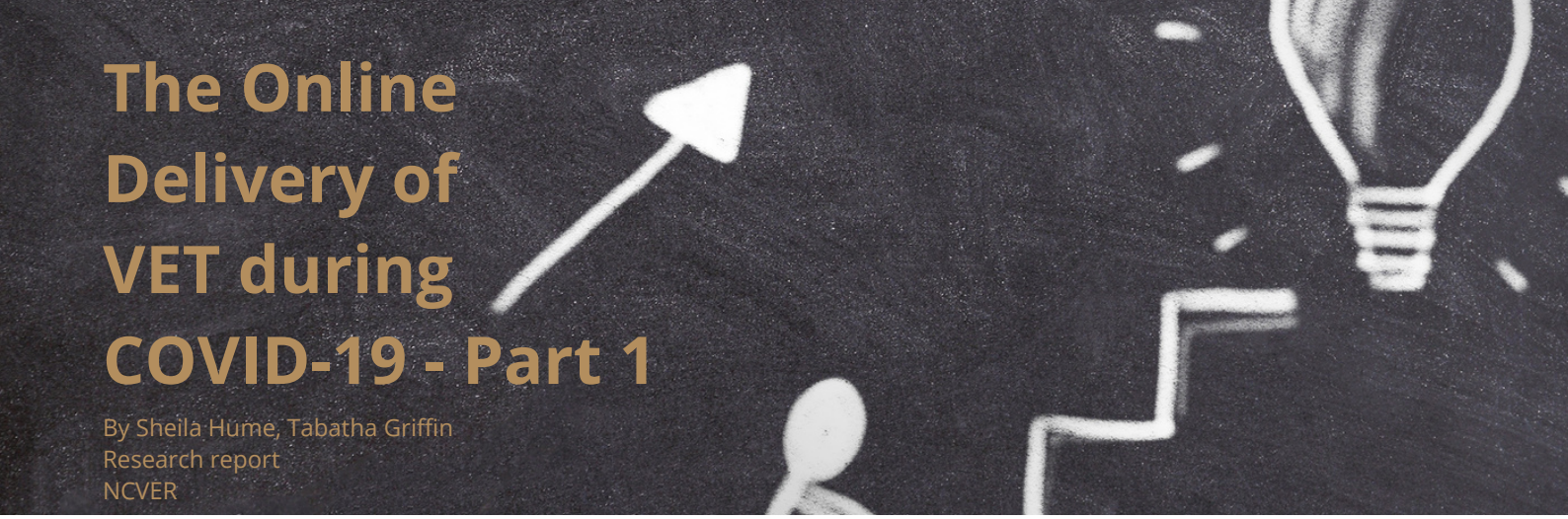
About the author
Sylvain Roche is a Doctor from the University of Bordeaux. In 2019, he defended the thesis entitled "Re-enchanting the maritime sector by the energy promise: technologies, trajectories, speeches". He is a Project engineer at the “Territorial Energy Transitions” (TRENT), chair and associate professor-researcher at Sciences Po Bordeaux. His work focuses on the construction of public innovation policies in the energy and territorial transition sector.

Source: *https://theconversation.com/how-shipping-ports-are-being-reinvented-for-the-green-energy-transition-162907*

Next Edition

The editorial team welcomes expressions of interest for choosing and suggesting articles for the December 2021 edition of this Newsletter.

Please send your suggestions to admin@cilta.com.au



The Online Delivery of VET during COVID-19 - Part 1

By Sheila Hume, Tabatha Griffin
Research report
NCVER

About the research

Efforts to contain COVID-19 through lockdowns and social distancing prompted swift changes to the delivery of vocational education and training (VET), with questions subsequently arising about the impact of this rapid transition on students and trainers/assessors. This report, the first of two, presents the initial findings on the transition to online delivery in response to the COVID-19 pandemic, and how this rapid shift could affect plans for the future delivery of online training and assessment. These early insights have been informed by an analysis of total VET activity (TVA) data for 2019 and 2020, as well as by preliminary findings from an online survey of registered training organisations (RTOs), administered in collaboration with the Australian Skills Quality Authority (ASQA).

Key messages

- There was a strong response from the VET sector to COVID-19 restrictions, with the number of subjects delivered online increasing by about 24% between 2019 and 2020.
- The shift to online training delivery was more pronounced for government-funded subject enrolments than for those funded via domestic fee-for-service arrangements (increases of 40.4% and 15.7%, respectively):
  - The increase in relation to government-funded subject enrolments in 2020 was more pronounced as fewer of these subjects were delivered online only in 2019 compared with domestic fee-for-service subjects (897 100 and 1 660 000 respectively).
  - In 2020, there were an additional 159 600 enrolments in online-only government-funded stand-alone subjects, i.e. subjects not delivered as part of a nationally recognised program, which increased from 4.7% of all government-funded online-only training in 2019 to 16.0% in 2020.
- This move to online training in response to COVID-19 was further reflected in the survey responses of RTOs, with most (75.2%) having transitioned at least some of their training and assessment online.
- Approximately 12 months on from the commencement of COVID-19 restrictions in Australia, online training is still being offered in areas where it had not previously been, with around 71% of surveyed RTOs having maintained at least some of this initial shift to online training.
- The intention to maintain an increased level of online training and assessment is relatively high, with more than 61% of RTOs surveyed indicating they would be more likely to use blended learning in the future.
- The next stage of this project will investigate in more depth the transition to online by RTOs, including future plans for online delivery.

Read Document Here: https://www.ncver.edu.au/__data/assets/pdf_file/0039/9667812/The-online-delivery-of-VET-during-COVID-19_part-1.pdf

Upcoming Events

7
SEP, 2021

SMART Warehousing – Leveraging Technology for Growth Resurgence - VIC Webinar
Register Here

16
SEP, 2021

WiLAT Webinar – My Supply Chain Career Journey: building a career across ANZ and APAC
Register Here

23-26
OCT, 2022

CILT International Conference 2022 - On Demand Logistics for the World of Tomorrow - Perth, WA

CILT Australia welcomes expression of interest in promoting industry events. Covid-19 is not an impediment to continue sharing industry best practices and the latest updates.

Contact us at admin@cilta.com.au

Past Events

Lunchtime Legends Webinar: Co-modality - Making Use of Public Transport to Carry Freight

Click here to access the recording

WiLAT Virtual Networking Event

CILT Australia and WiLAT launched the first in a series of networking events last August. Don't miss out on the upcoming webinars!